A Grammar of Papapana, with an investigation into Language Contact and Endangerment

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Statement of Originality

The thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to the final version of my thesis being made available worldwide when deposited in the University’s Digital Repository, subject to the provisions of the Copyright Act 1968.

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Mata:na
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<td>actor</td>
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<td>AP</td>
<td>adjective phrase</td>
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<tr>
<td>BCL</td>
<td>Bougainville Copper Limited</td>
</tr>
<tr>
<td>BRA</td>
<td>Bougainville Revolutionary Army</td>
</tr>
<tr>
<td>EGIDS</td>
<td>Extended Graded Intergenerational Disruption Scale</td>
</tr>
<tr>
<td>ELCat</td>
<td>Catalogue of Endangered Languages</td>
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<tr>
<td>GEOG</td>
<td>geographic direction verb</td>
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<tr>
<td>GIDS</td>
<td>Graded Intergenerational Disruption Scale</td>
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<td>IEV</td>
<td>Indicators of Ethnolinguistic Vitality</td>
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<tr>
<td>L1</td>
<td>first language</td>
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<td>L2</td>
<td>second language</td>
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<td>LEI</td>
<td>Language Endangerment Index</td>
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<td>LOCO</td>
<td>locomotion verb</td>
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<td>NNB</td>
<td>Nehan-North Bougainville</td>
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<tr>
<td>NP</td>
<td>noun phrase</td>
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<tr>
<td>NWS</td>
<td>Northwest Solomonic</td>
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<td>O</td>
<td>object</td>
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<td>O1</td>
<td>primary object</td>
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<td>secondary object</td>
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<td>PMV</td>
<td>Public Motor Vehicle</td>
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<td>PNG</td>
<td>Papua New Guinea</td>
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<td>PSI</td>
<td>postverbal subject indexing</td>
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<td>PWO</td>
<td>Proto-Western Oceanic</td>
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<td>subject</td>
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<td>speech-act participant</td>
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<td>Summer Institute of Linguistics</td>
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<td>SVC</td>
<td>serial verb construction</td>
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<td>TAM</td>
<td>tense, aspect, mode</td>
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<td>undergoer</td>
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<td>United Nations Educational, Scientific and Cultural Organization</td>
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# Glossing conventions

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Abstract

This thesis provides a descriptive grammar and investigation into language contact phenomena in Papapana, a virtually undescribed and undocumented, highly endangered Northwest Solomonic (Oceanic, Austronesian) language spoken by 106 fluent speakers in Bougainville, Papua New Guinea.

The grammar describes the language on various levels, including phonology, morphology and syntax in noun phrases and the verb complex, and syntax at the clause- and sentence-level. Typologically unusual features of Papapana include its patterns of verbal inflectional reduplication and inverse-number marking in the noun phrase, while other interesting features include its postverbal subject-indexing, which interacts with reduplication or mode markers to express a range of functions.

This thesis also investigates language contact phenomena in the Papapana speech community, specifically contact-induced grammatical change, and language shift and endangerment. As a precursor to these topics, it describes in detail the demographic, geographical, historical, cultural and sociolinguistic context within which the language is spoken. Papapana displays a partial shift from left-headed to right-headed typology, especially evident in its clause orders, obliques and possessive constructions, and argued to be the result of contact with neighbouring non-Austronesian languages. The final chapter investigates why and to what extent Papapana is an endangered language; it examines motivations for language shift to the official creole language Tok Pisin in Papua New Guinea and in the Papapana community, and applies and critically evaluates ethnolinguistic vitality assessment frameworks.

This thesis makes a significant contribution to future comparative linguistic and typological research by writing the first comprehensive grammatical description of Papapana while the opportunity to do so remains. The study of language contact is the first detailed account of the linguistic and sociolinguistic effects of the complexities of language contact in the Northwest Solomonic subgroup, and contributes more generally to research on language contact and language endangerment.
Part I: Context
1 Introduction

“we must do some serious rethinking of our priorities, lest linguistics go down in history as the only science that presided obliviously over the disappearance of 90% of the very field to which it is dedicated” (Krauss 1992: 10)

1.1 Aims

This PhD thesis has two aims. Firstly, it provides a detailed grammatical description of Papapana, an under-described, endangered Northwest Solomonic (Oceanic, Austronesian) language spoken by 106 fluent speakers on the northeast coast of the Autonomous Region of Bougainville, Papua New Guinea (PNG). Secondly, it investigates language contact phenomena in the Papapana speech community: contact-induced grammatical change (under the influence of neighbouring non-Austronesian languages), and language shift and endangerment (due to the influence of the official creole language Tok Pisin). This thesis is part of and dependent on the outcomes of a project that has involved documenting Papapana to core documentation level, comprising a corpus of digital audio and video recordings that are accompanied by time-aligned transcription and translation, full metadata, and relevant photographic materials. Other project outputs include materials for community use to assist in linguistic and cultural maintenance and promote vernacular literacy, including a short dictionary, pedagogical readers and illustrated vocabulary books for particular cultural domains. In addition, I have compiled genealogical and sociolinguistic profiles of the Papapana community members and documented the socio-cultural context of Papapana.

This thesis makes an important contribution to the field of linguistics by documenting an endangered language while the opportunity to do so remains, and by writing the first comprehensive grammatical description of Papapana. The grammatical description is significant to future comparative linguistic and typological research, and may help clarify the exact subgrouping of Papapana within the Northwest Solomonic (NWS) subgroup. This thesis also provides the first detailed account of the linguistic and sociolinguistic effects of the complexities of language contact in the NWS subgroup, and contributes more generally to research on language contact and language endangerment.

1.2 Fieldwork and methodology

This thesis is based on data that I collected during two fieldwork trips to PNG: my first fieldwork trip took place from June 2011 to March 2012, and the second from March to May 2013. This section describes access and approval (§1.2.1), the field sites (§1.2.2), project management (§1.2.3), participant recruitment, payment and consent (§1.2.4), data collection methods (§1.2.5), data processing (§1.2.6) and data analysis, presentation and access (§1.2.7). For any references to places or languages, please see Maps 2.1-3 and 2.5, and Figures 2.3-4 in §2.
1.2.1 Access and approval

Prior to my arrival in PNG, I successfully obtained a research permit for the country, and gained approval from the University of Newcastle’s Human Research Ethics Committee. While conducting fieldwork in Bougainville in 2006, my principal supervisor Dr. Bill Palmer had had the opportunity to record two Papapana speakers in the Torau-speaking village of Rorovana. These speakers expressed an interest in documenting Papapana. With that in mind, I planned to arrive in Bougainville, spend some time in the provincial capital Buka and establish connections with the Papapana community either through people in Buka or by visiting the main Papapana village of Teperoi, to ascertain whether the community were still interested in documenting their language.

As it transpired, establishing connections with the community was far easier and quicker than I anticipated. Prior to leaving Australia, an Australian friend introduced me to her Papua New Guinean friend, Agatha, who was living in Australia. Fortunately for me, Agatha happened to be travelling to PNG around the same time as myself and was in the capital Port Moresby when I arrived. She very kindly accompanied me to the British and Australianembassies to register my arrival in the country, and to the National Research Institute of Papua New Guinea to meet the Head Jim Robins and collect documentation declaring my status as an accredited and approved researcher.

Agatha also introduced me to a Bougainvillean lady, Teresita, whom she had met at her lodgings in Port Moresby. Teresita then introduced me to her uncle at the University of Papua New Guinea and I met members of the linguistics department there. It transpired that Teresita’s other uncle in Bougainville knew a Papapana chief named John Konnou. Unbeknown to me, by the time I arrived in Buka two days later, word of my arrival had already reached John and shortly after I landed, he found me at the guesthouse I was staying in. I spent two days in Buka and John kindly took me to the relevant government offices to seek local approval, before introducing me to the Papapana community and establishing me in my first field site.

1.2.2 Field sites

My first field site was the Papapana village of Barora. John Konnou accompanied me to Barora where he had arranged for me to stay with his first cousin-in-law, Helen Kiara (see Figure 1.1). John believed this would be the best location for me as Helen lives in a “permanent” house (i.e. one with concrete foundations), has a generator, a rainwater tank and a small store in the house (see Figure 1.2). I lived in Barora from June to September 2011.
As I began to work on transcriptions and translations of audio recordings, I had to travel around 6km to Teperoi as there were only a few people who were able and willing to assist me with this work and they lived and/or worked in Teperoi. I initially worked only with the Teperoi Primary School head teacher Casilda Vavetaovi-Atuvia, and the elementary teacher Francis Abea. Travelling to Teperoi could be extremely time-consuming and difficult, and the timing of my arrival could be unpredictable, which was not ideal when Casilda and Francis were only available during the school break-times (after school was not an option as then it was too late for transport back to Barora). I therefore decided that it made more sense practically to live in Teperoi where I would have contact with not only more Papapana speakers but with Casilda, Francis and other literate speakers who could assist with transcription and translation.
The Teperoi Primary School site has five timber houses on stilts, which are provided for the teachers to rent. By September 2011 Casilda (see Figure 1.3) had moved into one of these houses (the furthest on the right in Figure 1.4) from the nearby Papapana village of Koikoi and she invited me to live with her family: her Teop-speaking husband Jerry Atuvia, her teenage daughter and, from December 2011, her baby son. The site has a rainwater tank but no generator so I purchased a small generator, and a car battery which I intended to charge with the solar panel (though I had little success with this and mostly relied on the generator for power). I lived in Teperoi with Casilda’s family from September 2011 to March 2012, and again from March to May 2013.

FIGURE 1.3 CASILDA VAVETAOVIA-ATUVIA, TEPEROI CHURCH, 2013

FIGURE 1.4 TEPEROI PRIMARY SCHOOL SITE, 2011

1.2.3 Project management

Woodbury (2003: 47) asserts that a corpus should be large and its production should be ongoing, distributed and opportunistic and for this to happen, documentation projects “must be designed to put
easily available, easy-to-use, well-diffused technologies in the hands of as many people as possible, and to train them to make high quality recordings” (Woodbury 2003: 47). Community members should therefore not only be active as the producers of the language data but also as co-researchers in the collection and analysis of data. Indeed, in the 21st century, documentary linguistics saw a change from the early 20th century approach of fieldwork on a language, the 1960s approach of fieldwork for a language community and the 1980s approach of fieldwork with a language community, to fieldwork by the language community (Grinevald 2003: 58-60). The ideologies of fieldwork with or by a language community adhere to one of Dwyer’s (2006: 38-40) five principles for carrying out ethical language documentation: the principle of reciprocity and equity. This principle asserts that the research relationship must be consultative, continuously negotiated and respectful and research should be planned collaboratively. These ideologies are evident in language documentation projects today and this is the approach I adopted in my own fieldwork, although it was not possible to recruit speakers to collect recorded data.

During the course of my fieldwork, I held regular meetings to facilitate and focus the activities of participants and foster a spirit of project ownership and community involvement. The first of these meetings took place the day after I arrived in Barora, at the Sunday church service in Teperoi. John Konnor introduced me to the wider community and I established the project: I sought approval and guidance on culturally appropriate ways of proceeding, and we discussed project objectives in relation to community needs, determined recordings to be made, including genres and topics, and identified speakers whom it would be appropriate to record, and those interested in assisting with transcription and translation. After church services, there were often announcements and I regularly took this as an opportunity to update the wider community about the progress of the project, seek input and encourage further participation. In October 2011 I even had the opportunity to give a Powerpoint presentation in one of the school buildings. I presented the background context to the project, the progress and direction of the project and the outcomes to date, such as audio recordings. Prior to my departure in March 2012, I ran a meeting to consult with the community about the progress and direction of the project, options for storing materials, the creation of community-oriented outputs and any restrictions the community would like to place on access. When I returned in 2013, I ran similar meetings to recommence and to conclude the project.

1.2.4 Participant recruitment, payment and consent

Community members were supportive of the project and the project seemed to generate some enthusiasm for the language; for example, one evening in Barora, community members crowded around my laptop to listen to excerpts of audio recordings and look at the draft dictionary I had begun to compile. This then prompted some Papapana speakers to teach the non-Papapana-speaking community members, such as their children, some words in Papapana.
In total, I recorded forty-three Papapana speakers, that is, 40% of the population of fluent speakers. Of these, seventeen speakers were video recorded either as well as or instead of being audio recorded. I did what I could to encourage more speakers to participate in audio or video recordings, but of course I had to respect an individual’s choice to not participate. One Papapana speaker did not want their voice to be recorded and played elsewhere, some speakers were reluctant to be recorded out of shyness, some were reluctant because of their insecurity about their competency, while other speakers simply had other priorities or commitments. Community members spend significant time on tending to their vegetable gardens, fishing, housework, and other community activities, while some community members have paid work.

60% of the recorded participants were women and around 70% of the text recordings were with women: this could be due to the fact that I am female and women felt more comfortable working with me than the men did. The arrival of my partner, Jeff, in January 2012 certainly facilitated my work in this respect. Jeff involved himself in all aspects of village life, and was allowed and able to participate in men’s activities that I was not, such as fishing or collecting bamboo to make pipes. As a result of Jeff’s activities, I had more interaction with men in the community and opportunities arose to record accounts about these activities, where previously I had struggled to record such accounts.

8% of recorded participants were under the age of thirty, 26% were in their thirties, 30% in their forties, 19% in their fifties and 16% were over sixty years old. A range of age groups is therefore represented, given the fact that fluent and confident speakers were generally older than thirty years old (see §2.2). It should be noted that participants’ age was often approximate, particularly for the older speakers, as their birth date was unknown or forgotten and they had no written records.

Most of the participants were housewives or subsistence farmers, but 16% worked in the educational sector and 5% worked as skilled tradespersons. A few of the older speakers had previously worked in nursing, administration or skilled trades.

The recruitment of research assistants to transcribe and translate the recordings was restricted by the fact that only five individuals were identified as fluent and literate speakers and of those, three were teachers. My principal research assistants were Casilda Vavetaovi-Atuvia, Francis Abea, and the Secretary of the Chiefs Committee Maureen Magua. I was also assisted by Francis’ sister Georgina Rereo, and later their brother Max Wabe, while another speaker, Gerard Epa, assisted me for a short period while he was visiting from Port Moresby. Some of these speakers also contributed to text recordings, while others preferred to participate in elicitation recordings.

The Papapana speakers who participated in the project gave generously of their time and were interested in the project, and many did not expect payment. Nevertheless, for ethical reasons, I ensured that every participant was paid as compensation for their time and as a token of gratitude. I sought guidance about payment and appropriate rates from John Konnou, Casilda Vavetaovi-Atuvia and other
community leaders at the project outset. The hourly rate of pay for transcription and translation work was based on the average hourly teacher wage, while a set payment was given for a recording session.

An important feature of documentary linguistics outlined by Woodbury (2003: 47) is that a corpus should be ethical, that is, it “should respect intellectual property rights, moral rights, as well as both individual and cultural sensitivities about access and use” (Austin and Grenoble 2007: 16). Another two of Dwyer’s (2006: 38-40) principles involve doing no harm and obtaining informed consent, which should relate not just to the recording of data, but also to the archiving and dissemination of data. Accordingly, I obtained informed consent in writing for all participants who were recorded or photographed. Unfortunately the information sheets and consent forms were not translated into Tok Pisin in time so if a participant could not read English, then I or another community member would translate the information into either Tok Pisin or Papapana. It should be noted that while obtaining informed consent is a necessary part of conducting human research within my culture, this concept was completely unknown to community members and they were often bewildered by the process. The wishes of each participant and the community have been adhered to in relation to access and dissemination of documentation outputs. All participants agreed to be referenced by their name rather than a pseudonym.

1.2.5 Data collection
To fulfil the aims of this thesis and the project as a whole, as outlined in §1.1, I employed a number of data collection methods and collected a broad range of data types: audio and video recordings of lexical and grammatical elicitation (§1.2.5.1), audio and video recordings of texts (§1.2.5.2), notes on linguistic data obtained through participant observation, unrecorded elicitation, and the creation of community materials (§1.2.5.3), photographs (§1.2.5.4), and sociolinguistic and genealogical data obtained through informal interviews, compiling genealogical profiles and participant observation (§1.2.5.5). See §1.2.7 for details on accessing the audio, video and photographic data.

All audio documentation was gathered using a solid state digital audio recorder and recordings were made as WAV files at 48KHz 24bit. Video documentation was recorded in MiniDV format and audio input to video recordings was taken from audio recorder output channels to ensure maximal quality. Photographs were mainly captured on my own digital SLR camera or occasionally on another digital camera, and always as JPEG files. Lanyard microphones were generally used to increase range of capture and reduce risk of interference but sometimes I used the stereo microphones built in to the audio recorder, or a microphone mounted on the video recorder.

1.2.5.1 Lexical and grammatical elicitation recordings
Lüpke (2009: 62) identifies three types of communicative events which result from different data collection methods. One of these is elicitation, such as word lists, paradigm lists and acceptability judgements. Elicitations are heavily influenced linguistically by the researcher and only created for the sake of the researcher.
In total I recorded 48.5 hours of lexical and grammatical elicitation sessions: around four hours were recorded in Barora and three hours in Teperoi during my first field trip, while the remaining forty-one hours were recorded in Teperoi during my second field trip. Only about a minute of these recordings was simultaneously captured on video.

In Barora, I elicited a basic wordlist of around 350 words using pictures, props and translation from Tok Pisin, or occasionally English. I also elicited basic clause structures, possessed noun phrases, and a few complex sentences. However, my competency in Tok Pisin limited further elicitation at that point, so I moved on to recording texts. In Teperoi, in December 2011 and January 2012 I conducted more elicitation sessions focusing on numerals, tense, aspect and mode (TAM), pronouns and possession. The main elicitation methods I employed were translation and back translation, but also included data manipulation and grammaticality judgements. These sessions were conducted in Tok Pisin or English, as one particular participant during those months was fluent in English. The large majority of elicitation took place during my second field trip in Teperoi in 2013. Back in Australia, between the two field trips, I had analysed the data collected during the first field trip and drafted my thesis chapters. The process of drafting my thesis chapters allowed me to identify gaps and uncertainties in my description of Papapana. I returned to Bougainville in 2013 with sixteen elicitation session plans designed to obtain the missing information or to test hypotheses. By this point I was much more competent and fluent in Tok Pisin which greatly benefited this data collection. During this field trip I analysed the data I had collected and on the basis of my findings, I planned and conducted a further thirteen sessions. These sessions were conducted in Tok Pisin and/or English, and the elicitation methods I employed included translation, back translation, asking questions about data already recorded, data manipulation, grammaticality judgements, stimulus tools such as pictures, and scenario-based questionnaires.

Elicitation sessions were generally conducted with two to four speakers in order to collect a range of data and opinions, and to allow data to be checked and confirmed at the same time as collection. When there was disagreement or uncertainty among speakers, the data was checked with and/or elicited from other speakers in a subsequent elicitation session. The elicitation sessions were invaluable as a more structured approach to language learning and analysis, and provided information about Papapana that it was not possible to deduce from the text recordings or observed communication.

1.2.5.2 Text recordings
The other two types of communicative events identified by Lüpke (2009: 62) are observed communicative events and staged communicative events. With observed communicative events, such as narratives, the only influence of the researcher is their presence. Staged communicative events, such as when speakers are asked to describe objects, represent a kind of middle ground between observed communicative events and elicitations because they are staged for linguistic purposes but use non-linguistic prompts and are thus less likely to be directly influenced by the researcher.
In total I recorded 10.5 hours of text sessions, which were generally observed communicative events but also included staged communicative events: fifty-one minutes were recorded in Barora and 9.5 hours in Teperoi during my first field trip, while eight minutes were recorded in Teperoi during my second field trip. Almost five hours of these recordings were simultaneously captured on video and proportionately represent the topics and genres targeted for audio capture. The text recordings are generally monologues and include the following genres: custom description, contemporary lifestyle description, procedural description, geographical description, identification of flora and fauna and description of their uses, personal narrative, traditional narrative, account of local or personal history, personal opinion. Some text recordings were of songs, either in isolation or as part of a custom description or traditional narrative.

Often participants had a clear idea of what they wanted to talk about but when they did not, I suggested topics to prompt them. Sometimes the ideas for text recording sessions would arise during general discussion with community members; for example, while eating a local dish I asked about the recipe, and that resulted in a plan to video-record the process of cooking this dish with people assisting in the cooking and someone else describing each stage. On another occasion while walking around the village, I asked for the name of a tree in Papapana and that prompted the paramount chief’s wife, Margaret Oavi, to bring me plant samples and teach me their uses and Papapana names (see Figure 1.5). On other occasions, I identified particular genres or topics that were under-represented in the corpus and invited speakers to participate if they were able to assist in collecting this data. The audience was often just myself but sometimes the speaker would tell the story to an organised or impromptu audience.

FIGURE 1.5 MARGARET OAVI WITH PLANTS, TEPEROI, 2011

1.2.5.3 Other linguistic data: participant observation, elicitation, community materials
Some linguistic data was not audio or video recorded but handwritten in my notebooks. This includes lexicon, expressions, sentences and grammatical features I was taught or acquired as the result of
living in the community and participating in village activities. The data collected in informal settings was always checked and confirmed later with other speakers in more formal settings. Everett (2001) argues for the advantages of learning the language under study monolingually, through participation in community life, observing language in use and constant interaction with speakers on a daily basis. Although the first two methods were possible, in reality, constant interaction in Papapana was not possible because Tok Pisin was the primary means of communication in the community (see §8.3). It was also not practically possible to live with a family in which both parents spoke Papapana, nor with the one family in which both parents and their two children spoke Papapana. Nevertheless, my hosts Helen and Casilda were Papapana speakers and I learnt a lot from living with them. Even though Tok Pisin was the main language used in their homes, I would practice and ask questions about Papapana on a daily basis in the home. Helen was interested in the project and contributed considerably to elicitation and text recordings, especially while I was living in Barora. Casilda had a keen interest in the project and contributed significantly to elicitation sessions, and transcription and translation. She is a natural linguist and has a great grasp of the grammar and semantics of Papapana. She is skilled at translating and explaining the meanings of lexemes and grammatical features, which was facilitated by her good command of English and her knowledge of grammatical terminology.

Other linguistic data recorded in my notebooks includes data collected as part of lexical, orthographic and grammatical elicitation sessions that it was not possible to record, and of sessions during the second field trip in which I worked with speakers to create community materials. Checking the draft dictionary provided information on the lexicon, phonology and orthography while creating illustrated trilingual vocabulary books for particular cultural domains was a great source of lexical data and grammatical information such as noun class and nominal modifiers. The community materials themselves served as visual elicitation materials for lexical data that it would otherwise have been difficult to collect; for example, showing pictures of fish I already had the English or scientific names of was a much more effective method of eliciting Papapana fish names than if speakers had listed fish names or shown me fish that I was unable to identify.

1.2.5.4 Photographs
There are currently around 200 digital photographs in the corpus that capture local flora and fauna (mainly shells and plants), cultural artefacts, socio-cultural activities, speakers and the local environment. These photographs are often associated with items or activities mentioned in a particular text recording, while others capture an item that individuals brought to show me and teach me the name and use of. There were a number of items which it was not possible to identify and translate the name of; the photographs therefore provide a record of the word’s referent. For other items, the photographs have proven useful in identification and translation of items and names that it was not possible to identify and translate in the field.
1.2.5.5 Sociolinguistic and genealogical data: informal interviews, genealogical profiles and participant observation

I collected sociolinguistic and genealogical data through informal interviews, compiling genealogical profiles, and participant observation.

In Barora in 2011, I conducted informal interviews with around fifteen speakers and/or community members. I questioned them about their linguistic repertoire, their perception of their productive and receptive ability in a particular language, their language use in terms of with whom, when and where they speak or are spoken to in a certain language both in the present day and past, and their opinion about the importance of a certain language and whether or not they liked it.

In Teperoi in 2013, I conducted six informal interviews with speakers and/or community members. I questioned them about the origin of Papapana people, dialectal variation, the geographic location of the Papapana community in the past, contemporary and historical contact with other speech communities in Bougainville (including frequency of, reasons for and location of contact), opinions about other speech communities in Bougainville, languages of wider communication in the past, contemporary Papapana language use (with whom, when and where Papapana is spoken), and attitudes towards Papapana in terms of its usefulness and importance. I also tried to deduce attitudes by asking about codeswitching, loan words, the perceived socioeconomic status of the community in relation to other Bougainville communities, attitudes towards Western culture, the attitudes of outsiders to the Papapana language, and attitudes about Tok Pisin.

At the beginning of my first field trip I tried to establish how many people were fluent in Papapana. However, it was difficult to establish how many people lived in each house, let alone how many of them spoke Papapana, because people often left the village during the day to attend to duties such as gardening or fishing, and when they were in the village, nobody stayed inside their house for very long and movement around the village was very fluid. It was therefore more accurate to record the genealogical relationships of the community members and then to establish which language(s) each person spoke. This also meant that Papapana speakers who did not live in the Papapana villages were accounted for. By the end of my first field trip I had collected genealogical data for inhabitants of the Papapana villages Barora, Peuni, Koikoi and Teperoi and rough data for those in Maras and Iraka. During my second field trip I checked, updated and expanded this data, and subsequently accounted for around 800 individuals who lived in the Papapana villages or were closely related to its inhabitants. The data I collected for an individual included their name(s), gender, exact or approximate age, their location, their competency in Papapana (L1/fluent speakers with full productive ability, L2/semi-speakers with partial productive ability, or people with only passive understanding) or whether they spoke Tok Pisin or another local language as their first language (L1), and additional languages in their repertoire. I was not able to meet every single individual so some of the information was obtained from their relatives, and while I tried to be as accurate as possible, it should be noted that some of the
data is unknown or approximate. For the speakers who participated in audio or video recordings, their competency in Papapana was self-evident but for others I relied on speakers' judgements of their own competency or on the judgements of their families.

Participant observation is a primary source of the sociolinguistic data presented in this thesis. Throughout my fieldwork, I carried a notebook with me to record information and observations about language use in different domains, language contact, language attitudes, government and educational policies, the historical context, the geographic locations and environment of the community, and the socio-cultural context including the clan and chief system. In order to make accurate observations and obtain this information, it was necessary to gain the community’s trust and I achieved this through the way in which I managed the project, as outlined in §1.2.3 and §1.2.4, and by participating in community life; for example, in Barora I would accompany the women to a nearby stream to wash clothes, in Teperoi I would help wash the dishes by the water tank or well, and I would go for walks on the beach with the village children, sit chatting with local men and women, and attend church on Sundays. My hosts would often tell me that community members and outsiders were surprised and impressed to learn that I ate local food and lived like they did. I was extremely interested in all aspects of the culture and would actively seek out opportunities to learn more and get involved in activities, often to the amusement of community members. I also obliged community members in sharing my personal photographs and stories about my own culture to foster trust and friendships. The arrival of my partner Jeff also facilitated my interaction and involvement in the community, not only from a work perspective as mentioned in §1.2.4, but also because kin relationships are important in the Papapana community and so having my “man” present normalised me as a person and provided another topic of conversation. Jeff’s presence also gave me more flexibility in terms of visiting other villages because I had a companion, whereas previously I had to rely on community members to accompany me to other villages as they were reluctant to let me travel on my own.

1.2.6 Data processing

An important feature of documentary linguistics is accountability, which pertains to the fact that access to data makes the evaluation of linguistic analyses possible and expected. However, for evaluations and analyses to be possible, materials should be transparent (Woodbury 2003: 47). Indeed, a large corpus of primary data is “of little use unless it is presented in a format which ensures accessibility... [and to] be accessible to a broad range of users the primary data needs to be accompanied by information of various kinds, which... could be called the apparatus” (Himmelmann 2006: 11). This “apparatus” might consist of time-aligned transcriptions, translation into a language of wider communication, interlinear glossing, and comments on linguistic or cultural peculiarities associated with the data.

There is also an “uncontroversial need for metadata” (Himmelmann 2006: 11). Metadata describes characteristics of events, participants, recordings and other data files and should be created for the
documentation as a whole as well as for each session. Metadata is a crucial part of language documentation because it is essential for effective archiving and discovery of materials.

This section describes how the data described in §1.2.5 was stored securely and processed (including time-aligned transcription and translation in ELAN and analysis in Toolbox), and the metadata conventions that were employed. See §1.2.7 for details on accessing the ELAN, Toolbox and metadata files.

1.2.6.1 Elicitation and text recordings

1.2.6.1.1 Secure storage

In the field I uploaded audio data to my laptop and to an external hard-drive, which was stored in a separate location to minimise risk. I also backed up this data on CDs and carried this back to Australia with me when I made a couple of brief visits there during my first field trip. Video tapes were also carried back to Australia and securely stored until they could be digitised, after which they were also backed up on an external hard-drive.

Audio recordings were reduced to 48kHz 16bit for import into ELAN and export from ELAN to Toolbox. After video recordings were digitised, they were imported into the existing ELAN file. There is one Toolbox database comprising all ELAN files to ease the process of searching for data and comparing results from different sessions. The ELAN and Toolbox files were similarly backed up on external hard-drive and CD in the field.

Most elicitation annotation and analysis was recorded in a notebook. I took photographs of these notes in the field and backed them up on external hard-drive. The annotation and analysis from the 2013 elicitation sessions has subsequently been typed into Word documents to ease the process of searching for and analysing data.

1.2.6.1.2 Transcription and translation

All text recordings from both field trips, and some elicitation recordings from the first field trip, have time-aligned transcription and translation in ELAN and have been exported to Toolbox. All elicitation recordings from the second field trip have annotations and analysis in Word. All time-aligned transcriptions, translations and annotations were completed in the field. The recording metadata spreadsheet (see §1.2.7 for details on accessing it) shows which recordings have time-aligned transcription and translation in ELAN and details of who assisted in these annotations.

The process of time-aligned transcription and translation of text recordings was hugely time-consuming, and often tedious. All research assistants showed great patience in this process. At the beginning of my fieldwork, I asked the research assistant to identify the boundaries of a sentence and I then segmented the audio file in ELAN. Then we would listen to a segment and the research assistant would write the transcription into a notebook. I then typed this into the ELAN file. Once all transcription was complete, we would then check the transcription and the research assistant would
provide a translation into Tok Pisin or English, and I would type the translation in English into ELAN. Later on, I began to segment the audio file myself prior to working with the research assistant. By the end of my fieldwork, to allow more than one research assistant to be working simultaneously and to speed up the process, I had begun to give research assistants my iPod or a cheap mp3 player to listen to the recording and transcribe it independently in a notebook. This was possible as they were now more competent and confident in their transcription skills. Then I would type this transcription into ELAN on my own, and often write a rough translation, then later check the transcription and translation with the same or a different research assistant. The transcription and translation process was invaluable in my acquisition of Papapana not only because it was an opportunity to ask about semantic, grammatical or cultural issues that arose, but also because it gave me concentrated and constant exposure to Papapana.

1.2.6.1.3 Metadata

The audio and video files have been labelled in accordance with the requirements of ELAR and PARADISEC archives\(^1\). An example file name is \textit{ES1-PPNE006-001A.wav}. Table 1.1 shows the meaning of the sequence of letters and numbers in a file name.

<table>
<thead>
<tr>
<th>File Name Letter/Number</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES</td>
<td>The initials of the fieldworker and file creator, Ellen Smith</td>
</tr>
<tr>
<td>1 or 2</td>
<td>First fieldwork trip, or second fieldwork trip</td>
</tr>
<tr>
<td>PPN</td>
<td>Papapana ISO code</td>
</tr>
<tr>
<td>E or T</td>
<td>Elicitation session, or Text session</td>
</tr>
<tr>
<td>001</td>
<td>Session number</td>
</tr>
<tr>
<td>-001</td>
<td>Session part number (some sessions were recorded in parts with breaks in between)</td>
</tr>
<tr>
<td>A or B</td>
<td>Track number (some sessions or session parts were recorded across more than one audio track when a recording was unexpectedly interrupted). Alternatively, the A track contains the introductory metadata information that was usually recorded at the start of a track.</td>
</tr>
<tr>
<td>a or b</td>
<td>Two files were mistakenly labelled with the same session number and these small case letters distinguish between the two separate files.</td>
</tr>
<tr>
<td>.wav, .mp4, .eaf or .txt</td>
<td>The file type: audio, video, ELAN annotation file, or text file for use in Toolbox</td>
</tr>
</tbody>
</table>

Audio, video, transcription and text files that represent the same recording are thus labelled identically except for the file type. This identical label is the \textit{bundle identifier}. A bundle minimally contains an audio file but may also contain a video file of the same recording.

\(^1\) ELAR is the Endangered Language Archive at the School of Oriental and African Studies at the University of London, England. PARADISEC the Pacific and Regional Archive for Digital Sources in Endangered Cultures and is a cross-institutional project.
Table 1.2 shows the metadata that is recorded for audio files, video files and both. A bundle may contain an annotation file and annotation text file, in which case the metadata recorded for the annotation file includes the annotator’s names. A bundle may also contain associated images. A particular image may be associated with more than one bundle and therefore the metadata for the image is recorded in a separate metadata file (see §1.2.6.2). Similarly, information about the participant is recorded in a separate metadata file.

**TABLE 1.2 METADATA FIELDS**

<table>
<thead>
<tr>
<th>File Type</th>
<th>Metadata</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio</td>
<td>Device, microphone, sampling rate and size, original sampling rate and size</td>
</tr>
<tr>
<td>Video</td>
<td>Device, format, original format</td>
</tr>
<tr>
<td>Audio and video</td>
<td>Recording duration, date, location, creator, participants, comments (such as audience), languages used, genre, content and access rights</td>
</tr>
<tr>
<td>Annotation</td>
<td>Main annotator, co-annotator</td>
</tr>
<tr>
<td>Annotation Text</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 1.2.6.2 Photographs

In the field I uploaded photographic data to my laptop and to an external hard-drive, which was stored in a separate location to minimise risk. Sometimes it was necessary to edit the photograph by changing the orientation, cropping the size or improving the quality of the picture. The photographs and other illustrative material (including several videos of activities without speech) have been labelled in accordance with the requirements of ELAR and PARADISEC archives. A typical file name is the name of the item in Papapana or English, or two words describing the content such as *BananasBoiling* or *CoconutScraping*. If there is more than one image depicting an item, a number is assigned, such as *Kari1* and *Kari2*. The filename also contains the file type, such as *jpg*. The metadata recorded for images includes: device, format, date, location, creator, content, comments and access rights.

### 1.2.6.3 Sociolinguistic, genealogical and other linguistic data

Handwritten sociolinguistic and genealogical data, and handwritten linguistic data was photographed, typed into a Word document or entered into the Toolbox dictionary in the field as a means of backing up the data. These files were similarly backed up on external hard-drive and CD. In between the two field trips I used a commercial software program, Family Tree Maker, to enter the genealogical information and produce various family trees in PDF format. During my second field trip I used paper copies of these documents to check information while out in the villages and then backed this up in the field by regularly updating the Family Tree Maker database. Once complete I was able to convert this to GEDCOM files\(^2\) and export to an Excel spreadsheet. Unfortunately it was not possible to retain the

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\(^2\) GEDCOM stands for GEnealogical Data COMmunication and is a proprietary and open specification for exchanging genealogical data between different genealogy software.
genealogical relationships in Excel but the format did allow me to more easily generate demographic figures.

1.2.7 Data analysis, presentation and access

The grammatical analysis of Papapana is based on all the data that I collected (see §1.2.5). In the grammatical description of Papapana, I have endeavoured to exemplify my analysis with spontaneously produced utterances from text recordings but where that was not possible, I have used elicited data. I have also sometimes used elicited data when it more clearly exemplifies the analysis than text data. The source of the data is indicated in the reference numbers given after each example. The reference numbers reflect the file names as described in §1.2.6.1.3. An audio file name such as E51-PPNE006-001A.wav is reduced to 1-E006 or where relevant, 1-E006-1A, thus indicating the fieldwork trip, the session type (elicitation or text), the session number, session part number and track number. Where data comes from unrecorded elicitation sessions, the example is referenced as Fieldnotes and, where possible, accompanied by the date those notes were taken. Particular elicitation methods and tools are referenced and/or discussed at the relevant points. Where analysis is built on the corpus as a whole, no reference is given. Each example contains three lines of text: the language example in the first line, a morpheme-by-morpheme gloss in the second, and a free translation in the third. In the language example line, when required, the morpheme, phrase or clause under discussion is in bold typeface. When relevant, linguistic data is also presented with explanations providing the context for an utterance, since “the annotation of cultural/contextual information is vital to reconstructing, within the linguist’s grammar, the sinew and fiber of the speaker’s grammar” Everett (Everett 2001: 186).

My analysis is written in terms of “basic linguistic theory” (Dixon 2010) which “has supplemented traditional grammar with a variety of ideas from structuralism, generative grammar… and typology” (Dryer 2006: 211). As such the terminology that is used should be understood by the majority of linguists, and is relevant for Papapana.

Archiving is a significant concern in documentary linguistics as it ensures materials are available to potential users in the future. Raw data should be archived not only “to keep the data safe... [but also] to let others know what has been recorded” (Bowern 2008: 60). Archiving materials involves preparation of the recorded data, annotations and metadata so that “the information it contains is maximally informative and explicitly expressed, encoded for long-term accessibility and safely stored with a reputable organisation that can guarantee long-term curation” (Austin 2006: 100). Documentation outcomes from this project will be archived with ELAR and PARADISEC archives. At the time of writing, all audio, video and photographic data, all ELAN and Toolbox files and all metadata had been deposited in the ELAR archive and were in the process of being curated. The data is available at http://elar.soas.ac.uk/deposit/0313#deposit-home. In consultation with the community, it was agreed that documentation outcomes will be made accessible to the Papapana community through local
institutions such as the National Research Institute of Papua New Guinea in Port Moresby, the University of Papua New Guinea Open College in Buka, the Arawa library and the Teperoi Primary School.

1.3 Thesis organisation

Part I of this thesis includes the current chapter, which has detailed the thesis and project aims, and the methodology employed to achieve these aims. Chapter 2 describes the name and location of the Papapana language, speaker numbers and trends, Papapana’s genetic affiliation, previous research and documentation on Papapana and related languages, and a typological overview of Papapana.

Part II provides a grammatical description of Papapana. Chapter 3 describes the phonology including the phoneme inventory, allophones, phonological variation and change, orthography, phonotactics, reduplication and stress. Chapter 4 describes nouns and noun phrases, including noun phrase structure, pronouns, noun class, derived and compound nouns, the expression of number in the noun phrase, articles, numerals and numeral modifiers, possession (direct, indirect and prepositional), possessive pronouns, quantifiers, demonstrative modifiers and pronouns, adjectives, miscellaneous modifiers, the additive marker and attributive prepositional phrases. Chapter 5 describes verbs and the verb complex (VC), including VC structure, verbal derivation, alignment and argument indexing, valency and valency-changing operations, verb serialisation, directionals, TAM marking including imperative and hortative marking, negation marking, and finally adverbs in the VC and the marker to, whose function is not clear. Chapter 6 describes clause types and the structure of each type. Clause types discussed include declarative verbal clauses with core arguments, declarative verbal clauses with oblique arguments or adjuncts, declarative verbal clauses with adverbial phrases, imperative and hortative clauses, interrogative clauses, verbal existential clauses, verbal negative clauses and finally verbless clauses. Chapter 7 describes complex sentences including coordination, relative clauses, adverbial clauses and complement clauses.

Part III investigates consequences of language contact. Chapter 8 describes language contact settings, the history of language contact in the Papapana speech community and Papapana language use today, including the domains in which it is used, intergenerational transmission and intermarriage patterns, and multilingualism in the community. Along with Chapter 2, Chapter 8 provides the background information necessary for investigating the two consequences of language contact discussed in Chapters 9 and 10. Chapter 9 investigates evidence of contact-induced grammatical change in Papapana found in its clause orders, oblique constructions and possessive constructions, before comparing these findings to similar findings in other NWS languages. Chapter 10 investigates why and to what extent Papapana is an endangered language. The discussion examines motivations for language shift in PNG and in the Papapana community, and applies and critically evaluates ethnolinguistic vitality assessment frameworks to Papapana.
2 Language Background

This chapter presents background information about Papapana in order to contextualise the language. The name of the language and its geographical location are discussed in §2.1, the number, proportion and distribution of speakers in §2.2, Papapana’s genetic affiliation in §2.3, previous research and documentation on Papapana in §2.4 and a typological overview of Papapana in §2.5. The historical and current language contact situation and the sociolinguistic milieu are discussed in detail in §8.

2.1 The name and location of the Papapana language

Papapana is a language of Papua New Guinea (PNG), spoken on the northeast coast of Bougainville island, in the Autonomous Region of Bougainville (see Map 2.1).

MAP 2.1 PAPAPANA IN PAPUA NEW GUINEA

The Papapana speech community originates in the village of Teperoi but is currently also located in five other villages north and south of Teperoi: Peuni, Koikoi, Maras, Barora and Iraka (see Map 2.2 for the location of Koikoi and Iraka in Bougainville, along with other important locations, and Map 2.3 for the relative locations of all six Papapana villages). Peuni, Barora and Iraka villages are each situated in one clearing. Maras consists of seven sites situated north and south of the Maras bridge, and both east and west of the highway. Koikoi consists of six sites; one is north of a river on the west side of the highway, three more are situated south of the river along the west side of the highway, while two are south of the river but to the east of the highway, next to the beach. Teperoi itself is spread out along a narrow track of roughly 1.5 kilometres running adjacent to the shoreline. The first few settlements along this track are considered by community members to be Makomako village. Access
to Teperoi proper is only possible through Makomako and there is no clear divide between the two. The track ends in a large clearing which is the centre of Teperoi. Beyond this there is a smaller track leading to the Teperoi Primary School site.

MAP 2.2 BOUGAINVILLE: PAPAPANA VILLAGES KOIKOI AND IRAKA, AND OTHER IMPORTANT LOCATIONS
The name *Papapana* is an endonym and can describe the Papapana people, land, culture and language. There are no dialects. Speakers were unsure of the origin of *Papapana* but two reported meanings are ‘the place where men live’ and ‘people from the beach’. Another possible origin is reduplication of *papana* ‘side’ or *pana* ‘part’. One of Papapana’s exonyms *Auta* is used by Rotokas speakers and reportedly translates as ‘down below’ in Rotokas; Rotokas speakers live in the mountains surrounding the Papapana villages. *Auta* is even used on the Teperoi church sign. Torau and Teop speakers call Papapana people *Numa Numa*, due to their proximity to the Numa Numa plantation (see Map 2.2). Indeed Togolo (2005), a Torau speaker, notes that his grandfather was fluent in the Numa Numa language. The endonym *Papapana* is generally also used in the literature (Allen and Hurd 1963, Lewis, Simons and Fennig 2014), though the language has also been referred to as *Papapa* (Wurm and Hattori 1981-83) and *Teperoi* (Lanyon-Orgill and King 1942).

### 2.2 Papapana speakers

Papapana is listed as having 100 speakers in 1963 (Oliver 1973: 188), 150 speakers in 1977 (Wurm 2012) and more recently 120 speakers (Lewis et al. 2014). The genealogical data I collected in the field (see §1.2.5.5 and §1.2.6.3) allowed me to calculate the number of Papapana speakers, their location, and the population of each Papapana village.

As of May 2013, the total number of fluent Papapana speakers was 106. Table 2.1 shows the number of fluent first language (L1) speakers in each of the six villages. There were seventeen fluent speakers...
elsewhere in Bougainville, one in Port Moresby and one in Australia. If one considers only the speakers who were residing in the six Papapana villages in May 2013, fluent Papapana speakers accounted for 17% of the population. If one includes the speakers who were living elsewhere (since they may visit the Papapana villages from time to time), fluent Papapana speakers made up 21% of the total population of the six Papapana villages. A few of the fluent speakers were not related to the Papapana people but had grown up in the Papapana villages.

**TABLE 2.1 L1 SPEAKERS BY LOCATION**

<table>
<thead>
<tr>
<th>Location</th>
<th>L1 Speakers</th>
<th>Population of Location</th>
<th>Proportion L1 Speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peuni</td>
<td>3</td>
<td>21</td>
<td>14%</td>
</tr>
<tr>
<td>Koikoi</td>
<td>7</td>
<td>47</td>
<td>15%</td>
</tr>
<tr>
<td>Teperoi</td>
<td>47</td>
<td>224</td>
<td>21%</td>
</tr>
<tr>
<td>Maras</td>
<td>13</td>
<td>91</td>
<td>14%</td>
</tr>
<tr>
<td>Barora</td>
<td>10</td>
<td>68</td>
<td>15%</td>
</tr>
<tr>
<td>Iraka</td>
<td>7</td>
<td>59</td>
<td>12%</td>
</tr>
<tr>
<td>Elsewhere</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>106</strong></td>
<td><strong>510</strong></td>
<td><strong>17%-21%</strong></td>
</tr>
</tbody>
</table>

In addition to the 106 fluent Papapana speakers, there were fifty-five second language (L2) or semi-speakers who could speak some Papapana to varying degrees but were not considered fluent or L1 speakers. Table 2.2 shows the number of L2 or semi-speakers in each of the six villages. There were nine semi-speakers elsewhere in Bougainville, three elsewhere in PNG and one in Australia. If one considers only the semi-speakers who were residing in the six Papapana villages in May 2013, semi-speakers accounted for 8% of the population. If one includes the semi-speakers who were living elsewhere, semi-speakers made up 11% of the total population of the six Papapana villages. A few of the L2/semi-speakers were not related to the Papapana people but had grown up in the Papapana villages.

**TABLE 2.2 L2/SEMI-SPEAKERS BY LOCATION**

<table>
<thead>
<tr>
<th>Location</th>
<th>L2/Semi-speakers</th>
<th>Population of Location</th>
<th>Proportion L2/Semi-speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peuni</td>
<td>4</td>
<td>21</td>
<td>19%</td>
</tr>
<tr>
<td>Koikoi</td>
<td>3</td>
<td>47</td>
<td>6%</td>
</tr>
<tr>
<td>Teperoi</td>
<td>17</td>
<td>224</td>
<td>8%</td>
</tr>
<tr>
<td>Maras</td>
<td>7</td>
<td>91</td>
<td>8%</td>
</tr>
<tr>
<td>Barora</td>
<td>9</td>
<td>68</td>
<td>13%</td>
</tr>
<tr>
<td>Iraka</td>
<td>2</td>
<td>59</td>
<td>3%</td>
</tr>
<tr>
<td>Elsewhere</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>55</strong></td>
<td><strong>510</strong></td>
<td><strong>8-11%</strong></td>
</tr>
</tbody>
</table>

There were a larger number of community members, around 136, who could understand Papapana but not speak it; Table 2.3 shows the numbers for each of the six villages. There were nineteen people with a passive knowledge of Papapana elsewhere in Bougainville and ten elsewhere in PNG. If one considers only the speakers who were residing in the six Papapana villages in May 2013, people with a
passive knowledge of Papapana accounted for 21% of the total population of the six Papapana villages. If one includes the speakers who were living elsewhere, this figure rises to 27%. A few of the people with passive knowledge were not related to the Papapana people in any way but were immigrants in the community.

**TABLE 2.3 PASSIVE KNOWLEDGE BY LOCATION**

<table>
<thead>
<tr>
<th>Location</th>
<th>Passive</th>
<th>Population of Location</th>
<th>Proportion Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peuni</td>
<td>7</td>
<td>21</td>
<td>33%</td>
</tr>
<tr>
<td>Koikoi</td>
<td>10</td>
<td>47</td>
<td>21%</td>
</tr>
<tr>
<td>Teperoi</td>
<td>45</td>
<td>224</td>
<td>20%</td>
</tr>
<tr>
<td>Maras</td>
<td>14</td>
<td>91</td>
<td>15%</td>
</tr>
<tr>
<td>Barora</td>
<td>24</td>
<td>68</td>
<td>35%</td>
</tr>
<tr>
<td>Iraka</td>
<td>7</td>
<td>59</td>
<td>12%</td>
</tr>
<tr>
<td>Elsewhere</td>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>136</td>
<td>510</td>
<td>21-27%</td>
</tr>
</tbody>
</table>

Figure 2.1 shows the proportion of fluent speakers, L2/semi-speakers, people with passive knowledge and people with no knowledge of Papapana out of the total population of each village. Teperoi had the highest proportion of fluent speakers, Peuni had the highest proportion of L2/semi-speakers and Barora had the highest proportion of people who could understand Papapana but not speak it. Iraka had the lowest proportion of all three types. In every village there were more people without any knowledge of Papapana than with it.

**FIGURE 2.1 PROPORTION WITHIN EACH VILLAGE OF L1 SPEAKERS, L2/SEMI-SPEAKERS AND PEOPLE WITH PASSIVE OR NO PAPAPANA KNOWLEDGE**

Using the data above, it is also possible to take the numbers of fluent speakers, L2/semi-speakers and people with passive knowledge of Papapana and show how these people are geographically distributed (Figure 2.2). The majority of the total number of fluent Papapana speakers lived in Teperoi and elsewhere. A smaller number lived in Maras and Barora, while Peuni, Koikoi and Iraka contained the
smallest number of fluent Papapana speakers out of the total number of fluent speakers. The same pattern is found with the numbers of L2/semi-speakers and people with passive knowledge, though more of these speakers live in Maras than in Barora.

**FIGURE 2.2 NUMBERS OF L1 SPEAKERS, L2/SEMI-SPEAKERS AND PEOPLE WITH PASSIVE PAPAPANA KNOWLEDGE IN EACH LOCATION**

Using the data above, it is possible to summarise that the total number of Papapana speakers, be it fluent or L2/semi-speakers, was 161 in 2013, which was 32% of the population of the six villages, while the total number of people with knowledge of Papapana, to whatever extent, was 297, which was 58% of the population.

### 2.3 Genetic affiliation

Figure 2.3 shows the genealogical tree for Papapana\(^1\), based on Ross (2004c) with the addition of the more recently identified first order subgroup of Oceanic, Temotu (Ross and Næss 2007) and with the addition of two languages listed by *Ethnologue* (Lewis et al. 2014), Tomoip and Minigir, though the source identifying the genetic affiliation of these languages is unclear. The numbers of languages per group are taken from Ethnologue (Lewis et al. 2014). In the genealogical tree, Ross uses the term *linkage* to refer to “a group of communalects which have arisen by dialect differentiation” (Ross 1988: 8). There are two types of linkages: (i) a *chain*, “where communalects are typically spread along a coastline, each related most closely to its neighbour on either side,” and (ii) a *network*, “where communalects are scattered over a land area or an archipelago, typically having neighbours on more than two sides, and often sharing different innovations with several of these” (Ross 1988: 8).

---

\(^1\) The higher order subgroups which are not relevant to Papapana are not shown.
FIGURE 2.3 GENEALOGICAL TREE FOR PAPAPANA

<table>
<thead>
<tr>
<th>Austronesian (1257)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malayo-Polynesian (1237)</td>
</tr>
<tr>
<td>Central/Eastern Malayo-Polynesian linkage (720)</td>
</tr>
<tr>
<td>Eastern Malayo-Polynesian family (554)</td>
</tr>
<tr>
<td>Oceanic family (513)</td>
</tr>
<tr>
<td>Temotu (10)</td>
</tr>
<tr>
<td>Admiralties family (31)</td>
</tr>
<tr>
<td>St.Matthias group (2)</td>
</tr>
<tr>
<td>Yapese (1)</td>
</tr>
<tr>
<td>Central/Eastern Oceanic (228)</td>
</tr>
</tbody>
</table>

**Western Oceanic linkage (241)**
- North New Guinea linkage (106)
- Papuan Tip linkage (64)
- **Meso Melanesian linkage (71)**
  - Bali-Vitu (2)
  - Willaumez linkage (4)
- **New Ireland/Northwest Solomonic linkage (65)**
  - Tungak/Nalik family (6)
  - Tabar linkage (2)
  - Madak linkage (3)
  - Tomoip (1)
- **St.George linkage (53)**
  - Minigir (1)
  - South New Ireland languages (12)
- **Northwest Solomonic linkage (40)**
  - Choiseul (4)
  - Santa Isabel (7)
  - New Georgia (13)
  - Piva-Banoni (2)
  - Mono-Uruava (4)
- **Nehan-North Bougainville (10)**

**Papapana**

The Austronesian language family comprises over 1200 languages spoken by 230 million people (Wurm 2012: 426) stretching from Madagascar in the west to Easter Island in the east and from Taiwan and Hawai’i in the north to New Zealand in the south (see Map 2.4).

MAP 2.4 THE AUSTRONESEAN FAMILY (FROM LYNCH ET AL. 2002: 3)
The Austronesian family originated in Formosa (modern-day Taiwan) and from here 7000 years ago speakers began to migrate south to the Philippines, Indonesia, Malaysia and South East Asia. These people arrived in New Guinea 5500 years ago where they intermarried with Papuans. There are four first order Austronesian subgroups: three of these are found in Formosa and together account for five languages, while the fourth sub-group is distributed across the whole region, including Formosa. This fourth subgroup consists of over 1200 languages and can be split into between six and eight second order subgroups. With the exception of Malayo-Polynesian, these second order subgroups are found in Formosa and together contain about sixteen languages. The Malayo-Polynesian group dispersed out of Formosa about 5000-5500 years ago and can be split into Western Malayo-Polynesian and Central Eastern Malayo-Polynesian. Within the latter, there are two further subgroupings including Eastern Malayo-Polynesian which has at least two member groups, of which one is Oceanic.

Within the area occupied by Oceanic language speakers, three subregions can be delineated on the basis of geographical, socio-cultural, physical and linguistic factors: Micronesia to the north, Polynesia to the east and Melanesia to the west. Melanesia encompasses Vanuatu, New Caledonia, and Fiji in the southeast, to the Solomon Islands, the Bismarck Archipelago (New Britain, New Ireland and the Admiralties) and New Guinea in the northwest (Pawley 2006). Two languages in geographic Micronesia are Austronesian but not Oceanic, the Polynesian languages are all Oceanic but do not correspond neatly with the geographic area of Polynesia, and in the Melanesian region, there are both Oceanic and non-Oceanic Austronesian languages as well as over 800 Papuan languages (Papuan being the cover term for the non-Austronesian languages in the area, rather than a language family). The Oceanic group has six first order subgroups consisting of over 500 languages. One of these, Western Oceanic contains 241 languages and includes the Papuan Tip linkage, North New Guinea linkage and Meso-Melanesian linkage. In PNG, most Oceanic languages of New Britain, New Ireland and the Western Solomon Islands belong to the Meso-Melanesian linkage, while other Oceanic languages of PNG belong to the Papuan Tip linkage, North New Guinea linkage, or are part of the Admiralties subgroup of Oceanic, rather than the Western Oceanic subgroup.

Within the Meso-Melanesian linkage there is the New Ireland/Northwest Solomonic linkage which contains the St. George linkage. Papapana is a member of the Northwest Solomonic (NWS) linkage within the St. George linkage. NWS languages stretch from Nissan island (PNG) in the north-west to the boundary between the Maringe and Bugotu languages on the south-eastern tip of Santa Ysabel island (Solomon Islands) (Ross 1988). The location of these languages can be seen in Map 2.5 while their genetic affiliation is shown in Figure 2.4. On the basis of the limited data available at the time, Ross (1988) placed Papapana in the Nehan/North Bougainville subgroup of NWS, containing the languages of northern Bougainville and Buka; however, there are similarities in lexicon and syntax which raise the possibility that Papapana is related more closely to Uruava, or perhaps even Mono and Torau (Bill Palmer, pers.comm.). This is
further supported by evidence of contact-induced grammatical change in Papapana (see §9 for further discussion).

MAP 2.5 LOCATIONS OF NORTHWEST SOLOMONIC LANGUAGES (FROM ROSS 1988: 216)

FIGURE 2.4 A NORTHWEST SOLOMONIC GENETIC TREE (FROM ROSS 1988: 217)
2.4 Previous research and documentation

Previous research and documentation on Papapana includes a preliminary draft dictionary (Palmer 2007b) which was compiled from a 200 item Summer Institute of Linguistics (SIL) survey questionnaire collected in 1963 and six hours of primary data collected from two speakers in elicitation sessions in the field; these audio recordings are accompanied by annotations and the data is archived and disseminated online (Palmer 2007a). No grammar studies exist though Malcolm Ross has handwritten an unpublished partial grammar outline based on the SIL survey. Due to the limited prior research, it was particularly necessary to consult research and documentation of related languages in preparation for this documentation and description project.

Before the Second World War, the majority of research published on Oceanic languages was the result or by-product of Christian missionary activity. This research includes orthographies, grammar sketches, dictionaries and works of a religious nature, and mainly focused on the languages of Fiji and Polynesia. However, a few grammar sketches of other Oceanic languages were published including Codrington’s (1885) *The Melanesian Languages* which provides a linguistic survey of Melanesian languages comprising their comparative grammar, numerals, vocabularies and phonology, as well as grammar sketches of thirty-five languages.

Since the Second World War, university-based linguists have carried out the bulk of descriptive work on Oceanic languages and, in addition to continued research on Polynesian languages, greater attention has been paid to Micronesia and, to a lesser extent, Melanesia. *The Current Trends in Linguistics* volume edited by Sebeok (1971) contains an outline of the history of research into Oceanic languages while Tryon (1994) also provides a large bibliography of works on Oceanic languages. Recent works on Oceanic typology include Lynch's (1998) *Pacific Languages: An Introduction*, which describes the sound system and gives a grammatical overview of Oceanic languages. A more detailed presentation of Oceanic language typology can be found in Lynch, Ross and Crowley’s (2002) *The Oceanic Languages*. This 915-page book describes the historical, geographical, research and sociolinguistic contexts of Oceanic languages, gives a detailed typological overview of Oceanic languages, outlines Proto-Oceanic grammar and describes Oceanic internal subgrouping. The larger and remaining part of this book presents grammar sketches of some forty-three languages written by various authors.

Bibliographies listing research on languages in specific areas of Oceania have also been published, such as those for Fiji (Schütz 1972), Vanuatu (Lynch and Crowley 2001), New Guinea (Grace 1976, Carrington 1996), Solomon Islands (Simons 1976) and Bougainville (Lincoln 1976d). One such work on Bougainville is Lincoln’s (1976a) *Austronesian Languages: Bougainville Province*, in which Lincoln endeavours to define the subgroups of the Oceanic languages of Bougainville by examining lexicostatistics, lexical and grammatical innovations, consonant correspondences and sound correspondences. In *Proto-Oceanic and the Austronesian languages of Western Melanesia*, Ross (1988) describes NWS group typology and provides evidence to show that these languages are
descended from a single proto-language, Proto-Northwest Solomonic (PNWS). A number of the grammar sketches in *The Oceanic Languages* (Lynch et al. 2002) describe NWS languages such as Taiof, spoken in northern Bougainville (Ross 2002b), Banoni, spoken in southwest Bougainville (Lynch and Ross 2002), Sisiqa, spoken in central Choiseul in the Solomon Islands (Ross 2002a), Kokota, spoken on Santa Isabel in the Solomon Islands (Palmer 2002) and Roviana, spoken on New Georgia in the Solomon Islands (Corston-Oliver 2002). Palmer (2009b) expands upon this sketch grammar in his *Kokota Grammar* while further description of ergativity in Roviana can be found in Corston’s (1996) *Ergativity in Roviana Solomon Islands*. Lincoln has also written a great deal on Banoni including a comparison of Banoni with Piva in order to test the claim that Piva is a Banoni dialect which has been influenced in vocabulary by the Papuan language Rotokas (Lincoln 1976b). Of the NWS languages which are spoken in northern Bougainville, Todd (1978) has outlined Nehan grammar, and Mosel and various collaborators have written extensively on Teop, including a sketch grammar available online (Mosel and Thiesen 2007) and research into Teop gender (Mosel and Spriggs 1999a), negation (Mosel and Spriggs 1999b) and valency (Mosel 2007, Mosel 2010). There are also grammatical descriptions of Mono-Alu (Fagan 1986) and of the New Georgia languages Hoava (Davis 2003), Ughele (Frostad 2012) and Kubokota (Ghanongga) (Chambers 2009), the latter of which investigates motion verbs and paths of motion in detail.

Since less than 10% of Oceanic languages in Melanesia are well described, Lynch et al. (2002: 21) argue that this area must be the focus for research over the coming decades. Given Papapana is an endangered language with so few speakers (see §10 for further information on ethnolinguistic vitality status), it is clearly among the most urgent cases.

### 2.5 Typological overview

Papapana shows a number of features that are typical of the NWS subgroup of Oceanic to which it belongs, but there are also a number of features that are unusual for an Oceanic language, as well as for languages in general. This section provides an overview of the typological features of Papapana and points out particular areas of interest.

#### 2.5.1 Phonology

Papapana has five monophthongs /i; e; a; ɔ; u/. The three front unrounded vowels exhibit contrastive vowel length. Seventeen vowel combinations are attested in Papapana, of which seven are realized as diphthongs: /eɪ; æ; æ; æ; æ; æ; æ/. Papapana’s consonant system consists of fourteen phonemes: /p; b; t; d; k; g; ʔ; m; n; ŋ; r; r; β; s; w/. The phonemes /l/ and /β/ exhibit allophonic variation: [r] and [r] occur in free variation, as do [β], [w] and [v]. Certain intervocalic environments trigger glottal epenthesis or glide creation, either of the labial-velar approximant [w] or the voiced palatal approximant [j]. The syllable structure is (C)V(V), with the exception of non-lexicalized loan words which allow codas and consonant clusters. Replication involves monosyllabic and disyllabic copying for both derivational and inflectional functions, but there are also highly unusual patterns for
inflectional functions, involving double, simultaneous monosyllabic copying, and simultaneous monosyllabic copying followed by disyllabic copying (see §3.4). Feet are left-aligned syllabic trochees and word stress is predictable with primary stress falling on the first syllable of the first foot, which is unusual for Oceanic languages since stress usually falls on the penultimate syllable (see §3.5).

2.5.2 Nouns and Noun Phrases
A noun phrase (NP) may function as the core argument of a verb, the complement of an adposition in oblique arguments and adjuncts, a possessor NP modifier and as a predicate in a verbless clause. Nouns may be derived through zero derivation, reduplication, or reduplication and a derivational suffix.

Papapana has the four separate pronominal paradigms that are widespread in Oceanic languages: independent pronouns, possessor suffixes, subject-indexing proclitics and object-indexing enclitics. In addition, Papapana has possessor proclitics which are not synchronically segmentable into a possessive constituent and possessor suffix as in other Oceanic languages. All five pronominal paradigms classify referents according to first, second or third person, with an inclusive/exclusive distinction in the first person, and distinguish between singular and plural number. Independent pronouns also distinguish dual and trial number. Other subtypes of pronouns include possessive pronouns, demonstrative pronouns and interrogative pronouns. Papapana does not have reflexive, reciprocal or relative pronouns.

The classification of nouns has a semantic basis and there are four noun classes in Papapana: Personal, Class I, Class II and Location. Papapana also exhibits a very interesting pattern observed elsewhere in NWS languages where two words that have the same phonological form, but a different, though related, meaning can belong to different noun classes (see §4.3).

Articles are either independent or clitics, and precede the noun. They can code specificity and non-specificity, noun class, number, and semantic features such as diminutive and partitive categories. The noun class system interacts with number in a remarkable way involving inverse number marking which is found in other NWS languages but is a typologically rare phenomenon (see §4.7.2).

Nouns are not inflected for number and instead number is indicated by the articles, numeral modifiers or quantifiers. The counting system is a combination of quinary and decimal. The numeral modifiers ‘one’ and ‘two’ are marked by au when they modify Class II nouns, while ‘three’ makes a human/non-human distinction. Ordinals are generally derived by means of the causative prefix and the cardinal numeral modifiers. There are two quantifiers denoting ‘some’ that correlate with the basic and indefinite articles, one indicating abundance and one that distinguishes noun class and denotes ‘(an)other’.

In possessive constructions there is a formal distinction based on the semantic difference between inalienable and alienable nouns, which is expressed by direct and indirect constructions respectively.
The direct construction is head-marking. Papapana also expresses possession via a preposition. Papapana does not have possessive classifiers denoting different kinds of possessive relationship, while singular possessive pronouns distinguish noun class: these features are unusual for NWS languages (see §4.9). Remnants of the Proto-Oceanic (POc) non-specific possessor constructions are evident in compound nouns.

There is a person-based demonstrative paradigm and a further paradigm based on distance relative to the speaker. Adjectives occur in an adjective phrase (AP) with an article that agrees in noun class and/or number with the head noun that the AP is modifying, though a small group of adjectives can additionally modify a noun without being marked by an article.

Papapana shows considerable variation in the position of numeral modifiers, quantifiers, lexical possessor NPs, demonstratives, and adjective phrases: this reflects the mixture of left-headed and right-headed typology in Papapana more generally and may be attributed to contact with Papuan languages of the region (see §9).

2.5.3 Verbs and the Verb Complex

Verbs function primarily as predicates and may be derived through zero-derivation or reduplication. The verb complex (VC) refers to the verbal head (or sequence of verbs in a serial construction) with its accompanying modifiers: subject-indexing and object-indexing clitics, directionals, tense, aspect and mode (TAM) markers, negative markers, adverbs and the marker to, whose function is not clear. The verbal head and its modifiers occur in a fixed structural relationship and the term verb complex is used as a descriptive device to capture this relationship. The VC does not include arguments and the object-indexing enclitics are considered to be agreement rather than pronominal objects; therefore, without the inclusion of the object NP, the VC does not equate to a verb phrase (VP). Whether or not Papapana even has a VP is open to further investigation.

Papapana is nominative-accusative in its formal marking of core arguments. Core arguments are indexed in the VC by subject proclitics and object enclitics, which belong to two of Papapana’s five pronominal paradigms and are head-marking. Subject proclitics are not portmanteau forms combining with tense, aspect or mode markers, as attested in several NWS languages.

Verbs may be intransitive, transitive, ditransitive or ambitransitive. Valency-changing operations include a postverbal applicative, a causative prefix, a preverbal comitative applicative, a detransitive prefix, object incorporation, transitivity discord and a reflexive/reciprocal marker.

Up to two verbs can occur in a SVC. Papapana SVCs are nuclear and asymmetrical. Semantically, there are three directional SVCs, one causative and one cause-effect SVC.

Directionals belong to a small closed class of words which can modify a verb and have an adverbial function. There are three types: geographic directionals which occur immediately after the verb, deictic
directionals which occur at the end of the VC and sequential directionals which occur in preverbal position.

Adverbs in Papapana express temporal and aspectual notions, manner, direction and degree. Three are preverbal but the rest are postverbal. Some of these adverbs are also attested at the clausal level, while others may function in the NP as general modifiers.

Papapana has a complex system of tense, aspect, mode (TAM) marking in which verbal reduplication and various combinations of preverbal and postverbal markers are used to make TAM distinctions. Present tense is unmarked but past and future tense are marked. There are four aspecual distinctions: habitual, continuous, repetitive and completive. There are also four mode distinctions: hypothetical/predictive conditional, counterfactual conditional, immediate irrealis and optative. Imperative and hortative clauses may carry either no TAM marking, or the general irrealis mode enclitic. Most NWS languages display postverbal subject-indexing (PSI), which reflects former possessor indexing. In Papapana PSI enclitics function with a mode marker to indicate optative mode or immediate irrealis mode, with a negative irrealis mode marker to express ‘not yet’ and with various patterns of verbal reduplication to indicate habitual or continuous aspect.

Within the VC, negation of verbal assertive predicates is expressed by a preverbal negative marker, while imperatives are negated by verbal reduplication and either the preverbal negative marker or the preverbal negative mode marker. The negative mode marker may also be used in conjunction with the general irrealis mode enclitic in a negative purpose adverbial clause.

### 2.5.4 Clause Types and Structures

Clause order in declarative verbal clauses shows considerable variation. In intransitive clauses, verb-final clause order is the basic clause order and the pragmatically marked clause order when the subject is Topic, while verb-initial clause order is highly restricted. In pragmatically unmarked transitive clauses, both SVO and SOV order are prevalent while the pragmatically marked transitive clause order involves a clause initial Topic position. In ditransitive clauses the order is either verb medial or verb final.

Obliques may be licenced by the prepositions *eangoiena* and *te*, or the nascent postposition *tomana*. *Eangoiena* marks temporal duration while *tomana* marks accompaniment. *Te* expresses temporal location, static location of an entity, or the goal or source to or from which movement or action is directed. *Te* may also mark instrument, and possession. Some Class I nouns referring to time can occur as oblique NP adjuncts, Location nouns (some of which are marked by the locative case prefix *i-* ) occur as oblique NPs, while deictic location words may also occur in oblique constructions. Obliques are typically expressed as prepositional phrases in NWS languages, whereas the nascent postposition *tomana* is atypical and may have grammaticalised as a comitative marker from the Papapana additive marker denoting ‘too’ under the influence of the neighbouring Papuan language Rotokas (see §9.3).
The position of obliques in the clause is variable. Most often, obliques are clause-final, but they may also occur clause-initially, and sometimes they can occur between an argument NP and the VC.

Adverbial phrases operating at the clausal level may involve spatial, manner or modal adverbs, and can occur clause-initially, clause-finally or between an argument NP and the VC.

In interrogative clauses, intonation patterns and tags mark polar questions, while content questions are formed by employing one of a closed group of interrogative words, including interrogative pronouns, modifiers and adverbs. Transitive interrogative clauses which inquire about core arguments are always verb-final, with the known argument NP occurring clause-initially and the unknown argument expressed by the interrogative pronoun occurring clause-medially. Ditransitive interrogative clauses which inquire about one of the object arguments are subject-initial, with the unknown argument occurring between the subject and the VC, and the known object argument occurring after the VC. With NPs containing interrogative modifiers, the questioned constituent occurs clause-initially. The position of interrogative adverbs is either clause-initial or between the subject and VC.

Imperative and hortative clauses do not differ in clause order from other clauses, but are less likely to contain a subject NP. Verbal existential clauses in Papapana employ one of two existential verbs. The form aruai may function as the negative answer to questions, the tag o aruai ‘or not’, a negative existential verb, and as a clausal negative marker with verbal assertive predicates, which may or may not also be marked by the preverbal negative marker.

Papapana does not have copula verbs. In verbless clauses in Papapana the predicate may be a NP which expresses identity, possession or location, or may be negated. The subject NP and the predicate NP are juxtaposed and there is no overt marking to indicate the function of the NP. The predicate of a verbless clause may also be a locative PP, an attributive PP, a numeral phrase, or an adjective phrase. A verbless existential clause can consist of just the predicate NP with no subject NP, but the predicate noun must be modified by a numeral or negative marker.

2.5.5 Complex Sentences

Papapana coordinating constructions may be asyndetic, or syndetic and employ one of three coordinators expressing conjunction or adversative coordination, disjunction and sequential coordination. Some coordinators may conjoin NPs and PPs as well as clauses. Dual independent pronouns can coordinate NPs, as well as having an inclusory function.

Relative clauses are externally headed and postnominal, and there is no formal difference between restrictive and non-restrictive relative clauses. A relativiser signals the beginning of the relative clause and connects the relative clause to the matrix noun. All grammatical relations can be relativised except the object of a comparative, though a relativised NP as possessor is somewhat limited. The relativised function is indicated by the gap strategy, while the subject proclitics and object enclitics may function as a trace of the relativised noun, as is common in Oceanic languages.
Papapania has conditional and negative purpose adverbial clauses, and adverbial clauses expressing
temporal location, spatial location, reason, result, contrast and purpose. The adverbial clause may be
linked to the main clause that it modifies by asyndesis or by a subordinator or preposition.

Complement clauses only function as object arguments, and may be either finite or non-finite. Both
finite and non-finite complement clauses may occur in reported speech sentences. Finite complements
may be juxtaposed with the matrix clause, as is typical of Oceanic languages or linked to the matrix
clause by a complementizer. A complement introduced by a complementizer may or may not be
indexed by object enclitics in the VC of the matrix clause. Non-finite complement clauses are
introduced by a preposition (some prepositions are multifunctional since they can also function as
subordinators). There is no one-to-one correspondence between the verb category and the structural
type of the complement, and even a single verb may take different types of complement.
Part II: A Grammar of Papapana
3 Phonology

This chapter describes the Papapana phoneme system (§3.1), the orthography (§3.2), phonotactics (§3.3), reduplication (§3.4) and the stress regime (§3.5).

3.1 Segmental phonology

This section first outlines the vowel system (§3.1.1), then the consonant system (§3.1.2) and then concludes with some brief observations on phonological variation and change (§3.1.3).

3.1.1 Vowels

The Papapana vowel system consists of five monophthongs (§3.1.1.1), which is typical of Oceanic languages. The three front unrounded vowels exhibit contrastive vowel length (§3.1.1.2). Although distinctive vowel length is not common in Western Oceanic languages (Lynch, Ross and Crowley 2002: 35), it is attested in other Northwest Solomonic (NWS) languages such as Banoni (Lynch and Ross 2002: 441). Seventeen vowel combinations are attested in Papapana, of which seven are diphthongs, but the phonemic status of these diphthongs is unclear (§3.1.1.3).

3.1.1.1 Monophthongs

Table 3.1 shows the five monophthongs used in the Papapana phoneme system.

<table>
<thead>
<tr>
<th>Vowel</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/i/</td>
<td>close, front, unrounded (cardinal 1)</td>
</tr>
<tr>
<td>/e/</td>
<td>close-mid, front, unrounded (cardinal 2)</td>
</tr>
<tr>
<td>/a/</td>
<td>open, front, unrounded (cardinal 4)</td>
</tr>
<tr>
<td>/ɔ/</td>
<td>open-mid, back, rounded (cardinal 6)</td>
</tr>
<tr>
<td>/u/</td>
<td>close, back, rounded (cardinal 8)</td>
</tr>
</tbody>
</table>

In order to accurately identify the monophthongs used in Papapana, I carried out a perception test with two colleagues and then conducted an acoustic analysis in the Praat program. In both the perception test and the acoustic analysis, I used a wordlist of at least ten words per vowel, spoken by two to four different speakers ranging in age and gender. In the perception test we agreed unanimously on the identification of /i/, /e/ and /u/, and although we also agreed unanimously on the identification of /a/ and /ɔ/, we perceived these vowels to be sometimes articulated with a slightly higher tongue position.

Table 3.2 shows the range of the frequencies in Hertz of the first and second formants of each vowel, as measured in my acoustic analysis. My acoustic analysis confirmed the identification of /e/ but the frequencies of the first formant for /i/ and /u/ indicated that these vowels were sometimes articulated with a lower tongue position than one would expect, while the second formant frequency for /u/ suggested a slightly more fronted tongue position on occasions. It should be noted that the recording conditions were unfortunately not always ideal and this may account for the unexpected frequencies.
My acoustic analysis confirmed our perceptions that /a/ and /ɔ/ were sometimes articulated with a slightly higher tongue position, approximating /æ/ and /ɐ/, and /o/ respectively; however, there was no consistency among the speakers nor were there distinct environments in which these allophones occurred. Instead, these allophones seem to occur in free variation.

### TABLE 3.2 VOWEL PHONEMES: MONOPHTHONGS FORMANT MEASUREMENTS

<table>
<thead>
<tr>
<th>Vowel</th>
<th>Formant 1</th>
<th>Formant 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>/i/</td>
<td>281-461 Hz</td>
<td>1906-2383 Hz</td>
</tr>
<tr>
<td>/e/</td>
<td>362-479 Hz</td>
<td>1685-2108 Hz</td>
</tr>
<tr>
<td>/a/</td>
<td>522-991 Hz</td>
<td>1391-1897 Hz</td>
</tr>
<tr>
<td>/ɔ/</td>
<td>375-595 Hz</td>
<td>940-1387 Hz</td>
</tr>
<tr>
<td>/u/</td>
<td>316-422 Hz</td>
<td>912-1681 Hz</td>
</tr>
</tbody>
</table>

The sets of minimal pairs in Table 3.3 show that the monophthongs are in contrastive distribution.

### TABLE 3.3 CONTRASTIVE SETS: MONOPHOTHONGS

<table>
<thead>
<tr>
<th>Contrast</th>
<th>Minimal Pairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>/i/ /e/</td>
<td>/peri/ ‘to find’ /perɛ/ ‘unripe/uncooked’</td>
</tr>
<tr>
<td>/i/ /ɔ/</td>
<td>/mimɨ/ ‘urine’ /mɔmɔ/ ‘seaweed species’</td>
</tr>
<tr>
<td>/i/ /u/</td>
<td>/aɪɨ/ /EXCL.PSSR= /amu/ 2PL</td>
</tr>
<tr>
<td>/e/ /a/</td>
<td>/mate/ ‘die’ /mata/ ‘eye’</td>
</tr>
<tr>
<td>/e/ /ɔ/</td>
<td>/te/ OBL /ta/ verbal morpheme (see §5.12)</td>
</tr>
<tr>
<td>/e/ /u/</td>
<td>/ate/ ‘liver’ /atu/ ‘to make’</td>
</tr>
<tr>
<td>/a/ /ɔ/</td>
<td>/βatu/ ‘stone’ /βatu/ ‘to return’</td>
</tr>
<tr>
<td>/a/ /u/</td>
<td>/tama/ ‘father’ /tamu/ ‘to eat’</td>
</tr>
<tr>
<td>/ɔ/ /u/</td>
<td>/naʊɔ/ ‘tree’ /naʊnu/ ‘leaf’</td>
</tr>
</tbody>
</table>

#### 3.1.1.2 Vowel length

Vowel length is contrastive in Papapana for the three front unrounded vowels /iː/, /eː/ and /aː/, but has a low functional load. In the perception test, my colleagues noted the difference in length for /iː/, /eː/ and /aː/ but not for /ɔ/ and /uː/, and my acoustic analysis in Praat confirmed these length contrasts. Of course, vowels tend to be slightly longer in certain environments such as word-final position, but the sets of minimal or near minimal pairs in Table 3.4 show that in Papapana /iː/, /eː/ and /aː/ are phonemes. Table 3.4 shows the duration of the vowels in these pairs in seconds for three different speakers.
<table>
<thead>
<tr>
<th>Contrast</th>
<th>Minimal Pairs</th>
<th>Length (sec)</th>
<th>Length (sec)</th>
<th>Length difference (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>/iː/ /iː/</td>
<td>[ˈsiː.ba] ‘hot’</td>
<td>0.073958</td>
<td>0.184390</td>
<td>0.110432</td>
</tr>
<tr>
<td></td>
<td>[ˈsiː.pa] ‘pot stand’</td>
<td>0.100723</td>
<td>0.168538</td>
<td>0.067815</td>
</tr>
<tr>
<td>/eː/ /eː/</td>
<td>[ˈteː.na] OBL</td>
<td>0.083362</td>
<td>0.144481</td>
<td>0.061119</td>
</tr>
<tr>
<td></td>
<td>[ˈteː.na] ‘who’</td>
<td>0.083869</td>
<td>0.214730</td>
<td>0.079861</td>
</tr>
<tr>
<td>/aː/ /aː/</td>
<td>[ˈnaː.ni] ‘there’</td>
<td>0.084099</td>
<td>0.217455</td>
<td>0.133356</td>
</tr>
<tr>
<td></td>
<td>[ˈnaː.ni] ‘day’</td>
<td>0.091288</td>
<td>0.216793</td>
<td>0.125505</td>
</tr>
</tbody>
</table>

Contrastive vowel length is also proven by the fact there is no environment which distinguishes the distribution of short and long vowels. There is no correlation between vowel length and the surrounding phonemes as the vowel may be preceded and followed by the same phonemes, as in (1) and (2):

1. /biβiɾɔʔ/ ‘around’
2. /pa.tɔ/ ‘head’

There is no correspondence between vowel length and the number of syllables in a word, as in (3)-(4):

3. [a.si.ɾe] ‘ginger species’
4. [baʊɡa.na] ‘milkwood’

Stress also does not play a role as both stressed and unstressed syllables may contain both short and long vowels, as in (5)-(7):

5. [ˈme.ɾe] OBL [ˈpeː.pe] ‘shell species’
6. [ˈta.mu.te] ‘mango’ [ˈa.ma.ni] EXCL
7. [ˈtaʊ.ɾa.si] ‘four’ [ˈta.ɾa.ɾa] ‘axe’

Long vowels frequently occur when morphological concatenation makes adjacent two identical vowels. It is only by testing the roots in other morphosyntactic environments that it is possible to show that the long vowel is not underlying as the pairs of examples in (8) to (10) show:

8. a. /iː.nu/ i-nu LOC-house ‘in the house’
   b. /bæ.ɾi.nu/ bau inu PL house ‘houses’
   b. /bæ.ɾi.ga.na/ bau agana PL root ‘roots’
10. a. /nuːɾi.si/ nu=urisi SPEC.CLII=rope ‘rope’
   b. /tæ.ɾi.ɾi.ɾi/ te=na=au urisi OBL=SPEC=CLII rope ‘on the rope’
### 3.1.1.3 Diphthongs and vowel sequences

In monomorphemic roots, vowels can occur adjacent to each other in pairs and all combinations of the five monophthongs are attested, except /iu/, /ou/ and /uo/. Of the seventeen possible vowel combinations, ten are vowel sequences; Table 3.5 shows that the vowels definitely do not form diphthongs as they belong to separate syllables, which is particularly apparent in morphologically complex stems. In the perception test, we perceived that a glide is usually created between the two vowels (see §3.1.2.2.2), whereas with diphthongs there is no glide between the two vowels.

**TABLE 3.5 VOWEL SEQUENCES**

<table>
<thead>
<tr>
<th>Vowel Combination</th>
<th>Monomorphemic Root</th>
<th>Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>/iɛ/</td>
<td>[i.je] ‘leg’</td>
<td>[nu.i.je.na] nu=ie-na SPEC.CLII=leg-3SG.PSSR ‘his leg’</td>
</tr>
<tr>
<td>/iɑ/</td>
<td>[bi.si.ja] ‘back’</td>
<td>[bi.si.ja.na] bisia-na back-3SG.PSSR ‘his back’</td>
</tr>
<tr>
<td>/iɔ/</td>
<td>[βi.si.jɔ] ‘body’</td>
<td>[βi.si.jɔ.na] visio-na body-3SG.PSSR ‘his body’</td>
</tr>
<tr>
<td>/eɑ/</td>
<td>[me.ja] ‘tongue’</td>
<td>[me.ja.na] mea-na tongue-3SG.PSSR ‘his tongue’</td>
</tr>
<tr>
<td>/eɔ/</td>
<td>[ba.re.jɔ] ‘breadfruit’</td>
<td>[ba.re.jɔ si ku.na] bareo-i skuna breadfruit-CONST ship ‘soursop’</td>
</tr>
<tr>
<td>/eʉ/</td>
<td>[u.be.ju] ‘cave’</td>
<td>No data</td>
</tr>
<tr>
<td>/eɑ/</td>
<td>[ma.no.wa] ‘neck’</td>
<td>[ma.no.wa] manoa-u neck-1SG.PSSR ‘my neck’</td>
</tr>
<tr>
<td>/ui/</td>
<td>[ba.ba.ku.wi] ‘shark’</td>
<td>No data</td>
</tr>
<tr>
<td>/ue/</td>
<td>[tu.we] ‘language’</td>
<td>[tu.we.ni. pa.pa.pa.na] tue-ni Papapana language-CONST Papapana ‘Papapana language’</td>
</tr>
<tr>
<td>/ua/</td>
<td>[tu.wa] ‘to paddle’</td>
<td>[u.tu.wa] u=tua 1SG.SBJ=paddle ‘I paddled’</td>
</tr>
</tbody>
</table>

These vowel sequences may also occur when morphological concatenation makes adjacent two non-identical vowels, as can the vowel sequences /iu/, /ou/ and /uo/ (11)-(13).

(11) /nuapiu/
    nu=api-u
    SPEC.CLII=thigh-1SG.PSSR
    ‘my thigh’
The remaining vowel combinations /ei/, /ai/, /ae/, /au/, /ao/, /oi/ and /oe/ undergo a process of diphthong formation. In Kokota, the vowel sequences /ei/, /ai/, /ae/, /au/ and /ao/ also regularly form diphthongs (Palmer 2002: 499), while in Roviana there are five diphthongs, /ei/, /ai/, /ae/, /au/ and /oi/ (Corston-Oliver 2002: 468). An examination of the stress regime in Papapana demonstrates that these vowel sequences are diphthongs as they form one syllable in both root and stem forms, as shown in Table 3.6; however, their underlying phonemic status is unclear. It would be possible to test whether the diphthongs were surface diphthongs or phonemes if there were a disyllabic root in which the first syllable contained a monophthong and the second contained a diphthong, and a monosyllabic suffix consisting of a monophthong attached to this root: if the diphthong was a surface rather than an underlying diphthong the second vowel would form a foot with the suffix. Unfortunately, the only monosyllabic suffixes containing monophthongs are the direct possessor suffixes or the construct suffix –ni which attach to nouns, but there are no known noun roots which match the profile outlined. Evidence that the diphthongs are probably not phonemes instead comes from reduplication in which only the first vowel of a diphthong is reduplicated (see §3.4).

**TABLE 3.6 DIPHTHONGS**

<table>
<thead>
<tr>
<th>Diphthong</th>
<th>Monomorphemic Root</th>
<th>Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ei/</td>
<td>[a.∀u.tei] ‘brother in law’</td>
<td>No data</td>
</tr>
<tr>
<td>/ai/</td>
<td>[nai] ‘forehead’</td>
<td>[nai.na] nai-na forehead-3SG.PSSR ‘his forehead’</td>
</tr>
<tr>
<td>/ae/</td>
<td>[bae] ‘shoulder’</td>
<td>[bae.na] bae-na shoulder-3SG.PSSR ‘his shoulder’</td>
</tr>
<tr>
<td>/aʊ/</td>
<td>[maʊ.nu] ‘woman’</td>
<td>No data</td>
</tr>
<tr>
<td>/aɔ/</td>
<td>[naɔ] ‘to go’</td>
<td>[e.naɔ.wi] e=nao=i 3SG.SBJ=go=IRR ‘he will go’</td>
</tr>
<tr>
<td>/ɔ/</td>
<td>[ɔt.na] 3PL</td>
<td>No data</td>
</tr>
<tr>
<td>/ɔɛ/</td>
<td>[nɔɛ] ‘to put’</td>
<td>No data</td>
</tr>
</tbody>
</table>

All diphthongs are closing diphthongs. For four of these, the tongue moves towards but does not completely reach the close, front, unrounded /i/ or the close, back, rounded /u/ and thus the tongue...
arrives at the lax counterparts of these cardinal vowels, /i/ and /u/. The difference between /aɪ/, /aʊ/ and /ɔɪ/ and /ae/, /aʊ/ and /æ/ is shown by an acoustic analysis which confirms that tongue height does not increase as much for the latter three diphthongs. Table 3.7 shows the range of the frequencies in Hertz of the first and second formants for the starting and ending position of each diphthong, as measured in my acoustic analysis.

**TABLE 3.7 VOWEL PHONEMES: DIPHTHONGS FORMANT MEASUREMENTS**

<table>
<thead>
<tr>
<th>Diphthongs</th>
<th>Start Position</th>
<th>End Position</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Formant 1</td>
<td>Formant 2</td>
</tr>
<tr>
<td>/aɪ/</td>
<td>695-922 Hz</td>
<td>1631-1696 Hz</td>
</tr>
<tr>
<td>/ae/</td>
<td>788-949 Hz</td>
<td>1436-1510 Hz</td>
</tr>
<tr>
<td>/aʊ/</td>
<td>677-733 Hz</td>
<td>1079-1603 Hz</td>
</tr>
<tr>
<td>/aʊ/</td>
<td>631-766 Hz</td>
<td>1174-1502 Hz</td>
</tr>
<tr>
<td>/ɔɪ/</td>
<td>516-626 Hz</td>
<td>872-1084 Hz</td>
</tr>
<tr>
<td>/oɪ/</td>
<td>451-670 Hz</td>
<td>696-1133 Hz</td>
</tr>
</tbody>
</table>

Although the phonemic status of diphthongs is unclear, the sets of minimal pairs in Table 3.8 show a contrast between monophthongs and diphthongs.

**TABLE 3.8 CONTRASTIVE SETS: DIPHTHONGS**

<table>
<thead>
<tr>
<th>Contrast</th>
<th>Minimal Pairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>/e/ /eu/</td>
<td>/bebe/ ‘spleen’ /beɪbeɪ/ ‘butterfly’</td>
</tr>
<tr>
<td>/a/ /aɪ/</td>
<td>/ate/ ‘liver’ /arte/ ‘Dad’</td>
</tr>
<tr>
<td>/a/ /æɪ/</td>
<td>/ta/ NSPEC[CLI]= /taɪ/ ‘up’</td>
</tr>
<tr>
<td>/a/ /aʊ/</td>
<td>/kako/ ‘dog’ /kaʊkɔ/ ‘sweet potato’</td>
</tr>
<tr>
<td>/a/ /aʊ/</td>
<td>/ara/ PST /arapɔ/ ‘brother’</td>
</tr>
<tr>
<td>/a/ /aʊ/</td>
<td>/ta/ verbal morpheme (see §5.12) /tɔ/ ‘person’</td>
</tr>
<tr>
<td>/a/ /oɪ/</td>
<td>/no/ go.SEQ /noɛ/ ‘to put’</td>
</tr>
</tbody>
</table>

Diphthongs also frequently occur when morphological concatenation makes adjacent two non-identical vowels as in (14)-(20), but these diphthongs are clearly not phonemic:

(14) /eɪɾɔmɔ/ e=ɪromo 3SG.SBJ=drink ‘he drank’
(15) /naŋani/ na=ɪŋani SPEC[CLI]=Canarium.Indicum ‘Canarium Indicum’
(16) /naepu/ na=ɛpʉ SPEC[CLI]=cloud ‘clouds’
3.1.2 Consonants

The Papapana consonant system consists of fourteen phonemes (§3.1.2.1) and an additional three phones (§3.1.2.2). The consonant phoneme inventory is thus quite small and like many Oceanic languages, it is characterised by very few complex articulations, with the exception of nasals and fricatives, which do tend to occur in the Oceanic languages of Melanesia (Lynch et al. 2002: 34-35). Two of the Papapana phonemes may also occur phonetically. The phones are the result of allophonic variation (§3.1.2.2.1), or glide creation (§3.1.2.2.2) and glottal epenthesis (§3.1.2.2.3) in certain intervocalic environments.

3.1.2.1 Consonant phonemes

Table 3.9 presents the fourteen consonants used in the Papapana phoneme system. Papapana uses fourteen consonant phonemes which cross three places of articulation and can be articulated in five different manners. The three place classes are distinguished by the features ±labial and ±coronal, and can be characterised as follows:

- [+labial, -coronal] LABIAL (bilabial)
- [-labial, +coronal] CORONAL (alveolar)
- [-labial, -coronal] DORSAL (velar and glottal)

One of the Papapana consonant phonemes /w/ is labial-velar and therefore inherently has two simultaneous places of articulation. Although Ross (1988: 218) reports that Proto-Oceanic (POc) *w was lost in the NWS group, Papapana is like Taiof (Ross 2002: 426) in using /w/ as a phoneme. The four manner classes include two obstruent classes (plosive and fricative) and three sonorant classes (nasal, rhotic and glide). Of these, only plosives and nasals occur in each of the three place classes. Only plosives make a voicing distinction. Voiced consonants are in bold typeface in Table 3.9.
## TABLE 3.9 CONSONANT PHONEMES

<table>
<thead>
<tr>
<th>Obstruent (Plosive)</th>
<th>Labial</th>
<th>Coronal</th>
<th>Dorsal</th>
<th>Labial-velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral stop</td>
<td>Bilabial</td>
<td>Alveolar</td>
<td>Velar</td>
<td>Glottal</td>
</tr>
<tr>
<td>p</td>
<td>b</td>
<td>t</td>
<td>d</td>
<td>k</td>
</tr>
<tr>
<td>Obstruent (Fricative)</td>
<td>Fricative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>β</td>
<td>s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sonorant (Nasal)</td>
<td>Nasal stop</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>m</td>
<td>n</td>
<td>η</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sonorant (Rhotic)</td>
<td>Tap</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sonorant (Glide)</td>
<td>Approximant</td>
<td></td>
<td></td>
<td>w</td>
</tr>
</tbody>
</table>

The minimal pairs or near minimal pairs in Table 3.10, Table 3.11 and Table 3.12 demonstrate consonant phoneme contrasts by voicing status, manner of articulation and place of articulation.

## TABLE 3.10 CONTRASTIVE SETS: CONSONANT VOICING DISTINCTIONS

<table>
<thead>
<tr>
<th>Voiceless</th>
<th>Labial</th>
<th>Coronal</th>
<th>Dorsal</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pɔtɔ/</td>
<td>/tua/</td>
<td>‘to paddle’</td>
<td>/kaomɔ/</td>
</tr>
<tr>
<td>/bɔtɔ/</td>
<td>/dua/</td>
<td>‘bad’</td>
<td>/gaʊnu/</td>
</tr>
</tbody>
</table>

## TABLE 3.11 CONTRASTIVE SETS: CONSONANT MANNER DISTINCTIONS

<table>
<thead>
<tr>
<th>Plosive /Fricative</th>
<th>Labial</th>
<th>Coronal</th>
<th>Dorsal</th>
</tr>
</thead>
<tbody>
<tr>
<td>/bɔtu/</td>
<td>/ta=ɔo/</td>
<td>NSPEC=CLII</td>
<td>N/A</td>
</tr>
<tr>
<td>‘boat’</td>
<td>DIM=CLII</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/bɔni/</td>
<td>/mɔni/</td>
<td>‘night’</td>
<td>/dua/</td>
</tr>
<tr>
<td>‘to return’</td>
<td>/ma/</td>
<td>‘two’</td>
<td>/agana/</td>
</tr>
<tr>
<td>/batu/</td>
<td>/nɔ/</td>
<td>‘money’</td>
<td>/ʔusia/</td>
</tr>
<tr>
<td>‘to clean a wall’</td>
<td>1INCL.SBJ=</td>
<td>‘mosquito’</td>
<td>N/A</td>
</tr>
<tr>
<td>/βɔɾi/</td>
<td>/人才培养/</td>
<td>‘to chat’</td>
<td></td>
</tr>
<tr>
<td>‘citrus fruit’</td>
<td>/nɔ/</td>
<td>‘root’</td>
<td>N/A</td>
</tr>
<tr>
<td>/βɔɾi/</td>
<td>/nɔ/</td>
<td>‘to chat’</td>
<td>1INCL.SBJ=</td>
</tr>
<tr>
<td>‘citrus fruit’</td>
<td>/nɔ/</td>
<td>‘root’</td>
<td>N/A</td>
</tr>
<tr>
<td>/βɔɾi/</td>
<td>/nɔ/</td>
<td>‘to chat’</td>
<td>1INCL.SBJ=</td>
</tr>
<tr>
<td>‘citrus fruit’</td>
<td>/nɔ/</td>
<td>‘root’</td>
<td>N/A</td>
</tr>
<tr>
<td>/βɔɾi/</td>
<td>/nɔ/</td>
<td>‘to chat’</td>
<td>1INCL.SBJ=</td>
</tr>
<tr>
<td>‘citrus fruit’</td>
<td>/nɔ/</td>
<td>‘root’</td>
<td>N/A</td>
</tr>
</tbody>
</table>
TABLE 3.12 CONTRASTIVE SETS: CONSONANT PLACE DISTINCTIONS

<table>
<thead>
<tr>
<th>Place of Articulation</th>
<th>Voiceless Plosives</th>
<th>Voiced Plosives</th>
<th>Nasals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bilabial</strong></td>
<td>/pusi/ ‘cat’</td>
<td>/bua/ ‘full’</td>
<td>/maonu/ ‘woman’</td>
</tr>
<tr>
<td></td>
<td>/atuusi/ ‘to chase’</td>
<td>/dua/ ‘bad’</td>
<td>/naonu/ ‘leaf’</td>
</tr>
<tr>
<td><strong>Alveolar</strong></td>
<td>/papasi/ ‘quickly’</td>
<td>/bao/ PL.</td>
<td>/mɔnɔ/ ‘turtle’</td>
</tr>
<tr>
<td></td>
<td>/kakaʔi/ ‘small’</td>
<td>/gao/ ‘green jobfish’</td>
<td>/nɔŋɔnɔ/ ‘to listen’</td>
</tr>
<tr>
<td><strong>Bilabial</strong></td>
<td>/pusi/ ‘cat’</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Velar</strong></td>
<td>/pusi/ ‘shell species’</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Glottal</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Alveolar</strong></td>
<td>/tura/ ‘fire’</td>
<td>/dɔβi/ ‘to spit’</td>
<td>/nana/ ‘branch’</td>
</tr>
<tr>
<td><strong>Velar</strong></td>
<td>/kura/ ‘betel catkin’</td>
<td>/ɡɔɡɔβi/ ‘ripe banana’</td>
<td>/ŋanaŋana/ ‘moon’</td>
</tr>
<tr>
<td><strong>Glottal</strong></td>
<td>/i-ata/ LOC-above</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>/iaʔa/ ‘Mum’</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Velar</strong></td>
<td>/kaokao/ ‘sweet potato’</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>/ʔaoʔaʔ/ ‘Bougainville crow’</td>
<td></td>
<td>N/A</td>
</tr>
</tbody>
</table>

3.1.2.2 Consonant phones

Some Papapana consonant phonemes exhibit allophonic variation (§3.1.2.2.1) while certain intervocalic environments trigger glide creation (§3.1.2.2.2) or glottal epenthesis (§3.1.2.2.3). Consequently, Papapana has seventeen consonant phones which cross the same three places of articulation as the consonant phonemes but within these three place classes, seven rather than five places are featured: the two additional place classes are labio-dental and palatal. The consonant phones are articulated in the same manners as the consonant phonemes but with an additional rhotic class. There is no voicing distinction between these additional phones. As can be seen in Table 3.13 the additional Papapana phones are the voiced alveolar trill, the voiced labio-dental fricative and the voiced palatal approximant. The phonemes /w/ and /ʔ/ may occur phonetically as well as phonemically (see §3.1.2.2.2 and §3.1.2.2.3).

TABLE 3.13 CONSONANT PHONES

<table>
<thead>
<tr>
<th>Labial</th>
<th>Coronal</th>
<th>Dorsal</th>
<th>Labial-velar</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bilabial</strong></td>
<td><strong>Labiodental</strong></td>
<td><strong>Alveolar</strong></td>
<td><strong>Palatal</strong></td>
</tr>
<tr>
<td>Obstruent (Plosive) Oral stop</td>
<td>p</td>
<td>b</td>
<td>t</td>
</tr>
<tr>
<td>Sonorant (Nasal) Nasal stop</td>
<td>m</td>
<td>n</td>
<td></td>
</tr>
<tr>
<td>Sonorant (Rhotic) Trill</td>
<td>r</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sonorant (Rhotic) Tap</td>
<td>r</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obstruent (Fricative) Fricative</td>
<td>β</td>
<td>v</td>
<td>s</td>
</tr>
<tr>
<td>Sonorant (Glide) Approximant</td>
<td>j</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.1.2.2.1 Allophonic variation

In the rhotic manner class, the alveolar tap is sometimes lightly trilled by some speakers but this is not contrastive; the allophones /ɾ/ and [r] occur in free variation. In other NWS languages such as Taiof the alveolar trill is a phoneme (Ross 2002: 426) and in Roviana the degree of trilling depends on stress (Corston-Oliver 2002: 467).

In the obstruent, fricative manner class, the voiced bilabial fricative /β/ occurs in free variation with the voiced labio-dental fricative [v], with a tendency for the voiced bilabial fricative to precede rounded vowels. The voiced bilabial fricative also occurs in free variation with the voiced labial-velar approximant allophone [w] (distinct from the phoneme /w/ discussed above), in the environment shown in (21):

\[(\text{21}) \quad [\beta] \rightarrow [w] / [aʊ] _ [a] \\
\] /taʊβasi/ ‘four’ \rightarrow [taʊβasi] and [taowasi]

However, since /a/ has a tendency to be articulated as [aʊ] before the voiced bilabial fricative, the following environment can also be included as a site of free variation between the voiced bilabial fricative and the voiced labial-velar approximant:

\[(\text{22}) \quad [\beta] \rightarrow [w] / [a] _ [a] \\
\] /kakaβa/ ‘crab’ \rightarrow [kakaʊβa] and [kakaʊwa]

In Banoni too the voiced bilabial fricative /β/ is realised as /w/ before /a/ (Lynch and Ross 2002: 440).

In Papapana, the voiced bilabial fricative is analysed as the underlying phoneme since it occurs more often than the allophones /v/ and /w/ and speakers judged /β/ to be the correct phoneme.

3.1.2.2.2 Glide creation

In accordance with the Maximum Onset Principle (Kahn 1976) the melody of the back rounded vowels /u/ (and its associated diphthong /aʊ/) and /ɔ/ (and its associated diphthong /aɔ/), and other vowels may create an onset consisting of the voiced labial-velar approximant [w], as in (23)-(26):

\[(\text{23}) \quad /\text{natui}/ \quad \text{‘tomorrow’} \rightarrow [\text{natuwi}]\\
/\text{tue}/ \quad \text{‘language’} \rightarrow [\text{tuwe}]\\
/\text{aruwai}/ \quad \text{‘no’} \rightarrow [\text{aruwai}]\\
\quad /\text{ao}=\text{araɔ}/ \quad \text{‘1SG.PSSR[CLI]=brother’} \rightarrow [\text{aowaraɔ}]\\
\quad /\text{tɔa}/ \quad \text{‘chicken’} \rightarrow [\text{tɔwa}]\\
\quad /\text{naɔi}/ \quad \text{‘rain’} \rightarrow [\text{naɔwi}]\\
\]}

Similarly, the melody of the close, front, rounded vowels /i/ (and its associated diphthongs /ei/, /ai/, and /ɔi/), and /e/ (and its associated diphthongs /æi/ and /æe/), and other vowels may create an onset consisting of the voiced palatal approximant [j], as in (27)-(30):

\[(\text{27}) \quad /\text{naui}/ \quad \text{‘rain’} \rightarrow [\text{naowai}]\\
\quad /\text{tɔu}/ \quad \text{‘chicken’} \rightarrow [\text{tɔwa}]\\
\quad /\text{naui}/ \quad \text{‘rain’} \rightarrow [\text{naowai}]\\
\quad /\text{aʊ}=\text{arə}/ \quad \text{‘1SG.PSSR[CLI]=brother’} \rightarrow [\text{aʊraə}]\\
\quad /\text{naɔi}/ \quad \text{‘rain’} \rightarrow [\text{naɔwi}]\\
\]
3.1.2.2.3  *Glottal epentheses*

The glottal stop is phonemic in Papapana; however, it may also occur as epenthetic glottal insertion in reduplicated forms to break the hiatus between two identical vowels as in (31):

(31)  /a~aβeɾu/ ‘RD~steal (thief)’ → [aʔaβeɾu] ‘RD~steal (thief)’

Most often when morphological concatenation brings together and makes adjacent two vowels, a long vowel or diphthong is formed, as the examples (8)-(10) in §3.1.1.1 and (14)-(20) in §3.1.1.2 show. However, sometimes a glottal stop occurs between the vowels: with the exception of reduplicated forms, this is not epenthetic glottal insertion but is evidence that there is phonemically a morpheme-initial glottal stop, as in (32)-(35):

(32)  [naʔarei] * [na:rei]
    na=‘arei
    SPEC[CLI]=ant
    ‘ant’

(33)  [nuʔurita] * [nu:ri:tα]
    nu=‘urita
    SPEC,CLI=octopus
    ‘octopus’

(34)  [naʔuru] * [na:ɾu]
    na=‘oru
    SPEC[CLI]=snake
    ‘snake’

(35)  [naʔuru] * [na:ɾu]
    na=‘uru
    SPEC[CLI]=island
    ‘island’

It is likely that POc *k* has undergone a sound change to /ʔ/ in Papapana as /ʔurita/ ‘octopus’ can be considered a reflex of POc *kurita* ‘octopus’, while the lexeme /ʔaʔadeʔe/ ‘narrative’ can be considered cognate with kakadeke ‘narrative’ in Torau (Palmer fieldnotes). This sound change may still be in progress as I noted that one speaker would pronounce /kɔkɔbunu/ ‘short’ as [ʔɔʔɔbunu].
3.1.3 Phonological variation and change

I observed and confirmed several variations in pronunciation which seem to reflect sound changes in progress:

1. In certain words such as those in (36), there is variation between the back vowel /ɔ/ and the front vowels /e/ and /a/, but the front vowels are considered to be recent innovations used mainly by younger speakers.

(36) [mɔ́sibuaβa] and [meisibuaβa] ‘old woman’
[mɔ́daʔɔ] and [serdaʔɔ] ‘old man’
[pɔʔuri] and [peʔuri] ‘basket’
[sɔ́] and [ara] ‘only’
[aβɔa] and [aβea] ‘where’

2. In certain words such as those in (37), there is variation between the front vowels /i/ and /e/, and the back vowels /u/ and /ɔ/, but the back vowels are considered to be a recent innovation used mainly by younger speakers.

(37) [ɾiβu] and [ɾuβu] ‘to put’
[sı] and [sɔ] 1INCL.SBJ=
[ego] and [ego] ‘well’
[eta] and [eta] -AUG
[βewa] and [βewa] ‘be like’

3. The preposition /meɾeɪ/ is pronounced by younger speakers with the voiceless bilabial oral stop /p/ instead of the voiced bilabial nasal stop /m/. This is an unusual sound change since it involves a difference in both voicing and manner of articulation.

There was no difference in the morphosyntactic and phonological distribution of these variant forms, nor did speakers report semantic or pragmatic differences. The variation seems to reflect phonological change subject to the age of the speaker, but further investigation is beyond the scope of this thesis.

3.2 Orthography

Papapana is traditionally not a written language, it has not been standardised and few speakers are literate in Papapana. Nevertheless, an orthography was developed by Casilda Vavetaovi-Atu via at a fortnight-long Vernacular Literacy Writers Workshop held in 2004 in Tsiroge, Northwest Bougainville and run by the Summer Institute of Linguistics (SIL). The orthography is generally phonemic. Among those speakers that are literate, there is considerable variation in orthographic choices made from speaker to speaker, and even a great deal of variation in the choices made by one individual. Loanwords from English and Tok Pisin are written in their original orthography.

3.2.1 Orthographic representation of vowels

The orthographic representations of the vowel phonemes can be seen in Table 3.14. Occasionally the phoneme /i/ was represented by <ie> but since this was not common, I use only <i> here. Long vowels
were very occasionally represented by an apostrophe or hyphen but I use a colon here so as to avoid confusion with the glottal stop and the notation in interlinear glossing used to separate segmentable morphemes. However, if morphological concatenation brings together and makes adjacent two identical vowels and this creates a long variant of the vowel in question, I represent both vowels so as to make the morphology transparent and differentiate between surface and phonemic long vowels (see §3.1.1.2). It should be noted that wherever possible I have represented phonemic long vowels but due to the lack of representation in native orthography it may be the case that some phonemic vowels are unknowingly not represented here.

**TABLE 3.14 ORTHOGRAPHY: VOWELS**

<table>
<thead>
<tr>
<th>Vowel</th>
<th>Orthographic Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>/i/</td>
<td>i</td>
</tr>
<tr>
<td>/iː/</td>
<td>i:</td>
</tr>
<tr>
<td>/e/</td>
<td>e</td>
</tr>
<tr>
<td>/eː/</td>
<td>e:</td>
</tr>
<tr>
<td>/æ/</td>
<td>a</td>
</tr>
<tr>
<td>/aː/</td>
<td>a:</td>
</tr>
<tr>
<td>/o/</td>
<td>o</td>
</tr>
<tr>
<td>/u/</td>
<td>u</td>
</tr>
</tbody>
</table>

As the phonemic status of diphthongs is unclear, there is no need to differentiate diphthongs used in monomorphemic roots and those created by morphological concatenation (see §3.1.1.1). The orthographic representations of the diphthongs is shown in Table 3.15.

**TABLE 3.15 ORTHOGRAPHY: DIPHTHONGS**

<table>
<thead>
<tr>
<th>Diphthong</th>
<th>Orthographic Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ei/</td>
<td>ei</td>
</tr>
<tr>
<td>/ai/</td>
<td>ai</td>
</tr>
<tr>
<td>/æi/</td>
<td>æi</td>
</tr>
<tr>
<td>/æo/</td>
<td>æo</td>
</tr>
<tr>
<td>/ɔɪ/</td>
<td>oɪ</td>
</tr>
<tr>
<td>/œɪ/</td>
<td>œi</td>
</tr>
</tbody>
</table>

3.2.2 Orthographic representation of consonants

The orthographic representations of the consonant phonemes is shown in Table 3.16. It is worth noting that speakers prefer the use of the hyphen to represent the glottal stop, although the use of the apostrophe is also attested. For the purposes of this grammatical description I have opted to use the apostrophe in order to disambiguate between the glottal stop and the notation in interlinear glossing used to separate segmentable morphemes. One or two speakers also used <gn> to represent the velar nasal stop /ŋ/ but the majority used <ng> and it is this digraph which I have chosen to use here since it is the most common in written Papapana. Literate speakers represented the allophones of /β/, that is [β], [v] and [w], as either <v> or <w>. Since these allophones represent the single phoneme [β], I have
chosen for the purpose of this grammatical description to use only <v> as the orthographic symbol for /β/ as it is the symbol most commonly used by speakers and it avoids confusion with the symbol <w> for the phoneme /w/. Speakers sometimes orthographically represented the creation of the voiced labial-velar approximant [w] with the symbol <w>, and the voiced palatal approximant [j] in intervocalic environments as a hyphen or apostrophe. Since in this situation, the occurrence of [w] and [j] is phonetic and not phonemic, I do not represent them in the orthography. However, in the case of epenthetic glottal insertion, I do represent the glottal stop because without this orthographic symbol, the two identical vowels the glottal stop separates would appear incorrectly to be a long vowel.

**TABLE 3.16 ORTHOGRAPHY: CONSONANTS**

<table>
<thead>
<tr>
<th>Consonant</th>
<th>Orthographic Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>/p/</td>
<td>p</td>
</tr>
<tr>
<td>/b/</td>
<td>b</td>
</tr>
<tr>
<td>/t/</td>
<td>t</td>
</tr>
<tr>
<td>/d/</td>
<td>d</td>
</tr>
<tr>
<td>/k/</td>
<td>k</td>
</tr>
<tr>
<td>/g/</td>
<td>g</td>
</tr>
<tr>
<td>/j/</td>
<td>j</td>
</tr>
<tr>
<td>/m/</td>
<td>m</td>
</tr>
<tr>
<td>/n/</td>
<td>n</td>
</tr>
<tr>
<td>/ŋ/</td>
<td>ng</td>
</tr>
<tr>
<td>/ɾ/</td>
<td>r</td>
</tr>
<tr>
<td>/β/</td>
<td>v</td>
</tr>
<tr>
<td>/s/</td>
<td>s</td>
</tr>
<tr>
<td>/w/</td>
<td>w</td>
</tr>
</tbody>
</table>

3.3 Phonotactics

This section first outlines the syllable structure used in Papapana (§3.3.1), then describes how syllables are permitted to combine to form words (§3.3.2).

3.3.1 Syllable structure

Papapana employs a simple syllable structure consisting of an optional consonant onset and a vowel nucleus. Consonant codas are prohibited, except in English or Tok Pisin loanwords such as /siks.ti/ ‘sixty’ and /sis.paia/ ‘ceasefire’. Papapana syllables are therefore always open and are typical of Oceanic languages in which syllable structures tend to be a simple CV type (Lynch et al. 2002: 34). When present, onsets consist of one consonant and allow any of the consonant phonemes to appear. Consonant clusters are only attested in loan words, such as /sku.na/ ‘ship’, /sku.ru/ ‘school’ and /sts.a/ ‘store’. These consonant clusters all involve the voiceless alveolar fricative /s/ followed by a voiceless alveolar or velar oral stop, /t/ or /k/. Such consonant clusters are in word-initial position, ruling out the possibility that the first consonant in the cluster belongs to the coda of the preceding syllable. There are however consonant clusters in which the first consonant in the cluster belongs to the coda of the preceding syllable, but again only in loan words as Papapana does not permit codas: examples involve the voiceless alveolar fricative /s/ and the voiceless bilabial oral stop /p/ in loans such as /pes.para/
‘first’, /siks.pela/ ‘six’ and /sɔs.peniki/ ‘saucepan’. Sometimes the vowel /i/ is inserted between these consonant clusters to align with Papapana phonology; for example, some speakers would pronounce the loan word /kap.si.kum/ ‘capsicum’ as /ka.pi.si.kum/, or the loan word /sku.ru/ ‘school’ as /si.ku.ru/. Nuclei can be simple or complex, containing either a monophthong (thus being monomoraic, or light) or a long vowel or diphthong (thus being classified as bimoraic, or heavy). The maximum number of moras per syllable is therefore two. The syllable structure can be described as (C)V(V) and possible Papapana syllable structures are consequently V, VV, CV, CVV. In a limited set of loan words, CCV, CVC and CVCC are possible. Papapana is therefore quite constrained with regard to syllable structure, allowing only three of the ten syllable types outlined by Blevins (1995: 217), since in Blevins’ (1995) typology, ‘V’ encompasses monophthongs and diphthongs.

### 3.3.2 Word shape

Table 3.17 shows examples of how the five possible syllable structures can combine in various ways to form roots of up to six syllables. VV represents a long vowel or diphthong.

**TABLE 3.17 WORD SHAPE**

<table>
<thead>
<tr>
<th>Number of Syllables</th>
<th>Syllable Structure</th>
<th>Lexeme</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VV</td>
<td>/ɔɪ/ ‘to take’</td>
</tr>
<tr>
<td></td>
<td>CV</td>
<td>/wa/ ‘to say’</td>
</tr>
<tr>
<td></td>
<td>CVV</td>
<td>/taʊ/ ‘and’</td>
</tr>
<tr>
<td>2</td>
<td>V.CV</td>
<td>/i.nu/ ‘house’</td>
</tr>
<tr>
<td></td>
<td>V.CV</td>
<td>/a.naʊ/ 1SG</td>
</tr>
<tr>
<td></td>
<td>VV.V</td>
<td>/aɪ.na/ 3PL</td>
</tr>
<tr>
<td></td>
<td>CV.CV</td>
<td>/bɔ.ɾɔ/ ‘pig’</td>
</tr>
<tr>
<td></td>
<td>CV.CVV</td>
<td>/bu.kao/ ‘dolphin’</td>
</tr>
<tr>
<td></td>
<td>CVV.CV</td>
<td>/βaʊ.na/ ‘new’</td>
</tr>
<tr>
<td></td>
<td>CVV.CVV</td>
<td>/kaʊ.kao/ ‘sweet potato’</td>
</tr>
<tr>
<td>3</td>
<td>V.CV.VV</td>
<td>/a.ru.ə/ ‘no’</td>
</tr>
<tr>
<td></td>
<td>V.CV.CV</td>
<td>/a.si.ta/ ‘plant species’</td>
</tr>
<tr>
<td></td>
<td>VV.CV.CV</td>
<td>/a:ma.ni/ 1EXCL</td>
</tr>
<tr>
<td></td>
<td>CV.V.CV</td>
<td>/p:a.na/ ‘village’</td>
</tr>
<tr>
<td></td>
<td>CV.CV.V</td>
<td>/ma.nə.a/ ‘neck/ten’</td>
</tr>
<tr>
<td></td>
<td>CV.CV.CV</td>
<td>/da.ra.na/ ‘water/river’</td>
</tr>
<tr>
<td></td>
<td>CV.CV.CVV</td>
<td>/ma.ka.rei/ ‘spear’</td>
</tr>
<tr>
<td></td>
<td>CVV.CV.CVV</td>
<td>/ge:.re/ ‘white’</td>
</tr>
<tr>
<td>4</td>
<td>V.CV.CV.CV</td>
<td>/a.ta.mə.ta/ ‘friend’</td>
</tr>
<tr>
<td></td>
<td>CV.CV.V.CV</td>
<td>/vi.tu.anə/ ‘young’</td>
</tr>
<tr>
<td></td>
<td>CV.CV.CV.CV</td>
<td>/ka.ɾa.βɔ.na/ ‘lobster’</td>
</tr>
<tr>
<td>5</td>
<td>V.CV.V.CV.CV</td>
<td>/a.de.a.ra.mu/ ‘taro species’</td>
</tr>
<tr>
<td></td>
<td>CV.CV.V.CV.CV.CV</td>
<td>/ka.pə.a.ni.si/ ‘plant species’</td>
</tr>
<tr>
<td></td>
<td>CV.CV.CV.CV.CV.CV</td>
<td>/ka.pu.kə.pu.rí/ ‘seaweed species’</td>
</tr>
<tr>
<td></td>
<td>CV.CV.CV.CV.V.CV</td>
<td>/bi.bi.ɾa.kar.ə/ ‘bird species’</td>
</tr>
<tr>
<td></td>
<td>CV.CV.CV.V.CV</td>
<td>/ma.ta.βə.nə/ ‘emperor fish’</td>
</tr>
<tr>
<td>6</td>
<td>V.CV.CV.CV.CV.CV</td>
<td>/a.ga. βa.ta.pa.rə/ ‘plant species’</td>
</tr>
<tr>
<td></td>
<td>CV.CV.CV.CV.CV.CVV</td>
<td>/ka.mu.kə.kə.teʔi:/ ‘crab species’</td>
</tr>
</tbody>
</table>
The minimal root in Papapana consists of a single syllable. Roots of one, two, three or four syllables are common. Since a number of affixes and clitics may be attached to roots, stems of five or more syllables are much more common than roots of this length.

3.4 Reduplication

Reduplication can have either derivational or inflectional functions in Papapana, and for either function reduplication may involve copying the initial syllable of a base (§3.4.1) or disyllabic copying of an entire initial foot (§3.4.2). Inflectional reduplication that expresses imperfective aspect in the verb complex (VC) may additionally involve simultaneous, double monosyllabic copying (§3.4.3) or both types of reduplication occurring simultaneously (§3.4.4). Reduplication involves leftward copying as the reduplicant to the left usually contains less phonetic material than the base to the right.

Derivational reduplication is phonologically unpredictable as the reduplicant may copy the initial syllable or the first two syllables of the base to derive nouns from verbs (§4.4.2.1), or adjectives from nouns (§4.12). Disyllabic copying may additionally derive adjectives from other adjectives (§4.12) and there is also one attested example of disyllabic reduplication deriving a noun from another noun (§4.4.2). Monosyllabic reduplication and the derivational suffix –na may derive nouns from verbs (§4.4.3.1) while disyllabic reduplication and the derivational suffix –na may derive dyadic nouns from kinship term nouns (§4.4.3.2). In addition, monosyllabic reduplication and the derivational suffix –na derive an Absolute Location noun from a Relational Location noun, and disyllabic reduplication and the derivational suffix –na derive a numeral from another numeral (§4.4.3).

Inflectional reduplication is more predictable as the type of reduplication and the resulting meaning depend on the verb type. Inflectional reduplication occurs in the VC with either the preverbal negative marker ae or the preverbal negative mode marker te to negate imperatives (§5.10.2), with the reduplicant copying either the initial syllable or the first two syllables of the base, while all four types of reduplication occur in the VC with postverbal subject-indexing (PSI) enclitics to mark continuous or habitual aspect (§5.8.7). There is a possibility that reduplication may also play a role in reciprocal constructions (see §5.5.6.1) and it is also attested with the noun vasina denoting ‘in the past’ or ‘before’ where it seems to have an intensifying function (see §6.2.2.1).

Whatever the functional characteristics of monosyllabic and disyllabic copying, reduplication behaves phonologically in the same way. The remainder of this section discusses the formal properties of monosyllabic and disyllabic reduplication, as well as the formal properties of the other two types of reduplication which exclusively have an inflectional, aspectual function in the VC.

3.4.1 Monosyllabic copying

The reduplicant may copy the initial syllable of the base as in (38)-(41). Reduplication has a derivational function in (38)-(39), where it derives a noun from a verb and an adjective from a noun respectively. Reduplication has an inflectional function in (40)-(41), where it occurs with the preverbal
negative mode marker te in a negative imperative (40) and with PSI enclitics to express continuous aspect (41).

(38) /dɔβi/ ‘to spit’ → /dɔdɔβi/ ‘lung’

(39) /reβasi/ ‘blood’ → /rereβasi/ ‘red’

(40) /ste tɔtɔnu/
o=te 2SG.SBJ=PROH to–tonu
‘don’t stand up’

(41) /ewawaena/
e=wa~wa=ena 3SG.SBJ=RD–talk=3SG.IPFV ‘he is saying’

As (42) to (44) show, if the initial syllable of the base consists of a diphthong, only the first vowel of the diphthong is copied, and it is accompanied by any preceding onset consonant: this is support for the hypothesis that diphthongs are not phonemic. There is no lengthening of the reduplicant vowel, as there is in the closely related Torau (Palmer 2007a: 15).

(42) /βeiɔŋɔ/ ‘to wear’ → /ββeiɔŋɔ/ ‘clothes’

(43) /βeitago/ ‘to sell’ → /ββeitago-na/ RD–sell–DER ‘market’

(44) /ɔema/ ‘taro garden’ → [ɔʔɔemana] o~oema–na RD–taro.garden–DER ‘bush’

In certain vowel-initial verbs, the verb loses the initial vowel prior to reduplication, as in (45):

(45) a. /iɾɔmɔ/ ‘to drink’ → /eɾɔɾɔmɔena/
e=ro–romo=ena 3SG.SBJ=RD–drink=3SG.IPFV ‘he is drinking’

b. /umunu/ ‘to sit’ → /ɔae munu/
o=ae mu–munu 2SG.SBJ=NEG RD–sit ‘don’t sit down’

c. /ɔɾete/ ‘to walk’ → /iɾeɾeteina/
i=re–rere=ina 3PL.SBJ=RD–walk=3PL.IPFV ‘they are walking’

If the initial syllable of the base is onset-less, only the nucleus is reduplicated and epenthetic glottal insertion occurs between the reduplicant vowel and the base vowel in order to break the hiatus.
between the two identical vowels, as in (44) and (46). It could be that there is actually an initial glottal stop onset in (44) but since articles do not occur with this noun it is not possible to test this; however, (46) shows that the glottal stop is epenthetic, as if it were part of the onset there would be a glottal stop between the subject proclitic and the reduplicant.

(46) [ejaʔaputuwena]  
e=a~aput=ena  
3SG.SBJ=RD~sleep=3SG.IPFV  
‘he sleeps’

If the root is monoyllabic then of course the whole base is reduplicated, giving the appearance of full reduplication:

(47) /de/ ‘to carry’ → /dede/ ‘bag’

### 3.4.2 Disyllabic copying

The second type of reduplication involves disyllabic copying of an entire initial foot as in (48)-(52). Reduplication has a derivational function in (48)-(50), deriving adjectives from nouns (48)-(49), and, with the derivational suffix, an augmented dyadic noun from a kinship term noun (50). Reduplication has an inflectional function in (51) and (52), negating an imperative and expressing imperfective aspect respectively.

(48) /reβasi/ ‘blood’ → /reβareβasi/ ‘bloody’
(49) /namana/ ‘ocean’ → /namanamana/ ‘blue’
(50) /sina/ ‘mother’ → /sinasinana/ ‘mother and two daughers’
(51) /əte βɔʔɔβɔʔɔ/  
o=te vo’o~vo’o  
2SG.SBJ=PROH RD~call.out  
‘don’t shout’
(52) /etamutamuena/  
e=tamu~tamu=ena  
3SG.SBJ=RD~eat=3SG.IPFV  
‘he is eating’

When the base includes a diphthong, only the first vowel of the diphthong is copied as in (53):

(53) /raβat/ ‘dirt’ → /raβaraβat/ ‘black/dirty’

If the root is disyllabic with no diphthongs then of course the whole base is reduplicated giving the appearance of full reduplication, as in (54)-(56), where reduplication derives a noun from a verb, a noun from another noun, and an adjective from another adjective respectively.

(54) /tɔʔɔ/ ‘to cut’ → /tɔʔɔtɔʔɔ/ ‘knife’
(55) /pute/ ‘wind’ → /putepute/ ‘fan’
3.4.3 **Simultaneous double monosyllabic copying**

The third type of reduplication involves two monosyllabic reduplicants simultaneously occurring next to each other at the left margin of the base, as in (57):

(57) /esisisiri/ena/
    e=si~si~siri=ena
    3SG.SBJ=RD~RD~read=3SG.IPFV
    ‘she reads’

3.4.4 **Simultaneous monosyllabic and disyllabic copying**

The fourth type of reduplication involves both monosyllabic and disyllabic copying of the base, with the monosyllabic reduplicant occurring at the leftmost margin, followed by the disyllabic reduplicant and then the base, as in (58):

(58) /etatamutamu/ena/
    e=ta~tamu~tamu=ena
    3SG.SBJ=RD~RD~eat=3SG.IPFV
    ‘he eats’

3.5 **Stress**

Word stress in Papapana is bounded, that is, “main stress is located at a fixed distance from the boundary of the word” (Gussenhoven and Jacobs 1998: 212-213). Secondary stress is not prominent and is an area for further research. There is no lexical stress in Papapana. This section describes regular stress assignment in Papapana (§3.5.1) and then discusses stress patterns when reduplicants (§3.5.2), proclitics (§3.5.3), and suffixes and enclitics attach to the root (§3.5.4). For all of these, the analysis of stress is based on perception and on observing the intensity of the waveform in Praat.

3.5.1 **Regular stress assignment**

In Papapana, feet are left-aligned syllabic trochees and word stress is predictable with primary stress falling on the first syllable of the first foot. This differs from canonical Oceanic languages in which stress falls on the penultimate syllable of a word (Lynch et al. 2002: 35). Affixation or cliticisation to either side of the root does not generally alter stress assignment (see §3.5.2 to 3.5.4).

Disyllabic monomorphemic roots, such as those in (59)-(63), show that feet in Papapana are trochaic, regardless of whether the syllable nucleus is light or heavy (i.e. whether the syllable contains a monophthong, a long vowel or a diphthong):

(59) /bɔɾa/ ‘pig’ → [ˈbɔ.ɾa]

(60) /ɔba/ ‘hibiscus’ → [ˈɔ.ba]

(61) /βaːgi/ ‘now’ → [ˈβaː.gi]
Trisyllabic monomorphemic roots, such as those in (64)-(74), demonstrate that feet are parsed from the left margin, that is, stress is left-aligned, regardless of whether the syllable nucleus is light or heavy. It is unusual that the stress is not on the heavy syllable in (72) and (73), though it should be noted that there are only five attested examples where the syllable structure is CVCVVCV; otherwise, heavy syllables are always in the first or last syllable in trisyllabic monomorphemic roots.

Feet consisting of a light syllable followed by a heavy syllable (such as CVCVV or VCVV) demonstrate that stress in Papapana is syllabic or quantity insensitive, meaning syllable weight does not influence foot construction and “trees are built on syllable projection, where the difference between heavy and light syllables is not visible” (Gussenhoven and Jacobs 1998:214). The examples demonstrate that Papapana employs a syllabic trochee foot type rather than a moraic trochee foot type:

Lexemes consisting of two feet, such as (79)-(83), demonstrate that the leftmost foot carries primary stress and is thus the head foot:

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3.5.2 Reduplication and stress

In reduplicated forms when the reduplicant copies the initial syllable of the base, such as in (84)-(86), the reduplicant does not participate in stress assignment:

(84) /buburisi/ ‘womb’ → [bu.'bu.ri.si]
(85) /βuβurao/ ‘car’ → [βu.'βu.rao]
(86) /ɔɔemana/ ‘bush’ → [ɔ.'ɔe.ma.na]¹

In reduplicated forms, when the reduplicant copies an entire initial foot, such as in (87)-(89), the reduplicant does participate in stress assignment but primary stress still rests on the base; therefore, rather than the leftmost foot carrying primary stress, the rightmost foot is the head foot.

(87) /tamutamu/ ‘food’ → [.ta.mu-'ta.mu]
(88) /ariari/ ‘hole’ → [.a.ri-'a.ri]
(89) /raβaraβat/ ‘black’ → [.ra.βa-'ra.βa]

In Papapana then, the reduplicant is not part of the same prosodic domain as the base. Since one syllable does not satisfy word minimality, monosyllabic reduplicants are not stressed, whereas disyllabic reduplicants are stressable because they form one foot and thus satisfy word minimality.

Some forms, such as (90), which are not synchronically reduplicated show irregular stress assignment but this could be because they are diachronically reduplicated:

(90) /kɔkɔbunu/ ‘short’ → [kɔ.'kɔ.bu.nu]

Other forms, such as (91), which may be diachronically reduplicated are regularly stressed. This could indicate that the forms which demonstrate regular stress assignment were derived at an earlier date than those which exhibit irregular stress assignment, and perhaps in time the latter may also adopt the regular stress regime.

(91) /kukuraka/ ‘finger’ → [‘ku.ku..ra ka]

¹ As §3.1.2.2.3 and §3.4.1 explain, there is epenthetic glottal insertion in reduplicated forms to break the hiatus between two identical vowels.
3.5.3 Proclitics and stress

Articles and subject-indexing proclitics form phonological but not prosodic words with roots.

The proclitic specific articles /na/ and /nu/ do not participate in stress assignment as (92)-(101) show:

(92) /nu=kara/ 'SPEC.CLI=pandanus' → [nu.'ka ра]
(93) /na=bɔɔ/ 'SPEC[CLI]=pig' → [na.'bɔɔ.ɾɔ]
(94) /nu=ɔba/ 'SPEC.CLI=hibiscus' → [nu.'ɔ.ba]
(95) /nu=βana/ 'SPEC.CLI=plant.sp' → [nu.'βa.naɪ]
(96) /na=maonu/ 'SPEC[CLI]=woman' → [na.'mao.ɾu]
(97) /na=kaokao/ 'SPEC[CLI]=sweet.potato' → [na.'kɔ.o.kɔ]
(98) /na=nɔi/ 'SPEC[CLI]=rain' → [na.'nɔ.ɾi]
(99) /nu=gɔɾaβiβi/ 'SPEC.CLI=vine.sp' → [nu.'gɔ.ɾa.ˌβi.ˌβi]
(100) /nu=ɔtutu/ 'SPEC.CLI=Barringtonia.asiatica' → [nu.'pɔ.ɾu.tu.tu]
(101) /nu=mamiŋke/ 'SPEC.CLI=papaya' → [nu.'ma.mi.ˌo.ke]

The subject proclitics also do not participate in stress assignment as (102) to (107) show:

(102) /mu=tamu/ '2PL.SBJ=eat’ → [μu.'ta.mu]
(103) /e=dɔβi/ '3SG.SBJ=spit’ → [e.'dɔ.ˌβi]
(104) /mi=sioɗa/ '1EXCL.SBJ=work’ → [mi.'sio.ɗa]
(105) /u=ɔɾete/ '1SG.SBJ=walk’ → [u.'ɔ.ɾe.te]
(106) /u=gaganini/ '1SG.SBJ=play’ → [u.'gə.ɡa.ˌni.ni]
(107) /e=nɔŋɔna/ '3SG.SBJ=listen’ → [e.'nɔ.ŋɔ.nə]

However, if the specific article /na/ cliticises to a vowel-initial noun root, it forms a long vowel as in (108) and (109), or a diphthong as in (110)-(113). Similarly, if the 2SG subject-indexing proclitic /a/ cliticises to a verb root beginning with /i/ or /e/, or if the 3SG subject-indexing proclitic /e/ cliticises to a verb root beginning with /i/, they form a diphthong, as in (114) and (115). The stress, which is normally assigned to the first syllable of the root, is adjusted and falls on the article or subject-indexing proclitic, because it is no longer prosodically possible to assign stress to the first syllable of the root as that first syllable now forms part of a long vowel or diphthong. Stress assignment therefore follows diphthongization.

(108) /na=aβu/ 'SPEC[CLI]=ash’ → ['nəa.ˌβu]
(109) /na=agana/ 'SPEC[CLI]=root’ → ['nəa.ɡa.na]
There are three attested monosyllabic noun roots but I only have an audio recording of one of these nouns, /nɔ/ ‘mosquito’. There are a number of monosyllabic verb roots. The article or the subject-indexing proclitic forms a foot with the root to allow stress assignment, and it is the article or subject proclitic which carries the stress, following regular stress assignment patterns, as in (116)-(119):

(116) /na=nɔ/ ‘SPEC[CLI]=mosquito’ → [ˈna.nɔ]
(117) /ɔ=nac/ ‘2SG.SBJ=go’ → [ˈɔ.na.ɔ]
(118) /e=wa/ ‘3SG.SBJ=say’ → [ˈe.wa]
(119) /mi=pɔ/ ‘1EXCL.SBJ=stay’ → [ˈmi.pɔ]

3.5.4 Suffixes, enclitics and stress

Affixation and cliticisation to the right of the root, such as direct possessor suffixes and PSI enclitics, do not alter stress alignment and stress remains left-aligned with the suffix or enclitic participating in the stress regime, as in (120) to (124):

(120) /patu-mani/ ‘head-1EXCL.PSSR’ → [ˈpa.tu.ma.ni]
(121) /patu-ira/ ‘head-1INCL.PSSR’ → [ˈpa.tu.wi.ra]
(122) /katɔpɔ-na/ ‘nail-3SG.PSSR’ → [ˈka.tɔ.pɔ.na]
(123) /urupesi-mani/ ‘anus-1EXCL.PSSR’ → [ˈu.ru.pe.si.ma.ni]
(124) /e=ɾi doβi=ena/ ‘3SG.SBJ=IMM.IRR spitr=3SG.IPFV’ → [ˈe.ɾi do.βi.e.na]

If the resulting stem has an odd number of syllables the suffix or enclitic is extra-metrical, as in (125)-(128):

(125) /sinɔ-na/ ‘bone-3SG.PSSR’ → [ˈsi.nɔ.na]
(126) /beta-kana/ ‘brain-1EXCL.PSSR’ → [ˈbe.ta.kaa.na]
(127) /urupesi-u/ ‘anus-1SG.PSSR’ → [ˈu.ru.pe.si.ju]
(128) /u=ɾi doβi=ɔ/ ‘1SG.SBJ=IMM.IRR spitr=1SG.IPFV’ → [ˈe.ɾi do.βi.jɔ]
When morphological concatenation brings together two vowels, a long vowel or diphthong may be formed as in (129) to (134), even if this results in extrametricality as in (132) and (133):

(129) /patu-u/ ‘head-1SG.PSSR’ → [ˈpa.tuː]
(130) /sino-u/ ‘bone-1SG.PSSR’ → [ˈsi.nɔʊ]
(131) /mata-u/ ‘eye-1SG.PSSR’ → [ˈma.toʊ]
(132) /katɔpɔ-u/ ‘nail-1SG.PSSR’ → [ˈka.tɔ.pɔʊ]
(133) /βetaka-u/ ‘brain-1SG.PSSR’ → [ˈβe.ta.kɔ]
(134) /u=ɾi tua=u/ ‘1SG.SBJ=IMM.IRR paddle=1SG.IPFV’ → [ˈe.ɾi ˈtu.waʊ]

However, stem-medially, long vowel or diphthong formation depends on whether extrametricality will result. In (135)-(139), the two vowels form a diphthong because this allows two feet to be created and extrametricality to be avoided, whereas in (138) and (139), the diphthong or long vowel is not created as that would result in extrametricality.

(135) /βetaka-ira/ ‘brain-1INCL.PSSR’ → [ˈβe.ta.ˌka.rə] *[ˈβe.ta.kə.i.ra]
(136) /katɔpɔ-ira/ ‘nail-1INCL.PSSR’ → [ˈka.tɔ.pə.ˌrə] *[ˈka.tə.ˌpə.i.ra]
(137) /mi=siɔdɔ-eman/i/ ‘1EXCL.SBJ=work=1EXCL.IPFV’ → [ˈmi.si.ˌɔ.də.e.ma.ni] *[ˈmi.si.ˌɔ.də.e.ma.ni]
(138) /e=ɾi doβi=ina/ ‘3SG.SBJ=IMM.IRR spit=3SG.IPFV’ → [ˈe.ɾi ˈdoˌβi.i.na] *[ˈe.ɾi ˈdoˌβi.na]
(139) /e=siɔdɔ=ena/ ‘3SG.SBJ=work=3SG.IPFV’ → [ˈe.siˌɔ.də.ˌwe.na] *[ˈe.siˌɔ.də.we.na]
4 Nouns and Noun Phrases

4.1 Nouns and noun phrase structure

There are formally distinct subcategories of nominals: pronouns and nouns. Subtypes of pronouns (§4.2) include independent, possessive, demonstrative and interrogative pronouns. Nouns, including derived nouns (§4.4) and compound nouns (§4.5), belong to an open class and can be specified for one of four noun classes (§4.3): Personal, Class I, Class II and Location. Nouns can also be categorised according to possessability (§4.9), either inalienable or alienable, but this classification does not correlate with and is separate from noun class. With the exception of Personal proper name nouns, Location nouns and a limited number of exceptions from other classes, all nouns occur with either an article (§4.7), a numeral modifier (§4.8), or a possessor proclitic or suffix (§4.9). These modifiers can co-occur. Class II nouns are marked by *au* on the rightmost prenominal element when the head noun is singular. Nouns may also be modified by quantifiers (§4.10), demonstratives (§4.11), adjective phrases (§4.12), a modifier from a miscellaneous group (§4.13), or a prepositional phrase (PP) expressing either possession (§4.9.5) or attribution (§4.14). Other methods of expressing number are described in §4.6. Nouns may also be modified by interrogatives (see §6.5.2) and externally headed relative clauses (see §7.2). The types and combinations of modifiers permitted depend on the noun type and are discussed in the relevant sections. Conjoined NPs are discussed in §7.1.

A noun phrase (NP) “is a phrasal constituent whose head is a noun” (Kroeger 2005: 87). In Papapana, a NP whose head is a pronoun can function as the core argument of a verb, or as a predicate in a verbless clause. Independent and interrogative pronouns can also function as possessor NPs, while independent pronouns can be the complement of prepositions. A NP whose head is a noun can function as the core argument of a verb, the complement of an adposition in oblique arguments and adjuncts, the predicate in a verbless clause or a possessor NP modifier. NPs consisting of Location nouns only function as predicates in verbless clauses or as oblique NP arguments and adjuncts.

Table 4.1 shows the NP structure when the head is a Class I or II noun, since these nouns have the least restrictions in terms of modifiers. The core of the NP is configurationally ordered. In pre-head position, the morpheme *nia*, whose function isn’t entirely clear, precedes possessor proclitics. A possessor proclitic precedes a numeral modifier which precedes an article, which precedes the Class II marker and the collective marker. None of these constituents can occur in any other position except for numeral modifiers which may alternatively occur in post-head position. In post-head position in the core of the NP, derivational morphology occurs closest to the head: the construct suffix and the modifying root that together form compounds, or the derivational suffix. Following this are the possessor suffixes and the augmentative suffix. Possessor proclitics and suffixes are mutually exclusive. In the outer layer of the NP constituency shows considerably more variation. The exact
The relative position of prenominal lexical possessor NPs, adjective phrases, quantifier phrases and demonstratives is not known as these are not attested together in a NP. In postnominal position, demonstratives precede numerals and adjective phrases, but otherwise the exact relative ordering of demonstratives, quantifier phrases, numerals, adjective phrases, lexical possessor NPs and miscellaneous modifiers is unclear, again because these are not attested together in a NP. The same quantifiers, numerals and adjectives can appear in both pre-head and post-head positions and for each category the prenominal and postnominal positions are mutually exclusive, that is, there cannot simultaneously be two quantifiers, or two numerals or two adjectives in one NP. Likewise prenominal and postnominal lexical possessor NPs are mutually exclusive. Quantifiers and numerals cannot simultaneously occur with each other in one NP. The same demonstratives can appear in both prenominal and postnominal positions; however there can be more than one demonstrative in a NP. There can be one or two demonstratives in prehead position, one or two in posthead position, or one particular demonstrative occurs prenominally while another simultaneously occurs postnominally. PPs expressing possession or attribution follow the head noun, as do relative clauses. Tomana functions as either an additive marker (§4.14), or a nascent comitative postposition (§6.2.6), and this occurs after the emphatic modifier tobi and before relative clauses and PPs expressing possession, but its order relative to other outer layer modifiers is not known.

**TABLE 4.1 NOUN PHRASE STRUCTURE**

<table>
<thead>
<tr>
<th>Pre-head</th>
<th>Lexical Possessor NP</th>
<th>Adjective Phrase</th>
<th>Quantifier Phrase</th>
<th>Demonstrative</th>
<th>CORE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nia</td>
<td>Indirect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alienable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Possessor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>proclitic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Numeral modifier</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Article</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class II marker au</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collective marker</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>vei</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head</td>
<td>Noun</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Construct suffix</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>–ni or –i and modifying root</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Derivational suffix</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>–na</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-head</td>
<td>Direct Inalienable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Possessor suffix</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Augmentative suffix</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-eta</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Demonstrative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quantifier Phrase</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Numeral modifier</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adjective Phrase</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Miscellaneous modifiers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lexical Possessor NP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>tomanà ‘too’, ‘with’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prepositional Phrase</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relative Clause</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.2 Pronouns

Papapana has the four separate pronominal paradigms that are widespread in Oceanic languages: independent pronouns (§4.2.1), possessor suffixes (§4.9.1), subject-indexing proclitics (see §5.3.2.1) and object-indexing enclitics (see §5.3.2.2). In addition, Papapana has possessor proclitics (§4.9.2) which, unlike many other Oceanic languages, are not synchronically segmentable into a possessive constituent and possessor suffix. All five pronominal paradigms classify referents according to person or speech-act participant (SAP), that is the speaker (1st person), hearer (2nd person), or non-SAP (3rd person), and distinguish between singular and plural. There is an inclusive (speaker and hearer) and exclusive (speaker and non-SAP) distinction in the first person plural. Independent pronouns also distinguish dual and trial number. Other subtypes of pronouns include possessive pronouns, which distinguish the four person categories and singular and plural number (§4.9.3), demonstrative pronouns (§4.11.2) and interrogative pronouns (see §6.5.2.1). Papapana does not have reflexive, reciprocal or relative pronouns. Pronouns do not have articles in Papapana and they can function as arguments or NP predicates. Independent and interrogative pronouns can also function as possessor NPs, while independent pronouns can be the complement of prepositions.

4.2.1 Independent pronouns

In Papapana, independent pronouns may function alone as a NP, but they may also be modified by exhaustive, limiting or emphatic modifiers (§4.13.1-§4.13.3). They cannot occur with any other nominal modifiers. A pronoun may “refer either to someone or something in the immediate context (time and place) where the speaking is taking place; or it may refer to something which has been previously mentioned in the same discourse” (Kroeger 2005: 136), i.e. pronouns can be used deictically or anaphorically. Table 4.2 shows the independent pronouns in Papapana; they make four person distinctions and four number distinctions. There is no gender\(^1\) or case distinction. The independent pronouns are typical of Oceanic languages, though some Oceanic languages do not make a dual or trial distinction (Lynch, Ross and Crowley 2002: 35).

<table>
<thead>
<tr>
<th></th>
<th>1EXCL</th>
<th>1INCL</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
<td>anau</td>
<td>anau</td>
<td>an</td>
<td>aia</td>
</tr>
<tr>
<td>DU</td>
<td>auami</td>
<td>auara</td>
<td>auamu</td>
<td>auana</td>
</tr>
<tr>
<td></td>
<td>ami=nua anua</td>
<td>era=nua anua</td>
<td>amiu=nua anua</td>
<td>nua anua</td>
</tr>
<tr>
<td>TR</td>
<td>ami=atono</td>
<td>era=atono</td>
<td>amiu=atono</td>
<td>oina=atono</td>
</tr>
<tr>
<td>PL</td>
<td>a:mani</td>
<td>arira</td>
<td>amu</td>
<td>aina</td>
</tr>
</tbody>
</table>

Papapana has two sets of dual independent pronouns. The first set in Table 4.2 are intriguing as they begin with \(au\), a morpheme that usually indicates Class II noun class, while the remainder of the form

\(^1\) The term gender should not be confused with noun class. Instead, gender here refers to masculine and feminine participants, i.e. ‘he’ and ‘she’.
is similar to the plural possessor proclitics (see §4.9.2). It is unclear what the origin of these forms is and if they are diachronically morphologically complex. The other set of dual independent pronouns are formed periphrastically and are comprised of the cardinal numeral modifier for Class I nouns nua ‘two’ (see §4.8.2) and the noun anua ‘person’ and are possessed with the plural possessor proclitics (see §4.9.2), except for 3DU. It is common for dual pronouns in Oceanic languages to contain an “element that is historically related in some way to the numeral two” (Lynch et al. 2002: 35). I did not observe a grammatical, semantic or pragmatic distinction between the two sets of dual independent forms, though the periphrastic forms were used less often. The trial independent pronouns are comprised of the cardinal numeral modifier for humans atono ‘three’ which is possessed with the plural possessor proclitics.

The only type of modifier that can occur with independent pronouns are the postnominal modifiers panapana, tobi and ora ~ ara:

(1) aina panapana
    3PL all
    ‘they all’

(2) a:mani tobi
    1EXCL EMPH
    ‘we ourselves’

(3) aia ora
    3SG only
    ‘him only’

Independent pronouns function as subject or object arguments, possessors modifying a directly or indirectly possessed noun, complements in oblique expressions with the preposition te or the nascent postposition tomano, or as predicates in verbless clauses. They may co-occur with subject- and object-indexing clitics (§5.3.2), possessor suffixes (§4.9.1), and possessor proclitics (§4.9.2): their function and status as optional or obligatory constituents is discussed in these sections. The first set of dual independent pronouns listed in Table 4.2 may also coordinate NPs or function as inclusory pronominals (see §7.1.1.3).

4.3 Noun class

The terms gender and noun class both refer to a system of noun classification where the classification is “reflected beyond the nouns themselves through agreement” (Corbett 2007: 241). In some traditions, such as Indo-European, the term gender is preferred, while in others noun class is used (Corbett 2007: 241). In the Oceanic literature, a number of terms are used interchangeably. Lynch, Ross and Crowley (2002) and Ross (1988) use the term category in their descriptions of Proto-Oceanic (POc) and Proto-Northwest Solomonic (PNWS) respectively, while gender is used in grammatical descriptions of Northwest Solomonic (NWS) languages such as Taiof (Ross 2002b) and Teop (Mosel and Spriggs 1999a), although more recently noun class has been used in the description of Teop (Mosel and
Thiesen 2007). Since *gender* is often used for languages where there is a distinction between masculine and feminine entities (Aikhenvald 2000: 19) and Papapana does not make such a distinction, I shall use the term *noun class* when describing Papapana. Furthermore, to maintain consistency and avoid confusion I shall use the term *noun class* even when discussing languages where the term *gender* is used in the literature.

Noun class in Papapana is not related to animacy, biological gender, physical shape or size, or sociocultural function, nor is there an individual/mass distinction between the classes or a formal basis for categorisation; however, noun class does have a semantic basis and it is possible to identify semantically associated groups of nouns that belong to each class. Loan words such as *skuru* ‘school’ (from Tok Pisin) are subject to these semantic criteria and are assigned to noun classes accordingly. For some nouns of certain semantic classes, noun class is predictable, while for others it is not, as the following discussion exemplifies.

There are four noun classes in Papapana: Personal (§4.3.1), Class I (§4.3.2), Class II (§4.3.3) and Location (§4.3.4). The Personal class has two subtypes; kinship terms and proper names. The Location class has four subtypes; absolute, familiar, relational and lexicalised relational. The Location class consists of terms referring to spatial and temporal location. Class I and Class II consist of common and abstract nouns from a range of semantic categories. Table 4.3 shows the syntactic justification for these noun classes. Personal nouns can all be pluralised by *nia* (see §4.6.4) but only kinship terms occur with the article *e*-.

The following table shows the syntactic justification for noun classes. Personal nouns occur with the articles *na=, ta=, si*, while Class II nouns occur with the articles *nau ~ nu=, tau, sau* (portmanteau forms consisting of the Class II marker *au*). When possessor proclitics modify a noun and there is no article, then they are marked by *au* for Class II nouns but unmarked for Class I. Personal, Class I and Class II nouns can all occur in a PP with the preposition *te*. Location nouns do not have articles and they cannot occur in a PP with *te*. The subtypes are differentiated based on whether they can be marked by the locative case prefix *i*- and whether they can be directly possessed.

**TABLE 4.3 NOUN CLASSES**

<table>
<thead>
<tr>
<th>Noun Class</th>
<th>Article</th>
<th>Other</th>
<th>PP <em>te</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Kinship</td>
<td><em>e-</em></td>
<td><em>nia</em></td>
<td>Yes</td>
</tr>
<tr>
<td>Personal Proper</td>
<td>Ø</td>
<td><em>nia</em></td>
<td>Yes</td>
</tr>
<tr>
<td>Class I</td>
<td><em>na=, ta=, si</em></td>
<td>Ø marking on possessor proclitics</td>
<td>Yes</td>
</tr>
<tr>
<td>Class II</td>
<td><em>nau ~ nu=, tau, sau</em></td>
<td><em>au</em> on possessor proclitics</td>
<td>Yes</td>
</tr>
<tr>
<td>Location Absolute</td>
<td>Ø</td>
<td>No locative case prefix, not possessed</td>
<td>No</td>
</tr>
<tr>
<td>Location Familiar</td>
<td>Ø</td>
<td>Locative case prefix, not possessed</td>
<td>No</td>
</tr>
<tr>
<td>Location Relational</td>
<td>Ø</td>
<td>Locative case prefix, can be possessed</td>
<td>No</td>
</tr>
<tr>
<td>Location Lexicalised Relational</td>
<td>Ø</td>
<td>No locative case prefix, diachronically possessed</td>
<td>No</td>
</tr>
</tbody>
</table>
4.3.1 Personal nouns

All Personal nouns can occur with the plural marker *nia* (see §4.6.4) and when they occur with the hybrid noun *maria*, this noun is marked with the specific article *e-* (see §4.3.5). All Personal nouns can occur with the preposition *te*. The Personal noun class can be divided into two subtypes. The first contains four kinship terms that refer to kin who are in the generation above the referent, and/or who must be respected (see Table 4.4). The reciprocal term for a man’s mother-in-law and a woman’s son-in-law is included in this category since it is a cultural taboo for a woman’s husband and mother to speak to or look at each other, or be in close proximity. These nouns are bound because they are always directly possessed, and they occur with the specific article *e-* (see §4.7.1). The second subtype consists of proper names, including two kinship terms of endearment: these nouns are never possessed and do not occur with the article *e-*.

**TABLE 4.4 PERSONAL NOUNS**

<table>
<thead>
<tr>
<th>Kinship terms: generation above, high status</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>tubu</em></td>
</tr>
<tr>
<td><em>sina</em></td>
</tr>
<tr>
<td><em>tama</em></td>
</tr>
<tr>
<td><em>noa</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proper names</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ebauka</em></td>
</tr>
<tr>
<td><em>Aunu</em></td>
</tr>
<tr>
<td><em>aite</em></td>
</tr>
<tr>
<td><em>ia’a</em></td>
</tr>
</tbody>
</table>

The Personal noun class in Papapana resembles the typical Oceanic *personal* noun class which includes personal proper names and sometimes kinship terms denoting particular individuals (Lynch et al. 2002: 37) and it is strikingly similar to Teop’s I-E noun class which consists of proper names of persons, some kinship terms, people who have a particular social status, and pets (Mosel and Spriggs 1999a, Mosel and Thiesen 2007). Taiof also has a *personal* noun class which comprises personal names and directly possessed kinship nouns referring to a particular person. In keeping with the literature on Oceanic languages, I have labelled this noun class in Papapana *Personal*. The restricted nature of this noun class is intriguing, particularly so when one considers that the kinship term *vavine* ‘cross sex sibling/cousin’ belongs in Class I in Papapana, whereas its cognate *fafine* ‘cross sex sibling’ in Taiof occurs in the personal class (Ross 2002b: 428); this raises questions as to whether and why the Personal noun class in Papapana has become restricted.

The other intriguing feature of the Personal noun class is that when pluralized, Personal nouns behave more like Class I nouns as they are marked by the plural article *bau* rather than exhibiting inverse number marking (see §4.7.2). In other ways they behave more like Class II nouns, as they may occur with the Class II diminutive article *sau* (§4.7.4) and adjectives may be marked by the Class II specific article *nau ~ nu=*, when the Personal noun being modified is nearby or visible, as is the case when a Class II noun being modified is nearby or visible (§4.12.1).
4.3.2 Class I nouns

Class I nouns can occur with the specific article \textit{na=}, the nonspecific article \textit{ta=} or the diminutive article \textit{si}. All Class I can occur with the preposition \textit{te}. In the absence of an article, the possessor proclitics and numeral modifiers ‘one’ and ‘two’ are not marked when they modify a Class I noun.

The Class I noun class in Papapana comprises collective and partitive nominals, nouns denoting units of time and periods of the day, celestial bodies, meteorological phenomena and natural forces, locations and landmarks, spiritual beings and certain humans, kinship terms that refer to kin who are in the same generation as the referent or have been acquired through marriage, fish and other marine vertebrates, fruit and nuts, and prepared food. The hypernyms ‘fish’ and ‘fruit’ also belong in the Class I noun class. Some nouns denoting plant parts, geological entities and objects (made from plants or other materials), and some abstract nouns belong to the Class I class while others belong to the Class II class but noun class assignment is arbitrary and has no apparent phonological or semantic basis. Table 4.5 shows examples of the nouns in Class I.

**TABLE 4.5 CLASS I NOUNS**

<table>
<thead>
<tr>
<th>Collective and Partitive nominals</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{gumu}</td>
<td>group (human)</td>
</tr>
<tr>
<td>\textit{navo}</td>
<td>group (animals)</td>
</tr>
<tr>
<td>\textit{gona}</td>
<td>group (inanimate)</td>
</tr>
<tr>
<td>\textit{pei}</td>
<td>piece</td>
</tr>
<tr>
<td>\textit{ta’apena}</td>
<td>part</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit of Time and Periods of the Day</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{yia}</td>
<td>year</td>
</tr>
<tr>
<td>\textit{nganangana}</td>
<td>month</td>
</tr>
<tr>
<td>\textit{wiki}</td>
<td>week</td>
</tr>
<tr>
<td>\textit{na:ni}</td>
<td>day</td>
</tr>
<tr>
<td>\textit{boni}</td>
<td>twenty-four hours</td>
</tr>
<tr>
<td>\textit{tuimatamata}</td>
<td>morning</td>
</tr>
<tr>
<td>\textit{tuiboniboni}</td>
<td>dawn</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Celestial bodies</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{to}</td>
<td>sun</td>
</tr>
<tr>
<td>\textit{nganangana}</td>
<td>moon</td>
</tr>
<tr>
<td>\textit{vesunu}</td>
<td>star</td>
</tr>
<tr>
<td>\textit{epu}</td>
<td>cloud</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Meterological phenomena and Natural forces</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{naoi}</td>
<td>rain</td>
</tr>
<tr>
<td>\textit{pute}</td>
<td>wind</td>
</tr>
<tr>
<td>\textit{magaru}</td>
<td>earthquake</td>
</tr>
<tr>
<td>\textit{tonu}</td>
<td>wave</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Locations and Landmarks</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{ere’ere}</td>
<td>mountain</td>
</tr>
<tr>
<td>\textit{sigasiga}</td>
<td>hill</td>
</tr>
<tr>
<td>\textit{’uru}</td>
<td>island</td>
</tr>
<tr>
<td>\textit{nongana}</td>
<td>beach</td>
</tr>
<tr>
<td>\textit{vana}</td>
<td>coast</td>
</tr>
<tr>
<td>\textit{ava}</td>
<td>sea</td>
</tr>
<tr>
<td>\textit{daramu}</td>
<td>river</td>
</tr>
<tr>
<td>\textit{poana}</td>
<td>village</td>
</tr>
<tr>
<td><strong>TABLE 4.5 CLASS I NOUNS (CONTINUED)</strong></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Spiritual beings, generic human terms, people with particular social status</strong></td>
<td></td>
</tr>
<tr>
<td><strong>toituna</strong></td>
<td>God, chief</td>
</tr>
<tr>
<td><strong>matuana</strong></td>
<td>spirit</td>
</tr>
<tr>
<td><strong>vanua</strong></td>
<td>people</td>
</tr>
<tr>
<td><strong>orawi</strong></td>
<td>man</td>
</tr>
<tr>
<td><strong>maunu</strong></td>
<td>woman</td>
</tr>
<tr>
<td><strong>atamata</strong></td>
<td>friend</td>
</tr>
<tr>
<td><strong>Kinship terms: same generation, acquired through marriage</strong></td>
<td></td>
</tr>
<tr>
<td><strong>arao</strong></td>
<td>same sex male sibling/cousin</td>
</tr>
<tr>
<td><strong>vavine</strong></td>
<td>cross sex sibling/cousin</td>
</tr>
<tr>
<td><strong>sinoni</strong></td>
<td>husband</td>
</tr>
<tr>
<td><strong>maunu</strong></td>
<td>wife</td>
</tr>
<tr>
<td><strong>avutei</strong></td>
<td>brother-in-law</td>
</tr>
<tr>
<td><strong>maruare</strong></td>
<td>sororal sister-in-law</td>
</tr>
<tr>
<td><strong>vanisi</strong></td>
<td>father-in-law (of a man), son-in-law (of a man)</td>
</tr>
<tr>
<td><strong>Fish (vertebrate)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>iana</strong></td>
<td>fish</td>
</tr>
<tr>
<td><strong>babakui</strong></td>
<td>shark</td>
</tr>
<tr>
<td><strong>pano</strong></td>
<td>trevally species</td>
</tr>
<tr>
<td><strong>karakovi</strong></td>
<td>tuna species</td>
</tr>
<tr>
<td><strong>Marine vertebrates</strong></td>
<td></td>
</tr>
<tr>
<td><strong>bukau</strong></td>
<td>dolphin</td>
</tr>
<tr>
<td><strong>goraunu</strong></td>
<td>seasnake</td>
</tr>
<tr>
<td><strong>voea</strong></td>
<td>crocodile</td>
</tr>
<tr>
<td><strong>epio</strong></td>
<td>frog</td>
</tr>
<tr>
<td><strong>Fruit and Nuts</strong></td>
<td></td>
</tr>
<tr>
<td><strong>vua</strong></td>
<td>fruit</td>
</tr>
<tr>
<td><strong>mamioke</strong></td>
<td>papaya fruit</td>
</tr>
<tr>
<td><strong>magura</strong></td>
<td>green coconut</td>
</tr>
<tr>
<td><strong>ingani</strong></td>
<td>Canarium Indicum nut</td>
</tr>
<tr>
<td><strong>Prepared food</strong></td>
<td></td>
</tr>
<tr>
<td><strong>menaga</strong></td>
<td>bananas boiled, mashed, rolled, baked in coconut cream</td>
</tr>
<tr>
<td><strong>postaono</strong></td>
<td>tapioca grated, mixed with coconut cream and baked</td>
</tr>
<tr>
<td><strong>Some plant parts</strong></td>
<td></td>
</tr>
<tr>
<td><strong>nana</strong></td>
<td>big branch</td>
</tr>
<tr>
<td><strong>'epita</strong></td>
<td>stick</td>
</tr>
<tr>
<td><strong>agana</strong></td>
<td>root</td>
</tr>
<tr>
<td><strong>Some geological entities</strong></td>
<td></td>
</tr>
<tr>
<td><strong>kavururu</strong></td>
<td>earth, soil, ground</td>
</tr>
<tr>
<td><strong>watu</strong></td>
<td>stone</td>
</tr>
<tr>
<td><strong>Some objects: made from plants or other materials</strong></td>
<td></td>
</tr>
<tr>
<td><strong>tange</strong></td>
<td>boat, ship</td>
</tr>
<tr>
<td><strong>bero</strong></td>
<td>bell</td>
</tr>
<tr>
<td><strong>mata</strong></td>
<td>door</td>
</tr>
<tr>
<td><strong>kabekabe</strong></td>
<td>bag (of any kind)</td>
</tr>
<tr>
<td><strong>'ave</strong></td>
<td>woven bag</td>
</tr>
<tr>
<td><strong>avutu</strong></td>
<td>leaf bundle</td>
</tr>
<tr>
<td><strong>vutunu</strong></td>
<td>bow (bamboo)</td>
</tr>
<tr>
<td><strong>anini</strong></td>
<td>arrow (sago)</td>
</tr>
<tr>
<td><strong>tora:ra</strong></td>
<td>axe</td>
</tr>
<tr>
<td><strong>petata</strong></td>
<td>tray/basket (woven leaves)</td>
</tr>
<tr>
<td><strong>Some abstract</strong></td>
<td></td>
</tr>
<tr>
<td><strong>matau</strong></td>
<td>knowledge</td>
</tr>
<tr>
<td><strong>'ire</strong></td>
<td>anger</td>
</tr>
</tbody>
</table>
Papapana resembles Teop’s I-A class which also includes landmarks, fruit and nuts, and things not made from plant materials (Mosel and Spriggs 1999a, Mosel and Thiesen 2007), and therefore I label this noun class *Class I* in Papapana.

### 4.3.3 Class II nouns

Class I nouns can occur with the specific article *nau*, the nonspecific article *tau* or the diminutive article *sau*. All Class II can occur with the preposition *te*. As discussed in §4.7 these articles can be analysed as portmanteau forms consisting of the Class II marker *au*. In the absence of an article, the possessor proclitics and numeral modifiers ‘one’ and ‘two’ are also marked by *au* when they modify a Class II noun.

Class II noun class in Papapana consists of nouns denoting liquids, light and fire, kinship terms that refer to kin who are in the generation below the referent, body parts and bodily products, birds, land-dwelling vertebrates, insects, marine invertebrates including shells, and plants including seaweeds. The hypernyms ‘bird’ and ‘tree’ also belong in the Class II noun class. Some nouns denoting plant parts, geological entities, objects made from plant materials, and some abstract nouns belong to Class II while others belong to Class I class. Table 4.6 shows examples of the nouns in Class II class.

**TABLE 4.6 CLASS II NOUNS**

<table>
<thead>
<tr>
<th>Liquids, light and fire</th>
<th>Kinship terms: generation below</th>
<th>Body parts and Bodily products</th>
<th>Birds (vertebrate)</th>
<th>Land vertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>iruvu</em></td>
<td></td>
<td></td>
<td><em>marei</em></td>
<td><em>kakau</em></td>
</tr>
<tr>
<td><em>daramu</em></td>
<td></td>
<td></td>
<td><em>vevevata</em></td>
<td><em>bora</em></td>
</tr>
<tr>
<td><em>udu</em></td>
<td></td>
<td></td>
<td><em>pupu</em></td>
<td><em>oru</em></td>
</tr>
<tr>
<td><em>tura</em></td>
<td></td>
<td></td>
<td><em>kokei</em></td>
<td></td>
</tr>
<tr>
<td><em>watu</em></td>
<td></td>
<td></td>
<td><em>toa</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>sau</em></td>
<td><em>usia</em></td>
<td><em>patu</em></td>
<td><em>marei</em></td>
<td></td>
</tr>
<tr>
<td><em>tau</em></td>
<td><em>adope</em></td>
<td><em>vunu</em></td>
<td><em>vevevata</em></td>
<td><em>kakau</em></td>
</tr>
<tr>
<td><em>atu</em></td>
<td><em>vangano</em></td>
<td><em>nima</em></td>
<td><em>pupu</em></td>
<td><em>bora</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>tae / beabeata</em></td>
<td><em>kokei</em></td>
<td><em>oru</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>mimi</em></td>
<td><em>toa</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>muta</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>soup</td>
<td>child, fraternal niece/nephew (of a woman)</td>
<td>head</td>
<td>bird</td>
<td>dog</td>
</tr>
<tr>
<td>water</td>
<td>grandchild, daughter-in-law</td>
<td>hair</td>
<td>eagle</td>
<td>pig</td>
</tr>
<tr>
<td>light</td>
<td>sororal niece/nephew (of a man)</td>
<td>hand</td>
<td>hornbill</td>
<td>snake</td>
</tr>
<tr>
<td>fire</td>
<td></td>
<td>excrement</td>
<td>kingfisher species</td>
<td></td>
</tr>
<tr>
<td>smoke</td>
<td></td>
<td>urine</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>vomit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 4.6 CLASS II NOUNS (CONTINUED)

<table>
<thead>
<tr>
<th>Insects (invertebrate)</th>
<th>Marine invertebrates</th>
<th>Shells (invertebrates)</th>
<th>Plants and Seaweed</th>
<th>Some plant parts</th>
<th>Some geological entities</th>
<th>Some objects: made from plants</th>
<th>Some abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td>no</td>
<td>mosquitoes</td>
<td>karavona</td>
<td>nauno</td>
<td>naunu</td>
<td>vuno</td>
<td>obutu</td>
<td>matautu</td>
</tr>
<tr>
<td>kikiriri</td>
<td>cicada</td>
<td>kakava</td>
<td>mamioka</td>
<td>vuni</td>
<td>peoga</td>
<td>putepute</td>
<td>nai</td>
</tr>
<tr>
<td>beibei</td>
<td>butterfly</td>
<td>kaumo</td>
<td>ingani</td>
<td></td>
<td></td>
<td>makarei</td>
<td>mate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'urita</td>
<td>gega</td>
<td></td>
<td></td>
<td>si’ini</td>
<td>tue</td>
</tr>
<tr>
<td></td>
<td></td>
<td>vani</td>
<td></td>
<td></td>
<td></td>
<td>totopi</td>
<td>atuatu</td>
</tr>
<tr>
<td></td>
<td></td>
<td>gori</td>
<td></td>
<td></td>
<td></td>
<td>pako</td>
<td>a’u</td>
</tr>
<tr>
<td></td>
<td></td>
<td>nare</td>
<td></td>
<td></td>
<td></td>
<td>vonata</td>
<td></td>
</tr>
</tbody>
</table>

Papapana resembles Teop’s II class which also includes light and fire, plants, plant parts other than fruit, things made from plant materials and some kinship terms (Mosel and Thiesen 2007) and Taiof’s Class II which contains nouns denoting plants, objects made from wood and non-count nouns (Ross 2002b); accordingly, I have labelled this noun class Class II in Papapana.
4.3.4 Location nouns

Location nouns do not occur with articles in Papapana and indeed in Oceanic languages “NPs with … locative/temporal reference generally do not appear with any article” (Lynch et al. 2002: 38). When location nouns occur with the hybrid noun maria, this noun is marked with the locative case prefix i- (see §4.3.5). Location nouns cannot occur with the preposition te but occur as oblique NPs (§6.2.2). The locative case prefix i- is a reflex of the POc preposition i which was used with local NPs that did not have articles (Ross 2007c: 284). No other prenominal modifier may intervene between i- and the noun in Papapana and i- forms a phonological word with the noun it marks, thus I analyse it as a prefix. There are three subtypes of location nouns, shown in Table 4.7: (i) Absolute Location, (ii) Familiar Location, (iii) Relational Location and (iv) lexicalised Relational Location.

Absolute Location nouns do not occur with the locative case prefix i- and they are never possessed. Some are attested with modifiers such as ora ~ ara ‘only’ or the intensifier poto, which can modify other nouns. Absolute Location nouns include all proper place names and the noun o’oe mana ‘bush’. It is quite common in Oceanic languages for words denoting important locations such as ‘bush’ to behave differently to other local nouns. Absolute Location nouns also include six nouns that refer to time relative to the point of speaking, one that refers to a period of the day and one that refers to frequency. Mumurina appears to be derived through monosyllabic reduplication and the derivational suffix -na from the Familiar Location noun muri ‘behind’. Some of these nouns referring to time begin with na which has the same form as the Class I specific article but synchronically these are monomorphemic forms. Two of these nouns referring to the past contain the form sina, which elsewhere is a noun denoting ‘mother’, two nouns contain the form va which elsewhere is the causative prefix, and the noun natui ‘tomorrow’ contains the form tui which is homophonous with the noun denoting ‘heart’ and is also found in the Class I nouns tuimatamata ‘morning’ and tuiboniboni ‘dawn’. It is unclear whether all of these nouns are diachronically divisible and if so whether their individual elements are related to the other aforementioned nouns and morphemes.

The subtype of Familiar Location nouns comprises the exhaustive list of nouns in Table 4.7 that express familiar geographic locations and periods of the day; these do occur with the locative case prefix i- but they are never directly possessed.

Relational Location nouns refer to a “part of reference object, or location r.e. a reference object” (Ross 2007b: 230) and the complete group is listed in Table 4.7; these do occur with the locative case prefix i- and they can be directly possessed.

The group of lexicalised relational location nouns includes four invariant terms which optionally or obligatorily take a PP or NP complement, while for one of these forms tagena, the process of lexicalisation from the root and the 3SG direct possessor suffix –na is not entirely complete and the form tage can be directly possessed with other person and number possessor suffixes (see §6.2.2.4).
TABLE 4.7 LOCATION NOUNS

<table>
<thead>
<tr>
<th>Absolute</th>
<th>Familiar</th>
<th>Relational</th>
<th>Lexicalised Relational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vakonaia</td>
<td>inu</td>
<td>ata</td>
<td>obetena</td>
</tr>
<tr>
<td>Marasi</td>
<td>tanana</td>
<td>vuna</td>
<td>gegetena</td>
</tr>
<tr>
<td>o’oemana</td>
<td>poana</td>
<td>bana</td>
<td>tagena</td>
</tr>
<tr>
<td>nasinaina</td>
<td>nongana</td>
<td>ota</td>
<td>reareana</td>
</tr>
<tr>
<td>naonava</td>
<td>ava</td>
<td>butona</td>
<td>tage</td>
</tr>
<tr>
<td>vagi</td>
<td>namana</td>
<td>muri</td>
<td></td>
</tr>
<tr>
<td>natui</td>
<td>daramu</td>
<td>mata</td>
<td></td>
</tr>
<tr>
<td>vasinana</td>
<td>nгана</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mumurina</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wakunai</td>
<td>above</td>
<td>under</td>
</tr>
<tr>
<td></td>
<td>Maras</td>
<td>below/coast</td>
<td>next to</td>
</tr>
<tr>
<td></td>
<td>Bush</td>
<td>inside</td>
<td>near</td>
</tr>
<tr>
<td></td>
<td>day before yesterday</td>
<td>outside</td>
<td>far away</td>
</tr>
<tr>
<td></td>
<td>yesterday</td>
<td>middle</td>
<td></td>
</tr>
<tr>
<td></td>
<td>now, today</td>
<td>behind</td>
<td></td>
</tr>
<tr>
<td></td>
<td>tomorrow</td>
<td>in front</td>
<td></td>
</tr>
<tr>
<td></td>
<td>before, past</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>future</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Location noun class in Papapana reflects the typical Oceanic local noun class consisting of institutionalised place names, nouns denoting familiar places in the environment such as ‘home’ and ‘village’, and sometimes directly suffixed locative part nouns such as ‘inside’ (Lynch et al. 2002: 37).

4.3.5 Noun class assignment

In Papapana every noun is associated with a particular noun class. The only case of a hybrid noun, that is, a noun that can take agreement in more than one class and whose agreement form depends on the type of target involved (Corbett 1991: 183), is the semantically empty noun maria: when maria occurs with the Personal specific article it denotes ‘what’s-their-name’, with the Class I and II specific articles it denotes ‘what’s-it-called’ and with the locative case prefix i-, it denotes ‘where’s-it-called’. The speaker often recalls the noun they had forgotten and this occurs after maria, as in (4)-(7).
As with many noun class systems, there are some exceptions in Papapana. There are a few nouns in the Class I noun class that belong to a semantic category overwhelming represented by the Class II noun class: these include four of the forty-five body part terms elicited during my fieldwork, u’u ‘finger’, ingani ‘kidney’, iminio ‘vein’ and vuri ‘egg’, and two of the twenty-three shell names elicited, tuvini ‘Triton trumpet’ and oro ‘Triton trumpet species’. Of the forty-two fish names elicited, two belong in the Class II noun class, tanoana ‘salted fish’ and oinì’a ‘convict surgeon fish’, while the marine vertebrate mono ‘turtle’ also belongs in the Class II noun class. The derived nouns momoroko ‘liar’ and matemate ‘sick person’ also belong to the Class II noun class even though other terms denoting humans are in the Class I noun class. It is possible to offer explanations for only some of these exceptions. Dixon (1968: 120) suggested the rule for Dyirbal that ‘if some noun has characteristic X (on the basis of which its class membership would be expected to be decided) but is,
through belief or connected with characteristic Y, then generally it will belong to the class corresponding to Y”. It is feasible that since eggs are a food source, this motivates their unexpected class membership since food belongs in Class I class. Dixon (1968: 120) also suggested that “if a subset of nouns has some particular important property that the rest of the set do not have, then the members of the subset may be assigned to a different class from the rest of the set, to ‘mark’ the property”. Such a rule might explain the assignment of the Triton trumpet shell to Class I as it is a culturally important item used as a horn. As for the lexemes for ‘liar’ and ‘sick person’, these are derived from verbs through reduplication and perhaps this has motivated the difference in noun class. Speakers were unsure of the motivations for the other body parts, fish and marine animals not belonging to the expected noun class and this requires further investigation. For abstract nouns and nouns belonging to the semantic classes of plant parts, objects made from plant parts and geological entities, noun class is unpredictable. Furthermore, the distribution is equal across noun classes so that it is not even possible to say that a particular class contains nouns belonging to a particular semantic category but that there are a few exceptions. This is certainly an area for further investigation and the answer may well lie in examining the origin of the nouns and making cross-linguistic comparisons with related languages and languages with which Papapana speakers have been in contact.

4.4 Derived nouns

Papapana derives nouns from verbs by zero derivation (§4.4.1), reduplication (§4.4.2), and reduplication and a derivational suffix (§4.4.3.1). There is one attested noun which has been derived from another noun through reduplication (§4.4.2), while the derivational suffix, with or without reduplication, is used with kinship term nouns to derive dyadic nouns (§4.4.3.2). For nouns derived by zero derivation or reduplication from verbal roots, the prenominal collective marker vei occurs with nouns that refer to a collection of entities or to a collective action. Vei has the same form as the reciprocal/reflexive marker i in the VC and is believed to be a reflex of the POc *paRi- which Pawley (1973: 150-151) reconstructed as a collective/associative, reciprocal, and iterative marker (see §5.5.6 for further discussion).

4.4.1 Zero derivation

As in many Oceanic languages, the boundaries between word classes are not always clear-cut and in Papapana it is possible for a single root to function as either a noun or verb without any derivational morphology. If the root occurs with an article, it functions as a noun. Of course there could be an argument for precategoriality but I argue for zero derivation² for several reasons. Firstly, not all roots that function as verbs can also function as nouns, and there are very few instances in the corpus. Secondly, the roots that usually function as verbs but can also function as nouns do not correspond to a

² An alternate term for zero derivation is conversion. By using the term zero derivation I am not claiming there is a zero derivational morpheme.
particular class of verbs. Thirdly, as Table 4.8 shows, the meaning of the resulting noun and noun class assignment are varied and largely unpredictable: nouns denoting actions belong to Class I, and resultative states and entities belong to Class II but other nouns such as instruments are less easily accounted for. Zero derivation is thus not productive nor common. My argument is supported by the fact that in Oceanic languages generally (Lynch et al. 2002: 38) and in some NWS languages such as Taiof (Ross 2002b: 429) and Sisiqa (Ross 2002a: 458), abstract nouns have zero derivation.

**TABLE 4.8 DERIVED NOUNS: ZERO DERIVATION**

<table>
<thead>
<tr>
<th>Root</th>
<th>Verb</th>
<th>Noun</th>
<th>Noun Class</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>po</em></td>
<td>stay/exist</td>
<td>living</td>
<td>Class I</td>
</tr>
<tr>
<td><em>ma</em></td>
<td>chew</td>
<td>chewing</td>
<td>Class I</td>
</tr>
<tr>
<td><em>orete</em></td>
<td>walk</td>
<td>walking</td>
<td>Class I</td>
</tr>
<tr>
<td><em>usi</em></td>
<td>scrape</td>
<td>scraper</td>
<td>Class I</td>
</tr>
<tr>
<td><em>siodo</em></td>
<td>work</td>
<td>job</td>
<td>Class II</td>
</tr>
<tr>
<td><em>a’a’d’e</em></td>
<td>narrate</td>
<td>narrative</td>
<td>Class II</td>
</tr>
<tr>
<td><em>vo’o</em></td>
<td>call out</td>
<td>voice</td>
<td>Class II</td>
</tr>
<tr>
<td><em>ari</em></td>
<td>dig</td>
<td>grave/hole</td>
<td>Class II</td>
</tr>
<tr>
<td><em>matautu</em></td>
<td>fear</td>
<td>fear</td>
<td>Class II</td>
</tr>
<tr>
<td><em>nai</em></td>
<td>marry</td>
<td>marriage</td>
<td>Class II</td>
</tr>
<tr>
<td><em>aporo</em></td>
<td>cut</td>
<td>scissors</td>
<td>Class II</td>
</tr>
<tr>
<td><em>tete</em></td>
<td>enter</td>
<td>ladder</td>
<td>Class II</td>
</tr>
</tbody>
</table>

Examples (8) to (11) show a derived noun as the head of an intransitive subject NP, a transitive subject NP and as object NPs respectively.

(8) **na=orete** e=ae mata=na  
SPEC[CLI]=walk 3SG.SBJ=NEG good=3SG.IPV  
‘walking is not good’  
(2-E002)

(9) **nu=matautu** e=adu~adu=a=en a  
SPEC.CLII=fear 3SG.SBJ=RD~destroy=3SG.OBJ=3SG.IPV 3PL.PSSR=CLI RD~make  
‘fear destroys their custom’  
(2-E002)

(10) **u=to asi=a na=siodo mama**  
1SG.SBJ=to leave=3SG.OBJ SPEC[CLI]=work DEM  
‘I left this job’  
(1-T097)

(11) **Na=vanua i=ari~ari garigari=ina bau ari**  
SPEC[CLI]=people 3PL.SBJ=RD~dig always=3PL.OBJ PL dig  
‘The people always dug holes’  
(2-E007-2A)

In the case of one root, *mate* ‘to die’, the choice of specific article changes the reference of the noun, though the nouns have the same semantic domain: *na=mate* ‘dead body’, *nu=mate* ‘death’ and *nau=mate* ‘sickness’.

The collective marker *vei* may also occur between the article and the root to derive a noun with a collective reference (12)-(13).
(12) na=vei burisi
SPEC[CLI]=COLL give.birth ‘the layers (chickens)’

(13) nu=vei toko
SPEC[CLII]=COLL worship ‘congregation’

4.4.2 Reduplication

In Papapana, derivational reduplication involves either monosyllabic or disyllabic copying (see §3.4) and may derive nouns from verbs (§4.4.2.1) or adjectives from nouns or other adjectives (§4.12). There is one example of disyllabic reduplication deriving the noun putepute ‘fan’ (Class II) from another noun pute ‘wind’ (Class I).

4.4.2.1 Nominalised verbs

A noun can be derived from a verbal root through reduplication, a common process of nominalising verbs in Oceanic languages (Lynch et al. 2002: 38). The resulting nouns occur with an article, although tamutamu ‘food’ and to’oto’o ‘knife’ do not when singular. There is no grammatical, semantic or phonological motivation for which type of reduplication is employed, though monosyllabic reduplication is far more common. As Table 4.9 shows, noun class assignment is fairly predictable, with food and objects belonging in Class I and body parts in Class II, along with an instrument and resultative entity, but noun class assignment of humans is less predictable.

**TABLE 4.9 DERIVED NOUNS: REDUPLICATION**

<table>
<thead>
<tr>
<th>Verb</th>
<th>Noun</th>
<th>Noun Class</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mono-syllabic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vurau</td>
<td>run</td>
<td>vu~vurau</td>
</tr>
<tr>
<td>de</td>
<td>take</td>
<td>de~de</td>
</tr>
<tr>
<td>umunu</td>
<td>sit</td>
<td>mu~munu</td>
</tr>
<tr>
<td>averu</td>
<td>steal</td>
<td>a~averu</td>
</tr>
<tr>
<td>pita</td>
<td>step</td>
<td>pi~pita</td>
</tr>
<tr>
<td>burisi</td>
<td>give birth</td>
<td>bu~burisi</td>
</tr>
<tr>
<td>dovi</td>
<td>spit</td>
<td>do~dovi</td>
</tr>
<tr>
<td>moroko</td>
<td>lie</td>
<td>mo~moroko</td>
</tr>
<tr>
<td><strong>Dis-syllabic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tamu</td>
<td>eat</td>
<td>tamu~tamu</td>
</tr>
<tr>
<td>to’o</td>
<td>cut</td>
<td>to’o~to’o</td>
</tr>
<tr>
<td>atu</td>
<td>make</td>
<td>atu~atu</td>
</tr>
</tbody>
</table>

Examples (14) and (15) show a deverbal noun as the head of an intransitive subject NP, and object NP.

(14) na=vu~vurau e=to naomai
SPEC[CLI]=RD~run 3SG.SBJ=to come ‘the car came’

(15) i=atu=a tamu~tamu
3PL.SBJ=make=3SG.OBJ RD~eat ‘they made food’
The roots *mate* ‘to die’ and *ari* ‘to dig’ behave interestingly. As explained above, the root *mate* has different references in a NP depending on the article. When reduplicated, *mate* has a further reference of ‘sick person’ which belongs to Class II. The root *ari* occurs with an article to denote ‘grave/hole’ but when reduplicated it denotes ‘cemetery’ and belongs to Class II, which is unusual since locations usually belong to Class I. The other alternative is that the reduplication is a method of pluralisation, indicating ‘many graves’, but reduplication is not used elsewhere to mark number in Papapana (although reduplication is connected with number in confined constructions, see §4.4.3.2 and §4.7.7).

For some abstract nouns, the collective marker *vei* may also occur between the article and the root to derive a noun with a collective reference:

\[(16) \quad \text{na}=\text{vei} \quad \text{SPEC[CLI]}=\text{COLL} \quad \text{ta}=\text{tavone} \quad \text{RD}=\text{help}\]

‘helping’

\[(17) \quad \text{nu}=\text{vei} \quad \text{SPEC[CLII]}=\text{COLL} \quad \text{ngo}=\text{ngono} \quad \text{RD}=\text{listen}\]

‘listening’

(1-T093)

(1-T079)

In some cases, a verb nominalised by reduplication can be accompanied by an incorporated object noun, with a lexicalised meaning:

\[(18) \quad \text{nu}=\text{vei} \quad \text{SPEC[CLII]}=\text{COLL} \quad \text{ani}=\text{ani} \quad \text{vanua} \quad \text{RD}=\text{eat} \quad \text{people}\]

‘cannibals’

(1-T034)

\[(19) \quad \text{nu}=\text{vei} \quad \text{SPEC[CLII]}=\text{COLL} \quad \text{ago}=\text{agoto} \quad \text{si’ini} \quad \text{RD}=\text{hold} \quad \text{spear}\]

‘army’

(2-E005)

### 4.4.3 Reduplication and derivational –*na*

In Papapana, monosyllabic reduplication and the derivational suffix –*na* derive nouns from verbs (§4.4.3.1), while the derivational suffix –*na* derives minimal dyadic nouns from nouns expressing kinship, and the derivational suffix and disyllabic reduplication derive augmented dyadic nouns from nouns expressing kinship (§4.4.3.2). Disyllabic reduplication and the derivational suffix –*na* also derive the numeral *manomoana* ‘one hundred’ from the numeral *manoa* ‘ten’ (see §4.8.1) while monosyllabic reduplication and the derivational suffix –*na* derive the Absolute Location noun *mumurina* ‘future’ from the Familiar Location noun *muri* ‘behind’ (see §4.3.4). The suffix -*na* is identical in form to the 3SG direct possessor suffix -*na*, and further investigation might reveal that it is this morpheme; however, I analyse it as a derivational suffix because it has a broad derivational function and I believe it most likely reflects the POc nominalising suffix *-ŋa* (Ross 1988: 70).

#### 4.4.3.1 Nominalised verbs

Monosyllabic reduplication and the derivational suffix –*na* derive the name of a location in which the activity referred to by the verb takes place. It is unclear how productive this morphology is as the
examples, such as (20) and (21), only occurred in elicitation sessions and there were only a few instances. In Banoni (Lynch and Ross 2002: 442) and Roviana (Corston-Oliver 2002: 472), the nominalising suffix -ana and reduplication also derive locative nouns from verbs.

(20) na=si~siodo-na  
SPEC[CLI]=RD–work-DER  
‘workplace’  

(21) na=ta~tamu-na  
SPEC[CLI]=RD–eat-DER  
‘eating place/food garden’

(2-E006)

(2-E006)

A verb and its object noun may also be nominalised via reduplication and the derivational suffix:

(22) de~de matau-na  
RD–get knowledge-DER  
‘school’

(Fieldnotes)

4.4.3.2 Kinship and dyadic nouns

The derivational suffix -na derives a minimal dyadic noun from a noun expressing kinship. The minimal dyadic noun refers to two people who are on either side of the relationship in question (23)-(25). A minimal dyadic noun is always modified by the dual collective article mena (see §4.7.7). Example (25) shows that minimal dyadic nouns may also be modified by adjectives.

(23) mena tama-na  
DU.COLL father-DER  
‘father and son’ or ‘father and daughter’  

(1-T031, 1-T050)

(24) mena vavine-na  
DU.COLL sibling-DER  
‘the two sisters’

(1-T065)

(25) mena panu-na vaunu  
DU.COLL spouse-DER new  
‘the two newly weds’

(1-T019)

The derivational suffix –na in combination with disyllabic reduplication of a kinship noun derive an augmented dyadic noun that refers to three or more people who are on either side of the relationship in question (26)-(28). Augmented dyadic nouns are always modified by the plural collective article mamena (see §4.7.7). Reduplication interacts with the plural collective article and is connected with number but it does not mark number in these constructions since the kinship noun itself is not plural. Example (28) shows that augmented dyadic noun may also be modified by possessor proclitics.

(26) mamena sina~sina-na  
PL.COLL RD–mother-DER  
‘a mother and her two daughters’

(1-T007)
4.5 Compound nouns

Nouns and verbs may modify head nouns in compound noun constructions in which the head noun may or may not be marked by a construct suffix -i (29)-(31) or –ni (32)-(33). The head noun carries any articles, as in (29)-(31), while a modifying noun remains a bare noun: an article thus marks the whole construction, which is evidence for these constructions being compounds. Example (30) is the only example here where the modifying element is a verb. Example (33) shows a compound noun that is indirectly possessed and whose head noun is derived through reduplication from a verb.

(29) na=mata-i api
SPEC[CLI]=door-CONST bamboo
‘bamboo door’

(30) na=noa-i irupu
SPEC[CLI]=k.o.grouper-CONST go.inside
‘scorpionfish’

(31) bau nauno-i atovo
PL tree-CONST sago
‘sago trees’

(32) **tue-ni** Papapana
language-CONST Papapana
u=a~atu=au
‘I speak Papapana’

(33) ami=atu~atu-ni vasina
1EXCL.PSSR[CL1]=RD~make-CONST before
‘our traditional custom’

This construction is a compound because a compound is a stem which contains more than one root, with a root from an open lexical class such as a noun, a verb, or an adjective modifying a noun to form a derived meaning (Givón 2001b: 68). Compound nouns in Papapana are endocentric as they denote a subclass of items referred to by one of their elements (Bauer 1988: 35) and it is this element which is the head of the compound (Aikhenvald 2007: 30) and thus dictates the noun class of the compound noun. For instance, (29) is a type of door, not a type of bamboo, and the compound noun belongs to Class I because ‘door’ belongs to this class (whereas ‘bamboo’ belongs to Class II). The status of this construction as a compound noun is supported by morpho-syntactic evidence: normally in Papapana, possessor suffixes and the augmentative suffix directly attach to the head noun they modify, but in a compound noun, they attach to the modifying noun, so the compound noun is treated as a single stem rather than two separate stems:
(34) nu=mata- i puru- mu
SPEC.CLI=eye-CONST flower-2SG.PSSR
‘your eyelash’ (lit. ‘your eye flower’)

(35) bau vuni- i naono- eta
PL trunk-CONST tree-AUG
‘the big tree trunks’

These compound nouns seem to reflect POc inalienable and alienable non-specific possessor constructions which were expressed with the prepositions *qi and *ni respectively; these intervened between the possesseum and possessor as in (36):

(36) Inalienable *a natu qi boRok
ART child qi Pig
‘a piglet’ (lit. ‘child of pig’)

Alienable *a polo ni niuR
ART liquid ni Coconut
‘coconut water’ (lit. ‘liquid of coconut’)

(Ross 1998a: 249, after Hooper 1985, Lichtenberk 1985)

Ross (1998a: 250) states that the “majority of reflexes of *qi, and some of *ni, are phonologically bound to the preceding noun as suffixes or enclitics. Oceanic linguists label a suffix that reflects *qi or *ni a “construct suffix”’. It seems reasonable to hypothesise that in Papapana, -ni is a reflex of *ni and -i is a reflex of *qi, and that the head of the compound noun represents the possesseum while the modifying noun represents the possessor. Nevertheless, the POc inalienable/alienable distinction seems to have been lost or at least mixed up, as body parts are inalienable but occur with -ni while the nouns that occur with -i are both alienable and inalienable. It could even been that -i is a phonologically reduced form of -ni as a speaker confirmed that the following two constructions were both possible:

(37) a. nana-ni tamute
branch-CONST mango
‘mango branch’

b. nana-i tamute
branch-CONST mango
‘mango branch’

(Fieldnotes)

In Longgu (Southeast Solomonic) and Tamambo (Vanuatu), the constructional difference between the two non-specific possessor constructions has also been lost and ni is used for both in Longgu and -i for both in Tamambo (Ross 2004c: 513-514). In Western Oceanic languages, non-specific possessor constructions tend to be lost altogether and their functions are either taken over by the specific constructions or are replaced by simple juxtaposition (Ross 2004c: 514). The latter situation seems to be happening in Papapana, with a modifying nominal root directly following the head noun: examples (38)-(39) show compound nouns where -i was absent in text data but elicitation sessions revealed that the presence of -i was also acceptable and in fact deemed by speakers to be “original Papapana”. The
absence of -ni or -i renders Papapana compound nouns more similar to Teop compound nouns which consist of a head noun being modified by an immediately following nominal.

(38)  

a. nu='usia maunu 
     SPEC.CLII=child woman
     ‘girl’

b. nu='usia-i maunu 
     SPEC.CLII=child-CONST woman
     ‘girl’

(39)  

a. bau inu atovo 
     PL house sago
     ‘sago houses’

b. bau inu-i atovo 
     PL house-CONST sago
     ‘sago houses’

The nouns toi ~ tei ‘person’ and tai ‘people’ are always modified by a following noun or verb indicating the place where the person is from (40)-(41), or the thing that the person does (42). Example (41) shows that Familiar Location nouns marked by the locative case prefix i- and Absolute Location nouns expressing place and time may also occur in this construction. The alternate forms toi and tei are a reflection of the phonological variation described in §3.1.3 in which the back vowel /ɔ/ is sometimes pronounced by younger speakers as the front vowel /e/. I hypothesise that these nouns are lexicalisations of the head nouns to ‘person’ and ta ‘people’ and the construct suffix -i. These nominal roots do not exist in Papapana but I hypothesise that they once did as in the closely related Teop too denotes ‘person’ and ta denotes ‘people’.

(40) toi poana toi sikuna 
     person village person ship
     ‘villager’ ‘foreigner’

(41) toi i-ata tai Buka toi vasina 
     person LOC-above people Buka person before
     ‘person from above’ ‘Buka people’ ‘person from the past’

(42) toi bui toi siido toi ena 
     person dance person work person sing
     ‘dancer’ ‘worker’ ‘singer’

When it is a verb that modifies toi ~ tei and tai, certain verbal properties may be incorporated, such as aspect (43) and object NPs (44), but these features are not attested in other compound noun constructions.

(43) toi siodo 
     person RD-work
     ‘person who always works’
It could also be the case that the noun *moisibuava* ‘old woman’ is diachronically a compound noun that has been lexicalised as in Teop *moon* denotes ‘woman’ and in Papapana *sibuava* denotes ‘old’, but synchronically *mo* is not a nominal root in Papapana.

### 4.6 Number

Number is not marked inflectionally on nouns in Papapana, which is typical of Oceanic languages (Lynch et al. 2002: 37). Instead, nominal number is expressed through articles (§4.7), numerals (§4.8) and quantifiers (§4.10). This brief section describes three other ways in which nominal number can be expressed in Papapana: lexical plurals (§4.6.1), collective nouns (§4.6.2) and partitive nouns (§4.6.3). The latter two constructions are similar to, and may well be, compound nouns (see §4.5). There is a further number marking morpheme *nia*, which is restricted to Personal nouns, and possibly other kinship terms, and whose grammatical status is currently unclear (§4.6.4).

#### 4.6.1 Lexical plurals

In most Meso-Melanesian languages particular referents may have distinct singular and plural forms (Palmer 2012: 448). In Papapana there are only two attested lexical plurals and both occur with important human terms. In (45) *orawi* ‘man’ is not pluralised by the plural article *bau*, but by a suppletive plural form, which also denotes ‘people’. In (45) the singular and plural forms are clearly related, but the singular form is marked by the Class I article *na=*: Instead of using the plural article *bau, buri* is used. Since *buri* denotes ‘many’ and *maru* ‘women’ in Uruava (Palmer fieldnotes), it is likely that *burimaunu* is diachronically divisible in Papapana; however, synchronically it is monomorphemic and *buri* is not a productive morpheme.

(45) na=orawi ‘man’ \hspace{1cm} na=vanua ‘men’
(46) na=maunu ‘woman’ \hspace{1cm} burimaunu ‘women’

#### 4.6.2 Collective nouns

Collective nouns refer to a collection of items of the same kind. As in Teop (Mosel and Spriggs 1999a: 332), the collective noun in Papapana is the head of the NP and determines its noun class, while the noun denoting the collected item functions as a modifier, directly following the head noun. There are three collective nouns which belong to Class I and refer to groups of human referents (47), other animate referents (48) and inanimate referents (49).

(47) na=gumu ‘usia SPEC[CLI]=group.HUM child ‘group of children’

(2-E005)
4.6.3 Partitive noun

The partitive noun *pei* refers to part of an entity. Although phonologically identical to the partitive article (§4.7.6), as a partitive noun *pei* may itself be modified by articles, such as the nonspecific article (50), diminutive article (51) or plural article (52). The noun that *pei* denotes a part of follows *pei* and functions as a modifier.

50. `ta=pei tamu−tamu
NSPEC[CLI]=part RD=eat
‘a piece of food’`

51. `sa=aH pei naunu
DIM=CLII part leaf
‘a small piece of leaf’`

52. `bau pei naono−ota
PL part tree−AUG
‘big tree parts’`

4.6.4 *nia*

The independent morpheme *nia* pluralises Personal nouns. Like the plural articles *bau* and *ani*, it precedes the head noun but it differs because it can co-occur with the Personal article *e*-. Like quantifiers, *nia* precedes possessor proclitics and articles; however, *nia* differs from quantifiers as it cannot function alone in a NP when the head noun is elided.

In (53) *nia* marks the Personal proper name as plural, thus denoting the family rather than an individual, while in (54) *nia* marks the directly possessed Personal kinship term as referring to more than one person, as the 3PL subject-indexing in the VC confirms.

53. `nu=kakau u=to de=a te nia Anita
SPEC.CLII=dog 1SG=to get=3SG.OBJ OBL nia Anita
‘I got the dog from the Anitas’`

54. `nia e=sina−u i=nao te=na bisiu
nia PERS-aunt-1SG.PSSR 3PL.SBJ=go OBL=SPEC[CLI] banana.garden
‘my aunts went to the banana garden’`

In (55) *nia* conjoins nouns, while the nouns are additionally conjoined by a conjunction in (56) and a 3DU independent pronoun in (57).
There is one example that shows nia modifying an indirectly possessed Class I noun maunu ‘wife’; the number of the possessum is marked by nia instead of the possessor proclitic cliticising to the plural article bau. Further investigation is needed to determine whether all nouns denoting kinship can be modified by nia.

(58) nia ena=maunu i=pei ae varona=ina=i
nia 3SG.PSSR=wife 3PL.SBJ=PST.IPfv NEG know=3PL.IPfv=IRR
‘his wives didn’t know’

(1-T044)

The status of nia is unclear as its distribution differs from articles and quantifiers. One possibility is that nia derives from a 3PL pronoun and that the following NPs are complements of this pronoun. Some Meso-Melanesian languages without overt plural markers pluralise NPs periphrastically in this way, giving the pronoun the appearance of a plural article, especially in languages where this plural pronoun does not occur with an article (Palmer 2012: 449). Example (59) from Kubokota (which does mark the complement NP with an article) demonstrates the use of a pronominal head to mark plurality.

Kubokota

(59) ria na tinoni paleka=di
3PL DET people wound=3PL.POS
‘the wounded people’

(Chambers 2009: 62)

The similarity between Kubokota ria and Papapana nia is enticing especially as /r/ and /n/ are sound correspondences that are reflexes of POc *r (Ross 1988: 220); however, although /ria/ is a reflex of the Proto-Western Oceanic (PWO) 3PL pronoun *idri[a] (Ross 1988: 385), the suggestion that nia is related is tentative at this stage.

4.7 Articles

The term article is “often restricted to words that vary for definiteness or specificity [however] the term is naturally applied to words in some languages which are obligatory in noun phrases and which

3 Chambers’ abbreviations in interlinear glosses follow the Leipzig glossing rules except POS ‘possessive pronoun’.
code grammatical features of the noun phrase other than definiteness [such as number, case and gender]” (Dryer 2007b: 157). In Papapana, articles can code specificity and nonspecificity, noun class, number, and semantic features such as diminutive and partitive categories (see Table 4.10). Articles occur in a pre-head position which is typical of articles in Oceanic and NWS languages (Lynch et al. 2002: 38). The articles are in complimentary distribution with each other and all occur in exactly the same position in the NP but the structural relationship between the article and the noun is not entirely clear and further investigation is required to establish whether the articles are all in the same syntactic position.

**TABLE 4.10 ARTICLES**

<table>
<thead>
<tr>
<th>Type</th>
<th>Article</th>
<th>Noun Class</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific</td>
<td>e-</td>
<td>Personal</td>
<td>Singular</td>
</tr>
<tr>
<td></td>
<td>na=</td>
<td>Class I</td>
<td>Singular</td>
</tr>
<tr>
<td></td>
<td>nau ~ nu=</td>
<td>Class II</td>
<td>Singular</td>
</tr>
<tr>
<td>Plural</td>
<td>bau</td>
<td>Personal</td>
<td>Plural</td>
</tr>
<tr>
<td>Non-specific</td>
<td>ta=</td>
<td>Class I</td>
<td>Singular</td>
</tr>
<tr>
<td></td>
<td>tau</td>
<td>Class II</td>
<td>Singular</td>
</tr>
<tr>
<td>Diminutive</td>
<td>si</td>
<td>Class I</td>
<td>Singular</td>
</tr>
<tr>
<td></td>
<td>sau ~ su</td>
<td>Class II</td>
<td>Singular</td>
</tr>
<tr>
<td></td>
<td>ani</td>
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<td>Plural</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class I</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class II</td>
<td></td>
</tr>
<tr>
<td>Partitive</td>
<td>pei</td>
<td>All</td>
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</tr>
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<td>Collective</td>
<td>mena</td>
<td>All</td>
<td>Dual</td>
</tr>
<tr>
<td></td>
<td>mamena</td>
<td>All</td>
<td>Plural</td>
</tr>
</tbody>
</table>

**4.7.1 Specific articles: e-, na=, nau ~ nu=**

The most prevalent articles in Papapana are the specific articles: Personal noun class e-, Class I na= and Class II nau ~ nu=. The article nau can be analysed as consisting of the specific article na= and the Class II marker au; the absence of this marker indicates Class I. Evidence for this analysis comes from NPs in which there is a numeral modifier or possessor proclitic (see §4.8.2 and §4.9.2). These articles appear to be reflexes of the POc personal determiner *e and the POc common nonhuman determiner *na, listed in Lynch (2002: 224).

Singular Personal kinship term nouns in Papapana occur with the prefixed article e- and are always directly possessed, as in (60) to (62). Consequently, they always refer to a particular referent and are thus specific. The possessor suffixes have a deictic value, corresponding to an identifiable person. Since nouns that are grammatically possessed by identifiable nouns are also identifiable (Payne 1997: 264), Personal kinship term nouns are thus always definite. It is not possible for these nouns to be generic or indefinite.
The personal article is cognate with the personal article in other NWS languages such as Taiof (Ross 2002b: 429), Teop (Mosel and Spriggs 1999a, Mosel and Thiesen 2007) and Kubokota (Chambers 2009: 89-90), though in Teop and Kubokota at least the personal article can occur with personal names, whereas in Papapana the Personal article does not occur with Personal proper name nouns.

(60) e-sina-na
PERS-mother-3SG.PSSR
‘his/her mother’

(e.g. 1-T003)

(61) e-tama-u
PERS-father-1SG.PSSR
‘my father’

(e.g. 1-T023)

(62) e-tubu-ina
PERS-grandparent-3PL.PSSR
‘their grandparent’

(1-T073)

Singular nouns belonging to Class I in Papapana occur with the specific article proclitic na=. The following examples show that this article definitely makes a distinction in specificity rather than definiteness: in (63)a the referent iana ‘fish’ is introduced to the discourse for the first time and is indefinite, while in (63)b iana ‘fish’ is definite because it is accessible to the hearer having been previously mentioned in the discourse in (63)a. In both these examples the referent iana ‘fish’ is specific because it is a particular referent.

(63) a. Peter e=rorosi=a na=iana-eta…
      Peter 3SG.SBJ=see=3SG.OBJ SPEC[CLI]=fish-AUG

b. e=to atutusi=a nao na=iana.
   3SG.SBJ=to chase=3SG.OBJ thither SPEC[CLI]=fish
   ‘Peter saw a big fish… he chased the fish.’

(1-T016)

Singular nouns belonging to Class II noun class in Papapana occur with the specific article nau or the phonologically reduced form nu=. The following examples show that this article definitely makes a distinction in specificity rather than definiteness: in (64)a the referent tura ‘fire’ is introduced to the discourse for the first time and is indefinite, whereas in (64)b tura ‘fire’ is definite because it is accessible to the hearer having been previously mentioned in the discourse in (64)a. In both these examples the referent tura ‘fire’ is specific because it is a particular referent.

(64) a. Iara mi=atu=a=i=ma nu=tura…
      then 1EXCL.SBJ=make=3SG.OBJ=IRR=ma4 SPEC.CLI=fire

b. mi=va-udu-i=a=i=ma nu=tura.
   1EXCL.SBJ=CAUS-be.alight=TR=3SG.OBJ=IRR=ma SPEC.CLI=fire
   ‘Then we make a fire… we light the fire.’

(1-T038)

4 =ma attaches to all word classes and may be a discourse marker but this requires further investigation.
The phonologically reduced form \(\text{n}u=\) is actually more pervasive than \(\text{n}au\); however, in oblique expressions, it is \(\text{n}au\) which occurs with the preposition \(\text{te}\) to give \(\text{tenau}\) (c.f. \(\ast\text{tenu}\)). Class II nouns either occur with \(\text{n}au\) or \(\text{n}u=\); a noun cannot occur with both. The selection of \(\text{n}au\) or \(\text{n}u=\) does not alter meaning and there is no discernible phonological or semantic motivation, thus assignment is rather unpredictable. Three of the twenty-three bird names elicited during my fieldwork occurred with \(\text{n}au\) (\(\text{p}u\text{pu}\) ‘hornbill’, \(\text{s}i\text{s}i\) ‘lorikeet’, and ‘\(\text{o}\) heron’), one of the twenty-one shell names occurred with \(\text{n}au\) (\(\text{u}\text{s}i\) ‘shell species’), while five of the forty-five plant names (whose English translations are unknown) occurred with \(\text{n}au\) (\(\text{m}a\text{go}\), \(\text{p}i\text{p}i\), \(\text{t}o\text{m}o\), \(\text{v}o\text{u}\), \(\text{t}a\text{b}u\)). Other Class II nouns which occur with the article \(\text{n}au\) are \(\text{n}a\text{r}e\) ‘coral’, \(\text{v}a\text{n}i\) ‘stingray’, \(\text{g}o\text{r}i\) ‘jellyfish’, \(\text{w}a\text{tu}\) ‘smoke’ and \(\text{n}ai\) ‘marriage’.

In terms of the status of the articles \(na=\) and \(\text{n}u=\) as proclitics, evidence comes from the formation of long vowels or diphthongs when morphological concatenation brings together and makes adjacent two identical or non-identical vowels respectively, as in (65).

(65) a. /\text{n}a\text{mu}/ \text{na}=\text{ini} \quad \text{SPEC}[\text{CLI}]=\text{house}
b. /\text{n}a\text{rawi}/ \text{na}=\text{ori} \quad \text{SPEC}[\text{CLI}]=\text{man}
c. /\text{nuurisi}/ \text{nu}=\text{uri} \quad \text{SPEC}.\text{CLI}I=\text{rope}

In obliques with the preposition \(\text{te}\), \(na=\) and \(\text{n}au\) actually form a phonological word with \(\text{te}\) (see §6.2.5) calling into question their status as clitics or free forms. The preposition \(\text{te}\) itself is not a clitic because it does not form a phonological word with any other prenominal modifiers. The personal nonspecific article \(e-\) does not encliticise to \(\text{te}\), and it is analysed as a prefix because it participates in stress assignment, whereas the other articles do not (see §3.5.3).

### 4.7.2 Inverse number marking and the plural article \(\text{bau}\)

In Papapana the noun class system interacts with number in a remarkable way involving inverse number marking whereby “the marking of singular number in one noun could be by the same formal means as are used for marking plural in another” (Corbett 2000: 159). This typologically rare phenomenon is found in other NWS languages such as Nehan (Baerman 2007, Corbett 2000: 163-65, Ross 1988: 252, 299, 301) and Teop Corbett 2000: 163-65, Mosel and Spriggs 1999a, Mosel and Thiesen 2007). In Papapana the specific article \(\text{n}a=\) marks singular nouns when it occurs with Class I nouns, but plural when it occurs with Class II nouns, while the specific article \(\text{n}au \sim \text{n}u=\) marks singular Class II nouns but plural Class I nouns:

(66) \(\text{na}=\text{epu}\) \hfill \(\text{na}=\text{au}\) \\
\(\text{SPEC}[\text{CLI}]=\text{cloud}\) \hfill \(\text{SPEC}=\text{CLI}\) \text{II}=\text{cloud}\) \\
‘a cloud’ \hfill ‘clouds’

(67) \(\text{nu}=\text{boro}\) \hfill \(\text{na}=\text{boro}\) \\
\(\text{SPEC}.\text{CLI}I=\text{pig}\) \hfill \(\text{SPEC}[\text{CLI}]=\text{pig}\) \\
‘a pig’ \hfill ‘pigs’
It is also common to mark plurality for nouns belonging to all noun classes with the plural article bau, an independent morpheme that precedes the head noun. Although bau does not mark noun class, I analyse it as an article as it occupies the same position in the NP as other articles and is mutually exclusive with other articles. It is feasible that bau derives from a quantifier as in the closely related NWS language Torau there is a quantifier that is similar in phonological form, beau ‘many’ (Palmer fieldnotes).

In Papapana bau seems to be replacing the inverse number marking system. Inverse number marking does not exist at all for Personal nouns which always employ bau (68); this is contrary to Teop where the I-E class nouns behave like I-A class nouns, adopting the class II singular article o to mark plurality (Mosel and Spriggs 1999a, Mosel and Thiesen 2007).

(68)  

<table>
<thead>
<tr>
<th>e-sina-ina</th>
<th>bau sina-ina</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERS-mother-3PL.PSSR</td>
<td>PL mother-3PL.PSSR</td>
</tr>
<tr>
<td>‘their mother’</td>
<td>‘their mothers’</td>
</tr>
</tbody>
</table>

In Papapana, inverse number marking is almost obsolete for Class I nouns which are marked by bau the large majority of the time. Some speakers accepted inverse number marking for some nouns, but not for others such as inu ‘house’ (69), while other speakers never accepted inverse number marking.

(69)  

<table>
<thead>
<tr>
<th>a. mi=atu=a</th>
<th>na=INU</th>
</tr>
</thead>
<tbody>
<tr>
<td>1EXCL.SBJ=make=3SG.OBJ</td>
<td>SPEC[CLI]=house</td>
</tr>
<tr>
<td>‘we made a house’</td>
<td></td>
</tr>
<tr>
<td>b. mi=atu=ina</td>
<td>bau inu</td>
</tr>
<tr>
<td>1EXCL.SBJ=make=3PL.OBJ</td>
<td>PL house</td>
</tr>
<tr>
<td>‘we made houses’</td>
<td></td>
</tr>
<tr>
<td>c. mi=atu=ina</td>
<td>*nu=INU</td>
</tr>
<tr>
<td>1EXCL.SBJ=make=3PL.OBJ</td>
<td>SPEC.CLII=house</td>
</tr>
<tr>
<td>‘we made houses’</td>
<td></td>
</tr>
</tbody>
</table>

(2-E003)

For Class II nouns, inverse number marking and the plural article bau are both common, with no difference in the meaning between the two, as in (70).

(70)  

<table>
<thead>
<tr>
<th>nu=patu-na</th>
<th>na=patu-ina</th>
<th>bau patu-ina</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPEC.CLII=HEAD-3SG.PSSR</td>
<td>SPEC[CLI]=head-3PL.PSSR</td>
<td>PL head-3PL.PSSR</td>
</tr>
<tr>
<td>‘his/her head’</td>
<td>‘their heads’</td>
<td>‘their heads’</td>
</tr>
</tbody>
</table>

(2-E003)

The inverse number marking system poses an interesting dilemma for nouns denoting fruit/nuts (Class I) and plants (Class II), and it is here that the plural article bau proves useful. For nouns denoting fruit/nuts and therefore occurring with na= when singular, the plural article bau is used as in (71). For nouns denoting the tree and therefore occurring with nau ~ nu= when singular, inverse number marking can only occur when the plant has no fruit/nuts: when it does have fruit/nuts, the name of the tree occurs as a nominal modifier in a compound noun (see §4.5) as in (72). This differs from other
NWS languages such as Nehan in which singular and plural fruits occur with the article \textit{a} and singular and plural trees occur with the article \textit{o} (John Olstad pers. comm.).

(71) \begin{align*}
\text{\textit{na}=bareo} & \quad \text{\textit{bau} bareo} \\
\text{SPEC[CLI]=breadfruit} & \quad \text{PL breadfruit} \\
‘a/the breadfruit’ & \quad ‘the breadfruit’
\end{align*} \\
(2-E003)

\begin{align*}
\text{\textit{nu}=bareo} & \quad \text{\textit{bau} naono-i bareo} \\
\text{SPEC.CLII=breadfruit} & \quad \text{PL tree-CONST breadfruit} \\
‘the breadfruit tree’ & \quad ‘the breadfruit trees’
\end{align*} \\
(2-E003)

4.7.3 Nonspecific articles: \textit{ta=}, \textit{tau}

The nonspecific articles, \textit{ta=} for Class I nouns (73) and \textit{tau} for Class II nouns (74), occur very infrequently. The article \textit{tau} can be analysed as consisting of the nonspecific article \textit{ta=} and the Class II marker \textit{au}; the absence of this marker indicates Class I. Since Personal nouns are always possessed they are always specific and therefore they do not occur with the nonspecific articles. These articles are reflexes of the POc indefinite determiner *\textit{ta}, which marked common nonhuman nouns (Lynch 2001: 224, Lynch et al. 2002: 71), and are cognate with \textit{ta} and \textit{to} in Teop (Mosel and Spriggs 1999a: 324-325) and \textit{ta} and \textit{tu} in Taiof (Ross 2002b: 429).

(73) \begin{align*}
\text{\textit{ta}=maunu} & \quad \text{o=to muni=u=mu?} \\
\text{NSPEC[CLI]=woman} & \quad \text{2SG.SBJ=to hide=3SG.OBJ=2SG.IPFV} \\
‘are you hiding a woman?’ & 
\end{align*} \\
(1-T029)

(74) \begin{align*}
\text{\textit{si}=atu=a=i} & \quad \text{\textit{ta}=au} \quad \text{obutu-eta} \\
\text{1INCL.SBJ=make=3SG.OBJ=IRR} & \quad \text{NSPEC=CLII canoe-AUG} \\
‘let’s make a big canoe’ & 
\end{align*} \\
(1-T101)

These nonspecific articles are interchangeable with the specific articles as (75)a and (75)c show. In languages such as Tolai, the nonspecific article \textit{ta} is only used when the referent is mentioned for the first time, while the definite article \textit{a} is used at subsequent mentions (Mosel 1984: 17-18): this could arguably also be the case in (75).

(75)a. “Ani \textit{ta=kari}?”
\begin{align*}
\text{2SG} & \quad \text{NSPEC[CLI]=kina.shell} \\
‘Do you have a kina shell?’ & 
\end{align*}

b. “Aruai”
\begin{align*}
\text{no} & \quad \text{‘No’} \\
\end{align*}

c. \text{nu=’usia mama i=to nasi=a, ‘ani \textit{na=kari}?’}. \\
\begin{align*}
\text{SPEC.CLII=child DEM} & \quad \text{3PL=to ask=3SG.OBJ} \quad \text{2SG SPEC[CLI]=kina.shell} \\
‘They asked this child, “do you have a kina shell?”’ & 
\end{align*}
d. “Aepasi na=kari iai”
   yes SPEC{CLI}=kina.shell DEM
   “Yes this is a kina shell”

(1-T022)

In terms of the status of ta= as a proclitic, evidence comes from (76) in which a diphthong is formed due to morphological concatenation bringing together and making adjacent two identical vowels.

(76) /tamueta/
ta=imu-eta
NSPEC{CLI}=house-AUG
‘a big house’

(2-E008)

4.7.4 Diminutive articles: si, sau ~ su

In Papapana there is a set of diminutive articles expressing ‘small’, or ‘dear’ or ‘poor’ in the sense of endearment or sympathy: it is common for the diminutive category to have semantic extensions into the semantic realm of affection and endearment (Dahl 2006). Sometimes other constituents in the clause provide the meaning ‘small’, but usually such constituents are absent and therefore the meaning ‘small’ or ‘poor’ must come from the article itself. Without any evidence to the contrary, I analyse these articles as independent but further investigation could reveal they are clitics like the specific and nonspecific articles. Singular nouns belonging to Class I noun class occur with si (77), while singular Class II nouns occur with sau ~ su (78). Personal nouns also occur with sau (79). The Class II diminutive articles resemble the Class II specific articles so sau can be analysed as consisting of the diminutive article sa and the Class II marker au; however, the Class I diminutive article is not sa but si. There may have been a sound change from /a/ to /i/, perhaps under the influence of Teop which has a diminutive particle si which can occur with articles (Mosel and Thiesen 2007). It is also possible that si in Papapana has the same origins as si in Teop or that it is a borrowing, and that this diminutive particle was then expanded into an article system in Papapana which was marked for noun class, with the Class II article mirroring the specific and nonspecific article pattern.

(77) si daramu
   DIM.CLI river
   ‘stream’

(1-T012)

(78) sa=au marei
   DIM=CLII bird
   ‘small bird’

(2-E023)

(79) sa=au tubu-u
   DIM=CLII grandparent-1SG.PSSR
   ‘my dear grandmother’

(1-T088)

Nouns that have the same phonological form, but a different, though related, meaning can belong to different noun classes and the diminutive articles are applied accordingly: compare (77) and (80) where ‘river’ is Class I but ‘water’ is Class II.
The phonologically reduced form *su* is restricted to the noun ‘usia ‘child’. Although Class II nouns cannot occur with both of the specific articles nau and nu=, ‘usia’ can occur with both sau and su. Some speakers reported no semantic or pragmatic difference between the two and indeed in translations of texts there often is not, as shown in (81) and (82). Other speakers indicated that sau ‘usia’ denoted ‘poor child’ while su ‘usia’ denoted ‘poor boy’ as in (83).

Class I nouns can occur with both si and sau. Speakers were sometimes unsure of the difference, for example with vesunu ‘star’, but for other Class I nouns a switch from si to sau marked a switch from proximal to distal (84)-(85). For Class II nouns, sau marks proximal (86) but further investigation is required to confirm whether a switch to si marks distal.

This is incredibly interesting as it mirrors the inverse-number marking system, but instead of the articles marking number, they mark distance (as well as having a diminutive function). Consequently the marking of proximal in one noun is by the same formal means as the marking of distal in another. This phenomenon is even more fascinating when one considers that POc had three demonstrative/spatial deictics: *el*/*ne* ‘near speaker’, *al*/*na* ‘near addressee’ and *ol*/*no* ‘distant from both speaker and addressee’ (Ross 1988: 100). Mosel and Spriggs (1999a: 342) assume that Teop articles developed from these demonstratives and argue that this hypothesis finds some support in the
semantic rules of noun class assignment. I do not think the semantic rules of noun class assignment in Papapana reflect the deictic categories of proximity and distance, but I do think there is evidence to suggest that Papapana specific articles developed from these demonstratives (see §4.12.1). These deictic features have then been extended from the specific articles to the diminutive articles.

4.7.5 Diminutive plural article \textit{ani}

While \textit{si} and \textit{sau} \textasciitilde \textit{su} mark a singular noun, \textit{ani} is the diminutive plural article. Like \textit{bau} it is an independent morpheme that precedes the head noun, it occupies the same position in the NP as articles and is mutually exclusive with articles, but it does not distinguish noun class:

\begin{equation}
\text{(87)} \quad \text{mama} \text{ ani} \text{ tatopu} \\
\text{DEM} \text{ DIM.PL} \text{ hole} \\
\text{‘these small holes’} \quad (1\text{-T058})
\end{equation}

\begin{equation}
\text{(88)} \quad \text{ani} \quad \text{‘usia} \\
\text{DIM.PL} \quad \text{child} \\
\text{‘some small children’} \quad (1\text{-T058})
\end{equation}

\begin{equation}
\text{(89)} \quad \text{ani} \quad \text{arao} \\
\text{DIM.PL} \quad \text{brother} \\
\text{‘little brothers’} \quad (2\text{-E011})
\end{equation}

4.7.6 Partitive article \textit{pei}

The partitive article \textit{pei} in Papapana refers to part of an entity and denotes ‘piece of’. It does not distinguish noun class, as is also the case with the partitive article in Teop (Mosel and Spriggs 1999a: 325); however the attested examples (90)-(93) are all Class II nouns and further investigation is required to determine whether \textit{pei} is restricted to Class II nouns or not. The partitive article \textit{pei} is independent and precedes the head noun. Although phonologically identical to the partitive noun (§4.6.3), the partitive article does not co-occur with other articles like the partitive noun does, and it behaves like other articles because adjectives may be marked by \textit{pei} to agree with the head noun they modify, as in (93).

\begin{equation}
\text{(90)} \quad \text{pei} \quad \text{tovu} \\
\text{PART} \quad \text{sugarcane} \\
\text{‘piece of sugarcane’} \quad (1\text{-T029})
\end{equation}

\begin{equation}
\text{(91)} \quad \text{pei} \quad \text{daramu} \\
\text{PART} \quad \text{water} \\
\text{‘a bit of water’} \quad (2\text{-E006})
\end{equation}

\begin{equation}
\text{(92)} \quad \text{pei} \quad \text{naunu} \\
\text{PART} \quad \text{leaf} \\
\text{‘bit of leaf’} \quad (1\text{-T022})
\end{equation}

\begin{equation}
\text{(93)} \quad \text{pei} \quad \text{arava} \quad \text{pei} \quad \text{maro} \\
\text{PART} \quad \text{dry} \quad \text{PART} \quad \text{sarong} \\
\text{‘old sarong’} \quad (2\text{-E004})
\end{equation}
4.7.7  Dual and plural collective articles *mena* and *mamena*

The dual and plural collective articles are independent, occur in the same pre-head position in the NP as other articles and are mutually exclusive with other articles, but they do not mark noun class. They most commonly modify derived dyadic nouns; *mena* modifies a minimal dyadic noun which refers to two people, while *mamena* modifies augmented dyadic nouns which refer to at least three people (see §4.4.3.2). The collective articles can however modify other nouns; *mena* marks dual number as in (94) while *mamena* marks plural number as in (95)-(98). I label them *collective* because they refer to pairs or groups. It is unclear why the noun is reduplicated in (95) and (96) but in any case reduplication is again interacting with the plural collective article (as with augmented dyadic nouns) and is thus connected with number but is not the sole expression of number.

(94)  mena       atamata
      DU.COLL    friend
‘the two friends’ (1-T064)

(95)  mamena    natu~natu
       PL.COLL   RD~clan
‘all the clans’ (1-T072)

(96)  mamena    boni~boni
       PL.COLL   RD~day
‘every day’ (1-T026)

(97)  mamena    gono
       PL.COLL   banana
‘all the bananas’ (1-T066)

(98)  mamena    vutunu
       PL.COLL   bow
‘all the bows’ (1-T101)

4.8  Numerals

Although Tok Pisin cardinal and ordinal numerals are frequently borrowed, Papapana does have its own counting system (§4.8.1). Cardinal numerals may modify nouns (§4.8.2), as can ordinal numerals (§4.8.3). Numerals modifiers occur in one of two fixed positions in the NP, either prenominally or postnominally. In Meso-Melanesian languages, numerals typically follow the head noun (Ross 1988: 358), but there are NWS languages, such as Sisiqa (Ross 2002a) and Roviana (Corston-Oliver 2002) in which numerals are prenominal. Numerals can also occur alone in a NP when the head noun is elided (§4.8.4). The numeral *aruai* ‘zero’ also functions as a negative marker and as a negative existential verb (see §6.7), while *nanamoa* ‘first’ may function as a verb (see §5.2.1), but the question of whether these forms are underlying numerals, verbs or otherwise requires further investigation.

4.8.1  Counting system

Table 4.11 shows the numerals used in counting. Papapana has unique lexical items for ‘zero’ to ‘five’, and compounds that are formed additively for ‘six’ to ‘nine’. Any numerals involving these
The word *toatoa* ‘on top of’ in the compounds is optional and only two speakers out of nine used it in elicitation and it is attested only once in the text recordings when the numeral is a modifier (see (101) in §4.8.2). There is a unique lexical item for ‘ten’ and subsequent decades are formed multiplicatively. ‘One thousand’ is derived from ‘ten’ by disyllabic reduplication and the derivational suffix -na, and thousands are formed multiplicatively. Interestingly, ‘one hundred’ is formed by multiplying fifties, therefore counting between ‘one hundred’ and ‘one thousand’ involves counting in fifties, with the decades in between fifties being formed additively with the coordinator *taa* = *tau* ‘and’. When numerals are formed multiplicatively, the multiplying numeral occurs in its numeral modifier form; for example, instead of *nuata manoa* ‘two tens’, it is *nuau manoa* ‘two tens’. According to Lynch et al. (2002: 39), such a counting system is a “combination of quinary and decimal, with 6-9 being compound nouns involving the form for 5, along with a separate lexical item for 10, but not separate stems for 100 and 1000”. POc had a decimal number system (Ross 1988: 183), with numerals from one to ten, and many NWS languages such as Sisiqa (Ross 2002a: 459) and Taiof (Ross 2002b: 429) use decimal systems, so Papapana is slightly unusual in its counting system, with the formation of hundreds being a particularly interesting feature. Since the neighbouring Papuan language Rotokas uses a quinary system (Robinson 2011: 125) the combination of decimal and quinary systems in Papapana may be the result of language contact (see §9 for more on language contact phenomenon in Papapana).

In terms of the forms themselves, it appears that *na’aria* ‘one’, *nuata* ‘two’ and *numanoa* ‘ten’ employ the Class I specific article *na* = and the Class II specific article *nu* =. Ross (1988: 313) proposes a Proto-New Ireland NP structure in which the numeral was the head of the phrase and the enumerated noun was the grammatical possessor, which implies that numerals could be treated as nouns of quantity, and indeed in NWS languages such as Taiof, numerals are nouns and they are preceded by the Class I article *a* (Ross 2002b: 429). In light of this, one could suggest that Papapana numerals are nouns belonging to Class I and exhibit inverse number marking, taking the Class I specific article *na* = when singular, but the Class II specific article *nu* = when plural. Evidence against this noun class membership comes from the numerals formed multiplicatively (i.e. two tens, six tens, seven tens, two fifties, two thousands). If numerals were nouns belonging to the Class I class, they would employ the unmarked cardinal numeral modifiers, *na’aria* ‘one’ and *nu* ‘two’ (see 4.8.2), not the cardinal numeral modifiers marked for Class II, *nu’aria* ‘one’ and *nuau* ‘two’. The other alternative is that the assignment of the singular number to Class I and plural numbers to Class II reflects Ross’ (1988: 252, 299-301) proposal that noun class assignment in NWS is based on a distinction between individual and mass nouns. It is unclear why the other unique lexical items do not display articles, unless *tautono* ‘three’ and *tauvasi* ‘four’ involve the Class II nonspecific article *tau* and *pepeitaunima* ‘five’ involves

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5 Papapana *nua* ‘two’ appears to be a reflex of POc *rua*, as Papapana underwent a sound change from POc *r > n* (Ross 1988: 220).
the partitive article pei. It seems more likely that tau is a reflex of the POc counting prefix *ka- (Lynch et al. 2002: 89) and that pepeitaunima can be analysed as pepe ‘side’, tau ‘and’ (or perhaps the Class II nonspecific article), and nima ‘hand’: in many languages, the word for ‘five’ is the same or etymologically related to the word for ‘hand’ (Payne 1997: 66). Interestingly, the lexeme manoa also denotes ‘neck’, which is a Class II noun.

**TABLE 4.11 COUNTING SYSTEM**

<table>
<thead>
<tr>
<th>Papapana</th>
<th>Literal translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>aruai</td>
</tr>
<tr>
<td>1</td>
<td>na’a’aria</td>
</tr>
<tr>
<td>2</td>
<td>nuata</td>
</tr>
<tr>
<td>3</td>
<td>tautono⁶</td>
</tr>
<tr>
<td>4</td>
<td>tauvasi</td>
</tr>
<tr>
<td>5</td>
<td>pepeitaunima</td>
</tr>
<tr>
<td>6</td>
<td>pepeitaunima na’a’aria [toatoa]</td>
</tr>
<tr>
<td>7</td>
<td>pepeitaunima nuata [toatoa]</td>
</tr>
<tr>
<td>8</td>
<td>pepeitaunima tautono [toatoa]</td>
</tr>
<tr>
<td>9</td>
<td>pepeitaunima tauvasi [toatoa]</td>
</tr>
<tr>
<td>10</td>
<td>numanoa</td>
</tr>
<tr>
<td>11</td>
<td>numanoa na’a’aria [toatoa]</td>
</tr>
<tr>
<td>12</td>
<td>numanoa nuata [toatoa]</td>
</tr>
<tr>
<td>13</td>
<td>numanoa tautono [toatoa]</td>
</tr>
<tr>
<td>14</td>
<td>numanoa tauvasi [toatoa]</td>
</tr>
<tr>
<td>15</td>
<td>numanoa pepeitaunima [toatoa]</td>
</tr>
<tr>
<td>16</td>
<td>numanoa pepeitaunima na’a’aria [toatoa]</td>
</tr>
<tr>
<td>17</td>
<td>numanoa pepeitaunima nuata [toatoa]</td>
</tr>
<tr>
<td>18</td>
<td>numanoa pepeitaunima tautono [toatoa]</td>
</tr>
<tr>
<td>19</td>
<td>numanoa pepeitaunima tauvasi [toatoa]</td>
</tr>
<tr>
<td>20</td>
<td>nuau manoa</td>
</tr>
<tr>
<td>21</td>
<td>nuau manoa na’a’aria [toatoa]</td>
</tr>
<tr>
<td>30</td>
<td>tauoi manoa</td>
</tr>
<tr>
<td>40</td>
<td>tauvasi manoa</td>
</tr>
<tr>
<td>50</td>
<td>pepeitaunima manoa</td>
</tr>
<tr>
<td>60</td>
<td>pepeitaunima nu’aria manoa</td>
</tr>
<tr>
<td>70</td>
<td>pepeitaunima nuau manoa</td>
</tr>
<tr>
<td>80</td>
<td>pepeitaunima tauoi manoa</td>
</tr>
<tr>
<td>90</td>
<td>pepeitaunima tauvasi manoa</td>
</tr>
<tr>
<td>100</td>
<td>nuau pepeitaunima manoa</td>
</tr>
<tr>
<td>110</td>
<td>nuau pepeitaunima manoa ta numanoa</td>
</tr>
<tr>
<td>150</td>
<td>tauoi pepeitaunima manoa</td>
</tr>
<tr>
<td>1000</td>
<td>manomanoana</td>
</tr>
<tr>
<td>2000</td>
<td>nuau manomanoana</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Papapana</th>
<th>Literal translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>aruai</td>
</tr>
<tr>
<td>1</td>
<td>na’a’aria</td>
</tr>
<tr>
<td>2</td>
<td>nuata</td>
</tr>
<tr>
<td>3</td>
<td>tautono⁶</td>
</tr>
<tr>
<td>4</td>
<td>tauvasi</td>
</tr>
<tr>
<td>5</td>
<td>pepeitaunima</td>
</tr>
<tr>
<td>6</td>
<td>pepeitaunima na’a’aria [toatoa]</td>
</tr>
<tr>
<td>7</td>
<td>pepeitaunima nuata [toatoa]</td>
</tr>
<tr>
<td>8</td>
<td>pepeitaunima tautono [toatoa]</td>
</tr>
<tr>
<td>9</td>
<td>pepeitaunima tauvasi [toatoa]</td>
</tr>
<tr>
<td>10</td>
<td>numanoa</td>
</tr>
<tr>
<td>11</td>
<td>numanoa na’a’aria [toatoa]</td>
</tr>
<tr>
<td>12</td>
<td>numanoa nuata [toatoa]</td>
</tr>
<tr>
<td>13</td>
<td>numanoa tautono [toatoa]</td>
</tr>
<tr>
<td>14</td>
<td>numanoa tauvasi [toatoa]</td>
</tr>
<tr>
<td>15</td>
<td>numanoa pepeitaunima [toatoa]</td>
</tr>
<tr>
<td>16</td>
<td>numanoa pepeitaunima na’a’aria [toatoa]</td>
</tr>
<tr>
<td>17</td>
<td>numanoa pepeitaunima nuata [toatoa]</td>
</tr>
<tr>
<td>18</td>
<td>numanoa pepeitaunima tautono [toatoa]</td>
</tr>
<tr>
<td>19</td>
<td>numanoa pepeitaunima tauvasi [toatoa]</td>
</tr>
<tr>
<td>20</td>
<td>nuau manoa</td>
</tr>
<tr>
<td>21</td>
<td>nuau manoa na’a’aria [toatoa]</td>
</tr>
<tr>
<td>30</td>
<td>tauoi manoa</td>
</tr>
<tr>
<td>40</td>
<td>tauvasi manoa</td>
</tr>
<tr>
<td>50</td>
<td>pepeitaunima manoa</td>
</tr>
<tr>
<td>60</td>
<td>pepeitaunima nu’aria manoa</td>
</tr>
<tr>
<td>70</td>
<td>pepeitaunima nuau manoa</td>
</tr>
<tr>
<td>80</td>
<td>pepeitaunima tauoi manoa</td>
</tr>
<tr>
<td>90</td>
<td>pepeitaunima tauvasi manoa</td>
</tr>
<tr>
<td>100</td>
<td>nuau pepeitaunima manoa</td>
</tr>
<tr>
<td>110</td>
<td>nuau pepeitaunima manoa ta numanoa</td>
</tr>
<tr>
<td>150</td>
<td>tauoi pepeitaunima manoa</td>
</tr>
<tr>
<td>1000</td>
<td>manomanoana</td>
</tr>
<tr>
<td>2000</td>
<td>nuau manomanoana</td>
</tr>
</tbody>
</table>

**4.8.2 Cardinal numeral modifiers**

Cardinal numerals “indicate how many referents the noun phrase denotes” (Dryer 2007b: 164). In Papapana, cardinal numeral modifiers may either precede or follow the head noun.

⁶ This is variably pronounced as /taʊtɔnə/ and /taʊtɔnɔ/
For the numbers ‘one’ (99) and ‘two’ (100), and for any compound nouns involving these numbers (101) and (102), the cardinal numeral modifier forms differ slightly from those used in counting and are marked for noun class: *na’aria* ‘one’ and *nua* ‘two’ for Class I nouns, and *nu’ariau* or *nu’aria* ‘one’ and *nuau* ‘two’ for Class II nouns. The forms *ariau* and *nuau* can be analysed as consisting of the numeral modifiers *nua* and *aria* and the Class II marker *au*; the absence of this marker indicates Class I. Furthermore, *na* in *na’aria* and *nu* in *nu’aria* seem to be the Class I and II specific articles respectively. Personal nouns are not usually counted but elicitation data revealed that *nua* could be used for ‘two’. In Papapana, a noun that is enumerated refers to a specific referent (even if this referent is hypothetical and thus indefinite). The cardinal numeral modifiers therefore do not co-occur with the specific articles in a NP because the articles would be redundant, they do not co-occur with the plural article *bau* again because the article would be redundant, and they do not co-occur with the nonspecific articles as this would be contradictory.

### Table 1: Cardinal Numeral Modifiers

<table>
<thead>
<tr>
<th>Class I</th>
<th>Class II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(99) na’aria inu</td>
<td>nuaria(u) naono</td>
</tr>
<tr>
<td>na’aria orawi</td>
<td>nu’aria(u) ‘usia</td>
</tr>
<tr>
<td>‘one house’</td>
<td>‘one tree’</td>
</tr>
<tr>
<td>‘one man’</td>
<td>‘one child’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(100) nua nganangana</th>
<th>nua marei</th>
</tr>
</thead>
<tbody>
<tr>
<td>nua maunu</td>
<td>nua adope</td>
</tr>
<tr>
<td>nua bareo</td>
<td>nua bareo</td>
</tr>
<tr>
<td>‘two months’</td>
<td>‘two birds’</td>
</tr>
<tr>
<td>‘two women’</td>
<td>‘two grandchildren’</td>
</tr>
<tr>
<td>‘two breadfruits’</td>
<td>‘two breadfruit trees’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(101) pepeitaunima tau</th>
<th>pepeitaunima</th>
</tr>
</thead>
<tbody>
<tr>
<td>na’aria toatoa yia</td>
<td>nu’aria ‘urita</td>
</tr>
<tr>
<td>‘six years’</td>
<td>‘six octopuses’</td>
</tr>
</tbody>
</table>

### Personal

<table>
<thead>
<tr>
<th>(103) vagi nua tubu-u</th>
<th>i=po=ina</th>
</tr>
</thead>
<tbody>
<tr>
<td>now two[CL1] grandparent- ISG.PSSR 3PL.SBJ=stay=3PL.IPV</td>
<td></td>
</tr>
<tr>
<td>‘two of my grandparents are alive now’</td>
<td></td>
</tr>
</tbody>
</table>

The cardinal numeral modifiers may however co-occur with and precede the diminutive articles. In (104) the head noun belongs to Class II and the Class II marker *au* is part of the diminutive article, therefore the cardinal numeral modifier *nua* ‘two’ is not marked by *au*.

<table>
<thead>
<tr>
<th>(104) ena=nua sa=au</th>
<th>‘usia</th>
</tr>
</thead>
<tbody>
<tr>
<td>3SG.PSSR=two</td>
<td>DIM=CLII child</td>
</tr>
<tr>
<td>‘her two poor children’</td>
<td></td>
</tr>
</tbody>
</table>

For the number ‘three’ (105) and for any compound nouns involving this number (106), there are two cardinal numeral forms used as nominal modifiers but remarkably these make a human/non-human
distinction rather than being marked for noun class: *atono* ‘three’ for humans and *tautoi* ‘three’ for non-humans.

<table>
<thead>
<tr>
<th>Human</th>
<th>Non-human</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(105)</em> atono orawi</td>
<td>‘three men’</td>
</tr>
<tr>
<td>atono maunu</td>
<td>‘three women’</td>
</tr>
<tr>
<td>atono <em>'usia</em></td>
<td>‘three children’</td>
</tr>
<tr>
<td>atono adope</td>
<td>‘three grandchildren’</td>
</tr>
<tr>
<td>atono tubu-u</td>
<td>‘three of my grandparents’</td>
</tr>
</tbody>
</table>

(2-E003)

| *(106)* pepeitaunima atono orawi | ‘eight men’ | *pepeitaunima tautoi marei* | ‘eight birds’ |

(Fieldnotes)

For the numbers ‘four’ (107), ‘five’ (108) and ‘ten’ (109), and any compound nouns involving these numbers, the cardinal numerals listed in Table 4.11 are used and there is no noun class or human/non-human distinction. Occasionally *aavasi* ‘four’ was used instead of *tauvasi* when enumerating humans as in (110), suggesting a human/non-human distinction, but *aavasi* is also attested with *kakau* ‘dog’ and it is perhaps more likely that *aavasi* is a phonological variant of *tauvasi*.

<table>
<thead>
<tr>
<th>Class I</th>
<th>Class II</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(107)</em> tauvasi inu</td>
<td>‘four houses’</td>
</tr>
<tr>
<td>tauvasi orawi</td>
<td>‘four men’</td>
</tr>
</tbody>
</table>

(2-E003)

| *(108)* pepeitaunima na:nii | ‘five days’               | *pepeitaunima marei*      | ‘five birds’  |
| pepeitaunima maunu        | ‘five women’              |                           |               |

(2-E003)

| *(109)* numanoa nganangana | ‘ten months’              | numanoa kakau              | ‘ten dogs’    |
|                           |                           | numanoa *'usia*            | ‘ten children’|

(Fieldnotes)

<table>
<thead>
<tr>
<th>Personal</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(110)</em> vasina aavasi tubu-u</td>
<td>i=pei</td>
</tr>
<tr>
<td>before four grandparent-1SG.PSSR 3PL.SBJ=PST.IPFV stay=3PL.IPFV=IRR</td>
<td>‘before, four of my grandparents were alive’</td>
</tr>
</tbody>
</table>

(2-E003)

The position of numeral modifiers in the NP is variable with both pre-head and post-head positions possible. The position of the numeral modifier does not alter the meaning, nor is there any grammatical or semantic motivation for the variation, as the examples from a text recording and elicitation session show (111)⁷:

---

⁷ In the example, the numeral listed in Table 4.11 is used rather than *tautoi*. 96
4.8.3 Ordinal numeral modifiers

Ordinal numerals “identify a referent in terms of its order with respect to other referents” (Dryer 2007b: 164). In Papapana, ordinal numeral modifiers also differ somewhat from the numerals used in counting, and they may either precede or follow the head noun.

There is a distinct ordinal numeral modifier, nanamoa, denoting ‘first’. In postnominal positions, this ordinal numeral is not marked for noun class, since the head noun still occurs with an article (112), but in pre-head position, nanamoa is marked by the article nu= for Class II nouns (113).

 Speakers showed variation and uncertainty about whether or not the head noun ought to be marked by the article when the ordinal modifier was in pre-head position (114).

Ordinal numerals are “most commonly derived from cardinal numerals” (Dryer 2007b: 164) and with the exception of ‘first’, this is indeed the case in Papapana: ordinals are derived by the prefix va-, which is homophonous with the causative prefix. Other NWS languages such as Banoni (Lynch and Ross 2002: 443) and Kokota (Palmer 2002: 504) also derive ordinals from cardinals by a morpheme that is formally identical to the causative marker. In Papapana, this means that the ordinal numeral modifiers retain the distinctions made by the cardinal numeral modifiers: noun class for ‘second’ (115) and human/non-human for ‘third’ (116), but no such distinctions for ‘fourth’ (117) and ‘fifth’ (118).
Personal nouns do not occur in the text data with ordinal numeral modifiers and in elicitation sessions it proved impossible for speakers to modify a Personal noun with an ordinal numeral modifier.

<table>
<thead>
<tr>
<th>Class I</th>
<th>Class II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(115) va-nua</td>
<td>va-nua=au</td>
</tr>
<tr>
<td>inu house</td>
<td>marei bird</td>
</tr>
<tr>
<td>‘the second house’</td>
<td>‘the second bird’</td>
</tr>
<tr>
<td>Human</td>
<td>Non-human</td>
</tr>
<tr>
<td>(116) amu=au</td>
<td>va-tautoi</td>
</tr>
<tr>
<td>‘usia va-atono</td>
<td>marei</td>
</tr>
<tr>
<td>2SG.PSSR=CLII child ORD-three.HUM</td>
<td>ORD-three.NHUM bird</td>
</tr>
<tr>
<td>‘your third child’</td>
<td>‘the third bird’</td>
</tr>
<tr>
<td>Class I, Human</td>
<td>Class II, Human</td>
</tr>
<tr>
<td>(117) amu=sinoni</td>
<td>va-pepeitaunima</td>
</tr>
<tr>
<td>va-tauvasi</td>
<td>amu=au</td>
</tr>
<tr>
<td>‘usia va-pepeitaunima’</td>
<td>‘usia va-tauvasi’</td>
</tr>
<tr>
<td>2SG.PSSR=husband ORD-four</td>
<td>2SG.PSSR=CLII child ORD-four</td>
</tr>
<tr>
<td>‘your fourth husband’</td>
<td>‘your fifth child’</td>
</tr>
<tr>
<td>Non-human</td>
<td>Non-human</td>
</tr>
<tr>
<td>va-tauvasi nganangana</td>
<td>va-pepeitaunima nganangana</td>
</tr>
<tr>
<td>ORD-four month</td>
<td>ORD-five month</td>
</tr>
<tr>
<td>‘the fourth month’</td>
<td>‘the fifth month’</td>
</tr>
</tbody>
</table>

Speakers showed variation and uncertainty about whether or not the head noun ought to be marked by the article when the ordinal modifier was in pre-head position: compare (115) and (116) with (119) and (120).

| (119) va-nua=au              | nu=marei                      |
| ORD-two=CLII SPEC.CLII=bird | ‘the second bird’             |
| (120) va-tautoi              | nu=marei                      |
| ORD-three.NHUM SPEC.CLII=bird | ‘the third bird’             |

Perhaps due to the infrequency with which ordinal numeral modifiers are used, speakers showed variation in terms of whether they derived ‘third’ from the cardinal numeral modifier atono, as in (116), or from the numeral used in counting, tautono:
Ordinal numeral modifiers display the same variation as cardinal modifiers in terms of their position in the NP, with both pre-head and post-head positions possible. The position of the numeral modifier does not alter the meaning, nor is there any grammatical or semantic motivation for the variation, as (122) shows.

(122) a. va-nua nganangana
      ORD-two[CLI] month
      ‘the second month’

      b. nganangana va-nua
         month ORD-two[CLI]
         ‘the second month’

One might argue that if there is another pre-head modifier such as a possessor proclitic, then the ordinal modifier is more likely to be postposed, and indeed the examples with human nouns in (117) and (118) support this suggestion; however, other postnominal elements such as a possessive PP do not motivate the ordinal modifier to occur in pre-head position:

(123) na=inu nanamo te anau Buka e=po=na
      SPEC[CLI]=house first OBL 1SG Buka 3SG.SBJ=stay=3SG.IPFWV
      ‘my first house is in Buka’

4.8.4 Numerals and elided nouns

In Papapana, cardinal and ordinal numerals can occur alone in a NP when the head noun is elided but anaphorically recoverable, i.e. their interpretation depends on the interpretation of an antecedent NP. There is only one example of this with a cardinal numeral modifier, and it is modified by the limiter ora:

(124) nu’aria ora e=pei po=po=ena=i
      one[CLII] only 3SG.SBJ=PST.IPFWV RD~stay=3SG.IPFWV=IRR
      ‘there was only one (breadfruit tree)’

When the ordinal numerals occur without nouns, the form of the ordinal differs somewhat: rather than vanua ‘second’, it is vataunua, while vatautono and vatautoi both denote ‘third’ for non-human nouns. A noun class distinction does not appear to be present. As vataunua was also used as an ordinal numeral modifier in two instances, it may be that taunua reflects an earlier version of the numeral ‘two’. There are very few examples in the text data of ordinal numerals occurring on their own and in elicitation sessions, it did not come easily to speakers:
If further investigation reveals that actually numerals are nouns, then the above examples are NPs with numeral nouns as the head, but without a nominal modifier.

### 4.9 Possession

Papapana has three types of possessive constructions, that is, “constructions in which a noun occurs with another NP denoting a possessor” (Dryer 2007b: 177). I will refer to the modifying NP in possessive constructions as the *possessor* and the noun that is modified by the possessor NP as the *possessum*. See §6.8 for possessive clauses, where possession is predicated at the clausal level.

In possessive constructions Papapana makes a formal distinction based on the semantic difference between inalienable and alienable nouns: this is a lexical category distinct from noun class and nouns are either one or the other. The direct construction expresses inalienable possession (§4.9.1), while the indirect construction expresses alienable possession (§4.9.2). The possessive pronouns are similar in form to the possessor proclitics but function only as NP arguments or nominal predicates (§4.9.3). Possessive constructions are recursive and consequently Papapana may exhibit possessor stacking (§4.9.4). A prepositional possessive construction also expresses alienable possession (§4.9.5), but may be used in conjunction with both the direct inalienable and indirect alienable construction for pragmatic purposes. Remnants of the POc non-specific possessor constructions are evident in compound nouns (see §4.5).

In direct and indirect possessive constructions, lexical possessor NPs may precede or follow the possessum; therefore, as with other modifiers such as numerals and quantifiers, Papapana exhibits both right- and left-headed alignment. With the exception of Mono, Torau and Uruava (Evans and Palmer 2011), lexical possessor NPs are postposed in NWS languages such as Taiof (Ross 2002b: 430) and Sisiqa (Ross 2002a: 460). Like Mono, Torau and Uruava, the right-headed alignment in Papapana is thought to be the result of contact with Papuan languages (see §9.4). Possessor NPs are always specific, and possessor NPs containing independent pronouns, Personal, Class I and Class II nouns are
expressed by the same constructions: this is typologically less common in the world’s languages (Dryer 2007b: 182).

4.9.1 Direct possessive construction

The direct possessive construction encodes all body parts, some bodily products, all Relational Location nouns (which express locative parts) and some kinship terms (including all Personal kinship terms); such nouns are typically inalienably possessed in Oceanic languages (Lynch et al. 2002: 41, Ross 2004c: 511). It also encodes parts of a persona and parts of inanimate entities. Table 4.12 shows examples of inalienable nouns in Papapana. Papapana is similar to Taiof (Ross 2002b: 430), Banoni (Lynch and Ross 2002: 460) and Sisiqa (Ross 2002a: 445) in which some kinship, some anatomical parts and some parts of wholes are inalienably possessed. Personal kinship terms and body parts are obligatorily possessed in Papapana and are therefore bound nouns. The prototypical inalienable noun thus expresses a part-whole relation, while kinship terms are not prototypical representatives. Indeed the kinship terms which are inalienably possessed are the four Personal kinship terms and the Class I kinship term vavine ‘cross sex sibling/cousin’. Since the cognate fafine ‘cross sex sibling’ in Taiof occurs in the personal class (Ross 2002b: 428), it could be that the distribution of kinship terms across inalienably and alienably possessed constructions is a reflection of noun class.

TABLE 4.12 INALIENABLE NOUNS

<table>
<thead>
<tr>
<th>Body parts</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>patu</td>
<td>head</td>
</tr>
<tr>
<td>vunu</td>
<td>hair</td>
</tr>
<tr>
<td>nima</td>
<td>hand</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Some bodily products</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>tae</td>
<td>excrement</td>
</tr>
<tr>
<td>mimi</td>
<td>urine</td>
</tr>
<tr>
<td>revasi</td>
<td>blood</td>
</tr>
<tr>
<td>sogana</td>
<td>smell</td>
</tr>
<tr>
<td>tongana</td>
<td>sweat</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relational Location nouns</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ata</td>
<td>above</td>
</tr>
<tr>
<td>vuna</td>
<td>below</td>
</tr>
<tr>
<td>bana</td>
<td>inside</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parts of Persona</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>vatono</td>
<td>name</td>
</tr>
<tr>
<td>abeabe</td>
<td>image/reflection</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parts of Inanimate entities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>mata</td>
<td>door</td>
</tr>
<tr>
<td>batubatu</td>
<td>wall</td>
</tr>
<tr>
<td>tamana</td>
<td>outrigger</td>
</tr>
<tr>
<td>naunu</td>
<td>leaf</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Some kinship terms</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>tubu</td>
<td>grandparent, parent-in-law (of a woman)</td>
</tr>
<tr>
<td>sina</td>
<td>mother, aunt</td>
</tr>
<tr>
<td>tama</td>
<td>father</td>
</tr>
<tr>
<td>noa</td>
<td>mother-in-law (of a man), son-in-law (of a woman) cross sex</td>
</tr>
<tr>
<td>vavine</td>
<td>cross sex sibling/cousin</td>
</tr>
</tbody>
</table>
The direct construction involves a pronominal possessor suffix attaching to the possessum; this reflects the POc direct construction which consisted of a possessum and a possessor and in which “the possessor may be a possessive affix or a separate word” (Lichtenberk 1985: 95). The direct possessive construction is head-marking, which is typical of Meso-Melanesian and Oceanic languages (Palmer 2012: 455). Table 4.13 shows the possessor suffixes in Papapana; they make four person distinctions and two number distinctions.

**TABLE 4.13 DIRECT POSSESSOR SUFFIXES**

<table>
<thead>
<tr>
<th></th>
<th>1EXCL</th>
<th>1INCL</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
<td>-u</td>
<td>-mu</td>
<td>-na</td>
<td></td>
</tr>
<tr>
<td>PL</td>
<td>-mani</td>
<td>-ira</td>
<td>-miu</td>
<td>-ina</td>
</tr>
</tbody>
</table>

The possessed noun may be modified by articles or numeral modifiers that index the number and noun class of the possessum, as in (129)-(131). Possessed nouns that belong to Class II may also exhibit inverse number marking as shown above in (70) in §4.7.2.  

(129) nu=nima-mu  
   SPEC.CLII=hand-2SG.PSSR  
   ‘your hand’  

(130) bau tama-manī  
   PL father-1EXCL.PSSR  
   ‘our fathers’  

(131) nua=au nima-na  
   two=CLII arm-3SG.PSSR  
   ‘its two arms’  

The possessor suffix may be the only reference to the possessor as in (129) to (131) or it may co-occur with a lexical possessor NP, in which case the possessor suffix is still obligatory. When a lexical possessor NP expressing the possessor occurs, it may either follow or precede the possessum as in (132) and (133) respectively, and it may be a Class II noun (132), Class I noun (133), Personal proper name (134) or independent pronoun (135).

(132) e-tama-na nu=‘usia  
   PERS-father-3SG.PSSR SPEC.CLII=child  
   ‘the child’s father’  

(133) na=inu na=mata-na  
   SPEC[CLII]=house SPEC[CLII]=door-3SG.PSSR  
   ‘the house’s door’  

(134) Rosu nu=mata-na  
   Satan SPEC.CLII=eye-3SG.PSSR  
   ‘Satan’s eye’  

(1-T011)  
(1-T031)  
(2-E006)  
(1-T035)
4.9.2 Indirect possessive construction

The indirect possessive construction is used for all other nouns including those kinship terms and bodily products that are not directly possessed. It is unclear why some bodily products are considered inalienable and others alienable; however, more kinship terms are alienably possessed than inalienably possessed, and as described in §4.9.1 those that are inalienably possessed are all Personal nouns with one exception. Table 4.14 shows examples of alienable nouns in Papapana.

<table>
<thead>
<tr>
<th>Some kinship terms</th>
<th>Some bodily products</th>
</tr>
</thead>
<tbody>
<tr>
<td>aroa</td>
<td>cough</td>
</tr>
<tr>
<td>'usia</td>
<td>snot</td>
</tr>
<tr>
<td>adope</td>
<td>wind</td>
</tr>
<tr>
<td>vanisi</td>
<td>sore</td>
</tr>
<tr>
<td>sinoni</td>
<td></td>
</tr>
<tr>
<td>maunu</td>
<td></td>
</tr>
<tr>
<td>Some bodily products</td>
<td></td>
</tr>
<tr>
<td>'ou</td>
<td></td>
</tr>
<tr>
<td>ngoroa</td>
<td></td>
</tr>
<tr>
<td>pisi</td>
<td></td>
</tr>
<tr>
<td>apuapu</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>vevesi</td>
<td>thought/choice</td>
</tr>
<tr>
<td>magura</td>
<td>coconut</td>
</tr>
<tr>
<td>watu</td>
<td>stone/money</td>
</tr>
<tr>
<td>inu</td>
<td>house</td>
</tr>
<tr>
<td>poana</td>
<td>village</td>
</tr>
<tr>
<td>tue</td>
<td>language</td>
</tr>
<tr>
<td>koko 'i</td>
<td>taro</td>
</tr>
<tr>
<td>daramu</td>
<td>water</td>
</tr>
<tr>
<td>skiotu</td>
<td>skirt</td>
</tr>
<tr>
<td>vonata</td>
<td>bed</td>
</tr>
<tr>
<td>boro</td>
<td>pig</td>
</tr>
</tbody>
</table>

The indirect construction involves pronominal possessor proclitics which make four person distinctions and two number distinctions as Table 4.15 shows. As will be discussed in further detail below, the possessor proclitics attach to the head noun if it is a singular Class I noun, but otherwise they attach to the Class II marker au, or another pronominal modifier. In the former situation, the possessor proclitics are thus direct and the construction is head-marking, but in all other circumstances the possessor proclitics are indirect. I will therefore call this construction indirect, especially as this allows easier cross-reference to other Oceanic languages.
In Oceanic indirect constructions the possessum is preceded or followed by an independent possessive constituent which is marked by a possessor suffix (Lynch et al. 2002: 40). With the exception of 1EXCL and 1INCL, the possessor proclitics in Papapana are identical to the possessor suffixes except for the addition of an initial vowel /a/, /e/ or /ɔ/. The 1INCL possessor proclitic form has a different initial vowel, /e/ instead of /i/, while the 1EXCL form is ati= rather than -mani. Synchronically however, the Papapana possessor proclitics are not segmentable into a possessive constituent and a possessor suffix, but given the similarity between the possessor suffixes and proclitics, it is possible that perhaps diachronically they were segmentable.

Most Melanesian and Micronesian Oceanic languages also distinguish different kinds of alienable possession by means of different constituents termed classifiers: in Western Melanesia a distinction is often made between consumable and non-consumable (Lynch et al. 2002: 41). Papapana does not have possessive classifiers denoting different kinds of possessive relationship, as shown by (136) and (137) where the possessor proclitic for a consumable noun is the same as that for an unconsumable noun.

(136) Ami=bau ‘usia i=to ara nao te=na skuru
1EXCL.PSSR=PL child 3PL.SBJ=to PST go OBL=SPEC[CLI] school
‘Our children went to school’
(1-T090)

(137) Ami=bau kaukau mi=pei ani~ani=ina=ami=i
1EXCL.PSSR=PL potato 1EXCL.SBJ=PST.IPfv RD~eat=3PL.OBJ=1EXCL.IPfv=IRR
‘We would just eat our potatoes’
(1-T096)

The possessor proclitics may co-occur with the diminutive articles, numeral modifiers or the plural article bau. Since a noun that is possessed refers to a particular referent, it is specific. The possessor proclitics therefore do not co-occur with the specific articles because the articles would be redundant, nor do they co-occur with the nonspecific articles as this would be contradictory. When there is no other prenominal modifier between the possessor proclitics and the possessum, the possessor proclitics are unmarked for singular Class I possessums and marked for singular Class II possessums.

In (138) the possessum belongs to Class I, whereas in (139) the possessum is a Class II noun; the noun class is indicated by the diminutive articles to which the possessor proclitics attach.

(138) ena=si arao
3SG.PSSR=DIM.CLI brother
‘his little brother’
(1-T035)
(139) \textit{ena}=\textit{sa}=\textit{au} \quad '\textit{usia}'

3SG.PSSR=DIM=CLII \quad child

'his poor child'

(1-T031)

In (140) the possessum belongs to Class I noun class, whereas in (141) the possessum is a Class II noun. The possessor proclitics attach to the numeral modifier. In these examples the numeral modifier \textit{nua} ‘two’ is unmarked for Class I but marked by \textit{au} for Class II (see §4.8.2).

(140) \textit{au}=\textit{nua} \quad \textit{arao}

1SG.PSSR=two[CL1] \quad brother

‘my two brothers’

(1-T042)

(141) \textit{au}=\textit{nua}=\textit{au} \quad '\textit{usia}'

1SG.PSSR=two=CLII \quad child

‘my two children’

(1-T104)

When the possessum is plural, the possessor proclitics cliticise to the plural article \textit{bau}. \textit{Bau} does not distinguish noun class as shown by (142) and (143) in which the possessums belong to Class I and II respectively.

(142) \textit{au}=\textit{bau} \quad \textit{paga}

1SG.PSSR=PL \quad gun

‘my guns’

(1-T103)

(143) \textit{au}=\textit{bau} \quad '\textit{usia}'

1SG.PSSR=PL \quad child

‘my children’

(1-T023)

When there is no other prenominal modifier between the possessor proclitics and the possessum, the possessor proclitics are unmarked when the possessum is a singular Class I noun (144) but marked with the Class II marker \textit{au} when the possessum is a Class II singular noun (145).

(144) \textit{ami}=\textit{vamamatau}

1EXCL.PSSR[CL1]=teacher

‘our teacher’

(1-T042)

(145) \textit{ami}=\textit{au} \quad '\textit{usia}'

1EXCL.PSSR=CLII \quad child

‘our child’

(1-T024)

The possessor proclitic may be the only reference to the possessor in Papapana as in (136)-(145) or it may co-occur with a lexical possessor NP, in which case the possessor proclitic is still obligatory. When a lexical possessor NP expressing the possessor occurs, it may either follow or precede the possessum as in (146) and (147) respectively.
(146) **Anau** au=sinoni
    1SG  1SG.PSSR[CL1]=husband
    ‘my husband’

(147) ena=bau  adope  **Isio**
    3SG.PSSR=PL  grandchild  Devil
    ‘the Devil’s grandchildren’

### 4.9.3 Possessive pronouns

The possessive pronouns in Papapana are similar in form to the possessor proclitics and may function as arguments or predicates. Like the possessor proclitics, the possessive pronouns mark the possessor as being singular or plural, and as first, second or third person, with an exclusive or inclusive distinction in the first person. The possessive pronoun forms consist of the same phonological form as the possessor proclitics with the addition of the morpheme *ata* when the possessum referent is a singular Class I noun (see Table 4.16 and (148)), *au* when the possessum referent is a singular Class II noun (see Table 4.17 and (149)), and *bau* when the possessum referent is plural (see Table 4.18 and (150)). It is unclear whether the possessive pronouns derive from the possessor proclitics, or the other way around.

#### TABLE 4.16 POSSESSIVE PRONOUNS: CLASS I SINGULAR

<table>
<thead>
<tr>
<th></th>
<th>1EXCL</th>
<th>1INCL</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
<td>auata</td>
<td>amuata</td>
<td>enaata</td>
<td></td>
</tr>
<tr>
<td>PL</td>
<td>amiata</td>
<td>eraata</td>
<td>amiata</td>
<td>oinaata</td>
</tr>
</tbody>
</table>

(148) na=iana  mama  **auata**
    SPEC[CLI]=fish  DEM  1SG.POSS.CLI
    ‘this fish is mine’

#### TABLE 4.17 POSSESSIVE PRONOUNS: CLASS II SINGULAR

<table>
<thead>
<tr>
<th></th>
<th>1EXCL</th>
<th>1INCL</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
<td>auau</td>
<td>amuau</td>
<td>enaau</td>
<td></td>
</tr>
<tr>
<td>PL</td>
<td>amiau</td>
<td>eraau</td>
<td>amiuaau</td>
<td>oinaau</td>
</tr>
</tbody>
</table>

(149) nu=naono  nu=vaunu  **amiau**
    SPEC.CLI=tree  SPEC.CLI=new  1EXCL.POSS.CLI
    ‘the new tree is ours’

#### TABLE 4.18 POSSESSIVE PRONOUNS: PLURAL

<table>
<thead>
<tr>
<th></th>
<th>1EXCL</th>
<th>1INCL</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
<td>aubau</td>
<td>amubau</td>
<td>enabau</td>
<td></td>
</tr>
<tr>
<td>PL</td>
<td>amibau</td>
<td>erabau</td>
<td>amiubau</td>
<td>oinabau</td>
</tr>
</tbody>
</table>
Possessive constructions are recursive, thus a modifying possessor NP may itself be possessed as in (151) and (152).

(151) e-sina-na e-tama-na  ona=vevese
      PERS-mother-3SG.PSSR PERS-father-3SG.PSSR  3PL.PSSR[CL1]=choice
‘his parents’ choice’

(152) au=sinoni ena=bau toi poana
       1SG.PSSR[CL1]=husband 3SG.PSSR=PL person village
‘my husband’s relatives’

In (151) and (152), the modifying possessor NP precedes the possessum, but the position is variable as shown in the following pairs of examples: in (153) both the possessor NP and the possessum are directly possessed, in (154) the possessor NP is directly possessed and the possessum indirectly possessed, while in (155) both the possessor NP and the possessum are indirectly possessed.

(153) a. e-tubu-u
      PERS-grandparent-1SG.PSSR  nu=patu-na
      SPEC.CLII=head-3SG.PSSR
‘my grandmother’s head’

b. nu=patu-na e-tubu-u
      SPEC.CLII=head-3SG.PSSR  PERS-grandparent-1SG.PSSR
‘my grandmother’s head’

(154) a. e-sina-u
      PERS-mother-1SG.PSSR  ena=INU
      3SG.PSSR[CL1]=house

b. ena=INU e-sina-u
      3SG.PSSR[CL1]=house PERS-mother-1SG.PSSR
‘my mother’s house’

(155) a. au=maunu
      3SG.PSSR[CL1]=wife ena=au obutu
      3SG.PSSR=CLII canoe

b. ena=au obutu au=maunu
      3SG.PSSR=CLII canoe 3SG.PSSR[CL1]=wife

4.9.5 Prepositional possessive construction

Papapana also expresses possession via a preposition linking the possessed NP and the possessor NP; it is typical of Oceanic languages to have this third kind of possessive construction (Lichtenberk 1985, Lynch et al. 2002: 42) and it is employed in some NWS languages, such as Banoni (Lynch and Ross 2002: 466), Roviana (Corston-Oliver 2002: 479-480), Sisqa (Ross 2002a: 460-461) and Teop (Mosel and Thiesen 2007). In Papapana, the preposition *te* forms a constituent with a possessor NP whose head is either a Personal, Class I, Class II or independent pronoun, and the construction is thus
dependent marked. The PP follows the possessum. Prepositional possessive constructions may only express alienable possession as in (156)-(159), so an inalienable noun such as *mata* ‘eye’ cannot be possessed in the prepositional construction (160). Note that *adope* ‘grandchild’ is an alienably possessed noun (see Table 4.14 in §4.9.2).

(156) na=adope  
      SPEC[CLI]=grandchild  OBL  Kaie 
      ‘Kaie’s grandchild’

(157) na=siodo  
      SPEC[CLI]=work  OBL  aia  3SG 
      ‘his job’

(158) bau  vu-vurau  
      PL  RD~run  OBL  a:mani  1EXCL 
      ‘our cars’

(159) i-inu  
      LOC=house  OBL=SPEC.CLI  orawi  man  
      ‘to the man’s house’

(160) *nu=mata  
      SPEC.CLI=eye  OBL  aia  3SG 
      ‘his eye’

There is no perceived semantic or pragmatic difference between the prepositional possessive construction, and direct and indirect possessive constructions: speakers confirmed that both (161) and (162) were possible and that their meanings were identical.

(161) nu=tura  
      SPEC.CLI=fire  OBL  ani  2SG 
      ‘your fire’

(162) amu=au  
      2SG.PSSR=CLI  tura  fire  
      ‘your fire’

The prepositional possessive construction may occur on its own, or in conjunction with either the direct or indirect possessive construction as in (163) and (164). The combination emphasises or contrasts the possession; for example, one speaker commented that (163) might be the response to a request for confirmation of whose eye is being referred to.

(163) nu=mata-na  
      SPEC.CLI=eye-3SG.PSSR  te  aia  OBL  3SG 
      ‘his eye’

(164) *ena=siodo  
      3SG.PSSR[CLI]=job  te  aia  OBL  3SG 
      ‘his job’
4.10 Quantifiers

Papapana has a closed lexical class of four quantifiers that give what Matthews (1997: 305) defines as “[…] a relative or indefinite indication of quantity’. There are two quantifiers denoting ‘some’ that correlate with the specific and nonspecific articles, one indicating abundance and one that distinguishes noun class and denotes ‘(an)other’. The notion of ‘few’ may be expressed by the partitive noun (§4.6.3) or partitive article (§4.7.6). Quantifier phrases (QP) usually consist only of the quantifier, but some quantifiers can be modified by the limiting and intensifying modifiers (§4.13). QPs function as modifiers and occur in one of two fixed positions in the NP (§4.10.1) or QPs can occur alone in a NP when the head noun is elided (§4.10.2).

4.10.1 Quantifier phrase modifiers

Head nouns are optionally modified by a QP that may occur in one of two fixed positions in the NP; either in a prenominal position between demonstrative modifiers and possessor proclitics, or in a postnominal position between numeral and demonstrative modifiers. The syntactic distribution of Papapana quantifiers is thus not as uniform as many other NWS languages: quantifiers are preposed in Kokota (Palmer 2002: 503), Roviana (Corston-Oliver 2002: 475), Sisiqa (Ross 2002a: 459) and Taiof (Ross 2002b: 429), quantifiers are postposed in Mono-Alu (Fagan 1986: 46-48) and in Banoni (Lynch and Ross 2002: 444) three quantifiers are preposed and four are postposed.

4.10.1.1 na:bau ‘some’

Formally the quantifier na:bau ‘some’ appears to consist of the specific article na= and the plural article bau: this may well be an accurate diachronic analysis as plural markers are often preceded by articles to indicate plurality or ‘some’ in other Meso-Melanesian languages such as Vinitiri (Palmer 2012: 451-452) and Teop (Mosel and Spriggs 1999a: 330-331). Synchronously though, na:bau is monomorphemic and may well be related to aabau ‘some’ in Mono-Alu (Fagan 1986: 48). Further support for the argument that synchronically na:bau does not comprise of articles comes from the fact that na:bau co-occurs with articles.

When modified by na:bau, both Class I nouns (165) (also see (40)a in §7.1.4) and Class II nouns (166) can be modified by the Class I specific article na= or by the plural article bau: this is unexpected because although both na= and bau can mark plurality for Class II nouns, na= marks singular number and bau marks plurality for Class I nouns.

(165) a. na:bau na=vesunu i=etawa=ina
   some SPEC[CLI]=star 3PL.SBJ=big=3PL.IPFV
   ‘some stars are big’

   b. na:bau bau vesunu i=etawa=ina
   some PL star 3PL.SBJ=big=3PL.IPFV
   ‘some stars are big’

(2-E023)
There are also two examples from elicitation sessions in which the Class II specific article \( nu= \) co-occurs with \( na:bau \) when modifying a Class II noun (e.g. (167)), yet in a text the same noun occurs with the Class I specific article \( na= \) (168). The motivation for the variable use of articles with nouns that have been modified by \( na:bau \) requires further investigation as it was not possible to solve this issue within the time constraints of my fieldwork. In fact, elicitation of nouns quantified by \( na:bau \) produced as much variation as had been attested in the text data.

\[(167) \quad na:bau \quad nu=obutu \quad i=po \quad egoego=ina \quad 3PL.SBJ=stay \quad well=3PL.IPFV \quad \text{‘some canoes were fine’} \]

\[(168) \quad na:bau \quad na=obutu \quad na=vei \quad dua \quad 3PL.SBJ=stay \quad well=3PL.IPFV \quad \text{‘some canoes were bad’} \]

The quantifier \( na:bau \) most often occurs in pre-head position in the NP. If it precedes a possessor proclitic, it is reduced to \( na \) for both Class I nouns (169) and Class II nouns (170), as a comparison of the following pairs shows:

\[(169) \quad a. \quad au=bau \quad inu \quad 1SG.PSSR=PL \quad house \quad \text{‘my houses’} \]

\[(170) \quad a. \quad au=bau \quad obutu \quad 1SG.PSSR=PL \quad canoe \quad \text{‘my canoes’} \]

Some examples from text data (171)-(172) show that \( na:bau \) can also occur in a postnominal position. The position does not alter the meaning, nor is there any grammatical or semantic motivation for the variation.
4.10.1.2 ta:bau ‘some’

Like the nonspecific article ta=, the quantifier ta:bau ‘some’ occurs so infrequently in the corpus that its existence did not become apparent until the end of my second fieldwork trip. Like na:bau, ta:bau could well be diachronically divisible into the nonspecific article ta= and the plural article bau, and may also be related to aabau ‘some’ in Mono-Alu (Fagan 1986: 48), but synchronically it appears to be monomorphemic. In the limited examples in the corpus in which the head noun is modified by ta:bau, there are no articles present and ta:bau always precedes the head noun.

(173) ta:bau atu-atu na=vei dua i=pei ae atu=ami=i some RD=make SPEC[CLI]=COLL bad 3PL.SBJ=PST.IPV NEG make=1EXCL.OBJ=IRR
‘they would not do any bad things to us’

4.10.1.3 a'aisi ‘many’

The quantifier a'aisi ‘many’ commonly occurs as a nominal modifier, usually in a postnominal position, and the head noun must still be modified by an article (175)-(176). The quantifier a'aisi ‘many’ also occurs underived as a verb in verbal existential clauses (see §6.6.2), but the question of whether it is underlying a verb or a quantifier is a matter for further research.

(175) na=vanua a'aisi i=mate
SPEC[CLI]=people many 3PL.SBJ=die
‘many people died’

(176) bau siodo a'aisi o=peri=ina=i Port Moresby PL work many 2SG.SBJ=find=3PL.OBJ=IRR Port Moresby
‘you’ll find many jobs in Port Moresby’

It is also possible for a'aisi ‘many’ to occur in a prenominal position (177)-(178). The position does not alter the meaning, nor is there any grammatical or semantic motivation for the variation.

(177) a'aisi na=vanua i=ara atunu=ina
many SPEC[CLI]=people 3PL.SBJ=PST attack-3PL.OBJ
‘they attacked many people’
A’aisi may be modified by the intensifiers poto and mamangi (see §4.13.5) as in (179) and (180) respectively.

(179) na=kauto a’aisi mamangi
SPEC[CLI]=Terminalia.Catappa many INTS
‘very many Terminalia Catappa nuts’

(180) na=vanua a’aisi poto i=pei ara po=ina=i
SPEC[CLI]=people many INTS 3PL.SBJ=PST.IPVF PST stay=3PL.IPVF=IRR
‘very many people stayed’

Remarkably, a’aisi ‘many’ can even be dislocated from the NP as in (181)a. In an elicitation session, speakers confirmed this and also reported that it was possible to move the position of the quantifier to prenominal or postnominal position within the NP and that this did not alter the meaning either, as (181) shows. The dislocation of a’aisi from the NP in (181)a demonstrates quantifier float and this has implications for which of the quantifier and NP is the argument, though it is beyond the scope of this thesis to investigate this further.

(181) a. na=vanua a’aisi
SPEC[CLI]=people many
i=pei mate~mate=ina=i
3PL.SBJ=PST.IPVF RD~die=3PL.IPVF=IRR
‘many people died’

b. a’aisi na=vanua
many SPEC[CLI]=people
i=pei mate~mate=ina=i
3PL.SBJ=PST.IPVF RD~die=3PL.IPVF=IRR
‘many people died’

c. na=vanua a’aisi
SPEC[CLI]=people many
i=pei mate~mate=ina=i
3PL.SBJ=PST.IPVF RD~die=3PL.IPVF=IRR
‘many people died’

4.10.1.4 nata and nau ‘(an)other’

The quantifiers nata and nau ‘(an)other’ optionally modify Class I and Class II nouns respectively. I analyse them as quantifiers since they give an indication of quantity in relation to another entity. They are independent and generally precede the head noun, co-occurring with Class I and Class II specific articles as in (182) and (183) respectively, though one instance shows a postnominal position (184). Other prenominal modifiers, namely numeral modifiers and possessor proclitics, are only marked for noun class when there is no article, while other quantifier modifiers are not marked for noun class at all because they co-occur with articles. The fact that nata and nau ‘(an)other’ distinguish noun class when there is an article suggests that they have a different syntactic relationship to the head noun, more akin to that of attributive adjectives, which may be marked by an article agreeing with the noun class of the head noun (see §4.12.1).
(182) e=nai=a nata na=maunu
3SG.SBJ=marry=3SG.OBJ another.CLI SPEC[CLI]=woman
‘he married another woman’

(183) nau nu=usia e=vae burisi=a
another.CLI SPEC.CLI=child 3SG.SBJ=REP deliver=3SG.OBJ
‘she gave birth to another child’

(184) aia na=poana nata e=nasi=a
3SG SPEC[CLI]=village another.CLI 3SG.SBJ=ask=3SG.OBJ
‘he asked another village’

Before possessor proclitics, nata is reduced to na (185) but it is unclear whether nau also is as the data
is conflicting (compare (186) and (187)). In (185) and (187) the quantifier therefore does not mark	noun class and behaves like other quantifiers; this conflicts with the behaviour outlined above and
requires further investigation.

(185) na au=arao
another 1SG.PSSR[CLI]=brother
‘my other brother’

(186) nau au=au a’ade’e
another 1SG.PSSR=CLI narrate
‘my other story’

(187) na ena=au ‘usia
another 3SG.PSSR=CLI child
‘his other child’

When a NP functions as the complement of the preposition te, the quantifier nata is reduced to na
(188)-(189), but very unexpectedly it precedes the preposition: this type of construction occurs quite
frequently in the text data and speakers confirmed that it was correct. It is unclear why nata is reduced
but the fact it can occur before the PP suggests it is the head and the PP is the complement.

(188) e=to tua nao na te=na ‘uru
3SG.SBJ=to paddle thither another OBL=SPEC.CLI island
‘he paddled to another island’

(189) mi=no ubete na te=na poana
1EXCL.SBJ=go.SEQ sleep another OBL=SPEC.CLI village
‘we went and slept in another village’

4.10.2 Quantifier phrases and elided nouns

As shown in (190)-(193), quantifier phrases can occur alone in a NP when the head noun is elided but
anaphorically recoverable. If further investigation reveals that actually quantifiers are the heads of a
determiner phrase (DP), and NPs are the complements, then (190)-(193) would be analysed as DPs
consisting only of the head (and a modifier in (193)-(194)), with the NP complement not needed to
specify the identity because it is anaphorically recoverable.
(190) na:bau po manene=ina=i, a'aisi i=ae nao=i
some stay return=3PL.IPFV=IRR many 3PL.SBJ=NEG go=IRR
‘some (people) will stay, many (people) will not go’

(191) na:bau ora i=pei nao=i
some only 3PL.SBJ=PST.IPFV go=IRR
‘only some (people) would go’

(192) A’aisi poto u=to roroto vowa=ina=au…
many INTS 1SG.SBJ=to see be.like=3PL.OBJ=1SG.IPFV
‘Very many (things) I look at…’

(193) nata e=vae tete
another 3SG.SBJ=REP enter
‘another (wave) hit’

4.11 Demonstratives

Papapana has a closed lexical class of five demonstratives that code what Givón (2001a: 97) defines as “the orientation (deixis) of a noun vis-a-vis some spatial reference point”. From text data and basic elicitation data alone it was very difficult to establish the basis of the Papapana demonstrative system. I therefore used Wilkins’ (1999) demonstrative questionnaire and recreated twenty-five scenes in real life, asking speakers to say something about a single object within the particular context created. I carried this out on two separate occasions with different groups of speakers.

It seems that Papapana has two demonstratives that are person-based, mama ‘near speaker’ and enai ‘near addressee’, with a further paradigm based on distance relative to the speaker, iai ‘proximal, within five paces’, ioi ‘medial, five to twenty paces’, io’o ‘distal, more than twenty paces’. It may be coincidence but iai bears resemblance to the POc oblique proform i-ai ‘there’ which consisted of the preposition i and a locative anaphor (Lynch et al. 2002: 104). Given that ioi and io’o also begin with i and that i is a locative case prefix in Papapana, this could be a clue as to the origins of these forms, but this hypothesis requires further investigation. In Oceanic languages, demonstrative systems tend to be based on person or distance, but it is possible to have a combination of the two, as for example in Saliba (Ross 2004a: 177). The demonstrative system in Papapana does not make distinctions based on visibility, nor does it distinguish the number or noun class of the referent. Established boundaries in lived space do not make a difference to the application of demonstratives. The demonstratives can function either as nominal modifiers (§4.11.1) or as pronouns (§4.11.2). The deictic obliques paradigm correlates with the distance-based demonstrative paradigm (see §6.2.3).

4.11.1 Demonstrative modifiers

Both demonstrative paradigms can be used separately or in conjunction with each other when modifying a noun.
When a speaker is referring to something on their own body or is pointing to or touching something on the body of the addressee (e.g. scenes 3 and 4 in (Wilkins 1999)), the head noun may be modified by the person-based demonstrative *mama*:

(194) na=*arei mama* e=abe~abe=au=ena
    SPEC[CLI]=ant DEM 3SG.SBJ=RD~walk=1SG.OBJ=3SG.IPFV
    ‘this ant is walking about on me’
    (Fieldnotes 16/04/13)

(195) na=*arei mama* e=abe~abe=ena te ani
    SPEC[CLI]=ant DEM 3SG.SBJ=RD~walk=3SG.IPFV OBL 2SG
    ‘this ant is walking about on you’
    (Fieldnotes 16/04/13)

However, if the speaker is not pointing to the body part of the addressee, or it is out of their reach (e.g. scenes 5 in (Wilkins 1999)), the person-based demonstrative *enai* is used:

(196) na=*arei enai* e=abe~abe=ena te ani
    SPEC[CLI]=ant DEM 3SG.SBJ=RD~walk=3SG.IPFV OBL 2SG
    ‘that ant is walking about on you’
    (Fieldnotes 16/04/13)

In a scene in which the speaker and addressee are sat next to each other and the speaker is talking about an object immediately in front of him/herself, or to his/her side, or in between him/her and the addressee (e.g. scenes 7-8 in (Wilkins 1999)), the head noun may be modified by the person-based demonstrative *mama*:

(197) anau u=mate=i=a=au
    1SG 1SG.SBJ=like=TR=3SG.OBJ=1SG.IPFV SPEC.CLII=book DEM
    ‘I like this book’
    (Fieldnotes 03/04/13)

However, if the book is closer to the addressee, for example, in front of the addressee, or on the side of the addressee furthest away from the speaker (e.g. scenes 9 and 10 in (Wilkins 1999)), both *mama* and *enai* are used, with *enai* either preceding the head noun (198) or following *mama* (199). For the latter scenario even *enai* on its own in postnominal position was possible (199).

(198) anau u=mate=i=a=au
    1SG 1SG.SBJ=like=TR=3SG.OBJ=1SG.IPFV DEM SPEC.CLII=book DEM
    ‘I like that book’
    (Fieldnotes 03/04/13)

(199) na=bara mama enai u=mate=i=a=au
    SPEC[CLI]=ball DEM DEM 1SG.SBJ=like=TR=3SG.OBJ=1SG.IPFV
    ‘I like that ball’
    (Fieldnotes 16/04/13)

(200) anau u=mate=i=a=au
    1SG 1SG.SBJ=like=TR=3SG.OBJ=1SG.IPFV SPEC[CLI]=ball DEM
    ‘I like that ball’
    (Fieldnotes 16/04/13)
If an object is within five paces of the speaker, the person-based demonstrative *mama* may be followed by the distance-based demonstrative *iai* as in (201). The object might be in the middle of the speaker and addressee, and it may or may not be equidistant from the speaker and hearer, or the speaker and addressee could be stood together and the object is a little way away from them (e.g. scenes 8, 19, 20 and 22 in (Wilkins 1999)). Whatever the scenario, *iai* refers to the distance from the speaker. In one instance, when the object was in the middle of and equidistant from the speaker and addressee, *iai* modified the noun without the presence of a person-based demonstrative (202).

\[
\begin{align*}
\text{(201) } & \text{anau } u=mate=i=a=au & \text{nu=buku } & \text{mama } & \text{iai} \\
& \text{1SG } & \text{1SG.SBJ=}\text{like-TR=} & \text{3SG.OBJ=} & \text{1SG.IPFV} & \text{SPEC.CLII=} & \text{book} & \text{DEM} & \text{DEM} \\
& \text{‘I like this book’} & & & & & & & & \\
\end{align*}
\]

(Fieldnotes 03/04/13)

\[
\begin{align*}
\text{(202) } & \text{nu=buku } & \text{iai } & \text{amau?} \\
& \text{SPEC.CLII=} & \text{DEM} & \text{2PL.POSS.CLII} \\
& \text{‘is this book yours?’} & & & & & & & & \\
\end{align*}
\]

(Fieldnotes 03/04/13)

If the speaker and addressee are together and the object is further away, between five and twenty paces (e.g. scenes 12, 13, 14 and 21 in (Wilkins 1999)), *mama* may be followed by *ioi*, regardless of whether the object is or is not close to a third party:

\[
\begin{align*}
\text{(203) } & \text{na=bara } & \text{mama } & \text{ioi } & \text{na=mata} \\
& \text{SPEC[CLI]=ball} & \text{DEM} & \text{DEM} & \text{SPEC[CLI]=good} \\
& \text{‘this ball is good’} & & & & & & & & \\
\end{align*}
\]

(Fieldnotes 16/04/13)

If the object is further away, more than twenty paces (e.g. scenes 13 and 15 in (Wilkins 1999)), *mama* may be followed by *io’o*, regardless of whether the object is or is not close to a third party, and regardless of its visibility:

\[
\begin{align*}
\text{(204) } & \text{na=bara } & \text{mama } & \text{io’o } & \text{na=mata} \\
& \text{SPEC[CLI]=ball} & \text{DEM} & \text{DEM} & \text{SPEC[CLI]=good} \\
& \text{‘that ball is good’} & & & & & & & & \\
\end{align*}
\]

(Fieldnotes 16/04/13)

When the object is closer to the addressee and thus the person-based demonstrative *enai* is used, the distance-based demonstratives do not seem to be employed, even when the object is at quite a distance from the speaker (e.g. scenes 16-18 in (Wilkins 1999)). The position may instead be indicated by the Relational Location noun *tage* (205) or a Familiar Location noun marked by the locative case prefix –*i* (206).

\[
\begin{align*}
\text{(205) } & \text{Ellen anau } u=mate=i=a=au & \text{enai } & \text{na=bara } & \text{mama} \\
& \text{Ellen} & \text{1SG} & \text{1SG.SBJ=}\text{like-TR=} & \text{3SG.OBJ=} & \text{1SG.IPFV} & \text{SPEC.CLII=} & \text{ball} & \text{DEM} & \text{DEM} \\
& \text{tage-mu} & & & & & & & & \\
& \text{near-2SG.PSSR} & & & & & & & & \\
& \text{‘Ellen, I like that book next to you’} & & & & & & & & \\
\end{align*}
\]

(Fieldnotes 16/04/13)
Anau = mate = i = a = au
1SG 1SG.SBJ=like=TR=3SG.OBJ=1SG.IPFV SPEC[CLI]=ball DEM DEM

(206) na = bara = mama = enai
i-butona = e = po = na
LOC-middle 3SG.SBJ=stay=3SG.IPFV
‘I like that ball, it’s in the middle’

(Fieldnotes 16/04/13)

The position of the demonstrative modifiers in the examples above are also attested in the text data: *mama* always occurs postnominally, as can *enai*; when used in conjunction with each other, *enai* may precede the noun and *mama* follow, or both follow with *mama* first; and the distance-based demonstratives always occur after *mama*. Demonstratives commonly occur in postnominal position in NWS languages such as Kubokota (Chambers 2009: 60), Kokota (Palmer 2002: 503) and Teop (Mosel and Thiesen 2007) but there are some Oceanic languages where demonstratives are prenominal (Lynch et al. 2002: 40), such as Banoni (Lynch and Ross 2002: 445).

The text data shows further variation in Papapana, with both person-based demonstratives occurring on their own before the head noun:

(207) mama ani tatopu
DEM DIM.PL hole
‘these small holes’

(1-T058)

(208) enai sa = au ‘usia
DEM DIM=CLII child
‘that poor boy’

(1-T029)

As in (202), the distance-based demonstratives are also attested without a person-based demonstrative.

(209) nu = daramu iai
SPEC.CLII=water DEM
‘this water’

(1-T044)

(210) na = maunu io’o
SPEC[CLI]=woman DEM
‘that woman’

(1-T003)

Himmelmann (1996) outlines four uses of demonstratives: situational use, discourse deictic use, tracking use and recognitional use. In the elicitations sessions in which I created particular scenes, the demonstratives were used situationally, that is “the entity picked out by the demonstrative is present in the situation of the utterance” (Cleary-Kemp 2007: 326). In the text data demonstratives may also be used for tracking, that is to “refer to participants in the discourse, allowing the hearer to keep track of what is happening to whom” (Cleary-Kemp 2007: 326). Unfortunately, it has not been possible to fully investigate the other uses of demonstratives.
4.11.2 Demonstrative pronouns

Both demonstrative paradigms can function as pronouns and retain the distinctions described in §4.11.

During the elicitation sessions in which I recreated the twenty-five scenes from Wilkins’ (1999) demonstrative questionnaire, two instances of demonstrative pronouns were attested. In (211) the object is inside a room under a window, the speaker is outside the window peering in, and the addressee is at the other end of the room (e.g. scene 17 in (Wilkins 1999)); thus the object is within five paces of the speaker and the distance-based demonstrative pronoun *iai* is used, and functions as the subject of a nominal predicate.

(211) *iai* amu=au buku awa?
DEM 2SG.PSSR=CLII book correct
‘this is your book right?’

(Fieldnotes 03/04/13)

In (212) the speaker and addressee are sitting at different ends of a large cleared space and the object is closer to the addressee (e.g. scene 17 in (Wilkins 1999)); thus the person-based demonstrative pronoun *enai* is used, and functions as the subject of a nominal predicate.

(212) *enai* amu=bara awa?
DEM 2SG.PSSR[CLI]=ball correct
‘this is your ball right?’

(Fieldnotes 16/04/13)

In the text data, both person-based and distance-based demonstratives are attested as pronouns.

(213) i=ani~ani=a=ina mama
3PL.SBJ=RD~eat=3SG.OBJ=3PL.IPfv DEM
‘they eat this (shell)’

(1-T107)

(214) *enai* avoa o=de=a
DEM where 2SG.SBJ=get=3SG.OBJ
‘where did you get that (necklace)?’

(1-T029)

(215) *enai* au=au ‘usia
DEM 1SG.PSSR=CLII child
‘that (person) is my child’

(1-T026)

(216) *iai* atu-atu-ni vasina te a:mani
DEM RD~make-CONST before OBL 1EXCL.PSSR
‘this (custom I’m about to describe) is one of our traditional customs’

(1-T047)

In the text data, it appears as though a distance-based demonstrative modifier can postmodify a person-based demonstrative pronoun. Examples (217) and (218) occur in verbless clauses and the head noun of the predicate NP (highlighted in bold) is modified by the same distance-based demonstrative modifier as the person-based demonstrative pronoun in the subject NP.
4.12 Adjectives

Adjectives belong to a medium-sized open word class in Papapana. It is common for an adjective class to be “extended almost indefinitely by derivations based on nouns and verbs” (Dixon 2004: 2). In Papapana, adjective roots are generally underived but there are a few adjectives which are derived through disyllabic reduplication from nouns, such as *pi‘i~pi‘ita* ‘dirty’ from *pi‘ita* ‘rubbish’. Colour terms are mostly derived through monosyllabic or disyllabic reduplication from nouns or other adjectives (see Table 4.19). Some adjectives may be diachronically reduplicated but are not synchronically reduplicated; for example, synchronically there is not a word *bukoi* from which *bubukoi* ‘yellow’ can be claimed to derive.

**TABLE 4.19 COLOUR TERMS**

<table>
<thead>
<tr>
<th>Root</th>
<th>Adjective</th>
</tr>
</thead>
<tbody>
<tr>
<td>revasi</td>
<td>blood</td>
</tr>
<tr>
<td>asi~asi</td>
<td>yellow</td>
</tr>
<tr>
<td>namana</td>
<td>ocean</td>
</tr>
<tr>
<td>nama~namana</td>
<td>blue</td>
</tr>
<tr>
<td>mero‘o</td>
<td>mud</td>
</tr>
<tr>
<td>mero~mero‘o</td>
<td>brown</td>
</tr>
<tr>
<td>ravai</td>
<td>dirt</td>
</tr>
<tr>
<td>rava~ravai</td>
<td>black</td>
</tr>
<tr>
<td>pere~pere</td>
<td>green</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>-</td>
<td><em>bubukoi</em></td>
</tr>
<tr>
<td>-</td>
<td><em>gerere</em></td>
</tr>
<tr>
<td>-</td>
<td><em>ovaovani</em></td>
</tr>
</tbody>
</table>

All adjectives can occur in an adjective phrase (AP) with an article that agrees in noun class and/or number with the head noun that the AP is modifying (§4.12.1). These APs may occur prenominally or postnominally. A small subclass of adjectives may also behave in this way or they may directly precede or follow the head noun they modify, but without being marked by an article (§4.12.2). One of these adjectives appears to have developed into an augmentative suffix (§4.12.3). APs can occur alone in a NP when the head noun is elided (§4.12.4). APs can also function as predicates in verbless clauses (see §6.8.5) while all adjectives can occur through zero derivation as verbs (see §5.4.4.2).

In Oceanic languages, property concepts are commonly expressed by intransitive stative U-verbs (Lynch et al. 2002) but this is not the only method. Ross (1998b), outlines seven POc adjectival categories including “adjectival nouns” which “serve as modifiers of a noun” and have “the predicate syntax of a noun” (Ross 1998b: 97), and “adjectival verbs” which “serve as modifier of a noun (i.e., need no relative-clause marking)” and have “the predicate syntax of a stative verb” (Ross 1998b: 91).
The Nehan-North Bougainville (NNB) languages Nehan and Halia are described as having adjectival nouns: in Nehan, when an adjective is the head of a NP, it can only be used predicatively, but in Halia, the predicative construction is also an attributive construction (Ross 1998b: 95-96).

I define the words expressing property concepts in Papapana as *adjectives* and not as nouns or verbs because they are different from nouns and verbs in several ways. Firstly, adjectives are distinct from nouns as they are not independently assigned a noun class, whereas nouns, including those derived from verbs, are (see §4.4). It is common in languages where nouns and adjectives have similar morphology, for an adjective to be able to take any noun class marking but for a noun to be restricted to one class (Aikhenvald 2000: 20). Secondly, the morphology used to mark plurality on adjectives also differs slightly from nouns (§4.12.1) and the plural article *bau* never occurs with adjectives, whereas it does with nouns, including those derived from verbs. Thirdly, adjectives can be premodified by the negative marker *ae* (also found in the VC) whether they are AP modifiers in a NP, or AP predicates in a verbless clause. Nominal predicates on the other hand are postmodified by the negator *aruai* (see §6.8.1.4). Fourthly, nouns and verbs which are used attributively are not marked by an article; they occur as bare roots in a compound noun (§4.5) or they occur as bare roots in a PP with *merei* (§4.15). Adjectives therefore have some morphology in common with both nouns and verbs, but they differ from attributive nouns and verbs, and as predicates in verbless clauses they differ from nominal predicates.

### 4.12.1 Adjective phrase modifiers

All adjectives can occur in an AP with an article that agrees in noun class and/or number with the head noun that the AP is modifying, as in (219)-(222). This is also the case in Taiof and Teop, where postmodifying adjectives are preceded by an article agreeing in noun class with the head noun (Ross 2002b, Mosel and Thiesen 2007). The NP containing the AP may then function as the subject of a verbless clause (219), an intransitive clause (220), or a transitive clause (221), or the object of a transitive clause (222).

(219) `na=poana na=kaka’i tagena Teperoi`
    (2-E004)
    SPEC[CLI]=village SPEC[CLI]=small near Teperoi
    ‘the small village is near Teperoi’

(220) `na=inu na=vaunu e=po=na Teperoi`
    (2-E004)
    SPEC[CLI]=house SPEC[CLI]=new 3SG.SBJ=stay=3SG.IPfv Teperoi
    ‘the new house is in Teperoi’

(221) `na=orawi na=mata e=ae atun=i=a ena=maunu`
    (2-E004)
    SPEC[CLI]=man SPEC[CLI]=good 3SG.SBJ=NEG attack=TR=3SG.OBJ 1SG.PSSR[CL1]=wife
    ‘the good man did not attack his wife’

(222) `anau u=vaene=i=a nu=naono nu=pere~pere`
    (2-E004)
    1SG 1SG.SBJ=climb=TR=3SG.OBJ SPEC.CLII=tree SPEC.CLII=RD~unripe
    ‘I climbed the green tree’
The AP may precede or follow the head noun:

(223) a. anau u=irom=i=a nu=sisiva nu=daramu
   1SG  1SG.SBJ=drink=TR=3SG.OBJ SPEC.CLII=hot SPEC.CLII=water
   ‘I drank the hot water’

   b. anau u=irom=i=a nu=daramu nu=sisiva
   1SG  1SG.SBJ=drink=TR=3SG.OBJ SPEC.CLII=water SPEC.CLII=hot
   ‘I drank the hot water’

In postnominal position, it seems the AP follows demonstrative modifiers:

(224) na=INU mama na=vaunu Peter enaata
   SPEC[CLI]=house DEM SPEC[CLI]=new Peter 3SG.POSS.CLI
   ‘this new house is Peter’s’

When the head noun is plural, the adjective does not take the same article as the head. Instead, if the head noun is marked by the plural article bau the adjective is marked with na=vei (225)-(226), while if the head noun is marked by the diminutive plural article ani, the adjective is marked with ani vei (227). The collective marker vei also occurs with derived nouns that refer to a collection of entities or to a collective action (see §4.4). As (226) shows, the adjective itself may be postmodified by a modifier such as the intensifier poto.

(225) …i=to ru-rvu=ina=ina bau taramina na=vei takarau
   3PL.SBJ=to RD=put=3PL.OBJ=3PL.IPVF PL thing SPEC[CLI]=COLL rusty
   ‘…they used to put all the rusty things’

(226) bau vanao na=vei etawa poto i=pei po=ina=i
   PL tree sp. SPEC[CLI]=COLL big INTS 3PL.SBJ=PST.IPVF stand=3PL.IPVF=IRR
   ‘there were really big vanao trees’

(227) ani naono ani vei kaka’i i=noe tae=ina te=na ari
   DIM.PL tree DIM.PL COLL small 3PL.SBJ=put up=3PL.OBJ OBL=SPEC.CLI dig
   ‘they put a few small sticks on top of the hole’

An adjective can be negated with ae, the negative marker found in the VC. The negative marker occurs between the article and the adjective root:

(228) e=po~po=na na=ae pi’i~pi’ita na=INU
   3SG.SBJ=RD=stay=3SG.IPVF SPEC[CLI]=NEG RD=rubbish SPEC[CLI]=house
   ‘she lives in a clean house’

(229) aia de=de=a=na na=ae bu’a na=GOVI
   3SG RD=get=3SG.OBJ=3SG.IPVF SPEC[CLI]=NEG full SPEC[CLI]=bottle
   ‘he carried the empty bottle’
So far the examples show Class I and II nouns being modified, and not Personal nouns. Personal nouns are often modified by adjectives without articles as in §4.12.2, but when an article does occur, it is not the Personal article. Instead, there is a choice: *nu* indicates the person is nearby and visible whereas *na* indicates that the person is far away in an unknown location and not visible:

(231) a. e-tubu-na nu=tubu e=náo Buka
    PERS-grandparent-3SG.PSSR SPEC.CLI=Fat 3SG.SBJ=go Buka
    ‘his fat grandmother (who I saw) went to Buka’

    b. e-tubu-na na=tubu e=náo Buka
    PERS-grandparent-3SG.PSSR SPEC[CLI]=Fat 3SG.SBJ=go Buka
    ‘his fat grandmother (who I didn’t see) went to Buka’
(2-E028)

This mirrors the use of *sau* for Class II nouns when they are proximal but *si* when they are distal, and is further evidence for the argument that Papapana specific articles developed from POc demonstrative/spatial deictics (see §4.7.4).

### 4.12.2 Adjective modifiers

A small subclass of adjectives may behave in the way described in §4.12.1 or they may directly precede or follow the head noun they modify, but without being marked by an article that agrees in noun class and/or number with the head noun. Compare (219) in §4.12.1 in which *kaka’i* ‘small’ is marked by an article, and (232) below where it is not. These adjectives describe dimension, age, value and colour (see Table 4.19 and Table 4.20); these are the four core semantic types typically associated with adjective word classes (Dixon 2004: 3).

**TABLE 4.20 ADJECTIVES**

<table>
<thead>
<tr>
<th>Etawa</th>
<th>Big</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaka’i</td>
<td>Small</td>
</tr>
<tr>
<td>Sirorai</td>
<td>Long/tall</td>
</tr>
<tr>
<td>Kokobunu</td>
<td>Short</td>
</tr>
<tr>
<td>Vaunu</td>
<td>New</td>
</tr>
<tr>
<td>Dua</td>
<td>Bad</td>
</tr>
</tbody>
</table>

The NP within which the adjectives occur may function as the subject of a verbless clause (232), the subject of an intransitive clause (233), the subject of a transitive clause (234) or the object of a transitive clause (235). Note that examples (234) and (235) have lexicalised meanings.

(232) na=poana kaka’i tagena Teperoi
    SPEC[CLI]=village small near Teperoi
    ‘the small village is near Teperoi’
(2-E004)
4.12.3 Adjective etawa ‘big’ and Augmentative -eta ~ -ota

The adjective etawa ‘big’ may be shortened to eta as (238) shows:

(238) a. e-sina-u kaka’i ta e-tama-u etawa i=nao
    PERS-mother-1SG.PSSR small and PERS-father-1SG.PSSR big 3PL.SBJ=go

b. e-sina-u kaka’i ta e-tama-u eta i=nao
    PERS-mother-1SG.PSSR small and PERS-father-1SG.PSSR big 3PL.SBJ=go

The shortened form appears to have developed into an augmentative suffix -eta ~ -ota. The alternate forms are a reflection of the phonological variation described in §3.1.3 in which the front vowel /e/ is sometimes pronounced by younger speakers as the back vowel /ɔ/. This suffix can modify all nouns and occurs frequently in the data:

(239) tamu-tamu-eta
    RD~eat-AUG
    ‘a big feast’

(240) na=naoi-eta
    SPEC[CLI]=rain-AUG
    ‘heavy rain’

---

8 Even though the adjective here is ‘brown’, the translation is ‘redskin’ because that is the Tok Pisin term referring to mainland Papua New Guineans.
Evidence for its status as a suffix comes from (243) in which the head noun is also modified by a demonstrative. The augmentative suffix occurs immediately after the noun whereas APs occur after demonstrative modifiers (see (224) in §4.12.1).

(243) na=novo-ota enai
    SPEC[CLI]=reef-AUG DEM
    ‘that big reef’

14.12.4 Adjective phrases and elided nouns
As shown in (244)-(245), APs can occur alone in a NP when the head noun is elided but anaphorically recoverable. The adjective is marked by an article agreeing in noun class and/or number with the elided, antecedent noun.

(244) na=mata i=va-tonu=a
    SPEC[CLI]=good 3PL.SBJ=CAUS-stand=3SG.OBJ
    ‘they built a good one (hospital)’

(245) nu=mata u=eri atu=a=au
    SPEC.CLII=good 1SG.SBJ=IMM.IRR make=3SG.OBJ=1SG.IPFV
    ‘I want to make a good one (fan)’

If the antecedent noun is plural, the adjective is marked with na=vei or ani vei:

(246) na=vei siorai o=atu=i
    SPEC[CLI]=COLL long 2SG.SBJ=make=IRR
    ‘you make long ones (banana rolls)’

(247) ani vei kaka'i mi=roroto=ina
    DIM.PL COLL small 1EXCL.SBJ=see=3PL.OBJ
    ‘we saw the small ones (waves)’

4.13 Modifiers
There is a small group of modifiers that do not belong to a coherent class but share the properties of occurring postnominally in NPs and not being able to function as nouns, verbs or adjectives. They have exhaustive, limiting, emphatic and intensifying functions. I discuss them together because of their common function as modifiers and their syntactic position in the NP. All of them, except emphatic tobi and the Location noun intensifier papanusu, may also modify other nominal modifiers and occur underived as modifiers in the VC (see §5.11.2.4).
4.13.1 Exhaustive panapana

The exhaustive modifier panapana denotes ‘all’. It is attested modifying independent pronouns (248), Class I nouns (249) and (250), and Location nouns (251).

(248) Aina panapana i=vaene tae=a na=namu
3PL all 3PL.SBJ-climb up=3SG.OBJ SPEC[CLI]=Malay.apple
‘They all climbed up the Malay apple tree’ (1-T022)

(249) na=vanua panapana i=naomai
SPEC[CLI]=people all 3PL.SBJ=come
‘everybody came’ (1-T029)

(250) tauvasi ta'apena panapana
four part all
‘all four parts’ (1-T027-2)

(251) I=tua i-ata panapana
3PL.SBJ=paddle LOC-above all
‘They went and paddled all the way out’ (1-T064)

4.13.2 Limiting ora ~ ara

The limiting modifier ora ~ ara denotes ‘just’ or ‘only’. The alternate forms are a reflection of the phonological variation described in §3.1.3 in which the back vowel /ɔ/ is sometimes pronounced by younger speakers as the front vowel /a/. Ora ~ ara modifies an independent pronoun in (252), a Class II in (253), a numeral modifier in (254), and in (255) and (256) it modifies a numeral and quantifier in a NP in which the head noun has been elided:

(252) aina ora i=pei agoto=ina=i bau atu
3PL only 3PL.SBJ=PST.IPfv hold=3PL.OBJ=IRR PL make
‘only they would hold the ways’ (1-T034)

(253) nu='usia ora e=toto
SPEC[CLI]=child only 3SG.SBJ=live
‘only the child lived’ (1-T029)

(254) na=au tue nuaria ora
SPEC=CLII language one[CLII] only
‘just one language’ (1-T034)

(255) nu‘aria ora e=pei po~po=ena=i
one[CLII] only 3SG.SBJ=PST.IPfv RD~stay=3SG.IPfV=IRR
‘there was only one (breadfruit tree)’ (1-T035)

(256) na:bau ora i=pei nao=i
some only 3PL.SBJ=PST.IPfV go=IRR
‘only some (people) would go’ (1-T105)

4.13.3 Emphatic tobi

The emphatic modifier tobi most often occurs with independent pronouns (257) but may also occur with Location nouns (258).
(257) **anau tobi** u=de=a=ma na=po mama
1SG EMPH 1SG.SBJ=get=3SG.OBJ=ma SPEC[CLI]=stay DEM
‘I myself took this position’

(258) bau sipunu merei **i-poana tobi**
PL spoon OBL LOC-village EMPH
‘the spoons were from the village itself’

### 4.13.4 Intensifier **papanusu**

The intensifier **papanusu** only modifies Location nouns and denotes ‘deep’ or ‘high’:

(259) Na:bau i=pei no be~bete=ina=i o'oemana **papanusu**
some 3PL.SBJ=PST.IPFV go.SEQ RD~sleep=3PL.IPFV=IRR bush INTS
‘Some were sleeping in the deep forest’

(260) **i-namana papanusu** e=no de na=iana a'ai
LOC-ocean INTS 3SG.SBJ=go.SEQ take SPEC[CLI]=fish many
‘He goes and catches lots of fish in the deep ocean’

(261) **i-ata papanusu** i-namana
LOC-above INTS LOC-ocean
‘really far out on the ocean’

(262) E=to pu **i-bana papanusu** te=na tatopu
3SG.SBJ=to fall LOC-inside INTS OBL=SPEC.CLI hole
‘He fell deep inside in the hole’

### 4.13.5 Intensifiers **poto** and **mamangi**

There are only a few examples of the intensifiers **poto** and **mamangi** modifying nouns or other nominal modifiers. The difference between the two is unclear, though **poto** has a wider distribution.

In the examples below, **poto** modifies Location nouns (263)-(264), a quantifier modifier (265) and an adjective (266).

(263) Na:ngananga io'o **i-ata poto** po~po=na ioi
SPEC[CLI]=moon DEM LOC-above INTS RD~stay=3SG.IPFV DEM
‘The moon is over there at the very top’

(264) **Vasina poto** sa=au maunu e=pei ara po~po=na=i…
before INTS DIM=CII woman 3SG.SBJ=PST.IPFV PST RD~stay=3SG.IPFV=IRR
‘Long long ago, a young woman lived…’

(265) na=vanua a'ai **poto** i=pei ara po=ina=i
SPEC[CLI]=people many INTS 3PL.SBJ=PST.IPFV PST stay=3PL.IPFV=IRR
‘very many people stayed’

(266) taramina mama **na=mata poto**
thing DEM SPEC[CLI]=good INTS
‘this thing was very good’
In the examples below *mamangi* modifies a Class I noun denoting a period of the day (267), and a quantifier modifier (268):

(267) tuimatamata **mamangi**
    morning         INTS
    ‘early morning’

(268) na=kauto **a’aisi mamangi**
    SPEC[CLI]=Terminalia.Catappa many INTS
    ‘very many Terminalia Catappa nuts’

4.14 Additive *tomana*

The additive marker *tomana* occurs postnominally in a NP and denotes ‘too’. In the following examples *tomana* modifies an independent pronoun (269), a Class II noun (270)-(271), and an Absolute Location noun (272). Example (273) shows that *tomana* occurs after the emphatic modifier *tobi* in the NP.

(269) Anau **tomana** u=nao
    1SG too 1SG.SBJ=go
    ‘I too am going’

(270) Pei **tovu tomana** e=ma’=i=a
    PART sugarcane too 3SG.SBJ=give=TR=3SG.OBJ
    ‘Sugarcane too she gave him’

(271) Au=au **‘usia tomana** e=eri me-na
    1SG.PSSR=CLI child too 3SG.SBJ=IMM.IRR COM-PL.OBJ go=2PL.OBJ=3SG.IPV
    ‘My son too wants to go with you’

(272) Ta **vagi tomana**...
    and now too
    ‘And today too…’

(273) Anau **tobi tomana**
    1SG EMPH too
    ‘I myself too…”

It is likely that the additive marker has grammaticalised as the comitative marker in Papapana (see §6.2.6) and that this could be under the influence of the the Papuan language Rotokas (see §9.3).

4.15 Attributive preposition *merei*

The preposition *merei* is the head of a prepositional phrase (PP) consisting of a nominal root or an underived verbal root. The PP follows the head noun it modifies and expresses the origin or purpose of the head noun. A PP with *merei* may be the predicate in a verbless clause (see §6.8.3) There is a phonological variant *perei* which occurs infrequently in the data and was considered by speakers to be a feature of the speech of younger speakers (see §3.1.3).
When *merei* has a nominal root as its complement, it usually denotes ‘from’. In (274) the nominal complement is a Absolute Location noun while in (275) it is a case-marked Familiar Location noun and in (276) a deictic location word. In (277) *merei* denotes ‘for’, as in the purpose of the head noun.

(274) bau wokman **merei** Koikoi PL workman OBL Koikoi
‘the workmen from Koikoi’

(275) Na=vu-vurau **merei** i-tanana SPEC[CLI]=RD=run OBL LOC-road
‘a car from the road’

(276) Nu=‘usia **merei** ini SPEC[CLI]=child OBL here
‘The child from here’

(277) Na=beke **merei** kavura SPEC[CLI]=bag OBL copra
‘The copra bag’

When *merei* has a zero derived nominalisation as its complement, it usually denotes ‘for’, as in the purpose of the head noun (278)-(280). In (280) a verb and its object noun are the complement of the preposition.

(278) bau inu **merei** aputu PL house OBL sleep
‘the sleeping houses (lit. the house for sleeping)’

(279) Ena=nganangana **merei** burisi 3SG.PSSR[CLI]=month OBL give.birth
‘her due date (lit. her month for giving birth)’

(280) Nu=kara **merei** atu vonata SPEC[CLI]=pandanus OBL make bed
‘the pandanus for making beds’
5 Verbs and the Verb Complex

5.1 Verbs and verb complex structure

A verb in Papapana functions primarily as a predicate but some verbs may also modify nouns in compounds (§4.5), or as part of a prepositional phrase (§4.15). The head of a verbal predicate may be a verb, or a verb derived from another lexical category (§5.2). Verbs belong to an open class and can be categorised according to their valency (§5.4). Certain verbs can occur in serial verb constructions (SVC) (§5.6) while verbs may also be categorised into aspectual classes (§5.8.7).

The verb complex (VC) is a traditional descriptive device in Oceanic research that refers to the verbal head (or sequence of verbs in a serial construction) with its accompanying modifiers: subject-indexing and object-indexing clitics (§5.3), directionals (§5.7), tense, aspect and mode (TAM) markers (§5.8 and §5.9), negative markers (§5.10), adverbs (§5.11) and the marker to (§5.12), whose function is not clear. Preverbal valency-changing morphemes and object incorporation (§5.5) are included in head position in Table 5.1. The transitive enclitic =i and the valency-changing applicative i (§5.5) only occur with singular objects and are separated from the verb by other postverbal constituents. Object incorporation and serial verbs do not co-occur. The verbal head and its modifiers occur in a fixed structural relationship and the term verb complex is used as a descriptive device to capture this relationship. I do not attempt to model the syntactic status of the VC here. The VC does not include arguments and the object-indexing enclitics are considered to be agreement rather than pronominal objects (see §5.3.2); therefore without the inclusion of the object NP, the VC does not equate to a verb phrase (VP). Whether or not Papapana even has a VP is open to further investigation; certainly the fact that adjuncts can occur between the object NP and the VC (see §6.2) suggest that perhaps Papapana does not have a VP.

Table 5.1 shows the VC structure in Papapana. The most minimal VC in Papapana consists of a head with subject-indexing proclitic attached. There are ten preverbal positions: the subject-indexing proclitics, the marker to, the past imperfective marker pei, the mode markers eri and awa (whose relative order is unclear), the negative markers ae and te, the past tense marker ara, then the repetitive aspect marker vare, negative irrealis mode avirua and sequential directional (whose order relative to one another is not entirely clear) and finally preverbal adverbs.

There are ten postverbal positions: geographic directionals, the completive aspect marker osi, postverbal adverbs, transitive =i and applicative i (under certain conditions), object-indexing enclitics, postverbal subject-indexing enclitics, deictic directionals, the general irrealis mode enclitic =i and finally the discontinuous repetitive aspect morpheme re. Usually only one adverb can occur in the
postverbal adverb position but two adverbs are possible; however, the order of the two adverbs is interchangeable and therefore there are not two separate positions.

### TABLE 5.1 VERB COMPLEX STRUCTURE

<table>
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<th>Subject-indexing proclitic</th>
<th>§5.3.2</th>
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<td></td>
<td>to</td>
<td>§5.12</td>
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<tr>
<td></td>
<td>Past tense imperfective aspect pei</td>
<td>§5.8.4.2</td>
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<tr>
<td></td>
<td>Immediate irrealis mode eri</td>
<td>§5.8.5</td>
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<tr>
<td></td>
<td>Conditional mode awa</td>
<td>§5.8.4.3, §5.8.5.1</td>
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<td></td>
<td>Negative ae or te</td>
<td>§5.10</td>
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<tr>
<td></td>
<td>Past tense ara</td>
<td>§5.8.3</td>
</tr>
<tr>
<td></td>
<td>Negative irrealis mode avirua</td>
<td>§5.8.6</td>
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<tr>
<td></td>
<td>Repetitive aspect vare</td>
<td>§5.8.8</td>
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<tr>
<td></td>
<td>Sequential directional</td>
<td>§5.7.3</td>
</tr>
<tr>
<td></td>
<td>Preverbal adverb</td>
<td>§5.11.1</td>
</tr>
<tr>
<td>Head</td>
<td>Valency-changing morphemes</td>
<td>§5.5.2, §5.5.3, §5.5.4, §5.5.6</td>
</tr>
<tr>
<td></td>
<td>Valency-changing object noun incorporation</td>
<td>§5.5.5</td>
</tr>
<tr>
<td>Post-head</td>
<td>Geographic directional</td>
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<tr>
<td></td>
<td>Completive aspect osi</td>
<td>§5.8.9</td>
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<tr>
<td></td>
<td>Postverbal adverb</td>
<td>§5.11.2</td>
</tr>
<tr>
<td></td>
<td>Transitive =i</td>
<td>§5.5.1.1</td>
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<td></td>
<td>Applicative i</td>
<td>§5.5.1.2</td>
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<tr>
<td></td>
<td>Object-indexing enclitic</td>
<td>§5.3.2</td>
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<td></td>
<td>Postverbal subject-indexing enclitic</td>
<td>§5.8.1</td>
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<tr>
<td></td>
<td>Deictic directional</td>
<td>§5.7.2</td>
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<td></td>
<td>General irrealis mode =i</td>
<td>§5.8.4</td>
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<td></td>
<td>Repetitive aspect re</td>
<td>§5.8.8</td>
</tr>
</tbody>
</table>

### 5.2 Verbal derivation

Papapana does not have extensive patterns of verbal derivation. This brief section outlines a few that have been noted and discusses valency-changing operations.

#### 5.2.1 Derivation from other categories

In most cases, verbs are derived through zero derivation from other lexical categories, most notably from adjectives (see §5.4.4.2 for examples). Some numerals and nouns may also function as verbs without derivational morphology (1)-(4), while the quantifier *a’aisi* can function as an existential verb denoting ‘be many’ (see §6.6.2) and *aruai* functions as the numeral ‘zero’, a negative marker or a negative existential verb (see §6.7).

1. E-tama-na e=nanamo=I  
   PERS-father-3SG.PSSR 3SG.SBJ=first=IRR  
   ‘Their father went first’  
   (1-T034)

2. Ben =auana Jane i=vei atamata  
   Ben 3DU Jane 3PL.SBJ=RR friend  
   ‘Ben and Jane are friends’  
   (2-E007-1)
There are a limited number of examples of verbs derived through reduplication from a noun, such as in (5). An intransitive verb is also derived by reduplication from the emphatic marker tobi (6).

(5) a. Na=au to tu
    SPEC=CLII utensil
    ‘a utensil’

b. Anau u=tu-tu tamu=tamu
    1SG 1SG.SBJ=RD-utensil RD-eat
    ‘I served food’

(6) a. Anau tobi
    1SG EMPH
    ‘I myself’

b. Na=po e=agai tobitobi=ena
    SPEC[CLI]=stay 3SG.SBJ=really be.straight=3SG.IPV
    ‘Life isn’t right’

The verb vamamatau ‘teach’ may be diachronically divisible into the causative prefix va- and the noun matau ‘knowledge’, however synchronically ma~matau ‘be knowledgeable’ does not exist.

5.2.2 Valency

Verbal derivation which alters valency includes the applicative i, causative va-, detransitivising ta-, applicative comitative me (which attaches to suffixes reflecting the 3SG and 3PL object enclitics), reciprocal/reflexive vei, object incorporation and transitivity discord. Some of these valency-changing operations are morphological with the morpheme attaching directly to the verb, but others like me and vei are not morphological; however, they do form a unit with the verb, deriving a different valency and are therefore considered the same. Valency-changing operations will be discussed in detail in §5.5.

5.3 Argument marking

This section describes alignment and grammatical relations (§5.3.1), and subject- and object-indexing clitics (§5.3.2).

5.3.1 Alignment and grammatical relations

Papapana is nominative-accusative in its formal marking of core arguments and is typically Oceanic in this respect. There is thus no distinction between the subject of an intransitive (7), transitive (10) or ditransitive predicate (14), nor is the semantic role of the subject argument in an intransitive predicate
differentiated (7)-(9). Instead the person and number of all subjects are indexed by subject proclitics in the VC. If the predicate is transitive, object enclitics in the VC index the person and number of the only object, which may have the semantic role of theme (10), addressee (11), recipient (12) or beneficiary (13), while if the predicate is ditransitive (14), the object enclitics index the person and number of the addressee, recipient or beneficiary while the object expressing the theme (such as the singular iana ‘fish’ in (14)) appears only as a NP without any object enclitic indexing it. Papapana makes a distinction between primary and secondary objects, rather than a direct/indirect object distinction, because the only object of a transitive predicate (usually the patient) is marked in the same way (by the object enclitics) as the addressee, recipient or beneficiary object of a ditransitive predicate, while the theme of a ditransitive predicate occurs only as a NP. The difference between the two patterns can be illustrated by Figure 5.1 (adapted from Dryer 2007a: 256). This is also the case in the Northwest Solomonic (NWS) language Hoava (Davis 2003: 111) and cross-linguistically this is not unusual: “if the verb agrees with only one of the two objects, it will normally agree with the primary object” (Kroeger 2005: 62).

FIGURE 5.1 OBJECTS: DIRECT AND INDIRECT, PRIMARY AND SECONDARY

<table>
<thead>
<tr>
<th>Transitive</th>
<th>Ditransitive</th>
<th>Primary</th>
</tr>
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<tbody>
<tr>
<td>Direct</td>
<td>Indirect</td>
<td>ARB</td>
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<tr>
<td>P</td>
<td>T</td>
<td>Secondary</td>
</tr>
</tbody>
</table>

INTR Actor
(7) Na=orawi e=orete=ena
SPEC[CLI]=man 3SG.SBJ=walk=3SG.IPFV
‘The man is walking’
(2-E009)

INTR Undergoer
(8) Na=orawi e=to pu
SPEC[CLI]=man 3SG.SBJ=to fall
‘The man fell’
(2-E009)

INTR Experiencer
(9) Na=orawi e=nami=ena
SPEC[CLI]=man 3SG.SBJ=sad=3SG.IPFV
‘The man is sad’
(2-E009)

TR Theme
(10) Na=orawi e=ae=a nu=gau~gaunu
SPEC[CLI]=man 3SG.SBJ=buy=3SG.OBJ SPEC.CLI=RD~write
‘The man bought a book’
(2-E009)

TR Addressee
(11) Na=orawi e=wa=i=a=na Ellen
SPEC[CLI]=man 3SG.SBJ=say=TR=3SG.OBJ=3SG.IPFV Ellen
‘The man is speaking to Ellen’
(2-E009)
In Papapana, there is no morphological case on NP arguments nor are there distinct subject and object independent pronouns to indicate grammatical relations. Constituent order is variable but by no means free and therefore constituent order does play a role in marking grammatical relations, but it is not the primary means of doing so (see §6.1).

5.3.2 Subject-indexing and object-indexing clitics

The Papapana VC utilises subject-indexing proclitics and object-indexing enclitics which belong to two of Papapana’s five pronominal paradigms (for pronouns used in the NP, see §4.2). Oceanic languages typically have one or more sets of preverbal morphemes indicating the person and number of the subject and these may sometimes be prefixes or free forms but are usually clitics (Lynch, Ross and Crowley 2002: 35), while postverbal morphemes, usually suffixes or enclitics, indicating the person and number of the object are quite often found in the Oceanic languages of Micronesia and Melanesia (Lynch et al. 2002: 36, 46).

In Papapana, as in most canonic Oceanic languages (Ross 2004c: 499), the subject-indexing and object-indexing clitics occur whether or not there is an overt subject or object NP (the motivation for the presence or absence of core argument NPs is discussed in §6.1). The argument NP may be lexical or pronominal. The only circumstance under which object enclitics are not required is when the object is generic and there is transitivity discord or object incorporation (see §5.5.5). Following Bresnan and Mchombo (1987) the subject and object-indexing clitics can be said to show grammatical agreement when they co-occur with overt NPs expressing the subject and object argument, but anaphoric agreement when they are the only expression of the subject or object argument within the clause. In Siewierska’s terms, the subject and object clitics in Papapana are thus “ambiguous agreement markers” since they “occur both in the presence of an overt controller in the same construction… and in the absence of such a controller” (Siewierska 2004: 126), the controller being “the element which determines the agreement” (Corbett 2006: 4), in this case the subject or object.
The subject-indexing and object-indexing clitics mark the number and person of the subject or object referent. Like all pronominal paradigms in Papapana, there is no gender\(^1\) or case distinction, and referents are classified according to person or speech-act participant (SAP), that is the speaker (first person), hearer (second person), or non-SAP (third person), with an inclusive (speaker and hearer) and exclusive (speaker and non-SAP) distinction in the first person plural. Like the possessor suffixes (§4.9.1) and possessor proclitics (§4.9.2), the subject-indexing and object-indexing clitics distinguish only singular and plural number, and not dual and trial number like the independent pronouns (§4.2.1). It is quite common in Oceanic languages for “non-singular numbers to be neutralised as plural in the subject and object paradigms” (Ross 2004c: 498) and indeed this is also the case in the NWS language Kokota, where object enclitics distinguish the same person categories as independent pronouns but mark only singular and plural number rather than dual and trial as well (Palmer 2002: 501).

### 5.3.2.1 Subject-indexing proclitics

The subject-indexing proclitics in Papapana, shown in Table 5.2, are clear reflexes of Proto-Northwest Solomonic (PNWS) subject clitics \(*u, gu, a\ 1\text{SG}, *o, (mu)\ 2\text{SG}, *i, e\ 3\text{SG}, *mi\ 1\text{EXCL}, *ta\ 1\text{INCL}, *mu\ 2\text{PL},\) and \(*di, da\ 3\text{PL} (Ross 1988: 365).

<table>
<thead>
<tr>
<th></th>
<th>1EXCL</th>
<th>1INCL</th>
<th>2</th>
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<tr>
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The subject-indexing proclitics are always the first element in the VC and cliticise to the next element in the VC, be that the verb itself (15), or one of the other preverbal morphemes (16). Their status as clitics is determined by the fact that they form phonological words with the host (see §3.5.3) and do not attach to a particular lexical category but to the left of preverbal morphemes or the verb itself.

(15) nata na=orawi e=naomai
another SPEC[CLI]=man 3SG.SBJ=come
‘another man came’

(1-T071)

(16) Na=orawi e=ara naomai
SPEC[CLI]=man 3SG.SBJ=PST come
‘a man came’

(1-T065)

In some Melanesian languages, subject-indexing morphemes are portmanteau forms that combine with the expression of the TAM categories of the verb (Lynch et al. 2002: 35), but in Papapana this is not the case and there is one paradigm of subject-indexing proclitics for all voice and TAM distinctions.

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\(^1\) The term *gender* should not be confused with *noun class*. Instead, *gender* here refers to masculine and feminine participants, i.e. ‘he’ and ‘she’.
However, there is one exception: there are three 1INCL subject-indexing proclitics. As described in §3.1.3, the subject-indexing proclitics *si* and *so* are phonological variants and can be used interchangeably: there is no grammatical, semantic or pragmatic motivation for the variation but instead speakers reported that *so* was used by younger speakers, as in (17).

(17) Arira  
1INCL  
INCL.SBJ=RD~call=TR=3SG.OBJ  
‘We call it “mimis”’  

The form *sa* on the other hand can be used instead of *si* ~ *so* but only in the hortative mood. Speakers confirmed that *si* ~ *so* in (18) could replace *sa*.

(18) Sa=nao=i  
i-daramu,  
INCL.SBJ=go=IRR  
LOC-river  
‘Let's go to the river, let’s go and wash’  

Similarly, speakers confirmed that in (19) *sa* could replace *so*.

(19) So=nao=i  
i-poana?  
INCL.SBJ=go=IRR  
LOC-village  
‘Shall we go home?’  

The interchangeable nature of these 1INCL subject-indexing proclitics is further demonstrated in (20) where both *sa* and *si* are used and speakers confirmed that *si* ~ *so* could replace *sa* in the first clause, while *sa* or *so* could replace *si* in the second.

(20) Sa=asi=a=i  
Pasa ta  
INCL.SBJ=leave=3SG.OBJ=IRR  
Pasa and  
INCL.SBJ=go=IRR  
‘Let's leave Pasa and go’  

5.3.2.2 Object-indexing enclitics

The object-indexing enclitics in Papapana, shown in Table 5.3, bear more resemblance to the independent pronouns (§4.2.1) than the subject-indexing proclitics do. Since participant reference usually arises from a diachronic process which begins with independent pronouns, “participant reference markers are often similar in form to the free pronouns” (Payne 1997: 251), and this is especially the case for the independent pronouns and object markers in Oceanic languages (Lynch et al. 2002: 36, Evans 2008: 289).

**TABLE 5.3 OBJECT-INDEXING ENCLITICS**

<table>
<thead>
<tr>
<th></th>
<th>1EXCL</th>
<th>1INCL</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SG</strong></td>
<td>=au</td>
<td>=o</td>
<td>=a</td>
<td></td>
</tr>
<tr>
<td><strong>PL</strong></td>
<td>=ami</td>
<td>=ira</td>
<td>=amu</td>
<td>=ina</td>
</tr>
</tbody>
</table>
Table 5.4 shows the Proto-Oceanic (POc) object markers (Evans 1995: 137) and POc independent pronouns (Ross 1988: 367): it is likely “that non-third person plural object arguments in Proto-Oceanic were denoted solely by independent pronouns” (Evans 2008: 290). The Papapana object-indexing enclitics are either clear reflexes of the POc object markers or of the POc independent pronouns. The absence of initial /k/ in the Papapana forms is consistent with other areas of the lexicon where POc *k is lost, or in some cases realised as /ʔ/ (see §4.1.2.2.3).

**TABLE 5.4 PROTO-OCEANIC OBJECT MARKERS AND INDEPENDENT PRONOUNS**

<table>
<thead>
<tr>
<th>Object Marker</th>
<th>1EXCL</th>
<th>1INCL</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SG</strong></td>
<td>*=au</td>
<td>*=ko</td>
<td>*=a</td>
<td></td>
</tr>
<tr>
<td><strong>Independent Pronoun</strong></td>
<td>![Image](545x21 to 589x36)</td>
<td><img src="559x24" alt="Image" /></td>
<td><img src="564x24" alt="Image" /></td>
<td><img src="595x36" alt="Image" /></td>
</tr>
<tr>
<td><strong>PL</strong></td>
<td><img src="559x24" alt="Image" /></td>
<td><img src="564x24" alt="Image" /></td>
<td><img src="595x36" alt="Image" /></td>
<td><img src="595x36" alt="Image" /></td>
</tr>
<tr>
<td><strong>Independent Pronoun</strong></td>
<td><img src="559x24" alt="Image" /></td>
<td><img src="564x24" alt="Image" /></td>
<td><img src="595x36" alt="Image" /></td>
<td><img src="595x36" alt="Image" /></td>
</tr>
<tr>
<td><strong>Object Marker</strong></td>
<td><img src="559x24" alt="Image" /></td>
<td><img src="564x24" alt="Image" /></td>
<td><img src="595x36" alt="Image" /></td>
<td><img src="595x36" alt="Image" /></td>
</tr>
<tr>
<td><strong>Independent Pronoun</strong></td>
<td><img src="559x24" alt="Image" /></td>
<td><img src="564x24" alt="Image" /></td>
<td><img src="595x36" alt="Image" /></td>
<td><img src="595x36" alt="Image" /></td>
</tr>
<tr>
<td><strong>Object Marker</strong></td>
<td><img src="559x24" alt="Image" /></td>
<td><img src="564x24" alt="Image" /></td>
<td><img src="595x36" alt="Image" /></td>
<td><img src="595x36" alt="Image" /></td>
</tr>
<tr>
<td><strong>Independent Pronoun</strong></td>
<td><img src="559x24" alt="Image" /></td>
<td><img src="564x24" alt="Image" /></td>
<td><img src="595x36" alt="Image" /></td>
<td><img src="595x36" alt="Image" /></td>
</tr>
</tbody>
</table>

The object-indexing enclitics generally tend to attach directly to the verb or the final verb in a verb series; however, geographical directionals (21), the completive aspect marker (22) and adverbs (23) may intervene between the verb and the object-indexing enclitic, and if so, the object-indexing enclitic attaches to the rightmost of these postverbal morphemes. Their status as clitics is determined by the fact that they form phonological words with the host and the fact they do not attach to a particular lexical category but to the rightmost postverbal morpheme or the verb itself.

(21) Nu=obutu  u=rasi  dini=a  
SPEC.CLII=canoe  1SG.SBJ=pull  down=3SG.OBJ  
‘I pulled down the canoe’  
(1-T071)

(22) I=to  va-tamu  osi=ira  
3PL.SBJ=to  CAUS-eat  COMPL=3PL.OBJ  
‘They finished feeding us’  
(1-T002)

(23) Na=vanua  i=ari=ari  garigari=ina  bau ari  
SPEC[CLII]=people  3PL.SBJ=RD~dig  always=3PL.OBJ  PL  dig  
‘The people always dug holes’  
(2-E007-2A)

**5.4 Verb types**

Verbs in Papapana can be classified on the basis of their transitvity into intransitive, transitive, ditransitive and ambitransitive verbs (which may be intransitive and transitive, or intransitive, transitive and ditransitive). Before describing Papapana further, I will outline the framework within which I am classifying Papapana verbs.

In her description of transitvity in the NWS language Longgu, Hill (2011: 459) highlights the “syntax first” approach to transitvity taken in the broader typological literature and the “morphology first” approach taken in the Oceanic literature. In typological literature, such as Dixon and Aikhenvald
(2000), “the initial focus is the grammatical encoding of clause-level transitivity” and verb classes are described on the basis of the number of arguments that they take, without regard to morphology, whereas in the Oceanic tradition “the initial focus is word-level transitivity” (Hill 2011: 459). Hill (2011: 459) states that “implicit in both approaches is the assumption that verbs can be classified as primarily intransitive or transitive first” and “valency-changing devices in a language can then alter the number of arguments in the clause by adding, or reducing, the number of arguments”. Evans’s (2003) study of valency-changing devices in Proto-Oceanic demonstrated that verb roots could be classified based on “(i) the macrorole of the intransitive subject and the relationship between the intransitive and transitive forms of a verb; and (ii) the types of valency-changing devices with which a verb occurred” (Evans 2003: 305). The macrorole of the intransitive subject was either Undergoer (U) or Actor (A). For U-verbs, the intransitive subject (S) argument corresponded to the transitive object (O) argument, whereas for A-verbs, the intransitive S argument corresponded to the transitive actor (A) argument. These morphosyntactic classes generally correlated with semantic classes of verbs. Evans (2003: 23) follows the characterisation of the stative-dynamic distinction presented in Chafe (1970): state verbs denote the state or condition of a referent, process verbs denote that a referent has changed its state or condition, action verbs denote activities which someone performs, and process-action verbs denote a process involving a change in the condition of a patient and an action performed by an agent. In POc then, U-verbs could be further subclassified into U-stative verbs (denoting states) and U-process verbs (denoting processes and process-actions), while A-verbs tended to denote actions or process-actions. The U-stative, U-process and A-verb classes could then each be further divided based on whether they occurred with certain valency changing devices: the causative prefix *pa[ka]-, the transitive suffix *-i, the detransitivising *ma- or *ta- prefix and reduplication. Figure 5.2 shows these POc verb class divisions.

**FIGURE 5.2 PROTO-OCEANIC VERB CLASSES (AFTER EVANS 2003: 87, 306)**

In Papapana it is important to consider both word-level and clause-level transitivity when defining verb classes, because (i) in the case of verbs that can be ditransitive, there is morphological marking of only the O1 in the VC, but there may be both primary and secondary object noun phrases in the clause, and (ii) in the case of transitivity discord, the clause contains an object but the VC does not mark the object morphologically. I classify Papapana verbs firstly as intransitive, transitive, ditransitive or ambitransitive: in their unmarked forms without any valency-changing morphology, intransitive verbs

<table>
<thead>
<tr>
<th>Verbs</th>
<th>U-stative verbs</th>
<th>U-process verbs</th>
<th>Actor subject verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergoer subject verbs</td>
<td>unmarked intr.</td>
<td>intr. with *ma-</td>
<td>unmarked intr.</td>
</tr>
<tr>
<td></td>
<td>unmarked intr.</td>
<td>&amp; intr. with *ma-</td>
<td>unmarked intr.</td>
</tr>
<tr>
<td></td>
<td>tr. with *pa[ka]-</td>
<td>tr. with *pa[ka]-</td>
<td>tr. with *pa[ka]-</td>
</tr>
<tr>
<td>intr. with *pa[ka]-</td>
<td>intr. with *ma-</td>
<td>intr. with *ma-</td>
<td>intr. with *ma-</td>
</tr>
<tr>
<td></td>
<td>tr. with *-i</td>
<td>tr. with *-i</td>
<td>tr. with *-i</td>
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</tbody>
</table>
always occur without the object-indexing enclitics, transitive and ditransitive verbs always occur with the object-indexing enclitics while ambitransitive verbs may occur either with or without the object-indexing enclitics. In my classification of Papapana verbs I then consider the macrorole of the subject and the valency-changing devices that can function with these verb types: the applicative $i$, the causative prefix $va$- and the detransitivising prefix $ta$- (see Table 5.5 for an overview). Other valency-changing devices are discussed in §5.5 but their use is not a defining characteristic of a verb. The semantic class of the verb is discussed but is not a basis for classification in Papapana.

### TABLE 5.5 VALENCY AND VERB TYPES

<table>
<thead>
<tr>
<th>Type</th>
<th>Object-enclitic</th>
<th>Valency-changing</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intransitive</td>
<td>Without</td>
<td>Causative $va$-</td>
<td>§5.4.1</td>
</tr>
<tr>
<td>Transitive A-verbs</td>
<td>With</td>
<td>Applicative $i$</td>
<td>§5.4.2.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Causative $va$-</td>
<td></td>
</tr>
<tr>
<td>Transitive U-process verbs</td>
<td>With</td>
<td>Detransitivising $ta$-</td>
<td>§5.4.2.2</td>
</tr>
<tr>
<td>Ditransitive</td>
<td>With</td>
<td>$Ø$</td>
<td>§5.4.3</td>
</tr>
<tr>
<td>Ambitransitive U-process</td>
<td>With or Without</td>
<td>$Ø$</td>
<td>§5.4.4.1</td>
</tr>
<tr>
<td>Ambitransitive U-stative</td>
<td>With or Without</td>
<td>Causative $va$-</td>
<td>§5.4.4.2</td>
</tr>
<tr>
<td>Ambitransitive A-verbs 1</td>
<td>With or Without</td>
<td>Causative $va$-</td>
<td>§5.4.4.3</td>
</tr>
<tr>
<td>Ambitransitive A-verbs 2</td>
<td>With or Without</td>
<td>Applicative $i$</td>
<td>§5.4.4.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Causative $va$-</td>
<td></td>
</tr>
</tbody>
</table>

#### 5.4.1 Intransitive verbs

An intransitive verb is monovalent, that is, there is one argument, the subject (S). Intransitive verbs are morphologically unmarked and occur in their root form, and the valency of an intransitive verb may only be increased with the causative prefix $va$- (see §5.5.2). This morphosyntactic behaviour corresponds to the unmarked intransitive U-stative verb class in POc (see Figure 5.2) but in Papapana these verbs are semantically process, action, motion and position verbs, examples of which are shown in Table 5.6 (it is necessary for the discussion of SVCs to distinguish motion and position verbs from general action verbs in Papapana, see §5.6).

### TABLE 5.6 INTRANSITIVE VERBS

<table>
<thead>
<tr>
<th>Process</th>
<th>$mate$</th>
<th>$ngono$</th>
<th>$u’udu$</th>
<th>$die$</th>
<th>$boil$</th>
<th>catch fire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>$aputu$</td>
<td>$oa$</td>
<td>$pata$</td>
<td>$tamu$</td>
<td>$vo’o$</td>
<td>$sleep$</td>
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<td>$cry$</td>
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<td></td>
<td>$laugh$</td>
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<td></td>
<td></td>
<td>$eat$</td>
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<td></td>
<td></td>
<td>$call out$</td>
</tr>
<tr>
<td>Motion</td>
<td>$manene$</td>
<td>$tavotu$</td>
<td>$vurau$</td>
<td>$naovo$</td>
<td>$pu$</td>
<td>$dovo$</td>
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<td>$return$</td>
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<td>$arrive$</td>
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<td>$run$</td>
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<td></td>
<td>$fly$</td>
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<td></td>
<td>$fall$</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>$sink$</td>
</tr>
<tr>
<td>Position</td>
<td>$tonu$</td>
<td>$umunu$</td>
<td>$tanga$</td>
<td></td>
<td></td>
<td>$stand$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$sit$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$hang$</td>
</tr>
</tbody>
</table>
It is worth noting that the intransitive verb *tamu* ‘eat’ has a transitive counterpart *ani* ‘eat’:

(24) a. Aia e=tamu
    3SG 3SG.SBJ=eat
    ‘She ate’

    b. Anau u=ani=a
    1SG 1SG.SBJ=eat=3SG.OBJ SPEC[CLI]=mango
    ‘I ate a mango’

5.4.2 Transitive verbs

A transitive verb is bivalent; the two arguments are the subject (A) and object (O). Transitive verbs in Papapana occur in their root form and are marked by object-indexing enclitics. In POc, a transitive verb is defined as “any verb which (a) carries a transitive suffix *-i or *-aki(ni), and/or (b) carries a pronominal suffix or clitic determining person and number of direct object” (Pawley and Reid 1980: 105). In Papapana, only the object-indexing enclitics are a defining feature of a transitive verb. Singular object enclitics may however be preceded by =i but the presence of this transitive enclitic is determined by the phonology of the verbal root (see §5.5.1.1). Since the distinctions between these subcategories is only transparent when the object is singular, and the transitive enclitic does not occur with other object-indexing enclitics, then I do not consider it to be a defining characteristic of transitivity in Papapana, nor to be a synchronically productive valency-changing device (hence I call it transitive rather than transitivising, as it is sometimes referred to in the Oceanic literature).

In Papapana, the majority of transitive verbs have no derived intransitive counterpart and these verbs are action verbs that prototypically have an actor as subject (§5.4.2.1). There is a small group of process verbs which do have a derived intransitive counterpart and for these verbs the transitive object argument corresponds to the derived intransitive subject argument (§5.4.2.2).

5.4.2.1 A-verbs

The class of transitive A-verbs in Papapana (see Table 5.7) does not reflect either of the POc A-verb classes outlined by Evans (2003) (see Figure 5.2) because these verbs in Papapana are never intransitive. For transitive A-verbs, applicative *i* may be a valency increasing device, deriving ditransitive verbs from transitive verbs. The new argument has a beneficiary role and is the O1. Again the enclitic only occurs when the new argument is 2SG or 3SG. The valency of a transitive A-verb may be decreased through object incorporation or transitivity discord if the object is generic (see §5.5.5), or with the reciprocal/reflexive marker *vei* (see §5.5.6), while some transitive verbs are attested with the valency increasing causative prefix *va-* , which derives a ditransitive verb for which the introduced argument is an agent (see §5.5.2). The prototypical A-verb has an actor as subject but even though not all of these verbs are prototypical, they nevertheless all behave morphosyntactically in the same way.
### TABLE 5.7 TRANSITIVE A-VERBS

<table>
<thead>
<tr>
<th>transitive verb</th>
<th>action</th>
</tr>
</thead>
<tbody>
<tr>
<td>rasi</td>
<td>pull</td>
</tr>
<tr>
<td>tuna</td>
<td>push</td>
</tr>
<tr>
<td>de</td>
<td>take</td>
</tr>
<tr>
<td>atono</td>
<td>bring</td>
</tr>
<tr>
<td>noe</td>
<td>put</td>
</tr>
<tr>
<td>agoto</td>
<td>hold</td>
</tr>
<tr>
<td>amunu</td>
<td>see</td>
</tr>
<tr>
<td>tu'u</td>
<td>meet</td>
</tr>
<tr>
<td>ani</td>
<td>eat</td>
</tr>
<tr>
<td>ari</td>
<td>bury/dig</td>
</tr>
<tr>
<td>nata</td>
<td>ask</td>
</tr>
<tr>
<td>oi</td>
<td>call</td>
</tr>
<tr>
<td>tue</td>
<td>scold</td>
</tr>
<tr>
<td>atu</td>
<td>make</td>
</tr>
<tr>
<td>ba'o</td>
<td>beat</td>
</tr>
<tr>
<td>atunu</td>
<td>attack</td>
</tr>
<tr>
<td>paga</td>
<td>shoot</td>
</tr>
</tbody>
</table>

#### 5.4.2.2 U-process verbs

The class of transitive U-process verbs in Papapana (see the exhaustive list in Table 5.8) reflects the marked intransitive U-process verb class in POc (see Figure 5.2) because these verbs can be detransitivised with the prefix ta- (see §5.5.3). These verbs all denote some kind of breaking. The object of the transitive verb corresponds to the subject of the derived intransitive verb, and therefore these transitive verbs have an undergoer subject.

### TABLE 5.8 TRANSITIVE U-PROCESS VERBS

<table>
<thead>
<tr>
<th>transitive verb</th>
<th>action</th>
</tr>
</thead>
<tbody>
<tr>
<td>puana</td>
<td>break (glass, pottery, fruit)</td>
</tr>
<tr>
<td>a ‘u</td>
<td>break (wood)</td>
</tr>
<tr>
<td>bu</td>
<td>capsise</td>
</tr>
<tr>
<td>repi</td>
<td>split (wood)</td>
</tr>
<tr>
<td>putu</td>
<td>break off</td>
</tr>
</tbody>
</table>

#### 5.4.3 Ditransitive verbs

A ditransitive verb in Papapana is trivalent, that is, there are three arguments, the subject (S), the primary object (O1) and the secondary object (O2). When defining a ditransitive verb in Papapana it is necessary to consider both morphology and syntax: the VC marks only O1 with object-indexing enclitics (which may be coreferential with an O1 NP outside the VC), while the O2 occurs as a NP only and is not morphologically marked within the VC. The presence of the transitive enclitic =i is dependent on the number of the object. As described in §5.3.1, the O1 is usually the addressee, recipient or beneficiary, and the O2 is the theme. The only verb which is solely ditransitive in Papapana is ma’a ‘give’: other verbs that can be ditransitive do not require a third argument, but may optionally take a third argument.

#### 5.4.4 Ambitransitive verbs

Anambitransitive verb is one which may be intransitive and transitive (U-process, U-stative and some A-verbs), or intransitive, transitive and ditransitive (other A-verbs).
5.4.4.1 U-process

These U-process verbs can occur underived as intransitive (25) or transitive (26). The only verbs attested are listed in Table 5.9. Like intransitive verbs, the intransitive form is unmarked, and like transitive verbs, the transitive form occurs with object-indexing enclitics (the presence of the transitive enclitic =i is again dependent on the phonology of the verb root and the number of the object). The intransitive subject (25) corresponds to the transitive object (26), thus these verbs are U-verbs, and their morphosyntactic behaviour outlined here corresponds to the unmarked intransitive U-process verb class in POc (see Figure 5.2).

**TABLE 5.9 AMBITRANSITIVE U-PROCESS VERBS**

<table>
<thead>
<tr>
<th>gini</th>
<th>be closed/close</th>
</tr>
</thead>
<tbody>
<tr>
<td>vatago</td>
<td>be leant/lean</td>
</tr>
<tr>
<td>tapipi</td>
<td>be blocked/block</td>
</tr>
</tbody>
</table>

(25) Na=windoa e=gini=ena
SPEC[CLI]=window 3SG.SBJ=close=3SG.IPFW
‘The window is closed’

(2-E015)

(26) Francis na=windoa e=gini=a
Francis SPEC[CLI]=window 3SG.SBJ=close=3SG.OBJ
‘Francis closed the window’

(2-E015)

5.4.4.2 U-stative

In §4.12 I identified a group of roots as being distinct from verbs and distinct from nouns and I called this group *adjectives*. I described how all adjectives can occur in an adjective phrase (AP) with an article that agrees in noun class and/or number with the head noun that the AP is modifying (§4.12.1), and that a small subclass of adjectives may also modify a noun without being marked by an article (§4.12.2). APs can also function as predicates in verbless clauses (see §6.8.5) Here I describe the behaviour of ambitransitive verbs which have been derived through zero derivation from adjectives.

In Oceanic languages, property concepts are commonly expressed by intransitive stative U-verbs and in POc such verbs could not form a transitive with *-i, but only with the causative prefix (Lynch et al. 2002). However, in Papapana this is not the case. Verbs which express property concepts and have been derived through zero derivation from adjectives can be intransitive and transitive without any valency-changing morphology required. The intransitive form is morphologically unmarked:

(27) Na=inu e=etawa=ena
SPEC[CLI]=house 3SG.SBJ=big=3SG.IPFW
‘The house is big’

(2-E008)

(28) Na=anianipeu e=arava
SPEC[CLI]=dish 3SG.SBJ=dry
‘The dishes have dried’

(2-E009)
It is indeed the case that the valency may be increased from intransitive to transitive with the causative prefix \textit{va}-, which introduces an agent argument, with the former intransitive subject corresponding to the new transitive object:

(29) Francis  \texttt{e=va-etawa=i=a} na=INU
Francis 3SG.SBJ=CAUS-big=3SG.OBJ SPEC[CLI]=house
‘Francis made the house big’

(30) Francis  \texttt{e=va-arav=i=a} na=anianipeu
Francis 3SG.SBJ=CAUS-dry=3SG.OBJ SPEC[CLI]=dish
‘Francis made the dishes dry’

It is however also the case that these roots can occur as transitive verbs with object-indexing enclitics, with no additional morphology, to create a comparative construction, with the object being the comparand (31)-(32). The only additional morphology might be the transitive enclitic \textit{=i} but as I have explained, this is dependent on the phonology of the verb root and the object number, and is not derivational morphology. Verbs derived from adjectives do not therefore behave in the same way as other undergoer verbs because other undergoer verbs cannot occur unmarked as intransitive verbs, derived as transitive by the causative prefix \textit{and} unmarked as transitive verbs.

(31) Na=orawi  \texttt{e=etawa=i=a=na} na=maunu
SPEC[CLI]=man 3SG.SBJ=big=TR=3SG.OBJ=3SG.IPFV SPEC[CLI]=woman
‘The man is bigger than the woman’

(32) Skiotu  \texttt{mama e=arava=i=a=na} mama
Skirt DEM 3SG.SBJ=dry=TR=3SG.OBJ=3SG.IPFV DEM
‘This skirt is drier than this’

5.4.4.3 \textit{A}-verbs
These verbs are all \textit{A}-verbs and can be further subcategorised into two groups: (i) those that can be intransitive and transitive (Table 5.10), and (ii) those that can be intransitive, transitive and ditransitive (Table 5.11)

\begin{table}[h!]
\centering
\begin{tabular}{|l|l|}
\hline
\textit{iromo} & drink \\
\textit{bio} & sweep \\
\textit{nai} & marry \\
\textit{burisi} & give birth \\
\textit{roroto} & see \\
\textit{vavarai} & wait \\
\textit{veri} & chat \\
\textit{varona} & know \\
\textit{nongo} & listen \\
\hline
\end{tabular}
\caption{Ambitransitive A-verbs Group 1}
\end{table}
TABLE 5.11 AMBITRANSITIVE A-VERBS GROUP 2

<table>
<thead>
<tr>
<th>averu</th>
<th>steal</th>
</tr>
</thead>
<tbody>
<tr>
<td>gaunu</td>
<td>write</td>
</tr>
<tr>
<td>moroko</td>
<td>lie</td>
</tr>
<tr>
<td>siodo</td>
<td>work</td>
</tr>
<tr>
<td>a’ade’e</td>
<td>narrate</td>
</tr>
</tbody>
</table>

For both groups, the intransitive forms are unmarked, and the transitive forms occur with object-indexing enclitics (the presence or absence of the transitive enclitic =i is again dependent on the phonological form of the verb, and object number). For Group 2 verbs, the applicative i has two functions: (i) it is used as a valency increasing device to derive a ditransitive verb where the new argument that is singular in number has a beneficiary role and is the O1, and (ii) to change the semantic role of the singular object in a transitive predicate from patient to beneficiary.

These ambitransitive verbs are also subject to the same valency changing devices as transitive verbs: object incorporation or transitivity discord if the object is generic (see §5.5.5), and the reciprocal/reflexive marker vei (see §5.5.6), while some are attested with the valency increasing causative prefix va-, which derives a ditransitive verb for which the introduced argument is an agent (see §5.5.2).

5.5 Valency-changing operations

Valency-changing operations are “the most common category of verbal morphology” (Payne 1997: 172), with ninety percent of the languages investigated by Bybee (1985) having morphological manifestations of valence marked on the verb. Like other Oceanic languages (Lynch, Ross, and Crowley 2002, Evans 2003), Papapana has a number of valency-changing devices: an applicative (§5.5.1), a causative prefix (§5.5.2), a detransitivising prefix (§5.5.3), an applicative comitative marker (§5.5.4), object incorporation and transitivity discord (§5.5.5), and a reciprocal/reflexive marker (§5.5.6). Unlike canonical Oceanic languages, reduplication does not play a role in valency-changing in Papapana. There is also no passive in Papapana: if a passive construction in another language were translated into Papapana, it would be realised as a transitive clause in which the subject NP was omitted but indexed by third person subject proclitics in the VC as in (33), with a tendency for the object to be preverbal as in (34).

(33) I=to atun=i=a na=toituna
3PL.SBJ=to attack=TR=3SG.OBJ SPEC[CLI]=king
‘The king was attacked (lit. they attacked the king)’

(34) Na=mata i=buibui tani=a
SPEC[CLI]=door 3PL.SBJ=clean already=3SG.OBJ
‘The door was already cleaned (lit. the door, they already cleaned it)’

(2-E008)

(2-E007-2)
5.5.1 Transitive =i and applicative i

In transitive clauses in Papapana, singular object-indexing enclitics are sometimes immediately preceded by the transitive =i or applicative i. Before proceeding further with the synchronic description of Papapana, it is necessary to provide the diachronic and typological context of these morphemes.

POc had a transitivising suffix *-i which had either a causative or applicative function: for U-verbs the intransitive S corresponded to the transitive O and an actor subject was added, while for A-verbs, it added an O argument and the intransitive S corresponded to the transitive A (Evans 2003: 104-117, Ross 2004c: 506). In POc, the applicative function of *-i contrasted with that of *-akin[i] in terms of the participant types expressed by the introduced O argument: *-i tended to introduce an O argument that denoted patient, stimulus, goal and location roles, while *-akin[i] introduced an O argument that denoted roles such as concomitant, instrument and beneficiary (Evans 2003: 93). In the Oceanic literature these objects are often referred to respectively as close and remote objects (Lynch et al. 2002: 44).

Cross-linguistically, applicatives can apply to intransitive and transitive predicates. When an applicative applies to an intransitive predicate, it derives a transitive predicate, the intransitive S goes into A function, and a “peripheral argument (which could be explicitly stated in the underlying intransitive) is taken into the core, in O function” (Dixon and Aikhenvald 2000: 13). When an applicative applies to a transitive predicate, transitivity is maintained and the A argument remains the same, but a peripheral argument with a different semantic role fills the O function, while the former O argument is moved into the periphery of the clause and may even be omittable (Dixon and Aikhenvald 2000: 13-14). For ease of reference, I shall refer to these two functions respectively as applicative-I, and applicative-II.

5.5.1.1 Transitive =i

In Papapana transitive predicates, =i can occur immediately before the object-indexing enclitics, but only 2SG and 3SG (and sometimes 1SG) object-indexing enclitics. It is considered an enclitic as it forms a phonological word with its host and it attaches to the verb or one of the postverbal modifiers: geographic directionals, completive aspect marker or postverbal adverb. The use of =i is conditioned by the phonology of the verb root. Furthermore, the phonology of the verb root may be altered when =i is present. Transitive or ambitransitive verbs can be categorised into three groups based on whether they occur without =i or with =i, with this latter group further subdivided into verbs which retain and those which lose their final vowel when it is attached. As Table 5.12 shows, =i does not occur (i) when the final syllable of a verb root contains a vowel that is different from the penultimate vowel and (ii) when the verb root ends in /i/ (if =i were present one would expect a long vowel to occur, or for there to be some other change such as stress shift as there is in /i/-final verb roots in Hoava (Davis 2003: 127)). Transitive =i does occur (i) when there are two adjacent vowels, which is also the case in Hoava
(Davis 2003: 127), (ii) when the final vowel is /a/, and (iii) when the vowels in the penultimate and final syllables are identical. In three syllable roots where the vowels in the penultimate and final syllables are identical, the final vowel is replaced by \=i.

**TABLE 5.12 TRANSITIVE STRUCTURES WITH SINGULAR OBJECTS**

<table>
<thead>
<tr>
<th>Root</th>
<th>Transitive Stem</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>(CV.)CV_x.CV_y</td>
<td>(CV.)CV_x.CV_y=OBJ</td>
<td>35, 36</td>
</tr>
<tr>
<td>(CV.)CV.Ci</td>
<td>(CV.)CV.Ci=OBJ</td>
<td>37, 38</td>
</tr>
<tr>
<td>CV_x.CV_y</td>
<td>CV_x.CV_y=OBJ</td>
<td>39</td>
</tr>
<tr>
<td>CV.Ca</td>
<td>CV.Ca=OBJ</td>
<td>40</td>
</tr>
<tr>
<td>(CV.CV.)CV_x.CV_x</td>
<td>(CV.CV.)CV_x.CV_x=OBJ</td>
<td>41, 42</td>
</tr>
<tr>
<td>CV.CV.Ca</td>
<td>CV.CV.Ca=OBJ</td>
<td>43</td>
</tr>
</tbody>
</table>

(35) Anau na=menaga u=atu=a
1SG SPEC[CLI]=cream.banana 1SG.SBJ=make=3SG.OBJ
‘I made creamed bananas’

(36) E=to averu=a au=au koko’i
3SG.SBJ=to steal=3SG.OBJ 1SG.PSSR=CLII taro
‘He stole my taro’

(37) E=peri=a na=kabekabe
3SG.SBJ=find=3SG.OBJ SPEC[CLI]=bag
‘He found a bag’

(38) Evea Marorakuraku e=to burisi=a
Evea Marorakuraku 3SG.SBJ=to give.birth=3SG.OBJ
‘Evea gave birth to Marorakuraku’

(39) Anau na=inu bio~bio=\=i=a=u
1SG SPEC[CLI]=house RD~sweep=TR=3SG.OBJ=1SG.IPFV
‘I am sweeping the house’

(40) E=tuna=\=i=a na=bara
3SG.SBJ=push=TR=3SG.OBJ SPEC[CLI]=ball
‘She pushed the ball’

(41) Na=soida'o e=tu'u=\=i=a
SPEC[CLI]=old.man 3SG.SBJ=meet=TR=3SG.OBJ
‘he met the old man’

(42) Anau u=ri a'ade'e=\=i=a=u
1SG 1SG.SBJ=IMM.IRR narrate=TR=3SG.OBJ=1SG.IPFV SPEC.CLII=narrate
‘I want to tell a story’

(43) E-tama-na e=nongon=\=i=a
PERS-father-3SG.PSSR 3SG.SBJ=listen=TR=3SG.OBJ
‘His father heard him’

The interaction of \=i and the verb root in Papapana reflects that of POc and many modern Oceanic languages, where the presence of -i between the verb and object enclitic depends on the phonology of the verb root, as shown in Table 5.13, adapted from Evans (2008: 291). The loss of the final vowel in
three syllable roots where the vowels in the penultimate and final syllables are identical can be explained diachronically: NWS languages often reflect a PNWS echo vowel added after word-final POc consonants (Ross 1988: 218) and therefore the three syllable Papapana verb roots actually reflect the POc CVCVC roots and when =i is present, the echo vowel is deleted. Such behaviour is common to NWS languages such as Hoava (Davis 2003: 127), Kokota (Palmer 2002: 508), Marovo (Evans 2008: 291) and Roviana (Corston-Oliver 2002: 183).

TABLE 5.13 PROTO-OCEANIC TRANSITIVE STRUCTURES

<table>
<thead>
<tr>
<th></th>
<th>CVCVC stems</th>
<th>CVCa stems</th>
<th>CVCV stems</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTR</td>
<td>CVCVC</td>
<td>CVCa</td>
<td>CVCV</td>
</tr>
<tr>
<td>TR</td>
<td>CVCVC-i=OBJ</td>
<td>CVCa-i=OBJ</td>
<td>CVCV=OBJ</td>
</tr>
</tbody>
</table>

In Papapana, in three syllable roots with identical penultimate and final vowels, a final syllable beginning with /t/ undergoes a sound change to /s/ when =i replaces the final vowel: this reflects the sound change of POc and PNWS *t to s/_i in Papapana (Ross 1988: 219):

(44) CV.CV.v,tVx  →  CV.CV.s=i=OBJ

a. Mamena boni~boni u=ni~nio~nioto=u
   PL.COLL RD=day 1SG.SBJ=RD=RD~dream=1SG.IPFV
   ‘Every day I dream’

b. Anna  e=nios=i=a  ena=sinoni
   Anna  3SG.SBJ=dream=TR=3SG.OBJ  1SG.PSSR[CL1]=husband
   ‘Anna dreamt of her husband’

(2-E029) (2-E024)

The replacement of a final vowel by =i in CVVCV roots such as gaunu ‘write’ also provides evidence to support my analysis that diphthongs are not phonemic in Papapana. In (45) the final /u/ is replaced by =i because it is identical to the penultimate vowel. If the diphthong /au/ were phonemic and one syllable, the final /u/ would not be an echo vowel.

(45) E=gau~gaun=i=a=ena
    3SG.SBJ=RD=write=TR=3SG.OBJ=3SG.IPFV  SPEC.CLII=paper
    ‘(Usually after breakfast) he writes a letter’

(2-E008)

When an adverb intervenes between the verb and the object enclitic, =i attaches to the adverb:

(46) E=tatu  muramura=i=a=ma
    3SG.SBJ=mash firmly=TR=3SG.OBJ=3SG.IPFV=ma
    ‘He’s mashing it firmly’

(1-T036-8)

(47) A:mani  mi=mate  poto=i=a=mani
    1EXCL 1EXCL.SBJ=like INTS=TR=3SG.OBJ=1EXCL.IPFV DEM PART hang DEM
    ‘We really like that necklace’

(1-T029)
It is important to remember that the description presented thus far applies only to clauses in which the object is singular. The 2SG and 3SG object-indexing enclitics are the only monosyllabic object enclitics and this could be the reason that they occur with =i. Examples (48) to (51) show the absence of =i with other object enclitics. In Kubokota too, -i is only used with the 2SG and 3SG monosyllabic object enclitics (Chambers 2009: 113).

(48) I=to agoto=ami te oina=kara
3PL.SBJ=to hold=1EXCL.OBJ OBL 3PL.PSSR[CLI]=car
'They held us in their car'

(49) Anna e=nioto-ira
Anna 3SG.SBJ=dream=1INCL.OBJ
‘Anna dreamt of us’

(50) Mi=no atono=amu=i
1EXCL.SBJ=go.SEQ bring=2PL.OBJ=IRR
‘We’ll go and bring you’

(51) E=gaunu=ina na=pepa
3SG.SBJ=write=3PL.OBJ SPEC[CLI]=paper
‘He wrote letters’

In Papapana, =i does sometimes function with the 1SG object enclitic =au, but the variation has no particular grammatical or semantic motivation as (52) and (53) demonstrate. The use of =i with =au could suggest that the use of =i was once less restricted or it might be analogous with the other singular object-indexing enclitics (for example as in (54)); certainly speakers deemed it more correct to not include =i.

(52) Aetau o=moroko=au
why 2SG.SBJ=lie=1SG.OBJ
'why did you lie to me?'

(53) Aetau o=mo~moroki=au=omu
why 2SG.SBJ=RD~lie=TR=1SG.OBJ=2SG.IPV
'why are you lying to me?'

(54) E=no moroki=a=i na=maunu
3SG.SBJ=go.SEQ lie=TR=3SG.OBJ=IRR SPEC[CLI]=woman
‘He went and lied to the woman’

In Papapana transitive predicates =i occurs with object-indexing enclitics that mark patient objects, like POc *i; however, Papapana =i does not derive a transitive predicate from an intransitive, because it can occur with transitive verbs that are never used intransitively, and so it does not have an applicative-I function. The fact it only occurs when the object is singular shows that it is not a synchronically productive derivational morpheme and that it is not a necessary marker of transitivity. I therefore call it a transitive marker and not transitivising. Indeed, in many Melanesian languages the –i
suffix is no longer productive and there is only vestigial transitive marking, or none at all (Lynch et al. 2002: 45).

5.5.1.2 Applicative i

The applicative \( i \) in Papapana can function as a valency-increasing device with an applicative-II function, that is, it is applied to a transitive or ambitransitive verb to derive a ditransitive verb where the new object is the \( O1 \) (i.e. it is indexed by the object enclitics) and expresses the semantic role of addressee, recipient or beneficiary, while the former object argument occurs only as a NP in the clause (see (58)). When applied to an ambitransitive verb of Group 2 Action verbs (see §5.4.4.3), it may also derive a transitive verb in which the object expresses the semantic role of addressee, recipient or beneficiary, as in (59), rather than of patient (in which case transitive \( =i \) would be applied if the object was singular) as in (45) in §5.5.1.1. Like transitive \( =i \), applicative \( i \) occurs immediately before the object-indexing enclitics, but only 2SG and 3SG object-indexing enclitics; however, unlike transitive \( =i \), it is used with verb roots of all phonological shapes and it does not alter the verb root’s phonology. Applicative \( i \) is not considered a suffix or enclitic because it does not form a phonological word with the verb; for example, in (57) below, a long vowel is not formed, which one would expect if \( i \) formed a phonological word with the verb.

As Table 5.14 shows, applicative \( i \) functions with verb roots (i) where the final syllable contains a vowel that is different from the penultimate vowel and (ii) where the verb root ends in /i/. It is unclear how applicative \( i \) interacts with verb roots (i) where there are two adjacent vowels, (ii) where the final vowel is /a/, and (iii) where the vowels in the penultimate and final syllables are identical. In three syllable roots where the vowels in the penultimate and final syllables are identical, the final vowel is not replaced by applicative \( i \).

**Table 5.14 Ditransitive Structures with Singular Objects**

<table>
<thead>
<tr>
<th>Root</th>
<th>Transitive Stem</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>((CV.)CV_x.CV_y)</td>
<td>((CV.)CV_x.CV_y\ i=OBJ\</td>
<td>64, 65</td>
</tr>
<tr>
<td>((CV.)CV_x.Ci\</td>
<td>((CV.)CV_x.Ci\ i=OBJ\</td>
<td>66</td>
</tr>
<tr>
<td>(CV_x.V_y)</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>(CV_x.Ca)</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>((CV.CV_x.CV_y)\</td>
<td>No data</td>
<td></td>
</tr>
<tr>
<td>(CV.CV_xCV_x\</td>
<td>(CV.CV_xCV_x\ i=OBJ\</td>
<td>67, 68</td>
</tr>
</tbody>
</table>

(55) Anau na=menaga u=atu i=o mai
1SG SPEC[CLI]=creamed.banana 1SG.SBJ=make APPL=2SG.OBJ hither
‘I made menaga for you’

(56) E=averu i=a na=gono aia
3SG.SBJ=steal APPL=3SG.OBJ SPEC[CLI]=banana 3SG
‘He stole a banana for him’
As with transitive =i, the description presented thus far applies only to clauses in which the object is 2SG or 3SG singular, as a comparison of (60)a-c shows.

(60) a. Anau u=atuma’ata i=a nu=koko’i
   1SG 1SG.SBJ=cook APPL=3SG.OBJ SPEC.CLII=taro
   ‘I cooked taro for him’

   b. Anau u=atuma’ata=amų nu=koko’i
   1SG 1SG.SBJ=cook=2PL SPEC.CLII=taro
   ‘I cooked taro for you’

   c. Anau u=atuma’ata=ina nu=koko’i
   1SG 1SG.SBJ=cook=3PL.OBJ SPEC.CLII=taro
   ‘I cooked taro for them’

Unlike transitive =i, this i is derivational with an applicative-II function, albeit not especially productive since it is only with 2SG and 3SG objects that it is applied. Since the object argument that is introduced by i has the semantic role of addressee, recipient or beneficiary, this i is actually more similar to POc *-akin[i] than it is to POc *-i. It could be that in Papapana the functions of POc *-i have been extended, but the morphophonological behaviour is clearly different so I hypothesise that actually it reflects POc *-akin[i]. Indeed, Evans proposes that an applicative form *=-ni, which occurs in a number of NWS languages, can be reconstructed for Proto-Meso-Melanesian, and “it seems likely that this *=-ni is a reduced reflex of POc *-akin[i]” (Evans 2003: 233). In Papapana, I hypothesise that *=-ni has been further reduced to i.

5.5.2 Causative va-
A causative is a valence increasing device which “adds a controlling participant” (Payne 1997: 172) and typically derives transitive verbs from intransitive verbs (Aikhenvald 2007: 41). In a causative construction, the causee is the undergoer of the caused event, while the causer is the agent of the predicate of cause (Payne 1997: 176).

In Papapana, the causative prefix va- is a clear reflex of the POc causative prefix *pa- (Lynch et al. 2002: 83) and is clearly cognate with the causative prefix va- in other NWS languages such as Banoni (Lynch and Ross 2002: 447-448), Teop (Mosel and Thiesen 2007), Roviana (Corston-Oliver 2002:...
Causative *va-* is a productive morpheme that occurs frequently and attaches directly to the verb. It can function with intransitive, transitive and ambitransitive verbs.

With intransitive verbs, *va-* increases the valency and derives a transitive verb from an intransitive one. The causer is the introduced agent participant, occurring as the A argument in the causative clause, while the S argument of the intransitive form of the verb corresponds to the O argument of the causative form of the verb and is the causee. The causee object is indexed by the object enclitic, with the presence of the transitive enclitic =i again dependent on the phonology of the verb root and the number of the object. Intransitive verbs can have their valency increased by *va-* regardless of the semantic role of the A argument of the underived verb; for example, the subject is an experiencer in (65)a and actor in (62)a.

(61) a. **Nu=daramu** e=ngono~ngono=ena
   SPEC.CLI=water 3SG.SBJ=RD~boil=3SG.IPFV
   ‘The water is boiling’

   b. Francis **e=va-ngon=i=a=na** nu=daramu
   Francis 3SG.SBJ=CAUS-boil=TR=3SG.OBJ=3SG.IPFV SPEC.CLI=water
   ‘Francis is boiling the water’

(62) a. Nani te=na garasi mi=tamu
   there OBL=SPEC[CLI] grass 1EXCL.SBJ=eat
   ‘We ate there on the grass’

   b. **I=to va-tamu osi=ira**
   3PL.SBJ=to CAUS-eat COMPL=3PL.OBJ
   ‘They finished feeding us’

(63) a. **Na=vatu e=pu**
   SPEC[CLI]=stone 3SG.SBJ=fall
   ‘The stone fell’

   b. Francis **e=va-pu=i=a** na=vatu
   Francis 3SG.SBJ=CAUS-fall=TR=3SG.OBJ SPEC[CLI]=stone
   ‘Francis dropped the stone’

(64) a. **Francis e=umunu=ena**
   Francis 3SG.SBJ=sit=3SG.IPFV
   ‘Francis is sitting’

   b. Jerry **e=va-umun=i=a** Francis
   Jerry 3SG.SBJ=CAUS-sit=TR=3SG.OBJ Francis
   ‘Jerry seated Francis’

With transitive and ambitransitive verbs, *va-* increases the clause-level valency to ditransitive. The causer is the introduced agent participant, occurring as the A argument in the causative clause, while the A argument of the transitive form of the verb corresponds to the O1 argument of the causative form of the verb and is the causee. The former O argument of the transitive verb is demoted to O2 and
is therefore no longer indexed by the object enclitics. Again the transitive enclitic =i only occurs with some verbs when the object is singular. Transitive and ambitransitive verbs can have their valency increased by va- regardless of the semantic role of the A argument of the underived verb; for example, the subject is an experiencer in (65)a and actor in (66)a.

(65) a. Ben nu=buku e=amun=i=a Ben SPEC.CLII=book 3SG.SBJ=see=TR=3SG.OBJ
‘Ben saw a book’

(66) a. Francis nu=daramu e=irom=i=a Francis SPEC.CLII=water 3SG.SBJ=drink=TR=3SG.OBJ
‘Francis drank the water’

b. Jerry e=va-amunu=ina Francis tau Alan na=vu~vurau
Jerry 3SG.SBJ=CAUS-see=3PL.OBJ Francis and Alan SPEC[CLI]=RD~run
‘Jerry showed Francis and Alan the car’

b. Jerry e=va-iromo=ina Francis tau Anna na=daramu
Jerry 3SG.SBJ=CAUS-drink=3PL.OBJ Francis and Anna SPEC[CLI]=water
‘Jerry made Francis and Anna drink the water’

5.5.3 Detransitivising ta-

For the small class of transitive U-process verbs, the verb may occur in its unmarked transitive form (67)-(68)a, occur in a transitive SVC as either V2 or V1 (see §5.6.2.5) or be detransitivised with the verbal prefix ta- (67)-(68)b in which case the transitive object argument corresponds to the intransitive subject argument. In Papapana the detransitivising prefix ta- is a clear reflex of the POc detransitivising prefix *ta- but its use appears to be rather restricted to only these U-process verbs and it does not occur at all frequently in the data. Since these verbs are inherently inchoative, ta- derives a result state predicate, which is inherently intransitive, so an alternative analysis of ta- might be that it has a resultative function rather than detransitivising. In any case ta- occurs rarely and does not apply to all verbs expressing a change of state, and therefore it is either extremely limited in its function or it is synchronically lexicalised.

(67) a. Francis e=puan=i=a nu=nanava
Francis 3SG.SBJ=break=TR=3SG.OBJ SPEC.CLII=pot
‘Francis broke the pot’

(68) a. E=no pus=i=a na=magura
3SG.SBJ=go.SEQ break.off=TR=3SG.OBJ SPEC[CLI]=green.coconut
‘He went and broke off the green coconut’

b. pei naunu e=ta-putu
PART leaf 3SG.SBJ=DETR-break.off
‘the leaf broke off’
5.5.4 Applicative comitative *me*

There are two ways of expressing an argument with a comitative role in Papapana: one involves a postpositional oblique (see §6.2.6) and the other is an unusual construction consisting of an applicative comitative marker in the VC that appears to occupy the same preverbal position as the causative prefix *va*- and the reciprocal/reflexive marker *vei*. The applicative comitative *me* marks a participant with a comitative role as a core object argument, and this object is usually indexed by the object enclitics. *Me* attaches to the suffixes *-a* when the new object is singular, and to *-na* when it is plural, resulting in the forms *me-a* and *me-na*. The form *-a* is identical to the 3SG object enclitic while *-na* resembles the 3PL object enclitic =*ina* (it is feasible that *me-ina* has phonologically reduced to *me-na*); however, person is no longer distinguished, so *me-a* is used for all singular comitative objects and *me-na* for all plural comitative objects. In the data, *me* occurs with intransitive verbs or ambitransitive verbs, and functions as a valency-increasing device. Further investigation is needed to determine whether *me* could be used with a solely transitive verb, and if so, what would happen to the existing object.

The following examples demonstrate that *me-a* is used with all singular objects (69)-(71) and *me-na* with all plural objects (72)-(74), and that the choice between *me-a* and *me-na* is not motivated by the person and number of the subject, as there are a variety of subject arguments. In these examples, the object argument is indexed only by an object enclitic:

(69) Ani ini o=*me-a* po=*au*=omu=i
2SG here 2SG.SBJ=COM-SG.OBJ stay=1SG.OBJ=2SG.IPFV=IRR
‘You stay here with me’

(70) Na=vanua i=*me-a* tua=i=0 nao Buka
SPEC[CLI]=people 3PL.SBJ=COM-SG.OBJ paddle=TR=2SG.OBJ thither Buka
‘The people paddled with you to Buka’

(71) U=pei me-*a* siodo=i=a=au
1SG.SBJ=PST.IPFV COM-SG.OBJ work=TR=3SG.OBJ=1SG.IPFV
au=avutei
1SG.PSSR[CLI]=brother.in.law
‘I was working with my brother in law’

(72) Toituna iai e=*me-na* po tani=*ira*
God DEM 3SG.SBJ=COM-PL.OBJ stay already=INCL.OBJ
‘God already lives with us’

(73) Anau u=eri me-*na* nao=*amu*=ou
1SG 1SG.SBJ=IMM.IRR COM-PL.OBJ go=2PL.OBJ=1SG.IPFV
‘I want to go with you’

(74) A:mani ini mi=*me-na* po=*ina*=mani ini
1EXCL here 1EXCL.SBJ=COM-PL.OBJ stay=3PL.OBJ=1EXCL.IPFV here
‘We’ll stay here with them’

(1-T023) (2-E015B) (1-T042) (1-T097) (1-T029) (1-T002)
In the following examples, the object argument is indexed by an object enclitic and an object NP:

(75) Anau_ u=eri me-na gaganini=ina=usia 1SG 1SG.SBJ=IMM.IRR COM-PL.OBJ play=3PL.OBJ=1SG.IPFV 'I wanted to play with the children'

(76) I=no me-na po=ina=na=vanua 3PL.SBJ=go.SEQ COM-PL.OBJ stay=3PL.OBJ=IRR SPEC[CLI]=people 'They go and stay with the men'

A number of examples, such as (77) and (78), display only the object NP and not an object-indexing enclitic, meaning that morphologically the verb’s valency has not been increased to transitive. Given that the object is either 3SG or 3PL it could be that the object enclitics are rendered redundant by the fact that me attaches to reflexes of the object enclitics =a and =ina. However, in (71) and (74) above, the object enclitics are used with 3SG and 3PL objects.

(77) U=me-a tamu e-sina-u 1SG.SBJ=COM-SG.OBJ eat PERS-mother-1SG.PSSR 'I ate with my mother'

(78) E=pei me-na siodo=ena=i na=siapani 3SG.SBJ=PST.IPFV COM-PL.OBJ work=3SG.IPFV=IRR SPEC[CLI]=Japanese 'He was working with the Japanese'

In a few instances, such as (79) and (80), there is no object enclitic and no object NP.

(79) I=me-a tua nao=i i-ava 3PL.SBJ=COM-SG.OBJ paddle thither=IRR LOC-sea 'They would paddle out to sea with him'

(80) Mi=pei me-na tua tae nao=i 1EXCL.SBJ=PST.IPFV COM-PL.OBJ paddle up thither=IRR 'We used to paddle out with them'

It is likely that me is a reflex of the POc comitative prepositional verb *ma- (Pawley 1973: 142-147) and the PNWS comitative preposition *ma (Ross 1988: 252): in Oceanic languages some prepositional verbs in SVCs have been reanalysed as adpositions when the serial construction has become unstable (Durie 1988: 3). Papapana me appears to be cognate with the comitative prepositions me- in Teop and Banoni and the comitative case clitic =me in Taiof. In Banoni, me- attaches to a suffixed pronoun resembling the object set, and may precede a comitative NP in a prepositional phrase (PP) (Lynch and Ross 2002: 452-453). In Taiof, =me is also followed by an object clitic, and is historically a preposition which has been captured by the verb and incorporated within the VC in a postverbal position, to increase the verb’s valency (Ross 2002: 434). In Teop, me is a preposition that introduces a PP outside of the verb complex (VC), but it may also be incorporated into the VC in a postverbal position in which it may host object enclitics, in order to increase valency and promote “the object of
the preposition to the position of a primary object” (Mosel (in print.): 9, 14). The fact that in all three languages *me* hosts the object markers is likely a reflection of its history as a prepositional verb, as the special class of prepositional verbs common to Oceanic languages sometimes take transitive morphology (Durie 1988: 2).

*Me* in Papapana behaves similarly to *me* in Taiof and Teop because it also attaches to what appear to be reflexes of object-indexing enclitics (albeit only the 3SG and 3PL ones), it occurs within the VC and it increases valency, promoting a participant with a comitative role to the position of O1. However I believe *me* in Papapana does not reflect an incorporated preposition but a former comitative prepositional verb which has been reanalysed as a valency-increasing morpheme. Firstly, *me* occurs preverbally and constructions with *me* likely reflect “conjoined participant serialisations” (Early 1993: 68, 89) in which “the subject and the object of the first verb become the combined subject of the second”. Secondly, it is possible for *me* to be reduplicated instead of the verb in constructions that combine postverbal subject-indexing (PSI) enclitics and verbal reduplication patterns to express imperfective aspect (see §5.8.6):

\[
\begin{align*}
(81) \quad & U=\text{me-a} \quad \text{nao-nao} \quad \text{e-sina-u} \quad \text{te-na} \quad \text{sto}\text{a} \\
& 1\text{SG.SBJ=COM-SG.OBJ} \quad \text{RD}=\text{go} \quad \text{PERS-mother-1SG.PSSR} \quad \text{OBL=SPEC[CLI]} \quad \text{store} \\
& (\text{Every day}) \text{ I go with my mother to the store'} \\
\end{align*}
\]

\[
\begin{align*}
(82) \quad & \text{Tom} \quad \text{e=me-a} \quad \text{tua-tua=na} \quad \text{soida’o} \\
& \text{Tom} \quad 3\text{SG.SBJ=COM-SG.OBJ} \quad \text{RD}=\text{paddle=3SG.IPfv} \quad \text{old.man} \\
\end{align*}
\]

\[
\begin{align*}
(83) \quad & \text{Nu=}\text{obutu} \quad \text{mi=me-a} \quad \text{nao} \quad \text{tae=mani} \\
& \text{SPEC.CLII=}\text{canoe} \quad \text{1EXCL.SBJ=RD=COM-SG.OBJ} \quad \text{go} \quad \text{up=}\text{1EXCL.IPfv} \\
& \text{‘We go out [to sea] with the canoe’} \\
\end{align*}
\]

\[
\begin{align*}
(84) \quad & \text{Buriatanana} \quad \text{bau} \quad \text{sina-in} \quad \text{PL} \quad \text{mother=}\text{3PL.PSSR} \\
& \text{i=}\text{ae} \quad \text{me-m} \text{e-na} \quad \text{orete=}\text{ina=}\text{ina} \\
& \text{3PL.SBJ=}\text{NEG} \quad \text{RD=}\text{COM-PL.OBJ} \quad \text{walk=}\text{3PL.OBJ=}\text{3PL.IPfv} \\
& \text{‘Young women don’t walk around with their mothers’} \\
\end{align*}
\]

*Me* is no longer a verb in a SVC because it does not occur as an independent verb, it may only be marked by reflexes of the 3SG and 3PL object-indexing enclitics, and it may co-occur with object-indexing enclitics. It could well be that the object-indexing enclitics that occur on the verb in a *me* construction are a later development which occurred after *me* had been reanalysed, and that the lack of object-indexing enclitics on the verb as described above actually reflects the earlier construction.
Certainly synchronically speakers report that there is no semantic or pragmatic difference between constructions with or without object-indexing enclitics.

5.5.5 Object incorporation and transitivity discord

The definition of a transitive verb in Papapana is one that occurs with an object-indexing enclitic (with an optional lexical or pronominal object NP) but there are some clauses in Papapana in which there is an object NP but no object-indexing enclitic. It is here that one needs to go beyond word-level transitivity and consider clause-level transitivity, which is defined not by the presence or absence of object-indexing enclitics or valency-changing morphological devices in the VC, but by “the overall number of arguments in the clause, be they part of the verbal complex or outside it” (Margetts 2008: 31). Margetts (2008: 43) suggests that at the clause-level, some Oceanic languages should be described in terms of “at least four discrete morphosyntactic constructions” to adequately account for the range of semantic transitivity expressed in a language. In addition to intransitive and transitive clauses, she includes object incorporation and what she terms transitivity discord. Of course, word-level and clause-level transitivity may well be the same, but not necessarily always, and in Papapana they are certainly not the same when there is object incorporation and transitivity discord; instead, at the word-level the verb is intransitive because there is no object-indexing enclitic but at the clause-level it is transitive because there is an object noun.

Crucially in Papapana, the use of object incorporation and transitivity discord as valency-decreasing devices is a reflection on the specificity of the object and not on the verb class: that is, only generic objects can be incorporated into the VC or occur in transitivity discord constructions. It is common for a generic object to be incorporated into the VC in Oceanic languages (Lynch et al. 2002: 46) and NWS languages such as Kokota (Palmer 2002: 508), and this is also cross-linguistically common: following Hopper and Thompson (1980), Margetts (2008: 31) states that “highly individuated objects are likely to occur with transitive verbs, while less individuated objects are more likely to occur with intransitive verbs. What the crucial object properties are varies across languages, but the properties most often discussed as relevant are definiteness and specificity”.

5.5.5.1 Object incorporation

Object incorporation is a valence decreasing operation in which “the object ceases to function as an independent argument and becomes part of a formally intransitive verb” (Payne 1997: 221). Object incorporation in Papapana is a productive valency-decreasing process, though it is not overly prevalent in the text data, occurring mainly in elicitation. The construction consists of a transitive or ambitransitive verb that syntactically incorporates its generic object argument, rendering the verb intransitive as it no longer occurs with object-indexing enclitics. The incorporated object argument occurs within the VC as a noun root juxtaposed immediately after the verb or verb series. There is no evidence to suggest that object incorporation is phrasal in Papapana. The other alternative is that the construction consists of a verb that can be ditransitive, in which case there are object enclitics because
these index the O1, but the O2 moves from outside the VC to inside the VC and occurs as a single bare incorporated noun. Consequently the verb is rendered transitive. In Papapana noun incorporation is thus Type 1 “lexical compounding” as described by Mithun (1984: 848). This type of noun incorporation is commonly found in Oceanic languages (Margetts 2008: 30). The semantic result of object incorporation in Papapana is that the attention is no longer on the effect of the process on the object argument but instead on the process itself.

(85) Aia e=ae ani-ani kaukau=ena
3SG 3SG.SBJ=NEG RD-eat sweet.potato=3SG.IPfv
‘He doesn’t sweet potato-eat’

(86) A:mani mi=ari-ari kaukau=emani
1EXCL 1EXCL.SBJ=RD-dig sweet.potato=1EXCL.IPfv
‘We sweet potato-dig’

(87) E=to e–erepe kaukau=ena
3SG.SBJ=to RD–peel sweet.potato=3SG.IPfv
‘She is peeling potatoes’

(88) John e=averu gono=ena
John 3SG.SBJ=steal banana=3SG.IPfv
‘John banana-steals’

(89) Aina i=tuvi–tuvi obutu=ina
3PL 3PL.SBJ=RD–build canoe=3PL.IPfv
‘They raft-build’

(90) E=pei gaunu pepa=i
3SG.SBJ=PST.IPfv write paper=IRR
‘He used to letter-write (after breakfast last summer)’

5.5.5.2 Transitivity discord

Transitivity discord clauses include an object noun or NP outside of the VC, but do not index this object in the VC; as such “they are not intransitive, but are less transitive than transitive clauses” (Hill 2011: 466). This approach fits with Hopper and Thompson’s (1980) description of transitivity as a continuum. Transitivity discord in Papapana is a productive valency-decreasing process that seems to occur more often than object incorporation. The construction consists of a transitive or ambitransitive verb and a generic object noun or NP outside of the VC, but there are no object-indexing enclitics in the VC, therefore the verb is morphologically intransitive. Objects in discord clauses are “syntactically independent, constitute NPs, and can be modified in various ways” (Margetts 2008: 42). In Papapana transitivity discord clauses, the object does not always constitute a NP as it may occur as a bare noun root with no article as in (91) to (93), but it can also occur with an article and constitute a NP as in (94) to (96). Note that in (94) and (95) the nouns are Class I and II nouns respectively, but display inverse number marking (§4.7.2) and are thus marked by the Class II and I specific articles respectively, rendering a plural, generic interpretation. Further investigation is needed to determine what motivates the presence of an article and what, if any, difference there may be between discord objects that have...
articles and those that do not. In any case, the construction is clearly different from object incorporation as the nominal object occurs outside of the VC boundaries (compare (85) and (91)). Note that (91) and (94) demonstrate the variation found in Papapana between verb-medial and verb-final basic clause order (see §6.1).

(91) Aia e=ae anī-anī=ena kaukau
3SG 3SG.SBJ=NEG RD–eat=3SG.IPV sweet.potato
‘He doesn’t eat sweet-potato’

(92) kaukau mi=ari~ari
sweet.potato 1EXCL.SBJ=RD–dig
‘We dig sweet potato’

(93) E=to e–erepe=ena kaukau
3SG.SBJ=to RD–peel=3SG.IPV sweet.potato
‘She is peeling potatoes’

(94) John na=au gono e=averu=ena
John SPEC=CLII banana 3SG.SBJ=steal=3SG.IPV
‘John steals bananas’

(95) E=pei gau~gaunu=ena=ī na=pepa
3SG.SBJ=PST.IPV RD–write=3SG.IPV=IRR SPEC[CLI]=paper
‘He was writing letters’

(96) A:mani mi=atu=ī anī obutu kaka’i
1EXCL 1EXCL.SBJ=make=IRR DIM.PL canoe small
‘We’ll make some small canoes’

5.5.6 Reciprocal/Reflexive vei

The valency-decreasing marker vei occurs immediately before the verb and can function with transitive, ditransitive and ambitransitive verbs to express reciprocal and reflexive actions. Cross-linguistically, it is common for languages that have morphological reflexives to also have morphological reciprocals, and for such languages to “typically express reflexives and reciprocals with the same morphological operators” (Payne 1997: 201). Indeed, reciprocals and reflexives are conceptually similar as they both indicate that the agent and patient are coreferential (Payne 1997: 201). In Papapana, vei is a productive morpheme that occurs frequently, while the same form has a collective function in the NP (§4.4).

In Papapana, the reciprocal/reflexive marker vei is likely to be a reflex of the POc *paRi and *pai- and Proto-New Ireland *var- and *vai- prefixes, which commonly derived reciprocals and collective action verbs from transitives (Lynch et al. 2002: 83, Ross 1988: 284). Pawley (1973: 150-151) reconstructed POc *paRi- as a collective/associative, reciprocal, and iterative marker, referring to (i) “mutual interaction between the entities denoted by the subject of the verb”, and to (ii) “unified or conjoined action by a plural subject, or repeated action by a singular subject, or unification of objects”. Pawley (1973: 151-152) pointed out that the reciprocal meaning was restricted to a subclass of verbs and
therefore labelling this prefix *reciprocal* was misleading. Dixon (1988: 178) similarly argues for Fijian that “to label [the prefix] *vei-* as reciprocal tends to obscure its other functions” and that reciprocal is a specification of the collective meaning. More recently, Lichtenberk (2000b: 58) has suggested that POc *paRi-* expressed plurality of relationship (including reciprocal, collective, and chained actions), and argues that there is no evidence that the reciprocal function was historically primary (Lichtenberk 2000b: 32).

In combination with *vei*, reciprocal and reflexive constructions in Papapana may also optionally use the verb *manene* ‘return’ as the second verb in a nuclear verb serialization or after a pronominal object. It is quite common for the sources of reciprocal and reflexive markers in Oceanic languages to be spatial notions such as ‘downward’, or ‘return’ (Moyse-Faurie 2008: 142-152) and indeed, Lichtenberk (1991: 503-504) identified reflexive markers as one of the grammaticalization paths of the verb ‘return’ in the Oceanic languages Vangunu (Solomon Islands) and Paamese (Vanuatu). The emphatic nominal modifier *tobi* (§4.13.3) may also occur after a pronominal object in both reciprocal and reflexive constructions, or after a pronominal subject in reflexive constructions. Emphatic particles are used to mark coreference and are usually placed after a pronominal object in a number of Oceanic languages (Moyse-Faurie 2008: 131-135).

### 5.5.6.1 Reciprocal

In a prototypical reciprocal clause, two participants equally act upon each other, i.e. both are equally agent and patient (Payne 1997: 200-201). In Papapana the subject of a verb derived by *vei* indicates the participants that are involved in the reciprocal action and is thus always non-singular. The verb, whether transitive (97) or ditransitive (101), does not occur with the object-indexing enclitics and therefore in a reciprocal clause, valency is reduced and the verb is morphologically intransitive, with the clause rendered intransitive or transitive respectively. It should be noted that the 3PL object-indexing enclitics and the 3PL PSI enclitics are homophonous, but the object-indexing enclitics are definitely not used in reciprocal constructions as (99) shows, since the 1EXCL object enclitic is =ami. Example (100) below and (103) in the next paragraph show that reciprocal constructions in Papapana occur even when the subject referents are inanimate or non-human.

(97) I=*vei* atu~atunu=ina  
     3PL.SBJ=RR RD=attack=3PL.IPV 
     ‘They are attacking each other’

(98) Na=vanua i=*vei* ta~tavone=ina te=na kaukau  
     SPEC[CLI]=people 3PL.SBJ=RR RD=help=3PL.IPV OBL=SPEC[CLI] garden  
     ‘The men help each other in the garden’

(99) Mi=pei *vei* a~’atutusi ora=emani=i  
     1EXCL.SBJ=PST.IPV RR RD=chase only=1EXCL.IPV=IRR  
     ‘We were just chasing each other’
In the above examples (except 101), verbal reduplication has an aspectual function and when it has such a function it always co-occurs with PSI enclitics (see §5.8.7); however in (101) above and (102) and (103) below, reduplication does not co-occur with PSI. It could therefore be that reduplication has a reciprocal function and certainly in the NWS language Longgu “most verbs in reciprocal constructions have reduplicated forms expressing the fact that the reciprocal action involves more than one instance of the action” (Hill 2011: 468). Nevertheless, the nature of reduplication in reciprocal constructions in Papapana needs further investigation.

As mentioned in §5.5.6, reciprocal constructions may optionally use the verb manene ‘return’ as the second verb (V2) in a nuclear verb serialization, as in (104) where its use is optional and in (105) where the PSI enclitics clearly show that manene is part of the VC in V2 position.

Although object-indexing enclitics are not used in reciprocal constructions, it is possible to have a pronominal object NP but this is always modified by manene ‘return’ or the emphatic modifier tobi and its function seems to be to optionally emphasise reciprocity:

(106) Amu mu=vei ta-tavone=i amu tobi
2PL 2PL.SBJ=RR RD~help=IRR 2PL EMPH
‘You must help each other’ (2-E014-2)
(107) Nua anua auana tobi i=vei vori~vori=ina
two[CLI] person 3DU EMPH 3PL.SBJ=RR RD~talk=3PL.IPFV
‘Two of them are speaking to each other’

Both manene in V2 position and a pronominal object modified by tobi may simultaneously co-occur with vei:

(108) Aina i=vei roroto manene aina tobi
3PL 3PL.SBJ=RR see return 3PL EMPH
‘They saw each other’

5.5.6.2 Reflexive

In a prototypical reflexive construction, the subject and object are the same entity (Payne 1997: 198). The subject indicates the coreferentiality of the A and O argument for a reflexive (Dixon and Aikhenvald 2000: 11) and the verb does not occur with the object-indexing enclitics (109). Vei therefore reduces valency by “specifying that there are not two separate entities involved; rather, one entity fulfils two semantics roles and/or grammatical relations” (Payne 1997: 198):

(109) Na:maunu e=vei tepe
SPEC[CLI]=woman 3SG.SBJ=RR cut
‘We dislike ourselves’

As mentioned in §5.5.6, reflexive constructions may optionally use the verb manene ‘return’ in a nuclear verb serialization in V2 position, as in (110) where its use is optional and in (111) where the PSI enclitics clearly show that manene is part of the VC in V2 position.

(110) a. Na=maunu e=vei tepe
SPEC[CLI]=woman 3SG.SBJ=RR cut
b. Na=maunu e=vei tepe manene
SPEC[CLI]=woman 3SG.SBJ=RR cut return
‘The woman cut herself’

(111) John e=vei magono manene=ena
John 3SG.SBJ=RR dislike return=3SG.IPFV
‘John dislikes himself’

Although object-indexing enclitics are not used in reflexive constructions, it is possible to have a pronominal object NP that is modified by manene ‘return’ (112), or the emphatic tobi may optionally modify the pronominal subject NP to emphasise reflexivity (113).

(112) A:mani mi=vei magono a:mani manene
1EXCL 1EXCL.SBJ=RR dislike 1EXCL return
‘We dislike ourselves’
\[ \text{Verb serialisation} \]

In Papapana, verbs may occur in serial verb constructions (SVC). Verb serialisation is “the juxtaposition of two or more verbs, each of which would also be able to form a sentence of its own” (Bisang 1996: 533). The sequence of verbs (i) act together as a single predicate without any overt marker of dependency, (ii) share TAM and polarity values, (iii) share at least one and possibly more arguments, (iv) describe what is conceptualised as a single event, and (v) have the same intontational properties as a monoverbal clause (Aikhenvald 2006: 4-20, Durie 1997: 291).

In Papapana, two verbs can occur in a SVC. Example (114) shows that the verbs act as a single predicate without a clause boundary or dependency marker because the verbs occur within one VC; the leftmost margin of the Papapana VC is marked by the subject-indexing proclitics, here 3SG, and the rightmost margin is usually marked by the general irrealis mode enclitic \( =i \). Example (114) also shows that SVCs in Papapana share TAM marking, but unfortunately I am unable to find any examples showing that verbs in SVCs share negative marking.

\[ \text{(114) E=pei \quad eri \quad no \quad vurau \quad tete=na=i \quad i-poana} \]

3SG.SBJ=3SG.IPFV IMM.IRR go.SEQ run enter=3SG.IPFV=IRR LOC-village

‘He wanted to run inside the village’

Subject-indexing proclitics precede the first component verb, while object-indexing enclitics follow the final component verb (see §5.6.2.1, §5.6.2.3 and §5.6.2.4 for examples), regardless of whether the final verb is a transitive verb or not, thus Papapana SVCs are nuclear or contiguous, that is “the verbs are bound together and have only a single set of arguments” (Lynch et al. 2002: 47) and “no other elements intervene between the two verbs” (Reinig 2004: 93). In Western Oceanic languages, nuclear layer serializations are actually less common than core layer serializations (Bril 2004: 1), in which “the verbs remain separate words and usually share just one argument, any other argument… [belonging to] just one of the component verbs” (Lynch et al. 2002: 47).

As Reinig (2004: 94) notes, not all of the criteria outlined above “have to be present at the same time, but on the other hand, a single feature would not be sufficient to classify a construction as a serial verb construction”. Some authors have observed that eventhood and intonation are unreliable criteria for identifying SVCs and I do not use these criteria here. I agree with Reinig (2004: 94) that it is unclear how one can confidently determine what is conceptualised as a single event for a native Papapana speaker. Reinig (2004: 94) also finds the notion of single intonation pattern problematic as “it is unrealistic to assume that there is only one intonation pattern in a monoverbal clause”. I also do not use intonation to identify SVCs in Papapana because an analysis of prosody is beyond the scope of this thesis and therefore there is nothing to compare the prosody of an SVC to at this stage.
The remainder of this section discusses the types of verbs involved in Papapana SVCs and their component wordhood (§5.6.1), and the semantic types and composition of SVCs (§5.6.2).

5.6.1 Verb types and component wordhood

The types of verbs that occur in Papapana SVCs are intransitive verbs of movement in a geographic direction, intransitive locomotion verbs, transitive locomotion verbs, transitive action verbs and intransitive stative verbs (see Table 5.15). I have defined verbs into these semantic categories in alignment with POc SVC verb types (Ross 2004b: 300-301) to allow easier cross-linguistic comparison as these categories occur in other NWS languages such as Kubokota (Chambers 2009).

Intransitive verbs of movement in a geographic direction (GEOG) are those verbs which express movement relative to a specific location or physical ground. These verbs are intrinsically oriented because the “meaning of these verbs includes an orientation for the motion they describe” (Durie 1988: 9). In POc, verbs denoting ‘ascend’ and ‘descend’ belonged to the GEOG category. In Papapana tae ‘ascend/away from shore’, and dini ‘descend/towards shore’ semantically belong to this category but they are not independent verbs in synchronic Papapana and are therefore discussed in §5.7.1. Similarly, POc had a group of deictic verbs which expressed movement in a deictic direction, making reference to one of three persons. In Papapana reflexes of these verbs, nao ‘go’ and naomai ‘come’, have grammaticalised as postverbal deictic directionals and preverbal sequential directionals (see §5.7.2 and §5.7.3).

Locomotion verbs (LOCO) are those verbs which express the manner of movement and entail no directionality. There are two groups of locomotion verbs in Papapana, intransitive and transitive. The transitive locomotion verbs can be subcategorised according to whether they occur as the first verb in the series (V1 position) or the second (V2 position). The V2 transitive locomotion verbs are extrinsically oriented because the verb takes “an object which specifies the spatial reference of the motion” (Durie 1988: 9).

The transitive action verbs and intransitive stative verbs that are attested in SVCs are restricted to those shown in Table 5.15.
### Table 5.15: Serial Verb Construction Verb Types

<table>
<thead>
<tr>
<th>GEOG</th>
<th>GO</th>
<th>LOCO-INTR</th>
<th>LOCO-TR-V1</th>
<th>LOCO-TR-V2</th>
<th>Action</th>
<th>Stative</th>
<th>Process</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>go</td>
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<td>return</td>
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<td>arrive</td>
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<td>orete</td>
<td>varau</td>
<td>mamu</td>
<td>mumu</td>
<td>mate</td>
<td>puana</td>
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<tr>
<td></td>
<td></td>
<td>tete</td>
<td>pu</td>
<td>de</td>
<td>na=to</td>
<td>ma’ata</td>
<td>a’u</td>
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<tr>
<td></td>
<td></td>
<td>manene</td>
<td>tua</td>
<td>banu</td>
<td>atutusi</td>
<td>vovoi</td>
<td>putu</td>
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<tr>
<td></td>
<td></td>
<td>votu</td>
<td>para’a</td>
<td>oi</td>
<td>tage</td>
<td>vewa ~ vowa</td>
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<td></td>
<td></td>
<td>tavotu</td>
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</table>

In order to prove that the verbs in SVCs are indeed verbs in a series, the following examples illustrate a verb from each of the categories in Table 5.15 being used as an autonomous nucleus:

(115) Na=tonu-eta e=to ara tete
SPEC[CLI]=wave-AUG 3SG.SBJ=to PST enter
‘The tsunami came in’

(116) E=to para’a na=epio
3SG.SBJ=to jump SPEC[CLI]=frog
‘The frog jumped’

(117) Aia e=to de=a mai
3SG 3SG.SBJ=to take=3SG.OBJ hither
‘He took it back’

(118) Madonna Nathan e=mumurina=i=a
Madonna Nathan 3SG.SBJ=follow=TR=3SG.OBJ
‘Madonna follows Nathan’

(119) E-sina-ina e=atunu=ina
PERS-mother-3SG.PSSR 3SG.SBJ=attack=3SG.OB
‘Their mother attacked them’

(120) Na=sosopeni gono e=to ma’ata
SPEC[CLI]=saucepan banana 3SG.SBJ=to be.heated
‘The saucepan of bananas is cooked’
The verb *vewa ~ vowa* ‘be like’ usually occurs in a SVC but may occur independently as in (122). The alternate forms are a reflection of the phonological variation described in §3.1.3 in which the front vowel /e/ is sometimes pronounced by younger speakers as the back vowel /ɔ/. *Vewa ~ vowa* as an independent verb, and in a SVC, requires a complement, be it phrasal as in (122) or clausal (see §6.5.2.3.4 and §7.4.1.2).

(122) Ta iai e=vewa
and DEM 3SG.SBJ=be.like
‘and it is like this’

(1-T027-3)

### 5.6.2 SVC semantic types and composition

The verb types described in §5.6.1 combine in various ways to form five types of SVC. Table 5.16 shows the verb types that are permitted in V1 and V2 positions in Papapana SVCs, and the permitted combinations.

<table>
<thead>
<tr>
<th>Type</th>
<th>V1</th>
<th>V2</th>
<th>Semantic type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LOCO-INTR</td>
<td>LOCO-TR-V2</td>
<td>Same-subject transitive directional</td>
</tr>
<tr>
<td>2</td>
<td>LOCO-INTR</td>
<td>GEOG</td>
<td>Intransitive directional</td>
</tr>
<tr>
<td></td>
<td>LOCO-INTR</td>
<td>LOCO-INTR</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>LOCO-TR-V1</td>
<td>GEOG</td>
<td>Switch-subject transitive directional</td>
</tr>
<tr>
<td>4</td>
<td>Action</td>
<td>Stative</td>
<td>Causative</td>
</tr>
<tr>
<td>5</td>
<td>Process</td>
<td>Process</td>
<td>Cause-effect</td>
</tr>
</tbody>
</table>

The first three types (see §5.6.2.1 to §5.6.2.3) are directional SVCs, in which “the first verb expresses movement, the second the direction of that movement or the position reached as result” (Lynch et al. 2002: 47). The fourth type (see §5.6.2.4) is causative, in which “the first verb is transitive and the second expresses the result of the action of the first verb” (Lynch et al. 2002: 47). The fifth type expresses cause and effect (see §§5.6.2.5).

Papapana SVCs are asymmetrical as they comprise “a hierarchized nuclei (i.e. a head and a modifier). The head belongs to an open class, while the modifier may come from a smaller, closed class with a variety of meanings and functions (such as verbs expressing direction, motion, posture, property, cause-effect…)” (Bril 2004: 5).

#### 5.6.2.1 Same-subject transitive directional

In same-subject transitive directional SVCs, the moving participant is the subject of both the intransitive locomotion verb and the transitive locomotion verb, while the object of the construction is
the goal of the movement. The object-indexing enclitics attach to the V2. Although V1 is intransitive, the valency of the whole SVC is transitive due to the V2 being transitive.

(123) Kapa e=para’a mumurina=au
Kapa 3SG.SBJ=jump follow=1SG.OBJ
‘Kapa jumped after me’

(124) E=pei tua mumurina=i=a=enai=ma
3SG.SBJ=PST.IPFV paddle follow=TR=3SG.OBJ=3SG.IPFV=IRR=ma
‘He paddled after him’

Deictic directionals may attach to this SVC construction:

(125) Anau esina-u u=vu-vurau atutusi=a nao
1SG PERS-mother-1SG.PSSR 1SG=RD=run chase=3SG.OBJ thither
‘I ran and chased my mother’

(126) E=to tua tage=a mai
3SG.SBJ=to paddle approach=3SG.OBJ hither
‘He paddled closer to it’

5.6.2.2 Intransitive directional
Intransitive directional SVCs contain a locomotion verb followed by a geographic direction verb, though there is one example (127) of two intransitive locomotion verbs co-occurring, and two examples (128)-(129) of two geographic direction verbs co-occurring, of which the second is manene ‘return’ in both. These SVCs reflect the POc intransitive geographical directional SVC (Ross 2004b: 302-308) and like that SVC, this Papapana SVC may occur with a locative oblique:

(127) Aia e=pei ri para’a tuvu=ena=i
3SG 3SG.SBJ=PST.IPFV IMM.IRR jump swim=3SG.IPFV=IRR
‘He wanted to dive (in)’

(128) E=nao manene te ena=poana
3SG.SBJ=go return OBL 3SG.PSSR[CLI]=village
‘She went back to her village’

(129) Na=iana e=to no nao tete te=na vatu
SPEC[CLI]=fish 3SG.SBJ=to go.SEQ go enter OBL=SPEC[CLI] stone
‘The fish went and went inside the rocks’

As (129) above shows, this SVC may co-occur with sequential directionals and as (130) and (131) show, with deictic directionals. Although (130) and (131) appear to be three verbs in a SVC, §5.7.2 argues that nao in final position is not a serial verb.

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2 In a few examples pei does not seem to express imperfective aspect (see §5.8.4.2) but the motivation for this irregularity is unclear at this stage.
166

(130) U=to vurau manene mai
1SG.SBJ=to run return hither
‘If I run back…’

(131) E=pu tete nao=ma
3SG.SBJ=fall enter thither=ma
‘He fell in’

This SVC may also occur with both deictic directional and a locative oblique:

(132) Mi=ara votu manene mai i-poana
1EXCL.SBJ=PST leave return hither LOC-village
‘We went back to the village’

(133) E=to tete manene nao i-inu
3SG.SBJ=to enter return thither LOC-house
‘He went back inside the house’

5.6.2.3 Switch-subject transitive directional

In switch-subject transitive directional SVCs the moving participant is the object of transitive locomotion V1 and the subject of the intransitive geographic direction V2. The object-indexing enclitics attach to the V2. Although V2 is intransitive, the valency of the whole SVC is transitive due to the V1 being transitive. This SVC reflects the POc transitive geographical directional SVC (Ross 2004b: 303-308) and like that SVC, this Papapana SVC may occur with a locative oblique:

(134) E=mamu-mamu tete=ina na=’usia te=na sirau te aia
3SG.SBJ=RD~throw enter=3PL.OBJ SPEC[CLI]=child OBL=SPEC[CLI] bag OBL 3SG
‘He was throwing all the children inside his string bag’

This SVC may also co-occur with deictic directionals as in (135) and (136), or with both deictic directionals and a locative oblique (137).

(135) E=banu votu=ina mai
3SG.SBJ=carry leave=3PL.OBJ hither
‘He carried them back home’

(136) O=oi tavotu=a mai
2SG.SBJ=call arrive=3SG.OBJ hither
‘Call her out’

(137) E=pei de-de votu=ina=na mai=i i-tanana
3SG.SBJ=PST.IPfv RD~take leave=3PL.OBJ=3SG.IPfv hither=IRR LOC-road
‘When he was carrying them home on the road’

5.6.2.4 Causative

In causative SVCs, the affected participant is the object of V1 and the subject of V2. The object-indexing enclitics attach to the V2. Although V2 is intransitive, the valency of the whole SVC is transitive due to the V1 being transitive.
(138) Jerry e=atunu mate=a Francis
Jerry 3SG.SBJ=attack die=3SG.OBJ Francis
‘Jerry killed Francis’

(139) Anau u=atu ma’as=i=a nu=koko’i
1SG 1SG.SBJ=make heated=TR=3SG.OBJ SPEC.CLH=taro
‘I cooked taro’

(140) I=to ara atu vovoi=ina
3PL.SBJ=to PST make ready=3PL.OBJ
‘They prepared them’

(141) Ini o=atu vewa=i=a=i
here 2SG.SBJ=make be.like=TR=3SG.OBJ=IRR
‘Do it like this here’

The SVC with atunu ‘attack’ and mate ‘die’ is prevalent in Oceanic and NWS languages such as Banoni (Lynch and Ross 2002: 450) and Hoava (Davis 2003: 155, 158). The causative nature of the verbs atunu ‘attack’ and atu ‘make’ is highlighted by comparing (138)-(139) with the following examples, in which the intransitive stative verb is transitivised by the causative prefix va-.

(142) Jerry e=va-mat=i=a Francis
Jerry 3SG.SBJ=CAUS-die=TR=3SG.OBJ Francis
‘Jerry attacked Francis’

(143) Aina i=va-ma’ata tani kaukau
3PL 3PL.SBJ=CAUS-heated already sweet.potato
‘They had already cooked the potatoes’

Causative SVCs in Papapana are quite infrequent and do not appear to be particularly productive. Causation is instead productively expressed by the causative prefix va- (§5.5.2). To some extent, causative SVCs have become lexicalised, as the series atu ‘make’ and ma’ata ‘be heated’ seems to function more as a compound intransitive verb denoting ‘cook’:

(144) Sue e=a’atuma’ata=ena
Sue 3SG.SBJ=RD=cook=3SG.IPfv
‘Sue cooks’

5.6.2.5 Cause-effect

The class of transitive U-process verbs in Papapana denote some kind of breaking (§5.4.2.2) and a few of them are attested in a transitive cause-effect SVCs, though it is unclear if there are restrictions as to which verbs can occur in which position. The object-indexing enclitics attach to the V2 and the affected participant is the object of both verbs. Note that soka in (145) is a clear reflex of POc *soka ‘stab, spear’ but is not attested as an independent verb in Papapana and therefore this type of SVC is
largely lexicalised. Even for those verbs that do occur independently, cause-effect SVCs are very infrequent and unproductive.

(145) Anau u=soka puan=i=a na=ma’ata
1SG 1SG.SBJ=stab break=TR=3SG.OBJ SPEC[CLI]=brown.coconut
‘I split open a brown coconut’ (2-E009)

(146) E=putu a’u=a na=’overau
3SG.SBJ=break.off break=3SG.OBJ SPEC[CLI]=bamboo
‘He broke off the bamboo’ (1-T064)

5.7 Directionals
Directionals belong to a small closed class of words which can modify a verb and have an adverbial function. There are three types of directional in Papapana: three geographic directionals which occur immediately after the verb before the completive aspect marker (§5.7.1), two deictic directionals which occur between PSI enclitics and the general irrealis mode enclitic (§5.7.2) and two sequential directionals which occur immediately before the verb (§5.7.3). Directionals are therefore distinct from adverbs, some of which occur preverbally between the past tense marker and the repetitive aspect marker, and many of which occur postverbally between the completive aspect marker and the object-indexing enclitics. For each of the three positions outlined for directionals, there is a choice of only two or three directionals which can fill that position, whereas the adverb positions can be filled by a number of adverbs with miscellaneous meanings.

5.7.1 Geographic directionals tae, dini and batabata
One of the semantic systems Papapana uses in talking about space is an absolute system of fixed bearings in local space. As Figure 5.3 shows, there is a transverse axis parallel to the coastline in either direction and a vertical axis for which the shoreline is the centre, with movement away from the shoreline (either seawards or landwards/mountainwards) conceived as ‘up’ and movement towards the shoreline (either from the sea or from inland/the mountains) conceived as ‘down’. In the Papapana VC, these geocentric coordinates may be expressed in the VC by the geographic directionals tae ‘ascend/away from shore’, dini ‘descend/towards shore’ and batabata ‘parallel’. The geographic directionals tae and dini are also used to refer to movement upwards away from the ground and downwards towards the ground. These directionals do not modify nouns nor do they occur as clause-level adjuncts; however, the Relational Location nouns ata ‘above’ and vuna ‘below’ correspond to the geographic directional tae and dini and may occur as case-marked locative NP obliques (see §6.2.2.3).
FIGURE 5.3 GEOCENTRIC COORDINATES

Geographic directional occur immediately after the verb:

(147) E=tonu tae
     3SG.SBJ=stand up
     ‘He stood up’
     (1-T052)

(148) Mi=vurau tae nao Panguna
     1EXCL.SBJ=run up thither Panguna
     ‘We ran up to Panguna (mine)’
     (1-T034)

(149) E=pei roroto tae=na nao=i te=na ‘uru
     3SG.SBJ=PST.IPFV see up=3SG.IPFV thither=IRR OBL=SPEC[CLI] island
     ‘He looked out to the island’
     (1-T029)

(150) Mu=ubete dini
     2SG.SBJ=lay down
     ‘Lie down’
     (1-T002)

(151) E=nao dini i-nongana
     3SG.SBJ=go down LOC-beach
     ‘He went down to the beach’
     (1-T029)

(152) Mi=to tuvu dini nao
     1EXCL.SBJ=to swim down thither
     ‘We swam back to the shore’
     (1-T059)

(153) E=pei tua batabata=ena nao=i
     3SG.SBJ=PST.IPFV paddle parallel=3SG.IPFV thither=IRR
     ‘He was paddling in line with the shore’
     (2-T001-2)

These directionals occur before all other postverbal elements including the completive aspect marker 
osi (154), adverbs (155) and object-indexing enclitics (156):

(154) U=to tua dini osi mai
     1SG.SBJ=to paddle down COMPL hither
     ‘I finish paddling back down…’
     (2-E007-2B)
Geographic directionals therefore behave morphosyntactically very much like serial verbs and indeed in POc, verbs denoting ‘ascend’ and ‘descend’ belonged to the category of geographic direction verbs which occurred after locomotion verbs in SVCs (Ross 2004b: 300, 302-305). Diachronically it is likely that the geographic directionals were serial verbs, but I do not classify them as serial verbs because they are not independent verbs in synchronic Papapana. Instead I believe that they have grammaticalised, as directionals in Oceanic languages are often descended from geographical direction verbs in geographical directional SVCs (Ross 2004b: 311).

5.7.2 Deictic directionals mai and nao

In the Papapana VC mai ‘hither’ and nao ‘thither’ optionally indicate the direction of the action in relation to a SAP. The examples show the deictic directional occurring after the verb (157)-(158), a verb series (159), a geographic directional (160), the completive aspect marker osi (161), an object enclitic (162), PSI enclitic (163) and an adverb (164), but before the general irrealis mode enclitic =i (164) and the discontinuous repetitive aspect marker re (165).

(157) Na=kauto e=to pu mai SPEC[CLI]=Indian.almond 3SG.SBJ=to fall hither ‘An Indian almond fell down’ (1-T033)

(158) Mu=votu nao 2PL.SBJ=leave thither ‘Leave’ (1-T034)

(159) Anau u=to tua mumurina mai 1SG 1SG.SBJ=to paddle follow hither ‘I paddled behind’ (1-T023)

(160) I=to nao tae mai i-nongana 3PL.SBJ=to go up hither LOC-beach ‘They came up on the beach’ (1-T029)

(161) O=to de osi mai na=niunu 2SG.SBJ=to take COMPL hither SPEC[CLI]=coconut ‘You finish bringing the coconut’ (1-T036-1)

(162) Na=maunu io’o u=to oi=i=ma mai SPEC[CLI]=woman DEM 1SG.SBJ=to take=TR=3SG.OBJ hither ‘I brought back that woman over there’ (1-T003)

(163) Na=namu e=pei ta~tange=na mai=i SPEC[CLI]=Malay.apple 3SG.SBJ=PST.IPfv RD~float=3SG.IPfv hither=IRR ‘The Malay apple was floating down’ (1-T022)
POc had a group of deictic verbs which expressed movement in a deictic direction, making reference to one of three persons, and these deictic verbs could occur in a SVC following a locomotion or geographic direction verb (Ross 2004b: 300, 305-308). Diachronically it is likely that the Papapana deictic directionals were serial verbs, but I do not classify them as serial verbs because mai does not occur as an independent verbs in synchronic Papapana, and when the form nao functions as a verb, it occurs in a different position in the VC and it may co-occur with the deictic directional nao (166). Nao thus has two lexical categories. Furthermore, synchronically in Papapana, deictic directionals may be separated from the verb by other elements, as for example in (162), and so they do not behave as similarly to serial verbs as geographic directionals. Given that deictic directionals in Papapana clearly derive from the verbs nao ‘go’ and naomai ‘come’, I believe it is likely that they are grammaticalised serial verbs. Indeed, it is common in Oceanic languages for directionals meaning ‘hither’ and ‘thither’ to be cognate with the verbs ‘come’ and ‘go’ (Lynch et al. 2002), and to descend from deictic direction verbs in deictic directional SVCs (Ross 2004b: 311).

5.7.3 Sequential directionals mei and no

In the Papapana VC mei ‘come and’ and no ‘go and’ are preverbal directionals that express the movement that is necessary to fulfil the action expressed by the main verb. They occur after the subject proclitic (167), to (168), the past imperfective pei (169), the immediate irrealis mode marker eri (170) and the negative marker ae (171), but before the valency-changing morphemes vei (172) and va- (173):

(167) E=mei muni=a
  3SG.SBJ=come.SEQ hide=3SG.OBJ
  ‘He came and hid her’ (1-T003)

(168) Aia e=to no de=a nu=kururu
  3SG 3SG.SBJ=to go.SEQ take=3SG.OBJ SPEC[CLI]=yellow.bamboo
  ‘He went and got the yellow bamboo’ (1-T031)

(169) Arira ioi i-ata si=pei no ta’opo=era=i
  1INCL DEM LOC-above 1INCL.SBJ=PST.IPFV go.SEQ hide=1INCL.IPFV=IRR
  ‘We were going and hiding up there’ (1-T002)
(170) E=pei eri no vurau tete=na=i i-poana
3SG.SBJ=PST.IPV IMM.IRR go.SEQ run enter=3SG.IPFV=IRR LOC-village
‘He wanted to go and run into the village’

(171) Obetana o=ae no mu~munu
Underneath 2SG.SBJ=NEG go.SEQ RD=sit
‘Don’t go and sit under it’

(172) Mi=no vei ta’opo re
1EXCL.SBJ=go.SEQ RR hide REP
‘We went and hid ourselves again’

(173) I=mei va-apus=i=a
3PL.SBJ=come.SEQ CAUS-sleep=TR=3SG.OBJ
‘They came and made her sleep’

However, the sequential directionals are attested as both preceding and following the past tense marker
ara (174) and the repetitive aspect marker vare (175):

(174) a. Na=siodo mama u=no ara de=a
SPEC[CLI]=work DEM 1SG.SBJ=go.SEQ PST take=3SG.OBJ
‘I went and got this job’

b. I=ara no atu tamu~tamu bau wallaby
3PL.SBJ=PST go.SEQ make RD=eat PL wallaby
‘The wallabies went and made a feast’

(175) a. Mu=no vae vamaunisi
2PL.SBJ=go.SEQ REP rest
‘Go and rest again’

b. E=vare no bua tae
3SG.SBJ=REP go.SEQ surface up
‘He went and surfaced again’

The sequential directionals clearly derive from the verbs naomai ‘come’ and nao ‘go’. Synchronously
in Papapana, sequential directionals may be separated from the verb by other elements, such as in
(175)a, and so they do not behave like serial verbs, and they are certainly not independent verbs in
Papapana. However it seems likely that they are grammaticalised serial verbs because in POc, deictic
verbs such as ‘come’ and ‘go’ could occur first in a sequential SVC and express ‘come and…’ and ‘go
and…’ while the second verb expressed the main event of the predication (Ross 2004b: 309-311). In
such SVCs, the verbs had the same subjects and a purposive relationship between the actions was
usually implied (Ross 2004b: 309). Although the POc sequential SVC has “resulted in far fewer
grammaticalizations than the directional SVCs” across Oceanic languages (Ross 2004b: 314), this type
of construction is present in other NWS languages such as Teop (Reinig 2004: 102-103) and Banoni
(Lynch and Ross 2002: 448-449), but in these languages the sequential directionals (termed directional
proclitics and sequential particles respectively) occur immediately before the verb, reflecting the
sequential SVC much more than in Papapana where mei and no do not have to occur immediately prior to the verb.

5.8 Tense, aspect and mode

Papapana has a complex system of tense, aspect, mode (TAM) marking in which verbal reduplication and various combinations of preverbal and postverbal markers are used to make TAM distinctions. I initially analysed the TAM system from text recordings and elicitation sessions, but to fully understand the system I carried out elicitation sessions using Part A of the TMA questionnaire (Dahl 1985: 198-206) and parts of the Progressive Aspect Questionnaire (Dahl 2000: 810-818).

5.8.1 Distinctions, markers and postverbal subject-indexing

Tense is the “grammaticalised expression of location in time” and is deictic because it “relates entities to a reference point” (Comrie 1985: 9, 14). In Papapana, present tense is unmarked but past and future tense are marked. The term aspect describes “the internal temporal shape of events or states” (Payne 1997: 238). Papapana makes four aspectual distinctions: habitual, continuous, repetitive and completive. These will be defined in the relevant sections. Mode\(^3\) “describes the speaker’s attitudes toward a situation, including the speaker’s belief in its reality or likelihood [with] the highest-level distinction in modal operations [being] between realis and irrealis” (Payne 1997: 244). Realis mode asserts that “a specific event or state of affairs has actually happened, or actually holds true” (Payne 1997: 244) while irrealis depicts situations that were not or are not yet a reality, but only possibilities (Whaley 1997: 225). Like POc, realis is not morphologically marked in Papapana (Lynch et al. 2002: 84). Papapana marks four mode distinctions: hypothetical/predictive conditional, counterfactual conditional, optative and immediate irrealis. These will be defined in the relevant sections.

Table 5.17 shows how the TAM markers combine to express the distinctions mentioned above, and their relative position in the VC. The preverbal marker ara marks past tense, the postverbal enclitic =i marks general irrealis mode (which may express future tense, present tense and habitual aspect, or hypothetical/predictive conditional mode), the preverbal marker pei marks past habitual in combination with the general irrealis mode enclitic, and the preverbal marker awa marks hypothetical/predictive conditional mode in combination with the general irrealis mode enclitic. The preverbal marker eri functions as a counterfactual conditional mode marker when used in combination with the hypothetical/predictive conditional mode marker awa, or as an immediate irrealis mode marker, expressing immediate irrealis or optative mode, when used in combination with the postverbal subject-indexing (PSI) enclitics (see next paragraph). The PSI enclitics also interact with different patterns of verbal reduplication to express continuous or habitual aspect in the present tense, or with avirua to express negative irrealis mode. The preverbal marker vare marks repetitive aspect while the postverbal marker osi marks completive aspect.

\(^3\) I use the term mode rather than the traditional term mood in order to differentiate modes such as realis from clause-level mood such as imperative or indicative mood.
TABLE 5.17 TAM CONSTRUCTIONS

<table>
<thead>
<tr>
<th>Preverbal</th>
<th>VERB</th>
<th>Postverbal</th>
</tr>
</thead>
<tbody>
<tr>
<td>pei</td>
<td>awa</td>
<td>eri</td>
</tr>
<tr>
<td>Past</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present, habitual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Past, habitual</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Hypothetical/predictive conditional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counterfactual conditional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative irrealis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immediate/Optative</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Present, imperfective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repetitive</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Compleitive</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Most NWS languages display postverbal subject-indexing (PSI), which reflects former possessor indexing (see Palmer 2011: 723 for a detailed discussion of the diachronic functional shift form nominal to verbal marking). This phenomenon was first noted by Capell (1971: 276) for the Buka languages, Lincoln (1976: 427-428) for Mono, Torau and Uruava, and Ross (Ross 1982) for Nehan-North Bougainville (NNB) languages, Piva-Banoni and Mono, Torau and Uruava. Papapana has PSI enclitics which index the person and number of all subjects (see Table 5.18), and express imperfective aspect (see §5.8.6), immediate irrealis or optative mode with the immediate irrealis marker eri (see §5.8.5.2), or negative irrealis mode with the adverb avirua ‘not yet’ (§5.8.6). In Papapana, PSI enclitics co-occur with the preverbal subject-indexing proclitics, which is typical of most NWS languages (Palmer 2011: 691). Their status as clitics is evidenced by the fact they form phonological words with their host (see §3.5.4) and may attach to either the verb or other lexical categories that follow the verb: geographical directionals, completive aspect osi, postverbal adverbs or object-indexing enclitics.

TABLE 5.18 POSTVERBAL SUBJECT-INDEXING (PSI) ENCLITICS

<table>
<thead>
<tr>
<th>1EXCL</th>
<th>1INCL</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
<td>=u</td>
<td>~ =eu</td>
<td>~ =ou</td>
</tr>
<tr>
<td>PL</td>
<td>=mani</td>
<td>~ =emani</td>
<td>=ra</td>
</tr>
</tbody>
</table>
hosts have varying functions in synchronic PSI in NWS languages (see Palmer 2011: 722-723). The variant forms in Papapana shown in Table 5.18 exhibit an initial vowel, either /o/ or /e/, which reflect the general and consumable possession hosts (Palmer 2011: 716); however, synchronically in Papapana there is no functional distinction between PSI enclitics without an initial vowel, PSI enclitics with /o/ and those with /e/. Speakers reported that the initial vowel may be dropped as a quicker way of saying the same thing as in the utterances in (176) which both occurred in the same elicitation session with an older and younger female speaker.

(176)  a. Francis e=tua-tua=na nao te=na ‘uru
Francis 3SG.SBJ=RD-paddle=3SG.IPfv thither OBL=SPEC[CLI] island
b. Francis e=tua-tua=en a nao te=na ‘uru
Francis 3SG.SBJ=RD-paddle=3SG.IPfv thither OBL=SPEC[CLI] island
‘Francis is paddling to the island’

(2-E024)

It was also suggested by these two speakers that /o/ was used by younger speakers as in (177)a which was produced by the younger female speaker and (177)b which was produced by the older female speaker; this phonological variation is consistent with the second phonological change noted in §3.1.3.

(177)  a. Ani o=gaganini=om u
2SG 2SG.SBJ=play=2SG.IPfv
b. Ani o=gaganini=em u
2SG 2SG.SBJ=play=2SG.IPfv
‘You are playing’

(2-E024)

It could also be suggested that the lack of or choice of initial vowel is related to the phonology of the verb root, but I have tested this and observed no regular patterns, and if verbal phonology did play a role then one would expect that the variation in (176) and (177) would not occur.

To summarise this introductory section, it can be seen that while some TAM morphemes can occur independently, others cannot, and some morphemes such as the irrealis mode enclitic =i are polysemous. Consequently it is difficult to divide the following discussion into tense, aspect and mode morphemes but I have tried as much as possible to do so: §5.8.2 discusses the tenses expressed when there are no TAM markers, §5.8.3 discusses the past tense marker ara, §5.8.4-§5.8.6 discuss mode and §5.8.7-§5.8.9 discuss aspect. Tense is discussed throughout these sections, as are any other combinations of these basic TAM constructions that are attested, for example, repetitive aspect and future tense.

5.8.2 Unmarked
A verb unmarked by TAM operators expresses past tense (178), but with non-past temporal adjuncts an unmarked verb may express present (179) or future tense (180).
Examples show that an unmarked verb can be used to refer to events that have past time reference, regardless of whether the past event occurred at an unspecified time in the past (181), the day before the speech act (182), the same day as the speech act (183) or perhaps even very shortly before the speech act as in (184) where the past event has had consequences on the present situation.

(181) Anau
1SG.SBJ=meet=TR=3SG.OBJ
‘I met him (your father who died last year)’

(182) U=to
1SG.SBJ=to meet=TR=3SG.OBJ here yesterday
‘I met him here yesterday’

(183) U=to
1SG.SBJ=to meet=TR=3SG.OBJ here now morning
‘I met him here this morning’

(184) U=to
1SG.SBJ=to open=3SG.OBJ SPEC[CLI]=window
‘I opened the window (that is why it is cold in this room)’

5.8.3 Past tense *ara*

The preverbal marker *ara* expresses past tense, while the preverbal marker *pei* marks past tense and imperfective aspect (see §5.8.4.2). One might wonder whether *ara* also marks aspect but this does not seem to be the case.

One speaker suggested that *ara* refers to past events that happened once or that are finished and no longer true, so it is reasonable to hypothesise that *ara* expresses perfective aspect, in which “the situation is viewed in its entirety” (Payne 1997: 239) and the event is “temporally bounded” (Whaley 1997: 210):

(185) Na=orawi e=ara asi=au
SPEC[CLI]=man 3SG.SBJ=PST leave=1SG.OBJ
‘The man left me’
(186) Mi=pei po=mani=i nani, aite e=ara mate
1EXCL.SBJ=PST.IPFV stay=1EXCL.IPFV=IRR there Dad 3SG.SBJ=PST die
’We were living there, Dad died’

(1-T030)

However, the optional co-occurrence of ara with the past tense imperfective aspect marker pei and the general irrealis mode enclitic =i in a clause expressing past tense and habitual aspect makes this hypothesis implausible:

(187) Jerry e=pei ara ena=i
Jerry 3SG.SBJ=PST.IPFV PST sing=IRR
‘He used to sing’

(2-E007-1)

The event marked by ara is often a past event occurring before another past event or before the present, and therefore it could be that ara expresses perfect aspect as, in keeping with Whaley’s (1997: 211) definition, the past event “has enduring relevance to a set reference time”:

(188) Na=orawi e=ara naomai ta e=mei wa=ami…
SPEC[CLI]=man 3SG.SBJ=PST come and 3SG.SBJ=come.SEQ say=1EXCL.OBJ
‘A man came and said to us…’

(1-T065)

(189) E=to u’usi roro=na, e=to ara si’i
3SG.SBJ=to wet still=3SG.IPFV 3SG.SBJ=to PST rain
‘It is still wet, it rained’

(2-E008)

(190) Vavine-u e=to ara atu=a na=ini
sibling-1SG.PSSR 3SG.SBJ=to PST make=3SG.OBJ SPEC[CLI]=house DEM
‘My brother built this house (that we are standing in front of)’

(2-E008)

(191) O=ara tu’u=i=a vavine-u?
2SG.SBJ=PST met=TR=3SG.OBJ sibling-1SG.PSSR
‘Have you met my brother (yet)?’

(2-E008)

Further investigation is required to establish whether ara has any aspectual meaning, but it seems most likely that ara simply marks past tense only.

5.8.4 General irrealis mode =i

When the postverbal enclitic =i occurs on its own, it indicates irrealis mode. As such it is used to refer to future events or habitual events with a present time frame. It is considered an enclitic because it forms a phonological word with the verb or the rightmost postverbal morpheme (with the exception of the discontinuous repetitive aspect morpheme re which occurs after the irrealis mode enclitic). It may be used in conjunction with the past tense imperfective aspect marker pei to express past tense and habitual aspect (§5.8.4.2), or with ava to express hypothetical/predictive conditional mode (§5.8.4.3). On its own =i may also be used in imperative and hortative clauses (see §5.9). The polysemous nature of this morpheme can be explained by the fact that cross-linguistically mode interacts significantly with tense and aspect; “habitual aspect clauses are less realis than perfective aspect clauses since...
habitual aspect describes an event type that is instantiated from time to time by actual events” (Payne 1997: 245) but are not specific real events, and since future events have not taken place yet, this means they are also not specific real events. Due to its many functions, I label this morpheme the general irrealis mode marker.

5.8.4.1 Irrealis mode

The postverbal enclitic =i indicates irrealis mode and is used to refer to future events or habitual events with a present time frame. Examples (192)-(198) show that Papapana does not distinguish between different degrees of future time: a verb marked by =i may express future tense for events that are about to occur as in (192) and (193), will occur the day after the speech act (194), in the coming week after the speech act (195), or at an unspecified time in the future as in (196) and (197). Papapana also uses =i to mark future tense for events that the speaker is hypothesising will happen (198).

(192) Vagi u=gaun=i=a=i nu=pepa
now 1SG.SBJ=write=TR=3SG.OBJ=IRR SPEC.CLI= paper
‘Right now I’ll write a letter’ (2-E008)

(193) Anne e=asi=a=i na=poana
Anne 3SG.SBJ=leave=3SG.OBJ=IRR SPEC[CLI]= village
‘Anne will leave the village (in a minute)’ (2-E016)

(194) Natui Anne e=asi=a=i na=poana
tomorrow Anne 3SG.SBJ=leave=3SG.OBJ=IRR SPEC[CLI]= village
‘Tomorrow Anne will leave the village’ (2-E016)

(195) Anau u=matono matamata=i tena siido
1SG 1SG.SBJ=awaken early=IRR OBL work
‘(This week) I’ll wake up early to work’ (2-E008)

(196) tue-ni Papapana e=taosi=i mumurina
language-CONST Papapana 3SG.SBJ=finish=IRR future
‘Papapana language will die out in the future’ (1-T083)

(197) Anau u=atu=a=i nu=obutu kaka’i
1SG 1SG.SBJ=make=3SG.SBJ=IRR SPEC.CLI=canoe small
‘I will make a small canoe’ (2-E007-1)

(198) Ben bea e=oto=i te=na=au obutu
Ben maybe 3SG.SBJ=board=IRR OBL SPEC=CLI= canoe
‘Maybe Ben will board the canoe’ (2-E007-1)

The postverbal enclitic =i also expresses habitual aspect and if there is no further marking indicating tense, then the tense expressed is present (199). This construction may co-occur with temporal adverbs (200)-(201).

(199) Mi=nao=i i-ava
1EXCL.SBJ=go=IRR LOC- sea
‘We (often) go to sea’ (1-T010)
(200) **Mamena boni-boni** Maureen e=siodo=i, e=gaganini=i, PL.COLL RD=day Maureen 3SG.SBJ=work=IRR 3SG.SBJ=play=IRR

iara e=no aputu=i
then 3SG.SBJ=go.SEQ sleep=IRR
‘Every day, Maureen works, plays then goes and sleeps’

(201) **Tena bau Sande** mi=ae buibui=i, mi=ae siodo=i, OBL PL Sunday 1EXCL.SBJ=NEG clean=IRR 1EXCL.SBJ=NEG work=IRR

mi=ae atuma’ata=i
1EXCL.SBJ=NEG cook=IRR
‘On Sundays we don’t clean, we don’t work and we don’t cook’

5.8.4.2 *Past tense, imperfective aspect: pei and =i*

The preverbal marker *pei* marks past tense and imperfective aspect and always occurs in combination with the general irrealis mode enclitic =*i* (202). The only situation in which =*i* does not occur is if the 1SG PSI enclitic is also present; however, the motivation for this is unclear at this stage. Together, and without any other TAM markers present, *pei* and =*i* mark past tense and habitual aspect (202)-(204), and may co-occur with temporal adjuncts (203)-(204).

(202) **Mi=pei** matono=i i-poana Teperoi 1EXCL.SBJ=PST.IPFV awaken=IRR LOC-village Teperoi

‘We used to wake up in Teperoi village’

(203) **Vasina...** u=pei nao=i te=na kaukau before 1SG.SBJ=PST.IPFV go=IRR OBL=SPEC[CLI] garden

‘In the past… I used to go to the garden’

(204) **Tena bau Mande, a:mani mi=pei** nao=i te=na skuru OBL PL Monday 1EXCL 1EXCL.SBJ=PST.IPFV go=IRR OBL=SPEC[CLI] school

‘On Mondays, we used to go to school’

*Pei* and =*i* may also co-occur with the past tense morpheme *ara* (see §5.8.3), with the preverbal marker *eri* and PSI enclitics to express past tense, optative mode (see §5.8.5.2) and with the preverbal negative irrealis mode marker *avirua* ‘not yet’ and PSI enclitics to express anticipated events that had not yet taken place at a point in time in the past (see §5.8.6). *Pei* and =*i* may also co-occur with PSI enclitics and, for some verbs, verbal reduplication to express past tense, continuous aspect as in (205) (see §5.8.7 for more examples). It is for this reason that I label *pei* as imperfective rather than habitual.

(205) Na:bau i=pei ubete=ina=i i-tanana some 3PL.SBJ=PST.IPFV lay=3PL.IPFV=IRR LOC-road

‘Some were laying on the road’

The occurrence of the general irrealis mode enclitic =*i* in utterances expressing past continuous is admittedly problematic since the situation expressed by the VC is real and the general irrealis mode
enclitic =i is usually used to refer to future or habitual events. For some of the examples where pei and =i co-occur with PSI enclitics and verbal reduplication to express past continuous, the presence of =i could be explained by the fact that the utterances come from elicitation sessions or from traditional narratives, such as in (206), in which the speaker is arguably referring to imaginary situations. Other examples, such as (207), could arguably be interpreted as past habitual, though the difference between examples such as (207) and (202) would need explaining. In many examples, however, the situation expressed by the VC is a real past event as in (205) and they are interpreted as expressing past continuous: the reason for the occurrence of =i in such examples requires further investigation.

(206) Rosu e=pei bae=baene=ena=i na=orona
Lucifer 3SG.SBJ=PST.IPfv RD-hunt=3SG.IPfv=IRR SPEC[CL1]=possum
‘Lucifer was hunting possums’

(207) e=pei me-na siodo=na=i na=siapani
3SG.SBJ=PST.IPfv COM-PL.OBJ work=3SG.IPfv=IRR SPEC[CL1]=Japanese
‘he was working with the Japanese’

5.8.4.3 Hypothetical/predictive conditional: awa … =i, =i

The preverbal marker awa marks conditional mode and never occurs as the only TAM marker in a clause. One of the TAM markers it combines with is the general irrealis mode enclitic =i. Together, these markers express hypothetical conditional situations, which Chambers (2009: 108) defines as “situations that are not the case but could come about if something else were the case”. The dependent conditional clause is marked by both awa and =i, while the main clause is marked by =i only and expresses the resulting situation if the hypothetical situation were to be realised (see §7.3.1 for more):

(208) Edward e=awa rorosi=a=i ena=arao,
Edward 3SG.SBJ=COND see=3SG.OBJ=IRR 3SG.PSSR[CL1]=brother

(209) O=to awa nao=i, i=no atun=i=o=i
2SG.SBJ=to COND go=IRR 3PL.SBJ=go.SEQ attack=TR=2SG.OBJ=IRR
‘If you go, they will go and attack you’

(210) U=to awa nao=i te=na skuru, iara u=peri siodo=i
1SG.SBJ=to COND go=IRR OBL=SPEC[CL1] school then 1SG.SBJ=find work=IRR
‘If I go to school, then I will find work’

Sometimes the situation is more certain or predicted to happen and the translation is ‘when’ rather than ‘if’ (211)-(212).
(211) O=to awa manene mai=i, 2SG.SBJ=to COND return hither=IRR

anau u=gaunu ozi=ina=i na=pepa
1SG 1SG.SBJ=write COMPL=3PL.OBJ=IRR SPEC[CLI]=paper
‘When you return, I will have finished writing the letters’

(2-E008)

(212) e=to awa nao=i Buka, e=no ani=i na=toa 3SG.SBJ=to COND go=IRR Buka 3SG.SBJ=go.SEQ eat=IRR ART=chicken
‘When she goes to Buka, she’ll eat chicken’

(2-E024)

Often in casual speech awa is reduced to wa:

(213) E=to wa de=a=i na=vatu, 3SG.SBJ=to COND take=3SG.OBJ=IRR SPEC[CLI]=money

e=ae kaukau=i=a=ı ena=maunu
3SG.SBJ=buy sweet.potato=TR=3SG.OBJ=IRR 3SG.PSSR[CLI]=woman
‘If he gets the money, he will potato-buy for his wife’

(2-E008)

Some utterances do not exhibit awa, but only =i in both the main and dependent clause. Since the construction with awa only became transparent in elicitation sessions, it could be that in casual speech awa is often lost. Alternatively, it could be that sentences such as (214)-(215) are structurally two separate main clauses. However, the first clause has the same conditional function as one marked by awa, and impressionistically the intonation contour is the same as that of a hypothetical/predictive conditional sentence. Indeed, the translations given by speakers suggest there is no difference between the two types of constructions in terms of function.

(214) Aina i=to matono=i, i=varona=i
3PL 3PL.SBJ=to awaken=IRR 3PL.SBJ=know=IRR
‘if they wake up, they will know’

(1-T021)

(215) Na=vatu o=to noe=i=a=i te=na kabekabe,
SPEC[CLI]=stone 2SG.SBJ=to put=TR=3SG.OBJ=IRR OBL=SPEC[CLI] bag

e=tago=a=ı
3SG.SBJ=break=3SG.OBJ=IRR
‘If you put a stone in the bag, it will break it’

(2-E008)

5.8.5 Counterfactual or immediate irrealis mode eri

The preverbal mode marker eri may function as a counterfactual marker or as an immediate irrealis mode marker. As a counterfactual marker, eri operates in conjunction with the preverbal conditional marker awa to express counterfactual conditions (§5.8.5.1). As an immediate irrealis mode marker, eri operates with PSI enclitics to express immediate irrealis mode or optative mode (§5.8.5.2). For both constructions eri seems to express unreality.
5.8.5.1 Counterfactual conditional mode: awa … eri, eri

The other TAM marker that the preverbal conditional marker awa can co-occur with is the preverbal counterfactual marker eri. Together, these markers express counterfactual conditional situations, which describe situations that cannot, did not or are highly unlikely to occur. The dependent clause is marked by both awa and eri, expressing the conditional situation, while the main clause is marked by eri only and expresses the resulting situation if the conditional situation were to be realised (see §7.3.1 for more).

The relative ordering of awa and eri is quite variable as shown in (216), with speakers producing both orders and deeming both to be acceptable without any change in meaning. In casual speech awa is often shortened to wa as in (216)a. while when eri occurs adjacent to the subject marker to, it is often shortened to ri as in (216)b and (217).

(216) a. Tamu~tamu i=to wa eri ma’ata, u=eri tamu
RD~eat 3PL.SBJ=to COND CF heated 1SG.SBJ=CF eat

b. Tamu~tamu i=to ri awa ma’ata, u=eri tamu
RD~eat 3PL.SBJ=to CF COND heated 1SG.SBJ=CF eat
‘If they had cooked the food, I would have eaten’

(217) Au=atamata e=to awa eri nao
1SG.PSSR[CLI]=friend 3SG.SBJ=to COND CF go
anau tomanu u=ri nao tani
1SG too 1SG.SBJ=CF go already
‘If my friend had gone, I too would have already gone’

Like imperatives and prohibitives (see §5.9 and §5.10.2), when the verb po ‘stay, exist’ occurs in this construction, it appears to be compulsory for the PSI enclitics to also be employed:

(218) O=to ri awa po=mu i-inu naonava,
2SG.SBJ=to CF COND stay=2SG.IPfv LOC-house yesterday

2SG.SBJ=CF varon=i=a Sue
2SG.SBJ=CF know=TR=3SG.OBJ Sue
‘If you had been at home yesterday, then you would know Sue’

(219) O=to ri awa po=mu Buka,
2SG.SBJ=to CF COND stay=2SG.IPfv Buka

2SG.SBJ=CF rorosi=au
2SG.SBJ=CF see=1SG.OBJ
‘If you had been in Buka, you would have seen me’
5.8.5.2 Immediate irrealis and optative mode: eri and PSI

When the preverbal marker *eri* functions as an immediate irrealis mode marker and co-occurs with PSI enclitics, the construction expresses immediate irrealis mode, which, following Chambers (2009: 102) definition of immediate irrealis, is used to refer to “events that are imminent or about to be realised”:

(220) Na=kara e=eri nao=na=ma
SPEC[CLI]=car 3SG.SBJ=IMM.IRR go=3SG.IPFV=ma
‘The car is about to go/is starting to go’

(221) Ian e=eri atu=a=ena ena=siodo
Ian 3SG.SBJ=IMM.IRR make=3SG.OBJ=3SG.IPFV 3SG.PSSR[CLI]=work
‘Ian is starting to do his work’

(222) Ian e=eri atuma’as=i=a=ena nu=koko’i
Ian 3SG.SBJ=IMM.IRR cook=TR=3SG.OBJ=3SG.IPFV SPEC.CLII=taro
‘Ian is starting to cook taro’

(223) Anne e=to eri erepe kaukau=ena
Anne 3SG.SBJ=to IMM.IRR peel sweet.potato=3SG.IPFV
‘Anne is starting to potato-peel’

In contrast with this construction, the verb *vuna* ‘start’ can express that the event is imminent:

(224) Ian e=vun=i=a na=siodo
Ian 3SG.SBJ=start=TR=3SG.OBJ SPEC[CLI]=work
‘Ian is starting the work’

(225) Ian e=vun=i=a tena atuma’as=i=a nu=koko’i
Ian 3SG.SBJ=start=TR=3SG.OBJ OBL cook=TR=3SG.OBJ SPEC.CLII=taro
‘Ian is starting to cook taro’

The immediate irrealis mode marker *eri* may also function with PSI enclitics to express optative mode, which refers to wishes and desires (Payne 1997: 246):

(226) U=eri tamu=ou
1SG.SBJ=IMM.IRR eat=1SG.IPFV
‘I want to eat’

(227) U=eri gaun=i=a nu=popa
1SG.SBJ=IMM.IRR write=TR=3SG.OBJ=1SG.IPFV SPEC.CLII=paper
‘I want to write a letter’

(228) Anau u=eri me-na nao=amu=ou te=na ‘uru
1SG 1SG.SBJ=IMM.IRR COM-PL.OBJ go=2PL.OBJ=1SG.IPFV OBL=SPEC[CLI] island
‘I want to go with you to the island’

As mentioned in §5.8.5.1, in casual speech when *eri* occurs adjacent to the subject marker *to*, it is often shortened to *ri*, but these two morphemes may also combine to form *teri* (229).
(229) Na=vanua i=t=eri nao=ina=i
SPEC[CLI]=people 3PL.SBJ=to=IMM.IRR go=3PL.IPFV=IRR
‘The people want to go’

(1-T029)

This construction may be further marked by the past tense preverbal marker pei and the general irrealis mode enclitic =i (see §5.8.4.2) to express optative mode in the past tense (230)-(231) (note that =i does not occur in (230) because the 1SG PSI enclitic is present), or in combination with the preverbal repetitive aspect marker vare to express optative mode and repetitive aspect (232)-(233).

(230) Naonava u=pei eri ena=u
yesterday 1SG.SBJ=PST.IPFV IMM.IRR sing=1SG.IPFV
‘Yesterday I wanted to sing’

(2-E014-2)

(231) I=pei eri agos=i=a=ina=i
3PL.SBJ=PST.IPFV IMM.IRR hold=TR=3SG.OBJ=3PL.IPFV=IRR
‘They wanted to hold her’

(1-T029)

(232) Anau u=eri vare ena=u
1SG 1SG.SBJ=IMM.IRR REP sing=1SG.IPFV
‘I want to sing again’

(2-E007-1)

(233) Anau u=ri vare a'ade'e=i=a=u nu=a'ade'e
1SG 1SG.SBJ=IMM.IRR REP narrate=TR=3SG.OBJ=1SG.IPFV SPEC.CLII=narrate
‘I want to tell a story again’

(1-T064)

In contrast with this construction, the verbs mate ‘like’ and magono ‘dislike’ can denote ‘want’ and ‘not want’. With mate, it is hard to know which meaning is intended, or if there is even such a distinction in Papapana, because I used the verb laik(im) in Tok Pisin to elicit these sentences and this verb also means both ‘like’ and ‘want’.

(234) Anau u=mate=i=a=u tamu~tamu
1SG 1SG.SBJ=like=TR=3SG.OBJ=1SG.IPFV RD~eat
‘I want food’

(2-E007-1)

(235) Anau u=ae mate=i=a=u tena ena
1SG 1SG.SBJ=NEG like=TR=3SG.OBJ=1SG.IPFV OBL sing
‘I don’t want to sing’

(2-E007-1)

(236) Anau u=magono=u tena vare ena
1SG 1SG.SBJ=dislike=1SG.IPFV OBL REP sing
‘I don’t want to sing again’

(2-E007-1)

5.8.6 Negative irrealis mode avirua

The negative irrealis mode marker avirua ‘not yet’ occurs preverbally and is used in conjunction with PSI enclitics to express anticipated events that have not yet taken place (237)-(239). It may also occur outside of the VC as a clause-level adverb (see §6.3.2.2).
237) E-tubu-na e=avirua mate=ena
   PERS-grandmother-3SG.PSSR 3SG.SBJ=not.yet die=3SG.IPV
   ‘His grandmother hasn’t died yet’

238) E=avirua tavotu=enat=avirua mate=ena
   3SG.SBJ=not.yet arrive=3SG.IPV
   ‘He hasn’t arrived yet’

239) Mi=avirua atu tamu~tamu=emani
   1EXCL.SBJ=not.yet make RD-eat=1EXCL.SBJ
   ‘We haven’t made food yet’

When avirua is used in conjunction with PSI enclitics, the past imperfective marker pei and the
general irrealis mode enclitic =i (see §5.8.4.2) it expresses anticipated events that had not yet taken
place at a point in time in the past (240)-(243) (note that =i does not occur when the 1SG PSI enclitic
is present, as in (240) and (241)). It was not possible to elicit examples of avirua with the past tense
marker ara, the immediate irrealis mode marker eri or the conditional mode marker ava, while the
repetitive aspect marker only co-occurred with avirua when avirua was a clause-level adverb. The
adverb avirua precedes sequential directionals (242) and valency-changing morphology (243).

240) U=pei avirua nai=ou
    1SG.SBJ=PST.IPV not.yet marry=1SG.IPV
    ‘I wasn’t married yet’

241) Anau u=pei avirua varon=i=a=ou
    1SG 1SG.SBJ=PST.IPV not.yet know=TR=3SG.OBJ=1SG.IPV
    ‘I didn’t know her yet’

242) I=pei avirua no de=a=ina=i
dehave=3PL.SBJ=PST.IPV not.yet go.SEQ take=3SG.OBJ=3PL.IPV=IRR
    ‘They hadn’t yet gone and got it’

243) Harry c=pei avirua me-a vari=vori=au=enai
    Harry 3SG.SBJ=PST.IPV not.yet COM-SG.OBJ RD-talk=1SG.OBJ=3SG.IPV=IRR
    ‘Harry hadn’t spoken with me yet’

5.8.7 Present tense, imperfective aspect: PSI and reduplication
Papapana postverbal subject-indexing (PSI) enclitics interact with verbal reduplication in a complex
way to express either continuous or habitual aspect, which are subtypes of imperfective aspect.
Imperfective aspect expresses the “internal temporal structure of an event” (Whaley 1997: 210),
continuous aspect “refers to actual events [and] implies an ongoing, dynamic process” (Payne 1997:
240) or to actual ongoing states, and habitual aspect “describes a recurring event or ongoing state
which is a characteristic property of a certain period of time” (Comrie 1976: 27-28).

As described in §4.3.3, inflectional reduplication in Papapana may involve copying the initial syllable
of a base, disyllabic copying of an entire initial foot, double occurrence of monosyllabic copying, or
monosyllabic and disyllabic copying simultaneously. The type of reduplication and the resulting

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aspectual distinction depend on the verb, as shown in Table 5.19. For all verb groups, the habitual constructions are identical to the continuous constructions but with the addition of monosyllabic reduplication. The verbs within each group are discussed in the following sections. These groups do not reflect the valency categories described in §5.4 nor can they be distinguished based on the aspectual semantics of the verb.

**TABLE 5.19 IMPERFECTIVE ASPECT: PSI AND REDUPLICATION PATTERNS**

<table>
<thead>
<tr>
<th>Group</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous</td>
<td>Verb=PSI</td>
<td>RD1~Verb=PSI</td>
<td>RD2~Verb=PSI</td>
</tr>
<tr>
<td>Habitual</td>
<td>RD1~Verb=PSI</td>
<td>RD1<del>RD1</del>Verb=PSI</td>
<td>RD1<del>RD2</del>Verb=PSI</td>
</tr>
</tbody>
</table>

When there are no additional TAM markers, the tense is present. Some data shows that the addition of the preverbal past tense imperfective aspect marker pei and the general irrealis mode enclitic =i to the continuous construction expresses past continuous (see §5.8.4.2), the addition of the preverbal past tense markers ara and pei and the general irrealis mode enclitic =i also express past continuous, while the addition of only the general irrealis mode enclitic =i to a continuous construction expresses future continuous. These tense markers are not added to the habitual constructions and indeed past habitual is expressed in another construction consisting of just pei and =i (§5.8.4.2).

Quite often in natural speech and sometimes in elicited speech, the continuous construction may express habitual aspect if the context is clear, for example, if there is an adverbal such as *mamena boniboni* ‘every day’. It was only through detailed elicitation sessions that the habitual construction became completely transparent.

Across the NWS group, PSI often occurs in constructions expressing nonpast tense, negative propositions, permission or prohibition, or imperfective, continuous or progressive aspect (Palmer 2011: 703-713). In Torau, there are two imperfective aspect markers which function morphologically as hosts for PSI suffixes (Palmer 2007a: 500). The aspectual reading of a clause with imperfective aspect marking depends on which imperfective marker is present, whether or not reduplication is present, the aspectual semantics of the verb itself and the presence of any other TAM markers (Palmer 2007a: 511-516). Like Papapana, habitual aspect in Torau is only expressed when there is verbal reduplication, and in Teop too, habitual aspect may be expressed by reduplication, which might co-occur with PSI (Palmer 2011: 707), while in Banoni reduplication expresses a habitual or repetitive action or an ongoing state (Lynch and Ross 2002: 449). Papapana is however unique and extremely fascinating as its reduplication patterns are not found anywhere else in NWS and are typologically unusual.

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* RD1 denotes monosyllabic copying, while RD2 denotes disyllabic copying
5.8.7.1 Group 1

As Table 5.20 shows, the verbs in this group belong to a wide range of semantic classes and may be intransitive, transitive or ambitransitive. Some of the verb roots appear to be reduplicated, such as *mamaravi* ‘be cold’, *gavegave* ‘be tired’ or *mumoroko* ‘lie’, but synchronically these are monomorphemic: *maravi*, *gave* and *moro* do not exist as roots.

<table>
<thead>
<tr>
<th>TABLE 5.20 IMPERFECTIVE ASPECT: GROUP 1 VERBS</th>
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<tbody>
<tr>
<td><strong>Stative</strong></td>
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<tr>
<td>dua</td>
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<td>mata</td>
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<td>etawa</td>
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<tr>
<td>gerere</td>
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<tr>
<td>mamaravi</td>
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<tr>
<td><em>usi</em></td>
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<tr>
<td>be bad</td>
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<tr>
<td>be good</td>
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<tr>
<td>be big</td>
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<tr>
<td>be white</td>
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<tr>
<td>be cold</td>
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<tr>
<td>be wet</td>
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<tr>
<td><strong>Postural</strong></td>
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<tr>
<td>tonu</td>
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<tr>
<td>umunu</td>
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<td>ubete</td>
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<td>rave</td>
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<td>po</td>
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<td>ororo</td>
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<tr>
<td>stand</td>
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<td>sit</td>
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<td>lay</td>
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<td>hang</td>
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<td>stay</td>
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<tr>
<td>surround</td>
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<tr>
<td>play</td>
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<tr>
<td>work</td>
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<tr>
<td>lie</td>
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<tr>
<td>narrate</td>
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<tr>
<td>steal</td>
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<tr>
<td>wait</td>
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<tr>
<td>hold</td>
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<tr>
<td>help</td>
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</tbody>
</table>

When Group 1 verbs occur with PSI enclitics only, continuous aspect is expressed:

(244) E=ae agai mata=na, e=dua=na
      3SG.SBJ=NEG really good=3SG.IPV 3SG.SBJ=bad=3SG.IPV
      ‘It's not very good, it's bad’

(245) Aia e=aputu roro=en
      3SG 3SG.SBJ=sleep still=3SG.IPV
      ‘He's still sleeping’

(246) Anau u=magono=u tena nao te=na kaukau
      1SG 1SG.SBJ=dislike=1SG.IPV OBL go OBL=SPEC[CLI] garden
      ‘I don’t want to go to the garden’
(247) Na=skuru tomana iai so=umunu=era
    SPEC[CLI]=school too DEM 1INCL.SBJ=sit=1INCL.IPVF
    ‘Also the school where we’re sitting’

(248) A:mani bau rosario ora mi=agoto=ina=mani
    1EXCL.SBJ PL rosary.bead only 1EXCL.SBJ=hold=3PL.OBJ=1EXCL.IPVF
    ‘We’re only holding rosary beads’

(249) Aia e=ma=ena na=teari
    3SG 3SG.SBJ=chew=3SG.IPVF SPEC[CLI]=betelnut
    ‘He is chewing betelnut’

When both PSI enclitics and monosyllabic verbal reduplication occur with a Group 1 verb, the aspect expressed is habitual:

(250) Tamu–tamu te aia e=du–dua=ena
    RD=eat OBL 3SG 3SG.SBJ=RD=bad=3SG.IPVF
    ‘Her food is bad (all the time)’

(251) Sue e=a–aputu=ena
    Sue 3SG.SBJ=RD=sleep=3SG.IPVF
    ‘Sue sleeps’

(252) Mamena boni–boni anau u=ma–magono=u tena ena
    PL.COLL RD=day 1SG 1SG.SBJ=RD=dislike=1SG.IPVF OBL sing
    ‘I never care for singing’

(253) John e=to to–tonu=ena nani
    John 3SG.SBJ=to RD=stand=3SG.IPVF there
    ‘John (always) stands there’

(254) aetau o=mo–morok=iau=omu?
    why 2SG.SBJ=RD=lie=TR=1SG.OBJ=2SG.IPVF
    ‘Why do you lie to me?’

(255) Aia e=ma~ma=ena na=teari
    3SG 3SG.SBJ=RD=chew=3SG.IPVF SPEC[CLI]=betelnut
    ‘He chews betelnut’

When Group 1 verbs occur with PSI enclitics, the preverbal past imperfective marker pei and the general irrealis mode enclitic =i, past continuous is expressed:

(256) Vasina nu=inu e=pei gerere=ena=i
    before SPEC[CLI]=house 3SG.SBJ=PST.IPVF white=3SG.IPVF=IRR
    ‘In the past, the house was white’

(257) Ann e=pei rorosi=a=na=i nu=pepa,
    Ann 3SG.SBJ=PST.IPVF see=3SG.OBJ=3SG.IPVF=IRR SPEC[CLI]=paper
    tau Mark te=na kaukau e=pei gaganini=en=i
    and Mark OBL=SPEC[CLI] garden 3SG.SBJ=PST.IPVF play=3SG.IPVF=IRR
    ‘Ann was looking at the paper, and Mark was playing in the garden’
(258) e=\text{pei} \quad \text{magono}=\text{ena}=\text{i} \quad \text{tena} \quad \text{asi}=\text{a} \quad \text{sa}=\text{au} \quad \text{‘usia} \\
3\text{SG.SBJ}=\text{PST.IPFW} \quad \text{dislike}=3\text{SG.IPFW}=\text{IRR} \quad \text{OBL} \quad \text{leave}=3\text{SG.OBJ} \quad \text{DIM}=\text{CLI} \quad \text{child} \\
‘She didn’t want to leave the boy’  
(1-T029)

(259) E=\text{pei} \quad \text{momoroko}=\text{ena}=\text{i} \\
3\text{SG.SBJ}=\text{PST.IPFW} \quad \text{lie}=3\text{SG.IPFW}=\text{IRR} \\
‘She was lying’  
(1-T029)

When Group 1 verbs occur with PSI enclitics, the preverbal past imperfective marker \text{pei} and the general irrealis mode enclitic \text{=i}, \text{and} the preverbal past tense marker \text{ara}, past continuous is also expressed:

(260) Nata \quad \text{na}=\text{poana} \quad e=\text{pei} \quad \text{ara} \quad \text{po}=\text{ena}=\text{i} \\
\text{another} \quad \text{SPEC}[\text{CLI}]=\text{village} \quad 3\text{SG.SBJ}=\text{PST.IPFW} \quad \text{PST} \quad \text{stay}=3\text{SG.IPFW}=\text{IRR} \\
‘There was another village’  
(1-T034)

(261) I=\text{pei} \quad \text{ara} \quad \text{a’ade’e}=\text{ina}=\text{i} \\
3\text{PL.SBJ}=\text{PST.IPFW} \quad \text{PST} \quad \text{narrate}=3\text{PL.IPFW}=\text{IRR} \\
‘They were telling stories’  
(1-T064)

5.8.7.2  \text{Group 2}

As Table 5.21 shows, the verbs in this group belong only to three semantic classes and may be intransitive, transitive, ditransitive or ambitransitive.

<table>
<thead>
<tr>
<th>TABLE 5.21 IMPERFECTIVE ASPECT: GROUP 2 VERBS</th>
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<tr>
<td><strong>Activity</strong></td>
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<tr>
<td><strong>Accomplishment</strong></td>
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<td><strong>Achievement</strong></td>
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When Group 2 verbs occur with PSI enclitics and monosyllabic verbal reduplication, continuous aspect is expressed:

(262) Nu=\text{daramu} \\
\text{SPEC.CLII}=\text{water} \\
‘He’s drinking water’  
(2-E008)

(263) Na=\text{petata}=\text{ma} \\
\text{SPEC}[\text{CLI}]=\text{basket}=\text{ma} \\
‘I’m making the basket’  
(1-T061)

(264) E=\text{si}=\text{siri}=\text{a}=\text{ena} \\
3\text{SG.SBJ}=\text{RD}=\text{read}=3\text{SG.OBJ}=3\text{SG.IPFW} \\
\text{SPEC.CLII}=\text{paper} \\
‘He’s reading a paper’  
(2-E008)
When PSI enclitics and a double occurrence of monosyllabic verbal reduplication occur with a Group 2 verb, the aspect expressed is habitual:

(265) Tom ee=ou~ou~ou=en
Tom 3SG.SBJ=RD~RD~cough=3SG.IPfv
‘(Every morning) Tom coughs’

(2-E029-2)

Mamena boni-boni e=si-si-siri=en
PL.COLL RD~day 3SG.SBJ=RD~RD~read=3SG.IPfv
‘Every day she reads’

(2-E029-2)

When Group 2 verbs occur with PSI enclitics, monosyllabic verbal reduplication, the preverbal preverbal marker pei and the general irrealis mode enclitic =i, past continuous is expressed:

(267) Na=vituasi ee=pei vu~vurau tae=na=i
SPEC[CLI]=young 3SG.SBJ=PST.IPfv RD~run up=3SG.IPfv=IRR
‘A young one was running away’

(1-T002)

5.8.7.3 Group 3
As Table 5.22 shows, the verbs in this group belong only to three semantic classes and may be intransitive, transitive or ambitransitive.

<table>
<thead>
<tr>
<th>TABLE 5.22 IMPERFECTIVE ASPECT: GROUP 3 VERBS</th>
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<td>Activity</td>
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<td>Achievement</td>
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</table>

When Group 3 verbs occur with PSI enclitics and disyllabic verbal reduplication, continuous aspect is expressed:

(268) Aia=ma enai oo~oa=na mai
3SG=ma DEM RD~cry=3SG.IPfv hither
‘He’s crying’

(1-T035)

(269) Nu=daramu ee=ngono~ngono=en
SPEC.CLII=water 3SG.SBJ=RD~boil=3SG.IPfv
‘The water is boiling’

(2-E009)
When PSI enclitics, monosyllabic reduplication and disyllabic reduplication occur with a Group 3 verb, the aspect expressed is habitual:

(270) Iai u=sogo~sogo=ina=u=ma
DEM 1SG.SBJ=RD~push=3PL.OBJ=1SG.IPFV=ma
‘I’m pushing them in’

When Group 3 verbs occur with PSI enclitics, disyllabic verbal reduplication, the preverbal past imperfective marker pei and the general irrealis mode enclitic =i, results in past continuous meaning (274).

Example (273) shows that this construction can be combined with the general irrealis mode enclitic =i to express future continuous, while co-occurrence with the preverbal past imperfective marker pei and the general irrealis mode enclitic =i, results in past continuous meaning (274).

(273) E=gau~gaun=i=a=na=i
3SG.SBJ=RD~write=TR=3SG.OBJ=3SG.IPFV=IRR SPEC.CLI=paper
‘(When we arrive), he will be writing a letter’

(274) E=peia=na=i=ena=i
3SG.SBJ=PST.IPV RD~write=TR=3SG.OBJ=3SG.IPFV=IRR SPEC.CLI=letter
‘(When I saw my brother yesterday), he was writing a letter’

When Group 3 verbs occur with PSI enclitics, disyllabic verbal reduplication, the preverbal past imperfective marker pei and the general irrealis mode enclitic =i, and the preverbal past tense marker ara, past continuous is also expressed:

(275) E=peia=na=i=ena=i
3SG.SBJ=PST.IPV PST RD~write=TR=3SG.OBJ=3SG.IPFV=IRR hither SPEC.CLI=letter
‘He was writing her letters (and I didn’t know)’

(276) E=peia=na=i=ena=i
3SG.SBJ=PST.IPV PST RD~find RD~eat=3SG.IPFV=IRR
‘He was looking for food’

5.8.8 Repetitive aspect vare

The preverbal aspect marker vare expresses repetitive aspect, an aspect defined by Frowein (2011) for the South New Ireland language Siar as one which “encodes that the specified event happens again, which presupposes that it has already happened at least once in the past” (Frowein 2011: 440). Vare
(277)a may also be pronounced vae (277)b, or occur as a discontinuous morpheme (277)c, with vare or vae occurring preverbally and re as the final postverbal element in the VC:

(277)  a. Natui  u=vare  nao=i  Buka
       tomorrow 1SG.SBJ=REP go=IRR Buka

    b. Natui  u=vae  nao=i  Buka
       tomorrow 1SG.SBJ=REP go=IRR Buka

    c. Natui  u=vare  nao=i  re  Buka
       tomorrow 1SG.SBJ=REP go=IRR REP Buka

   ‘Tomorrow I’ll go again to Buka’

(2-E024)

The examples show that the repetitive marker may precede the reciprocal/reflexive marker vei (278), may follow the past tense marker ara to express past tense and repetitive aspect (279), and may co-occur with the general irrealis mode enclitic =i to express either future tense and repetitive aspect (280), or both repetitive and habitual aspects (281).

(278)  I=pei  vae  vei  adu-adu=ina=i
       3PL.SBJ=PST.IPFV REP RR RD-destroy=3PL.IPFV=IRR
   ‘They kept hurting themselves’

(1-T034)

(279)  Nata  na=boni  e=ara  vae  gaunu mai
       another SPEC[CLI]=day 3SG.SBJ=PST REP write hither
   ‘One day he wrote again’

(1-T043)

(280)  U=vare  kaku  tae=a=i  re
       1SG.SBJ=REP bend up=3SG.OBJ=IRR REP
   ‘I’ll bend it up again’

(1-T062)

(281)  Mi=no  vare  tepe=i  na=naunu
       1EXCL.SBJ=go.SEQ REP cut=IRR SPEC[CLI]=leaf
   ‘We go and cut leaves again’

(1-T038)

It might be argued that vare is an adverb in preverbal position but as (340) in §5.11.1.2 shows vare can co-occur with preverbal adverbs, and unlike these adverbs, the position of vare in relation to sequential directionals is variable (282)-(283), as also reported in §5.7.3:

(282)  Mi=va e  no  gono mai  re
       1EXCL.SBJ=REP go.SEQ pick hither REP SPEC[CLI]=Indian.almonds again
   ‘We went and picked Indian almonds again’

(1-T010)

(283)  E=no  vae  ma’-i=a  re  koko’i
       3SG.SBJ=go.SEQ REP give=TR=3SG.OBJ REP taro
   ‘He went and gave her taro again’

(1-T029)

In Papapana, the repetitive aspect marker may be a reflex of the POc *paRi- prefix which, as noted in §5.5.6, Pawley (1973: 150-151) reconstructed not only as a collective/associative and reciprocal marker but also as an iterative marker, though Bril (2005: 27) reports that reflexes of *paRi- are
combined with root reduplication to express iterative actions in Oceanic languages, and reduplication does not necessarily combine with the repetitive marker in Papapana.

5.8.9  **Compleitive aspect osi**

The postverbal compleitive aspect marker *osi* expresses completion of an event and occurs immediately after the geographic directionals in the VC, as in (284) and (285) and before any adverbs, including the compleitive adverb *tani* ‘already’, as in (286) and (287). Example (288) shows *osi* occurring after the verb and before object-indexing enclitics.

(284)  
U=to  
nao  
tae  
osi  
o’oemana, 
iara  
u=ari~ari  
kaukau  
1SG.SBJ=to  
go up  
COMPL  
bush  
than  
1SG.SBJ=RD=dig  
sweet.potato  
‘(When) I have finished going up to the bush, then I dig potatoes’

(285)  
U=to  
tua  
dini  
osil  
mai,  
iara  
u=atuma’ata=i  
tamu~tamu  
1SG.SBJ  
paddle  
down  
COMPL  
hither  
then  
1SG.SBJ=cook=IRR  
RD=eat  
‘(When) I have paddled back, then I cook food’

(286)  
Anau  
u=atuma’ata  
osil  
tani=i  
tamu~tamu  
1SG  
1SG.SBJ=cook  
COMPL  
already=3PL.OBJ  
RD=eat  
‘I have already finished cooking the food’

(287)  
A:mani  
m=to  
usi  
osil  
papasi  
tani=a=i  
na=niunu  
1EXCL  
1EXCL.SBJ=to  
scrape  
COMPL  
quickly  
already=3SG.OBJ=IRR  
SPEC[CLI]=coconut  
‘We have already quickly scraped the coconut’

(288)  
M=to  
usi  
osil=a=i  
na=ma’ata…  
1EXCL.SBJ=to  
scrape  
COMPL=3SG.OBJ=IRR  
SPEC[CLI]=brown.coconut  
‘After we’ve scraped the brown coconut…’

The position of *osi* before adverbs suggests that it could be a serial verb; however *osi* is separated from the verb by geographic directionals, which I have established are not synchronically serial verbs (see §5.7.1). More importantly *osi* is not an independent verb. Given its adjacency to adverbs, *osi* could be an adverb, but it occurs in a separate, fixed position prior to adverbs and there is already an adverb expressing completion, *tani* ‘already’, which *osi* can co-occur with. Instead, I analyse *osi* as an aspect marker and I believe it has grammaticalised from the verb *taosi* ‘finish’:

(289)  
Anau  
u=taosi=i  
au=bau  
tamu~tamu  
1SG  
1SG.SBJ=finish=3PL.OBJ  
1SG.PSSR=PL  
RD=eat  
‘I finished my food’

(290)  
Anau  
u=taosi=a  
au=siodo  
1SG  
1SG.SBJ=finish=3SG.OBJ  
1SG.PSSR[CLI]=work  
‘I finished my work’

In Oceanic languages, such as Toqabaqita (Malaita, Solomon Islands) (Lichtenberk 2006: 269), it is quite common to find postverbal aspect morphemes, especially for the completive, and these “seem mainly to be derived from verbs like ‘finish’ used in an ambient verb serialisation” (Lynch et al. 2002:

{\text{193}}
Cross-linguistically the minor verb in an asymmetrical SVC often undergoes grammaticalisation to become a grammatical marker (Aikhenvald 2006: 30).

5.9 Imperative and hortative

Imperatives are “used to directly command the addressee to perform some action” (Payne 1997: 303) and therefore have “an understood second person subject” (König and Siemund 2007: 303). The term imperative may be restricted to second person, while the term hortative, exhortative or jussive may be used for imperatives in the first or third person (Palmer 2001: 81). In Papapana, imperatives and hortatives are marked in the same way and so are discussed together here. While this section describes marking of imperatives within the VC, the presence or absence of NP arguments is discussed in §6.4.

In Papapana, imperative and hortative clauses may carry no TAM marking whatsoever as in (291) and (292) or the general irrealis mode enclitic =i as in (293) and (294). In NWS languages such as Kokota, an imperative is also expressed as an irrealis clause (Palmer 2002: 520) and indeed, “imperative clauses are likely to be irrealis, since they do not assert that X did happen” (Payne 1997: 245). The lack of TAM markers is also typical of imperatives because “it is simply pragmatically impossible to command someone to perform acts with certain TAM operations” (Payne 1997: 305).

(291) O=nao  te=na  skuru  vagi
     2SG.SBJ=go  OBL=SPEC[CLI]  school  now
‘Go to school now’

(292) Mu=nao,  mu=no  ituvu=au  mai  nu=daramu
     2PL.SBJ=go  2PL.SBJ=go.SEQ  fetch=1SG.OBJ  hither  SPEC.CLII=water
‘Go, go and fetch me some water’

(293) Nu=risi  nu=kaka’i  o=de=a=i
     SPEC.CLII=rope  SPEC.CLII=small  2SG.SBJ=take=3SG.OBJ=IRR
‘Take a small rope’

(294) Na:bau  taramina  mu=asi=ina=i
     some  thing  2PL.SBJ=leave=3PL.OBJ=IRR
‘Leave some things’

(295) Sa=asi=a=i  Pasa
     INCL.SBJ,HORT=leave=3SG.OBJ=IRR  Pasa
‘Let’s leave Pasa’

Some compound sentences in Papapana may even exhibit no TAM marking in the first clause and the general irrealis mode enclitic in the second:

(296) Mu=nao  i-daramu  ta  mu=no  tutuvu=i
     2PL.SBJ=go  LOC-river  and  2PL.SBJ=go.SEQ  wash=IRR
‘Go to the river and wash’
Speakers reported that there was no semantic or pragmatic difference between the absence or presence of the irrealis mode enclitic =i, but that the lack of the irrealis mode enclitic =i was a shorter way of expressing the same thing. To check this, I elicited examples, such as (297)a, which corresponded to a text recording example such as (297)b, and I asked speakers to compare them; speakers reported that both were acceptable and meant the same thing (though of course the subject number is different here).

(297) a. O=tuvu tau o=vurau=i 2SG.SBJ=swim and 2SG.SBJ=run=IRR
   ‘Swim and run away’

   b. Mu=tuvu, mu=vurau 2PL.SBJ=swim 2PL.SBJ=run
   ‘Swim, run away’

With the verb *po* ‘stay/exist’, the PSI enclitics must also be used in imperatives (298)-(300). In Teop too, imperfective aspect can be used in an imperative clause (Mosel and Thiesen 2007).

(298) Aite, o=po=mu Dad 2SG.SBJ=stay=2SG.IPVF
   ‘Dad, stay’

(299) Ani o=po=mu=i ini 2SG 2SG.SBJ=stay=2SG.IPVF=IRR here
   ‘You must stay here’

(300) Amu mu=po=mu=i 2PL 2PL.SBJ=stay=2PL.IPVF=IRR
   ‘You stay’

5.10 Negation

A negative clause is one which “asserts that some event, situation, or state of affairs does not hold” (Payne 1997: 282). Mosel (1999: 5) outlines five basic functions of negatives in Oceanic languages: (i) the negative answer to questions, (ii) negative existential constructions, (iii) the negation of non-verbal assertive predicates, (iv) the negation of verbal assertive predicates and (v) the negation of imperatives. The first three functions are dealt with in §6.7. This section discusses the fourth function which is expressed by the preverbal negative marker ae (§5.10.1), and the fifth function which is expressed by verbal reduplication and either the preverbal negative marker ae or the preverbal negative mode marker te (§5.10.2). The negative mode marker te may also be used in conjunction with the general irrealis mode enclitic =i to denote ‘lest’ (§5.10.3).

5.10.1 Verbal assertive negation: ae

The preverbal negative marker ae negates verbal assertive predicates in Papapana. The use of a preverbal negative marker is a typical negation marking strategy in Oceanic languages and a number of these preverbal negators reflect forms beginning with *kai-* (Lynch et al. 2002: 51, 88). It could be that in Papapana ae derives from the negative verb aruai, as in a few Oceanic languages negators
are “derived from a negative verb [that] has been grammaticalised to such a degree that it has become part of the VC” (Lynch et al. 2002: 88).

In Papapana, the negative marker follows the subject proclitics and to (301), but precedes sequential directionals (302) and valency-changing morphemes (303):

(301) Na=ava e=to ae tete=na nao
   SPEC[CLI]=sea 3SG.SBJ=to NEG enter=3SG.IPV thither
   ‘The sea wasn’t coming inside’

(302) Mi=ae no vae de-de tamu-tamu=ma Vakonaia
   1EXCL.SBJ=NEG go.SEQ REP RD=take RD=eat=ma Wakunai
   ‘We didn’t go and get food from Wakunai again’

(303) Mi=ae vei aporo=i na=vunu te a:mani
   1EXCL.SBJ=NEG RR groom=IRR SPEC[CLI]=hair OBL 1EXCL
   'We do not cut our hair'

The negative marker is compatible with almost all TAM distinctions as the examples below demonstrate. It is not attested with the immediate irrealis mode construction, nor with the completive aspect marker osi; however, this is likely a matter of lack of data rather than of incompatibility. It is also not attested with the negative irrealis mode marker avirua ‘not yet’ since avirua comprises a negative concept already. Although negated clauses are often treated as irrealis in languages that make a realis-irrealis contrast (Palmer 2001: 173-176), this is not the case in Papapana; instead mode and negation are independent and the negative marker ae may occur in both irrealis and realis clauses. As the examples show, it is also not the case, as in many Oceanic languages, that the negative marker is “interposed between the last of the TAM markers and the verb” (Lynch et al. 2002: 45).

**Past**

(304) Nathan e=ae ara tavotu egoego
   Nathan 3SG.SBJ=NEG PST arrive well
   ‘Nathan didn’t turn out well’

**Future**

(305) Natui si=ae siodo=i
   tomorrow INCL.SBJ=NEG work=IRR
   ‘Tomorrow we will not work’

**Present habitual**

(306) I=ae nongono=i
   3PL.SBJ=NEG listen=IRR
   ‘They don’t listen’

**Past habitual**

(307) Na=vanua i=pei ae ari=ina=i te=na kavururu
   SPEC[CLI]=people 3PL.SBJ=PST.IPV NEG dig=3PL.OBJ=IRR OBL=SPECLCLI ground
   ‘They didn’t used to bury people in the ground’
Hypothetical/predictive conditional

(308) Anna e=to awa ae tamu=i, e=ubetu=i
Anna 3SG.SBJ=to COND NEG eat=IRR 3SG.SBJ=hungry=IRR
‘If Anna doesn’t eat, she will be hungry’

(309) Louise e=awa peri=a=i pei si’ini
Louise 3SG.SBJ=COND find=3SG.OBJ=IRR PART spear
e=ae atuni=a=i nu=toa
3SG.SBJ=NEG attack=3SG.OBJ=IRR SPEC.CLII=chicken
‘If Louise finds a spear, she will not attack the chicken’

Counterfactual conditional

(310) Maria e=to ri awa nongon=i=a e-sina-na,
Maria 3SG.SBJ=to CF COND NEG go=1SG.OBJ
‘If Maria had listened to her mother, she would not have died’

counterfactual conditional

(311) Sharon e=to ri awa ae nao Buka,
Sharon 3SG.SBJ=to CF COND NEG go Buka

e=eri me-a nao=au te=na ‘uru
3SG.SBJ=CF COM-SG.OBJ go=1SG.OBJ OBL=SPEC [CLI] island
‘If Sharon had not gone to Buka, she would have gone with me to the island’

Optative

(312) Na=siodo e=to eri ae ma’-i=o=ena=i
SPEC[CLI]=work 3SG.SBJ=to IMM.IRR NEG give=TR=2SG.OBJ=3SG.IPFV=IRR
‘He doesn’t want to give you work’

Present Imperfective

(313) Aetau na=iana u=ae roroto=ina=u?
why SPEC[CLI]=fish 1SG.SBJ=NEG see=3PL.OBJ=1SG.IPFV
‘Why am I not seeing the fish?’

Repetitive

(314) U=ae ara vae nami=o
1SG.SBJ=NEG PST REP miss=2SG.OBJ
‘I didn’t miss you again’

5.10.2 Prohibitive: ae/te and verbal reduplication

Prohibitives are negative imperatives and in Papapana these are formed with verbal reduplication and either the preverbal negative marker ae or the preverbal negative mode marker te (315)-(317). Verb reduplication in prohibitives is not unknown in NWS languages as it also occurs in Banoni (Lynch and Ross 2002: 450). In a study of negation in Oceanic languages, Mosel (1999: 15) reports that with the exception of the Loyalty Islands languages, “all the languages in our sample formally distinguish the negation of assertive and imperative clauses”, and therefore Papapana is typically Oceanic because although the negative marker ae is also used in the negation of assertives, reduplication and te are not.
Speakers report no semantic or pragmatic difference between *ae* and *te*; these markers are interchangeable as shown in (318) and (319). For some verbs, the first syllable of the root is reduplicated, while for others the first two syllables are reduplicated. This does not correspond with the categories described in §5.8.6: *tonu* ‘stand’ and *agoto* ‘hold’ in (318) and (319) are both Group 1 verbs, yet *tonu* undergoes monosyllabic reduplication and *agoto* disyllabic reduplication. Nor does valency play a role as *tonu* is intransitive, but so too is *vo’o* ‘call out’ (320) and this displays disyllabic reduplication. Further investigation is required to resolve this matter.

(318) a. O=*ae* to=tonu
   2SG.SBJ=NEG RD=stand
b. O=*te* to=tonu
   2SG.SBJ=PROH RD=stand
   ‘Don’t stand up’

(319) a. O=*ae* ago=agos=i=a pei to’o=to’o
   2SG.SBJ=NEG RD=hold=TR=3SG.OBJ ART RD=cut
b. O=*te* ago=agos=i=a pei to’o=to’o
   2SG.SBJ=PROH RD=hold=TR=3SG.OBJ PART RD=cut
   ‘Don’t hold the knife’

(320) O=*te* vo’o=vo’o
   2SG.SBJ=PROH RD=call.out
   ‘Don’t shout’

As in imperative clauses, the verb *po* ‘stay/exist’ requires the PSI enclitics:

(321) O=*te* po=po=mu=i te=na mamaravi
   2SG.SBJ=PROH RD=stay=2SG.IPFW=IRR OBL=SPEC[CLI] cold
   ‘Don’t stay outside in the cold’

5.10.3 Negative purpose: *te* and general irrealis mode =i

The preverbal negative mode marker *te* occurs in conjunction with the general irrealis mode enclitic =i in a negative purpose adverbial clause to denote ‘lest’ (see §7.3.2). The relationship between the main clause and the negative purpose adverbial clause is that the main clause denotes an event carried out in
order for the event or state in the adverbial clause not to happen (Cristofaro 2003: 158). The main clause may be an imperative or a prohibitive.

**Imperative main clause**

(322) O=orete egoego, o=te pu=i
2SG.SBJ=walk well 2SG.SBJ=PROH fall=IRR
‘Walk carefully, lest you fall’

(323) O=ani=ina amu=bau tamutamu, o=te ubetu=i
2SG.SBJ=eat=3PL.OBJ 2SG.PSSR=PL RDeat 2SG.SBJ=PROH hungry=IRR
‘Eat your food, lest you feel hungry’

(324) O=asi=a pei to’o-to’o, e=te tepe=i=o=i
2SG.SBJ=leave=3SG.OBJ PART RD-cut 3SG.SBJ=PROH cut=TR=2SG.OBJ=IRR
‘Leave the knife, lest it cuts you’

**Prohibitive main clause**

(325) O=te e~’esivo=i, i=te nongon=i=o=i
2SG.SBJ=PROH RD~sneeze=IRR 3PL.SBJ=PROH listen=TR=2SG.OBJ=IRR
‘Don’t sneeze, lest they hear’

(326) O=te ani–ani ovata, o=te ou=i
2SG.SBJ=PROH RD~eat bread 2SG.SBJ=PROH cough=IRR
‘Don’t eat bread, lest you cough’

(327) O=ae ago~agos=i=a pei to’o-to’o, e=te tepe=i=o=i
2SG.SBJ=NEG RD~hold=TR=3SG.OBJ PART RD-cut
3SG.SBJ=PROH cut=TR=2SG.OBJ=IRR
‘Don’t hold the knife, lest it cut you’

**5.11 Adverbs**

Adverbs belong to a small but seemingly open class of words which can modify a verb or a clause and have an adverbial function. Within the VC, adverbs are distinct from directionals, which also have an adverbial function, because each type of directional has its own distinct position in the VC separate to that of the adverbs. Adverbs are also not serialised verbs because they cannot occur as independent verbs. Adverbs in Papapana express temporal and aspectual notions, manner, direction and intensity. It is quite common for modifiers within VCs to express time, manner and direction (Schachter and Shopen 2007: 20) and indeed in Melanesian Oceanic languages, manner adverbs are often incorporated into the verb phrase (Lynch et al. 2002: 46). In Papapana there are two adverbs that occur exclusively in preverbal position (§5.11.1), while the rest occur exclusively in postverbal position in the VC (§5.11.2). There is no evidence that preverbal and postverbal adverbs can co-occur. Some of the postverbal adverbs are also attested at the clause-level, while others may function in the NP as modifiers. Adverbs which operate exclusively at the clause-level are discussed in §6.3.
5.11.1 Preverbal

Within the VC, there are two adverbs which occur exclusively in preverbal position: *agai* ‘really’ and *aria* ‘together’.

5.11.1.1 *agai* ‘really’

The adverb *agai* ‘really’ occurs preverbally, but follows the subject proclitic and so is therefore considered part of the VC rather than a clause-level adverb. The examples show *agai* occurring after *to* (328), the past imperfective marker *pei* (329), and the negative marker (330). There are not enough examples to determine the position of *agai* in relation to other preverbal elements.

(328) e=to agai siorai=en  
3SG.SBJ=to really long=3SG.IPFV
‘it’s really long’

(329) Na=nai e=to pei agai si’i=ena=i  
SPEC[CLI]=rain 3SG.SBJ=to PST really rain=3SG.IPFV=IRR
‘The rain was really falling’

(330) Anau u=ae agai varona=au tena atu=a nu=pute~pute  
1SG 1SG.SBJ=NEG really know=1SG.IPFV OBL make=3SG.OBJ SPEC_CLI=RD~wind
‘I really don’t know how to make a fan’

5.11.1.2 *aria* ‘together’

The adverb *aria* ‘together’ occurs preverbally, but follows the subject proclitic and so is therefore considered part of the VC rather than a clause-level adverb. This adverb is not pervasive and is attested only around six times in the text corpus. In the numeral system *aria* denotes ‘one’ and this could be the origin of this adverb, since doing something ‘together’ is akin to do something ‘as one’.

(331) I=aria nao  
3PL.SBJ=together go
‘They went together’

(332) Mu=aria naovo manene nao=i te=na “uru  
2PL.SBJ=together fly return thither=IRR OBL=SPEC_CLI island
‘You fly back to the island together’

(333) Sa=aria nao=i  
INCL.SBJ.HORT=together go=IRR
‘Let us go together’

The position of *aria* in the VC is also unclear. In the text data, there is one instance of *aria* occurring with *to* in addition to the subject proclitic and in this example *aria* follows *to*:

(334) I=to aria o’ovata na=uv  
3PL.SBJ=to together roast SPEC_CLI=yam
‘They roasted yam together’
In elicitation sessions, *aria* also followed other preverbal morphemes:

(335) \( I=\text{pei} \quad \text{aria} \quad o'\text{ovata}=\text{ina}=i \quad \text{na}=\text{uvi} \)  
\[ 3\text{PL.SBJ}=\text{PST.IPfv} \quad \text{together} \quad \text{roast}=3\text{PL.IPfv}=\text{IRR} \quad \text{SPEC[CLI]}=\text{yam} \]  
‘They were roasting yam together’

(336) \( I=\text{to} \quad \text{eri} \quad \text{aria} \quad o'\text{ovata}=\text{ina} \quad \text{na}=\text{uvi} \)  
\[ 3\text{PL.SBJ}=\text{to IMM.IRR} \quad \text{together} \quad \text{roast}=3\text{PL.IPfv} \quad \text{SPEC.CLI}=\text{yam} \]  
‘They wanted to roast yam together’

(337) \( I=\text{to} \quad \text{ae} \quad \text{aria} \quad o'\text{ovata} \quad \text{na}=\text{uvi} \)  
\[ 3\text{PL.SBJ}=\text{to IMM} \quad \text{together} \quad \text{roast} \quad \text{SPEC.}\text{CLI}=\text{yam} \]  
‘They didn’t roast yam together’

(338) \( I=\text{mei} \quad \text{aria} \quad o'\text{ovata} \quad \text{na}=\text{uvi} \)  
\[ 3\text{PL.SBJ}=\text{come.SEQ} \quad \text{together} \quad \text{roast} \quad \text{SPEC.}\text{CLI}=\text{yam} \]  
‘They came and roasted yam together’

(339) \( I=\text{ara} \quad \text{aria} \quad o'\text{ovata} \quad \text{na}=\text{uvi} \)  
\[ 3\text{PL.SBJ}=\text{PST} \quad \text{together} \quad \text{roast} \quad \text{SPEC.}\text{CLI}=\text{yam} \]  
‘They roasted yam together’

(340) \( I=\text{to} \quad \text{vare} \quad \text{aria} \quad o'\text{ovata} \quad \text{na}=\text{uvi} \)  
\[ 3\text{PL.SBJ}=\text{to REP} \quad \text{together} \quad \text{roast} \quad \text{SPEC.}\text{CLI}=\text{yam} \]  
‘They roasted yam again together’

5.11.2 Postverbal

Within the VC there is a postverbal adverb position. Most of the adverbs that occur in this position do not appear elsewhere in Papapana, but there are some which are also attested at the clausal level (§5.11.2.3), while four may also function in the NP as modifiers (§5.11.2.4). It is worth noting that many of these adverbs appear to be reduplicated but they are not synchronically reduplicated. Within the VC, the only elements that separate the adverb from the verb are the directional adverbs (341) and the completive aspect marker *osi* (342). All other postverbal elements follow the adverb, as shown in (343) where an object enclitic and PSI enclitic follow the adverb. This is consistent with POc, in which the verb root sometimes had an adverbial (an underived adverb or another verb) criticised to it (Lynch et al. 2002: 80).

(341) \( \text{Na}=\text{nganangana} \quad \text{e}=\text{nao} \quad \text{tae} \quad \text{tani} \quad \text{mai} \)  
\[ \text{SPEC[CLI]}=\text{moon} \quad 3\text{SG.SBJ}=\text{go} \quad \text{up} \quad \text{already} \quad \text{hither} \]  
‘The moon had already risen up’

(342) \( \text{Anau} \quad \text{u}=\text{atuma’ata} \quad \text{osi} \quad \text{panapana}=\text{ina} \quad \text{tamu} \quad \text{tamul} \quad \text{tamu} \)  
\[ \text{1SG} \quad 1\text{SG.SBJ}=\text{cook} \quad \text{COMPL} \quad \text{INTS}=3\text{PL.OBJ} \quad \text{RD} \quad \text{eat} \]  
‘I have already totally cooked the food’

(343) \( \text{Ben} \quad \text{e}=\text{ara} \quad \text{pe} \quad \text{sia} \quad \text{egoego}=\text{ami}=\text{ena}=i \)  
\[ \text{Ben} \quad 3\text{SG.SBJ}=\text{PST} \quad \text{PST.IPfv} \quad \text{look.} \quad \text{after} \quad \text{well}=1\text{EXCL.OBJ}=3\text{SG.IPfv}=\text{IRR} \]  
‘Ben looked after us well’
Although there is limited evidence, adverbs do appear to follow incorporated objects, as in (344). In Taiof incorporated generic objects also precede adverbs (Ross 2002: 433).

(344) Aina i=atuma’ata tamu-tamu gogoro
    3PL 3PL.SBJ=cook RD=eat together
‘They cooked food together’

(2-E014)

Usually only one adverb occurs in this postverbal position but there are a couple of examples, such as (345), which show two adverbs, and the order is interchangeable. Further investigation is required to establish whether there are any restrictions regarding the adverbs that can co-occur.

(345) a. Anau u=atuma’ata osi panapana tani=ina tamu-tamu
    1SG 1SG.SBJ=cook COMPL INTS already=3PL.OBJ RD=eat
‘I have already totally finished cooking the food’

(2-E014)

5.11.2.1 VC adverbs: temporal and aspectual

There are five adverbs that have occurred in the data which express temporal or aspectual concepts: tani ‘already’, roro ‘still’, garigari ‘always’, nanamoa ‘first’ and matamata ‘early’. These occur only in the VC in postverbal position:

(346) Anau matono matamata=u
    1SG awaken early=1SG.IPfv
‘I wake up early’

(2-E015)

The adverb tani ‘already’ occurs often and expresses that something has already occurred in the past, either in relation to another time in the past or in relation to the present (347)-(349). It thus has a completive meaning. It is generally not accompanied by other TAM markers but it is attested with the past tense marker ara (349).

(347) E=to mate tani
    3SG.SBJ=to die already
‘He has already died’

(2-E008)

(348) E=to roroto tani=a nu=buku mama
    3SG.SBJ=to see already=3SG.OBJ SPEC.CLII=book DEM
‘He has already read this book’

(2-E014-1)

(349) I=ara mei tavo tu tani
    3PL.SBJ=PST come.SEQ arrive already
‘They had already arrived’

(1-T002)
The adverb *roro* ‘still’ sometimes occurs and expresses that something was still happening at a point in the past or is still happening in relation to the present time. It thus has a continuous meaning and may co-occur with PSI and verbal reduplication, which mark imperfective aspect:

(350) Aia e=aputu **roro**=ena 3SG 3SG.SBJ=sleep still=3SG.IPV
‘He's still sleeping’

(351) Si=nao **roro**=ra=i te=na kaukau 1INCL.SBJ=go still=1INCL.IPV=IRR OBL= SPEC[CLI] garden
‘We’re still going to the garden’

(352) Na=’usia i=pei gaganini **roro**=ina=i SPEC[CLI]=child 3PL.SBJ=PST.IPV play still=3PL.IPV=IRR
‘The children were still playing’

The adverb *garigari* ‘always’ sometimes occurs and expresses the frequency of an action, indicating that the event expressed by the predication always occurs. It thus has a habitual meaning and may co-occur with PSI and reduplication, which mark imperfective aspect:

(353) Mu=nao–nao **garigari** te=na skuru 2PL.SBJ=RD–go always OBL= SPEC[CLI] school
‘You always go to school’

(354) Na=nganangana enai e=me-na po **nanamoa**=amu=ena SPEC[CLI]=moon DEM 3SG.SBJ=COM-PL.OBJ stay first=2PL.OBJ=3SG.IPV
‘The moon stays with you first’

(355) Oina=au kakau i=mamu dini **nanamoa**=i=a nao 3PL.PSSR=CLI dog 3PL.SBJ=throw down first=TR=3SG.OBJ thither
‘They threw their dog down first’

The ordinal numeral *nanamoa* ‘first’ may occur as an adverb in the VC to express that something occurs first before something else (354)-(355). In Teop, ordinal numerals can also be used as adverbials in the VC (Mosel and Thiesen 2007).

(356) Iara o=rasi–rasi **egoego**=ina=i then 2SG.SBJ=RD–pull well=3PL.OBJ=IRR
‘Then you pull them well’

5.11.2.2 VC adverbs: manner and direction

There are seven adverbs that have occurred in the data which express manner or direction: *egoego* ‘well’, *muramura* ‘firmly’, *gogoro* ‘together’, *oata* ‘across’, *tabataba* ‘away’, *banubanu* ‘in a row’, *reareana* ‘far’ while speakers mentioned *uru’uru* ‘around and about’ but I do not have an example of this in use. The form *reareana* may also occur as an oblique NP (see §6.2.2.4). These adverbs occur only in the VC in postverbal position.

(357) Iara o=rasi–rasi **egoego**=ina=i then 2SG.SBJ=RD–pull well=3PL.OBJ=IRR
‘Then you pull them well’
5.11.2.3 VC adverbs and clausal adverbs: manner and direction

There is one manner and one direction adverb that have occurred in the data which occur in the VC in postverbal position but are also modifiers outside the VC at the clausal level (see §6.3.1): papasi ‘quickly’ and viviro’o:

(363) Anau u=usi papasi tani=a na=niunu
1SG 1SG.SBJ=scrape quickly already=3SG.OBJ SPEC[CLI]=coconut
‘I already scraped the coconut quickly’

(364) E=misa’o viviro’o=i=a
3SG.SBJ=sprinkle around=TR=3SG.OBJ
‘I looked around’

5.11.2.4 VC adverbs and NP modifiers: limiter and intensifiers

There is one adverb which has a limiting function, ora ‘only’, and three that have an intensifying function: panapana, mamangi and poto. These occur in the VC in postverbal position but also function as modifiers in NPs (see §4.13).

(365) U=pei tavone ora=ina=u na=vanua
1SG.SBJ=PST.IPFV help only=3PL.OBJ=1SG.IPFV SPEC[CLI]=people
‘I was just helping people’

(366) Nu=vunu-na iai e=nao dini panapana
SPEC[CLI]=hair-3SG.PSSR DEM 3SG.SBJ=go down INTS
‘Her hair goes all the way down’
(367) siopa-na e=no duan panapana
stomach-3SG.PSSR 3SG.SBJ=go.SEQ bad INTS
‘he felt really bad (lit. his stomach went really bad)’

(368) E=to ba’o mamangi=a
3SG.SBJ=to beat INTS=3SG.OBJ
‘He really beat him’

(369) Tuitui-u iai e=pei sare mamangi=en=i
heart-1SG.PSSR DEM 3SG.SBJ=PST.IPfv happy INTS=3SG.IPfv=IRR
‘My heart was really happy’

(370) A:mani mi=mate poto=i=a=mani
1EXCL 1EXCL.SBJ=like INTS=TR=3SG.OBJ=1EXCL.IPfv DEM PART hang DEM
‘We really like that necklace’

(371) E=to etawa poto=en
3SG.SBJ=to big INTS=3SG.IPfv
‘it’s really big’

5.12 to

The preverbal marker *to* is optional but prevalent in the data. When it is present, it must co-occur with subject-indexing proclitics (372), and may co-occur with a lexical (373) or pronominal (374) subject NP. It immediately follows the subject-indexing proclitics and no other element is permitted to intervene between the two.

(372) a. Prime Minister e=to mate tani
Prime Minister 3SG.SBJ=to die already
‘the Prime Minister had already died’

b. *Prime Minister to mate tani
Prime Minister SM die already
‘the Prime Minister had already died’

(373) Na=daramu e=to mamaravi=en
SPEC[CLI]=water 3SG.SBJ=to cold=3SG.IPfv
‘The water is cold’

(374) Anau u=to matono=i
1SG 1SG.SBJ=to awaken=IRR
‘I will wake up’

It could be argued that *to* is a predicate marker, also referred to as verb marker or verbalizer in the Oceanic literature. Ross (1988: 251) asserts that in NNB languages, subject pronominal proclitics have been reduced to a single verb marker, usually *e*, derived from PNS *ia* ‘he’, in all persons, because the subject proclitics are rendered redundant by the addition of the “possessive pronominal suffixes” (referred to here as postverbal subject-indexing (PSI) and discussed in §5.8). In Teop and Taiof, the verb marker is *to*, derived from an earlier relativiser (Ross 1982: 50-51), so it would not be unreasonable to argue that *to* in Papapana is also a verb marker. The difference though is that subject
proclitics are not rendered redundant in Papapana by the addition of PSI and they are not reduced to to; instead, they co-occur with PSI and to:

(375) Ta=maunu o=to muni=a=amu?
NSPEC[CLI]= woman 2SG.SBJ=to hide=3SG.OBJ=2SG.IPFV
‘Are you hiding a woman?’ (1-T029)

(376) Nua matuana i=to oa~oa=ina
two[CLI] spirit 3PL.SBJ=to RD~cry=3PL.IPFV
‘Two spirits are crying’ (1-T026)

For Halia, Allen (1978: 33) uses the term *verbalizer* instead of *verb marker* because it “marks the VP as a unit, and not just the verb”. In Halia, the verbalizer is a “pronoun of sorts which has a cross reference to the person of the subject and also relates to the tense of the action… [and] is obligatory in all VPs except those involving imperative and obligatory mode” (Allen 1978: 32). In Papapana, to does not distinguish the person of the subject, and it does not relate to tense, nor even aspect. To may occur with no TAM markers (372), with PSI and reduplication expressing present imperfective (376), with the past tense marker ara (377) and the past imperfective marker pei (378), and with the aspect markers vare (379) and osi (380). It may also occur in both intransitive (379), transitive (377), negative (381) and interrogative clauses (382), but it is not attested in imperative or hortative clauses. This might suggest to is an indicative mood marker but this requires further investigation.

(377) U=to ara tu’u=i=a
1SG.SBJ=to PST meet=TR=3SG.OBJ
‘I met him’ (2-E014-1)

(378) E=to pei gaun=i=a=i nu=pepa
3SG.SBJ=to PST.IPFV write=TR=3SG.OBJ=IRR SPEC.CLI=paper
‘He used to write a letter (every morning)’ (2-E014-1)

(379) E=to vae manene nao
3SG.SBJ=to REP return thither
‘He went back again’ (1-T029)

(380) U=to tutuvu osi
1SG.SBJ=to wash COMPL
‘I finish washing’ (1-T008)

(381) I=to ae no~nongono=ina
3PL.SBJ=to NEG RD~listen=3PL.IPFV
‘They don’t listen’ (1-T089)

(382) Au=au bareo te:a e=to ani~ani=a=na?
1SG.PSSR=CLI breadfruit who 3SG.SBJ=to RD~eat=3SG.OBJ=3SG.IPFV
Who’s eating my breadfruit? (1-T035)

I considered the hypothesis that to is a realis marker, as a more recent description of Taiof analyses to as a realis mode marker (Ross 2002: 433). In Papapana however, this cannot be the case since to co-
occurs with the general irrealis mode enclitic =i as in (374) above, with the preverbal conditional marker awa (383), and the preverbal immediate irrealis mode marker eri in both optative mode clauses with PSI (384) and counterfactual conditional clauses with awa (385).

(383) John e=to awa nao=i, i=to atun=i=a=i
John 3SG.SBJ=go COND  go=IRR 3PL.SBJ=to attack=TR=3SG.OBJ=IRR

‘If John goes, they will attack him’

(384) U=to eri gaun=i=au nu=pepa
1SG.SBJ=to IMM.IRR write=TR=1SG.IPfv SPEC.CLII=paper

‘I want to write a letter’

(385) E=to eri awa aputu mata, vagi e=eri sare
3SG.SBJ=to CF COND sleep good now 3SG.SBJ=CF happy

‘If he had slept all night, he would have been happy’

I observed in the text data that to would occur in the first clause of a complex sentence but not in the second and therefore I hypothesised that to is a topic or focus marker. I manipulated a few existing complex sentences from text and elicitation sessions which showed to in the first clause but not in the second. I added to to the second clause and found there was disagreement among speakers about whether or not this was grammatical. To test this further, I designed and elicited ten complex sentences, of which (386)-(388) are representative examples: in (386) the subject of both clauses is the same, in (387) the object of both clauses is the same, and in (388) the object of the first clause is the subject of the second. For each of these sentences, speakers reported that to could actually be used in both clauses, but that it was not necessary to repeat it in the second clause. If to were a topic or focus marker one would expect that to could not be used in both clauses. Since there was no conclusive judgement about the use of to in the second clause of a complex sentence, the hypothesis that to marks information structure is open to further investigation.

(386) John e=nao Buka tau e=ae mai na=rice
John 3SG.SBJ=go Buka and 3SG.SBJ=buy hither SPEC[CLI]=rice

‘John went to Buka and bought some rice’

(387) Tom na=iana e=peri=a tau e=muni=a
Tom SPEC[CLI]=fish 3SG.SBJ=find=3SG.OBJ and 3SG.SBJ=hide=3SG.OBJ

‘Tom found a fish and hid it’

(388) Wayne e=tepe dini=a nu=naono tau e=pu dini
Wayne 3SG.SBJ=cut down=3SG.OBJ SPEC.CLII=tree and 3SG.SBJ=fall down

‘Wayne cut a tree and it fell’

Papapana speakers insisted that to “marks the man” and “stands for he/she/we…”. It could be then that to is almost like an auxiliary, forming a subject pronoun with the subject proclitics, or perhaps emphasising the subject proclitic in the same way that the modifier tobi can emphasise an independent pronoun (§5.2.1), but this too requires further investigation.
The functions of *to* are therefore not clear. It could very well be that the origins of *to* lie in the predicate markers of NNB, but synchronically the morphosyntactic behaviour of *to* differs from other predicate markers (with the exception of the similarity to Halia in not occurring in imperative clauses). Predicate markers mark the verb or VC, but I am unconvinced about how meaningful this label is and I do not feel I have any evidence to suggest that *to* marks the verb or VC. The use of *to* is not motivated by the presence or absence of other morphemes in the VC, nor by tense, aspect or mode, nor by NP arguments. The use of *to* is also unrelated to valency or clause type. Three possible functions could be an indicative mood marker, a topic or focus marker, or an emphatic marker, but this requires further investigation. The only thing that is clear is that the presence of *to* is optional and when it is present, it does **not** alter the meaning of the sentence; no speaker has been able to adequately account for difference in sentences with and without *to*. 
6 Clause Types and Structures

This chapter is structured according to clause types and within the discussion of each clause type I will discuss clause structure. The clause types discussed are declarative verbal clauses with core arguments (§6.1), declarative verbal clauses with oblique arguments or adjuncts (§6.2), declarative verbal clauses with adverbial phrases (§6.3), imperative and hortative clauses (§6.4), interrogative clauses (§6.5), verbal existential clauses (§6.6), verbal negative clauses (§6.7) and finally verbless clauses (§6.8). When discussing clause order, it should be noted that ‘V’ refers not just to the verb but to the Verb Complex (VC) as outlined in §5.

6.1 Verbal clauses and core arguments

Core arguments are represented by noun phrases (NP). The expression of arguments in Papapana follows a nominative-accusative alignment. The subject (S) of a clause is the argument indexed in the VC by subject proclitics (see §5.3.2). In intransitive clauses this is the single argument. In transitive and ditransitive clauses this is the argument which behaves syntactically like the Actor argument of a prototypical transitive verb. The primary object is the object indexed by the object enclitics (see §5.3.2). In a transitive clause, this is the only object and will thus be marked as ‘O’. O may have the semantic role of patient, theme, addressee, recipient or beneficiary depending on the semantics of the verb. In ditransitive clauses (see §5.3.1) the primary object has the semantic role of addressee, recipient or beneficiary, while the secondary object has the semantic role of theme. The primary object will be marked ‘O1’ and the secondary object as ‘O2’.

Subject- and object-indexing clitics are always obligatory (except in transitivity discord clauses in which object enclitics are not present). Overt subject and object NPs are not obligatory. As explained in §5.3.2, the subject- and object-indexing clitics show grammatical agreement when they co-occur with overt NPs expressing the subject and object argument, but anaphoric agreement when they are the only expression of the subject or object argument within the clause.

Argument NPs can be omitted if they are retrievable, either extra-linguistically or within the linguistic context. When all argument NPs are present, there is considerable variation in clause order. In intransitive clauses, verb-final clause order is the basic clause order and the pragmatically marked clause order when the subject is Topic, while verb-initial clause order is highly restricted. In pragmatically unmarked transitive clauses, both SVO and SOV order are prevalent while the pragmatically marked transitive clause order involves a clause initial Topic position. If the subject is the Topic there is no difference to clause order since in both SVO and SOV clauses, the subject is already in clause initial position. If the object is Topic, the clause order is OSV. In ditransitive clauses both verb medial (S V O2 O1) and verb final (S O2 O1 V) orders are attested. Verb-final clause order
is not typical of Oceanic languages and is thought to be the result of contact with Papuan languages (see §9.2).

*Topic* is the “framework within which the main predication holds” (Chafe 1976: 50) and for this framework to serve as the context for the proposition expressed by the predication, it must “be meaningful for the hearer, and therefore invoke information already known to the hearer… in order to background it, signalling its role as the context for the associated proposition” (Palmer 2009: 218). *Focus* on the other hand is “the UNPREDICTABLE or pragmatically NON-RECOVERABLE element in an utterance” (Lambrecht 1994: 207, original emphasis), and “the information to which the speaker intends to direct the hearer's attention” (Erteschik-Shir 2007: 38).

### 6.1.1 Intransitive

In intransitive clauses, verb-initial clause order is highly restricted. Verb-final clause order (SV) is the basic clause order as in (1)a, and the pragmatically marked clause order when the subject is Topic.

When the subject of an intransitive clause has the same referent as the subject of the preceding intransitive clause, the subject NP of the second clause is often omitted, as in (1)b.

(1) a. na=vanua nani i=pei tagumu=ina=i,
   SPEC[CLI]=people there 3PL.SBJ=PST.IPFW assemble=3PL.IPFW=IRR

   b. i=pei vavarai=ina=i
   3PL.SBJ=PST.IPFW wait=3PL.IPFW=IRR
   ‘the people were assembled there, they were waiting’

   (1-T035)

If omitting the subject NP might result in a semantically ambiguous utterance, the subject NP may be repeated, as in (2)b where omission of the subject NP in the second clause might have rendered the interpretation that it was the newborn child who died.

(2) a. Na=maunu=ma e=to burisi,
   SPEC[CLI]=woman=ma 3SG.SBJ=to give.birth

   b. na=maunu e=mate
   SPEC[CLI]=woman 3SG.SBJ=die
   ‘The woman gave birth, the woman died’

   (1-T029)

Nevertheless, there are instances in which there is no potential for ambiguity and the subject NP is still repeated as in (3)c where the women are the only 3PL referents: it is unclear what the motivation for this repetition is.

(3) a. Enaima burimaunu i=va-puna~puna=ina=i,
   then women 3PL.SBJ=CAUS-RD~celebrate=3PL.IPFW=IRR
b. Enaima i=va-puna-puna osi=i 3PL.SBJ=CAUS-RD-celebrate COMPL=IRR

c. burimaunu i=nao=ma i-inu te aina. women 3PL.SBJ=go=ma LOC-house OBL 3PL

‘Then the women celebrate. Then they finish celebrating, the women go to their houses’

The pragmatically marked intransitive clause order in Papapana involves a clause initial Topic position. If the subject is the Topic as in (4)b, there is no difference to clause order since in SV clauses, the subject is already in clause initial position. The only way of distinguishing whether the subject is Topic or not is through detailed analysis of the discourse context.

(4) a. Iara Ebauka e=vo’u=i=a Nabebe.
then Ebauka 3SG.SBJ=call=TR=3SG.OBJ Nabebe

b. Nabebe e=to tua dini nao.
Nabebe 3SG.SBJ=to paddle down thither
‘Then Ebauka called Nabebe. Nabebe paddled in’

In intransitive clauses, verb-initial clause order (VS) occurs very rarely (only nine tokens in a selected twenty-five texts), it does not occur across a range of text genres nor is it produced by a range of speakers. Verb-initial clause order is highly restricted as it only occurs in asyndetic coordinate constructions in which the first clause is verb-final (SV) and the second clause verb-initial (VS). These constructions are considered coordinate as impressionistically they have the intonation contour of a single sentence. In such sentences, there is either repetition of the subject and predicate but with reversed clause order as in (5), or the subjects of the two clauses make reference to the same participant as in (6) where the subject of the second clause, sau maunu ‘the poor woman’ is coreferential with the subject of the first clause in which the same woman is the possessor.

(5) a. Rosu e=to naomai,
Lucifer 3SG.SBJ=to come

b. e=to naomai Rosu
3SG.SBJ=to come Lucifer
‘Lucifer came, came did Lucifer’

(1-T035)

(6) a. Iara ena-ngangananga=ma merei burisi e=to naomai,
then 3SG.PSSR[CL1]=month=ma OBL give.birth 3SG.SBJ=to come

b. e=burisi sa=au maunu
3SG.SBJ=give.birth DIM=CLII woman
‘Then her due date came, the poor woman gave birth’

(1-T029)

6.1.2 Transitive

In pragmatically unmarked transitive clauses, both SVO and SOV order are prevalent and when presented with such clauses in a text, speakers judge both orders to be acceptable and interchangeable with no difference in meaning. Both the verb-medial SVO clause order and verb-final SOV clause
order are found across a variety of text genres and are produced by a range of speakers. There is also no grammatical motivation, such as the animacy of the argument referents, nor are there formal morphological markers for a particular clause order.

Examples (7)-(10) show that utterances with equivalent information structure exhibit clause order variation. The clauses in (7) and (8) begin the respective narratives; therefore, all the arguments in each clause are being introduced for the first time and are unpredictable elements in the utterance. Nevertheless, (7) displays SVO order and (8) displays SOV order. Examples (7) and (8) also show that animacy does not motivate clause order as both the subject referents are animate while both the object referents are inanimate.

(7) Vasina  na=vanua    i=pei    ae   varona=ina=i
before  SPEC[CLI]=people  3PL.SBJ=PST.IPfv  NEG  know=3PL.IPfv=IRR
nu=maria    nu=bareo
SPEC.CLII=thing  SPEC.CLII=breadfruit
‘Before, people didn’t know (about), the what’s-it-called, the breadfruit tree’

(8) Maisia  sa=au    ‘usia=ma    na=vutunu  e=to  de=a
okay  DIM=CLII  child=ma  SPEC[CLI]=bow  3SG.SBJ=to  get=3SG.OBJ
‘Okay, a young boy got a bow’

The clauses in (9) and (10) also demonstrate equivalent information structure: all the arguments in each clause have already been introduced and even referred to in the preceding utterances, yet (9) displays SVO order, and (10) demonstrates SOV order. Examples (9) and (10) demonstrate that clause order is not motivated by the presence of independent pronouns nor by specificity as both subject referents are expressed by pronouns and both object referents are possessed nouns.

(9)  Aia  e=nutu  varisi=a    ena=arao-eta
3SG  3SG.SBJ=refuse  also=3SG.OBJ  3SG.PSSR[CLI]=brother-AUG
‘He refused his big brother’

(10)  Ani  au=maunu
2SG  1SG.PSSR=woma
bea  o=pei  ae  mate=a=amu=i
maybe  2SG.SBJ=PST.IPfv  NEG  like=3SG.OBJ=2SG.IPfv=IRR
‘Maybe you don’t like my wife’

The pragmatically marked transitive clause order in Papapana involves a clause initial Topic position. If the subject is the Topic there is no difference to clause order since in both SVO and SOV clauses, the subject is already in clause initial position. The only way of distinguishing whether the subject is Topic or not is through detailed analysis of the discourse context. Both SVO and SOV clause orders are widespread in pragmatically marked transitive clauses in which the subject is Topic. As with pragmatically unmarked transitive clauses, both the verb-medial SVO clause order and verb-final SOV
clause order are found across a variety of text genres and are produced by a range of speakers, and the clause order variation is not motivated by the grammatical features of the NP arguments nor is it marked morphologically. In both (11) and (12), the subject refers to a participant that is already known and was last referred to several utterances beforehand, and is therefore Topic. The object referents on the other hand are introduced for the first time in these clauses. Examples (11) and (12) show that clause order is not motivated by the presence of proper nouns since both subject referents are expressed by proper nouns.

(11) Rosu e=pei bae~baene=enai na=orona
Lucifer 3SG.SBJ=PST.IPFV RD=hunt=3SG.IPFV=IRR SPEC[CLI]=possum
‘Lucifer was hunting possums’

(12) Isio na=sirao e=de=a Satan SPEC[CLI]=string.bag 3SG.SBJ=get=3SG.OBJ
‘Satan got a string bag’

If the object is Topic, the clause order is OSV, as in (13) where the object referent was referred to by the subject in the previous utterance, and in (14) where the object referent was referred to by the subject of a preceding question, ‘what are you doing here?’.

(13) Arira tana e=ae amunu=ira=i
1INCL individual 3SG.SBJ=NEG see=1INCL.OBJ=IRR
‘Nobody saw us’

(14) Anau nia e-sina-u e-tama-u
1SG nia PERS-mother-1SG.PSSR PERS-father-1SG.PSSR
i=ara asi=au
3PL.SBJ=PST leave=1SG.OBJ
‘My mother and father left me’

6.1.3 Ditransitive
Ditransitive verbs are generally derived with the applicative i in Papapana (see §5.5.1) but there is one underived ditransitive verb ma’a ‘give’. In the text data, I have not found any ditransitive clauses in which all three arguments are expressed as NPs at the same time. In the elicitation data however, ditransitive clause order was generally S V O2 O1 as in (15).

(15) Ben e=ma’a=ina na=iana Jeff auana Ellen
Ben 3SG.SBJ=give=3PL.OBJ SPEC[CLI]=fish Jeff 3DU Ellen
‘Ben gave a fish to Jeff and Ellen’

To confirm this clause order, I presented speakers with clauses such as (16)-(19) in which all three NP arguments are 3SG and have the same status in terms of the type of head noun. For these clauses, speakers identified the first NP as the actor (S), the second as the theme (O2) and the third as the addressee, recipient or beneficiary (O1).
I also tested whether a ditransitive clause could be verb-final, as in (20), and speakers indicated that verb-final order was indeed grammatical. Since verb-final clause order exists in transitive clauses, it is quite feasible that it also exists in ditransitive clauses, but the frequency of this requires further investigation. In the same way as above, I created four different clauses (of which (20) was one) in which the NP arguments were all 3SG and proper nouns, and occurred in a different order. When asked to identify the semantic roles of the NP arguments, the same order of objects pertained, as in (20): O2 before O1.

(20) Matilda Nicholas Rose e=ma’i=a
  Matilda Nicholas Rose 3SG.SBJ=give=TR=3SG.OBJ
  ‘Matilda gave Nicholas to Rose’

When the grammatical status of the NP arguments is unequal, or when the semantic roles are clear from context, then there might be variation in the order of the objects, giving S V O1 O2. Heine and König (2008: 93) outline the principles of processing that underlie human communicative strategies and account for regularities in the ordering of ditransitive objects, and it seems that some of these principles could be the motivation for the O1 O2 order in Papapana.

In (21) the speakers indicated that nu’usia ‘the child’ was the theme and that Rose was the recipient, even though in (21)a the order is O2 O1 and in (21)b it is O1 O2. One of the principles of ordering ditransitive objects is “place prominent before less prominent arguments” (Heine and König 2008: 93); therefore although (21)b goes against the expected order, this could be because in terms of referentiality, the proper noun Rose is more prominent than the definite NP nu’usia ‘the child’.

(21) a. Na=orawi e=ma’i=a nu=’usia Rose
    SPEC[CLI]=man 3SG.SBJ=give=TR=3SG.OBJ SPEC.CLII=child Rose
    ‘The man gave the child to Rose’

b. Na=orawi e=ma’i=a Rose nu=’usia
    SPEC[CLI]=man 3SG.SBJ=give=TR=3SG.OBJ Rose SPEC.CLII=child
    ‘The man gave the child to Rose’
Similarly, in (22) both S V O2 O1 and S V O1 O2 were deemed possible. The flexibility in word order may also be the result of the prominence principle: in terms of animacy, the animate referent of the proper noun NP Lucy is more prominent than the inanimate referent of the noun koko’i ‘taro’. In terms of real-life semantics as well, it is unlikely that Daniel cooked Lucy for a taro!

(22) a. Danny e=atuma’ata i=a Lucy koko’i
    Danny 3SG.SBJ=cook APPL=3SG.OBJ Lucy taro

b. Danny e=atuma’ata i=a koko’i Lucy
taro Lucy

‘Danny cooked taro for Lucy’

(2-E018)

In (23) Jeff is 3SG and is definitely the O1 because the object enclitic is 3SG, whereas naiana tau karavona is 3PL. When I elicited this sentence, the order was S V O1 O2 as in (23)a; this likely reflects another of the principles of ordering ditransitive objects which is to “place heavy after light arguments” (Heine and König 2008: 93). The O2 naiana tau karavona is a complex object NP and is heavier than the O1, and this likely motivates its clause-final position. Nevertheless the basic S V O2 O1 order was also deemed possible as in (23)b.

(23) a. Ben tau Emma i=ma’i=i=a Jeff na=iana tau karavona
    Ben and Emma 3PL=give=TR=3SG.OBJ Jeff SPEC[CLI]=fish and lobster

b. Ben tau Emma i=ma’i=i=a na=iana tau karavona Jeff
    Ben and Emma 3PL=give=TR=3SG.OBJ SPEC[CLI]=fish and lobster Jeff

‘Ben and Emma gave Jeff a fish and a lobster’

(2-E018)

6.2 Verbal clauses and obliques

A verbal clause may contain oblique elements, which may function as arguments, or as adjuncts. Oblique arguments are not overly prevalent in Papapana and since there is no formal distinction between oblique arguments and adjuncts, the two are discussed together here and reference is made to the status of an oblique as argument or adjunct at the appropriate points.

In Papapana, obliques may be licenced by the prepositions eangoiena and te, or the nascent postposition tomana. Some Class I nouns referring to time can occur as oblique NP adjuncts. Location nouns occur as oblique NPs, while deictic location words may also occur in oblique constructions. Papapana is like most Oceanic languages in having a small set of adpositions (Lynch, Ross and Crowley 2002: 51). Eangoiena marks temporal duration while tomana marks accompaniment. Te expresses temporal location, static location of an entity, or the goal or source to or from which movement or action is directed. Te may also mark instrument, and possession (§4.9.5). With regards to location, the exact thematic role is determined by the verb and directionals and not by the preposition.

This section discusses the internal characteristics of obliques and within that the position of the oblique in the clause is described. The position of obliques in the clause is variable. Most often,
obliques are clause-final, but they may also occur clause-initially, and sometimes they can occur between an argument NP and the VC\(^1\). There is no correlation between the position of the oblique and its status as adjunct or argument, its status as an adpositional phrase or NP, nor the semantic relation it expresses. Sequences of obliques and embedded obliques are discussed in this section, while coordinated PPs are described in §7.1.1.2.

### 6.2.1 Class I temporal nouns

Class I nouns denoting units of time or periods of the day may occur in PPs with te (see §4.3.2 and §6.2.5) or as oblique NP adjuncts expressing temporal duration (§6.2.1.1) or location (§6.2.1.2). The noun boni may function as a Familiar Location noun (see §4.3.4 and §6.2.2.2) or as a Class I noun, in which case it can occur as an oblique NP adjunct (§6.2.1.3)

#### 6.2.1.1 Durational time

Class I nouns denoting units of time can be modified by numerals and express durational time in oblique NP adjuncts, in either clause-initial (24) or clause-final (25)-(28) position. They may occur before or after spatial locative obliques as in (24) and (26), and (27)-(28) respectively.

(24) **pepeitaunima na’aria nganangana** nani u=pei no po=u five one[CLI] month there 1SG.SBJ=PST.IPfv go.SEQ stay=1SG.IPfv‘I went and stayed there for six months’

(25) i-bana e=po=ena **tautoi na:ni** LOC-inside 3SG.SBJ=stay=3SG.IPfv three day ‘She stays inside for three days’

(26) Mi=to no po na’aria wik te=na ‘uru 1EXCL.SBJ=to go.SEQ stay one[CLI] week OBL=SPEC[CLI] island ‘We went and stayed on the island for one week’

(27) E=pei ara siodo=ena=i Teperoi **pepeitaunima tauvasi nganangana** 3SG.SBJ=PST.IPfv PST work=3SG.IPfv=IRR Teperoi five four month ‘He was working in Teperoi for nine months’

(28) E=to ara po=na=i Australia **tautoi yia** 3SG.SBJ=to PST stay=3SG.IPfv=IRR Australia three year ‘He lived in Australia for three years’

#### 6.2.1.2 tuiboniboni ‘dawn’, tuimatamata ‘morning’

Three nouns expressing periods of the day are Familiar Location nouns which are marked by the locative case prefix i- (see §4.3.4 and §6.2.2.2). There are two more nouns which express periods of the day, tuiboniboni ‘dawn’, tuimatamata ‘morning’ but these are Class I nouns (see §4.3.2) and can occur as oblique NP adjuncts in clause-initial (29) or clause-final position (30)-(31). These forms may

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\(^1\) It may sometimes appear, as in (60) in §6.2.2.1 and (113) in §6.2.2.4, that the oblique occurs at the beginning of a clause that is preceded by a left-dislocated topic NP, but other examples such as (82) show the oblique occurring between the VC and a non-topic argument.
be diachronically polymorphemic, consisting of the root *tui* which denotes ‘heart’, *matamata* which denotes ‘early’ and *boni* which denotes ‘night’ or ‘twenty-four hours’.

(29) **Tuimatamata mama e=nao i-nongana**
morning DEM 3SG.SBJ=go LOC-beach
‘On that morning, she went to the beach’

(30) **Na=mo’udo i=pei no garu=i, na=vanua, tuiboniboni**
SPEC[CLI]=dew 3PL.SBJ=PST.IPFV go.SEQ collect=IRR SPEC[CLI]=people dawn
‘The people would go and collect the dew at dawn’

(31) **U=to no amun=i=a tuimatamata**
1SG.SBJ=to go.SEQ see=TR=3SG.OBJ morning
‘I went and saw it in the morning’

*Tuimatamata* may co-occur with an Absolute Location noun expressing time (§6.2.2.1):

(32) **Naonava tuimatamata u=ani na=uvii**
yesterday morning 1SG.SBJ=eat SPEC[CLI]=yam
‘Yesterday morning I ate yam’

(33) **Vagi tuimatamata u=ani koko’i**
now morning 1SG.SBJ=eat taro
‘This morning I ate taro’

(34) **Natui tuimatamata u=ani kaukau**
tomorrow morning 1SG.SBJ=eat sweet.potato
‘Tomorrow morning I’ll eat sweet potato’

6.2.1.3 *boni* ‘night, twenty-four hours’
The noun *boni* ‘night’ may function as a Familial Location noun (see §4.3.4 and §6.2.2.2) or as a Class I noun (see §4.3.5). As a Class I noun *boni* can be modified by the augmentative suffix to denote ‘midnight’ and function as an oblique NP adjunct in clause-initial position:

(35) **Na=boni-eta mi=matono=ma**
SPEC[CLI]=night-AUG 1EXCL.SBJ=awaken=ma
‘At midnight we woke up’

With particular nominal modifiers and morphology, *boni* may function as a Class I noun to denote a twenty-four hour period and these forms may function as oblique NP adjuncts:

(36) **Nata na=boni u=tua dini nao i-nongana**
another SPEC[CLI]=day 1SG.SBJ=paddle down thither LOC-beach
‘Another day I paddled down to the beach’

(37) **Ani o=momoroko=mu mamena boni~boni**
2SG 2SG.SBJ=lie=2SG.IPFV PL.COLL RD~day
‘You lie every day’

6.2.2 Location nouns
Location nouns (§4.3.4) do not occur in adpositional phrases but as oblique NPs. Some absolute and familiar location nouns express temporal concepts and thus in oblique adjuncts they express temporal
location. Other absolute and Familiar Location nouns, and Relational Location nouns express spatial location (location, goal, source).

6.2.2.1 Absolute Location nouns

Absolute Location nouns are not marked by the locative case prefix i- and they are never directly possessed. In many Northwest Solomonic (NWS) languages there are contexts in which an oblique occurs as a bare NP without any adpositional element or case-marking and this often includes proper place names and local nouns (Ross 2007b). As Ross comments in relation to the Oceanic language Minigir, “the fact that the preposition is absent before placenames… seems unsurprising, as a placename by default denotes a location and needs no special marking to show that it is a locative expression” (Ross 2007c: 287).

Proper place names can function as clause-final oblique adjuncts expressing location (38), goal (39) and source (40).

(38) u=pei siodo=u Vakonaia
1SG.SBJ=PST.IPFW work=1SG.IPFW Wakunai
‘I was working in Wakunai’

(39) Si=nao dini nao Manetai
1INCL.SBJ=go down thither Manetai
‘We went down to Manetai’

(40) I=ara naomai France
3PL.SBJ=PST come France
‘They came from France’

O’oemana functions as a clause-final oblique adjunct expressing location (41), goal (42) and source (43).

(41) A:mani mi=ara ta’opo o’oemana
1EXCL 1EXCL.SBJ=PST hide bush
‘We hid in the bush’

(42) I=to ara nao o’oemana
3PL.SBJ=PST go bush
‘They went into the forest’

(43) Na=vanua i=tavotu mai ma:mido o’oemana
SPEC[CLI]=people 3PL.SBJ=arrive hither slowly bush
‘People came back slowly from the bush’

O’oemana may co-occur with other obliques as in (44) and (45). It is unclear whether (44) is a sequence of obliques or whether the second oblique is embedded within and modifying the first oblique NP. Example (45) however is a sequence of obliques; if it were ‘inside of the bush’ then the Relational Location noun i-bana would be directly possessed.
The six Absolute Location nouns which refer to time relative to the point of speaking may occur as oblique NP adjuncts after the VC:

(44) E=nao o'oemana i-ata
3SG.SBJ=go bush LOC-above
‘He went to the bush to the top/to the bush at the top’

(45) Iara i=to tete nao i-bana o'oemana
then 3PL.SBJ=to enter go LOC-inside bush
‘Then they went inside to the bush’

(46) tue-ni Papapana e=tosi=i mumurina
language-CONST Papapana 3SG.SBJ=finish=IRR future
‘The Papapana language will die out in the future’

(47) a’ade’e mama u=to eri atu=a=u vagi
narrate DEM 1SG.SBJ=to IMM.IRR make=3SG.OBJ=1SG.IPFV now
‘I want to tell this story now’

(48) Aipasi u=to tu’u=i=a naonava Vakonaia
Yes 1SG.SBJ=to meet=TR=3SG.OBJ yesterday Wakunai
‘Yes I met him yesterday in Wakunai’

They may also occur as oblique NPs before the VC (49), or after argument NPs and before the VC (50)-(51). The noun natui ‘tomorrow’ is modified here by the limiter ora ~ ara ‘only’ (see §4.13.2).

(49) Natui ora o=tua dini manene nao
tomorrow only 2SG.SBJ=paddle down return thither
‘Tomorrow just paddle back’

(50) Port Moresby vasina e=pei ae vewa=na=i
Port Moresby before 3SG.SBJ=PST.IPFV NEG be.like=3SG.IPFV=IRR
‘Port Moresby wasn’t like this in the past’

(51) Taramina mama au=arao naonava e=to goni=a
thing DEM 1SG.PSSR[CLI]=brother yesterday 3SG.SBJ=to pick=3SG.OBJ
‘My brother picked this thing yesterday’

In addition they may occur as oblique NPs clause-initially as in (52)-(56). Note that vagi can denote both ‘now’ as in (47) and ‘today’ as in (54). The noun vasina ‘before’ may be modified by the intensifier poto (see §4.13.5) as in (55) or be reduplicated to indicate intensity (56).

(52) Nasinaina nu=kakau u=to de=a te nia Anita
day.before.yesterday SPEC.CLII=dog 1SG.SBJ=to take=3SG.OBJ OBL PL. Anita
‘The day before yesterday I got a dog from the Anitas’
(53) Naonava Pita auana e-sina-na
yesterday Peter 3DU PERS-mother=3SG.PSSR

i=to ara nao te=na novo
3PL.SBJ=to PST go OBL=SPEC[CLI] reef
‘Yesterday Peter and his mother went to the reef’

(54) Vagi iai Red River e=to po~po=na
now DEM Red River 3SG.SBJ=to RD~stay=3SG.IPFV
‘Today there is this Red River’

(55) Vasina poto, sa=au maunu
before INTS DIM=CLII woman
e=pei ara po~po=na=i te=na ‘uru
3SG.SBJ=PST.IPFV PST RD~stay=3SG.IPFV=IRR OBL=SPEC[CLI] island
‘Long ago, a young woman lived on an island’

(56) Va~vasina, Teperoi mi=pei po~po=mani=i
RD~before Teperoi 1EXCL.SBJ=PST.IPFV RD~stay=1EXCL.IPFV=IRR
‘Long ago, we lived in Teperoi’

The two Absolute Location nouns which refer to periods of the day or frequency, nani’ira ‘sunrise’, and nasipuna ‘sometimes’, occur either after (57), before (58) or between the argument NPs and the VC (59)-(60).

(57) Bau iana-eta mi=rasi~rasi=ina=mani nasipuna
PL fish-AUG 1EXCL.SBJ=RD~pull= 3PL.OBJ=1EXCL.IPFV sometimes
‘Sometimes we pull in big fish’

(58) Nasipuna na=gitana i=atu=a=i
sometimes SPEC[CLI]=agreement 3PL.SBJ=make=3SG.OBJ=IRR
‘Sometimes they made an agreement’

(59) nani’ira nani i=atuma’ata=ira
sunrise there 3PL.SBJ=cook=1INCL
‘At sunrise they cooked for us there’

(60) Bau sina-ira tau bau tama-ira
PL mother-1INCL.PSSR and PL father-1INCL.PSSR

nasipuna si=ae atu egoego=ina=ira
sometimes 1INCL.SBJ=NEG make well=3PL.OBJ=1INCL.IPFV
‘Sometimes we don’t treat our mothers and fathers well’

6.2.2.2 Familiar Location nouns

In obliques, those Familiar Location nouns that do not refer to periods of the day may express location (61), goal (62) or source (63). The examples here are all oblique adjuncts. Most often obliques occur clause-finally (61)-(62), but (63) shows the oblique adjunct occuring clause-initially before the VC.
Familiar Location noun obliques may co-occur with other locative obliques marked by *te* as in (64)-(67) or with other location noun obliques (68). Example (66) is an oblique argument while the other examples here are oblique adjuncts, and they all occur clause-finally here. Examples (64) and (65) are sequences of obliques but (66)-(68) may be sequences or it could be that the second oblique is embedded within and modifying the first oblique NP.

Familiar Location nouns that refer to periods of the day express temporal location. Obliques that express temporal location are always adjuncts, and may occur either clause-initially (69) or clause-finally (70)-(71).
6.2.2.3 Relational Location nouns

Relational Location nouns can express location as in (72), goal as in (75) or source as in (85). The oblique adjuncts in (72)-(75) all occur clause-finally.

(72) Toituna e=po=na i-ata
  god 3SG.SBJ=stay=3SG.IPFLV LOC-above
  ‘God lives above’

(73) U=pei me=a gaganini=ou au=arao i-ota
  1SG.SBJ=PST.IPFLV COM=SG.OBJ play=1SG.IPFLV 1SG.PSSR[CLI]=brother LOC-outside
  ‘I was playing outside with my cousin’

(74) O=to o=rete nao=i i-butona...
  2SG.SBJ=to walk thither=IRR LOC-middle
  ‘If you walked in the middle…’

(75) I=to naovo=ina=i i-ata
  3PL.SBJ=to fly=3PL.OBJ=IRR LOC-above
  ‘They flew them above’

Relational Location noun obliques may co-occur with other location noun obliques (76)-(79) or with other locative obliques marked by te as in (80)-(87). These examples are analysed as sequences of obliques because if the second oblique were modifying the first oblique, this Relational Location noun would be directly possessed with the second location noun as its possessor. The oblique adjuncts in (76)-(79) all express location and occur clause-finally, except (77) which occurs in between the subject NP and the VC.

(76) E=no rasi=ina na=iana i-ata i-namana
  3SG.SBJ=go.SEQ pull=3PL.OBJ SPEC[CLI]=fish LOC-above LOC-ocean
  ‘He went to pull in fish out on the ocean’

(77) Na=nganangana i-ata i-nganisi
  SPEC[CLI]=moon LOC-above LOC-sky
  e=pei ae po~po=na=i
  3SG.SBJ=PST NEG RD−stay=3SG.IPFLV=IRR
  ‘The moon never stayed above in the sky’

(78) Na=koaka e=no atu=a i-bana i-daramu
  SPEC[CLI]=raft 3SG.SBJ=go.SEQ make=3SG.OBJ LOC-inside LOC-river
  ‘She went and made a raft inside in the river’

(79) Na=orawi e=tonu=ena i-bana i-inu
  SPEC[CLI]=man 3SG.SBJ=stand=3SG.IPFLV LOC-inside LOC-house
  ‘The man is standing inside in the house’
All the obliques in (80)-(87) are adjuncts expressing location except (84) which is an argument and (85) which is an adjunct expressing source. The obliques occur clause-finally except (82) which occurs between the VC and the object NP, and (87) which occurs before the VC.

(80) E=ae vae po-po=na i-vuna te=na kavururu
3SG.SBJ=NEG REP RD-stay=3SG.IPFV LOC-below OBL=SPEC[CLI] ground
‘It never again lived down below on the ground’

(81) Aina iai i=ma’ata tani i-bana te=na=au otana
3PL DEM 3PL.SBJ=heated already LOC-inside OBL=SPEC=CLII pot
‘They were already cooked inside in the pot’

(82) E=rave=i=a i-ata te=na=au naono pei tanga
3SG.SBJ=hang=TR=3SG.OBJ LOC-above OBL=SPEC=CLII tree PART hang
‘He hung the necklace above on a tree’

(83) Nu=ingani e=to ara vua
SPEC=CLII=canarium.indicum 3SG.SBJ=to PST fruit
te=na ereere i-ata poto
OBL=SPEC=CLII mountain LOC-above INTS
‘The Canarium indicum tree bore fruit in the mountains at the very top’

(84) O=noe=ina=i=ma te=na=au a’u i-bana
2SG.SBJ=put=3PL.OBJ=IRR=ma OBL=SPEC=CLII a’u LOC-inside2
‘Put them inside in the a’u’

(85) I=pu mai i-ata te=na=au naono
3PL.SBJ=fall hither LOC-above OBL=SPEC=CLII tree
‘They fell down from above, from the tree’

(86) Na=orawi e=tonu=enai i-bana te=na vu-vurau
SPEC[CLI]=man 3SG.SBJ=stand=3SG.IPFV LOC-inside OBL=SPEC[CLI] RD-run
‘The man is standing inside in the truck’

(87) I-bana te=na niunu e=to po-po=na
LOC-inside OBL=SPEC[CLI] coconut 3SG.SBJ=to RD-stay=3SG.IPFV
‘It lives on the inside in a coconut shell’

Relational Location nouns can be directly possessed as a comparison of (86) above and (88) below show. The fact that Relational Location nouns are optionally possessed is not unusual in Oceanic languages. Indeed in Proto-Oceanic (POc) “when a noun was viewed as semantically inalienable, like the inside of an object, it was monovalent (i.e. directly possessed, with a possessor suffix), but the same noun could also have zero valency if used in a context where inalienability was irrelevant” (Ross 2007b: 234).

2 An a’u is a cooking tool similar to a pestle and mortar, but it is wooden, thin and between one and two metres tall. It is used for mashing food such as bananas.
When Relational Location nouns are directly possessed, they may be marked only with the direct possessor suffixes as in (89)-(943), or with the direct possessor suffixes and a possessor NP as in (94)- (96).

(89) Na=ma’ata  

i-vuna-u  

e=po=na  

SPEC[CLI]=brown.coconut  

LOC-below-1SG.PSSR  

3SG.SBJ=stay=3SG.IPFV  

‘The brown coconut is below me’  

(2-E026)

(90) Na=tubuna  

i-ota-u  

SPEC[CLI]=boil  

LOC-outside-1SG.PSSR  

3SG.SBJ=stay=3SG.IPFV  

‘The boil is on my outside’  

(2-E026)

(91) e=tonu=ena  

i-muri-u  

3SG.SBJ=stand=3SG.IPFV  

LOC-behind-1SG.PSSR  

‘She is standing behind me’  

(2-E026)

(92) Ben nu=buku  

e=amun=i=a  

i-muri-na  

SPEC.CLII=book  

3SG.SBJ=see=TR=3SG.OBJ  

LOC-behind-3SG.PSSR  

‘Ben saw a book behind him’  

(2-E007-2A)

(93) Nu=pen  

i-butona-ira  

e=po=na  

SPEC.CLII=pen  

LOC-middle-1INCL.PSSR  

3SG.SBJ=stay=3SG.IPFV  

‘The pen is in the middle of us’  

(2-E026)

(94) Nu=pen  

i-butona-ira  

auara  

SPEC.CLII=pen  

LOC-middle-1INCL.PSSR  

3SG.SBJ=stay=3SG.IPFV  

INCL.DU  

‘The pen is in the middle of us’  

(2-E026)

(95) O=no  

sapa=a  

i-ata-na  

na=INU  

2SG.SBJ=go.SEQ  

clean=3SG.OBJ  

LOC-above-3SG.PSSR  

SPEC[CLI]=house  

‘Go and clean the top of the house’  

(2-E029-1)

(96) O=no  

bui=a  

i-bana-na  

nu=Obutu  

2SG.SBJ=go.SEQ  

clean=3SG.OBJ  

LOC-inside-3SG.PSSR  

SPEC.CLII=canoe  

‘Go and clean the inside of the canoe’  

(2-E028-2)

6.2.2.4 Lexicalised Relational Location nouns

There are four Relational Location nouns which may function as oblique arguments or adjuncts but have a prepositional phrase (PP) complement with te as the head or a NP complement with a location noun as the head: obetena ‘under’, gegetena ‘next to’, tagena ‘near’ and reareana ‘far away’. Reareana does not require but optionally has a complement, while the other three require a complement. Reareana may also function as an adverb in the VC (§5.11.2.2). These nouns are invariant in form; for example, the complements below are 3SG (97), 1SG (101) and 3PL (108). The form tage can however be directly possessed suggesting that the forms obetena, gegetena, tagena and
reareana may be diachronically divisible into a root and the 3SG possessor suffix –na. Tage also functions as a transitive verb (see §5.6)

These Relational Location nouns occur before the PP complement in (97)-(104) and before the locative NP complement in (105)-(107). In (97)-(100) the noun being marked by te is a Class I or II noun. The nominal that te governs may also be an independent pronoun (101)-(103) or Personal proper name (104). These oblique adjuncts express location and typically occur clause-finally, although they may occur in several other positions, such as in (98) where the adjunct occurs before the VC.

(97) U=aputu   obetena  te=na  vuni  kauto
1SG.SBJ=sleep  under  OBL=SPEC[CLI]  trunk  terminalia.catappa
‘I slept under the Terminalia catappa tree’

(98) Anau  gegetena  te=na  ‘uru  u=pei  tuvu=ou
1SG  next.to  OBL=SPEC[CLI]  island  1SG.SBJ=PST.IPFV  swim=1SG.IPFV
‘I was swimming next to the island’

(99) Mi=ari=a  na=orawi  tagena  te=na=au  naono
1EXCL.SBJ=dig=3SG.OBJ  SPEC[CLI]=man  near  OBL=SPEC=CLII  tree
‘We buried the man near to the tree’

(100) Ena=siodo  e=po=na  reareana  te=na  ‘uru
3SG.PSSR[CLI]=work  3SG.SBJ=stay=3SG.IPFV  far  OBL=SPEC[CLI]  island
‘His work was far away on the island’

(101) E=to  tuvu  obetena  te  anau
3SG.SBJ=to  swim  under  OBL  1SG
‘He swam underneath me’

(102) aia  e=tonu=ena  tagena  te  anau
3SG  3SG.SBJ=stand=3SG.IPFV  near  OBL  1SG
‘He is standing next to me’

(103) aia  e=tonu=ena  reareana  te  anau
3SG  3SG.SBJ=stand=3SG.IPFV  far  OBL  1SG
‘He is standing far away from me’

(104) E=to  tua  gegetena  te  John
3SG.SBJ=to  paddle  next.to  OBL  John
‘He paddled next to John’

(105) E=pei  bio~bio=na  nao=i  obetena  i-inu
3SG.SBJ=PST.IPFV  RD=sweep=3SG.IPFV  thither=IRR  under  LOC-house
‘She was sweeping under the house’

(106) Mi=ari=i=a  nani
1EXCL.SBJ=dig=TR=3SG.OBJ  there
‘We buried him there in that village, next to the road’
In (108)-(110) the Relational Location noun occurs after its PP or NP complement, thus it is right-headed rather than the left-headed constructions shown above. This reflects the mixture of left-headed and right-headed typology elsewhere in Papapana. The oblique adjuncts in (108) and (109)-(110) express location and occur in clause-initial and clause-final position respectively.

(108) Tena bau etawa obetena u=pei me=na po=u=ma
    OBL PL big under 1SG.SBJ=PST.IPVF COM=PL.OBJ stay=1SG.IPVF=ma
    ‘I stayed under the chiefs’

(109) nata na=poana mi=atu=a i-tanana gegetena
    another SPEC[CLI]=village 1EXCL.SBJ=make=3SG.OBJ LOC-road next.to
    ‘We came down and built another village next to the road’

(110) BRA i=ara ta’opo=ami Uruvaovi tagena
    BRA 3PL.SBJ=PST hide=1EXCL.OBJ Uruvaovi near
    ‘The BRA were hiding from us… near Uruvaovi’

Unlike obetena, gegetena and tagena, reareana can occur on its own either clause-finally (111), or between the argument NPs and the VC (112)-(113), and is also attested with the modifier poto (114).

(111) Na:bau mama i=to siodo reareana
    some DEM 3PL.SBJ=to work far
    ‘Some worked far away’

(112) Ami=bau ‘usia iai reareana i=pei po=ina=i
    1EXCL.PSSR=PL child DEM far 3PL.SBJ=PST.IPVF stay=3PL.IPVF=IRR
    ‘Our children lived far away’

(113) Aia soida’o reareana i=ara va-tonu=a
    3SG old.man far 3PL.SBJ=PST CAUS-stand-3SG.OBJ
    ‘They made the old man stand far away’

(114) E=pei re~rete=na nao=i reareana poto
    3SG.SBJ=PST.IPVF RD=walk=3SG.IPVF thither=IRR far INTS
    ‘He walked a very long way’

Like the Relational Location nouns discussed in §6.2.2.3 the form tage can be directly possessed as in (115) and (116), though it is not marked by the locative case prefix i-. Example (115) contrasts with (102) above in which tagena has a PP complement consisting of the preposition te and the 1SG independent pronoun. The behaviour of tage and tagena suggests that the forms obetena, gegetena, tagena and reareana may be diachronically divisible into a root and the 3SG possessor suffix –na but synchronically they are monomorphemic and invariant as demonstrated above. The process of lexicalisation from directly possessed Relational Location nouns to complement-taking Relational
Location nouns is not entirely complete with *tage* as it occurs both lexicalised with –*na* and a complement and in its unlexicalised form with direct possessor suffixes.

(115) E=to noe=ina na=koko’i *tage-u*
    3SG.SBJ=to put=3PL.OBJ SPEC[CLI]=taro near-1SG.PSSR
‘He put the taros near me’\> compare with 98 tagena te anau

(116) u=mate=i=a=au enai na=bara mama *tage-mu*
    1SG.SBJ=like=TR=3SG.OBJ=1SG.IPFV DEM SPEC[CLI]=ball DEM near-2SG.PSSR
‘I like that book next to you’

(Fieldnotes 16/04/13)

6.2.3 Deictic location

Papapana has three forms expressing deictic location in oblique constructions, *ini* ‘here’, *nani* ‘there’ and *inio* ‘over there’: these correspond with the demonstrative modifiers that are based on distance relative to the speaker, *iai* ‘proximal, within five paces’, *ioi* ‘medial, five to twenty paces’, *io’o* ‘distal, more than twenty paces’ (see \(\S\)4.11). These deictic obliques may occur between an argument NP and the VC (117)\> or after the VC (118)-(119).

(117) A:mani *ini* mi=po=mani
    1EXCL here 1EXCL.SBJ=stay=1EXCL.IPFV
‘We’re staying here’

(1-T002)

(118) Na=maunu e=mate *nani*
    SPEC[CLI]=woman 3SG.SBJ=die there
‘The woman died there’

(1-T029)

(119) …vavine-ira mama e=to nai=ena *inio*
    sibling-1INCL.PSSR DEM 3SG.SBJ=to marry=3SG.IPFV over.there
‘…our cousin who is married there’

(1-T042)

The excerpt in (120) is from a text in which the speaker recounts events she experienced during the Bougainville Crisis. In this part of her story, she and some other women have been found out walking in the bush and are being questioned by the Papua New Guinea army about their contact with the Bougainville Revolutionary Army (BRA). In (120)b *nani* refers to the area in which they were walking and is part of a PP modifying the head noun *BRA*, while in (120)c *nani* refers to the police station where the army were holding them. Although these deictic forms may often be oblique adjuncts as in (117)-(119), (120)c shows that they may also be oblique arguments of verbs such as *noe* ‘put’.

(120) a. a:mani BRA mi=tu'u=ina ta enai oina=poana”
    1EXCL BRA 1EXCL.SBJ=meet=3PL.OBJ and DEM 3PL.PSSR[CLI]=village
    “Yes we met the BRA but that's their home”

    b. “BRA merei nani a:mani mi=tu'u=ina”
    BRA OBL there 1EXCL 1EXCL.SBJ=meet’3PL.OBJ
    “The BRA from there, we met them”
c. I=noe=ami=ma  
nani  
3PL.SBJ=put=1EXCL.OBJ=ma there  
‘They put us there’  

(1-T053)

6.2.4 Preposition *eangoiena* ‘until’

Durational time may be expressed in an oblique adjunct with the preposition *eangoiena* ‘until’ and an Absolute Location noun that expresses a time relative to the time of speaking, in either clause-initial (121) or clause-final position (122)-(123). *Eangoiena* is likely to be a lexicalised form of the modal verb *eangoi* and the 3SG postverbal subject-indexing (PSI) enclitic =ena. This modal verb may occur inside the VC with PSI enclitics in which case it expresses ability and requires a clausal complement (see §7.4.1.1). *Eangoiena* is also a lexicalised clause-level adverb expressing ability (see §6.3.2.1). In Tok Pisin *inap* is also a verb expressing ability as well as a preposition denoting ‘until’.

(121) **Eangoiena vagi** na:bau vanua-i sikuna i=ara naomai,  
until now some people-CONST ship 3PL.SBJ=PST come  
‘Until today some foreigners (lit. ship people) come’  

(1-T034)

(122) Anau u=pei aputu=ou **eangoiena vagi**  
1SG 1SG.SBJ=PST.IPFV sleep=1SG.IPFV until now  
‘I was sleeping until now’  

(2-E019)

(123) Aia e=aputu=i **eangoiena natui**  
3SG 3SG.SBJ=sleep=IRR until tomorrow  
‘He will sleep until tomorrow’  

(2-E019)

6.2.5 Preposition *te*

All nominals except location nouns can occur in a prepositional phrase (PP) with the preposition *te* which can express spatial location (location, goal, source), temporal location, and the semantic role of instrument. *Te* may also be used to express possession (§4.9.5). With regards to location, the exact thematic role is determined by the verb and directionalss and not by the preposition. The preposition *te* is a reflex of the POc preposition *i ta* which occurred with a common NP marked by an article (Ross 2007c: 284).

Usually PPs occur clause-finally, that is, they follow the VC and any core arguments. However a few of the examples below show different clause orders. In (127) and (129), the oblique occurs before the VC, while in (126) the oblique occurs between the subject NP and the VC. When the preposition *te* licences a NP headed by a Personal kinship term noun, the Personal specific article *e*- remains prefixed to the head noun as in (124). Personal proper name nouns do not occur with an article whether they are in an oblique (125), or not (see §4.3.1). Examples (124)-(126) are oblique adjuncts expressing goal.

(124) **te** e-tubu-na  
3SG.SBJ=take up=3SG.OBJ thither OBL PERS-grandmother-3SG.PSSR  
‘He took it up to his grandmother’  

(1-T035)
When the preposition *te* licences a NP headed by a Class I or II noun, the Class I specific article *na* and the Class II specific article *nau* form a phonological word with the preposition *te*, resulting in the forms *te=na* and *te=nau* as in (127)-(130). The form is *te=nau* even with Class II nouns such as *daramu* ‘water’ which, when not in oblique constructions, occur with *nu=*, as (127) shows. The formation of a phonological word with *te* calls into question the status of *na* as a proclitic and *nau* as an independent form. The preposition *te* itself is not a clitic because it does not form a phonological word with any other prenominal modifiers. Example (127) is an oblique argument expressing location, (128) is an oblique adjunct expressing source, (129) is an oblique adjunct expressing temporal location and (130) is an oblique adjunct with the semantic role of instrument.

(127) **te=na**  

perete  

**te=na=au**  

daramu  

e=to  

ruvu=i=a  

‘He put it on the plate in the water’  

(1-T073)

(128) Mi=no  

dei  

mai  

**te=na**  

kaukau  

‘We go and get it from the garden’  

(1-T038)

(129) **te=na**  

na:ni  

mama  

u=to  

nai=  

‘I’ll go on this day’  

(1-T026)

(130) Ben  

e=tepe=a  

nu=naono  

**te=na**  

**tora:ra**  

‘Ben cut the tree with an axe’  

(2-E026)

In core argument NPs, the basic plural article *bau* does not distinguish noun class and never co-occurs with the specific articles *e*-, *na=* or *nau ~ nu*=(see §4.7.2). The Class I and II diminuitive articles *si* and *sau ~ su* also do not co-occur with the specific articles (see §4.7.4). The cardinal numeral modifiers do not co-occur with the specific articles either but may be marked by the Class II noun marker *au* (see §4.8.2). In oblique constructions however, all of these prenominal modifiers occur with *tena* regardless of the noun class of the noun, therefore suggesting that the combination of the preposition *te* and the specific article *na* has become a grammaticalized form: (131)-(133) show *tena bau* in oblique adjuncts expressing spatial location and temporal location with Class I nouns; (134) shows *tena bau* in an oblique argument expressing goal with a Class II noun; (135) shows *tena* with the Class II numeral modifier *nuau* ‘two’ in an oblique adjunct expressing source; and (136) shows *tena* with the Class II diminutive article *sau* in an oblique argument expressing goal.
We used to hide from them on the roads.

On Sundays, we wake up.

Every morning we woke up, we washed.

We got into the canoes.

‘From these two children’

‘We put it into small baskets’

In oblique constructions, the possessor proclitics do not occur with the grammaticalised form tena; they occur only with the preposition te, as shown in the oblique adjuncts (137) and (138), which express location and goal.

6.2.6 Nascent postposition tomana

Obliques expressing accompaniment are formed with the comitative marker tomana as in (139)-(143). Tomana occurs after the head noun as in (139)-(141), or after the head noun and a possessor suffix as in (142). In (143) the head noun is a compound. Oblique adjuncts with tomana occur clause-finally in all attested examples.
There are a few examples which show *tomana* occurring after the head noun but before a possessive PP (144)-(145) or before a relative clause (146).

(141) Na=kura mi=ma~ma=i=a=mani SPEC[CLI]=betel.katkin 1EXCL.SBJ=RD~chew=TR=3SG.OBJ=1EXCL.IPFV

*na=teari* tomana
SPEC[CLI]=betelnut COM
‘We chew the fruit with betelnut’

(142) Auana ora i=pei ara po~po=ina=i 3DU only 3PL.SBJ=PST.IPFV PST RD~live=3PL.IPFV=IRR

*tubu-ina* tomana
grandparent-3PL.PSSR COM
‘Only the two of them lived with their grandmother’

(143) U=pei gaganini=ou i-nongana 1SG.SBJ=PST.IPFV play=1SG.IPFV LOC-beach

*au=nua* arao nanasi tomana
1SG.PSSR=two[CLI] brother cousin COM
‘I was playing on the beach with my two cousins’

(1-T058)

(1-T035)

(1-T042)

Syntactically *tomana* is therefore inside the NP in a particular position after possessor suffixes but before possessive PPs and relative clauses, and as such it is not the head of a postpositional phrase. Although speakers confirmed that the clauses (144)-(146) were grammatical, it should be noted that these are the only examples I have found of this sort. When I tried to elicit further examples of nouns with a comitative semantic role that had possessive PP or relative clauses modifying them, speakers instead opted to use the applicative comitative construction in which the comitative NP is the object of the verb (see §5.4.4). Although *tomana* has not yet developed its own category projection, it has nevertheless taken on the characteristics of a postposition because it occurs after the noun to mark a
comitative relation; this may be the result of contact with neighbouring Papuan languages as Oceanic languages generally have prepositions and not postpositions (see §9.3). In particular, it seems that tomana may have grammaticalised as a comitative marker from the Papapana additive marker denoting ‘too’ (see §4.14), again perhaps under the influence of the neighbouring Papuan language Rotokas (see §9.3). This history might explain why tomana as a comitative marker occurs before PPs and relative clauses, as (147) and (148) show that tomana as an additive marker also occurs before PPs and relative clauses.

(147) U=to po=u na=etawa tomana merei i-poana
1SG.SBJ=to stay=1SG.IPV SPEC[CLI]=big too OBL LOC-village
‘I’m chief of the village too’

(148) Na=skuru tomana iai so=umunu=era…
SPEC[CLI]=school too DEM 1INCL.SBJ=sit=1INCL.IPV
‘The school where we’re sitting too [during the war we looked after it]’

6.3 Verbal clauses and adverbial phrases

In Papapana, adverbial phrases operating at the clausal level include spatial, manner and modal adverbs (§6.3.1) which can occur clause-initially, clause-finally or between an argument NP and the VC. There is no correlation between the position of the adverbial phrase and the semantic relation it expresses. There are two further modal adverbs that are restricted to occurring before the VC (§6.3.2).

6.3.1 Spatial, manner and modal adverbs

There are four clause-level adverbs that can occur before or after the VC: the spatial adverb viviro’o ‘around’, the manner adverbs ma:mido ‘slowly’ and papasi ‘quickly’ and the epistemic adverb bea ‘maybe’, which, in accordance with Payne’s (1997: 70) definition of epistemic, “indicate[s] the degree to which the speaker is committed to the truth of the clause”. The adverbs papasi ‘quickly’ and viviro’o ‘around’ also occur within the VC (see §5.11.2.3).

These adverbs can occur immediately before the VC as in (149)-(152). In (149) there is no preverbal argument NP but in (150)-(152) the adverb occurs between a preverbal argument NP and the VC.

(149) ma:mido e=pei gau~gaunu=a=na=i nu=pema
slowly 3SG.SBJ=PST.IPV RD~write=3SG.OBJ=3SG.IPV=IRR SPEC.CLII=letter
‘He was writing the letter slowly’

(150) bau siodo viviro’o u=pei no atu=ina=u
PL work around 1SG.SBJ=PST.IPV go.SEQ make=3PL.OBJ=1SG.IPV
‘I was going and doing jobs all over the place’

(151) Na=vu~vurau papasi e=nao Buka
SPEC[CLI]=RD~run quickly 3SG.SBJ=go Buka
‘The car quickly went to Buka’
(152) Robert bea e=vau=vau=i=a=na nu=boro
Robert maybe 3SG.SBJ=RD~look.after=TR=3SG.OBJ=3SG.IPVF SPEC.CLII=pig
‘Maybe Robert is looking after the pig’

These adverbs can also occur immediately after the VC as in (153)-(156).

(153) Tena bau vuni naono na=iana i=pagana viviro’o
OBL PL trunk tree SPEC[CLI]=fish 3PL.SBJ=stick around
‘The fish got stuck all over the place in the tree trunks’

(154) Na=vanua i=tavotu mai ma:mido o’oemana
SPEC[CLI]=people 3PL.SBJ=arrive hither slowly bush
‘People came back slowly from the bush’

(155) Casilda e=vamamatau=ena bea Casilda
Casilda 3SG.SBJ=teach=3SG.IPVF maybe
‘Maybe Casilda is teaching’

(156) …avosia e=taosi papasi, nu=risi merei obutu
SUBR 3SG.SBJ=finish quickly, SPEC.CLII=rope OBL canoe
‘…so it breaks quickly, the canoe rope’

The adjacency of the adverbs to the VC might suggest that there are additional adverb positions inside the VC not already accounted for, but (157)-(159) show that the adverb can be separated from the VC by other adjuncts when the adverb is postverbal (157) and preverbal (158) and by the subject NP when the adverb is in preverbal position (159).

(156) …avosia e=taosi papasi, nu=risi merei obutu
SUBR 3SG.SBJ=finish quickly, SPEC.CLII=rope OBL canoe
‘…so it breaks quickly, the canoe rope’

6.3.2 Modal adverbs eangoiena and avirua
There are two clause-level modal adverbs: eangoiena expresses ability and avirua denotes ‘not yet’. These adverbs only occur before the VC and never after the VC.

6.3.2.1 Ability: eangoiena
The modal verb eangoi expresses ability; it occurs inside the VC with PSI enclitics and requires a clausal complement (see §7.4.1.1). The form eangoiena has lexicalised from this modal verb and the
3SG PSI enclitic =ena. In its lexicalised form, eangoiena may function as a preposition (see §6.2.4) or as a clause-level adverb expressing ability. As a clause-level adverb, eangoiena only occurs before the VC as in (160)-(163). There may be an argument NP before eangoiena as in (161)-(163).

(160) Eangoiena o=adu~adu=i=a=i na=orawi…
    CAP 2SG.SBJ=destroy=TR=3SG.OBJ=IRR SPEC[CLI]=man
‘You can harm a man…’

(161) Jerry eangoiena e=atun=i=a=i nu=boro
    Jerry CAP 3SG.SBJ=attack=TR=3SG.OBJ=IRR SPEC.CLII=pig
‘Jim can attack the pig’

(162) Ani eangoiena o=oi dini=ina nao=i
    2SG CAP 2SG.SBJ=take down=3PL.OBJ thither=IRR
‘You can take them down’

(163) Bau sina-mani eangoiena i=ireire=i nani
    PL mother-1EXCL.PSSR CAP 3PL.SBJ=be.angry=IRR there
‘Our mothers could get cross there’

6.3.2.2 avirua ‘not yet’

The adverb avirua ‘not yet’ occurs preverbally and refers to anticipated events that have not yet taken place. When it follows the subject proclitic it is a modal marker in the VC (see §5.8.6), but when it precedes the subject proclitic as in (164)-(168), it is considered a clause-level adverb.

(164) avirua e=mate e-tubu-na
    not.yet 3SG.SBJ=die PERS-mother-3SG.PSSR
‘His grandmother hadn’t died yet’

(165) avirua mi=atu tamu=ta
tamu
    not.yet 1EXCL.SBJ=make RD~eat
‘We haven’t made the feast yet’

(166) Anau avirua u=ani=ina ta:bau gono
    1SG not.yet 1SG.SBJ=eat=3PL.OBJ some banana
‘I haven’t eaten any bananas yet’

(167) Harry avirua e=vae nao Buka
    Harry not.yet 3SG.SBJ=REP go Buka
‘Harry hasn’t gone to Buka again yet’

(168) Harry avirua e=mei tamu
    Harry not.yet 3SG.SBJ=come.SEQ eat
‘Harry hadn’t come and eaten yet’

Unlike other clause-level adverbs, avirua can never occur after the VC. It could be argued then that there is an adverb position before the subject proclitics in the VC and that avirua is inside the VC; however, (169) shows that avirua may be separated from the VC by an oblique adjunct. Furthermore, when avirua occurs inside the VC, the PSI enclitics are required to render a present tense
interpretation while the PSI enclitics, the past tense marker pei and the general irrealis mode enclitic =i are required for a past tense interpretation (see §5.8.6). There are no such requirements when avirua occurs at clause-level as the examples here show.

(169) Sue avirua te=na ‘uru e=tua
Sue not.yet OBL=SPEC[CLI] island 3SG.SBJ=paddle
‘Sue hadn’t paddled to the island yet’

6.4 Imperative and hortative clauses

As described in §5.9, imperative clauses either carry no tense, aspect or mode (TAM) marking whatsoever, or they are marked by the general irrealis mode enclitic =i. This short section discusses the presence and order, or absence of NP arguments in imperative and hortative clauses.

As with all VCs in Papapana, VCs in imperative and hortative clauses are marked by subject-indexing proclitics, either 2SG o= or 2PL mu= for imperative clauses as in (170)-(172), or for hortative clauses (184), 1INCL si= ~ so= or 1INCL hortative sa= (see §5.3.2.1). Subject NPs are not attested in imperative or hortative clauses in the text or elicitation data. Subject NPs in imperative clauses are not impossible though: when presented with the clauses (170)a, (171)a and (172)a speakers reported that it was possible to use the pronouns ani 2SG or amu 2PL as subject NPs in preverbal position (170)b, though the position of the object NP may vary and result in the clause order SVO as in (171)b, SOV as in (172)b, or OSV as in (172)c.

(170) a. Maisia, o=tamu
Okay 2SG.SBJ=eat
‘Okay, eat’

(171) a. Mu=de=ina taramina te amu
2PL.SBJ=take=3PL.OBJ thing OBL 2PL
‘Get your things’

(172) a. Na:bau taramina mu=asi=ina=i
some thing 2PL.SBJ=leave=3PL.OBJ=IRR
‘Leave the other things’
(173) Sa=asi=a=i Pasa ta si=nai=i
INCL.SBJ.HORT=leave=3SG.OBJ=IRR Pasa and INCL.SBJ=go=IRR
‘Let's leave Pasa and go’

For the sentence (174)a speakers reported that *ani* 2SG could only be used in the first clause, as shown in the sentence (174)b; since the subjects of both clauses are the same, repetition of the subject NP is unnecessary.

(174) a. Nu=risi nu=kaka’i o=de=a=i
SPEC.CLII=rope SPEC.CLII=small 2SG.SBJ=take=3SG.OBJ=IRR

tau o=pete=a=i nu=obutu
and 2SG.SBJ=tie=3SG.OBJ=IRR SPEC.CLII=canoe
‘Take a small rope and tie up the canoe’

b. Ana nu=risi nu=kaka’i o=de=a=i
2SG SPEC.CLII=rope SPEC.CLII=small 2SG.SBJ=take=3SG.OBJ=IRR

tau o=pete=a=i nu=obutu
and 2SG.SBJ=tie=3SG.OBJ=IRR SPEC.CLII=canoe
‘Take a small rope and tie up the canoe’

6.5 Interrogative clauses

Interrogative clauses are those in which there is a request for information. Papapana differentiates two interrogative subtypes: those which, to use König and Siemund’s (2007: 291) definitions, “inquire about the truth or falsity of the proposition they express” and those which are “open propositions with interrogative words signalling the relevant variable positions”. The former may be referred to as polar questions or yes/no questions, while the latter may be referred to as *wh*-questions, content questions, question-word questions, information questions or constituent interrogatives. In keeping with Lynch et al. (2002), I use the terms polar questions and content questions.

6.5.1 Polar questions

König and Siemund (2007) outline six ways in which polar questions may be expressed in languages around the world. Of these, Papapana employs two of the three most frequently occurring methods: intonation patterns and the addition of tags. The former is typical of Oceanic and NWS languages in which polar questions tend to exhibit only an intonation change (Lynch et al. 2002: 52). The affirmative and negative responses in Papapana are *aipasi* ‘yes’ and *aruai* ‘no’.

In Papapana, polar questions exhibit rising then falling intonation at the end of the clause as in (175) and (178), or only rising intonation as in (176), (177) and (179). It should be noted that this is an impressionistic analysis only; it is unfortunately beyond the scope of this thesis to carry out a detailed analysis of prosody. None of the examples in the data exhibit a subject NP, but in these examples, object NPs always occur before the VC.
(175) Mi=no atono=amu=i=ma?
1EXCL.SBJ=go.SEQ bring=2PL.OBJ=IRR=ma
‘Shall we go and take you?’ (1-T042)

(176) So=nao=i i-poana?
1INCL.SBJ=go=IRR LOC-village
‘Shall we go home?’ (1-T029)

(177) Na=magura o=no pus=i=a=i?
SPEC[CLI]=green.coconut 2SG.SBJ=go.SEQ break.off=TR=3SG.OBJ=IRR
‘Are you going to pick the green coconut?’ (1-T012)

It is possible for the preverbal negative marker _ae_ to occur in a polar interrogative clause, resulting in a less neutral polar question:

(178) Au=arao mu=ae amun=i=a?
1SG.PSSR[CLI]=brother 2PL.SBJ=NEG see=TR=3SG.OBJ
‘Have you not seen my brother?’ (1-T074)

(179) E-sina-mu o=ae nami=a=i?
PERS-mother-2SG.PSSR 2SG.SBJ=NEG miss=3SG.OBJ=IRR
‘Don’t you miss your mother?’ (1-T074)

It is also possible for the modal adverb _eangoiena_ to occur in polar interrogative clauses to form a request:

(180) Eangoiena o=me-a nao=ami?
CAP 2SG.SBJ=COM-SG.OBJ go=1EXCL.OBJ
‘Can you go with us?’ (1-T042)

(181) Eangoiena si=nao=i te=na skuru vagi?
CAP 1INCL.SBJ=go=IRR OBL=SPEC[CLI] school now
‘Can we go to school today?’ (2-E017)

Polar questions in Papapana might also employ an interrogative tag such as _awa_ ‘correct’ or _o aruai_ ‘or not’. These tags request confirmation or disconfirmation of the declarative clause that precedes them. Tags are related to interrogative particles but tags “contribute a certain bias by raising expectations toward either a positive or negative answer” (König and Siemund 2007: 296). In these examples, both subject and object NPs precede the VC. The intonation patterns are variable, with (182)-(183) exhibiting a falling intonation and (184) exhibiting a rising intonation on the tag.

(182) Amu iai mu=atun=i=a, _awa_?
2PL DEM 2PL.SBJ=attack=TR=3SG.OBJ correct
‘You’ve attacked him, right?’ (1-T029)

(183) Peter e=oto=i=a nu=obutu te aia, _awa_?
Peter 3SG.SBJ=board=TR=3SG.OBJ SPEC.CLI=canoe OBL 3SG correct
‘Peter boarded his canoe, right?’ (2-E019)
6.5.2 Content questions

As in many Oceanic languages, content questions in Papapana are formed by employing one of a closed set of interrogative words, which mark the clause as a question and indicate what information is being requested. As Table 6.1 shows, two of these interrogative words are interrogative pronouns and inquire about core arguments, four interrogative words have an adnominal function, requesting information about an argument or adjunct nominal, and four have an adverbial function, seeking information about temporal location, reason, spatial location and manner.

**TABLE 6.1 INTERROGATIVE WORDS**

<table>
<thead>
<tr>
<th>Pronouns</th>
<th>tē:na ~ tē:a</th>
<th>mata</th>
<th>who</th>
<th>what</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modifiers</td>
<td>tautita</td>
<td>avete</td>
<td>mata</td>
<td>tē:na ~ tē:a + PSSR pronominal</td>
</tr>
<tr>
<td></td>
<td>how many</td>
<td>which</td>
<td>what kind</td>
<td>whose</td>
</tr>
<tr>
<td>Adverbs</td>
<td>nongovita</td>
<td>avetau ~ aetau</td>
<td>avoa ~ avea</td>
<td>avoa + vewa ~ vowa in SVC</td>
</tr>
<tr>
<td></td>
<td>when</td>
<td>why</td>
<td>where</td>
<td>how</td>
</tr>
</tbody>
</table>

6.5.2.1 Interrogative pronouns

The interrogative pronouns tē:na ‘who’ and mata ‘what’ function as the head of a NP and elicit the identity of a human or non-human core argument respectively. The form tē:a is a phonologically reduced form of tē:na and speakers confirmed that there is no semantic or pragmatic difference between the two forms, nor is there any grammatical motivation for the variation.

Unfortunately there is limited data on intransitive interrogative clauses which inquire about core arguments, but one example suggests that they have SV structure, that is, the unknown argument expressed by the interrogative pronoun (i.e. the subject) occurs preverbally:

(185) **Tē:na e=to po=na i-bana i-inu?**

‘Who is inside in the house?’

(2-E020)

Transitive interrogative clauses which inquire about core arguments are always verb-final, with the known argument NP occurring clause-initially and the unknown argument expressed by the interrogative pronoun occurring clause-medially. If the unknown argument is the subject, the constituent order is therefore OSV (186) whereas if the unknown argument is the object, the constituent order is SOV (187). This is unusual as an interrogative is a focused constituent and therefore cross-linguistically we would expect it to occur before other arguments; however, the
interrogative clause order does align with the pragmatically marked declarative clause order in Papapana in which there is a Topic initial position (see §6.1).

(186) a. Au=bosara te:na e=atu sisipo=a?
   1SG.PSSR[CLI]=design who 3SG.SBJ=make copy=3SG.OBJ
   ‘Who copied my design?’ (1-T058)

   b. Au=au bareo te:a e=to ani=ani=a=na?
   1SG.PSSR[CLI] breadfruit who 3SG.SBJ=to RD~eat=3SG.OBJ=3SG.IPFW
   ‘Who is eating my breadfruit?’ (1-T035)

(187) a. Chris te:a e=siodo i=a=ena=i?
   Chris who 3SG.SBJ=work APPL=3SG.OBJ=3SG.IPFW=IRR
   ‘Who does Chris work for?’ (2-E026)

   b. Ani mata o=pe~peri=a=nu?
   2SG what 2SG.SBJ=RD~find=3SG.OBJ=2SG.IPFW
   ‘What are you looking for?’ (1-T012)

In one particular elicitation session, there were two utterances (188)-(189) which demonstrated a different clause order, with the unknown subject argument expressed by the interrogative pronoun occurring clause-initially and the known object argument NP occurring after the VC, giving SVO order. This variation in clause order likely reflects the clause order variation demonstrated in declarative clauses (see §6.1) which is argued in §9.2 to be the result of language contact.

(188) Te:a e=to atu=a na=nu mama
   who 3SG.SBJ=to make=3SG.OBJ SPEC[CLI]=house DEM
   ‘Who made this house?’ (2-E026)

(189) Te:a e=to paga=i=a na=orawi mama?
   who 3SG.SBJ=to shoot=TR=3SG.OBJ SPEC[CLI]=man DEM
   ‘Who shot this man?’ (2-E026)

Ditransitive interrogative clauses which inquire about one of the object arguments are subject-initial, with the unknown argument occurring between the subject and the VC, and the known object argument occurring after the VC. If the unknown argument is O1, the constituent order is S O1 V O2 (190), whereas if the unknown argument is O2, the constituent order is S O2 V O1 (191). Unfortunately the clause order of an interrogative ditransitive clause in which the unknown argument is S is unknown.

(190) a. Anna te:a e=ma=i=a na=gono?
   Anna who 3SG.SBJ=give=TR=3SG.OBJ SPEC[CLI]=banana
   ‘Who did Anna give the banana to?’ (2-E026)

   b. Anna te:a e=gauunu i=a nu=pepa?
   Anna who 3SG.SBJ=write APPL=3SG.OBJ SPEC.CLII=letter
   ‘Who did Anna write the letter to?’ (2-E026)
c. Billy \textit{te:na} e=atu i=a na=inu? Billy who 3SG.SBJ=make APPL=3SG.OBJ SPEC[CLI]=house ‘Who did Billy build the house for?’ (2-E026)

(191) a. Anna \textit{mata} e=ma=i=a Jason? Anna what 3SG.SBJ=give=TR=3SG.OBJ Jason ‘What did Anna give to Jason?’ (2-E026)

b. Anna \textit{mata} e=gaunu i=a Jason? Anna what 3SG.SBJ=write APPL=3SG.OBJ Jason ‘What did Anna write to Jason?’ (2-E026)

c. Billy \textit{mata} e=atu i=a Simon? Billy what 3SG.SBJ=make APPL=3SG.OBJ Simon ‘What did Billy build for Simon?’ (2-E026)

The interrogative pronouns \textit{te:na} ~ \textit{te:na} ‘who’ may also function as a possessor NP, modifying a possessed noun. In (192)-(194) below, the possessed noun is marked by possessor proclitics (see §5.9.2) and \textit{te:na} seeks information about the specific identity of the possessor. Further investigation is required to establish whether an equivalent construction exists for inalienably possessed nouns marked by possessor suffixes. Although possessor NPs may precede or follow the head noun in declarative clauses, \textit{te:na} only occurs in prenominal position, like other interrogative modifiers (see §6.5.2.2). Also like other NPs containing interrogative modifiers, the questioned constituent occurs clause-initially, whether it is the S argument of an intransitive clause (192), the O argument of a transitive clause (193) or the O2 argument of a ditransitive clause (194). The position of oblique adjuncts is variable as shown in (192). Unfortunately the clause order is unknown for a clause in which the questioned constituent is the S argument of a transitive or ditransitive clause, or the O1 argument of a ditransitive clause.

(192) a. \textit{Te:a} ena=inu i-nongana e=tonu=ena? who 3SG.PSSR=house LOC-beach 3SG.SBJ=stand=3SG.IPFV ‘Whose house is on the beach?’ (2-E026)

b. \textit{Te:na} ena=beke te=na kavururu e=to po=na? who 3SG.PSSR=bag OBL=SPEC[CLI] ground 3SG.SBJ=to stay=3SG.IPFV ‘Whose bag is on the ground?’ (2-E019)

c. \textit{Te:a} ena=tora:ra e=to po=na te=na kavururu? who 3SG.PSSR=axe 3SG.SBJ=to stay=3SG.IPFV OBL=SPEC[CLI] ground ‘Whose axe is on the ground?’ (2-E026)

(193) \textit{Te:a} ena=au obutu Ben e=to oto=i=a? who 3SG.PSSR=CLII canoe Ben 3SG.SBJ=to board=TR=3SG.OBJ ‘Whose canoe did Ben board?’ (2-E019)

(194) \textit{Te:a} ena=au gono Emma e=to ma=i=a Sam? who 3SG.PSSR=CLII banana Emma 3SG.SBJ=to give=TR=3SG.OBJ Sam ‘Whose banana did Emma give to Sam?’ (2-E028-2)
6.5.2.2 Interrogative modifiers

There are three interrogative modifiers in Papapana which elicit information about a noun and occur in prenominal position: *tauvita ‘how many’, *avete ‘which’ and *mata ‘what kind’.

Interrogative clauses which inquire about quantity use the modifier *tauvita ‘how many’. Given the sound correspondences described by Ross (1988: 219-222), it is likely that *tauvita is diachronically divisible as *tau-vita, the second element reflecting POc *pica(n) ‘how many’ which could occur with the counting prefix *ka- (Lynch et al. 2002: 89), and that *tauvita is cognate with *to-(v)isa in Banoni (Lynch and Ross 2002: 454), *kavisa in Roviana (Corston-Oliver 2002: 494) and *ka=viza in Kubokota (Chambers 2009: 85). The word class of *tauvita is unclear.

The noun which it modifies may or may not be marked by an article as in (195) and (196). This is also the case with prenominal ordinal numeral modifiers (see § 4.8.3).

(195) Tauvita na=niunu Ben auana Anna i=to ani=ina? how.many SPEC[CLI]=coconut Ben 3DU Anna 3PL.SBJ=to eat=3PL.OBJ ‘How many coconuts did Ben and Anna eat?’ (2-E026)

(196) Tauvita kaukau Anna auana Bob i=atono=ina mai? how many sweet.potato Anna 3DU Bob 3PL.SBJ=bring=3PL.OBJ hither ‘How many sweet potatoes did Anna and Bob bring?’ (2-E026)

Furthermore, *tauvita was sometimes pronounced *tauvitai as in (197) and (198). The presence of *i may be a variation in pronunciation, but it may also be the construct suffix found in compounds (see §4.5). In this case, *tauvita would be the head noun and the following noun would be the modifier. The lack of article in (198) is consistent with this analysis as in compounds only the head noun can be modified by an article and the modifying noun cannot. In addition, the frequent occurrence of *tauvita without *i is consistent with the compounds as the construct suffix is regularly deleted in these constructions.

Compounds in Papapana reflect POc inalienable and alienable non-specific possessor constructions and it would not be unusual for a numeral to occur in a possessor construction in an Oceanic language; indeed, as mentioned in §4.8.1, Ross (1988: 313) proposes a Proto-New Ireland NP structure in which the numeral was the head of the phrase and the enumerated noun was the grammatical possessor.

(197) Tauvita-i boro i=po=poina i-poana? how.many-CONST pig 3PL.SBJ=RD=stay=3PL.IPV LOC-village ‘How many pigs are in the village?’ (2-E019)

(198) Tauvita-i magura u=to de=ina mai? how.many-CONST green.coconut 1SG.SBJ=to take=3PL.OBJ hither ‘How many green coconuts did I bring?’ (2-E019)

The interrogative modifiers *avete ‘which’ and *mata ‘what kind’ do not co-occur with articles, but the unmarked forms modify singular Class I nouns as in (199) and (201), while for Class II nouns these interrogative modifiers are marked by Class II noun marker *au as in (200) and (202).
The NP which contains the interrogative modifier may be the subject of an intransitive clause (203), the object of a transitive clause (204), the secondary object of a ditransitive clause (205) or an adjunct (206). In all cases, the questioned constituent occurs clause-initially giving the orders SV, OSV, and O2 S V O1. When the questioned constituent is an adjunct, it occurs clause-initially, followed by the subject NP and the VC as in (206)a. Other adjuncts may also be present and could occur between the questioned adjunct and the subject as in (206)b, or after the VC as in (206)c. Unfortunately the clause order is unknown for a clause in which the questioned constituent is the S argument of a transitive or ditransitive clause, or the O1 argument of a ditransitive clause.

(203) a. Tauvita na=vanua i=to naomai?
   how many SPEC[CLI]=people 3PL.SBJ=to come
   ‘How many people came?’

   b. Tauvita kaukau i=po=ina te=na=au otana?
   how many sweet potato 3PL.SBJ=stay=3PL.IPV OBL=SPEC=CLII pot
   ‘How many sweet potatoes are in the pot?’

   c. Avete maunu e=kokobunu=ena?
   which[CLI] woman 3SG.SBJ=short=3SG.IPV
   ‘Which woman is short?’

   d. Mata maunu e=nao~nau te=na lotu?
   what[CLI] woman 3SG.SBJ=RD~go OBL=SPEC[CLI] worship
   ‘Which kind of woman goes to church?’

(204) a. Tauvita na=niunu ani o=to de=ina mai?
   how many SPEC[CLI]=coconut 2SG 2SG.SBJ=to take=3PL.OBJ hither
   ‘How many coconuts did you bring?’

   b. Avete inu Alex e=ara atu=a?
   which[CLI] house Alex 3SG.SBJ=PST make=3SG.OBJ
   ‘Which house did Alex build?’
(205) a. **Tauvita kaukau** Anna e=ma'=i=a Bob? how.many sweet.potato Anna 3SG.SBJ=give=TR=3SG.OBJ Bob
‘How many potatoes did Anna give to Bob?’

b. **Avete inu** Peter e=to atu i=a Anna? which[CLI] house Peter 3SG.SBJ=to make APPL=3SG.OBJ Anna
‘Which house did Peter build for Anna?’

c. **Mata=au gono** Emma e=to ma'=i=a Sam? what=CLII banana Emma 3SG.SBJ=to give=TR=3SG.OBJ Sam
‘What kind of banana did Emma give to Sam?’

(206) a. **Avete skuru** Alex e=nao? which[CLI] school Alex 3SG.SBJ=go
‘Which school does Alex go to?’

b. **Tauvita yia i-poana** ani o=pei po=mu=i? how.many year LOC-village 2SG 2SG.SBJ=PST.IPFV stay=2SG.IPFW=IRR
‘How many years have you lived in the village?’

c. **Tauvita yia** John e=pei po=na=i i-poana? how.many year John 3SG.SBJ=PST.IPFV stay=3SG.IPFW=IRR LOC-village
‘How many years has John lived in the village?’

I have found two examples which show SOV order for a transitive clause in which the NP containing the interrogative modifier is the object, i.e. the questioned constituent occurs clause-medially instead of clause-initially (207)-(208). This variation in clause order also likely reflects the clause order variation demonstrated in declarative clauses.

(207) Anau **avete po’ori** u=de=a=i? 1SG which[CLI] basket 1SG.SBJ=take=3SG.OBJ=IRR
‘Which basket shall I take?’

(208) Arira **mata=au koko’i** si=ani=a=i? 1INCL what=CLII taro 1INCL.SBJ=eat=3SG.OBJ=IRR
‘What kind of taro shall we eat?’

6.5.2.3 **Interrogative adverbs**

There are four interrogative adverbs in Papapana which elicit information about temporal location, reason, spatial location and manner: *nongovita* ‘when’ and *avetau* ‘why’ occur clause-initially, while *avoa* ‘where’ and *avoa* used in conjunction with an serial verb construction (SVC) containing the verb *vewa* ‘be like’ to denote ‘how’ both occur between the subject and VC.

6.5.2.3.1 **Temporal**

The interrogative adverb *nongovita* ‘when’ inquires about the temporal location of an event or state and always occurs clause-initially in intransitive (209), transitive (210) and ditransitive clauses (211)-(212). In the examples below, the subject NP is always preverbal and object arguments are postverbal. *Nongovita* appears to be cognate with *no-(v)isa* ‘when’ in Banoni (Lynch and Ross 2002: 454).
6.5.2.3.2 Reason

The interrogative adverb *avetau* ‘why’ inquires about the reasons for an event or state. It is sometimes shortened to *aetau* in casual speech. It generally occurs clause-initially in intransitive and transitive clauses, as in (213) and (214) where the clause orders are SV and SVO. The position in ditransitive clauses requires further investigation.

(213) a. **Avetau** Rose auana Max i=orete viviro’o=ina?’
why Rose 3DU Max 3PL.SBJ=walk around=3PL.IPFW
‘Why are Rose and Max walking around?’

(214) **Avetau** Albert e=averu=ina au=bau tamu~tamu;
why Albert 3SG.SBJ=steal=3PL.OBJ 1SG.PSSR=PL RD=eat
‘Why did Albert steal my food?’

In elicitation sessions speakers indicated that the interrogative adverb *avetau* ‘why’ can also occur between the subject and VC in intransitive and transitive clauses, as in (215)b, (216)b and (217), where the clause orders are SV and SVO.

(215) a. **Avetau** aia e=nao?’
why 3SG 3SG.SBJ=go
‘Why does he go?’

b. Aia **avetau** e=nao?
3SG why 3SG.SBJ=go
‘Why does he go?’
(216) a. Avetau aina i=ae ara nao?
   why 3PL 3PL.SBJ=NEG PST go
   ‘Why did they not go?’

b. Aina avetau i=ae ara nao?
   3PL why 3PL.SBJ=NEG PST go
   ‘Why did they not go?’

(217) John avetau e=atunu=ina Bob auana Adam?
   John why 3SG.SBJ=attack=3PL.OBJ Bob 3DU Adam
   ‘Why did John attack Bob and Adam?’

6.5.2.3.3 Location
The interrogative adverb avoa ‘where’ inquires about the location of an event or state and may be variably pronounced as avea. The alternate forms are a reflection of the phonological variation described in §3.1.3 in which the back vowel /ɔ/ is sometimes pronounced by younger speakers as the front vowel /e/. Unlike other interrogative adverbs, avoa ~ avea occurs between the subject NP and VC in both intransitive (218) and transitive clauses (219)-(220), and before any object NPs. The position of the object NP in a transitive clause may be variable as (219)-(220) show. The position in ditransitive clauses requires further investigation.

(218) a. Ani avoa o=nao~nau=mu?
   2SG where 2SG.SBJ=RD~go=2SG.IPFV
   ‘Where are you going?’

b. Ben avoa e=ara siodo?
   Ben where 3SG.SBJ=PST work
   ‘Where did Ben work?’

c. John avoa e=ara n ao te=na skuru?
   John where 3SG.SBJ=PST go OBL=SPEC[CLI] school
   ‘Where did John go to school?’

(219) a. Ani avoa o=to ae=a koko’i?
   2SG where 2SG.SBJ=to buy=3SG.OBJ taro
   ‘Where do you buy taro?’

b. John avoa e=noe=a au=pe’uri?
   John where 3SG.SBJ=put=3SG.OBJ 1SG.PSSR[CLI]=basket
   ‘Where did John put my basket?’

(220) John avoa na=pe’uri te anau e=to ruvu=i=a?
   John where SPEC[CLI]=basket OBL 1SG 3SG.SBJ=to put=TR=3SG.OBJ
   ‘Where did John put my basket?’

6.5.2.3.4 Manner
When the interrogative adverb avoa is used in conjunction with a SVC containing the verb vewa ~ vowa ‘be like’ in second position (see §5.6 for SVCs with this verb), it denotes ‘how’ and the clause inquires about the manner in which an event occurred. Avoa occurs between the subject and VC in
both intransitive (221) and transitive clauses (222), and before any objects. The position in ditransitive clauses requires further investigation.

(221) John avoa e=siodo vewa
John how 3SG.SBJ=work be.like
‘How did John work?’

(222) a. Joe avoa e=atu vewa=i=a na=iniu?
Joe how 3SG.SBJ=make be.like=TR=3SG.OBJ SPEC[CLI]=house
‘How did Joe make the house?’

b. Na=orawi avoa e=atu vewa=i=a na=maunu?
SPEC[CLI]=man how 3SG.SBJ=attack be.like=TR=3SG.OBJ SPEC[CLI]=woman
‘How did the man attack the woman?’

There is one example which shows avoa in clause-initial position in an intransitive clause with VS clause order but this requires further investigation:

(223) Avoa e=to mate vewa Robert?
how 3SG.SBJ=to die be.like Robert
‘How did Robert die?’

6.6 Existential clauses

In Papapana, existential clauses may be verbless (see §6.8.5) or verbal. Verbal existential clauses in Papapana employ two existential verbs: po 'stay/exist' and a'aisi 'be many'.

6.6.1 Existential verb po ‘stay/exist’

In Papapana, the intransitive verb po 'stay/exist' may be used to denote ‘stay’ or ‘live’, but can also be used in existential constructions. The subject NP always occurs preverbally, and refers to the participant whose existence is predicated by the clause:

(224) Toituna e=po=na
God 3SG.SBJ=stay=3SG.IPfv
‘There is a God’

(225) Tamu~tamu i=po=ina
RD~eat 3PL.SBJ=stay=3PL.IPfv
‘There is food’

(226) Nata na=poana e=pei ara po=ena=i
other SPEC[CLI]=village 3SG.SBJ=PST.IPfv PST stay=3SG.IPfv=IRR
‘There was another village’

(227) Mena sina-na i=pei po~po=ina=i
DU.COLL mother-DER 3PL.SBJ=PST.IPfv RD~stay=3PL.IPfv=IRR
‘There was a mother and son’
The verb *po* ‘stay/exist’ may also be used as a predicate in a locational clause in which an oblique adjunct expresses the location of an entity. Verbal locational clauses, unlike verbless locational clauses (§6.8), allow specification of TAM. As with simple existential clauses, the subject NP always occurs preverbally in verbal locational clauses, and refers to the participant whose location is expressed by the clause, while the oblique adjunct may occur clause-finally (228), clause-initially (229) or clause-medially (230).

(228) a. John *e=pei* po=ena=i te=na ereere
   John 3SG.SBJ=PST.IPfv stay=3SG.IPfv=IRR OBL=SPEC[CLI] mountain
   ‘John was in the mountains’

   b. Aina *i=pei* po=ina=i o’oemana
   3PL 3PL.SBJ=PST.IPfv stay=3PL.IPfv=IRR bush
   ‘They were in the bush’

   c. Anna ena=INU *e=pei* po=na=i i-nongana
   Anna 3SG.PSSR[CLI]=house 3SG.SBJ=PST.IPfv stay=3SG.IPfv=IRR LOC-beach
   ‘Anna’s house was on the beach’

(229) a. *Australia* bau kangaroo *i=po=ina*
   Australia PL kangaroo 3PL.SBJ=stay=3PL.IPfv
   ‘In Australia there are kangaroos’

   b. I-ata bau vanao na=vei etawa poto
   LOC-above PL tree sp. SPEC[CLI]=COLL big INTS
   ‘There were big *vanao* trees above’

   c. *i=pei* po=ina=i
   3PL.SBJ=PST.IPfv stay=3PL.IPfv=IRR
   ‘There were big *vanao* trees above’

(230) a. Nua=au kakau *te=na* inu mama *i=po=ina*
   two=CLI dog OBL=SPEC[CLI] house DEM 3PL.SBJ=stay=3PL.IPfv
   ‘There are two dogs in the house’

   b. Naonava tautoi boro *i-poana* i=pei po=ina=i
   yesterday three pig LOC-village 3PL.SBJ=PST.IPfv stay=3PL.IPfv=IRR
   ‘Yesterday there were three pigs in the village’

   c. bau taramina *i-poana* te arira *e=to* po=na=i
   PL thing LOC-village OBL 1INCL 3SG.SBJ=to stay=3SG.IPfv=IRR
   ‘things will be in our village’

6.6.2 Existential verb *a’aïsi* ‘be many’

The word *a’aïsi*, which occurs as a quantifier modifying the head of a NP as in (231) (see §4.10.1.3 for more), also occurs underived as a verb meaning ‘be many’ in existential clauses to express the abundance of an entity (232)-(234).

(231) *Na=vanua* a’aïsi *poto* i=pei ara po=ina=i
   SPEC[CLI]=people many INTS 3PL.SBJ=PST.IPfv PST stay=3PL.IPfv=IRR
   ‘There were very many people’

(1-T029)
6.7 Negative clauses

Section 5.10 described the negation of verbal assertive predicates with the preverbal negative marker \(ae\) and the negation of imperatives with verbal reduplication and either the preverbal negative marker \(ae\) or the preverbal negative mode marker \(te\). Section 6.5.1 discussed the negative answer to questions \(aruai\) ‘no’ and the tag \(o\ aruai\) ‘or not’. This section describes the use of \(aruai\) as a negative existential verb, and as a clausal negative marker with verbal assertive predicates, which may or may not be marked by the preverbal negative marker \(ae\). The negation of non-verbal assertive predicates also employs \(aruai\) and is discussed in §6.8. Note that \(aruai\) also denotes the numeral ‘zero’ (§5.8.1).

It is not unusual for a negative word in an Oceanic language to serve more than one function. Mosel (1999) outlines three types of negatives used as negative answers in Oceanic languages and one of these is “a negative verb which has the same form as those used in negative existential constructions” (Mosel 1999: 11). Mosel (1999) also states that “in most of the languages in our sample, the same negative can be used with verbal and non-verbal predicates” (Mosel 1999: 11): in Papapana this is true of \(aruai\) but not of \(ae\). Papapana confirms three of the working hypotheses suggested by Mosel (Mosel 1999: 17): (i) Oceanic negatives tend to distinguish three functions: the negation of existential constructions, predicates and imperatives, (ii) if a language has negative verbs and particles, it will use the verb for existential constructions and the particle for predicates, and (iii) the negative prosentence (i.e. negative answers to questions) tends to have the same form as the existential negative.

6.7.1 Negative existential verb \(aruai\) ‘be not’

In Papapana, the negative existential verb \(aruai\) expresses the non-existence of an entity. In these examples, the subject NP occurs preverbally, and refers to the entity that is lacking:

(235) \(E=to\) \(aruai\) 3SG.SBJ=to be.not
‘There was nothing’

(236) na=vatu \(e=to\) \(aruai=ena=i\), enai \(i=beta=i\)
SPEC[CLI]=money 3SG.SBJ=to be.not=3SG.IPFW=IRR after 3PL.SBJ=hungry=IRR
‘If there is no money, then they’ll be hungry’
Negative existential clauses may also be formed by negating an existential clause containing the existential verbs *po* ‘stay/exist’ or *a’aisi* ‘be many’ (see §6.6) with the preverbal negative marker *ae*:

(238) **bau bareo i=pei ae po-po=ina=i i-poana**
    PL breadfruit 3PL.SBJ=PST.IPFV NEG RD~stay=3PL.IPFV=IRR LOC-village
‘There were no breadfruit trees in the village’  

(239) **Buriatanana i=pei ae agai a'aisi=ina=i**
    young.women 3PL.SBJ=PST.IPFV NEG really be.many=3PL.IPFV=IRR
‘There weren’t very many young women’  

### 6.7.2 Verbal assertive negation: *aruai* ‘no’

A verbal assertive predicate which has been negated with the preverbal negative marker *ae*, may also employ *aruai* in clause-final position to emphasise the negation (240)-(242). *Aruai* is thus very similar to *ahiki* in Teop which, without tense-aspect marking, can function as a negative answer to questions, as a question tag *ge ahiki* ‘or not’, and can follow negative statements for emphasis, but may also be used in negative existential constructions when combined with tense-aspect markers (Mosel and Spriggs 1999b: 48-49).

(240) **E=ae agai mata=na aruai**
    3SG.SBJ=NEG really good=3SG.IPFV NEG
‘It’s not very good’  

(241) **Mi=ae ani–ani na=miti aruai**
    1EXCL.SBJ=NEG RD~eat SPEC[CLI]=meat NEG
‘We don’t eat meat’  

(242) **Ani o=ae muni=au aruai**
    2SG 2SG.SBJ=NEG hide=1SG NEG
‘You didn’t hide me’  

### 6.8 Verbless clauses

In verbless clauses in Papapana the predicate may be a NP which expresses identity, possession or location, or may be negated (§6.8.1). The predicate of a verbless clause may also be a locative PP (§6.8.2), an attributive PP (§6.8.2), a numeral phrase (§6.8.4), or an adjective phrase (§6.8.5). A verbless existential clause can consist of just the predicate NP with no subject NP, but the predicate noun must be modified by a numeral or negative marker (§6.8.6).

#### 6.8.1 Nominal predicates

Verbless clauses in which the predicate is a NP may express identity (§6.8.1.1) and possession (§6.8.1.2). The predicate NP may consist of an interrogative word (§6.8.1.5). When the head noun is a
Location noun referring to spatial location, the nominal predicate expresses the location in which the subject referent is situated (§6.8.1.3). A nominal predicate may be negated with aruai (§6.8.1.4). In all verbless clauses containing nominal predicates, the subject NP and the predicate NP are juxtaposed and there is no overt marking to indicate the function of the NP, though the subject NP tends to occur before the predicate NP.

6.8.1.1 Identity
Nominal predicates expressing identity consist of two juxtaposed NPs. It is possible to interpret slight differences in the meaning of the nominal predicate; some express proper inclusion and others equation. In nominal predicate clauses which express proper inclusion, “a specific entity is asserted to be among the class of items specified in the nominal predicate” (Payne 1997: 114). In nominal predicate clauses expressing proper inclusion in Papapana (243)-(244), the subject NP occurs first, while the predicate NP follows the subject, as is also the case in NWS languages such as Banoni (Lynch and Ross 2002: 451) and Sisiqa (Ross 2002: 463).

(243) A:mani na=vanua merei i-poana
1EXCL SPEC[CLI]=people OBL LOC-village
‘We are villagers’

(244) Sa=au ‘usia mama sa=au maru
DIM=CLII child DEM DIM=CLII orphan
‘This poor child was an orphan’

Nominal predicate clauses which express equation “are those which assert that a particular entity (the subject of the clause) is identical to the entity specified in the predicate nominal” (Payne 1997: 114). In equational clauses in Papapana (245)-(247), the subject NP occurs first, while the predicate NP follows the subject.

(245) Anau na=treasurer
1SG SPEC[CLI]=treasurer
‘I’m the treasurer’

(246) Anau vatono-u Ellen
1SG name-1SG.PSSR Ellen
‘My name is Ellen’

(247) Na=orawi mama Peter
SPEC[CLI]=man DEM Peter
‘That man is Peter’
The predicate NP expressing equation may be an independent possessive pronoun whose semantic role is possessor (248) or a possessed NP where the possessum is marked with possessor suffixes (249) or proclitics (250)-(251), or by the possessor suffixes and a coreferential possessor NP (252)-(253). Note that (252) and (253) show that possessor NPs can be preposed or postposed (see §5.9). Speakers reported that the order of the NPs could be changed, while a comparison of (250) and (251) clearly shows this possibility.

(248) Na=kaukau mama amuata
 SPEC[CLI]=sweet.potato DEM 2SG.POSS.CLI
 ‘This sweet potato is yours’

(249) Iai nu=ie-u
 DEM SPEC.CLI=leg-1SG.PSSR
 ‘This is my leg’

(250) Iai amu=maunu
 DEM 2SG.PSSR[CLI]=woman
 ‘This is your wife’

(251) Amu=bau tamu~tamu iai
 2SG.PSSR=PL RD~eat DEM
 ‘Your food is this’

(252) Mama nu=boro nu=ie=na
 DEM SPEC.CLI=pig SPEC.CLI=leg-3SG.PSSR
 ‘This is the pig’s leg’

(253) Mama nu=nima-na John
 SPEC.CLI=hand-3SG.PSSR John
 ‘This is John’s hand’

6.8.1.2 Possession
In the immediately preceding examples, the predicate NP consisted of a possessive pronoun or possessed noun and this nominal predicate was equated with the subject NP referent. This differs from nominal clauses which express possession; in these, the structure of the clause is still the same with two juxtaposed NPs, but the subject NP refers to the possessor and is followed by the nominal predicate which refers to the possessum, with no possessive morphology required. Since the structure of identity and possession verbless clauses is the same, it is possible that ambiguity could result but it was beyond the scope of this research to test for such ambiguity.

The nominal predicate expressing the possessum may consist simply of a noun modified by an article as in (254), or by a noun modified by a numeral as in (255) -(257). In (258) the noun is modified by a numeral phrase consisting of the numeral and the limiter ora: this is the only attested example of a numeral phrase modifying a noun. These examples are not numeral phrase predicates (see §6.8.4) because the noun does not occur with an article, which it would if the numeral was a separate phrase.
6.8.1.3 Location

Nominal predicates which consist of a local noun referring to spatial location and marked by the locative case prefix –i express the existence in a location of the subject NP referent. The subject NP occurs before the predicate NP. Since there is no TAM marking in verbless locational clauses, time reference is either ambiguous (259)-(260) or can be indicated by temporal adjuncts as in (261)-(262).

6.8.1.4 Negative nominal predicates

As mentioned in §6.7, aruai can function as a clausal negative marker with verbal predicates, but it may also function inside a nominal predicate, where it usually follows the head noun.

When the negative nominal predicate negates identity (263)-(265) the subject NP precedes the predicate NP.

(254) Anau na=vu=vurau
1SG SPEC[CLI]=RD–run
‘I have a car’ (2-E026)

(255) Peter nua=au kakau
Peter two=CLII dog
‘Peter has two dogs’ (2-E026)

(256) Pauline tau Kingsford atono ‘usia
Pauline and Kingsford three.HUM child
‘Pauline and Kingsford have three children’ (2-E026)

(257) Port Moresby tautoi ta’apena
Port Moresby three.NHUM area
‘Port Moresby has three areas’ (1-T098)

(258) Aia tauvasi ora kukuraka
3SG four only finger
‘He has only four fingers’ (2-E017)

(259) Na=bara i-ava
SPEC[CLI]=ball LOC-sea
‘The ball is in the sea’ (2-E026)

(260) Ena=iu i-nongana
3SG.PSSR[CLI]=house LOC-beach
‘His house was on the beach’ (1-T105)

(261) Vagi tautoi epu i-nganisi
now three.NHUM cloud LOC-sky
‘Now three clouds are in the sky’ (2-E017)

(262) Naonava tautoi boro i-poana
yesterday three.NHUM pig LOC-village
‘Yesterday three pigs were in the village’ (2-E028-2)

(254) Anau na=vu=vurau
1SG SPEC[CLI]=RD–run
‘I have a car’ (2-E026)

(255) Peter nua=au kakau
Peter two=CLII dog
‘Peter has two dogs’ (2-E026)

(256) Pauline tau Kingsford atono ‘usia
Pauline and Kingsford three.HUM child
‘Pauline and Kingsford have three children’ (2-E026)

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As mentioned in §6.7, aruai can function as a clausal negative marker with verbal predicates, but it may also function inside a nominal predicate, where it usually follows the head noun.

When the negative nominal predicate negates identity (263)-(265) the subject NP precedes the predicate NP.
Nu=a’ade’e nu=moroko aruai
SPEC.CLI=narrate SPEC.CLI=lie NEG
‘The story is no lie’

(1-T044)

(263) Nu=a’ade’e nu=moroko aruai
SPEC.CLI=narrate SPEC.CLI=lie NEG
‘The story is no lie’

(264) amani na=‘usia aruai
1EXCL SPEC[CLI]=child NEG
‘We aren’t children’

(1-T053)

(265) Toituna Charlie aruai
paramount.chief Charlie NEG
‘The paramount chief is not Charlie’

(2-E026)

Aruai may also negate predicates that are formed by possessive pronouns as in (266) or by NPs consisting of a possessed head noun and a possessor attribute as in (267)-(269). In these examples the subject NP occurs before the predicate NP.

(266) Na=iana mama auata aruai
SPEC[CLI]=fish DEM 1SG.POSS.CLI NEG
‘This fish is not mine’

(2-E026)

(267) Enai vavine-u aruai
DEM sibling-1SG.PSSR NEG
‘That is not my brother’

(2-E026)

(268) Anau amu=au ‘usia aruai
1SG 2SG.PSSR=CLII child NEG
‘I’m not your child’

(1-T026)

(269) Ini iai Pasa ena=kavururu aruai
here DEM Pasa 3SG.PSSR[CLI]=ground NEG
‘This here is not Pasa’s land’

(1-T035)

The negation aruai is also used in non-verbal clauses in which the subject refers to the possessor and the predicate to the possessum as in (270)-(273). Except for aruai, the possessum NP may contain no nominal modifiers (270)-(271), an article (272), or a numeral modifier (273)-(274).

(270) Ta a:mani moni aruai
and 1EXCL money NEG
‘And we had no money’

(1-T053)

(271) Aria kavururu aruai
3PL land NEG
‘They have no land’

(2-E017)

(272) Anau na=vu~vurau aruai
1SG SPEC[CLI]=RD=run NEG
‘I have no car’

(2-E026)

(273) Peter nua=au kakau aruai
Peter two=CLII dog NEG
‘Peter doesn’t have two dogs’

(2-E026)
(274) Pauline tau Kingsford atono ‘usia aruai
Pauline and Kingsford three.HUM child NEG
‘Pauline and Kingsford don’t have three children’ (2-E026)

There are a few examples which show aruai occurring before the head noun in the nominal predicate; other nominal modifiers such as possessors also occur prenominally and postnominally and this variation is thought to be the result of contact with neighbouring Papuan languages (see §9).

(275) Anau aruai na=vatu
1SG NEG SPEC[CLI]=money
‘I have no money’ (2-E017)

(276) Aina aruai tamu~tamu
3PL NEG RD~eat
‘They have no food’ (2-E017)

6.8.1.5 **Interrogative nominal clauses**

Interrogative words which are pronouns or modifers may occur in a NP that functions as a predicate in a verbless interrogative clause.

The interrogative nominal clause may express proper inclusion as in (277):

(277) Mata kain maunu iai
what kind woman DEM
‘What kind of woman is this?’ (1-T029)

The interrogative nominal clause may express equation as in (278)-(280). Note that in (279) the interrogative is inquiring about the identity of the possessor whereas in (280) the interrogative concerns the identification of the possessum.

(278) Na=orawi mama te:na?
SPEC[CLI]=man DEM who
‘Who is this man?’ (2-E019)

(279) Nu=buku mama te:na enaau?
SPEC.CLII=book DEM who 3SG.POSS.CLII
‘Whose book is this?’ (2-E019)

(280) Avete inu amuata?
Which house 2SG.POSS.CLII
‘Which house is yours?’ (2-E019)

The interrogative nominal clause may also express possession as in (281)-(282) where the possessor NP occurs before the possesum NP. Example (281) is a polar question whereas (282) is inquiring about the quantity of the possessum.
(281) Ani na=kari?
2SG SPEC[CLI]=kina.shell
‘Do you have a kina shell?’

(282) Aina taovita na=‘usia?
3PL. how.many SPEC[CLI]=child
‘How many children do they have?’

6.8.2 Locative predicates

Locational clauses refer to the location in which the subject referent is situated. In Papapana locational clauses may have the existential verb po ‘stay/exist’ as their predicate and a locative oblique adjunct (see §6.6.1), but they may also have a locative PP as the predicate. There is no apparent functional difference between the two, though verbal locational clauses can be specified for TAM, as this can only be marked by verbal morphology in Papapana. In the attested verbless locational clauses, the subject NP precedes the locative PP predicate, whose head is the preposition te:

(283) Enai a:mani te=na ereere
after 1EXCL OBL=SPEC[CLI] mountain
‘Then we were in the mountains’

(284) Pepeitaunima vuri te=na epita
five egg OBL=SPEC[CLI] nest
‘Five eggs are in the nest’

(285) Matthew te=na ‘uru
Matthew OBL=SPEC[CLI] island
‘Matthew is on the island’

The locative interrogative word avoa ~ avea ‘where’ may be the predicate of a verbless interrogative locational clause. The subject NP may occur before or after avoa ~ avea as in (286)-(288) and (290)-(291) respectively.

(286) Aia avea?
3SG where
‘Where is he?’

(287) Amu=poana avea?
2SG.PSSR[CLI]=village where
‘Where is your village?’

(288) Koko’i te anau avoa?
taro OBL 1SG where
‘Where is my taro?’

(289) Avea John?
where John
‘Where is John?’
where SPEC[CLI]=woman DEM
‘Where is this woman?’ (1-T029)

‘Where is my basket?’ (2-E019)

6.8.3 Attributive PP predicates

Prepositional phrases (PP) with the preposition merei may function as the predicate in a verbless clause, assigning an attribute to the subject NP. As in other verbless clauses, the two phrases are juxtaposed, with the subject NP occurring first. In these examples the complement of the preposition is a deictic location form (292) or an Absolute Location noun (293)-(294).

‘This story is from there’ (2-E005)
‘this story is from long ago’ (1-T026)
‘this food is from yesterday’ (2-E005)

6.8.4 Numeral predicates

A numeral phrase may function as the predicate in a verbless clause expressing that the subject referent occurs in a certain number. If the subject is a NP that is modified by a possessor as in (296) and (297) the idiomatic English translation is a possessive clause. The numeral phrase may consist just of the numeral (295)-(297), or of the numeral and the limiting modifier ora (298)-(300), and it may make a noun class or human/nonhuman distinction that agrees with that of the subject NP. These are not nouns being modified by numerals because the subject NP is either a pronoun (295) or contains an article (except toituna which never occurs with an article). There may be a locative or temporal adjunct in the clause as in (295) and (300). The order of the subject NP and the numeral phrase predicate is variable as (301) demonstrates.

‘There are ten of us in this house (lit. We are ten in the house)’ (2-E017)
‘I have five pigs (lit. My pigs are five)’ (2-E017)
‘We have three grandparents (lit. Our three grandparents are three)’ (1-T060)
(298) Toituna mama enai na’aria ora
God DEM DEM one.CL.I only
‘There is only one god (lit. This God is only one)’ (1-T097)

(299) Na’aria ora na=ato
one.CL.I only SPEC[CLI]=sun
‘There is only one sun (lit. The sun is only one)’ (2-E017)

(300) Vagi nuaria ora nu=kakau
now one.CL.II only SPEC.CL.II=dog
‘Today there is only one dog (lit. Today the dog is only one)’ (2-E028-2)

(301) a. Na=matuana na’aria
       SPEC[CLI]=devil one.CL.I
‘There is one devil (lit. The devil is one)’ (2-E017)

b. Na’aria na=matuana
   one.CL.I SPEC[CLI]=devil
‘There is one devil (lit. The devil is one)’ (2-E017)

6.8.5 Adjectival predicates

Adjective phrases (AP) may function as the predicate in a verbless clause, assigning an attribute to the subject NP. As in other verbless clauses, the two phrases are juxtaposed, with the subject NP occurring first. The AP consists of an adjective preceded by an article that agrees in noun class and/or number with the subject NP (302)-(313). Note that (305) shows two coordinated verbless clauses.

(302) na=iana na=mamaravi
       SPEC[CLI]=fish SPEC[CLI]=cold
‘the fish is cold’ (2-E004)

(303) nu=’usia nu=kokobunu
       SPEC.CL.II=child SPEC.CL.II=short
‘the child is short’ (2-E004)

(304) na=INU na=meromero’o
       SPEC[CLI]=house SPEC[CLI]=brown
‘the house is brown’ (2-E011)

(305) nu=kakau mama nu=etawa ta mama nu=kaka’i
       SPEC.CL.II=dog DEM SPEC.CL.II=big and DEM SPEC.CL.II=small
‘this dog is big and this (dog) is small’ (2-E004)

If the subject NP head is modified by a numeral, the predicate AP is marked with the same numeral:

(306) nua=au ie-na ta nua=au nima-na nua=au sirorai
       two=CL.II leg-3SG.PSSR and two=CL.II arm-3SG.PSSR two=CL.II long
‘his two legs and his two arms were long’ (1-T063)

(307) nua iana mama nua mata
       two[CLI] fish DEM two[CLI] good
‘these two fish are good’ (2-E021)
When the subject NP is plural, the AP does not take the same article as the subject NP head but is instead marked with \textit{na=vei}:

(308) \text{bau} \text{ katopo-na} \textit{na=vei} \textit{sirorai}  \\
\text{PL} \text{ nail-3SG.PSSR} \text{ SPEC[CLI]=COLL} \text{ long}  \\
‘his fingernails were long’ \hspace{1cm} (1-T035)

(309) \text{bau} \text{ inu mama} \textit{na=vei} \textit{vaunu}  \\
\text{PL} \text{ house} \text{ DEM} \text{ SPEC[CLI]=COLL} \text{ new}  \\
‘all these houses were new’ \hspace{1cm} (2-E004)

The predicate AP may also be postmodified by the intensifier \textit{poto}:

(310) \text{nu=visio-na} \textit{nu=etawa} \textit{poto}  \\
\text{SPEC.CLII=body-3SG.PSSR} \text{ SPEC.CLII=big} \text{ INTS}  \\
‘his body was really big’ \hspace{1cm} (1-T034)

(311) \text{na=dede} \text{ mama} \textit{na=nabu} \textit{poto}  \\
\text{SPEC[CLI]=bag} \text{ DEM} \text{ SPEC[CLI]=heavy} \text{ INTS}  \\
‘this bag is very heavy’ \hspace{1cm} (2-E004)

Unlike NP predicates, AP predicates are not negated by \textit{aruai} but are premodified by the negative marker \textit{ae}, the negative marker found in the VC. The negative marker occurs between the article and the adjective root:

(312) \text{Na=inu} \textit{na=ae} \textit{mata}  \\
\text{SPEC[CLI]=house} \text{ SPEC[CLI]=NEG} \text{ good}  \\
‘The house isn’t good’ \hspace{1cm} (1-T091)

(313) \text{Nu=urisi} \textit{na=ae} \textit{itaita}  \\
\text{SPEC.CLII=rope} \text{ SPEC.CLII=NEG} \text{ strong}  \\
‘The rope isn’t strong’ \hspace{1cm} (1-T035)

\section*{6.8.6 Existential clauses}

Verbless existential clauses in Papapana may consist only of the NP whose referent is said to exist; however, there is always some kind of modification. The nominal predicate may contain a numeral modifier or the negative marker \textit{aruai}.

Verbless existential clauses may consist of a nominal predicate whose head noun has been modified by a numeral; such clauses express the existence of a number of things. Example (314) is not a numeral phrase predicate (see §6.8.4) because the noun does not occur with an article, which it would if the numeral was a separate phrase.

(314) \text{nua=au} \text{ pepeitaunima manoa vesunu}  \\
\text{two=CLII} \text{ five} \text{ ten} \text{ star}  \\
‘There are a hundred stars’ \hspace{1cm} (2-E017)
Verbless existential clauses may also consist of a nominal predicate whose head noun has been modified by the negative marker *aruai*; these clauses express the non-existence of an entity. *Aruai* occurs postnominally (315)-(319).

(315) Na=vu=vurau *aruai*  
    SPEC[CLI]=RD−run NEG  
    ‘There was no car’

(316) A:mani mi=nao te=na stoа, *na=rice aruai*  
    1EXCL 1EXCL.SBJ=go OBL=SPEC[CLI] store SPEC[CLI]=rice NEG  
    ‘We went to the store but there was no rice’

(317) Tamu−tamu *aruai*  
    RD−eat NEG  
    ‘There is no food’

(318) Ta=matuana *aruai*  
    NSPEC[CLI]=devil NEG  
    ‘There is no devil’
7 Complex Sentences

This chapter describes coordination and subordination. Coordinating constructions are symmetrical (Haspelmath 2004: 3) and involve linking independent clauses (§7.1). Section 7.1 will also discuss the coordination of phrases. Subordination is asymmetrical because one of the clauses “is clearly more salient or important” (Haspelmath 2004: 3), be it syntactically or semantically. Papapana has three types of subordination: relative clauses (§7.2), adverbial clauses including conditional clauses (§7.3), and complement clauses (§7.4). Relative clauses and complement clauses are subordinate because they are embedded: a relative clause is embedded within a noun phrase and depends on the matrix noun for the interpretation of one of its arguments, while a complement clause is embedded within a matrix clause of which it is an argument. Adverbial clauses in Papapana are less straightforward. Some adverbial clauses are defined as subordinate because they do not occur as independent clauses, while other adverbial clauses are non-finite. There are some adverbial clauses which, without the subordinator, have the same structure as independent clauses, but they are semantically dependent on the main clause and they correspond to the circumstances under which the event expressed by the main clause takes place.

7.1 Coordination

Papapana coordinating constructions may be syndetic and employ a coordinator, which “serves to link the units of a coordinate construction” (Haspelmath 2007: 1), or they may be asyndetic in which case the units are simply juxtaposed without an overt coordinator (§7.1.4). Papapana has three coordinators: tau ~ ta ‘and’ marks conjunction and may also be interpreted as expressing adversative coordination (§7.1.1), o ‘or’ marks disjunction (§7.1.2), and iara ‘then’ and enai ‘after’ mark sequential coordination (§7.1.3). The use of such a small set of coordinators is typically Oceanic (Lynch, Ross and Crowley 2002: 53). Coordination in Papapana is monosyndetic, that is, there is always just one coordinator, and the coordinator occurs immediately before the last coordinate.

7.1.1 Conjunction and adversative coordination: tau ~ ta

The coordinator tau ~ ta ‘and’ marks conjunction which is an interpropositional relation that obtains between coordinate clauses: if the conjunction of two propositions is true “then each of the component propositions is true” (Payne 1997: 339). The specific semantics and context of the clause may conspire to express adversative coordination which presents a contrast between two clauses and denotes ‘but’ rather than ‘and’. Tau and ta are phonological variants and can be used interchangeably: there is no grammatical, semantic or pragmatic motivation for the variation but instead speakers reported that ta was a shorter means of uttering tau. The coordinator tau ~ ta is used to conjoin clauses (§7.1.1.1), and it may also link noun phrases (NP) and prepositional phrases (PP) (§7.1.1.2). In addition, dual independent pronouns may also coordinate NPs (§7.1.1.3).
Some Oceanic languages use coordinators in *numeral coordination*, which is a type of additive coordination in which units are coordinated with tens in numerals (Moyse-Faurie and Lynch 2004: 488). In Papapana, for the most part this is not the case, but as described in §4.8.1, counting between ‘one hundred’ and ‘one thousand’ involves counting in fifties, and it is the decades in between fifties that are formed additively with the coordinator *tau ~ ta*.

7.1.1.1 Clause coordination

Papapana allows clauses to be coordinated with *tau ~ ta* regardless of whether the subjects of the clauses are different or the same.

Example (1) shows sentences in which the clauses each have their own subject and predicate. The coordinator *tau ~ ta* marks conjunction in (1)a. In (1)b a translation expressing adversative coordination was given but these sentences could equally express conjunction. Note that the sentence in (1)b also begins with *ta*, linking it to the previous sentence; sentences being joined in this way is common in speech and in fact it seems to be a stylistic feature of this particular narrative as many of the sentences begin with *ta*. Indeed in Halia, the coordinator *na* also “connects sentences as a sentence initial conjunction” (Allen 1971: 67).

(1) a. Ben e=ani na=i ana ta anau u=ani na=rice
   Ben 3SG.SBJ=eat SPEC[CLI]=fish and 1SG 1SG.SBJ=eat SPEC[CLI]=rice
   ‘Ben ate fish and I ate rice’
   (2-E021-1)

   b. Ta e-tama-na e=ara mate and PERS-father-3SG.PSSR 3SG.SBJ=PST die
   tau enai e-sina-na ara e=pei ara po=na=i
   and DEM PERS-mother-3SG.PSSR only 3SG.SBJ=PST.IPJV PST stay=3SG.IPJV=IRR
   ‘And his father was dead and/but his only mother was alive’
   (1-T029)

Example (2) shows sentences in which the clauses have the same subject but different predicates. The coordinator *tau ~ ta* marks conjunction (2) but again for (2)d-e a translation expressing adversative coordination was given. Note that (2)c does not have subject NPs as the clauses are imperative and imperative clauses frequently lack subject NPs (see §6.4, where there are also more examples of syndetic coordinate imperative clauses). In the other sentences, the second clause does not require a subject NP as the subject of both clauses is identical. Nevertheless, when presented with (2)a and (2)d, speakers indicated that it was possible for the second clause to repeat the lexical subject NP of the first clause or to have a coreferential independent pronoun subject NP, and that this would not alter the interpretation of the sentence.
7.1.1.2 Phrase coordination

NPs and PPs may be coordinated by tau ~ ta in Papapana. Unlike some Oceanic languages, there is no distinction between tight and loose nominal coordination (that is, between items which are more or less closely associated in the real world), nor are there different coordinating morphemes depending on the animacy or class of the coordinated nouns (Moyse-Faurie and Lynch 2004: 450, 453).

When subject NPs are linked in Papapana, the coordination may be segregatory or combinatory (Greenbaum 1996). Examples (3)-(7) show segregatory coordination in which the two subject NPs could each be expanded into their own clause, whereas (8)-(10) demonstrate combinatory coordination in which the two subject NPs combine to function as one unit of meaning, with reference to the rest of the clause; these subject NPs cannot be expanded into separate clauses. Note that (10) shows that coordination of clauses, as well as phrases, may occur within one sentence.

(3) e-tama-u tau e-sina-u
PERS-father-1SG.PSSR and PERS-mother-1SG.PSSR

\[
\text{\textbf{i=ri}} \quad \text{amun=i=0=ina} \\
\text{3PL.SBJ=IMM.IRR see=TR=2SG.OBJ=3PL.IPFV} \\
\text{‘My mother and father want to meet you’}
\]  (1-T029)
John, Peter, Alex and Sarah came’

Our mothers and fathers scolded us’

He and I went’

You and I went’

My mother and father married each other ten years ago’

Long ago, we were living in Teperoi and Dad and some people argued with each other’

When object NPs are linked, the object enclitic is generally singular as in (11), but it is possible for the object enclitic to be plural (12). In (13) and (14) speakers reported that the plural object enclitic in (13)b and (14)b was more correct than the singular object enclitic in (13)a and (14)a, yet plural enclitics only occurred in elicitation sessions, and often only when prompted.
(12) Richard e=tu’u=ina Kate ta ena=au ‘usia 
Richard 3SG.SBJ=meet=3PL.OBJ Kate and 3SG.PSSR=CLII child
‘Richard met Kate and her child’

(13) a. Anau u=roros=i=a Kate tau Sarah 
1SG 1SG.SBJ=see=TR=3SG.OBJ Kate and Sarah

b. Anau u=roroto=ina Kate tau Sarah 
1SG 1SG.SBJ=see=TR=3PL.OBJ Kate and Sarah
‘I saw Kate and Sarah’

(14) a. Peter e=ara irom=i=a nu=daramu ta na=Cocacola 
Peter 3SG.SBJ=PST drink=TR=3SG.OBJ SPEC.CLII=water and SPEC[CLI]=Cocacola

b. Peter e=ara iromo=ina nu=daramu ta na=Cocacola 
Peter 3SG.SBJ=PST drink=3PL.OBJ SPEC.CLII=water and SPEC[CLI]=Cocacola
‘Peter drank water and Coca-Cola’

The object enclitic agrees with the first object NP, as in (15) where the object NPs exhibit different person categories. When both object NPs are pronouns as in (16)a, then the first pronoun may be omitted as in (16)b. Example (16)b suggests that object enclitics might be weak accusative pronouns or it could be that there is no phrasal coordination in this clause but that the subject and VC of the second clause are not overtly expressed: this requires further investigation.

(15) Eugene e=roros=i=a Helen ta ani 
Eugene 3SG.SBJ=see=TR=3SG.OBJ Helen and 2SG
‘Eugene saw Helen and you’

(16) a. Anau u=eri vori~vori=amu=ou ani ta aia 
1SG 1SG.SBJ=IMM.RR RD=talk=2PL.OBJ=1SG.IPFV 2SG and 3SG

b. Anau u=eri vori~vori=i=o=ou ta aia 
1SG 1SG.SBJ=IMM.RR RD=talk=TR=2SG.OBJ=1SG.IPFV and 3SG
‘I want to talk to you and him’

In (17)-(18) the object NPs are also linked but there is no object enclitic as these clauses demonstrate transitivity discord (§5.5.5).

(17) Arira si=ani=i bau kaukau ta na=iana 
1INCL 1INCL.SBJ=eat=IRR PL sweet.potato and SPEC[CLI]=fish
‘We’ll eat sweet potatoes and fish’

(18) A:mani mi=ani na=koko’i, na=uvi tau na=gono 
1EXCL 1EXCL.SBJ=eat SPEC[CLI]=taro SPEC[CLI]=yam and SPEC[CLI]=banana
‘We eat taro, yam and banana’

The following examples show the coordinator tau ~ ta conjoining PPs which are headed by the preposition te (19)-(20). It is not possible for a preposition to dominate a pair of conjoined NPs.
7.1.1.3 Phrase coordination with dual independent pronouns

Papapana has two sets of dual independent pronouns. The first set in Table 4.2 in §4.2 begin with au, while the remainder of the form is similar to the plural possessor proclitics. These dual independent pronouns can coordinate NPs as in the following examples in which the dual independent pronoun occurs between the coordinated NPs, which are the subject of the verb (21) or the object (22).

(21) Tauvita kokoi Anna auana Bob i=atono i=a Emma?
how.many taro Anna 3DU Bob 3PL.SBJ=bring APPL=3SG.OBJ Emma
‘How many taros did Anna and Bob bring for Emma?’

(22) nia aite auana ia’a mi=to aria=ina.
nia Dad 3DU Mum 1EXCL.SBJ=to dig=3PL.OBJ
‘We buried Dad and Mum’

In (23)-(25) the dual independent pronoun has an inclusory function as it “identifies a set of participants that includes the one… referred to by the lexical noun phrase” (Lichtenberk 2000a: 1). The inclusory pronoun precedes the included NP and there is no overt marker of the relation between them; therefore, inclusory constructions in Papapana are implicit (Lichtenberk 2000a: 4). The construction is coordinate and the inclusory pronoun and the included NP together form a phrase, which is reflected in the plural subject proclitic in the VC.

(23) auami Josep mi=nao
1EXCL.DU Josep 1EXCL.SBJ=go
‘Joseph and I went’

(24) auami e-maria Willis enai na=poana mi=asi=a
1EXCL.DU PERS-thing Willis DEM SPEC[CLI]=village 1EXCL.SBJ=leave=3SG.OBJ
‘what’s-their-name, Willis and I left that village’

(25) e-sina-na e=mate ta
PERS-mother-3SG.PSSR 3SG.SBJ=die and
auana e-tubu-na =p=po=ina
3DU PERS-grandparent-3SG.PSSR 3PL.SBJ=RD~stay=3PL.IPFW
‘His mother died and he and his grandmother lived’

7.1.2 Disjunction

The coordinator o ‘or’ coordinates alternative clauses, that is, clauses which represent events or states that are alternative possibilities. Such clauses exhibit disjunction, an interpropositional relation that
obtains between coordinate clauses: if the logical disjunction of two propositions is true, “then one or both of the component propositions can be true” (Payne 1997: 339-340). The coordinator *o* ‘or’ may join clauses which have the same subject but different predicates (§7.1.2.1), or join subject NPs, object NPs, or adjunct PPs (§7.1.2.2). There are no attested examples where *o* joins clauses which each have their own subject and predicate. Generally the conjoined elements occur alongside each other with *o* intervening.

### 7.1.2.1 Clause coordination

In (26)-(27) the coordinator *o* ‘or’ joins clauses which have the same subject but different predicates. These examples represent quite complex sentences: in (26) the conjoined clauses are preceded by a conditional adverbial clause, while in (27) the conjoined clauses are joined to another clause with the sequential coordinator *iara* ‘then’. The subject NP in the second clause of (26) is optional.

(26) John e=to ani=a=i pei naono mama, John 3SG.SBJ=to eat=3SG.OBJ=IRR PART Tree DEM

[John] e=mate=i o e=matemate=i
John 3SG.SBJ=die=IRR or 3SG.SBJ=sick=IRR
‘If John eats that piece of tree, he’ll die or he’ll get sick’

(27) Tena bau Sande Theresa e=nao=nao=na te=na vei toko
OBL PL Sunday Theresa 3SG.SBJ=RD=go=3SG.IPFV OBL=SPEC[CLI] COLL worship

o e=po=na i-poana,
or 3SG.SBJ=stay=3SG.IPFV LOC-village

iara tena bau Mande e=si=siodo=ena
then OBL PL Monday 3SG.SBJ=RD=work=3SG.IPFV
‘On Sundays Theresa goes to church or she stays at home, then on Mondays she works’

(2-E027)

### 7.1.2.2 Phrase coordination

The coordinator *o* ‘or’ may also join subject NPs (28), object NPs (29) and oblique adjuncts (30). Example (29) shows that more than one NP can be coordinated and in this particular example there is actually more than one coordinator.

(28) ...na=orawi o na=maunu e=to mate=i
SPEC[CLI]=man or SPEC[CLI]=woman 3SG.SBJ=to die=IRR
‘...a man or a woman dies’

(29) I=to taga=i=a=i
3PL.SBJ=to burn=TR=3SG.OBJ=IRR

na=kara o na=imu o na=paga enai
SPEC[CLI]=car or SPEC[CLI]=house or SPEC[CLI]=gun DEM
‘They burnt cars or houses or guns’

(30) na=usia i=pei gaganini=i i-nongana o te=na ‘uru
SPEC[CLI]=child 3PL.SBJ=PST.IPFV play=IRR LOC-beach or OBL=SPEC[CLI] island
‘In the past, children used to play on the beach or on the island’

(1-T034)
7.1.3 Sequential coordination

The temporal coordinators *iara* ‘then’ and *enai* ‘after’ coordinate clauses that express events that occur sequentially. *Iara* ‘then’ generally occurs between the conjoined elements and may join clauses that each have their own subject and predicate (31)-(32) or clauses which have the same subject but different predicates (33)-(35). The first clause expresses the event which happened first. Often the first clause contains the completive aspect marker *osi* as in (31) and (33), but other attested examples show no tense, aspect, mode (TAM) marking (34), or the use of the general irrealis mood enclitic =*i* as in (32) and (35).

(31) U=to tovu osi   *iara* mi=po~poni=a=i 1SG.SBJ=to husk COMPL then 1EXCL.SBJ=RD~shell=3SG.OBJ=IRR
   ‘I finish husking then we shell it’  (1-T009)

(32) U=to manene mai=i   *iara* so=nao=i 1SG.SBJ=to return hither=IRR then 1INCL.SBJ=go=IRR
   ‘I’ll come back then we’ll go’  (2-E022)

(33) Ben e=to ani osi na=gono,   *iara* e=nao i-nongana
   Ben 3SG.SBJ=to eat COMPL SPEC[CLI]=banana then 3SG.SBJ=go LOC-beach
   ‘Ben finished eating the banana then went to the beach’  (2-E021-1)

(34) E=to  roborahi=au   *iara* e=atun=i=au 3SG.SBJ=to see=1SG.OBJ then 3SG.SBJ=attack=TR=1SG.OBJ
   ‘He saw me then he killed me’  (2-E021-1)

(35) Mamena boni=boni Maureen e=siodo=i,   e=gaganini=i, 3PL.COLL RD=day Maureen 3SG.SBJ=work=IRR 3SG.SBJ=play=IRR
   *iara* e=no apatu=i then 3SG.SBJ=go.SEQ sleep=IRR
   ‘Every day, Maureen works, plays then goes and sleeps’  (2-E016)

*Enai* ‘after’ occurs before the two clauses, the first of which expresses the event which happened first. *Enai* can coordinate clauses that each have their own subject and predicate (36)-(37), or clauses which have the same subject but different predicates. Occasionally, *enai* occurs between the conjoined elements and its meaning can be interpreted as ‘then’ as in (38) (see also §7.3.1).

(36) **Enai**=ma sipsiaia e=to ara tosi,   after=ma ceasefire 3SG.SBJ=to PST finish
   i-poana mi=manene mai
   LOC-village 1EXCL.SBJ=return hither
   ‘After the ceasefire finished, we went back to our village’  (1-T018)

(37) **Enai**=ma u=to tepe=a=i na=tari,   after=ma 1SG.SBJ=to cut=3SG.OBJ=IRR SPEC[CLI]=betelnut
   u=depana=i=a=i 1SG.SBJ=shell=TR=3SG.OBJ=IRR
   ‘After I cut the betelnut, I shell it’  (1-T006)
(38) U=pei  po=u=ma  enai=ma  u=nai
1SG.SBJ=PST.IPFV  stay=1SG.IPFV=ma  after=ma  1SG.SBJ=marry
‘I lived then I got married’

(1-T005)

7.1.4 Asyndesis

Papapana also expresses coordination by *asyndesis*, the juxtaposition of two clauses or phrases (Haspelmath 2007: 7). These constructions are considered coordinate as impressionistically they have the intonation contour of a single sentence. Asyndetic coordinate constructions may express conjunction, adversative coordination or sequential coordination but do not mark disjunction, nor link phrases. Asyndesis may also coordinate clauses referring to events that occur simultaneously. There is no difference in meaning between syndetic and asyndetic coordinate constructions in Papapana; indeed, when I presented speakers with asyndetic coordinate constructions such as (39)a and (40)c below, they indicated that the addition of a coordinator did not affect the meaning, and that both constructions were grammatically acceptable. The relationship between the two clauses is derived from the context and the TAM marking.

In (39) the clauses each have their own subject and predicate. Adversative and sequential coordination are expressed. Unfortunately I cannot find an example of different-subject asyndetic conjunction. For those clauses expressing sequential coordination, the first clause expresses the event which occurred first and the clauses are attested with no TAM marking or are marked by the irrealis mode enclitic =i. In (39)d however, the second clause expresses the event which occurred first and this is signalled by the completive aspect marker *osi*.

(39) a. Burimaunu i=nao  te=na  tago  Vakonaia,
   women 3PL.SBJ=go  OBL=SPEC[CLI]  market  Wakunai
   na=vanua  i=nao  te=na  siodo
   SPEC[CLI]=people 3PL.SBJ=go OBL=SPEC[CLI]  work
   ‘The women went to the market in Wakunai (but) the men went to the plantations’

   (2-E027)

   b. U=to  votu  mai  naonava,  e=gaunu=ina  nua=au  pepa
   1SG.SBJ=to  return  hither  yesterday  3SG.SBJ=write=3PL.OBJ  two=CLI paper
   ‘When I came home yesterday, (then) he wrote two letters’

   (2-E008)

   c. Na=na:ni  mama  e=to  naomai,  e=punisi=a=i
   SPEC[CLI]=day  DEM 3SG.SBJ=to  come  3SG.SBJ=dress=3SG.OBJ=IRR
   SPEC[CLI]=man
   ‘When this special day comes, (then) she dresses the man’

   (1-T024)

   d. Maureen  e=oi=a
   3SG.SBJ=call=3SG.OBJ
   Ben
   e=to  ani  osi=a=i  na=gono
   3SG.SBJ=to  eat  COMPL=3SG.OBJ=IRR
   SPEC[CLI]=banana
   ‘Maureen called Ben (after) he finished eating his banana’

   (2-E021-1)
In (40) the clauses have the same subject; (40)a-b express conjunction, (40)c-e express adversative coordination, and (40)f-h express sequential coordination. Note that in (40)a, the coordinator tau occurs at the beginning of the sentence, linking it to the previous sentence; it is common in speech for sentences to be joined in this way. In (40)b, (40)d and (40)e asyndesis connects imperative clauses and therefore there are no subject NPs (see §6.8 where there are also more examples of asyndetic coordinate imperative clauses). In (40)f and (40)g the completive aspect marker osi is used and therefore although the clauses are ordered iconically in (40)f, in (40)g the second clause expresses the event that occurred first and this is signalled by the completive aspect. In (40)h there is no TAM marking and the clauses are ordered iconically.

(40) a. Tau na:bau bau vanua-ota i-poana i=to amun=i=a, and some PL people-AUG LOC-village 3PL.SBJ=to see=TR=3SG.OBJ
    i=ma’=i=a na=maunu
3PL.SBJ=give-TR=3SG.OBJ SPEC[CLI]=woman
‘And some elders in the village saw him (and) gave him a wife’

b. Mu=matono, mu=de=ina taramina te amu
2PL.SBJ=awaken 2PL.SBJ=take=3PL.OBJ thing OBL 2PL
‘Wake up (and) get your things’

 c. Na=‘usia i=nao te=na skuru,
3PL.SBJ=go OBL SPEC[CLI]=school
i=ae de=a ta= matau
3PL.SBJ=NEG take=3SG.OBJ NSPEC[CLI]=knowledge
‘The children went to school (but) they didn’t learn anything’

d. O=ae ani–ani kaukau, koko’i o=ani
2SG.SBJ=NEG RD=eat sweet.potato taro 2SG.SBJ=eat
‘Don’t eat the sweet potato, (but do) eat the taro’

e. O=te tonu, o=umunu
2SG.SBJ=PROH stand 2SG.SBJ=sit
‘Don’t stand up, (but do) sit down’

f. Mi=to usi osi=a=i na=ma’ata,
1EXCL.SBJ=to scrape COMPL=3SG.OBJ=IRR SPEC[CLI]=brown.coconut
mi=pitu=a=i na=ma’ata
1EXCL.SBJ=squeeze=3SG.OBJ=IRR SPEC[CLI]=brown.coconut
‘After we finish scraping the brown coconut, we squeeze the coconut’

 g. Ben e=nao i-nongana, e=to ani osi na=gono
Ben 3SG.SBJ=go LOC-beach 3SG.SBJ=to eat COMPL SPEC[CLI]=banana
‘Ben went to the beach when he finished eating the banana’
Asyndesis may coordinate clauses which express events that occur simultaneously, such as in (41) where both clauses have past continuous marking (see §5.8). Asyndesis may also coordinate clauses which occur simultaneously but one of the events is signalled by continuous aspect marking to be the context or background for the other foregrounded event, which is not marked for continuous aspect, as in (42)-(44). The backgrounded event may occur before or after the foregrounded event. Cross-linguistically, the use of a continuative, durative or imperfective aspect marker is one of the two most common methods of expressing a backgrounded event (Thompson, Longacre and Hwang 2007: 254).

(41) Na:bau i=pei ubete=inai=i i-tanana, some 3PL.SBJ=PST.IPFV lay=3PL.IPFV=IRR LOC-road
mi=pei vurau=emani mai=i
1EXCL.SBJ=PST.IPFV run=1EXCL.IPFV hither=IRR
‘Some were lying on the road while we were running back’

(42) E=pei no po=na=i nani, 3SG.SBJ=PST.IPFV go.SEQ stay=3SG.IPFV=IRR there
na=maunu e=mei tu'u=i=a
SPEC[CLI]=woman 3SG.SBJ=come.SEQ meet=TR=3SG.OBJ
‘While he was there, the girl came and met him’

(43) Mi=pei po=mani=i nani, aite e=ara mate
1EXCL.SBJ=PST.IPFV stay=1EXCL.IPFV=IRR there Dad 3SG.SBJ=PST die
‘While we were living there, Dad died’

(44) E=udua tae=ami mi=pei tua-tua=mani=i
3SG.SBJ=light up=1EXCL.OBJ 1EXCL.SBJ=PST.IPFV RD=paddle=1EXCL.IPFV=IRR
‘It lit us up while we were paddling’

7.2 Relative Clauses
Relative clauses modify nouns; the NP that contains and is modified by a relative clause can be termed the matrix noun phrase (Andrews 2007: 206). The following discussion describes the semantics of a relative clause and the grammatical relations of the modified NP (§7.2.1), the position of a relative clause in relation to the noun it modifies and the way in which the two are linked (§7.2.2), and relativised functions permitted in Papapana and the strategies used to indicate them (§7.2.3).
7.2.1 Semantics and external grammatical relations

A relative clause that is restrictive “delimits the reference of a NP by specifying the role of the referent of that NP in the situation described by the RC [relative clause]” (Andrews 2007: 206) while a non-restrictive relative clause makes “a comment about an NP or other constituent, without delimiting its reference” (Andrews 2007: 207). There is no formal difference between restrictive and non-restrictive relative clauses in Papapana and therefore they will be described together here.

A NP which contains a relative clause has its own function, which can be referred to as the external grammatical relation (Kroeger 2005: 238). It is rare to find restrictions on the external grammatical relation of a NP containing a relative clause (Kroeger 2005: 238) and indeed there are none in Papapana. A NP that is modified by a relative clause may function as the subject of an intransitive clause or a nominal predicate (S), subject of a transitive clause (A), primary object, secondary object, oblique argument or adjunct, or possessor. The external grammatical relations will be noted throughout the following discussion. Relative clauses may also modify NPs that occur inside complement clauses, or the relative clause itself may contain a subordinate clause; these instances will be discussed at the relevant points.

7.2.2 Position and relativiser

As mentioned in §4.1, and shown in (45), relative clauses in Papapana are externally headed and postnominal, that is, the matrix noun occurs outside of the relative clause and the relative clause follows the matrix noun. Relative clauses typically follow the matrix noun in Oceanic languages (Lynch et al. 2002: 43), and cross-linguistically, even in languages where modifiers are prenominal, there is a tendency for relative clauses to be postnominal due to the universal pragmatic principle that shifts heavy elements to later in a clause (Payne 1997: 326).

(45) Anau u=roros=i=a
1SG 1SG.SBJ=see=TR=3SG.OBJ

nu=kakau mama na=orawi e=to ba’o=a
SPEC.CLI=dog REL SPEC[CLI]=man 3SG.SBJ=to beat=3SG.OBJ
‘I saw the dog that the man hit’

(2-E021-1)

In Papapana, mama signals the beginning of the relative clause and connects the relative clause to the matrix noun. Mama does not occur with other subordinate clauses. Mama is invariant and does not indicate the relativised function, therefore it is a relativiser and not a relative pronoun; for example, in (45) the matrix noun has a non-human 3SG referent while in (46) it has a human 3PL referent. Mama has the same form as the person-based demonstrative mama ‘near speaker’ (§4.11). This is typical of Oceanic languages in which relative clause markers “are often similar or identical in shape to demonstratives” (Lynch et al. 2002: 53).
Kevin works for the old women who Ben helped yesterday

Sometimes *mama* is omitted and the relative clause is connected to the matrix noun asyndetically, that is, it is simply juxtaposed to the matrix noun it modifies. As a comparison of (47)a and (47)b shows, there is no grammatical, semantic or pragmatic motivation for which strategy is employed, though speakers indicated that it was more correct to link the relative clause and the matrix noun syndetically. It seems likely that the omission of *mama* is a feature of casual speech and therefore I do not distinguish between syndetic and asyndetic constructions, but will highlight examples of asyndensis.

(46) Kevin e=siodo=ina
    Kevin 3SG.SBJ=work=3PL.OBJ

    sibuava mama Ben e=to tavone=ina naonava
    old.women REL Ben 3SG.SBJ=to help=3PL.OBJ yesterday
    ‘Kevin works for the old women who Ben helped yesterday’

(2-E027)

7.2.3 Relativised function

The NP within the relative clause which is coreferential with the head of the matrix NP can be termed the relativised noun phrase. The internal grammatical relation, or the relativised function, is the grammatical relation of this relativised NP.

A language may restrict which grammatical relations a relativised NP holds. According to the Accessibility Hierarchy (Keenan and Comrie 1977) shown in Figure 7.1, in any given language, if one position on the hierarchy is relativizable, then all positions to the left will be relativizable, though not necessarily with the same strategy.

**FIGURE 7.1 ACCESSIBILITY HIERARCHY**

subject > direct object > indirect object > oblique > genitive > object of comparative

In Papapana, all grammatical relations can be relativised except the object of a comparative, though a relativised NP as genitive is somewhat limited. Papapana is thus like many Oceanic languages which “allow relativisation of NPs well down the universal Accessibility Hierarchy” (Lynch et al. 2002: 43). It should be noted here that I have described Papapana as making a distinction between primary and
Secondary objects rather than direct and indirect objects (Dryer 2007a: 253-257) (see §5.3.1). To avoid any confusion here, I will simply describe objects in terms of their semantic roles and whether they are objects of a transitive or ditransitive predicate. This also allows comitative objects to be included.

Since *mama* is not a relative pronoun, it does not indicate the relativised function. Instead the relativised function may be indicated by the gap strategy. In (48) the relative clause is missing a locative oblique argument, while in (49) the relative clause is missing a subject NP. The matrix noun is interpreted as filling the gap and the grammatical relation of the missing argument is the relativised function. In (48) there is no trace, such as a preposition, of the locative oblique argument in the relative clause. In (49) however, the subject proclitic in the relative clause flags the missing argument and agrees in person and number with the matrix noun, indicating that the matrix noun is coreferential with the relativised noun. It is common in Oceanic languages for a pronominal form to remain in the relative clause as a trace of the relativised noun (Lynch et al. 2002: 80). This could be interpreted as the pronoun retention strategy; however, I treat subject and object clitics as agreement and not independent pronouns (see §5.3.2) and therefore they are different to the resumptive pronouns found in other languages that use the pronoun retention strategy. The following sections will demonstrate these strategies in more detail.

(48)  E=adu−adu=i=a
3SG.SBJ=RD~destroy=TR=3SG.OBJ

na=inu  mama  na=kaukau  i=to  ruvu=ina
SPEC[CLI]=house  REL  SPEC[CLI]=sweet.potato  3PL.SBJ=to  put=3PL.OBJ
‘He destroyed the house in which they put sweet potatoes’

(49)  Anau  u=roros=i=a
1SG  1SG.SBJ=see=TR=3SG.OBJ

na=maunu  mama  e=pei
SPEC[CLI]=woman  REL  3SG.SBJ=PST.IPfv  RD~take=3PL.OBJ=3SG.IPfv=IRR
‘I saw a woman who was carrying baskets’

Relative clauses are always finite and aside from the missing argument, they have the same structure as an independent clause. Like independent clauses, clause order may be variable; this will be described in each of the following sections.

### 7.2.3.1 Relativised NP as subject (intransitive)

In the following examples the function of the relativised NP is subject of an intransitive clause. The relativiser is followed by the VC which, like all other VCs, is obligatorily marked by a subject proclitic, here coreferential with the matrix noun. Note that there is no relativiser in (51) and (52).
In (50) the external grammatical relation is subject of a transitive clause which is embedded within an asyndetic finite complement. Example (182) in §7.4.1.2 is also an example of a relative clause modifying a noun which is inside a finite complement.

(50) Au=nuə arao i=wa
1SG.PSSR=two[CLI] brother 3PL.SBJ=say

\textit{vavine-ina mama e=to nai=ena}

sibling-3PL.PSSR REL 3SG.SBJ=to marry=3SG.IPFP

\textit{e=mei va-to=ina=i}
3SG.SBJ=come.SEQ CAUS-board=3PL.OBJ=IRR

‘My two cousins said their cousin who is married will come take them’

(1-T042)

In (51) the conditional adverbial clause is transitive and the object noun is modified by a asyndetic relative clause. This relative clause contains a matrix clause with the utterance verb \textit{nata} ‘ask’ which has an addressee object and selects a non-finite transitive complement clause.

(51) E=to magono=i=a=i
3SG.SBJ=to dislike=TR=3SG.OBJ=IRR

\textit{na=orawi e=to nas=i=a=i tena nai=a,}

SPEC[CLI]=man 3SG.SBJ=to ask=TR=3SG.OBJ=IRR OBL marry=3SG.OBJ

\textit{enai i=gogon=i=a=i}

after 3PL.SBJ=curse=TR=3SG.OBJ=IRR

‘If she disliked the man who asked her to marry him, then they cursed him’

(1-T034)

In the following examples, the external grammatical relations are identified above each example.

\textit{Transitive, Patient object}

(52) Iara \textit{na:bau na=siapani i=to pei averu=i,}
then some SPEC[CLI]=Japanese 3PL.SBJ=to PST.IPFP steal=IRR

\textit{i=pei vae atunu=ina=i=ma}
3PL.SBJ=PST.IPFP REP attack=3PL.OBJ=IRR=ma

‘Then they killed some Japanese who used to steal’

(1-T034)

\textit{Transitive, Comitative object}

(53) Tom \textit{e=me~me-a tua=na}
Tom 3SG.SBJ=RD~COM-SG.OBJ paddle=3SG.IPFP

\textit{soida’o mama e=to matemate=ena}

old.man REL 3SG.SBJ=to sick=3SG.IPFP=IRR

‘Tom is paddling with the old man who is sick’

(2-E027)
Transitive, Benefactive object

(54) Na='usia i=no siodo=i=a
SPEC[CLI]=child 3PL.SBJ=go.SEQ work=TR=3SG.OBJ

soida'o mama e=pei matemate=ena=i
old.man REL 3SG.SBJ=PST.IPFV sick=3SG.IPFV=IRR
‘The children worked for an old man who was sick’

Ditransitive, Benefactive object

(55) Ben e=roa~roa i=a kaukau
Ben 3SG.SBJ=RD~plant APPL=3SG.OBJ sweet.potato

na=orawi mama e=to nai
SPEC[CLI]=man REL 3SG.SBJ=to marry
‘Ben planted sweet potatoes for the man who is married’

Ditransitive, Recipient object

(56) Emma e=ma'‘i=a na=tamate
Emma 3SG.SBJ=give=TR=3SG.OBJ SPEC[CLI]=mango

na=orawi mama e=pei siodo poto=ena=i
SPEC[CLI]=man REL 3SG.SBJ=PST.IPFV work INTS=3SG.IPFV=IRR
‘Emma gave the mango to the man who was working hard’

Oblique Adjunct

(57) Robert e=de=a na=magura
Robert 3SG.SBJ=take=3SG.OBJ SPEC[CLI]=brown.coconut

tc=na=au naono mama e=to pu
OBL=SPEC=CLII tree REL 3SG.SBJ=to fall
‘Robert got the coconut from the tree that fell down’

Possessor (postposed)

(58) E-tubu-na maunu e=de=a,
PERS-grandmother-3SG.PSSR woman 3SG.SBJ=take=3SG.OBJ

e-sina na=orawi mama e=to ara mate
PERS-mother-3SG.PSSR SPEC[CLI]=man REL 3SG.SBJ=to PST die
‘His grandmother took him, the mother of the man who died’

7.2.3.2 Relativised NP as subject (transitive)

In the following examples the function of the relativised NP is subject of a transitive clause. The relativiser is followed by the VC which is marked by a subject proclitic that is coreferential with the matrix noun, and an object enclitic. The position of the object NP is generally postverbal but as a comparison of (61)a and (61)b shows, the object NP may occur preverbally as well. Example (60) shows that a relative clause follows other postnominal modifiers such as panapana ‘all’.

In the following examples, the external grammatical relations are identified above each example.
**Intransitive, Subject**

(59) **Na=maunu mama e=pei de-de=a=na=i na=kabekabe**

SPEC[CLI]=woman REL 3SG.SBJ=PST.IPFW RD=take=3SG.OBJ=3SG.IPFW=IRR SPEC[CLI]=bag

e=po-po=na

3SG.SBJ=RD=stay=3SG.IPFW Teperoi

‘The woman who was carrying a bag lives in Teperoi’

(2-E027)

**Transitive, Patient object**

(60) **Mu=oi=ina**

2PL.SBJ=call=3PL.OBJ

**na=vanua panapana mama i=to atun=i=a na=oraw inama**

SPEC[CLI]=man all REL 3PL.SBJ=to attack=TR=3SG.OBJ SPEC[CLI]=man DEM

‘Call everyone who killed this man’

(1-T029)

(61) a. **Jim e=ara roroto=ina**

Jim 3SG.SBJ=PST see=3PL.OBJ

**nu=au kakau mama i=pei ani-ani=a=ina=i nu=kiroko**

two=CLII dog REL 3PL.SBJ=PST.IPFW RD=eat=3SG.OBJ=3PL.IPFW=IRR SPEC.CLII=rat

b. **Jim e=ara roroto=ina**

Jim 3SG.SBJ=PST see=3PL.OBJ

**nu=au kakau mama nu=kiroko i=pei ani-ani=a=ina=i**

two=CLII dog REL SPEC.CLII=rat 3PL.SBJ=PST.IPFW RD=eat=3SG.OBJ=3PL.IPFW=IRR SPEC.CLII=rat

‘Jim saw two dogs which were eating a rat’

(2-E027)

**Ditransitive, Recipient object**

(62) **Na=’usia i=ma’a=ina nua gono**

SPEC[CLI]=child 3PL.SBJ=give=3PL.OBJ two[CLI] banana

**nu=au kakau mama nu=kiroko i=pei ani-ani=a=ina=i**

two=CLII dog REL SPEC.CLII=rat 3PL.SBJ=PST.IPFW RD=eat=3SG.OBJ=3PL.IPFW=IRR SPEC.CLII=rat

‘The children gave two bananas to the dogs which were eating rats’

(2-E027)

7.2.3.3 **Relativised NP as object (patient/theme, transitive)**

In the following examples the function of the relativised NP is patient or theme object of a transitive clause. The relativiser is followed by a subject NP and the VC, which is marked by a subject proclitic, and an object enclitic that is coreferential with the matrix noun. Note that (64), (70) and (71) do not have subject NPs. Also note that (67) and (69) show the variable position of the temporal adjunct **naonava** ‘yesterday’.

In the following examples, the external grammatical relations are identified above each example.
Intransitive, Subject

(63) Na=kakau mama na=orawi e=to ba’o=a e=mate
SPEC.CLI=dog REL SPEC.CLI=man 3SG.SBJ=to beat=3SG.OBJ 3SG.SBJ=die
‘The dog that the man hit died’

(2-E027)

Transitive, Subject

(64) Na=orawi mama i=to va-dovi=a e=wa…
SPEC.CLI=man REL 3PL.SBJ=to CAUS-sink=3SG.OBJ 3SG.SBJ=say
‘The man whom they sank said…’

(1-T072)

Transitive, Patient object

(65) Anau u=ara roroto=ina
1SG 1SG.SBJ=PST see=3PL.OBJ
na=boro mama na=orawi e=to atunu=ina
SPEC.CLI=pig REL SPEC.CLI=man 3SG.SBJ=to attack=3PL.OBJ
‘I saw the pigs that the man killed’

(2-E027)

Transitive, Comitative object

(66) Tom e=me-a tua
Tom 3SG.SBJ=COM-SG.OBJ paddle
na=maunu mama na=orawi e=to atun=i=a
SPEC.CLI=woman REL SPEC.CLI=man 3SG.SBJ=to attack=TR=3SG.OBJ
‘Tom paddled with the woman whom the man attacked’

(2-E027)

Transitive, Benefactive object

(67) George tau Colin i=siodo i=a
George and Colin 3PL.SBJ=work APPL=3SG.OBJ
na=vamamatau mama naonava Ben tau Emma i=to tavone=i=a
SPEC.CLI=teach REL yesterday Ben and Emma 3PL.SBJ=to help=TR=3SG.OBJ
‘George and Colin worked for the teacher whom Ben and Emma helped yesterday’

(2-E027)

Ditransitive, Benefactive object

(68) Ben na=maunu mama e=pei mate=i=a=enai=i,
Ben SPEC.CLI=woman REL 3SG.SBJ=PST.IPFV like=TR=3SG.OBJ=3SG.IPFV=IRR
na=kaukau e=roa~roa i=a
SPEC.CLI=sweet.potato 3SG.SBJ=RD~plant APPL=3SG.OBJ
‘Ben planted sweet potatoes for the woman whom he liked’

(2-E027)

Ditransitive, Recipient object

(69) Emma tau Matthew nua gono i=ma’a=ina
Emma and Matthew two[CLI] banana 3PL.SBJ=give=3PL.OBJ
sibuava mama Ben tau Emma i=to tavone=ina naonava
old.women REL Ben and Emma 3PL.SBJ=to help=3PL.OBJ yesterday
‘Emma and Matthew gave two bananas to the old women whom Ben and Emma helped yesterday’

(2-E027)
Oblique Argument

(70) Jeff e=ruvu=i=a na=vatu
Jeff 3SG.SBJ=put=TR=3SG.OBJ SPEC[CLI]=stone
tc=na table mama e=to atu=a
OBL=SPEC[CLI] table REL 3SG.SBJ=make=3SG.OBJ
‘Jeff put the stone on the table that he built’

Possessor (postposed)

(71) Rose e=mate=i=a e-sina
Rose 3SG.SBJ=like=TR=3SG.OBJ PERS-mother-3SG.PSSR
na=orawi mama naonava e=to roros=i=a
SPEC[CLI]=man REL yesterday 3SG.SBJ=see=TR=3SG.OBJ
‘Rose likes the mother of the man whom she saw yesterday’

7.2.3.4 Relativised NP as object (comitative, transitive)

In the following examples the function of the relativised NP is object of the applicative comitative marker me. The relativiser may or may not be followed by a subject NP, while the VC is marked by a subject proclitic and the applicative comitative me. Ordinarily, me is always marked with -a when the object is singular and -na when it is plural, and the clause may have an object enclitic in the VC or an object NP, or both, which identifies the comitative object (§5.4.4). In a relative clause however, there is no object enclitic and no object NP, so the relativised noun is indicated by a gap. The -a or -na attached to me do nevertheless agree with the coreferential matrix noun in number.

In the following examples, the external grammatical relations are identified above each example.

Intransitive, Subject

(72) Na=orawi mama u=to me-a tua,
SPEC[CLI]=man REL 1SG.SBJ=to COM-SG.OBJ paddle
Teperoi e=po=na
Teperoi 3SG.SBJ=stay=3SG.IPV
‘The man whom I paddled with lives in Teperoi’

Nominal predicate, Subject

(73) Na=orawi mama u=pei me-a siodo=u Billy
SPEC[CLI]=man REL 1SG.SBJ=PST.IPV COM-SG.OBJ work=1SG.IPV Billy
‘The man whom I was working with is Billy’

Transitive, Patient object

(74) Anau u=va=ma=mago=a
1SG 1SG.SBJ=CAUS-RD=decorate=3SG.OBJ
na=orawi mama Alex e=to me-a siodo=ena
SPEC[CLI]=man REL Alex 3SG.SBJ=to COM-SG.OBJ work=3SG.IPV
‘I decorated the man whom Alex worked with’
**Ditransitive, Benefactive object**

(75) Anau \( u=tavui \) i=a koko’i
1SG 1SG.SBJ=plant APPL=3SG.OBJ taro

na=orawi \( \text{ SPEC[CLI]=man } \) mama Alex e=to me-a siodo=na
\( \text{ REL Alex } 3SG.SBJ=to \) COM-SG.OBJ work=3SG.IPFV

‘I planted taros for the man whom Alex worked with’

(2-E021-2)

**Ditransitive, Recipient object**

(76) Jeff e=ma’a=ina na=gono
Jeff 3SG.SBJ=give=3PL.OBJ \( \text{ SPEC[CLI]=banana } \)

burimaunu mama na=’usia i=to me-na tua mai
women REL SPEC[CLI]=child 3PL.SBJ=to COM-PL.OBJ paddle hither

‘Jeff gave a banana to the women whom the children paddled with’

(2-E027)

**Possessor (preposed)**

(77) Na=orawi mama u=to me-a naomai vatono-na Billy
\( \text{ SPEC[CLI]=man } \) REL 1SG.SBJ=to COM-SG.OBJ come name-3SG.PSSR Billy

‘The name of man with whom I came is Billy’

(2-E021-1)

7.2.3.5 **Relativised NP as object (benefactive, transitive)**

In the following examples the function of the relativised NP is benefactive object of a transitive clause. The relativiser is followed by the subject NP and the VC, which is marked by a subject proclitic, and an object enclitic that is coreferential with the matrix noun.

In the following examples, the external grammatical relations are identified above each example.

**Intransitive, Subject**

(78) Na=orawi mama Alex e=pei ara siodo i=a=enai=
\( \text{ SPEC[CLI]=man } \) REL 1SG.SBJ=PST.IPFV PST work APPL=3SG.OBJ=3SG.IPFV=IRR

Teperoi e=po=na
Teperoi 3SG.SBJ=stay=3SG.IPFV

‘The man for whom Alex was working lives in Teperoi’

(2-E021-2)

**Transitive, Patient object**

(79) Anau \( u=tun=i=a \)
1SG 1SG.SBJ=attack=TR=3SG.OBJ

na=orawi mama Alex e=siodo i=a=enai=
\( \text{ SPEC[CLI]=man } \) REL 1SG.SBJ=work APPL=3SG.OBJ=3SG.IPFV=IRR

‘I attacked the man whom Alex worked for’

(2-E021-2)


**Ditransitive, Recipient object**

(80) Anau u=ma’=i=na tamute
1SG 1SG.SBJ=give=TR=3SG.OBJ SPEC[CLI]=mango

na=orawi mama Alex e=to siodo i=a=ena=i
SPEC[CLI]=man REL Alex 3SG.SBJ=to work APPL=3SG.OBJ=3SG.IPfv=IRR

‘I gave the mango to the man whom Alex worked for’

(2-E021-2)

7.2.3.6 **Relativised NP as object (benefactive, ditransitive)**

In the following examples the function of the relativised NP is benefactive object of a ditransitive clause. The relativiser is followed by the subject NP and the VC, which is marked by a subject proclitic, and an object enclitic that is coreferential with the matrix noun. The theme object occurs as an NP in postverbal position.

In the following examples, the external grammatical relations are identified above each example.

**Transitive, Patient object**

(81) Peter e=ara roroto=ina
Peter 3SG.SBJ=ST see=3PL.OBJ

burimaunu mama Nick tau Alison i=to atu=ina na=INU
women REL Nick and Alison 3PL.SBJ=to make=3PL.OBJ SPEC[CLI]=house

‘Peter saw the women whom Nick and Alison built a house for’

(2-E027)

**Ditransitive, Benefactive object**

(82) Julie e=tavui=ina koko’i
Julie 3SG.SBJ=plant=3PL.OBJ taro

na=vanua mama Nick e=to atu=ina na=INU
SPEC[CLI]=people REL Nick 3SG.SBJ=to make=3PL.OBJ SPEC[CLI]=house

‘Julie planted taros for the men whom Nick built a house for’

(2-E027)

**Oblique Adjunct**

(83) Anau u=umunu tae
1SG 1SG.SBJ=sit up

te=na orawi mama Nick e=to atu i=a na=INU
OBL=SPEC[CLI] man REL Nick 3SG.SBJ=to make APPL=3SG.OBJ SPEC[CLI]=house

‘I sat on the man whom Nick built a house for’

(2-E027)

7.2.3.7 **Relativised NP as object (recipient, ditransitive)**

In the following examples the function of the relativised NP is recipient object of a ditransitive clause. The relativiser is followed by the subject NP and the VC, which is marked by a subject proclitic, and an object enclitic that is coreferential with the matrix noun. The theme object occurs as a NP in postverbal position, though (86) shows a preverbal position.

In the following examples, the external grammatical relations are identified above each example.
Intransitive, Subject

(84) Na=orawi mama Alex e=to ara ma'=i=a nu=koko’i
SPEC[CLI]=man REL Alex 3SG.SBJ=to PST give=TR=3SG.OBJ SPEC.CLII=taro

Teperoi e=po=na
Teperoi 3SG.SBJ=stay=3SG.IPfv
‘The man to whom Alex gave the taro lives in Teperoi’

Transitive, Patient object

(85) Anau u=rorosi=i=a
1SG 1SG.SBJ=see=TR=3SG.OBJ

na=maunu mama Ben e=to ma'=i=a na=teari
SPEC[CLI]=woman REL Ben 3SG.SBJ=to give=TR=3SG.OBJ SPEC[CLI]=betelnut
‘I saw the woman whom Ben gave the betelnut to’

(86) Chris e=roroto=ina
Chris 3SG.SBJ=see=3PL.OBJ

na=vanua mama Alex na=gono e=to ara ma’a=ina
SPEC[CLI]=people REL Alex SPEC[CLI]=banana 3SG.SBJ=to PST give=3PL.OBJ
‘Chris saw the people whom Alex gave the banana to’

Transitive, Comitative object

(87) Anau u=to ara me-na naomai
1SG 1SG.SBJ=to PST COM-PL.OBJ come

burimaunu mama Alex e=to ara ma’a=ina na=inu
women REL Alex 3SG.SBJ=to PST give=3PL.OBJ SPEC[CLI]=house
‘I came with the women whom Alex gave a house to’

Ditransitive, Benefactive object

(88) Anau u=tavui i=a koko’i
1SG 1SG.SBJ=plant APPL=3SG.OBJ taro

na=orawi mama Alex e=to ara ma'=i=a kaukau
SPEC[CLI]=man REL Alex 3SG.SBJ=to PST give=TR=3SG.OBJ sweet.potato
‘I planted taros for the man whom Alex gave the sweet potato to’

Ditransitive, Recipient object

(89) Anau u=ma’=i=a na=tamute
1SG 1SG.SBJ=give=TR=3SG.OBJ SPEC[CLI]=mango
da=orawi mama Alex e=ma’=i=a koko’i
SPEC[CLI]=man REL Alex 3SG.SBJ=give=TR=3SG.OBJ taro
‘I gave a mango to the man whom Alex gave the taro to’
Oblique Adjunct

(90) Anau =umunu tae
1SG 1SG.SBJ=sit up

te=na=au kakau mama Alex e=to ara ma’i=a na=gono
OBL=SPEC=CLIII dog REL Alex 3SG.SBJ=to PST give=TR=3SG.OBJ SPEC[CLI]=banana
‘I sat on the dog to whom Alex gave a banana’

Possessor (postposed)

(91) Emma e=nai=a ena=au ‘usia
Emma 3SG.SBJ=marry=3SG.OBJ 3SG.PSSR=CLI child

na=orawi mama Alex e=to ma’i=a koko’i
SPEC[CLI]=man REL Alex 3SG.SBJ=to give=TR=3SG.OBJ taro
‘Emma married the son of the man whom Alex gave taro to’

7.2.3.8 Relativised NP as oblique argument or adjunct

In the following examples the relativised NP is an oblique argument or adjunct. The relativiser is followed by the VC, and if the clause is transitive, the object NP may occur preverbally (96) or postverbally as in (92), (93) and (95). There is no adposition to mark the oblique and so the relativised noun is indicated by a gap. This is unusual for Oceanic languages as with “relativised NPs lower on the [accessibility] hierarchy, there is generally some kind of obligatory free form trace” (Lynch et al. 2002: 43).

In the following examples, the external grammatical relations are identified above each example.

Intransitive, Subject

(92) Na=inu mama i=to ruvu=ina kaukau e=pu
SPEC[CLI]=house REL 3PL.SBJ=to put=3PL.OBJ sweet.potato 3SG.SBJ=fall
‘The house in which they put sweet potatoes fell down’

(93) Na=poana mama mi=to ari=i=a sina-mani,
SPEC[CLI]=village REL 1EXCL.SBJ=to dig=TR=3SG.OBJ mother-1EXCL.PSSR
e=etawa
3SG.SBJ=big
‘The village in which we buried our mother was big’

Transitive, Patient object

(94) Na=boni mama e=to ara mate,
SPEC[CLI]=day REL 3SG.SBJ=to PST die

mi-vatausi=a=i=ma
1EXCL.SBJ=respect=3SG.OBJ=IRR=ma
‘We respect the day on which he died’
Oblique Argument

(95) Te=na inu mama na=maria i=to ru-ruvu=ina=ina, OBL=SPEC[CLI] house REL SPEC[CLI]=thing 3PL.SBJ=to RD=put=3PL.OBJ=3PL.IPFV

bau taramina na=vei takarau,
PL thing SPEC[CLI]=COLL rusty

mu=no ruvu=ina=i taramina te amu nani 2PL.SBJ=go.SEQ put=3PL.OBJ=IRR thing OBL 2PL there ‘In the house in which they used to put the things, the rusty things, go put your things there ’

(1-T071)

Oblique Adjunct

(96) Anau u=nao te=na inu mama kaukau i=to ruvu=ina 1SG 1SG.SBJ=go OBL=SPEC[CLI] house REL sweet.potato 3PL.SBJ=to put=3PL.OBJ ‘I went to the house in which they put sweet potatoes’

(2-E021-1)

(97) Mi=to no va-tonu i-nongana nani 1EXCL.SBJ=to go.SEQ CAUS-stand LOC-beach there
te=na pei mama na=barusu e=to ru=pu=ena OBL=SPEC[CLI] place REL SPEC[CLI]=plane 3SG.SBJ=to RD=fall=3SG.IPFV ‘We went and parked on the beach there at the place on which planes land’

(1-T042)

7.2.3.9 Relativised NP as genitive

In the following examples the function of the relativised NP is possessor of one of the arguments in the relative clause. The relativiser is followed by the possessum which is marked by a possessor suffix coreferential with the matrix noun. In (98) the possessum is the comitative object of the relative clause, while in (99) it is the recipient object. The relative clause thus contains a subject NP, the VC and in (99) a theme object NP. In both these examples, the external grammatical relation of the NP modified by the relative clause is patient object of the verb nai ‘marry’.

(98) Anau u=nai=a=au
1SG 1SG.SBJ=marry=3SG.OBJ=1SG.IPFV

nu=‘usia mama e-tama-na
SPEC[CLI]=child REL PERS-father-3SG.PSSR

e-tama-u e=me-a siodo=ona
PERS-father-1SG.PSSR 3SG.SBJ=COM-SG.OBJ work=3SG.IPFV
‘I married the child whose father my father works with’

(2-E028-2)

(99) Emma e=nai=a
Emma 3SG.SBJ=marry=3SG.OBJ

nu=‘usia mama e-tama-na
SPEC[CLI]=child REL PERS-father-3SG.PSSR

Alex e=ma’i=a na=kaukau
Alex 3SG.SBJ=give=TR=3SG.OBJ SPEC[CLI]=sweet.potato
‘Emma married the child whose father Alex gave sweet potatoes to’

(2-E028-2)
It proved very difficult to elicit examples such as (98) and (99), and more often speakers produced sentences such as (100) which is asyndetically coordinated.

(100) Anau anu=roros=i=a na=maunu mama
1SG 1SG.SBJ=see=TR=3SG.OBJ SPEC[CLI]=woman REL
na=orawi ce=to ba’o=a ena=au kakau
SPEC[CLI]=man 3SG.SBJ=to beat=3SG.OBJ 3SG.PSSR=CLII dog
‘I saw this woman, the man hit her dog’

(2-E021-2)

7.3 Adverbial Clauses

An adverbial clause modifies another clause in a way which is “similar to the way in which an adverb modifies a proposition” (Thompson et al. 2007: 237) by expressing the circumstances under which the state of affairs denoted by the main clause takes place (Cristofaro 2003: 155). Adverbial clauses provide additional, optional information and are therefore adjuncts (Whaley 1997: 248). Like adverbs and adverbial phrases, adverbial clauses “can be labelled and categorised with respect to the semantic roles they play” (Thompson et al. 2007: 237). Papapana has conditional adverbial clauses, negative purpose adverbial clauses, and adverbial clauses expressing temporal location, spatial location, reason, result, contrast and purpose. The adverbial clause may be linked to the main clause that it modifies by asyndesis or by a subordinator or preposition. One type of temporal adverbial clause expressing elapsed time consists of an enumerated Class I temporal noun as the subject of the predicate inao tani ‘they went already’ and this adverbial clause is juxtaposed with the main clause. Table 7.1 shows the functions of adverbial clauses in Papapana, the mode of linking the adverbial clause to the main clause, and the section in which the function is discussed. There is a tendency for an adverbial clause to follow the main clause and adverbial clauses may contain other subordinate clauses: these issues will be discussed in the following sections.

**TABLE 7.1 ADVERBIAL CLAUSES**

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<td>‘(in order) to’ ‘so that’ ‘(in order) to’</td>
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7.3.1 Conditional

This section will recap the TAM marking described in §5 for complex sentences containing an adverbial clause expressing hypothetical condition (§5.8.4.3) and counterfactual condition (§5.8.5.1), and then discuss how the two clauses may be linked.

Hypothetical conditional adverbial clauses denote events or states that must hold in order for the event or state expressed by the main clause to occur. The adverbial clause is marked by the conditional marker *awa* and the general irrealis enclitic *=i*, while the main clause is marked only by the general irrealis enclitic *=i*:

(101) **Jim e=to awa nao=i Buka,**
    Jim 3SG.SBJ=to COND go=IRR Buka
     e=no peri=a=i na=siodo
     3SG.SBJ=go.SEQ find=3SG.OBJ=IRR SPEC[CLI]=work
     ‘If Jim goes to Buka, he’ll go and find work’

(2-E027)

Counterfactual conditional adverbial clauses describe events or states that did not occur but needed to occur in order for the event or state expressed by the main clause to be realised. The adverbial clauses is marked by the conditional marker *awa* and the intentional irrealis marker *eri* (sometimes shortened to *ri*), while the main clause is marked only by *eri*:

(102) **Albert e=to ri awa roros=i=a nu=muvi,**
    Albert 3SG.SBJ=to CF COND see=TR=3SG.OBJ SPEC[CLI]=movie
     e=eri sare
     3SG.SBJ=CF happy
     ‘If Albert had watched the movie, he would have been happy’

(2-E027)

As (101)-(102) show, the main clause and adverbial clause are juxtaposed, without a subordinator to link them. The position of the adverbial clause in relation to the main clause is fixed: conditional adverbial clauses occur before the main clause. These adverbial clauses are considered subordinate, as opposed to main clauses in a sequence, because the adverbial clause cannot function as an independent clause.

Although the two clauses are usually just juxtaposed as in (101)-(102), sometimes *enai* ‘after’ or *iara* ‘then’ link the clauses in a hypothetical conditional sentence:

(103) **Sara e=to awa ba’o=a=i nu=toa,**
    Sara 3SG.SBJ=to COND beat=3SG.OBJ=IRR SPEC[CLI]=chicken
     enai e=mate=i
     after 3SG.SBJ=die=IRR
     ‘If Sarah hit the chicken, then it would die’

(2-E028-2)
7.3.2 Negative purpose

This section will recap the TAM marking described in §5 for complex sentences containing a negative purpose adverbial clause (§5.10.3), and then discuss how the two clauses may be linked.

The relationship between a main clause and a negative purpose adverbial clause is that the main clause denotes an event carried out in order for the event or state in the adverbial clause not to happen (Cristofaro 2003: 158). The adverbial clause is marked with the preverbal negative mode marker te and the general irrealis mode enclitic =i. The main clause may be an imperative and marked with the general irrealis mode enclitic =i (105) or a prohibitive and marked with verbal reduplication and either the preverbal negative marker ae or the preverbal negative mode marker te (106).

As (105)-(106) show, the main clause and adverbial clause are juxtaposed, without a subordinator to link them. The position of the adverbial clause in relation to the main clause is fixed: negative purpose adverbial clauses occur after the main clause. These adverbial clauses are considered subordinate, as opposed to main clauses in a sequence, because the adverbial clause cannot function as an independent clause.

7.3.3 Temporal location

In Papapana, time may be expressed as an oblique (see §6.2), as an adverb or adverbial phrase (see §5.11.2.1 and §6.3), or as an adverbial clause. Adverbial clauses expressing time signal the time elapsed between a past event and the present (§7.3.3.1) or the duration of time between two events in the past or present (§7.3.3.2).

7.3.3.1 Elapsed time: inao tani ‘ago’

To express the time elapsed between the present and an event in the past, Papapana uses an adverbial clause in which the subject NP is an enumerated Class I temporal noun and the predicate literally denotes ‘they already went’. Although the predicate may occur with other subject NPs in independent clauses, the combination of this predicate and an enumerated temporal noun is not attested as an independent clause. Instead the adverbial clause is conventionalised, semantically dependent on the main clause and occurs in a fixed position after the main clause, which expresses the past event:
‘They married each other ten years ago’

‘The war finished fourteen years ago’

‘Jim started his work two years ago’

7.3.3.2 Duration: eangoiena ‘until’

As described in §6.2.4, durational time may be expressed in an oblique adjunct containing the preposition eangoiena ‘until’ and a NP complement whose head noun is an Absolute Location noun that expresses a time relative to the time of speaking. Eangoiena ‘until’ may also function as a preposition with an adverbial clause complement that expresses duration between two points in time. Adverbial clauses governed by eangoiena occur after the main clause (110)-(113). Example (114) is one exception to this but speakers reported that the order of the clauses could be changed without altering the semantics. Only verbal adverbial clauses are attested in the data.

‘I went to school until I was big’

‘You rub it until the coconut milk is done’

‘I used to work in the store until my children were born’

‘I stayed with her until my child grew up’
Eangoiena tenpela nani mi=va-tavotu=ina, until ten there 1EXCL.SBJ=CAUS-arrive=3PL.OBJ

Mabiri mi=pei po~po=mani=i
Mabiri 1EXCL.SBJ=PST.IPFX RD~stay=1EXCL.IPFX=IRR
‘We stayed in Mabiri until we had given birth to ten children there’ (1-T030)

7.3.4 Spatial location: avoa ‘where’

In Papapana, location may be expressed by an oblique (see §6.2), by an adverb or adverbial phrase (see §5.11.2 and §6.3.1), or as an adverbial clause. Adverbial clauses expressing location are not frequent in the data, however the few examples that exist show that they are verbal and are introduced by the subordinator avoa ‘where’ which is homophonous with the interrogative adverb avoa ‘where’. 
Avoa occurs at the beginning of the adverbial clause and the adverbial clauses may occur after or before the main clause, as in (115)-(116). Note that in (116) the adverbial clause and the main clause it modifies are part of a conjunctive coordinate construction, and joined to the sentence-initial clause through asyndesis.

(115) Mi=ma’i=a nao=i
1EXCL.SBJ=give=TR=3SG.OBJ thither=IRR

avoa mi=to eri ma’i=a=mani
where 1EXCL.SBJ=to IMM.IRR give=TR=3SG.OBJ=1EXCL.IPFX
‘We’ll sell it wherever we want to sell it’ (1-T106)

(116) Mi=pei gaganini egoego=i,
1EXCL.SBJ=PST.IPFX play well=IRR

avoa mi=to ri nao=mani, mi=nao=i
where 1EXCL.SBJ=to IMM.IRR go=1EXCL.IPFX 1EXCL.SBJ=go=IRR
‘We used to play nicely (and) wherever we wanted to go, we went’ (1-T094)

7.3.5 Reason: avisi ‘because’

An adverbial clause which begins with the subordinator avisi ‘because’ denotes an event or state which is considered to be the reason why the event or state expressed in the main clause occurs. A reason adverbial clause always occurs after the main clause. Examples (117)-(121) show verbal adverbial clauses while in (122) the adverbial clause is a verbless clause with a nominal predicate. In (121) the main clause and adverbial clause together form the complement of the verb wa ‘say’ introduced by avosia.

(117) Anau u=ae vare ani~ani=ou na=iana
1SG 1SG.SBJ=NEG REP RD~eat=1SG.IPFX SPEC[CLI]=fish

avisi u=to ma~matemate=ou
because 1SG.SBJ=to RD~sick=1SG.IPFX
‘I don’t eat fish anymore because I get sick’ (2-E028-2)
7.3.6 Result: *arogani* ‘therefore’

An adverbial clause which begins with the subordinator *arogani* ‘therefore’ denotes an event or state which is considered to be the result of the event or state expressed in the main clause. A resultative adverbial clause always occurs after the main clause, though (127) is one exception. Examples (124)-(127) show verbal adverbial clauses except (125) which shows a verbless adverbial clause with a nominal predicate.

In a few text examples such as (123) *avosia* is used instead of *avisi* at the beginning of a reason adverbial clause. It seems *avosia* is becoming a general subordinator, perhaps when speakers cannot recall a specific subordinator. The reason adverbial clause again occurs after the main clause and the adverbial clause is verbal. The other alternative is that this is a complement clause, since *avosia* can introduce complement clauses, but this requires further investigation.
(124) Jim e=pei tongana=enai, Jim 3SG.SBJ=PST.IPFV smell=3SG.IPFV=IRR

arogani i-ava e=no tutuvu
therefore LOC-sea 3SG.SBJ=go.SEQ wash
‘Jim was sweaty, therefore he went to wash in the sea’ (2-E027)

(125) Bau Catholic a'aisi i=ara naomai, PL Catholic many 3PL.SBJ=PST come

arogani iai arira panapana bau Catholic
therefore DEM 1INCL all PL Catholic
‘Lots of Catholics came, therefore we are all Catholic’ (1-T097)

(126) E=pei ae ara si=sia=au=na=i, 3SG.SBJ=PST.IPFV NEG PST RD=look.after=1SG.OBJ=3SG.IPFV=IRR

arogani iai u=atu
therefore DEM 1SG.SBJ=make
‘He wouldn’t look after me, therefore I did this’ (1-T088)

(127) Arogani u=ae ani-ani=ou na=iana,
therefore 1SG.SBJ=NEG RD=eat=1SG.IPFV SPEC[CLI]=fish

e=to ara va-matemate=au
3SG.SBJ=to PST CAUS-sick=1SG.OBJ
‘That’s why I don’t eat fish, it makes me sick’ (2-E027)

7.3.7 Contrast
An adverbial clause which begins with the subordinator marana or po‘ovira ‘even though’ expresses contrast: the event or state expressed by the main clause occurred despite the event or state expressed by the adverbial clause.

7.3.7.1 marana ‘even though’
An adverbial clause introduced by marana ‘even though’ is attested as occurring both after and before the main clause. Adverbial clauses that occur after the main clause may be verbal as in (128) and (129), or verbless as in (130) where it is a verbless existential clause, and in (131) where it is a negative verbless existential clause.

(128) O=nao roro te=na lotu marana o=to magono
2SG.SBJ=go still OBL=SPEC[CLI] worship even.though 2SG.SBJ=to dislike
‘You must still go to church even though you don’t want to’ (2-E022)

(129) …i=vamamatau=ina=i oina=bau ‘usia,
3PL.SBJ=teach=3PL.OBJ=IRR 3PL.PSSR=PL child

marana aina i=to nai=ina nao na:bau i-ota
even.though 3PL 3PL.SBJ=to marry=3PL.OBJ thither some LOC-outside
‘They should teach their children (Papapana), even though they married others from outside’ (1-T083)
Adverbial clauses that occur before the main clause may also be verbal (132)-(133). In (134) two adverbial clauses are coordinated through same-subject clausal disjunction.

(132) Marana  \text{u=} \text{to}  po \text{ reareana=} \text{u=} \text{i}  i\text{-poana}  \text{te}  anau,  
\text{even.though} 1\text{SG.SBJ=} \text{to}  \text{stay}  \text{far=} 1\text{SG.IPV=} \text{IRR}  \text{LOC-village OBL}  1\text{SG}

\text{u=} \text{have=3}  \text{SG}

\text{1}\text{SG.SBJ=} \text{happy}  \text{still=} 1\text{SG.IPV}

‘Even though I live far away from my home, I am happy’

(2-E022)

(133) Marana  \text{i=} \text{to}  \text{vitu=} \text{a=} \text{i}  \text{ta=} \text{pei}  \text{tue}  
\text{even.though} 3\text{PL.SBJ=} \text{to}  \text{speak=} 3\text{SG.OBJ=} \text{IRR}  \text{NSPEC[CLI]=part language}

\text{te=} \text{na}  \text{tue-ni}  \text{zikuna,}  
\text{OBL=} \text{SPEC[CLI] language-CONST ship}

\text{mi=} \text{vamamatau}  \text{manene=} \text{ina=} \text{ami}

\text{1EXCL.SBJ=} \text{teach}  \text{return=} 3\text{PL.OBJ=} 1\text{EXCL.IPV}

‘Even though they say some words in Tok Pisin, we teach them back (in Papapana)’

(1-T083)

(134) Marana  tamu\text{-}tamu  \text{e=} \text{to}  dua=\text{na=} \text{i}  
\text{even.though}  \text{RD=}  \text{eat} 3\text{SG.SBJ=} \text{to}  \text{bad=} 3\text{SG.IPV=} \text{IRR}

\text{o e=} \text{to}  \text{mata=} \text{na=} \text{i},

\text{or} 3\text{SG.SBJ=} \text{to}  \text{good=} 3\text{SG.IPV=} \text{IRR}

\text{u=} \text{have=3}  \text{SG}

\text{1}\text{SG.SBJ=} \text{eat=} 3\text{SG.OBJ=} \text{IRR}

‘Whether the food is bad or good, I eat it’

(2-E022)

7.3.7.2 \text{po'}ovira ‘even though’

An adverbial clause introduced by \text{po'}ovira occurs after the main clause and only verbal adverbial clauses are attested in the data (135)-(137). The difference between \text{po'}ovira and \text{marana} seems to be that \text{po'}ovira expresses an event that almost eventuated but did not eventuate, thus allowing the situation expressed by the main clause to occur.
(135) Ana u=naono mama u=no tepe=a,  
1SG SPEC.CLI=tree DEM 1SG.SBJ=go SEQ cut=3SG.OBJ

**po’ovira i=to tue osi=au**  
even.though 3PL.SBJ=to scold COMPL=1SG.OBJ
‘I went and cut this tree even though they tried to stop me’  

(2-E027)

(136) Ana u=nao roro=u=i,  
1SG 1SG.SBJ=go still=1SG.IPFV=IRR

**po’ovira i=to va-manene=au**  
even.though 3PL.SBJ=to CAUS-return=1SG.OBJ
‘I still went even though they tried to make me stay’  

(2-E027)

(137) Aina i=vei tu’u vagi, **po’ovira u=ara tue osi=ina**  
3PL 3PL=RR meet now even.though 1SG.SBJ=PST scold COMPL=3PL.OBJ
‘They came today, even though I tried to stop them’  

(2-E027)

7.3.8 Purpose

Purposive adverbial clauses express the purpose of the event or state expressed by the main clause. When the subjects of both clauses are coreferential, the preposition *tena* ‘(in order) to’ introduces the adverbial clause, but when they are not, the subordinator *tenava* ‘so that’ or the preposition *merei* ‘(in order) to’ introduce the adverbial clause; however, further investigation is required to determine the exact distributional difference between the latter two adverbial clauses.

7.3.8.1 *tena* ‘(in order) to’

In a purposive adverbial clause which begins with the preposition *tena* ‘(in order) to’, the subject is coreferential with that of the main clause. While *tena* is divisible into the preposition *te* and the Class I specific article *na* when it occurs with singular Class I nouns, there is evidence that in other circumstances *tena* is not divisible but has grammaticalised as a preposition (see §6.2.5). I suspect this to be the case in adverbial clauses too as no other articles cliticise to *te* in adverbial clauses. The adverbial clause is the complement of the preposition *tena* and is desententialised: there is no tense, aspect or mode, and there are no subject proclitics or subject NPs. It is common for a subject to be deleted in a desententialised subordinate clause when it is coreferential with an argument in the main clause (Ross 2004c: 518). The adverbial clause is clearly subordinate because it cannot function as an independent clause.

A purposive adverbial clause beginning with *tena* occurs after the main clause (139)-(143), though there are two examples, such as (138), where it occurs between the subject NP and VC of the main predicate. The adverbial clause may contain an object NP (139)-(140), an object enclitic (141), or both (142)-(143).

(138) Na=orawi **tena ai-aini e=to ara nao**  
SPEC[CLI]=man OBL RD=hook 3SG.SBJ=to PST go
‘A man went to fish’  

(1-T003)
The adverbial clause may also contain the reciprocal/reflexive marker *vei* as in (144) where there is also a pronominal object NP and in (145) where an oblique adjunct marked by the preposition *te* is also part of the adverbial clause.

Cristofaro’s (2003) hierarchy of adverbial desententialisation (Figure 7.2) claims that in a given language no adverbial clause type on the hierarchy will be more desententialised than any type to its left. It is expected then that purposive adverbial clauses will be one of the most desententialised types and this is indeed the case in Papapana.

**FIGURE 7.2 ADVERBIAL DESENTENTI ALISATION HIERARCHY**

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Before</th>
<th>After</th>
<th>When</th>
<th>Reason</th>
<th>Reality Condition</th>
</tr>
</thead>
</table>

Complement clauses may also be desententialised and in Papapana purposive adverbial clauses are formally similar to non-finite complement clauses (§7.4.2); however, they are different to complement clauses because they are not an argument of the verb, but instead provide optional information.

Desententialisation in adverbial clauses is rare in canonic Oceanic languages, even in purpose clauses (Ross 2004c: 519) and therefore Papapana is unusual in having desententialised adverbial clauses.
Nevertheless, Teop has two kinds of purposive clauses, one of which is marked by *tea*, lacks TAM marking and has an implied but not overt subject that is coreferential with an argument in the main clause (Mosel and Thiesen 2007). *Tea* in Teop and *tena* in Papapana are likely cognate forms. Like Papapana a purposive clause marked by *tea* in Teop is formally similar to a complement clause. This is also the case in Banoni where a locative preposition is used both as a purposive conjunction and as a complementiser (Lynch and Ross 2002: 455).

7.3.8.2 *tenava* ‘so that’

In a purposive adverbial clause which begins with the subordinator *tenava* ‘so that’, the subject is not coreferential with that of the main clause. The adverbial clause is verbal and may occur after (146) or before (147) the main clause.

(146) I=no
  3PL.SBJ=go
  uvu=i
  clear=IRR
  
  *tenava* e-sina-na  e=siod=i=a=i  na=uvu
  so.that  PERS-mother-3SG.PSSR  3SG.SBJ=work=TR=3SG.OBJ=IRR  SPEC[CLII]=clear
  ‘They cleared grass so that his mother could work the clearing’

(1-T027-2)

(147) *Tenava* na=‘usia  i=aputu=i,  
  so.that  SPEC[CLII]=child  3PL.SBJ=sleep=IRR
  
  iai  pei  ena  mama  i=atu=a=i
  DEM  PART  sing  DEM  3PL.SBJ=make=3SG.OBJ=IRR
  ‘So that the children will sleep, they sing this little song’

(1-T048)

*Avosia* may also be used instead of *tenava* at the beginning of a purposive adverbial clause. Indeed in (148) below speakers reported that *tenava* and *avosia* were interchangeable. As mentioned in §7.3.5 it seems *avosia* is becoming a general subordinator, perhaps when speakers cannot recall a specific subordinator. The purposive adverbial clause again occurs after the main clause and only verbal adverbial clauses are attested in the data:

(148) O=mei
  2SG.SBJ=come
  tua=i
  paddle=IRR
  
  *avosia* e=taoshi  papasi nu=risi  merei  obutu
  SUBR  3SG.SBJ=finish  quickly  SPEC[CLII]=rope  OBL  canoe
  ‘Come paddle so that the canoe rope breaks quickly’

(1-T035)

(149) Anau  u=vatan=i=o  avosia  o=varona=i
  1SG  1SG.SBJ=tell=TR=2SG.OBJ  SUBR  2SG.SBJ=know=IRR
  ‘I told you so that you would know’

(2-E028-2)
(150) Anau u=vagasi=a nu=kakau
1SG 1SG.SBJ=fasten=3SG.OBJ SPEC.CLI=dog

avosia e=ae amu=ina=i na=vanua
SUBR 3SG.SBJ=NEG bite=3PL.OBJ=IRR SPEC[CLI]=people
‘I tied up the dog so that it won’t bite people’

(151) John e=ani=a koko’i
John 3SG.SBJ=eat=3SG.OBJ
taro

avosia e-sina-na e=ae ire=i
SUBR PERS-mother-3SG.PSSR 3SG.SBJ=NEG angry=IRR
‘John ate the taro so that his mother wouldn’t get cross’

(152) Anau u=de=ina na=iana avosia so=ani=ina=i
1SG 1SG.SBJ=take=3PL.OBJ SPEC[CLI]=fish SUBR 1INCL.SBJ=eat=3PL.OBJ=IRR
‘I caught some fish so that we could eat’

7.3.8.3 merei ‘(in order) to’

In a purposive adverbial clause which begins with the preposition merei ‘(in order) to’, the adverbial
clause is the complement of the preposition and is desententialised: there is no tense, aspect or mode,
and there are no subject proclitics or subject NPs. The adverbial clause is clearly subordinate because
it cannot function as an independent clause, and it occurs after the main clause. In the attested
examples, the adverbial clause may consist of only a verb (153), of a verb and an object NP (154), or
of a verb marked with the causative prefix va- with an object enclitic and object NP (155). The object
of the main clause is coreferential with the subject of the adverbial clause in (153) and (155) and
coreferential with the locative argument of the adverbial clause in (154).

(153) Na=vanua i=pei peri−peri=ina=i=ma merei tavone
SPEC[CLI]=people 3PL.SBJ=PST.IPFV RD−find=3PL.OBJ=IRR=ma OBL help
‘They would look for people to help them’

(1-T034)

(154) Pei arivava o=va-ubete egoego=i merei noe tamu−tamu
PART banana.leaf 2SG.SBJ=CAUS-sleep well=IRR OBL put RD−eat
‘Lay a banana leaf well in order to put food on’

(1-T061)

(155) Sibuava i=to me-a po=ina=i
old.women 3PL.SBJ=to COM-SG.OBJ stay=3PL.IPFV=IRR

merei va-aputu=ina na=’usia
OBL CAUS-sleep=3PL.OBJ SPEC[CLI]=child
‘Old women use it [a story] in order to put children to sleep’

(1-T048)

Example (156) is a particularly complex sentence consisting of a main clause and a purposive
adverbial clause introduced by tena. This adverbial clause consists of a verb, object enclitic and two
object NPs, and is further modified by a purposive adverbial clause introduced by merei. In this second
adverbial clause, there is a SVC which has been transitivised with the causative prefix va-.
7.4 Complement Clauses

Complement clauses are embedded within and function as arguments of a main, or matrix, clause (Payne 1997: 313, Noonan 2007). In Papapana, complement clauses only function as object arguments. There are two types of complement clauses in Papapana: finite (§7.4.1) and non-finite (§7.4.2). Both finite and non-finite complement clauses may occur in reported speech sentences (§7.4.3). Finite complements may be juxtaposed with the matrix clause, as is typical of Oceanic languages (Lynch et al. 2002: 53), or linked to the matrix clause by a complementizer which can be defined as “a word, particle, clitic or affix… whose function it is to identify the entity as a complement” (Noonan 2007: 55). A complement introduced by a complementizer may or may not be indexed by object enclitics in the VC of the matrix clause. Non-finite complement clauses are introduced by a preposition. Complement clauses follow the matrix clause and can themselves contain subordination and coordination. In the following discussion, I categorise the verbs that require object complements in Papapana according to Noonan’s (1985) classification of complement-taking predicates: phasals, modals, desideratives, perception, propositional attitude, knowledge and utterance. There is not however a one-to-one correspondence between the verb category and the structural type of the complement, and even a single verb may take different types of complement.

7.4.1 Finite complements

A finite complement, or sentence-like complement, is a complement clause which, without its complementizer, “has roughly the same syntactic form as a main clause” and in which “the predicate has the same syntactic relation to its subject and its other arguments that it has in syntactic main clauses” (Noonan 2007: 59). Finite complement clauses carry their own tense and aspect marking and express the subject directly without the subject reference being restricted to that of the matrix clause (Payne 1997: 314). Finite complements follow the matrix clause. They may be asyndetic and juxtaposed with the matrix clause or linked to the matrix clause by the complementizer avosia, in which case they may or may not be indexed by object enclitics in the VC of the matrix clause. Some verbs are also attested with interrogative words introducing the complement clause. For some of the verbs which select a complement introduced by avosia, there are some examples which show avosia being optionally omitted; these will be discussed in due course but it should be noted that in many languages, a subordinator can be omitted in certain constructions when, like avosia, it is “primarily a signal of syntactic dependence and does not carry meaning” (Whaley 1997: 249). In Papapana, finite
complement clauses can be the objects of the following categories of verbs: modals, desideratives, perception, propositional attitude and knowledge. In reported speech sentences, finite complement clauses may be the object of utterance verbs (see §7.4.3). Table 7.2 shows which categories of verbs are attested with which structural type of clausal complement.

**TABLE 7.2 VERB CATEGORIES AND FINITE CLAUSAL COMPLEMENT TYPES**

<table>
<thead>
<tr>
<th>Complement Clause Structure</th>
<th>Verb Category</th>
<th>Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asyndesis</td>
<td>Modal</td>
<td>eangoi</td>
</tr>
<tr>
<td>Complementizer <em>avosia</em></td>
<td>Desiderative</td>
<td>magono</td>
</tr>
<tr>
<td></td>
<td>Propositional attitude</td>
<td>mataliwa</td>
</tr>
<tr>
<td></td>
<td>Knowledge</td>
<td>varona</td>
</tr>
<tr>
<td></td>
<td></td>
<td>nongo</td>
</tr>
<tr>
<td></td>
<td></td>
<td>amunu</td>
</tr>
<tr>
<td>Complementizer <em>avosia</em> and Object-indexing enclitic</td>
<td>Desiderative</td>
<td>mate</td>
</tr>
<tr>
<td></td>
<td>Propositional attitude</td>
<td>stuna</td>
</tr>
<tr>
<td></td>
<td>Knowledge</td>
<td>stuna</td>
</tr>
<tr>
<td></td>
<td></td>
<td>varona</td>
</tr>
<tr>
<td></td>
<td></td>
<td>believe</td>
</tr>
<tr>
<td>Interrogative pronoun or adverb</td>
<td>Propositional attitude</td>
<td>stuna</td>
</tr>
<tr>
<td></td>
<td>Knowledge</td>
<td>varona</td>
</tr>
<tr>
<td></td>
<td></td>
<td>believe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>know</td>
</tr>
</tbody>
</table>

### 7.4.1.1 Asyndesis

The modal verb *eangoi* expresses ability and requires a clausal complement. *Eangoi* is always marked by PSI enclitics (see §5.8), and may take a non-finite clausal complement introduced by *tena* (§7.4.2) or a finite clausal complement which is juxtaposed after the matrix clause containing *eangoi*. The complement clause may be intransitive with an adjunct (157) or transitive with an object NP in either preverbal (158) or postverbal (159) positions. In (157)-(158) *eangoi* is negated.

(157) Anau  u=ae  eangoi=ou  u=nao=i  tagena  abata
1SG  1SG.SBJ=NEG  be.able=1SG.IPVF  1SG.SBJ=go=IRR  near  bachelor.house
‘I cannot go near a bachelor (traditional male initiation) house’

(158) Anau  u=ae  eangoi=ou
1SG  1SG.SBJ=NEG  be.able=1SG.IPVF

na=‘uru  u=amun=i=a=i
SPEC[CLI]=island  1SG.SBJ=see=TR=3SG.OBJ=IRR
‘I cannot see the island’

(159) Cicilia  e=eangoi=ena
Cicilia  3SG.SBJ=be.able=3SG.IPVF

e=mei  sapo=a=i  na=INU?
3SG.SBJ=come.SEQ  clean=3SG.OBJ=IRR  SPEC[CLI]=house
‘Can Cicilia come and clean the house?’

In (160) the complement clause itself contains a purposive adverbial clause introduced by the preposition *tena* (see §7.3.8.1) while in (161) a negative purpose adverbial clause is dependent on the matrix clause and its clausal complement. In (161) *eangoi* is negated.

In (160) the complement clause itself contains a purposive adverbial clause introduced by the preposition *tena* (see §7.3.8.1) while in (161) a negative purpose adverbial clause is dependent on the matrix clause and its clausal complement. In (161) *eangoi* is negated.
As the sentences in (162) show, there is no grammatical, semantic or pragmatic motivation for the fact that "eangoi" can take either a finite clausal complement, or a non-finite clausal complement.

### 7.4.1.2 Complementizer avosia

Some verbs require a finite clausal complement that is introduced by the complementizer avosia. The complement clause follows the matrix clause. The verbs that select this type of complement include the desiderative verb magono ‘dislike’, the propositional attitude verb mataiwa ‘think’ and the knowledge verbs varona ‘know’, nongono ‘hear’ and amunu ‘see’. The verb amunu ‘see’ occurs in an SVC with the verb vewa ~ vowa ‘be like’ in second position. Utterance verbs also select this type of complement but are discussed in §7.4.3. The verbs magono ‘dislike’, and varona ‘know’ may also select a non-finite complement when the subject of the matrix and complement clause are coreferential (see §7.4.2) but select a finite complement when the subjects of the matrix and complement clauses are not coreferential. The complement clause may be intransitive (163)-(167), intransitive with an adjunct (168)-(169), transitive with an object enclitic (170)-(172), transitive with an object enclitic and object NP (173)-(175) or the complement clause may be verbless and have a nominal predicate (176).

(163) I=to nongono avosia ta=tsunami e=tavotu=i
3PL.SBJ=to hear SUBR NSPEC[CLI]=tsunami 3SG.SBJ=arrive=IRR
‘They heard that a tsunami will arrive’ (2-E022)

(164) Burimaunu i=amunu voa=ina avosia si=vanga~vanga=era
women 3PL.SBJ=see be.like=3PL.IPV SUBR 1INCL.SBJ=RD=crazy=INCL.IPV
‘The women see that we’re drunk’ (2-E027)

(165) Anau u=mataiwa=u avosia e=ae agai mata=na
1SG 1SG.SBJ=think=1SG.IPV SUBR 3SG.SBJ=NEG really good=3SG.IPV
‘I think that it’s not very good’ (2-E022)

(166) E=varona avosia au=arao e=mate tani
3SG.SBJ=know SUBR 1SG.PSSR[CLI]=brother 3SG.SBJ=die already
‘He knew that his brother was already dead’ (1-T035)
I didn’t know that you would come’

Some children wouldn’t want us to go to school’

They see that we aren’t staying in the village’

‘We don’t want you to tell him’

‘I think that we’ll make it’

The soldiers didn’t know that they (the Bougainville Revolutionary Army) were just taking us’

‘The men see that we left the village’

‘They (the villagers) already know that they (the cannibals) took the man’

I didn’t know that he was writing her letters’
There are two examples from the text data (177)-(178) which show the verb mataiwa ‘think’ selecting a finite complement clause, but the complementizer avosia is omitted. As mentioned in §7.4.1, subordinators that lack meaning can be omitted in many languages. Further investigation is required to establish whether other verbs may permit the omission of avosia, but there is no apparent grammatical, semantic or pragmatic difference between sentences in which mataiwa ‘think’ does and does not select avosia. As (178) shows a complement clause may contain a relative clause.

(176) 3PL.SBJ=think=3PL.IPVF

mataiwa=ina

3PL.SBJ=think=3PL.IPVF

avosia tue-ni sikuna oina=au tue te aina

SUBR language-CONST ship 3PL.PSR=CLII language OBL 3PL

‘They think that Tok Pisin is their language’

(1-T083)

Aia e=pei mataiwa=na=i

3SG 3SG.SBJ=PST.IPVF think=3SG.IPVF=IRR

na=orawi enai nu=abeabe-na enai

SPEC[CLI]=man DEM SPEC.CLII=image-3SG.PSSR DEM

‘He thought that his reflection was a man’

He thought that his reflection was a man’

(1-T052)

I=pei mataiwa=ina=i

3PL.SBJ=PST.IPVF think=3PL.IPVF=IRR

bau tubu-ina i=to mate tani va–vasina iai

PL grandparent-3PL.PSR 3PL.SBJ=to die already RD–before DEM

i=manene mai

3PL.SBJ=return hither

‘They thought that all their ancestors who had died in the past had come back’

(1-T097)

7.4.1.3 Complementizer avosia and object-indexing

The desiderative verb mate ‘like/want’ and the propositional attitude verb stuna ‘believe’ require a finite clausal complement that is introduced by the complementizer avosia and indexed by an object enclitic in the matrix VC. It is clear that the object enclitic indexes the complement clause because the object enclitic is always 3SG, regardless of the person and number of the subject of the complement clause. The complement clause follows the matrix clause. The verb mate ‘like/want’ may also select a non-finite complement when the subject of the matrix and complement clause are coreferential (see §7.4.2) but select the finite complements described here when the subjects of the matrix and complement clauses are not coreferential. The complement clause may be intransitive (179), intransitive with an adjunct (180), or transitive with an object enclitic (181).
7.4.1.4 Interrogative complementizers

In the data there are a few examples in which a finite complement clause is linked to the matrix clause by an interrogative adverb (182) or pronoun (183). The only verbs attested in such a matrix clause are the knowledge verb varona ‘know’ (182) and the propositional attitude verb stuna ‘believe’ (183). As when these verbs select complements introduced by avosia, varona does not index the complement in the matrix VC whereas stuna indexes the complement as an object in the matrix VC. The interrogative word begins the complement clause and the complement clause follows the matrix clause. Further investigation may reveal that other verbs can select complements with this structure. In (182) the complement clause is intransitive with the interrogative word avoa ‘where’ and nongovita ‘when’ referring to a spatial adjunct (182)a. and temporal adjunct (182)b., while in (183) the complement clause is transitive with the interrogative word mata ‘what’ referring to an object argument. The fact that (182)a. shows a different clause order to an interrogative clause with avoa (see §6.5.2.3.3) supports the analysis that in these complement clauses the interrogative word is a complementiser.

(182) a. E=pei ae varona=enai avoa e=nao nu=’usia
   3SG.SBJ=PST.IPfv NEG know=3SG.IPfv=IRR where 3SG.SBJ=go SPEC.CLI=child
   ‘He didn’t know where the child went’ (1-T035)

  b. E=varona=na
     3SG.SBJ= know=3SG.IPfv when 2SG.SBJ=die=IRR
     ‘He knows when you’ll die’ (1-T097)

(183) Anau u=ae stun=i=a_u
     1SG 1SG.SBJ=NEG believe=TR=3SG.OBJ=1SG.IPfv

     mata e=to wa=i=a
     what 3SG.SBJ=to say=TR=3SG.OBJ
     ‘I don’t believe what he said’ (2-E024)
7.4.2 Non-finite complements

A non-finite complement clause cannot exist independently in the same way as a finite complement clause because the identification of the subject is highly constrained and must often be identical to the subject of the matrix clause, while TAM marking is constrained or not specified at all (Payne 1997: 315). In Papapana, non-finite complements follow the matrix clause and are introduced by the preposition *tena*. With two verbs, discussed below, the complement is indexed by object enclitics in the matrix clause. There is no subject NP or subject proclitic and instead the notional subject is equi-deleted: equi-deletion “deletes subjects of complements when they are coreferential with... some argument in the matrix [clause]” (Noonan 2007: 76). In Papapana non-finite complement clauses, the subject of the complement is always coreferential with the subject of the matrix clause. Table 7.3 shows which categories of verbs select non-finite complement clauses. Those that are in bold typeface may also take finite complements; the motivation for which complement is selected has been discussed in §7.4.1 and will be repeated below for the verbs concerned. In indirect speech sentences, non-finite complement clauses may be the object of utterance verbs (see §7.4.3).

**TABLE 7.3 VERB CATEGORIES WITH NON-FINITE COMPLEMENTS**

<table>
<thead>
<tr>
<th>Verb Category</th>
<th>Verbs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Phasal</td>
<td><em>vuna</em></td>
<td><em>start</em></td>
</tr>
<tr>
<td></td>
<td><em>iovoto</em></td>
<td><em>stop</em></td>
</tr>
<tr>
<td>Modal</td>
<td><em>eangoi</em></td>
<td><em>be able</em></td>
</tr>
<tr>
<td>Desiderative</td>
<td><em>magono</em></td>
<td><em>dislike</em></td>
</tr>
<tr>
<td></td>
<td><em>mate</em></td>
<td><em>like/want</em></td>
</tr>
<tr>
<td>Knowledge</td>
<td><em>varona</em></td>
<td><em>know</em></td>
</tr>
<tr>
<td></td>
<td><em>namiaruve</em></td>
<td><em>forget</em></td>
</tr>
</tbody>
</table>

The phasal verbs *vuna* ‘start’ and *iovoto* ‘stop’ and the knowledge verb *namiaruve* ‘forget’ are only attested with non-finite complements. In (184) the matrix clause and its non-finite complement form a conditional adverbial clause. The non-finite clause itself is transitive by virtue of the comitative applicative *me* and the object is expressed overtly as a NP.

(184) O=to ae *iovoto=i* *tena me-a* *gaganini na=bara*,

2SG.SBJ=to NEG stop=IRR OBL COM-SG.OBJ play SPEC[CLI]=ball

u=de=a=i
1SG.SBJ=take=3SG.OBJ=IRR
‘If you don’t stop playing with the ball, I’ll take it’

(2-E008)

In (185) and (186) the non-finite complement clause is indexed by an object enclitic in the matrix VC. This is contrary to all other attested non-finite complement clauses, which are not indexed by object enclitics; this is a matter for further research. In both non-finite complement clauses, the verb is transitive and there is an object NP as well as object-indexing enclitics:
The desiderative verbs magono ‘dislike’ and mate ‘like/want’, and the knowledge verb varona ‘know’ are attested with finite complement clauses when the subjects of the matrix and complement clauses are not coreferential (§7.4.1) and non-finite complement clauses when the subject of the matrix and complement clause are coreferential. The complement clause may be intransitive (187)-(188), intransitive with an adjunct (189), transitive with an object enclitic and object NP (190), or transitive with the applicative comitative me (191). The matrix clause and complement clause may be the complement of an utterance verb (188) or occur in a direct quotation (189).

(185) Ian e=vun=i=a tena atuma’as=i=a nu=koko’a
Ian 3SG.SBJ=start=TR=3SG.OBJ OBL. cook=TR=3SG.OBJ SPEC.CLI=cooking
‘Ian started to cook the taro’

(186) Naonava u=namiaruve=a tena atu=a na=siodo te anau
yesterday 1SG.SBJ=forget=3SG.OBJ OBL. make=3SG.OBJ SPEC[CLI]=work OBL. 1SG
‘Yesterday I forgot to do my work’

The modal verb eangoi expresses ability and requires a clausal complement. Eangoi is always marked by PSI enclitics and may take a finite clausal complement which is juxtaposed after the matrix clause.
containing eangoi (§7.4.1.1) or a non-finite clausal complement introduced by tena. As (162) in §7.4.1.1 shows, there is no grammatical, semantic or pragmatic motivation for the fact that eangoi can take either a finite clausal complement, or a non-finite clausal complement.

When the complement clause is non-finite, it may be intransitive and contain a deictic directional (192), a geographic directional and a spatial adjunct (193), a spatial and temporal adjunct (194), and a deictic directional, geographic directional and spatial adjunct (195).

(192) Alex e=eangoi=ena tena mei tamu vagi?
      Alex 3SG.SBJ=be.able=3SG.IPVF OBL come.SEQ eat now
      ‘Can Alex come and eat here today?’

(193) John e=eangoi=ena tena nao tae te=na ereere
      John 3SG.SBJ=be.able=3SG.IPVF OBL go up OBL=SPEC[CLI] mountain
      ‘John can go up to the mountain’

(194) Alex auwana Jane i=vae eangoi=ina tena nao Wakunai vagi?
      Alex 3DU Jane 3PL.SBJ=REP be.able=3PL.IPVF OBL go Wakunai now
      ‘Are Alex and Jane able again to go to Wakunai today?’

(195) Alex e=eangoi=ena tena no tua tae te=na ‘uru?
      Alex 3SG.SBJ=be.able=3SG.IPVF OBL go.SEQ paddle up OBL=SPEC[CLI] island
      ‘Can Alex go and paddle out to the island?’

A non-finite complement clause may also be transitive as in (196) where there is transitivity discord (§5.5.5) and so the object NP is not indexed on the verb, or as in (197)-(198) where the object NP is indexed by an object enclitic. Example (198) also shows a geographic directional in the complement clause. Example (199) is transitive by virtue of the causative prefix but the object NP is generic and so there is transitivity discord and the object is not indexed on the verb. In addition (199) shows an instrument adjunct.

(196) Naonava u=pei ae eangoi=eu tena peri tamu~tamu
      yesterday 1SG.SBJ=PST.IPVF NEG be.able=1SG.IPVF OBL find RD~eat
      ‘Yesterday I wasn’t able to find food’

(197) John e=ae eangoi=ena tena amun=i=a na=’uru
      John 3SG.SBJ=NEG be.able=3SG.IPVF OBL see=TR=3SG.OBJ SPEC[CLI]=island
      ‘John isn’t able to see the island’

(198) Jerry e=eangoi=ena tena vaene tae=a na=ereere
      Jerry 3SG.SBJ=be.able=3SG.IPVF OBL climb up=3SG.OBJ SPEC[CLI]=mountain
      ‘Jerry is able to climb up the mountain’

(199) Na=vanua i=eangoi=ina tena va-tonu na=iniu tena bau naono
      SPEC[CLI]=people 3PL.SBJ=be.able=3PL.IPVF
      ‘People are able to build houses from trees’
7.4.3 Reported Speech

Direct speech contains “the exact words spoken by the other person, embedded in a simple clause” while indirect speech “expresses the content of what was said, but not the speaker’s exact words” (Kroeger 2005: 224). Indirect speech is deictically adapted to the speech situation in person, tense and location. Direct and indirect speech in Papapana are introduced by a reporting clause which is the matrix clause and employs an intransitive or transitive utterance verb, depending on whether the addressee object is specified. The reported clause is selected by the matrix clause as a clausal complement. The complement clause always follows the matrix clause. Indirect speech may be introduced by the complementizer avosia while direct speech is simply juxtaposed with the reporting clause. Generally the complement clause is finite (§7.4.3.1) but a few examples also demonstrate non-finite complement clauses when indirect speech is imperative (§7.4.3.2).

7.4.3.1 Finite complements

In reported speech sentences with finite complements the reported clause is juxtaposed with the reporting clause when the speech is direct (§7.4.3.1.1), but introduced by the complementizer avosia when it is indirect (§7.4.3.1.2).

7.4.3.1.1 Direct

The utterance verb *wa* ‘say’ may be found in matrix reporting clauses without an addressee object (200)-(203). Although there is no complementizer introducing the direct speech, sometimes *ini* ‘here’ occurs immediately before the direct speech, though its exact function is unclear (202)-(203).

(200) Anau u=wa “Colin e=atu=a=i nu=tura”
1SG 1SG.SBJ=say Colin 3SG.SBJ=make=3SG.OBJ=IRR SPEC.CLI=fire
‘I said “Colin will make the fire”’

(201) Billy e=wa “Maureen e=nao tani mai”
Billy 3SG.SBJ=say Maureen 3SG.SBJ=go already hither
‘Billy said “Maureen has already come”’

(202) E=to wa ini “arira si=nao=i”
3SG.SBJ=to say here 1INCL 1INCL.SBJ=go=IRR
‘He said like “let’s go”’

(203) vavine-u e=wa ini,
sibling-1SG.PSSR 3SG.SBJ=say here

“na=daramu e=pei mamaravi=ena=i naonava”
SPEC[CLI]=river 3SG.SBJ=PST.IPV cold=3SG.IPV=IRR yesterday
‘My brother says like “the river was cold yesterday”’

(2-E008)

The utterance verb *wa* ‘say’ may also be found in matrix reporting clauses with an addressee object (204), as can the verbs vatana ‘tell’ (205) and nata ‘ask’ (206).
(204) Vavine-u e=wa=au “na=daramu e=mamaravi=ena” sibling-1SG.PSSR 3SG.SBJ=say=1SG.OBJ SPEC[CLI]=river 3SG.SBJ=cold=3SG.IPV
“My brother said to me “the water is cold””
(2-E008)

(205) Aia e=vatana=ina
3SG 3SG.SBJ=tell=3PL.IPV

“aia ‘usia mama
3SG child DEM
e=pei me-na siodo=na=i na=siapani”
3SG.SBJ=PST.IPV COM-PL.OBJ work=3SG.IPV=IRR SPEC[CLI]=Japanese
‘He told them “that boy was working with the Japanese’”
(1-T034)

(206) Billy enata=au “Maureen e=nao tani mai o aruai?”
Billy 3SG.SBJ=ask=1SG.OBJ Maureen 3SG.SBJ=go already hither or no
‘Billy asked me “has Maureen come already or not?”’
(2-E022)

7.4.3.1.2 Indirect
The utterance verb wa ‘say’ and a’ade’e ‘narrate’ may be found in matrix reporting clauses without an addressee object (207)-(208). Utterance verbs such as moroko ‘lie’ and vastuna ‘promise’ also do not require an addressee object (209)-(210). The indirect speech complement clause is introduced by avosia, and the subject of the two clauses may (209)-(210) or may not (207)-(208) be coreferential.

(207) Sue e=wa avosia Brian e=nao=i Buka
Sue 3SG.SBJ=say SUBR Brian 3SG.SBJ=go=IRR Buka
‘Sue said that Brian will go to Buka’
(2-E022)

(208) E-tama-u e=ara a’ade’e vowa
PERS-father-1SG.PSSR 3SG.SBJ=PST lie like

avosia na=tonu mama e=to ara tete mai
SUBR SPEC[CLI]=wave DEM 3SG.SBJ=to PST enter hither

avisi na:bau i=pei vae tue visivisi=i
because some 3PL.SBJ=PST.IPV REP scold rubbish=IRR
‘My father recounted that this wave came inside because some (people) would criticise religion’
(1-T105)

(209) E=moroko avosia e=naomai=i
3SG.SBJ=lie SUBR 3SG.SBJ=come=IRR
‘He lied that he would come’
(2-E022)

(210) Anau u=vastuna avosia u=naomai
1SG 1SG.SBJ=promise SUBR 1SG.SBJ=come
‘I promise that I’ll come’
(2-E022)

The complement clause itself may contain an adverbial clause (208) or coordinated clauses (211):
Some people there used to say said that the children there kept dying like that, and the hospital wasn't good'.

The utterance verbs wa ‘say’, a’ade’e ‘narrate’ and vatana ‘tell’ may occur in a reported clause with an addressee object and introduce a declarative statement (212)-(214), while nata ‘ask’ may have an addressee object and introduce an interrogative (215). The complement clause is introduced by avosia, and the subject of the complement clause in these examples is not coreferential with an argument in the matrix clause.

(212) E=wa=au  avosia nata na=room  e=po=na
3SG.SBJ=say=1SG.OBJ  SUBR other SPEC[CLI]=room 3SG.SBJ=stay=3SG.IPV
‘He said to me that there is another room’
(1-T088)

(213) U=a'ade'e=i=a=i  Ellen
1SG.SBJ=narrate=TR=3SG.OBJ=IRR  Ellen
avosia a:mani mi=ara  asi=a  Teperoi
SUBR 1EXCL 1EXCL.SBJ=PST leave=3SG.OBJ Teperoi
‘I'll recount to Ellen that we left Teperoi’
(1-T030)

(214) U=vatan=i=a  avosia si=orete
1SG.SBJ=tell=TR=3SG.OBJ SUBR 1INCL.SBJ=walk
‘I told him that we walked about’
(2-E022)

(215) Billy  e=nata=au  avosia Maureen e=naomai o aruai
Billy 3SG.SBJ=ask=1SG.OBJ SUBR Maureen 3SG.SBJ=come or no
‘Billy asked me if Maureen had come or not’
(2-E022)

The utterance verb vatana ‘tell’ may also occur in a reported clause with an addressee object and introduce an imperative (216)-(218). The complement is introduced by avosia and the object of the matrix clause is coreferential with the subject of the complement clause, that is, there is raising. Vatana may also select a non-finite complement to introduce an imperative when the subject of the complement is coreferential with the object of the matrix clause (§7.4.3.2), but it is unclear if there is a difference between the two. In (218) the reporting clause is an imperative and the complement clause contains asyndentic coordination.
7.4.3.2 Non-finite complements

When indirect speech is imperative, a non-finite complement clause introduced by tena may be selected by the utterance verb in the matrix clause (219)-(220). The utterance verbs attested with non-finite complements are wa ‘say’, vatana ‘tell’ and nata ‘ask’. The verbs wa ‘say’, and nata ‘ask’ may also select finite complements but select non-finite complements when the addressee object of the matrix clause is coreferential with the subject of the complement clause; that is, when the subject of the complement clause (which has a different subject to that of the matrix clause) is raised to be the object of the matrix clause. As mentioned at the end of §7.4.3.1.2, vatana may also select a finite complement to introduce an imperative when the subject of the complement is coreferential with the addressee object of the matrix clause but it is unclear if there is a difference between the two. Certainly a comparison of (216) above and (220) below suggest that there is none.

(216) Sue e=vatan=i=a \[\text{Brian avosia e=nao=i Buka}\]
\[\text{Sue 3SG.SBJ=tell=TR=3SG.OBJ Brian SUBR 3SG.SBJ=go=IRR Buka}\]
‘Sue told Brian to go to Buka’

(217) Anau vatan=i=a \[\text{Colin avosia e=atu=a=i nu=tura}\]
\[\text{SUBR 3SG.SBJ=make=3SG.OBJ=IRR SPEC.CLI=fire Colin}\]
‘I told Colin to make a fire’

(218) O=no vatana=ina=i \[\text{3SG.SBJ=go=SEQ tell=3PL.OBJ=IRR}\]
\[\text{avosia i=mumurina=ira mai}\]
\[\text{SUe 3PL.SBJ=follow=1INCL.OBJ hither}\]
\[i=mei peri=ira=i\]
\[3PL.SBJ=come=SEQ find=1INCL.OBJ=IRR\]
‘Run away and tell them to follow us and find us’

(219) Billy e=wa=au \[\text{tena nao}\]
\[\text{Billy 3SG.SBJ=say=1SG.OBJ OBL go}\]
‘Billy told me to go’

(220) Sue e=vatan=i=a \[\text{Brian tena nao Buka}\]
\[\text{Sue 3SG.SBJ=tell=TR=3SG.OBJ Brian OBL go Buka}\]
‘Sue told Brian to go to Buka’
Part III: Language Contact
8 Language Contact and Sociolinguistic Background

This chapter presents the language contact and sociolinguistic situation in the Papapana speech community. The chapter firstly introduces the subject of language contact in §8.1, before presenting the history of contact in the Papapana speech community in §8.2, and language use today, including intergenerational transmission, in §8.3. Along with §2, this chapter provides the background information necessary for investigating two consequences of language contact; contact-induced grammatical change (see §9) and language shift and endangerment (see §10).

8.1 Language contact

The simplest definition of language contact is that it is “the use of more than one language in the same place at the same time” (Thomason 2001: 1), although Thomason (2001: 1-2) concedes that language contact requires at least some communication between speakers of different languages and can occur when speakers of different languages are not in the same place, for example, through the internet or religious texts. Languages have been in contact for thousands of years and language contact is found worldwide; indeed, “language contact is the norm, not the exception” (Thomason 2001: 10).

Lynch (1998: 205-208) describes three different types of language contact setting: (i) those that involve conquest, colonisation or religious conversion, (ii) those entailing peaceful contact between settled and equal societies, as in the case of intermarriage or trade, and (iii) peaceful contact involving travel. In the latter situation, travel could be for the purposes of trade, which would bring new ideas and items into a society, or as part of migration, be it temporary (for instance, for work) or permanent (for example, due to overcrowding, socio-political problems or natural disasters that might destroy or damage homes). In addition, language contact may arise through education in another language (Thomason 2001: 20-21), and today, globalisation and rapid developments in information and communication technology play a major role in bringing people into contact with other languages. In reality, languages may come into contact for several reasons and it might not be as clear-cut as Lynch’s (1998: 205-208) categories suggest.

There are a number of possible linguistic outcomes of language contact. Firstly, the most common result of language contact is contact-induced language change, that is, “at least one of the languages will exert at least some influence on at least one of the other languages” (Thomason 2001: 10). Influence may include borrowing words, or structural transfer in any area of the language from phonology, morphology or syntax to lexical semantics. A second outcome of language contact is language death, in which one of the languages disappears. A precursor to language death is usually language shift. In situations of language shift and endangerment, the language may undergo “attrition”
which is the “loss of vocabulary and simplification of structure without any compensating additions” (Thomason 2001: 12). A third outcome of language contact is “extreme language mixture” (Thomason 2001: 10-12) or the “creation of new contact languages” (Winford 2003: 18-22), both of which refer to the creation of pidgin, creole and bilingual mixed languages. The type of outcome that occurs depends on the language contact setting.

This part of this thesis investigates two of these outcomes in the Papapana speech community. Chapter 9 examines contact-induced grammatical change, while Chapter 10 investigates language shift and endangerment. Borrowing and/or attrition in Papapana are areas I hope to research in the future but are beyond the scope of this thesis. The remainder of the current chapter presents the Papapana language contact setting and language use in the Papapana community, as a precursor to §9 and §10.

8.2 The history of Papapana language contact

This section describes the languages of Papua New Guinea and Bougainville (§8.2.1), and the history of language contact and use in the Papapana community over the last century or so, from pre-colonisation (§8.2.2), European colonisation (§8.2.3), national independence (§8.2.4) and the Bougainville civil war (§8.2.5), to the present day (§8.2.6). For any references to places in Bougainville, please see Maps 2.2 and 2.3 in §2.1, where relevant population centres discussed here, such as villages, plantations and mission centres, are marked.

8.2.1 Papua New Guinea as a residual zone

Papua New Guinea is one of the most linguistically diverse countries in the world: 836 different languages are spoken by between six and seven million people across the eastern half of New Guinea island and on over 600 offshore Pacific islands, the largest of which is the island of New Britain, followed by New Ireland and Bougainville. Papua New Guinean languages account for roughly 13.2% of the world’s languages but only 0.1% of the world’s population and 0.4% of the world’s land area (Nettle and Romaine 2000: 80). The official languages of Papua New Guinea are English, Tok Pisin and Hiri Motu. Aside from these, Papua New Guinean languages generally have very small speaker bases: according to Wurm (2003: 25) fifty-six have less than 100 speakers, 225 have between 100 and 500 speakers, 134 have 500-1000 speakers, 300 have 1000-10,000 speakers and seventy-two have 10,000 or more speakers. Of these seventy-two languages, only ten have over 50,000 speakers, three have over 100,000 speakers and the largest local language is Enga with 238,000 speakers (Wurm 2012: 443). Of Papua New Guinea’s 836 living languages, around 230 belong to the Oceanic subgroup of the Austronesian language family (see §2.3 for more information about the history and genetic relationships of these languages), while the remaining 600 or so languages are non-Austronesian (Wurm 2003: 25). Non-Austronesian languages in the Pacific area are often given the cover term Papuan but this does not mean that the languages belong to one family. Instead the majority of Papuan languages belong to five major groups of genetically interrelated languages, but with the possible exception of two groups, these groups are not related to each other. A sixth eastern
geographical group probably comprises several small unrelated groups of languages, totalling thirty-four languages (Wurm 2003). Papua New Guinea is clearly a classic case of a *residual zone*, that is, a zone which has “high diversity... [is] inhabited by small groups, from many different stocks, with many different language types, among whom bilingualism or multilingualism is the norm” (Nettle and Romaine 2000: 38).

The Autonomous Region of Bougainville has a population of around 234,280 people, according to the 2011 census. The province is home to twenty-three local languages: eight are Papuan, thirteen belong to the Northwest Solomonic (NWS) subgroup of Western Oceanic and three belong to the Ellicean subgroup of Central-Eastern Oceanic. Table 8.1 shows the number of speakers per language (Lewis, Simons and Fennig 2014): the largest Papuan language is Buin, while Halia is the largest Austronesian language. Map 8.1 shows the location of the languages spoken on Buka and Bougainville islands. The Ellicean languages and Nehan are spoken on atolls north of Buka island.

**TABLE 8.1 BOUGAINVILLE LANGUAGES SPEAKER NUMBERS**

<table>
<thead>
<tr>
<th>Language Group</th>
<th>Name</th>
<th>Speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Papuan</strong> (69,000 speakers)</td>
<td>South Bougainville</td>
<td>Buin (Telei, Kugara)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nasioi (Kieta)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Motuna (Siwai)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nagovisi (Sibbe)</td>
</tr>
<tr>
<td></td>
<td>North Bougainville</td>
<td>Rotokas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Konua (Rapoisi)</td>
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<tr>
<td></td>
<td></td>
<td>Eivo (Askopan)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Keriaka (Ramopa)</td>
</tr>
<tr>
<td><strong>Austronesian</strong> (53,556 speakers)</td>
<td>Northwest Solomonic (Western Oceanic)</td>
<td>Halia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nehan (Nissan)</td>
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<tr>
<td></td>
<td></td>
<td>Tecop</td>
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<tr>
<td></td>
<td></td>
<td>Tinputz (Vasui)</td>
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<tr>
<td></td>
<td></td>
<td>Solos</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Petats (Majugan)</td>
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<tr>
<td></td>
<td></td>
<td>Saposa</td>
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<tr>
<td></td>
<td></td>
<td>Hahon</td>
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<tr>
<td></td>
<td></td>
<td>Banoni (Tsunari)</td>
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<tr>
<td></td>
<td></td>
<td>Torau (Rorovana)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Piva (Lawunuia)</td>
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<tr>
<td></td>
<td></td>
<td>Papapana</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Uruava</td>
</tr>
<tr>
<td><strong>Ellicean</strong> (Central-Eastern Oceanic)</td>
<td>Takuu (Mortlock)</td>
<td>1,750</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nukumanu (Tasman)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nukuria (Nahoa)</td>
</tr>
</tbody>
</table>

1 To be consistent with the literature I use the name Motuna, but it should be noted that the Papapana speech community refer to Motuna as Siwai.
8.2.2 Pre-colonisation

Buka and Bougainville islands, both part of the Autonomous Region of Bougainville, were first populated by Papuan language speakers around 30,000 years ago (Tryon 2005: 33), probably from the north through the Bismarck Archipelago (Regan and Griffin 2005: 475). Around 3,000 years ago, Austronesian language speakers arrived from the north (Regan and Griffin 2005: 475). For more information on these migrations, see Oliver (1973) and Spriggs (2005). The Austronesians continued south into the Solomon Islands and beyond, but much later, the descendants of some of those who had settled on the islands immediately south of Bougainville, resettled along Bougainville’s eastern coast (Oliver 1991: 3).

According to Oliver (1991: 3), in the most recent of these movements, the ancestors of Torau speakers, founded the present day community of Rorovana around 1890. The ancestors of Papapana speakers are aligned with those of Torau speakers in migrating from the Shortland Islands “only a few generations ago”, while the ancestors of Uruava speakers also arrived from the Shortland Islands but earlier than...
the Torau (Oliver 1991: 5). According to Laracy (1969: 235), who references the Catholic missionary McHardy’s notes, migrants from the Shortland Islands first landed at a village called Lavelai on the southeast coast in 1860 after a dispute over a woman, then they went to Toborai, south of Kieta (the area where Uruava used to be spoken), where they settled temporarily, before fleeing from locals and heading north to Numa Numa (north of the contemporary Papapana-speaking area). At Numa Numa they were forced out by the mountain people so they went south again to Rorovana (the contemporary Torau-speaking area). An account reported to Terrell and Irwin (1972: 333) at Asitavi by three people from Rorovana also aligns with this story, and current Torau elders in Rorovana reported to a friend of mine that they arrived in Rorovana about 150-160 years ago, i.e. mid-19th century. Thurnwald’s notes, referred to by Terrell and Irwin (1972: 328), contradict this somewhat by claiming that the starting place for the migration was the south-eastern coast of Bougainville, that the motivation for the migration was harassment from Gorai, the leader of the Shortland Islands, and that after Numa Numa the migrants settled south and inland at Vito (a contemporary Torau-speaking village), and did not return to the coast until Gorai’s death in 1894. Terrell and Irwin (1972) also relate an account from Ratovai, a Teperoi leader, in which he reported that a leader at Lavelai came to Numa Numa after a conflict with the Torau and settled there with a leader of Wakanai village.

What all these accounts have in common is that they suggest that Papapana ancestors were part of a migration from the south in the mid-19th century which settled first in the area around Kieta and Arawa (the once Uruava-speaking area), moved north up the Bougainville eastern coast to the contemporary Papapana-speaking area before moving south again, with a possible halt in Vito, before settling on the coast in the late-19th century. It is unknown whether Papapana ancestors stayed behind in the Numa Numa area, or whether they returned there later after the final settlement. Papapana community members reported to me on separate occasions that the Papapana ancestors arrived from the Solomon Islands before the Torau and Uruava, and that the second migration was to the Torau area, and the final migration to the Uruava area. If these members meant that the second and final migrations were from the Papapana area, then these accounts also align with those outlined already.

It does however appear that the history of the Papapana community is further complicated by intermarriage and further migrations. Papapana community members reported that the first clans to arrive were Naroa (with the dove as their totemic symbol), Naororo (sea eagle) and Tagoni (eagle), while Ma’eara (girigau ‘bird species’) and Tuvio (hornbill) settled later, after European colonisation. It is possible that the first three clans were those from the south while the latter two clans came later from the north, as the caption to the Catholic missionary McHardy’s photograph (Figure 8.1) reads “Looking up the main street of Teperoi – the village, even in its houses, shows traces of two different

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2 Unfortunately it is unclear where exactly the village was located and so it does not appear on Map 2.2 in §2.1.
background are like Kieta houses. The sixth Papapana clan is Barisi (flying fox totem). In text recording ES2-T001, a Papapana elder recounted the genealogical history of his clan Barisi and reported that their origins lie in intermarriage between a Papapana speaker and a mountain-dwelling Rotokas speaker seven generations ago.

FIGURE 8.1 TEPEROI CIRCA 1931

During the time prior to European settlement, Papapana community members report that contact was only with Rotokas speakers and was for the purposes of trade and intermarriage. Rotokas was the intergroup language due to the fact that Rotokas speakers greatly outnumbered Papapana speakers. The isolation of the Papapana community is supported by the caption to another of McHardy’s photographs from circa 1931: “an unusual people these: the village seems to be isolated; in language, custom, even in physical appearance, they seem to differ from other villages”.

8.2.3 European colonisation

The first European sighting of Buka or Bougainville was in 1767 by a British vessel captained by Carteret (Regan and Griffin 2005: 475). The following year in 1768 Bougainville Island was sighted by and named after the French explorer Louis de Bougainville (Regan and Griffin 2005: 475). It wasn’t until over a century later that Bougainville was colonised, when Buka and Bougainville were included in German New Guinea in 1886. In 1899 the German Imperial government officially assumed administration over German New Guinea. During World War I (1914-1918), Australian military forces occupied the island until it became a League of Nations mandatory power in 1918. In 1942, during World War II, the Japanese invaded and Bougainville became the site of World War II battles between the Japanese and The United States of America and Australia. In 1945 the Japanese surrendered and Australia controlled Bougainville as a United Nations mandatory power until Papua

3 Unpublished photo album, McHardy collection, courtesy of Marist Archives, Wellington, New Zealand. Figures 8.1-3 and photograph captions referred to here are all from this source, whom I gratefully acknowledge.

8.2.3.1 Plantations

With European colonisation came the introduction of a plantation economy, mainly coconut plantations. The first commercial plantation in Bougainville was at Kieta (Sack 2005: 88), the Numa Numa plantation had been established north of Teperoi by 1912 (Laracy 2005a: 140) and by 1968 there were plantations to the north and south of the Papapana-speaking area: Numa Numa, Koikoi, Tenekau, Kurwina and Arigua. The manual labour in these plantations was supplied mainly by indigenes who were also employed to work on plantations elsewhere in the Pacific, including Samoa and the British Solomon Islands (Oliver 1991: 31). Papapana community members, including Motuna speakers, reported that speakers of the South Bougainville Papuan languages Buin and Motuna, were employed to work in the plantations surrounding Teperoi. Papapana speakers not only had contact with the migrant labourers due to their proximity to the plantations, but they would have also been labourers themselves. As a result of plantation labour, contact subsequently increased and extended beyond Rotokas speakers to other speech communities, leading to more trade and intermarriage, and perpetuating multilingualism.

This history is reflected in the present day settlements; for example, the Motuna ancestors of current families bought the land in Maras because they worked in Tenakau plantation. Similarly, there are families in Maras and Koikoi who descend from a Torau-speaking father and Rotokas-speaking mother who were given the land in Maras and worked in nearby plantations: the offspring of this couple speak Papapana as well as their parents’ languages. There is also a family in Maras who descend from a Buin-speaking father and Papapana-speaking mother. It is feasible that plantation workers were employed from areas closer to Teperoi than the Buin- and Motuna-speaking areas, such as the Eivo- and Torau-speaking areas; however, these were not explicitly mentioned by Papapana community members and instead it was believed that the plantation owners employed labourers from further afield as it reduced the chances of them escaping and returning home.

In addition to having contact with speakers of other local languages, Papapana speakers would have had increasing exposure to Tok Pisin, which owes its origins largely to plantation activities in Samoa in the early 1880s and its introduction from there into German New Guinea (Wurm 1979: 6). Indeed, McHardy (1935: 173) comments that in two of the new mission villages north of Tunuru “the people, even the women, are quite at home with pidgin”. For more information on the origins of Tok Pisin, see Baker and Mühlhäusler (1996), Mühlhäusler (1976) and Wurm (2012: 444).

The establishment of the plantations also greatly affected the distribution of Papapana speakers. While Papapana has always been a minority immigrant language, community members reported to me that the Papapana community did once occupy a much larger area of land along the coast, stretching from Kiviri point in the north to the area around the Arigua plantation in the south (see Map 2.2 in §2.1).
The establishment of the plantations, and government services such as the airstrip at Wakunai, decreased the land size occupied by the Papapana speech community. This is supported by the caption to McHardy’s photograph (Figure 8.2) which reads “A snap on the beach near Teperoi – a fair sized village about forty miles up the coast from Tunuru. Obviously, from the remains of old gardens, etc. the village was very big at no distant date – but now they seem to be dwindling fast. The two Catechists there have more last minute baptisms to make than any others I know”.4

**FIGURE 8.2 TEPEROI BEACH CIRCA 1931**

The knock-on effect of decreased land was that by the mid-20th century, the Papapana villages were overpopulated. Overpopulation, family disputes and the desire to be closer to particular crops, led certain families to reclaim their ancestors’ land and settle the villages of Maras, Barora and Iraka in the mid-20th century. In the 1990s the village of Peuni was settled for similar reasons, and then from there, the settlements at Koikoi were established, the last one as recently as 2010.

### 8.2.3.2 Missionaries: churches and education

European settlers not only changed the economy of the indigenous populations in Bougainville, but set about introducing their religious beliefs and establishing churches and schools at mission stations. In 1901 the Catholic Society of Mary (Marists) established the first mission station near Kieta (Laracy 2005b: 126). The Methodists did not arrive until 1922 when they set up missionaries in Siwai (the Motuna-speaking area) (Laracy 2005b: 126), and the Seventh Day Adventists arrived later still in 1924 (Regan and Griffin 2005: 476). The closest Marist missions to Teperoi were Asitavi to the north (established 1935) and Mabiri to the south (established in 1958) (Laracy 1976) but the Papapana people had their own Catechists in the village by the time the missionary McHardy visited in circa 1931 (McHardy 1935): the caption to McHardy’s photograph (Figure 8.3) reads “The two Catechists

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4 The mention of last minute baptisms is a reference to high death rates, as the baptisms would be performed quickly before the person died.
at Teperoi on their house…”. Although these Catechists had been trained and thus there had been some missionary contact before McHardy arrived, it is unknown whether any missionary had actually visited Teperoi before McHardy.

FIGURE 8.3 TEPEROI CATECHISTS CIRCA 1931

At least until 1914 Catholic missionaries in Papua New Guinea usually used their parishioners’ languages, whereas Protestant missionaries tended to resort to a lingua franca (Ross 1996b: 595). Nevertheless, the arrival of Protestant competition in Bougainville, “stimulated the Marists to make more intense efforts to consolidate their advantage of a two decade headstart in the race for Bougainvillian souls. Missionaries were dispersed more widely, more stations were founded, greater use was made of Tok Pisin, English-speaking staff were recruited and English was taught in some mission schools” (Laracy 2005b: 126). Indeed McHardy comments the following in a letter: “I had ideas of teaching in a native language, but… there are so many tribes represented that it would be folly to select any particular native language; to do so would be to estrange all the others… Therefore, imperfect as the method may be, the teaching here will be done in English” (McHardy 1935: 98). By 1968 the Bible Society of Papua New Guinea had translated the New Testament into Tok Pisin, and the whole Bible by 1989.

Aside from the language contact brought about through new religious practices and education, a Papapana community member also reported to me that along with the establishment of a police force, the new religious beliefs meant there was less conflict and less fear of outsiders and so people were more willing to travel outside of the Papapana villages, again increasing exposure to other languages.
8.2.4 Mid-20th century educational policies and independence

Under the 1954 Education Ordinance, the teaching of English and the use of English as a medium of instruction were the official educational policy from 1956 (Ross 1996b: 597). Indeed while Australia controlled Bougainville, local languages were frowned upon in education, especially Tok Pisin (Wurm 2012: 444-445). After independence in 1975, the small English-educated elite tried to continue this policy but it was not successful and instead Tok Pisin, Hiri Motu and local languages were used. In the 1980s Papua New Guinean educational policies focused on strengthening local traditional cultures and values and raising literacy levels in some local languages, Tok Pisin, Hiri Motu and English, though hundreds of other local languages still had no role in elementary education. A 1997 declaration made every one of the country’s local languages official languages that could be used in basic elementary education along with Tok Pisin, Hiri Motu and English.

8.2.5 Panguna mine and the Bougainville Crisis

In the 1960s exploratory visits were undertaken to survey the land around Panguna in southern Bougainville. In 1969 vast copper ore deposits were discovered in the Crown Prince Range and this led to the establishment of a huge copper mine by Bougainville Copper Limited (BCL), a subsidiary of the Australian company Conzinc Rio Tinto. When the Panguna mine began production in 1972, it was the world’s largest open cut copper mine and generated nearly half of Papua New Guinea’s export revenue. In terms of language contact, the mine seems to have increased the use of Tok Pisin in the region:

“The company’s operations affected, from east to west, Torau, Nasioi, Nagovisi and Banoni speakers. Had there been a dominant local language, it might have been possible to encourage its use; in the absence of such a language, it was Pidgin which became the common means of communication with the majority of employees and with most villagers. BCL staff were encouraged to learn Pidgin, as were their families, through formal company-sponsored language programs” (Vernon 2005: 263)

Panguna mine became politically contentious with disputes over land tenure and allegations of environmental damage and inequitable distribution of mining revenues. Negotiations between landowners and mine owners broke down and in May 1989 Francis Ona and the Bougainville Revolutionary Army (BRA) sabotaged mining operations and Panguna mine shut down after its power cables were blown up. On 26th June 1989 the Papua New Guinea (PNG) government declared a state of emergency and in September 1989 the Papua New Guinea Defence Force (PNGDF) were sent to quell the resistance. This response enraged Bougainvilleans and prompted a civil war, the Bougainville Crisis, which lasted from 1989 until 1997. The BRA fought against the PNGDF and The Resistance, a paramilitary group that aligned itself with the PNG government. In total, 10,000-15,000 people died either through fighting or indirectly, such as due to receiving no medical attention. The Crisis ended in 1997, largely as the result of New Zealand brokered negotiations, and a Peace Agreement was
finalised in 2000, with the establishment of the Autonomous Bougainville Government. In 2005 the first president was elected, Joseph Kabui, and Francis Ona died, leaving the BRA leadership in question. The mine is still a “No Go Zone”.

The Crisis has significantly impacted on Bougainville, causing huge social and economic change, massive population displacement, a breakdown in law and order, and a decline in the educational system, which at one point was one of the best in PNG (Litteral 2001). For the Papapana people, the Crisis caused significant population displacement as many people were forced to hide in the bush or relocate to Care Centres, while some community members joined the BRA. My corpus contains numerous stories of escape, capture, or life in the Care Centres. The displacement increased contact with other local languages and increased the need for Tok Pisin as a lingua franca, especially in the PNG government Care Centres where Tok Pisin was the dominant language.

8.2.6 The 21st century
Since the Bougainville Crisis, there has been increased mobility of Papapana speakers to population centres. In PNG, population centres might be towns, government stations, regional schools, plantations, mines, factories, or even large mission compounds (Landweer 2012: 164). The increased mobility can be attributed to the desire to gain access to employment, to sell and purchase produce in markets, to access educational and medical services, to seek entertainment such as sporting events, or to participate in important religious celebrations in larger parishes. It has become increasingly easier to travel to towns such as Buka and Arawa, government stations such as Wakunai and mission compounds and local high schools such as those at Asitavi, due to Public Motor Vehicles (PMVs) travelling daily between Arawa and Buka, as well as local PMVs travelling around the Wakunai district, and the completion in 2012 of a bridge network along the east coast highway.

Some Papapana community members have moved between villages as the result of family disputes or because they wish to be closer to assets such as running water or particular crops. People have moved into or out of the Papapana community for marriage, work or entertainment; for example, young women often move into the community to babysit for relatives, young men may come to stay in the village for entertainment or work prospects, and many of the teachers at Teperoi Primary School are immigrants. One particular Rotokas-speaking family moved into Maras to escape a family dispute and so that their children could be closer to Teperoi Primary School, while another two Rotokas-speaking men and their Solos- and Halia-speaking wives were given land in Barora and Peuni. In the year between my two field trips alone, there had been movement of at least twenty-three individuals with knowledge of Papapana (8% of the total number of people with knowledge of Papapana).

There is also increased contact due to media and technology. In PNG, television is almost exclusively in English, national radio is in English, Tok Pisin and Hiri Motu and provincial radio is in Tok Pisin or the larger local languages, while national newspapers are in English or Tok Pisin and provincial newspapers are in Tok Pisin or sometimes a local language (Lynch 1998: 268). For more information,
see Mühlhäusler, Philpott and Trew (1996). I never saw a newspaper or radio in the Papapana villages, but a few of the Papapana community members have mobile phones and when I returned to Teperoi in 2013, several of the teachers had DVD televisions and one had a laptop which they would use to watch films or music videos, however, usage depended on whether they had money to fuel their generators and charge the items.

8.3 Papapana language use, 2011-2013

A domain is “an abstraction which refers to a sphere of activity representing a combination of specific times, settings and role relationships” (Romaine 1995: 30). In these specific social contexts, multilingual speakers select a language from among their linguistic repertoire to speak with other members of their speech community. Landweer (2012: 165) outlines the societal domains in the PNG context: the home, cultural events and social events. Cultural events are defined as those found within the culture prior to Western contact, while social events are introduced societal activities.

In the Papapana villages, domains include the home (§8.3.1), work (§8.3.2), administration (§8.3.3), religion (§8.3.4), education (§8.3.5), and sports events and media (§8.3.6). Village-based work such as food provision and building shelters might be considered “cultural” while village-based work such as copra/cocoa production, marketing and teaching, and work outside of the villages such as nursing might be considered “social”. Administration and religion may also be both “cultural” and “social” while education, and sports events and media are all “social”. These domains are discussed in more detail in the following sections, and language use in each domain is described. For more information on the cultural and social context of Melanesia and Bougainville see Ogan (2005), Oliver (1973, 1991), Regan (2005) and Sillitoe (1998).

8.3.1 Home

In the six Papapana villages, homes consist of separate buildings for sleeping and cooking. The buildings for sleeping are usually on stilts and either constructed from timber or sago palm leaves, sometimes with corrugated iron roofs or doors. Inside there might be one room or several. A household might have more than one sleeping house, for example, one for the parents and one for the children. The buildings for cooking are usually constructed from sago palm leaves and contain a fire and food preparation area. Often the building is divided into two, with the second area used as an eating area. Otherwise, food is eaten outside around the building. Mealtimes can therefore be quite communal; even if there is an eating area, it usually has open windows and people come and go during mealtimes. General relaxation takes place outside. Neighbours are generally family members and often closer family members have houses which are closer to each other. Thus, the idea of being “at home” does not mean being inside one building which contains bedrooms and a bathroom, dining room, kitchen and living room. Nor does a “home” necessarily consist of only parents and their children. Instead, being “at home” means being around the buildings in which people sleep and cook, and therefore it is considerably more sociable and fluid. The people with whom an individual might have
contact are grandparents, parents, children, siblings, cousins, in-laws and so on. The term “home” can therefore be seen as denoting the village setting rather than an actual house. The genealogical and sociolinguistic data I collected in the field (see §1.2.5.5 and §1.2.6.3) allowed me to ascertain the following information on intergenerational language transmission and multilingualism.

8.3.1.1 **Intermarriage and intergenerational transmission**

The language spoken in the home domain relates to intergenerational language transmission: “whether parents and older members of the community are speaking the language with and around children and young people” (Florey 2005: 45). Intergenerational language transmission is linked with mixed or inter-ethnic marriages, since in these marriages the parents have different native languages and have to make a choice about which language to transmit to their children. Of course, intergenerational language transmission is also an issue in intra-ethnic marriages where parents share the same native language but one or both parents might be bilingual and have to decide which language to use with their children. As a result of the increase in contact historically, there has been a huge increase in intermarriage in the Papapana community in the last decade or so.

As of May 2013, thirty-one of the fluent Papapana speakers were married to each other in intra-ethnic marriages: fourteen couples and one polygamous marriage between a man and two sisters. Of these fifteen intra-ethnic marriages, one couple had fully passed Papapana on to both of their children (who were under the age of ten) and another to their eldest offspring only, two couples’ eldest offspring were fluent speakers and younger offspring were semi-speakers, another two couples’ eldest offspring were fluent speakers and middle offspring semi-speakers, and three couples had some or all offspring who were semi-speakers. In the remaining six marriages, no transmission had taken place, or at best their offspring only had passive knowledge.

There were also five Papapana-speaking widows who had been married to Papapana-speaking men. One of these, the eldest Papapana speaker, had fully passed Papapana on to all her offspring, one widow had four offspring of whom one was a fluent speaker and one a semi-speaker. Some or all of the other three widows’ offspring were semi-speakers.

The larger majority of fluent Papapana speakers, totalling fifty-nine speakers, were married to spouses in inter-ethnic marriages. Table 8.2 shows the number of spouses for different first language (L1) backgrounds, whether the spouse was male or female, and whether the Papapana speaker lived with their spouse in one of the six Papapana villages, or had married and lived outside of the Papapana villages. The majority of Papapana speakers who had married inter-ethnically had remained in one of the six Papapana villages, with more men marrying into the community than women. More Papapana-speaking men had also married and lived outside of the community with their wives, than Papapana-speaking women.
TABLE 8.2 INTERMARRIAGE PATTERNS

<table>
<thead>
<tr>
<th>L1 Background</th>
<th>Husbands, in</th>
<th>Husbands, out</th>
<th>Wives, in</th>
<th>Wives, out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tok Pisin (Papapana ancestors)</td>
<td>2</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Rotokas</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Buin</td>
<td>7 (1 dead)</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Motuna</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasioi</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Tinputz</td>
<td>1</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Torau</td>
<td>2 (1 dead)</td>
<td>3</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Halia</td>
<td>3</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Nehan</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Teop</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eivo</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (incl. English)</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>26</td>
<td>6</td>
<td>17</td>
<td>10</td>
</tr>
</tbody>
</table>

Of these partnerships, only two women had managed to bring up some or all of their offspring with Papapana as L1. One of these women married a Rotokas-speaking man and their two eldest, both daughters, spoke Rotokas but only one spoke Papapana fluently while the other, who had moved away, spoke Papapana with less confidence and proficiency. The other woman, a widow, who had passed on Papapana had married a Torau-speaking man and their offspring were all apparently bilingual in Papapana and Torau. Two of these offspring lived with their own families in Teperoi while the other five lived elsewhere, four in a Torau-speaking village. The children in these four families all spoke Torau, as did the children of another Papapana woman who had married into the Torau community. In contrast, one Papapana-speaking woman’s offspring spoke their father’s language Buin but not Papapana because they had been brought up in the Buin area, though the mother and two of her offspring were living in a Papapana village in May 2013. A further eight of the inter-marriage partnerships had brought up some or all of their offspring to be semi-speakers. Some of the other semi-speakers descended from three deceased Papapana-speaking mothers who had married Papuan language-speaking men. Another two semi-speakers were second language (L2) speakers who had grown up in Teperoi but whose parents were Motuna speakers and had moved to the area. In another family, a Torau-speaking man had married a Rotokas-speaking woman and they had lived in Teperoi. Now deceased, this couple spoke Papapana as L2, as do three of their offspring who speak it fluently and another three who are semi-speakers.

8.3.1.2 Multilingualism and other L1s

A discussion of what language is spoken in the home domain normally involves ascertaining what language(s) parents speak to each other and to their children. Section 8.3.1.1 showed that in the families of the fluent Papapana speakers, Papapana had rarely been transmitted or was rarely being transmitted to the children: only 40% of the intra-ethnic marriages had succeeded in fully transmitting Papapana to some or all of their children and only 3.4% of the inter-ethnic marriages had succeeded.
However, as described in §8.3.1, in the Papapana villages the boundaries of the home extended beyond the parents and their children. It is therefore useful to know what other languages are being spoken around the villages.

While Tok Pisin is the intergroup language, many Papapana-speaking adults are multilingual, not only in Tok Pisin and occasionally English, but also in other local languages: 14% speak Rotokas, 13% speak Torau, 2% speak Teop, 2% speak Buin, 1% Tinputz and 1% speak Motuna. Some of these individuals speak another local language because it is the language of their spouse or a parent, but the majority of fluent Papapana speakers who have multilingual repertoires do so because of social contact with other speech communities over their lifetime, suggesting multilingualism used to be pervasive in the community. This in turn is supported by reports from Papapana speakers of their parents’ linguistic repertoires, for example, the previous paramount chief spoke Papapana, Rotokas, Nasioi and Nagovisi.

In addition to the languages spoken by spouses and by multilingual Papapana speakers, there are other individuals present in the community who have different L1s and who must be included if one wishes to gain a full picture of language contact in the Papapana villages. Table 8.3 shows the number of speakers of different L1s per village. Where speakers were multilingual, they are included in the main count for their primary language and in square brackets for the language they identified with least. The numbers in square brackets are not considered in the calculation of the proportion of speakers out of the total population of 510 as otherwise there would be more than 510 tokens. Overall most people’s L1 was Tok Pisin (including some people who were not of Papapana descent), followed by Papapana. There were over twenty people with Rotokas as their L1 (six of whom also had another L1). After that, the language groups which were represented by over ten speakers were Halia, Motuna, Buin and Torau.

<table>
<thead>
<tr>
<th>Language</th>
<th>Peuni</th>
<th>Koikoi</th>
<th>Teperoi</th>
<th>Maras</th>
<th>Barora</th>
<th>Iraka</th>
<th>TOTAL</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tok Pisin</td>
<td>9</td>
<td>32</td>
<td>145</td>
<td>68</td>
<td>47</td>
<td>37</td>
<td>338</td>
<td>66%</td>
</tr>
<tr>
<td>Papapana</td>
<td>3</td>
<td>7</td>
<td>47</td>
<td>13</td>
<td>10</td>
<td>7</td>
<td>86</td>
<td>17%</td>
</tr>
<tr>
<td>Halia</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>13</td>
<td></td>
<td>3%</td>
</tr>
<tr>
<td>Motuna</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>12</td>
<td></td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>Nasioi</td>
<td>1</td>
<td>[1]</td>
<td></td>
<td>4</td>
<td>5[1]</td>
<td></td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>Nehan</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>1%</td>
</tr>
<tr>
<td>Other (PNG)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td></td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>Tinputz</td>
<td>3[2]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3[2]</td>
<td>0.6%</td>
</tr>
<tr>
<td>Nagovisi</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td>0.6%</td>
</tr>
<tr>
<td>Other (Solomons)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.4%</td>
</tr>
<tr>
<td>Teop</td>
<td>1[1]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1[1]</td>
<td>0.2%</td>
</tr>
<tr>
<td>Eivo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
<td>0.2%</td>
</tr>
<tr>
<td>Banoni</td>
<td>[1]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.2%</td>
</tr>
</tbody>
</table>
8.3.1.3 Intergenerational transmission patterns

Having considered marriage patterns and success of Papapana transmission within particular families and the number of languages spoken as L1 in the Papapana villages, one might wonder which generations had succeeded or are succeeding in transmitting Papapana. Table 8.4 presents the distribution of fluent speakers, semi-speakers and people with passive knowledge of Papapana by each age group. It can be calculated that 95% of fluent speakers are above the age of thirty, while with the exception of one or two individuals, all semi-speakers and people with a passive knowledge are under the age of forty. This shows that in 2013 there were speakers in the parental generation who had had Papapana transmitted to them but, with the exception of one couple (who had two Papapana-speaking sons under the age of ten), were not transmitting the language to their own children.

**Table 8.4 Speakers by Age**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>L1 Speakers</th>
<th>L2-Semi-Speakers</th>
<th>Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-9</td>
<td>2</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>10-19</td>
<td>0</td>
<td>7</td>
<td>48</td>
</tr>
<tr>
<td>Parents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>3</td>
<td>13</td>
<td>45</td>
</tr>
<tr>
<td>30-39</td>
<td>23</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>Grandparents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-49</td>
<td>40</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>50-59</td>
<td>24</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Great-Grandparents</td>
<td>11</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>60-69</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>70-79</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>80-89</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>106</td>
<td>55</td>
<td>136</td>
</tr>
</tbody>
</table>

Table 8.5 presents the proportion of fluent speakers within each age group, using the population of an age group across all six villages. Table 8.5 shows that only 1.8% of children under ten in Papapana villages speak Papapana while 0% of children between ten and twenty speak Papapana, only 4% of adults in their 20s and 21% of adults in their 30s speak Papapana, while after the age of 40 years old, over 65% of each age group speaks Papapana. This shows that the grandparental generation were not especially successful in transmitting Papapana to their children, who in turn were even less successful.

The percentage of parents in their 20s and 30s who speak Papapana to some extent is higher than those who speak it fluently: 12% and 30% compared to the aforementioned 4% and 21%. This shows that the grandparental generation did partially succeed in transmitting some Papapana to their children, but more of them did not fully succeed. Only 2% of the over 40s speak Papapana partially, suggesting that it is more a case of all or nothing for older speakers.

Three people of the grandparent generation have a passive knowledge of Papapana (and at least one of these speakers is an immigrant), but otherwise all the people with passive knowledge are under 40: 6% and 32% of children, 43% and 22% of parents.
Overall, grandparent and great-grandparent generations are generally the fluent speakers, parents in their 30s are often semi-speakers, while younger parents and children have passive knowledge of Papapana at best.

8.3.2 Work

Within the villages, work includes housework, building shelters, cooking, fishing, hunting, gathering and gardening, and copra/cocoa production. Gardens are most often located outside of the village. Fishing, hunting, gathering and copra/cocoa production also take place outside of the village, while some community members go to markets at Wakunai, or further to Arawa and Buka, to sell and buy produce. In 2013 a small market was established on the main highway, just south of Maras bridge, and thus easily accessible to those living in Maras and Teperoi. Another occupation within the Papapana villages is teacher, while some community members work in other towns as tradesmen, teachers, nurses or in local government. Work inside the village could be considered part of the home domain (see §8.3.1), or educational domain (see §8.3.3) while work outside of the village is more distinct. Papapana might be used among fluent speakers in the external work domain but it is most certainly not the language of that domain and it is less likely to be used given the increased chance of non-Papapana speakers being present.

8.3.3 Administration

The Papapana speech community has a chief system that consists of a Paramount Chief, Chairman of Chiefs, Vice Chairman of Chiefs, a Secretary and Treasurer and then one or two Clan Chiefs for each of the six clans. In May 2013, all the main chiefs lived in Teperoi or Maras, while each village had one or two clan chiefs. The Secretary and many of the clan chiefs are female. All chiefs are fluent Papapana speakers and met once a month. Without being privy to these meetings, I cannot say what language is used. Speakers said they use Papapana, but Tok Pisin may well be used too. The entire community meets about once a month but there are also regular announcements after church on

### TABLE 8.5 PROPORTION OF SPEAKERS IN AGE GROUP

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Total Population of Age Group in Papapana villages</th>
<th>L1 Speakers living in Papapana villages</th>
<th>L2/Semi-Speakers living in Papapana villages</th>
<th>Passive living in Papapana villages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-9</td>
<td>114</td>
<td>2</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>10-19</td>
<td>142</td>
<td>0</td>
<td>8</td>
<td>46</td>
</tr>
<tr>
<td>Parents</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>76</td>
<td>3</td>
<td>12%</td>
<td>43%</td>
</tr>
<tr>
<td>30-39</td>
<td>81</td>
<td>17</td>
<td>24</td>
<td>30%</td>
</tr>
<tr>
<td>Grandparents</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-49</td>
<td>49</td>
<td>33</td>
<td>2%</td>
<td>4%</td>
</tr>
<tr>
<td>50-59</td>
<td>31</td>
<td>20</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Great-Grandparents</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-69</td>
<td>12</td>
<td>9</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>70-79</td>
<td>1</td>
<td>1</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>80-89</td>
<td>2</td>
<td>2</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>508</td>
<td>87</td>
<td>42</td>
<td>107</td>
</tr>
</tbody>
</table>
Sundays and minor meetings are scheduled among particular groups (such as the women’s prayer group), clans or villages as and when it is necessary. Clan chiefs are responsible for disseminating information and decisions that have been made at chief meetings. At meetings in which the entire community is present, Tok Pisin is used since a large majority of community members do not speak or understand Papapana. Regional government and administration outside of the six Papapana villages is most certainly conducted in Tok Pisin, or another local language. The fact that Papapana had no status at the regional level is evident in the fact that the sign on the Teperoi church says *Auta Parish, Auta* meaning ‘Papapana’ in the Rotokas language.

### 8.3.4 Religion

Teperoi village has a Catholic church while Barora also has a small building which is used as a church. Church sermons, readings and prayers are conducted in Tok Pisin. Songs are also conducted in Tok Pisin, though occasionally English songs or Papapana songs are sung. According to one community member, funerals and marriages within the church are conducted in Tok Pisin, but traditional ceremonies outside the church are conducted in Papapana. When there are more Papapana speakers present, such as at one of the women’s prayer meetings, more Papapana songs are sung and preaching may be conducted in a mixture of Papapana and Tok Pisin.

### 8.3.5 Education

The Papua New Guinean educational system begins with Elementary School, continues with Primary School and Secondary School, and concludes with High School. Elementary School consists of the levels Elementary Prep, Elementary 1 and Elementary 2, and generally students start at the age of five or six years old, and finish at the age of eight years old. Primary School has six levels, three to eight, and students typically begin aged nine and finish aged fourteen. Secondary School comprises two levels, nine and ten, and students are typically fifteen and sixteen years old. Finally, High School also consists of two levels, eleven and twelve, and students are usually aged seventeen and eighteen. However, due to the breakdown of the education system in Bougainville during the Bougainville Crisis, many students were delayed in beginning, or interrupted during, their education. Some students of the current young parent generation never returned to school. Consequently the age groups given above are not representative of the current student cohorts found in many Bougainville schools; for example, in Teperoi Primary School in 2011, Elementary Prep consisted of six and seven year olds, Elementary 1 of eight to ten year olds, Elementary 2 of eleven and twelve year olds, Primary 3 of thirteen to fifteen year olds, Primary 5 of fifteen and sixteen year olds and Primary 8 of sixteen to eighteen year olds. Therefore students were finishing Elementary and Primary School four years later than expected.

At Elementary and Primary School, there are three core courses: Language, Cultural Maths, and Culture and Community. In 2013, Teperoi Primary School had been following the 2003 Elementary Language Syllabus, published by the Papua New Guinea National Department of Education (NDOE
This syllabus states that “The students’ first language is to be used as a medium of instruction for the first three years of education” (NDOE 2003: iv). English is introduced at Elementary 1 level. The students’ L1 is referred to elsewhere in the syllabus as the students’ “vernacular” and this is defined as “‘tokples’, which is also called ‘mother tongue’ in many countries. The vernacular in Papua New Guinea could be one of the Papua New Guinea’s 850 local languages including Tok Pisin, Hiri Motu and English” (NDOE 2003: 1). Teachers and students are expected to “speak well the language of instruction” in order to meet the syllabus outcomes, and teachers “need to read and write fluently the vernacular of the students” (NDOE 2003: 1).

In Teperoi, Papapana is the “tokples” even though it is not everyone’s L1. The first problem with achieving the objective of using Papapana as the medium of instruction is that the teachers themselves have different language backgrounds. Table 8.6 shows the levels which were operating at Teperoi Primary School between 2011 and 2013, and the teachers who taught those levels. As can be seen, Casilda, the head teacher and a fluent Papapana speaker, taught at Primary School level, where Papapana is not part of the curriculum. In 2011 both Elementary Prep and Elementary 1 had teachers who spoke Papapana fluently but Elementary 2 did not. In 2012 and 2013, Elementary Prep was still taught by Francis, a fluent Papapana speaker, but Elementary 1 was not, while Elementary 2 was taught by a semi-speaker who did not utilize Papapana in the classroom.

**Table 8.6 Teperoi Primary School Teachers 2011-2013**

<table>
<thead>
<tr>
<th>Level</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elementary Prep</strong></td>
<td>Francis (Papapana)</td>
<td>Francis (Papapana)</td>
<td>Francis (Papapana)</td>
</tr>
<tr>
<td><strong>Elementary 1</strong></td>
<td>Regina (Papapana)</td>
<td>Louen (Halia, Tinputz)</td>
<td>Louen (Halia, Tinputz)</td>
</tr>
<tr>
<td><strong>Elementary 2</strong></td>
<td>Jacinta (Rotokas)</td>
<td>Jeffrey (Papapana L2)</td>
<td>Jeffrey (Papapana L2)</td>
</tr>
<tr>
<td><strong>Primary 3</strong></td>
<td>Casilda (Papapana, Rotokas)</td>
<td>Emily (from Rabaul island)</td>
<td>Betsy (Buin)</td>
</tr>
<tr>
<td><strong>Primary 4</strong></td>
<td>Betsy (Buin)</td>
<td>Pauline (Kerema)</td>
<td></td>
</tr>
<tr>
<td><strong>Primary 5</strong></td>
<td>Casilda (Papapana, Rotokas)</td>
<td>Casilda (Papapana, Rotokas)</td>
<td></td>
</tr>
<tr>
<td><strong>Primary 6</strong></td>
<td>Casilda (Papapana, Rotokas)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Primary 7</strong></td>
<td></td>
<td>Kingsford (from Buka island)</td>
<td></td>
</tr>
<tr>
<td><strong>Primary 8</strong></td>
<td>Emily (from Rabaul island)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The second problem with achieving the objective of using Papapana as the medium of instruction is that the students have different language backgrounds. For example, in 2013, two of the fifteen students at Elementary Prep level came from a Rotokas-speaking village and spoke Rotokas as their L1, while the other students were all from Papapana-speaking villages but spoke Tok Pisin as their L1, though some may have understood Papapana. In 2012, only two children at Elementary School spoke...
Papapana. The syllabus does recognise Tok Pisin as a “vernacular”, but in Teperoi “tokples” means Papapana, and Tok Pisin would not be considered “tokples” by any means. It is difficult therefore to achieve the syllabus objectives when the children did not speak their “tokples” and when some children spoke an entirely different “tokples”.

The third obstacle in achieving the goal is lack of materials. In the Wakunai district there are four clusters of schools and Teperoi Primary School belongs to Cluster 1 which includes five other Elementary or Primary schools. Each cluster meets at the beginning of each year to plan monthly themes and lesson plans. Francis has a syllabus and resource book for each of the three core courses, and in addition, for Language, there is an oral English book and an Elementary Language Kit Handbook. From these books teachers are expected to create their teaching materials and they are expected to have a print rich classroom with displays, flashcards, a reading corner, storage boxes for books etc. (NDOE 2006). This is completely unrealistic given the Papapana community’s lack of electricity and finances for computers and printers, and the lack of secure and weather tight storage. In addition, since no other school in Bougainville is situated within the Papapana-speaking area, there are no other teachers with whom Francis can share “tokples” materials. In reality, there was a makeshift blackboard, Francis used songs and games, and he had created some paper flashcards of words or sentences (see Figure 8.4). Other materials, such as story books Francis had created, had been destroyed or lost. Otherwise, there are no written Papapana materials in the community, even though Papapana does have an established orthography (see §3.2).

*FIGURE 8.4 FRANCIS ABEA, TEPEROI PRIMARY SCHOOL, 2012*

It is not surprising then that even in Francis’ Elementary Prep classes Papapana is not used consistently as the medium of instruction. Instead Papapana is taught effectively as an L2 in Language classes, with the medium of instruction being Papapana and Tok Pisin. English is also taught as an L2 alongside Papapana, in preparation for Elementary 1. In Maths classes and Community and Culture
classes, Papapana is sometimes used for numbers and naming objects respectively, but Tok Pisin is used as the medium of instruction. There is therefore a low chance of students becoming literate in Papapana. This chance is further diminished by the fact that not all children attend school in Teperoi; for some children it is too far to walk and they go to school elsewhere or not at all, while others may not complete their education.

8.3.6 Sports events and media
Quite often on Sunday afternoons, community members gather at the school grounds and play football and volleyball, sometimes just for entertainment and sometimes in preparation for tournaments in Bougainville or at national level. Community members also meet for fundraising events, such as a school fundraiser which took place for a whole week on the school grounds and included sports tournaments, live music and food stalls. Social events such as these which take place within Teperoi or another Papapana village are conducted in a mixture of Papapana and Tok Pisin depending on the participants of a particular conversation. Social gatherings such as these which take place outside of the six villages, for example, in the district capital Wakunai, are conducted in Tok Pisin, though Papapana speakers might speak Papapana among themselves.

Within the village setting, a few community members had generators and televisions with DVD players, so occasionally villagers were exposed to television shows, films and music videos in English, Tok Pisin, Solomons Pijin and other local languages such as Rotokas.

8.3.7 Summary
In summary, Tok Pisin is the language of all domains, but Papapana is used among Papapana speakers in these domains. Papapana exists in the school domain for the first year or so of education, but the dominant language is Tok Pisin. Beyond Elementary school, Tok Pisin and English are the languages of the school domain. Papapana exists in the home domain but the dominant language appears to be Tok Pisin.
9 Contact-induced Grammatical Change

9.1 Aberrancy and contact-induced change

9.1.1 Melanesia

Within the Oceanic subgroup of the Austronesian family, languages that may be regarded as “aberrant” (Grace 1992) are significantly more common in Melanesia than in Micronesia and Polynesia (Grace 1992: 118). For Grace, an aberrant language is one which has “proved relatively intractable by the comparative method” (Grace 1992: 115). Grace (1992) regards aberrancy as one end of a continuum with “exemplary” at the opposite end, and distinguishes different types of aberrancy. Firstly, a language may be aberrant because it does not have regular or obvious sound correspondences with other related languages. Secondly, a language may demonstrate aberrancy by having relatively few cognates with other languages in the family or subgroup. Thirdly, a language may exhibit morphosyntactic aberrancy, that is, the morphological and syntactic systems are not typical of the subgroup. Finally, the phonological system may be atypical of the subgroup.

If a language displays one or more of these aberrant features, it raises questions about the causes of this diversity. Pawley (2006: 217) proposes three types of historical explanation which should be considered when a language differs radically in lexicon and/or phonology and/or grammar from its relatives: system-internal linguistic change, socially-induced linguistic change and contact-induced change. In system-internal linguistic change, certain linguistic structures are “subject to natural processes in speech production and comprehension, which allow children to reinterpret these structures” and a language may undergo such innovations to a much greater extent than its relatives (Pawley 2006: 217). Social processes internal to a community, such as name taboo or a change in the prestige of a language, may lead to socially-induced change, while extensive borrowing from a language that is less closely related or completely unrelated to the language may lead to contact-induced change. Contact-induced change is considered to have taken place “when a group of speakers regularly shows a linguistic behaviour that differs from that of earlier generations of speakers and where this behaviour can be demonstrated to have been influenced in some way by language contact” (Heine and Kuteva 2008: 58).

In Melanesia it is contact-induced change which has been a major factor in the development of aberrant linguistic features. Melanesia displays great linguistic diversity with hundreds of Oceanic and non-Oceanic Austronesian languages and Papiuan (non-Austronesian) languages spoken across the region (see §2.3). In the pre-modern era, communities knew each other’s languages and an individual’s ethnic identity was tied to their village. One language was emblematic of their ethnic identity and particular village languages became the means of intergroup communication (Ross 1996a). Sustained bilingualism among small language communities is often associated with frequent
intermarriage, and in many cases a merging of groups from distinct speech communities (Pawley 2006: 242), both of which increase intergroup communication. Many Austronesian languages have undergone contact-induced change as a result of the social contact between Austronesian and Papuan language speakers, a process that has been termed “Papuanization” (Lincoln 1976b): “Papuanization is the process through which Austronesian linguistic devices of lexicon, grammar, and phonology are modified or distorted toward, or abandoned in favour of Papuan linguistic devices” (Lincoln 1976b: 78). Sustained bilingualism may lead speakers to “progressively adapt the semantic and morphosyntactic structures of their emblematic language to the model of the more often spoken intergroup language” and/or speak the intergroup language with a phonology similar to their emblematic language (Ross 1996a: 181-182). If bilingualism continues and the emblematic language survives in its restructured version, the result is “metatypy” (Ross 1996a), that is, “a change in (morphosyntactic) type which occurs when speakers are bilingual and restructure the morphosyntactic constructions of one of their languages on the model of constructions from their other language” (Ross 2008: 149). A variety of other terminologies have been used to refer to this process, including “grammatical replication” (Heine and Kuteva 2005, Heine and Kuteva 2008) and “structural borrowing” (Winford 2003). In keeping with Ross’ (1996, 2007a, 2008) work on Oceanic languages, the term “metatypy” will be adopted here.

In Melanesia, many Austronesian languages are aberrant in terms of exhibiting metatypy and having relatively few Austronesian cognates. Indeed, Melanesia has the highest incidence of languages displaying very low cognate counts with languages other than their immediate neighbours (Pawley 2006: 230). The morphosyntactic aberrancy found in many of these languages tends to manifest itself in a shift from left-headed to right-headed typology. For example, most languages of the Papuan Tip linkage in southern New Guinea have OV order and postpositions (Lynch, Ross and Crowley 2002: 15). Another language which displays OV order and postpositions is Takia, a member of the Bel family of the North New Guinea subgroup. Ross (1996, 2008) found that in Takia, clause order is verb-final, there are postpositions, NPs lack articles, possessors are preposed in possessive NPs, aspect, mode and clause linkage are marked by enclitics on the predicate and there are chains of coordinate dependent clauses ending with an independent clause. These features are not typical of Oceanic languages but are instead similar to structures found in neighbouring Papuan languages. Ross (1996, 2008) argues that these features reflect contact-induced change, as a result of contact with neighbouring Papuan languages, predominantly Waskia.

9.1.2 Northwest Solomonic

Ross (1988) applied the Comparative Method to the Northwest Solomonic (NWS) subgroup of Oceanic, to which Papapana belongs (see §2.3), and found that NWS languages demonstrated regular sound correspondences and patterns of shared innovations that indicate phylogenetic relationships among the languages in the area. However some languages display atypical morphosyntactic structures and NWS languages are lexically the most innovative of Oceanic languages, retaining the least number
of cognates (Blust 2000, Pawley 2009, Ross 2010). Until Evans and Palmer’s (2011) work on Mono-
Torau and Uruava¹, there had been little research into morphosyntactic aberrancy in the region. The
only significant previous study on contact-induced change in Bougainville, Lincoln (1976b), found
there was no Papuan influence on the verbal morphology and word order of Banoni, spoken in western
Bougainville. Evans and Palmer (2011) found that Mono (Shortland Islands, Solomon Islands), Torau
(Bougainville) and the now extinct Uruava (Bougainville) display right-headed structures, including
SOV clause order, postpositions and preposed possessors, which are not typical of NWS or Oceanic
languages. Instead, these structures are similar to structures found in the neighbouring Papuan
languages Buin, Nasiol, Nagovisi and Motuna which form the South Bougainville language family and
are phylogenetically distinct from other Papuan languages of the region (Evans 2009, Ross 2005). Map
8.1 in §8.2.1 shows the geographical distribution of the Oceanic and Papuan languages spoken in
Bougainville and the northwestern Solomon Islands: Torau and Uruava are spoken on the east coast of
Bougainville, Mono is spoken off the south coast of Bougainville, and the four Papuan languages in
question (comprising the South Bougainville family) are spoken in the southern third of Bougainville
island. Evans and Palmer (2011) describe genetic, archaeological and ethnographic research which
demonstrates that historically there was social contact and interaction among the different
ethnolinguistic groups of southern Bougainville, while synchronically there is “regular social
interaction among people from different ethnolinguistic groups in southern Bougainville and the
Shortland Islands, particularly at markets in Arawa and Buin” (Evans and Palmer 2011: 493), although
today the language of intergroup communication is typically Tok Pisin. Evans and Palmer (2011)
argue that the aberrant grammatical structures found in Mono-Torau and Uruava reflect contact-
induced change as a result of social contact with speakers of neighbouring Papuan languages.

9.1.3 Papapana

Mono-Torau and Uruava are not the only NWS languages to demonstrate such aberrant structures.
Like Mono-Torau and Uruava, Papapana displays right-headed structures, including verb-final clauses,
a nascent postposition, and preposed possessors. I hypothesize that these atypical structures reflect
contact-induced change resulting from the influence of Bougainville Papuan languages, in particular
the North Bougainville language Rotokas and the South Bougainville languages Buin and Motuna,
with which Papapana speakers have had, and still have, the most contact (see §8.2 for details of this
contact).

In order to test this hypothesis, I follow steps outlined by Thomason (2008) to demonstrate that
contact-induced change has occurred. The first step, to look at the language as a whole and identify
structural interference, has already occurred since this thesis provides a grammatical description of

¹ The languages Mono, Torau and Uruava were believed to form a first order subgroup of NWS (Ross 1988)
called Mono-Uruavan in Evans and Palmer (2011); however, while Mono and Torau are still thought to form a
subgroup, the exact relationship of Uruava to these languages is not completely clear at this stage (Bill Palmer,
pers.comm.). I will therefore refer to these languages as Mono-Torau and Uruava, rather than Mono-Uruavan.
Papapana which necessarily looks at the language as a whole. The second step is to “identify a source language… [and] show that the proposed source language is or was in contact with the proposed receiving language, and that the contact situation was intense enough to make structural interference a reasonable prospect” (Thomason 2008: 49). I have identified the Papuan languages of Bougainville, particularly Rotokas, Buin and Motuna, as being source languages and have shown in §8.2 that Papapana speakers had, and still have, significant contact with these languages, especially Rotokas. The third step is to “identify shared (or partially shared) structural features in the proposed source and receiving languages” (Thomason 2008: 49): these are verb-final clause orders, postpositions and preposed possessors. These features will each be investigated in §9.2, §9.3 and §9.4 respectively. The fourth step is to “prove that the proposed interference features did not exist in the receiving language before it came into contact with the source language” (Thomason 2008: 49). Since there is no earlier grammatical documentation of Papapana, it is necessary to examine related languages in order to show that the relevant features cannot be reconstructed for their common parent language. I therefore present the canonical Oceanic morphosyntactic features found in many NWS languages and illustrate how Papapana conforms to and diverges from this canon (see Lynch et al. 2002, Ross 1988, Ross 2004c). The final step is to “prove that the proposed interference features were present in the source language before contact with the receiving language” (Thomason 2008: 49). Little reconstructive work has been carried out on the Papuan languages of Bougainville beyond Evans’s (2009) work on basic vocabulary and Ross’ (2005) work on pronouns, but constructions that are similar between the North Bougainville language Rotokas and the South Bougainville languages Buin and Motuna, can be taken as typical of the Papuan languages of the region and likely to have been present before contact with Papapana. Indeed, both the North and South Bougainville language families are considered part of the so-called East Papuan languages, which comprise thirty-four languages scattered over the islands east of the New Guinea mainland (Wurm 2012: 431). Although the existence of an East Papuan phylum is still in question, several language families have been established within the East Papuan languages and there seems to be links between these languages (Wurm 2012: 431). When a grammatical structure in Papapana is found to be different to the NWS and Oceanic canon but resembles Papuan languages, I conclude that this is evidence that contact-induced change has occurred as a result of social contact between Papapana and Papuan language speakers.

9.2 Clause order

As described in §6.1, clause order in Papapana shows considerable variation. In intransitive clauses, verb-final clause order is the basic clause order and the pragmatically marked clause order when the subject is Topic, while verb-initial clause order is highly restricted. In pragmatically unmarked transitive clauses, both SVO and SOV order are prevalent while the pragmatically marked transitive clause order involves a clause initial Topic position. If the subject is the Topic there is no difference to clause order since in both SVO and SOV clauses, the subject is already in clause initial position. If the object is Topic, the clause order is OSV. As §9.2.1 will show, the verb-medial clause order found in
Papapana is typical of NWS, but the verb-final clause orders are atypical and may instead be the result of contact with Bougainville Papuan languages which demonstrate SOV as their basic clause order (§9.2.2).

### 9.2.1 Northwest Solomonic clause order

The pragmatically unmarked clause order in most NWS languages is verb-initial, with a preverbal argument position for pragmatically marked arguments (Lynch et al. 2002, Ross 1988: 228). The pragmatically marked clause order in NWS is traditionally commonly expressed as TVX, where X represents a pragmatically unmarked argument, and T represents a pragmatically marked argument, be it Topic or Focus (see §6.1 for definitions of these terms). The TVX order common in many NWS languages is illustrated in (1) from Banoni. In (1a) the topic is the clause-initial pronoun nna ‘he’ and the order is TVX, whereas in (1b) the pronoun nna ‘he’ is no longer the topic and therefore occurs postverbally, since the pragmatically unmarked clause order is verb-initial.

**Banoni (Banoni-Piva, NWS)**

(1) a. Nna ke tsun-a ma=i borogo², 3SG 3SG.SBJ.RL.³ kill-3SG.OBJ hither=ART⁴ pig⁵
‘He killed a pig,

b. ke ne sune-a nna. 3SG.SBJ.RL. then singe-3SG.OBJ 3SG and then singed it.’

(Lynch and Ross 2002: 451)

While in Banoni the initial Topic is optional, in some NWS languages such as Teop, the clause initial Topic is obligatory, rendering all clauses verb-medial. Crucially, regardless of whether the Topic is optional or obligatory, the verb typically precedes any pragmatically unmarked arguments in NWS languages.

### 9.2.2 Papuan clause order

The Papuan languages of Bougainville exhibit SOV basic clause order. In Rotokas, the clause order is verb-final, with the subject occurring before the object (SOV) as in (2)a. It is also possible for the subject to occur postverbally, giving OVS, as in (2)b. The order of objects in Rotokas is stricter than that for subjects, and objects usually occur in a fixed preverbal position as in (2)a and (2)b. However,

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² Symbols in the Banoni orthography present in the data have their expected IPA values except gh = /ɣ/ and ts = /tʃ/.
³ Lynch and Ross (2002) gloss /ke/ as 3SG.RL but it is glossed here as 3SG.SBJ.RL because the realis subject proclitics show agreement with the subject in number and sometimes in person as well (Lynch and Ross 2002: 448).
⁴ Lynch and Ross (2002) gloss the article /i/ as a suffix but describe it as a clitic; I have glossed it as a clitic accordingly.
⁵ Abbreviations in all examples have been modified to follow the Leipzig glossing rules. In addition, the following abbreviations are used: AUG, ‘augmentative; CNSPOSS, “consumed” possession; CONT, continuous; DIM, diminutive; GENPOSS, general (i.e., default) possession; HAB, habitual; HUM, human; IMMPST, immediate past; LINK, linker; MIDPST, mid past; NRPST, near past; OPT, optative; PCL, paucal; PSSM, possessum; PSSR, possessor; RD, reduplicant; RL, realis; RMPST, remote past; VOL, volitional.
if the object is a full noun phrase (NP) and not a pronominal form then it may occur postverbally in an
SVO order, with a connector\(^6\) *aue* occurring as “a trace of the right-dislocated argument canonical
position” (Robinson 2011: 131) as in (2)c.

**Rotokas (North Bougainville, Papuan)**

(2) a. oira-to koie upo-re-vo\(^7\).
   man-SG.M pig hit-3SG.M\(\beta\)-IMMPST\(\beta\)
   ‘the man hit the pig’

   (Robinson 2011: 130)

   b. koie upo-re-vo oira-to
   pig hit-3SG.M\(\beta\)-IMMPST\(\beta\) man-SG.M
   ‘the man hit the pig’

   (Robinson 2011: 130)

   c. oira-to aue upo-re-voi vuri-va kaakau
   man-SG.M LINK hit-CONT-3SG.M\(\beta\)-PRS\(\beta\) bad-SG.F dog
   ‘the man is hitting the bad dog’

   (Robinson 2011: 131)

In Buin, clause order is always verb final. The order of core argument NPs is determined by their
relative position on an animacy hierarchy (see Silverstein 1976), with arguments higher on the
hierarchy occurring before arguments lower on the hierarchy (Laycock n.d.: 6). Therefore (3)a shows
OSV order due to the object being expressed by a first person pronoun and the subject by a second
person pronoun, and (3)b shows SOV order because the subject is animate and the object is inanimate.
If both arguments are equal in terms of animacy then the order is SOV as in (3)c (Laycock n.d.: 6).
However Evans and Palmer (2011) argue that not all the examples in Laycock (2003) support such an
analysis, for example, in (3)d the object denoting a human reference occurs after the nonhuman
animate subject, suggesting that SOV is the preferred clause order in Buin (Evans and Palmer 2011:
498).

**Buin (South Bougainville, Papuan)**

(3) a. Ne ro mina-m-e-i\(^9\)
   1SG 2SG hide-1.OBJ-2.SBJ-IMMPST\(^10\)
   ‘You hide me’

   (Laycock n.d.: 6)

---

\(^6\) Glossed here as LINK ‘linker’.

\(^7\) All data are presented in the orthography used by Robinson (2011). This orthography was established by
Firchow (1974) and the Rotokas-speaking community and Robinson (2011) further developed this orthography
to show vowel length distinctions by doubling a vowel letter. All symbols have their expected IPA values except
\(v = /\beta/\).

\(^8\) In Rotokas, verbal subject agreement and tense-marking can be divided into two formally distinct classes,
which Robinson (2011) labels \(\beta\) and \(\alpha\). Verbs are classified according to which form of person agreement they
take.

\(^9\) All data are presented in the orthography used by Laycock (2003) and all symbols have their expected IPA
values.

\(^10\) Detailed morpheme-by-morpheme glosses of examples are not provided in Laycock (n.d.) or Laycock (2003),
therefore I follow the glosses added by Evans and Palmer (2011) which were based on grammatical analyses
given in Griffin (1974), Laycock (n.d.) and Laycock (2003) and on the lexical information presented in
b. Urugito toku oo-k-u-i
   pig fence break-3.OBJ-3.SBJ-IMMPST
   ‘The pig breaks the fence’
   (Laycock 2003: 129)

c. roi mumira mina-p-ui
   man chief hide-3.OBJ-3SG.SBJ
   ‘the man hides the chief’
   (Laycock n.d.: 5)

d. Ako-i maikuna roi-kene kaku-t-ŋ-guo
   DEM-ERG dog man-PL bite-3.OBJ-3.SBJ-PL-HAB
   ‘This dog bites people’
   (Laycock 2003: 37)

In Motuna all clause orders are possible but SOV is the most frequent and least pragmatically marked
(Onishi 1994: 60ff). The order of subject and object preverbally depends on topicality and case
marking (Evans and Palmer 2011: 497). If the subject is topic then it is unmarked for case and
precedes the object as in (4)a. If the subject is not topic then it exhibits ergative case marking and the
clause order is free as in (4)b where the subject follows the object. There is also a postverbal focus
position for subjects/objects expressing new information as in (4)c (Evans and Palmer 2011: 498).

Motuna (South Bougainville, Papuan)
(4)  a. Hoo Paanaangah tii Perui tu-u-ng\(^{11}\)
   ART.M Paanaangah ART.F Perui kill-3.OBJ-3SBJ.RMPST-M
   ‘Paanaangah (Topic) killed Perui’
   (Onishi 1994: 60)

b. … tii Perui ho-i Paanaangah tu-u-na
   ART.F Perui ART.M-ERG Paanaangah kill-3.OBJ-3SBJ.RMPST-F
   ‘…Perui (Topic) was killed by Paanaangah’\(^{12}\)
   (Onishi 1994: 60)

c. Tiwongori ong motukah a-matu
   therefore DEM.M island DEM-CLF.patch
   motuk-e-u-r-u-ng so-i Maawo
   spare-APPL-3.OBJ-3SBJ-PCL-RMPST-M ART.M-ERG Maawo
   ‘Therefore Maawo spared this patch of island for them’
   (Onishi 1994: 545)

9.2.3 Clause order conclusion

Papapana demonstrates variation in its basic transitive clause order, with SVO and SOV clause orders
both possible. In intransitive clauses, the basic clause order is verb-final. Overall, while the order of
the verb and object is variable in transitive clauses, the unmarked clause order consistently displays the
subject preceding the verb and object. While the SVO clause order is typical of NWS languages, verb-
final clause order is atypical. Verb-final clause orders are however typical of the Papuan languages of
Bougainville which all exhibit SOV basic clause order. The variation between SVO and SOV basic

\(^{11}\) Symbols in the Motuna orthography present in the data have their expected IPA values except \(ng = /ŋ/\) and the
apostrophe \(= /ʔ/\).

\(^{12}\) Onishi (1994) translates this clause with an English passive but Evans and Palmer (2011) point out that this is
not a grammatically passive construction in Motuna; instead ‘Perui Paanaangah killed’ is a more accurate
translation.
clause order in Papapana may therefore be attributed to contact-induced grammatical change under the influence of Papuan languages.

9.3 Oblique constructions

As described in §6.2, obliques in Papapana may be licenced by the prepositions *eangoiena* and *te*, or the nascent postposition *tomana*. *Eangoiena* marks temporal duration while *tomana* marks accompaniment. *Te* expresses temporal location, static location of an entity, or the goal or source to or from which movement or action is directed. *Te* may also mark instrument, and possession (§4.9.5). Some Class I nouns referring to time can occur as oblique NP adjuncts, Location nouns (some of which are marked by the locative case prefix *i-*) occur as oblique NPs, while deictic location words may also occur in oblique constructions. As §9.3.1 will show, obliques are typically expressed as prepositional phrases in NWS languages, whereas the postposition *tomana* is atypical and may instead be the result of contact with Bougainville Papuan languages which use case suffixes and postpositions in their expressions of obliques (§9.3.2). As mentioned in §6.2.6 it is likely that *tomana* may have grammaticalised as a comitative marker from the Papapana additive marker denoting ‘too’ (see §4.14) under the influence of the neighbouring Papuan language Rotokas (§9.3.2).

9.3.1 Northwest Solomonic oblique constructions

In NWS and Oceanic languages, oblique arguments and adjuncts are typically expressed as prepositional phrases, as (5) from Banoni demonstrates. NWS languages also usually have a small number of different prepositions which introduce participants with a wide range of semantic roles (Evans and Palmer 2011: 500).

Table 9.1 demonstrates both these features with Banoni, where the preposition *mo* encodes location, goal and source. Not all of the prepositions in a NWS language exhibit the same morphosyntactic behaviour. For example, in Banoni, *mo* is unaffixed whereas *ma* or *me* are affixed and always occur with a suffixed pronoun which resembles the object set (Lynch and Ross 2002: 453) (see §5.5.4 for more information about *ma* and *me* in Banoni, and how they may relate to the applicative comitative in Papapana).

**Banoni (Banoni-Piva, NWS)**

(5) Na ta tai me-a Baano  
1SG FUT go COM-3SG.OBJ Baano\(^{13}\)  
‘I shall go with Baano’

(Lynch and Ross 2002: 453)

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\(^{13}\) Lynch and Ross (2002) gloss the suffixed pronoun which resembles the object set as *3SG*. I gloss it here as *3SG.OBJ* so as to distinguish it from the 3SG independent pronoun *nna*. 

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TABLE 9.1 BANONI PREPOSITIONS

<table>
<thead>
<tr>
<th>Semantic Role</th>
<th>Preposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location (LOC)</td>
<td>mo</td>
</tr>
<tr>
<td>Goal (ALL)</td>
<td>mo</td>
</tr>
<tr>
<td>Source (ABL)</td>
<td>mo</td>
</tr>
<tr>
<td>Accompaniment (COM)</td>
<td>ma/-me/-</td>
</tr>
<tr>
<td>Instrument (INS)</td>
<td>ghenai</td>
</tr>
</tbody>
</table>

9.3.2 Papuan oblique constructions

Bougainville Papuan languages use case enclitics, postpositions and case suffixes in oblique constructions. As shown in Table 9.2 and example (6), obliques in Rotokas are expressed via postpositional forms, either monosyllabic enclitics (6)a or polysyllabic particles (6)b, which mark the semantic relation of the nominal with which they occur (Robinson 2011: 69). Table 9.2 shows the case suffixes and postpositions employed in Rotokas, the glosses provided by Robinson (2011: 70) for the most typical meaning of a particular form, and some of the other semantic roles Robinson (2011: 77) presents for the case enclitics.

TABLE 9.2 ROTOKAS CASE ENCLITICS AND POSTPOSITIONS (ADAPTED FROM ROBINSON 2011: 70, 77)

<table>
<thead>
<tr>
<th>Case Enclitic/Postposition</th>
<th>Gloss</th>
<th>Other Semantic Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>=re</td>
<td>‘to’</td>
<td>Goal (ALL)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Addresssee</td>
</tr>
<tr>
<td>=pa</td>
<td>‘for’</td>
<td>Benefactive (BEN)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recipient</td>
</tr>
<tr>
<td>=va</td>
<td>‘from’</td>
<td>Comitative (COM)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Source</td>
</tr>
<tr>
<td>=ia</td>
<td>‘at’</td>
<td>Location (LOC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Instrument</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Topic</td>
</tr>
<tr>
<td>arova</td>
<td>‘without’</td>
<td></td>
</tr>
<tr>
<td>iare</td>
<td>‘towards’</td>
<td></td>
</tr>
<tr>
<td>iava</td>
<td>‘from, about’</td>
<td></td>
</tr>
<tr>
<td>sirova</td>
<td>‘behind’</td>
<td></td>
</tr>
<tr>
<td>tapo(ro)</td>
<td>‘also, too, with’</td>
<td></td>
</tr>
</tbody>
</table>

Rotokas (North Bougainville, Papuan)

(6) a. oira-toa=re¹⁴ sirava-pa-ro-i rakoru-to
    man-SG.M=ALL hiiss-CONT-3SG.Mt-PRS t snake-SG.M
    ‘The snake is hissing at the man’
    (Robinson 2011: 70)

b. ava-pa-ra-i ragai vo-kepa-aro iare
go-CONT-1SGt-PRS t 1SG ART-house-POSS towards
    ‘I am going home (literally: to my house)’
    (Robinson 2011: 69)

¹⁴ In the original example from Robinson (2011: 70), the case marker re is marked as a suffix. This appears to be an error since it is glossed in the example as =ALL, and elsewhere in Robinson (2011) it is described and glossed as an enclitic; therefore, I have corrected it here.
Of particular interest is that tapo(ro) denotes ‘also, too, with’. Robinson always glosses tapo(ro) as ‘also’ but translates it as either ‘also’ as in (7)a or ‘with’ as in (7)b, acknowledging that it is often found introducing adjunct NPs into the clause and could therefore be analysed as an oblique marker (Robinson 2011: 192).

**Rotokas (North Bougainville, Papuan)**

(7) a. avaraosi kare oea voo tou-pa-i-veira
type.of.grasshopper FP RPRO.3.PL.M here be-CONT-3PLβ-HAB
tego-ara=ia or ava garavesi-ara=ia tapo
wild.banana-PL.N=LOC and SPEC-pandanus-PL.N=LOC also
‘Avaraosi grasshoppers, they live on wild bananas and also on pandanus’

(Robinson 2011: 141)

b. vo-voki-ro rutu=ia Rivasiri visiko ruipa-pa-ro-veira
SPEC-day-PL.CL very=LOC Rivasiri play want-CONT-3SG.Mα-HAB
o-kakae-ro-vu taporo
SPEC-child-PL.CL-ALT also
‘Rivasiri always wants to play with the other children’

(Robinson 2011: 85)

The South Bougainville languages Buin and Motuna use case suffixes to express obliques: Table 9.3 shows the semantic roles marked by the case suffixes in Buin and Motuna.

**TABLE 9.3 BUIN AND MOTUNA CASE SUFFIXES (ADAPTED FROM EVANS AND PALMER 2011: 506)**

<table>
<thead>
<tr>
<th>Semantic Role</th>
<th>Buin</th>
<th>Motuna</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location (LOC)</td>
<td>-[g]ere</td>
<td>-kori ~ -ngori ~ -jori</td>
</tr>
<tr>
<td></td>
<td>-o ~ -u</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-ga</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-ge</td>
<td></td>
</tr>
<tr>
<td>Goal (ALL)</td>
<td>-girai</td>
<td>-kori ~ -ngori ~ -jori</td>
</tr>
<tr>
<td>Source (ABL)</td>
<td>-girai</td>
<td>-kitee ~ -ngitee ~ -itee</td>
</tr>
<tr>
<td>Accompaniment (COM)</td>
<td>-nno</td>
<td></td>
</tr>
<tr>
<td>Instrument (INS)</td>
<td>-i ~ -e</td>
<td>-ki ~ -ngi ~ -ji</td>
</tr>
<tr>
<td>Time</td>
<td>-tano</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-girai</td>
<td></td>
</tr>
</tbody>
</table>

In Buin, the case suffix can occur on the head noun as in (8)a or on a prenominal modifier, such as the possessive particle in (8)b (Evans and Palmer 2011: 507). In Motuna, case suffixes may attach to the article or demonstrative as in (9)a, to the noun itself as in (9)b or to both the determiner and the head noun as in (9)c, though the circumstances for the latter are not fully understood (Evans and Palmer 2011: 506).

**Buin (South Bougainville, Papuan)**

(8) a. Tuu minno-ge aat-u-ge-mino
river edge-LOC sleep-1.SBJ-1DU-NRPST
‘We two shall sleep by the river’

(Laycock 2003: 18)
b. Ro ro-goma-ŋko konegu toi u-ti
   2SG 2SG.PSSR-POSS-COM woman FUT 2/3.come-DU-IMMPST
   ‘You come with your wife’

Motuna South Bougainville, Papuan

(9) a. tu-ki-na tii kuraisa na-ra hoo-nno
   be.3.SBJ-HAB.PST-F ART.F woman one-F ART.M-COM
   po-ong ranguriwah
   3SG.PSSR-son man
   ‘…a woman used to live with her (male) son…’

b. Hiuo tuu-ki maapuk-ooto-ji-ng
   clay.pot water-INS become.full-CAUS-3.OBJ:2.SBJ-PCL.IMP
   ‘(You all) fill the clay pot with water’

c. tii-nno noni-nno
   ART.F-COM 1EXCL.PL-COM
   ‘with us’

9.3.3 Oblique constructions conclusion

Papapana uses a mixture of preposed and postposed forms in oblique constructions. The use of a preposition to encode obliques is typical of many NWS languages. A postposition is not typical of NWS languages and instead Papapana resembles Bougainville Papuan languages which use case suffixes and postpositions; therefore, it can be argued that Papapana has undergone grammatical change as a result of contact with these Papuan languages. In particular, it seems likely that tomana has grammaticalised as a nascent comitative postposition from the additive marker denoting ‘also’, under the influence of Rotokas, in which tapo(ro) also denotes ‘also’ and ‘with’.

9.4 Possessive constructions

As described in §4.9, Papapana makes a formal distinction based on the semantic difference between inalienable and alienable nouns and has three types of possessive construction: direct, indirect and prepositional. This is typical of NWS languages as §9.4.1 will show, although the Papapana indirect construction differs somewhat from the typical NWS structure as it uses possessor proclitics rather than free standing particles and these are not synchronically segmentable into a particle and suffix (see §4.9.2). Prepositional possession is not relevant here and is therefore not discussed. Papapana does not have possessive classifiers denoting different kinds of possessive relationship but the possessor proclitics may be marked for noun class when the possesseum is singular and there is no other intervening modifier (§4.9.2), and the singular possessive pronouns, that generally function as NP predicates, also make a noun class distinction (§4.9.3). In addition, lexical possessor NPs in Papapana may be both preposed and postposed. As §9.4.1 will show, these features are not typical of NWS, but may instead be the result of contact with Bougainville Papuan languages (§9.4.2).
9.4.1 Northwest Solomonic possessive constructions

As is typical of Oceanic languages, NWS languages have direct and indirect possessive constructions, associated with inalienable and alienable possession respectively (Lynch et al. 2002). In Oceanic languages inalienable nouns generally include nouns denoting body parts, locative parts (‘inside’, ‘underneath’ etc.), kin terms, and often “abstract nouns denoting things done to or said of the possessor”, while alienable nouns are all other nouns and are generally “body parts that are in some sense removable, and kin over whom one has authority or who one acquires through marriage” (Lynch et al. 2002: 41).

The direct construction, expressing inalienable possession, involves a suffix indexing the possessor attaching to a noun denoting the possessum, as in (10) from Banoni. This suffix is often the only expression of the possessor as in (10)a. However, when the possessor is expressed by an overt NP, the order is left-headed with the possessum followed by possessor, as in (10)b.

Banoni (Banoni-Piva, NWS)

(10) a. numa-na
    hand-3SG.PSSR^15
    ‘his hand’

     (Lynch and Ross 2002: 445)

     b. numa-na    Ken
        hand-3SG.PSSR Ken
    ‘Ken’s hand’

     (Lynch and Ross 2002: 445)

The indirect construction, expressing alienable possession, involves a separate possessive particle indexing the possessor, typically in the form of a discrete particle carrying possessor suffixes. In many Oceanic languages, including NWS, these precede the noun denoting the possessum, as in (11)a from Kubokota. Most Oceanic languages have more than one possessive particle, each being a classifier which denotes a different kind of possessive relationship (Lichtenberk 1985, Lynch et al. 2002). In example (11)a from Kubokota, the possessive particle is a consumable possessive classifier which is used with items to be eaten or drunk, as well as cigarettes and betelnut (Chambers 2009: 66-67). Kubokota then has a second indirect construction expressing nonconsumed possession, as in (11)b, where the possessor participant is indexed by a possessive pronoun, which historically involved a separable possessive particle and possessor suffix (Evans and Palmer 2011: 509). Indeed, in quite a few NWS languages, the possessive particle is not synchronically segmentable into a base and suffix, but is monomorphemic.

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15 Lynch and Ross (2002) gloss the suffix in these two examples as 3SG. I gloss it here as 3SG.PSSR so as to distinguish it from the 3SG independent pronoun nna.
Kubokota (New Georgia, NWS)

(11)  a. na ge-ŋiru
    ART CNSPOSS-1SG.PSSR coconut
    ‘my coconut’ (edible)

b. na qua guguzu
    ART 1SG.PSSR village
    ‘my village’

(Chambers 2009: 67)

As with direct constructions, the possessor suffix or possessive pronoun may be the only expression of
the possessor, as in (12)a from Roviana, however, if there is an overt NP expressing the possessor, it
follows the possessum, as in (12)b from Roviana.

Roviana (New Georgia, NWS)

(12)  a. nana vetu
    3SG.POSS house
    ‘his/her house’

b. nana vetu tie hoi
    3SG.POSS house person DEM
    ‘that person’s house’

(Corston-Oliver 2002: 478)

9.4.2 Papuan possessive constructions

The inalienable/alienable distinction is absent in Papuan languages and instead the semantic distinction
which is most relevant is that between kin and non-kin. South Bougainville Papuan languages have
both direct and indirect possessive constructions, while Rotokas (North Bougainville, Papuan) has
only indirect possessive constructions. While Motuna can exhibit left-headed postposed possessors
like NWS languages, this is only in certain circumstances and typically possessors are right-headed in
Rotokas and the South Bougainville Papuan languages. In some of the possessive constructions in
Rotokas and Motuna, the noun class of the possessum is marked by the possessor, while the different
kinds of possessive relationship are not distinguished in Rotokas and the South Bougainville Papuan
languages.

Rotokas employs three different strategies for marking possession. The first, shown in (13)a, uses a
possessive pronoun which follows the possessed noun and which agrees with the possessor in terms of
person, number and noun class (termed gender in Robinson (2011) since the noun class distinctions
are masculine, feminine and neuter): this strategy is restricted to animate possessors because there is
no neuter possessive form in the possessive pronoun paradigm (Robinson 2011: 121). The second
strategy, shown in (13)b, employs a possessive suffix –aro on the possessed noun and the possessed
noun is preceded by the possessor: this form of possession marking is the most common and covers
semantic relations such as ownership, body parts and kinship (Robinson 2011: 121-122). As (13)c

---

16 Symbols in the Kubokota orthography present in the data have their expected IPA values except g = /ɣ/, q = /ɡ/ and ng = /ŋ/.
demonstrates, the third kind of possession marking is similar to the second, but the possessive suffix – *aro* attaches to a dummy pronoun which agrees in person, number and noun class with the possessed noun. The possessor precedes the dummy pronoun while the possessed noun follows it (Robinson 2011: 123).

**Rotokas (North Bougainville, Papuan)**

(13)  
<table>
<thead>
<tr>
<th>a.</th>
<th>ovii-irara</th>
<th>oaa</th>
<th>offspring-HUM.PL 1SG.POSS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>‘my offspring’</td>
</tr>
<tr>
<td>b.</td>
<td>vii</td>
<td>vaisi-aro</td>
<td>2SG name-POSS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘your name’</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>ragai</td>
<td>oira-aro</td>
<td>torara</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘my axe’</td>
<td></td>
</tr>
</tbody>
</table>

(Robinson 2011: 121)  
(Robinson 2011: 120)  
(Robinson 2011: 123)

Buin has a direct possessive construction which is used with kinship terms: possessor prefixes indexing the person and number of the possessor attach to the possessed noun (Evans and Palmer 2011), as demonstrated in (14)a. All other nouns in Buin occur in a genitive construction involving a possessor noun marked with a genitive case suffix, with the possessor preceding the possesum (Evans and Palmer 2011) as in (14)b.

**Buin (South Bougainville, Papuan)**

(14)  
<table>
<thead>
<tr>
<th>a.</th>
<th>ru-ro</th>
<th>1SG.PSSR-daughter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>‘my daughter’</td>
</tr>
<tr>
<td>b.</td>
<td>konegu-ŋke</td>
<td>taine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘the woman’s basket’</td>
</tr>
</tbody>
</table>

(Laycock 2003: 195)  
(Laycock 2003: xv)

Motuna has three possessive constructions, described in Onishi (1994). The first construction is a direct construction which expresses kinship possessive relationships: a pronominal prefix attaches to the possessed noun as in (15)a. If the possessor is also denoted by an independent noun, the possessor noun precedes the possessed noun as in (15)b.

**Motuna (South Bougainville, Papuan)**

(15)  
<table>
<thead>
<tr>
<th>a.</th>
<th>n-uka</th>
<th>1SG.PSSR-mother</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>‘my mother’</td>
</tr>
<tr>
<td>b.</td>
<td>hoo kuraisa po-moro</td>
<td>ART.M young.woman 3SG.PSSR-relative.PCL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘the young woman’s relatives’</td>
</tr>
</tbody>
</table>

(Onishi 1994: 241)  
(Onishi 1994: 241)
The second construction is an indirect construction which expresses “object-owner relationships, associative relationships and social relations between a person and others “belonging to them” [and] possessive relationships tend to be expressed with this construction type to indicate a notion of contrast” (Evans and Palmer 2011: 515). In this construction, pronominal prefixes denoting the possessor attach to a classifier indexing the class of the possessum. The classifier may be the only expression of the possessum, or the possessum may also be denoted by a noun as in (16).

**Motuna (South Bougainville, Papuan)**

(16) moo ngo-no-mung  
    coconut 1SG.PSSR-LINK-CLF.fruit  
    ‘my coconut (i.e. from my tree)’

(Onishi 1994: 244)

Finally the third construction is used for noncontrastive expressions of nonkin possession, including body parts, part-whole relations, personal characteristics, object-owner relationships, and relationships between groups of people and object or other groups of people (Onishi 1994). This possessive construction involves a possessive pronoun denoting the possessor but agreeing in noun class (in these examples, either masculine, feminine or diminutive) with the following possessum as in (17)a. A noun expressing the possessor may precede the possessive pronoun as in (17)b or a noun expressing the possessor may be the only expression of the possessor, with the noun class morphology attaching to this noun instead, as in (17)c. In examples (17)a-c, the possessor precedes the possessum since the possessor is identifying the possessum: when the possessor describes the referent of the noun, the possessor follows the possessum as in (17)d.

**Motuna (South Bougainville, Papuan)**

(17) a. ana nga-na kuraisa  
    DEM.F 1SG.PSSR-F woman  
    ‘this wife of mine’

(Onishi 1994: 246)

b. hoo Maawo poko-nh munu  
    ART.M Maawo 3SG.PSSR-M body  
    ‘Maawo’s body’

(Onishi 1994: 247)

c. tii Maawo-ni pokoring  
    ART.DIM Maawo-DIM tail  
    ‘Maawo’s tail’

(Onishi 1994: 247)

d. hoo hing Maawo poko-ng  
    ART.M rotten.juices Maawo 3SG.PSSR-M  
    ‘Maawo’s rotten juices’

(Onishi 1994: 246)

**9.4.3 Possessive constructions conclusion**

The direct possessive construction in Papapana is typical of NWS and Oceanic languages in both its form and the fact it encodes nouns which are typically inalienably possessed, however, the indirect construction in Papapana differs slightly from the typical Oceanic construction since the possessive forms are proclitics rather than free standing particles, and they are not segmentable into a particle and
suffix. Crucially, the possessor proclitics may be marked for noun class when the possessum is singular and there is no other intervening modifier, and the singular possessive pronouns make a noun class distinction, which is not typical of Oceanic languages, but is instead a feature found in the Papuan languages Rotokas and Motuna. In addition, in Papapana there is no distinction between classes of indirect possessive relations, which is usually found in Oceanic languages but not in the Papuan languages discussed here. Significantly, the order of possessor and possessum in Papapana is variable with both left-headed and right-headed orders being possible. A right-headed order, that is possessor followed by possessum, is an aberrant feature that resembles the Papuan languages of Bougainville. Unlike Motuna, where a postposed possessor is allowed when the possessor describes the referent of the noun, in Papapana there is no particular motivation for the variation of preposed and postposed possessors.

9.5 Papapana, Mono-Torau and Uruava

The atypical structures found in Papapana appear to reflect contact-induced change under the influence of the Papuan languages Rotokas, Buin and Motuna. These changes are similar to the contact-induced changes found in other Oceanic languages, such as the languages of the Papuan Tip linkage (Lynch et al. 2002, 15), Takia (Ross 1996a, 2008) and the NWS languages Mono, Torau and Uruava (Evans and Palmer 2011). This raises the question of whether the changes found in Papapana reflect a common change that can provide evidence for internal subgrouping, or whether they are independent changes that parallel those seen in other Oceanic languages whose speakers have also been in contact with speakers of typologically similar Papuan languages.

The apparent contact-induced changes found in Papapana are very similar to the contact-induced changes found in Mono-Torau and Uruava (Evans and Palmer 2011). As Table 9.4 shows, all four languages display unmarked SOV clause order, a mixture of prepositional and postpositional forms in oblique constructions, preposed possessors in both direct and indirect possessive constructions and a neutralisation of classes of indirect possessive relations. The genetic relationships between these languages can therefore be questioned. On the basis of the limited data available at the time, Ross (1988) placed Papapana in the Nehan/North Bougainville subgroup of NWS, containing the languages of northern Bougainville and Buka. The fact that Papapana displays unmarked SOV clause order, a postposition and preposed possessors which are not found elsewhere in NWS except for in Mono-Torau and Uruava, might reflect shared innovations of a common ancestor and suggest that Papapana is better subgrouped with Mono-Torau or Uruava. This is further supported by the fact that there are similarities in lexicon and other areas of syntax which raise the possibility that at least Papapana and Uruava are genetically related, or perhaps even Papapana and Mono-Torau (Bill Palmer, pers. comm.).
Nevertheless, Table 9.4 shows that there are also differences in the changes that Papapana, Mono-Torau and Uruava have undergone. Papapana has unmarked SVO clause order in addition to SOV and a clause initial Topic position rendering OSV order when the object is Topic. In oblique constructions, Papapana does not treat the semantic role of source differently to location and goal (see §6.2), whereas Mono-Torau and Uruava do so under the influence of the South Bougainville languages Nasioi, Nagovisi and Motuna (Evans and Palmer 2011: 502-508). In possessive constructions, Papapana retains the typical Oceanic postposed possessors and shows an innovation of marking noun class on singular possessive pronouns, and allowing the possessor proclitics to be marked for noun class when the possessum is singular and no other modifier intervenes between the possessor proclitic and the head noun.

There are also differences among Mono, Torau and Uruava. Firstly, the languages show variation in clause order (Evans and Palmer 2011: 496-497). In Uruava, it is possible to have OSV order, in Torau SVO order occurs when the focus of the clause is the event, and in Mono transitive clauses, all possible orders of S, O and V are attested with SOV being the unmarked order and SVO being marked by an adposition. In oblique constructions, Mono and Uruava demonstrate adposition stacking under the influence of Nagovisi, while Uruava has an optional allative marker as the result of contact with Nasioi (Evans and Palmer 2011: 502-508). In possessive constructions, Uruava marks the number of the possessed noun when it is plural, while Torau marks the possessed noun as singular; this is thought to be the result of contact with Nasioi, which marks the possessed noun as singular or plural, and Nagovisi, which marks the possessed noun as plural (Evans and Palmer 2011: 510-518).

<table>
<thead>
<tr>
<th>Linguistic Features</th>
<th>Papapana</th>
<th>Uruava</th>
<th>Mono</th>
<th>Torau</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unmarked Clause Order</strong></td>
<td>SOV SVO</td>
<td>SOV SOV SOV</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Clause Orders</strong></td>
<td>OSV</td>
<td>OSV SVO SVO</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Obliques</strong></td>
<td>Prepositions Postposition LOC=ALL=ABL</td>
<td>Prepositions Postpositions LOC=ALL≠ABL adposition stacking optional ALL</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Possession</strong></td>
<td>Class neutralisation PSSM noun class marked Preposed possessors: PSSR PSSM-PSSR PSSR PSSR=PSSM Postposed possessors: PSSM-PSSR PSSR PSSR=PSSM PSSR=PSSM PSSM PSSR</td>
<td>Class neutralisation Preposed possessors: PSSR PSSM-PSSR PSSR PSS-PSSR PSSM PL PSSM marked SG PSSM marked</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The most significant difference between Papapana and Mono-Torau and Uruava, is that Papapana displays a mixture of right- and left-headed typology in its clause orders and in its possessive constructions. In Papapana oblique constructions there is also a mixture of right- and left-headed typology, but to a lesser extent than Mono-Torau and Uruava which display more postpositional forms than Papapana. Papapana subsequently appears more conservative than Mono-Torau and Uruava, as it has retained typically Oceanic grammatical features in addition to acquiring new features under Papuan influence.

Taking into consideration the ways in which Papapana, Mono-Torau and Uruava differ in contact-induced changes, it is reasonable to argue that similarities between the contact-induced phenomena found in Papapana and Mono-Torau and Uruava do not in fact reflect a shared inheritance but are instead because the languages have “independently undergone metatypy on the model of languages belonging to the same linguistic area” (Ross 2006: 154). Indeed, Papuan Tip languages and Takia show verb final clause order and postpositions, as well as preposed possessors in Takia. This is further supported by the fact that the changes described in this paper all involve a shift from left- to right-headed structures and that postpositions and preposed possessors are features which correlate with verb-final clause orders cross-linguistically (Dryer 2007a: 62, Greenberg 1954); therefore, it isn’t surprising that Papapana and Mono-Torau and Uruava exhibit similar contact-induced changes. Papuan language contact has led to verb-final clause orders in Papapana, while the same thing has occurred at some other point in Mono-Torau and Uruava, and that change has then led to other related shifts, which have reached different degrees of completion in each language. This may account for why Papapana exhibits more of a mix of left- and right-headed typology than Mono-Torau and Uruava.

A further explanation for the similarities and differences in contact-induced phenomena in Papapana, Mono-Torau and Uruava is that they reflect a mixture of common and independent changes. Indeed Evans and Palmer (2011) argue exactly this for Mono-Torau and Uruava. The change to unmarked SOV clause order in these languages is thought to have occurred once, when the languages formed a single speech community, but the differences in clause order suggest the change has continued in different ways in each language (Evans and Palmer 2011: 519). The oblique constructions in Mono-Torau and Uruava are also believed to reflect a “history of interrelated changes, some of which are likely to have occurred before the break up of their ancestral speech community, and others that have occurred independently in the three separate speech communities” (Evans and Palmer 2011: 522). Finally, while preposed possessors are believed to reflect an early shared innovation in Mono-Torau and Uruava, the innovative possessum number marking exhibited in Torau and Uruava is thought to have developed independently in each language (Evans and Palmer 2011: 519, 521).

The hypothesis that the contact-induced phenomena in Papapana, Mono-Torau and Uruava reflect a mixture of common and independent changes may account for why Papapana displays more of a mix of left- and right-headed typology than Mono-Torau and Uruava: Papapana perhaps split off from the common ancestor at a point when the change from left- to right-headed structures was not complete.
This would align with the migration patterns described in §8.2.2. In Papapana this change never reached the degree of completion that it did in Mono-Torau and Uruava, or perhaps it did but the recent shift to Tok Pisin, with its SVO order and associated left-headed typology, has led to further contact-induced change back in the direction of canonical Oceanic structures. It could even be that the tribes that arrived in the Papapana area from northern Bougainville after colonisation (see §8.2.2) were NWS language speakers whose languages displayed the canonic Oceanic structures and this halted or reversed the shift from left- to right-headed typology. Certainly the innovative singular possessive pronoun noun class marking in Papapana must have developed independently as Mono-Torau and Uruava do not display this feature. These hypotheses are speculative at this stage, and require further investigation beyond the scope of this thesis. The variation in alignment exhibited in Papapana is certainly an area for further research as it may inform our understanding of the mechanisms of contact-induced change.

9.6 Conclusion

A number of grammatical features found in Papapana are not typical of NWS and Oceanic languages. In terms of clause order, Papapana is variable with both verb-medial and verb-final basic clause order in transitive clauses, and verb-final basic clause order in intransitive clauses. Verb-final clause orders are not typical of NWS but are typical of the Papuan languages of Bougainville which all exhibit SOV basic clause order. In its expression of obliques, Papapana utilizes prepositions and a postposition, whereas NWS languages (other than Mono-Torau and Uruava) use prepositions. Meanwhile in Papuan languages, postpositions and case suffixes are used in oblique constructions. In addition, the likely grammaticalisation of *tomana* from an additive marker to a nascent comitative postposition in Papapana is probably due to contact with Rotokas in which *tapo(ro)* denotes ‘also’ and ‘with’. In possessive constructions, Papapana retains the Oceanic semantic distinction of inalienable and alienable possession, as well as the associated direct and indirect constructions; however, it is possible for the possessor NP to occur either before or after the possessed noun, contrasting with the strictly postposed possessor NPs found in other NWS languages. In addition, Papapana may mark the noun class of singular possessums in indirect possessive constructions and in singular possessive pronouns, and it does not employ the possessive classifiers which are typically found in Oceanic languages. In Papuan languages, possessors are preposed, the noun class of the possessum is marked in some constructions and there are no possessive classifiers. The comparison of Papapana structures with typical NWS and Oceanic structures clearly shows that Papapana exhibits some morphosyntactic structures which are atypical of its subgroup. These atypical structures are instead similar to structures found in the Papuan languages, Rotokas, Buin and Motuna.

Evans and Palmer (2011) also found similar atypical structures in Mono-Torau and Uruava to be comparable with structures in the Papuan languages Buin, Nagovisi, Nasioi and Motuna. Given the level of social contact between Mono-Torau and Uruava speakers and Papuan language speakers, Evans and Palmer (2011) concluded that the changes in Mono-Torau and Uruava were the result of
parallel processes of metatypic change under the influence of Papuan languages. Since there has been a great deal of social contact between Papapana speakers and Papuan language speakers, both historically and today, it is plausible to reach the same conclusion as Evans and Palmer (2011), that the innovative features of Papapana discussed here are the result of contact-induced change, reflecting the social contact Papapana speakers have had with speakers of Bougainville Papuan languages. Whether the similarities in aberrant features between Papapana and Mono-Torau and Uruava indicate a shared inheritance with Mono-Torau and Uruava or not, there are apparent differences which indicate some degree of independent parallel change. The question is: what motivates these differences? Was contact with Papuan speakers of a different intensity or nature? If Thomason and Kaufman’s (1988: 35) assertion is correct and “it is the sociolinguistic history of speakers… that is the primary determinant of the linguistic outcome of language contact”, then the answer may lie in more detailed investigations of the past and present sociolinguistic situations in Bougainville.
10 Language Shift and Endangerment

10.1 Linguistic diversity, endangerment and death

The exact number of languages in the world today is unknown, due partly to incomplete surveys, in part to decisions about what constitutes a language or a dialect, and partly to the fact that some languages have multiple names. Nevertheless, most estimates are between 6,000 and 7,000 languages. Of these languages, 4% are found in Europe and the Middle East, 15% in the Americas, 31% in Africa and 50% in Asia and the Pacific (Hale et al. 1992: 5). The disparity in geographical dispersion is also evident in demographic distribution: only eight languages in the world have over 100 million speakers whereas around 200 languages have less than ten speakers (Crystal 2000: 14). Moreover, 96% of the world’s languages are spoken by 4% of the population (Crystal 2000: 14). A large majority of these languages are endangered, that is, they are “on a path toward extinction” (Brenzinger et al. 2003: 2). Krauss (1992: 7) calculates that “the coming century will see either the death or the doom of 90% of mankind’s languages”, while Crystal (2000: 19) adopts a “middle position” and estimates a loss of 50%. Either way, the world’s languages are disappearing at an alarming rate, when one considers that to meet such estimates, between two and four languages would have to die every month for the next 100 years.

Language death has been defined in various ways. Crystal (2000: 11) asserts that speakers cannot demonstrate their fluency in a language if there is no-one to speak that language to and therefore “a language is effectively dead when there is only one speaker left, with no member of the younger generations interested in learning it”. Other linguists concentrate on usage patterns: Brenzinger and Dimmendaal (1992: 3) define a language as being extinct “when there is no longer a speech community using the language”, while Nettle and Romaine (2000: 7) propose that death occurs “when one language replaces another over its entire functional range, and when parents no longer transmit the language to their children”. It is difficult to reach a satisfactory definition of language death because in order to do so one also needs to define terms such as speaker and speech community. How fluent or proficient does a speaker need to be to count as a speaker? Do people with a passive understanding of the language but little or no productive ability count as speakers? Is a person still a speaker even if they have nobody to speak to? Do several speakers who live in separate villages and have infrequent contact with each other count as a speech community? The other issue with defining language death is whether one adopts a view of language as a mental system or as behaviour. If a language still exists in the minds of its speakers but not in their mouths, is the language really dead or simply out of observable action? Thomason (2001: 224) quite rightly recognises that “there is really no objective way of arriving at a definition that will satisfy everyone and work on all occasions” but tries to offer a definition that is “generally useful”: “a language dies when it ceases to be used for any purposes of
regular spoken communication within a speech community” (emphasis added). This definition is perhaps the least satisfactory because irregular spoken communication is still communication and Thomason’s (2001) definition really describes a language that is in very serious danger of disappearing, not a language that has totally disappeared. The most undisputable definition in the literature is Janse’s (2003: ix) assertion that a language is dead “when it no longer has any speakers”. Whether one wishes to consider it dead before this point is debatable, but it is undeniable that however one defines speaker, if there are none, then a language cannot be considered alive.

The issue of language death first attracted attention in the 1970s and this lead to an array of workshops, conferences and publications on the topic in the 1980s and the establishment of committees, societies and foundations in the 1990s (Janse 2003: xiii-xiv, Newman 2003: 1-2). The increasing focus on language death may be attributed to the growing awareness of the fact that “the disappearance of languages and linguistic diversity is a major loss to linguistic scholarship and science” (Newman 2003: 1). The very field of linguistics entirely depends on a wide range of languages and on knowledge of linguistic diversity. In order to gain a fuller picture of the human capacity for language, to develop grammatical theories, to classify languages and so on, it is crucial to study as many different languages as possible. Even the study of language contact is only possible because there are so many different speech communities coming into contact all over the world. Yet it is not only linguists who are disadvantaged when a language dies. The demise of a language may also result in the loss of scientific, cultural or historical information that is encoded in the language itself; for example, in Tobi, a language of the Republic of Palau, some species of fish have names based on their habitat, on behavioural patterns, on characteristic colours or on different fishing techniques used in catching them (Nettle and Romaine 2000: 75). Different names for two plants may suggest a difference in species or ecological function that may not be otherwise observable (Crystal 2000: 49), while a language’s lexicon reflects the items that are culturally important to a speech community (Nettle and Romaine 2000: 60). Similarly, clues about the history of a community may be provided by loan words that reflect contact with other cultures. As well as the information encoded in a language, the actual transmission of information, ideas, memories, stories, myths and so on may also not be possible if the language used to impart this knowledge is no longer understandable. Furthermore, since “to choose to use a language, is an act of identity” (Nettle and Romaine 2000: 173), a speech community might experience a loss of ethnic and cultural identity if their language dies.

The study of language death and endangerment is crucial if one wishes to document, maintain or revitalise a language. Investigating the causes of linguistic endangerment is necessary to preventing or reversing the demise of a language, while assessing the extent to which a language is endangered allows us to identify and prioritise the languages that are most in need of documentation and/or revitalisation. Since the process of language death is complex and varied, the study of language use in speech communities such as the Papapana community may provide crucial insights into factors affecting linguistic vitality. Indeed, Foley argues we need more “studies of speech communities in
transition to understand the hows and whys of language endangerment” (Foley 2004: 30). The rest of this chapter thus addresses the following question: why and to what extent is Papapana endangered?

10.2 Investigating causes of endangerment

Wurm (2012: 530) describes Papapana as being under pressure from Tok Pisin and large related languages such as Tinputz. This section investigates the accuracy of this description by firstly considering language shift as a cause of endangerment and identifying the types and processes of and motivations for language shift that are described in the general literature on language endangerment (§10.2.1), before contextualising the Papapana situation through an investigation of language shift in Papua New Guinea (PNG) (§10.2.2). Finally, causes of language shift and endangerment in the Papapana speech community are investigated (§10.2.3) and demonstrate the complex interaction of factors that are not so easily accounted for by distinctions described in §10.2.1.

10.2.1 Language shift: types, processes and motivations

Except for the rare situation in which a speech community is physically eliminated due to natural disasters, disease or violent acts, all instances of language death or endangerment are due to language shift. Language shift can be defined as “a change in the balance of domain-particular use of languages in the multilingual group’s repertoire” (Matras 2005: 238) and this often results in “partial or total abandonment of a group’s native language in favour of another” (Winford 2003: 15). A prerequisite for language shift is language contact; if there is no exposure to other languages, a speech community or individual cannot of course shift from the use of one language to another (see §8.1 for types of language contact setting).

The nature of the language contact setting affects the type of language shift that occurs. There are two types of language shift defined in the literature; forced and voluntary (Nettle and Romaine 2000: 90-91, Campbell and Muntzel 1989: 183-186), though in reality this distinction might not be as clear-cut. In situations of forced language shift (Nettle and Romaine 2000), or elsewhere “radical death” (Campbell and Muntzel 1989), a dominant language group may make their language compulsory and punish the use of the minority group’s language. In order to avoid persecution, minority language speakers avoid identifying themselves with their ethnic group and consequently, as a means of self-defence, they cease using their language. Forced shift is typical of imperial settings, such as colonisation or conquests motivated by religious conflicts, in which “the replacing language is the language of intruding powers which regard themselves as superior, and who expand with the ambition to extend their influence into other territories” (Brenzinger 1997: 281). The majority of known language endangerment has taken place in such settings all around the world including Southern Africa, Brazil and Australia (Brenzinger 1997: 281-282). Today however, language shift is most often voluntary: “a community… come to perceive that they would be better off speaking a language other than their original one” (Nettle and Romaine 2000: 91). There are two subtypes of voluntary shift, “bottom up” and “top down” (Nettle and Romaine 2000), or elsewhere “bottom to top” and “gradual”
In bottom up shift, language is lost in the family setting and most other everyday domains but survives in ceremonial or formal domains, such as religious and/or ritual practices, or education. In mild cases, the language is still used spontaneously in the settings to which it has been assigned by members of the community, while in extreme circumstances the only remaining knowledge of the language is memorised portions of a ceremony. Due to the highly restricted but prestigious domains of use, it is often difficult to accurately assess the vitality of the language.

In top down shift, the language disappears first from official institutions and public domains, such as government, the courts, and the church. In these domains, the speech community shifts to a language of wider communication, whether a regionally dominant language or a national lingua franca. Eventually the language is restricted to the home domain. Voluntary language shift tends to occur in “regional” or “global” settings (Brenzinger 1997). In regional settings, ethnolinguistic minorities are characterised by a limited socio-historical horizon and language shifts are caused by large-scale population movements; for example, in the last 5,000 years various Nilotic, Cushitic and Bantu-speaking populations came to East Africa and spread, often at the expense of indigenous populations, thereby causing language shifts and endangerment (Brenzinger 1997: 278). With the spread of Western culture, regional settings are increasingly uncommon, and instead most language shifts today take place in a global setting, in which a “modern state provides the environment of ethnolinguistic minorities” (Brenzinger 1997: 281). Social and economic pressures are characteristic of a global setting, and modern communication technologies and education systems have significantly contributed to the worldwide domination of a handful of languages (Brenzinger 1997: 281-282). Although a distinction has been made between forced and voluntary shift, in reality this distinction might not be so clear-cut.

In voluntary shift situations, speakers do not suddenly switch from speaking one language exclusively to speaking another exclusively; instead the process of language shift is gradual and may go through several stages (Batibo 1992: 90-93, Crystal 2000: 78-79). First, there is immense pressure on the speech community to speak the dominant language. Second, there is a period of bilingualism in which speakers’ first language (L1) is primary and used for in-group interactions but speakers become increasingly proficient in the dominant language and use it for wider intergroup communication and/or for specific functions such as trade. The languages thus exist in a diglossic relationship, that is, there are “two (or more) varieties that coexist in a speech community [and] the domains of linguistic behaviour are parcelled out in a kind of complementary distribution” (Schiffman 2000: 205). The stability of diglossic relationships is dependent on relatively stable relations between the language communities. In communities where a minority language is in a diglossic relationship with a majority language, diglossia can lead to language shift if this stability is disrupted. In this third stage, the second language (L2), which was at first used for wider inter-group communication only, is adopted by an increasing number of speakers as their primary language and intrudes upon the first language (L1) in more and more domains. The value of the L1 decreases and consequently so does the motivation to use
it, leading to a breakdown of diglossia and the beginnings of language shift. In the final stage, the younger generation become more proficient in the new language, identify with it more and find their own language to be less relevant to their needs, while they display more limited knowledge and production of their L1. Eventually, the L1 is completely replaced by the dominant language and the L1 ceases to exist. This process is not discrete because minority groups are not undifferentiated, monolithic wholes and individual speakers may shift to varying extents at different times due to differences in attitude and experience.

In cases of voluntary language shift, the biggest question is why a community perceives that they would be better off speaking a language other than their original one. Patterns of language choice reflect language attitudes (Brenzinger and Dimmendaal 1992: 4) and therefore it can easily be said that “shift in language is caused, ultimately, by shifts in personal and group values and goals” (Kulick 1992: 9). Such attitudes pertain to the usefulness and worth of the language: “speakers abandon their native tongue in adaptation to an environment where use of that language is no longer advantageous to them” (Grenoble and Whaley 1998: 22). This is widely accepted as the fundamental cause of voluntary language shift; however, the complicated issue is identifying the environmental changes that bring about the decreased efficacy of a language in a community (Grenoble and Whaley 1998: 22). Environmental changes may include changes in the demographic composition of a speech community, the community’s culture or economic base, or governmental and institutional policies. Identifying these changes is a difficult task because it involves a complex constellation of interrelated sociolinguistic variables that are specific to a particular language contact setting.

10.2.2 Language shift in Papua New Guinea
As discussed in §8.2.1, multilingualism is pervasive in PNG and speech communities are susceptible to language shift. Until the early 1990s, PNG had the lowest level of language endangerment of all areas in the world containing many small languages (Wurm 2012). Nevertheless, by the beginning of the twenty-first century, language endangerment had increased and today in PNG, sixteen languages are extinct, seventy-seven languages are endangered and 200 have small numbers and are likely to become endangered (Wurm 2012: 445). The threat is the increased use of Tok Pisin: “language shift to Tok Pisin is now proceeding in many communities at an alarming pace” (Dobrin 2005: 42) with an increasing number of younger Melanesians growing up speaking Tok Pisin exclusively, or with greater confidence than their parents’ vernaculars (Lynch, Ross and Crowley 2002: 28). Certainly, where Tok Pisin was known by around half of the population twenty years ago, it is now spoken by more than three-quarters of the population (Wurm 2012: 444).

The low level of language endangerment in PNG until two decades ago can be attributed to a number of factors (Wurm 2003: 25-26). Firstly, English, the metropolitan language of the colonial power Australia, played a minor role in the country and exercised little social influence as there were very few native English speakers and few Papua New Guineans with a good command of English. Instead,
Tok Pisin was used as a lingua franca between members of the colonial administration and locals, and between Papua New Guineans without a common language. Secondly, although knowledge of Tok Pisin provided significant economic advantages, it was known by no more than half of the population and Papua New Guineans simply added Tok Pisin to their linguistic repertoire. Thirdly, there was little mobility of local populations and therefore it was rare for intermarriage to occur between people who did not have a local language in common from among their multilingual repertoires. Linguistically mixed marriages occurred only in major towns, and only children in these families learnt Tok Pisin as their L1 since it was, out of necessity, the family lingua franca; consequently Tok Pisin was very little creolised nationally (Wurm 2012: 444). Fourthly, there was considerable pride in local languages as major symbols of ethnic identity and “New Guinea communities... purposefully fostered linguistic diversity because they [saw]... language as a highly salient marker of group identity” (Kulick 1992: 2). This pride is exemplified by Ken McElhanon’s research in the Selepet speaking village of Indu in the Huon valley in PNG: McElhanon found that the villagers had a meeting in which they decided to be different from other Selepet speakers by using the word *buŋε* for ‘no’ instead of *bia* (Kulick 1992). Foley (1986), also observed that despite small group size and proximity to other villages, the people of Wombun, one of three Chambri-speaking villages in the East Sepik Province in PNG, preserved dialect differences because they felt they were unique within the Chambri-speaking group.

Nonetheless, after Papua New Guinea became independent in 1975, the pride in local languages as symbols of ethnicity weakened and younger speakers started to prefer using Tok Pisin. Kulick (1992) tried to find out why this was the case in Gapun, a village of around 100 people on the northern coast of PNG where the thirty-two village children under ten years old were growing up speaking Tok Pisin instead of their parents’ L1 Taiap. Their parents codeswitched between the two languages in both adult-adult interactions and adult-child interactions. They valorised Taiap as the language of their ethnic identity and wanted their children to learn and use it. Kulick (1992) noticed that much of the code-switching in adult-child interaction involved a switch to Tok Pisin and parents even translated Taiap into Tok Pisin. Kulick (1992) hypothesized that parents believed Taiap was too difficult and that by virtue of its perceived simplicity, Tok Pisin had assumed the role of baby talk register. Further analysis showed that actually motives for language choice ran deeper than this: the two languages had become associated with traditional beliefs about self. Taiap was associated with *hed* (the individualistic, selfish, unbending, antisocial aspect of self) and pre-contact traditional culture, which was stigmatised as backwards by villagers. Tok Pisin, on the other hand, was related to *save* (knowledge, cooperation, social responsibility), wealth, the PNG nation state and the wider world. These things were all positively valorised and seen as necessary for modernisation. Kulick argues that the adults were unwittingly biasing the language spoken to children towards Tok Pisin because they wanted them to suppress *hed* and develop *save*. Indeed, since Tok Pisin is seen as a symbol of national

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1 *Hed* means ‘head’ in Tok Pisin
2 *Save* denotes ‘knowledge’ in Tok Pisin
identity (Wurm 2012: 444), a shift to Tok Pisin does not threaten identity in the same way as for example, shift to English from Maori does in New Zealand where Maori is spoken by people who were the traditional sole occupiers of New Zealand and who have been colonized and are now reasserting their rights and identities (Lynch 1998: 270-271).

In addition to the weakening of ethnic identity in favour of national identity, Wurm (2012: 444, 2003: 26) proposes four main reasons for the increased use of Tok Pisin: (i) the increased mobility of Papua New Guineans to population centres such as large towns, (ii) the increased frequency of intermarriage without migration to urban centres and among people whose languages do not fall within their multilingual repertoire, (iii) varying educational policies that have either discouraged the use of local languages or promoted some local languages but consequently left others with lower prestige, and (iv) the increased role and importance of electronic media with English, Tok Pisin, Hiri Motu and twenty-five local languages represented but over 800 languages sidelined and therefore losing prestige. These issues are exemplified by Dye and Dye (2012) who observed language shift, over a forty year period, from four small local languages to one local language and Tok Pisin in Wagu village in the East Sepik Province in PNG. Factors supporting the shift to Tok Pisin included the mixing of speakers from different language backgrounds due to population mobility (for education or economic gain) resulting in more intermarriage and more need for Tok Pisin as a lingua franca; Tok Pisin being used in the government, church and education; and the growing importance of electronic media. Factors that supported local languages included improved health (resulting in an increased population), strong self-image, and prosperity.

10.2.3 Language shift in the Papapana community

In the Papapana community, there has been a significant shift from Papapana to Tok Pisin, but not to any local language, be it Tinputz or otherwise. This is substantiated by considering the different languages spoken as a L1 in the community and the number of people who speak those languages as a L1: §8.3.1.2 reports that 66% of the population of the six Papapana villages speak Tok Pisin as a L1, 17% speak Papapana as a L1 and after Papapana, the language with the highest representation of L1 speakers is the Papuan language Rotokas with 4%. Tinputz is spoken as a L1 by just 0.6% of the population.

As described in §10.2.2, there has been an overall increase in language shift and endangerment in PNG over the last two decades, with the greatest threat being Tok Pisin. The Papapana community is therefore not unique in shifting to Tok Pisin. Like the rest of PNG, colonisation and recent globalisation in Bougainville have introduced new economic bases in which Tok Pisin is dominant (see §8.3.2), so knowledge of Tok Pisin offers considerable economic advantages to Papapana speakers that are unobtainable by using Papapana. However, as Wurm (1991: 6) points out, “situations in which a language is essentially the carrier of economic influence only, without much cultural and political influence associated with it, rarely lead to the complete loss of the original language of a
people”. This accounts for why Tok Pisin was less influential in the past, since it was not the language of the colonial power. The shift to Tok Pisin in the Papapana speech community can certainly be attributed to the factors Wurm (2012: 444, 2003: 26) proposed for PNG, however there are additional factors which are specific to the Papapana speech community.

10.2.3.1 Common factors in Papua New Guinea

Firstly, there has indeed been increased mobility of Papapana speakers to population centres, the reasons for which are discussed in §8.2. Increased mobility results in more contact among people from different linguistic backgrounds, and subsequently more need for and exposure to a lingua franca like Tok Pisin.

Secondly, there has certainly been an increase in the frequency of intermarriage without migration to urban centres and among people whose languages do not fall within their multilingual repertoire. As §8.3.1.1 reports, 56% of fluent Papapana speakers are married in inter-ethnic marriages to speakers of ten different local languages, and including the spouses of people of Papapana descent, as well as other immigrants in the community, there are over a dozen local languages represented in the six Papapana villages (see §8.3.1.2). Consequently, there is even more need for Tok Pisin as it is implausible every individual could become multilingual in every language. Community members report that before the Bougainville Crisis there was much less intermarriage, it tended to be limited to Rotokas speakers, and Papapana speakers were proud of the fact they did not marry outside of their community. The increase in intermarriage can be attributed to the increased mobility to population centres, displacement and permanent migration, the reasons for which are discussed in §8.2. Like increased mobility, more intermarriage means more contact among people from different linguistic backgrounds, and subsequently more need for and exposure to a lingua franca like Tok Pisin. The difference is that increased mobility to population centres involves contact outside of the village setting and not necessarily every day, whereas intermarriage without migration means more contact inside the village and on a daily basis, thus increasing the intensity of contact.

Thirdly, educational policies have played a role in the shift to Tok Pisin in the Papapana speech community. As discussed in §8.3.5, there is a nationwide vernacular education policy for elementary schools, but it is unrealistic to successfully implement this in Teperoi Primary School because there are not enough trained professionals and suitable and sufficient resources. Consequently, children are only exposed to Papapana in their first year of school for about an hour a day, either when it is taught like a L2 along with English, or when Papapana lexicon is used in maths and science lessons. Since children are not usually exposed to the more complex grammatical structures of a language until school age, then a lack of continued literacy education in Papapana means acquisition is “interrupted at the very age when this kind of grammatical complexity is being acquired” (Nettle and Romaine 2000: 55). Opportunities to acquire writing and formal styles of expression in Papapana therefore never exist. Instead, Tok Pisin and later English are dominant and required in school. Meanwhile, use of and
literacy in Papapana are not supported and it loses prestige and usefulness, not only in the school domain, but also in domains that require education in the language, literacy, and formal styles of expression. Indeed, literacy is “directly linked with social and economic development” (Brenzinger et al. 2003: 12).

Fourthly, Papapana is not represented in the media at all and therefore the increased role and importance of electronic media, as described in §8.2.6, means that there is more exposure to Tok Pisin and other local languages, and Papapana loses prestige.

10.2.3.2 Factors specific to Papapana

The four factors discussed above contribute to shift to Tok Pisin across PNG because they increase the exposure to and need for Tok Pisin, and may also decrease the support and prestige of a language in a particular domain; however, there are languages in PNG that are not endangered, even though there has been increased mobility to population centres or increased intermarriage, or even though the language might not be well represented in education or the media. That is, increased exposure and need for Tok Pisin is not a reason in itself to abandon Papapana; there are plenty of speech communities that maintain their language and simply add Tok Pisin to their linguistic repertoire. As §8.2.1 reports, the Papapana speech community have historically been multilingual, adding other languages to their repertoire and maintaining Papapana, so why not just add Tok Pisin to their linguistic repertoire? What has changed to bring about the decreased efficacy of Papapana and result in its abandonment?

First of all, the Papapana speech community has always been a minority immigrant group, and its small speaker base makes it vulnerable. The increased mobility to population centres, the displacement and the permanent migration of the Papapana speech community has resulted in a decline in speakers in the community that is much more noticeable than if Papapana had a large speaker base. Indeed as Figure 2.2 in §2.2 shows, 18% of fluent speakers, 23% of L2/semi-speakers and 21% of the people with passive knowledge of Papapana live outside of the Papapana area in communities where they are most often completely isolated from other Papapana speakers: it does not bode well for the future of Papapana if a fifth of its speakers have migrated out of the community. Similarly, increased intermarriage has resulted in a lower proportion of Papapana speakers in the community, meaning Papapana speakers are more diluted in the community; this dilution effect would take longer to occur if Papapana had a large speaker base. Indeed overall as Tables 2.1-3 in §2.2 show, only 17% of the total population of the six Papapana villages speak Papapana fluently, 8% are semi-speakers and 21% have some passive knowledge of Papapana. Teperoi retains the highest proportion of fluent speakers, which is perhaps because Teperoi is the original and main Papapana village. The highest proportion of semi-speakers and people with passive knowledge of Papapana can be found in Peuni and Barora. Peuni has the smallest population of all six villages and therefore it would not take many speakers to constitute a high proportion, while Barora is a small village in terms of land area with the houses very
close together; this might increase exposure to the language and thus foster more L2/semi-speakers and people with passive knowledge. Iraka has the lowest proportion of fluent speakers, semi-speakers and people with passive knowledge, which might be attributed to its distance from the other villages thus decreasing the chance of contact with other Papapana speakers. While migration and immigration do not necessarily lead to shift, they can have a significant impact if coupled with a small population, causing a noticeable decrease in the overall number and proportion of speakers. In the Papapana speech community, the demographic changes have reduced the efficacy of Papapana as there are fewer interlocutors and thus fewer opportunities to use the language, and immigrants do not make the effort to learn Papapana because it is not beneficial to do so.

Similarly, the fact that a language is not used in education or the media does not necessarily lead to shift, since a state of diglossia could exist; however, as described in §8.3.4, Papapana is also not used in the church domain because it is not supported by resources such as a bible translation, thus its prestige and efficacy are decreased even further. Coupled with population movement, intermarriage, and a decreasing speaker base, the lack of representation of Papapana in particular institutions has contributed significantly to shift since it adds to the list of domains in which Papapana is not used and not supported, and affects its perceived importance and relevance, which has a significant impact upon speakers’ motivations to use the language. The demography of the Papapana community also means that the language is much less likely to be represented in these institutions: with few speakers, there is less chance of there being Papapana-speaking teachers and students, and there is less chance of a bible translation organisation working with the Papapana speech community because there are not enough people to make a bible translation project logistically possible and the outcomes would not be as widely used.

The location of the Papapana speech community also increases vulnerability. Coastal people on an island such as Bougainville are more likely to have contact with outsiders who arrive by boat than mountain-dwellers. It appears many outsiders have chosen to settle along the coast, as seen by the location of the plantations and mission stations in Bougainville (see §8.2.3). Consequently, not only were Papapana people more likely to have initial contact with outsiders, but this contact was then sustained and Papapana people experienced this contact more than their mountain-dwelling neighbours. During the Bougainville Crisis (see §8.2.5), coastal people would also have been more vulnerable to the invading PNGDF and therefore more likely to be displaced from their homes as they were either placed in Care Centres or fled and hid in the mountains.

The self-esteem of the Papapana community has also been affected by a number of factors. First of all, the small number of speakers means that some community members do not see Papapana as a powerful language in the same way that a language such as Buin, with 26,500 speakers, is seen. Secondly, it appears that the socioeconomic status and motivation of the Papapana speech community is quite low following the Bougainville Crisis: many outsiders expressed the impression that the
Papapana villages are poor and slower to recover from the trauma and devastation of the Crisis than other villages in Bougainville. One community member expressed the opinion that the community is generally not motivated to make changes to improve their lifestyle. It is therefore possible that Papapana speakers have come to associate their lack of power and their current lifestyle with their language, thus decreasing its prestige. Thirdly, Papapana is not seen as a vital language, as expressed by the paramount chief’s daughter:

“Avosia nabonina uto ara vatotua auwau nanamoa, tueni Papapana uara vu'unea... Etubuna ara varona avosia nautue mama, tueni Papapana, etosi'i mumurina. Tau epei wa'au avosia, "naboni oto nai, enai amubau ‘usia ovamamatauinai tena tueni Papapana”… Aunuau ‘usia ito ara tavotuma… auwami mito vei nai vewa Rereo, auwami panapana merei ini avosia teni tueni ipoana mivamamatau egoegoinaami nuau ‘usia… Iai mito varona vewaami iai nautue mama cae epoenai, enai etosi'i mumurina”.³

Although the view that Papapana is endangered inspired this particular speaker to take preventative action, for others it may be a self-fulfilling prophecy: many community members likely feel that it is not beneficial to speak Papapana or pass it on to their children as Papapana has no future. As Papapana becomes more endangered, there are fewer fluent speakers and there is a certain level of shame among semi-speakers that they do not have a high level of proficiency in Papapana; this results in a reluctance to speak Papapana which of course further exacerbates the situation. The speakers’ feelings of shame also call into question how voluntary the shift to Tok Pisin really is.

The demographic changes in Papapana community have also likely affected their sense of identity as community ties have been weakened. This is perhaps further accentuated by the change seen elsewhere in PNG, where pride in local languages as symbols of ethnic identity weakened after the 1975 national independence and people preferred using Tok Pisin which is seen as a symbol of national identity (Wurm 2012: 444). Community members expressed the opinion that Papapana is important because it is their culture, and without Papapana they have no culture. Some even held the view that someone who does not speak Papapana is not part of the community. It was also widely felt that Papapana is useful when one wants to keep something secret from an outsider. Indeed, speaking Papapana would have been very advantageous during the Bougainville Crisis for this reason. Just as Kulick (1992) found for Taiap speakers (see §10.2.2), Tok Pisin was viewed by Papapana speakers as belonging to everyone, and being a Pacific Islands or Melanesian language. Some speakers viewed Tok Pisin negatively, as nothing more than bad English; however, most speakers felt that Tok Pisin was useful because of its status as a lingua franca, and its uses in travel, work and local government. Despite

³ Like one day when I gave birth to my first child, I started teaching him Papapana… His grandmother knew that this language, Papapana, will die out in the future. And she said to me “when you get married, you must teach your children to speak Papapana”… My two children were born… myself and Rereo got married, and the two of us are from here so we teach the two children the village language…We know that this language won't survive, it will die out in the future.
expressing the importance of the role of Papapana in their culture and a wish for its continued use, speakers are still shifting to Tok Pisin. Unless speakers were not expressing their true feelings, the contradiction between overt attitudes about Papapana and actual linguistic behaviour could suggest that on a subconscious level, there has been a shift from ethnic identity to at least a regional, if not national, identity.

The interaction of all the factors discussed here has led to changes in Papapana speakers’ attitudes towards their language. Tok Pisin has gained prestige and usefulness and so it has been added to their multilingual repertoire, but Papapana has lost prestige and usefulness and is therefore being abandoned. If one of the factors discussed above occurred in isolation, it might not cause a change in attitudes. In the Papapana speech community, the factors discussed above are all interwoven in a complex chain of causation, making it impossible to single out one factor as the primary cause of language shift.

10.3 Assessing linguistic vitality status

Papapana is described as “threatened” in the Ethnologue (Lewis, Simons and Fennig 2014), and as “potentially endangered” or “possibly endangered” (Wurm 2012: 530). This section assesses the accuracy of these descriptions by first considering the different approaches to the assessment of linguistic vitality and applying some of the many assessment frameworks to Papapana (§10.3.1). Throughout this process, the frameworks and scales themselves are evaluated for their clarity, breadth and relevance and this evaluation is summarised in §10.3.2. The linguistic vitality assessment methods take into consideration a variety of different factors; the assessment of Papapana in light of these factors reveals the extent of their significance and crucially, that indicators of linguistic vitality are often not distinguished from causes of linguistic endangerment (§10.3.2).

10.3.1 Assessment approaches and frameworks

The study of language endangerment may be approached from different perspectives. A theoretical, structural linguistic approach focuses on language structure, the linguistic outcomes of obsolescence, and the processes of language decay, while a sociolinguistic approach concentrates on the societal circumstances of language use and maintenance in a speech community. A structural linguistic approach might measure linguistic vitality by studying language change; endangerment is assessed through the “analysis of lexical and morphosyntactic change from one generation to the next” (Florey 2005: 46). Examples of language change include grammatical restructuring, and “attrition”, that is, morphological and syntactic reduction (Janse 2003: xii). In a dying language there could also be a reduction in special registers or speech levels. Related to this, endangerment could be measured by examining speaker fluency. Such assessments can be made through listening or asking people to judge their own fluency, or it could be done via a formal assessment that tests language ability and plots the results against age on a continuum of language proficiency (Florey 2005: 46).
Here, a sociolinguistic approach is taken in assessing linguistic vitality as I am interested in the societal circumstances of language use and maintenance, and I wanted to make the most of the opportunity to study these circumstances through participant observation over an extended period. It was beyond the scope of this PhD project to also study language decay or speaker fluency but this is an area for future research. Studying language change diachronically was not possible because there are not comprehensive historical records of Papapana but this may be possible in the future with the present grammatical description used as a point of comparison.

Since the 1970s there have been a variety of sociolinguistic approaches to assessing linguistic vitality and a multitude of frameworks and categorisation scales that seek to label a language in terms of its vitality. This section presents some of these different approaches and assesses Papapana in light of these methods.

10.3.1.1 Areal taxonomies and intergenerational transmission scales

From the 1980s a number of studies grouped the languages of a particular area in terms of their linguistic vitality status while from the 1990s, attention focused on intergenerational language transmission as a key factor in linguistic vitality.

The areal taxonomies included American Indian languages (Bauman 1980), Canadian native languages (Kinkade 1991), and endangered USSR languages (Kibrik 1991). There are no exact criteria for each group to allow application to other languages though Kibrik (1991: 258-261) does identify the following factors as greatly affecting the viability of a language: size of ethnic group and number of speakers of the language in that group; speakers of the language, grouped by age; the ethnic character of marriages; upbringing of preschool-aged children; location of the ethnic group; language contacts of the ethnic group; way of life; national self-consciousness; instruction in the language at school, and state language policy.

Intergenerational language transmission categorisation scales include those of Krauss (1997: 25-26, 2007: 1) and Wurm (1998: 192). As discussed in §8.3.1.3 only two children speak Papapana as a L1 (0.7% of the total number of children in all six Papapana villages), while 4% of adults in their 20s and 21% of adults in their 30s speak Papapana fluently, and after the age of 40 years old, over 65% of each age group speaks Papapana. Papapana lies between two levels on Krauss’ (1997: 25-26) scale: level B applies because Papapana is being learned by “few children” but it does not apply because not “all adults [of] parental age” speak Papapana, while level B- applies well in a general sense because Papapana is “spoken by adults in their thirties or older”, but some younger parents and two children do speak Papapana. On Krauss’ (2007: 1) scale, Papapana falls between “definitely endangered” where the language “is spoken only by the parental generation and up” and “instable” where “some children speak” the language. These scales did not easily allow for exceptions and seemed to forget that communities are not monolithic wholes that shift to the same degree at the same time. Wurm’s (1998: 192) scale however does allow for exceptions and Papapana neatly fits into the category of
“endangered”: “children mostly do not learn the language anymore, and the youngest good speakers of it tend to be young adults”. However, Wurm (1998: 192) does not define “good speaker” nor age groups such as “young adult”. More strikingly, there is an assumption that the pressure is “from a large, usually metropolitan, language whose speakers tend to regard monolingualism in it as the desirable norm, and whose attitudes towards the potentially endangered languages(s) are negative” (Wurm 1998: 192). In PNG, many languages, including Papapana, are under threat from Tok Pisin, whose speakers certainly do not share such attitudes.

### 10.3.1.2 Fishman (1991) GIDS and Lewis and Simons (2010) EGIDS

Perhaps the best-known and most influential of the intergenerational transmission categorisation scales is Fishman’s (1991) Graded Intergenerational Disruption Scale (GIDS), shown in Table 10.1. Fishman’s (1991) GIDS focuses on intergenerational transmission as a key factor in the maintenance of a language (levels 6-8), but also considers domains (levels 1-3) and literacy (levels 4-5) since societal and institutional choices are crucial in influencing parental decisions about language choice. In the first six levels of GIDS, the language is being maintained, while in seven and eight, intergenerational transmission has ceased and language shift has begun. Level five and six demonstrate “the most common preconditions for language loss to occur” (Dwyer 2011: 2) since the domains in which the language is used become increasingly limited.


<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The language is used in education, work, mass media, government at the nationwide level</td>
</tr>
<tr>
<td>2</td>
<td>The language is used for local and regional mass media and governmental services</td>
</tr>
<tr>
<td>3</td>
<td>The language is used for local and regional work by both insiders and outsiders</td>
</tr>
<tr>
<td>4</td>
<td>Literacy in the language is transmitted through education</td>
</tr>
<tr>
<td>5</td>
<td>The language is used orally by all generations and is effectively used in written form throughout the community</td>
</tr>
<tr>
<td>6</td>
<td>The language is used orally by all generations and is being learned by children as their first language</td>
</tr>
<tr>
<td>7</td>
<td>The child-bearing generation knows the language well enough to use it with their elders but is not transmitting it to their children</td>
</tr>
<tr>
<td>8</td>
<td>The only remaining speakers of the language are members of the grandparent generation</td>
</tr>
</tbody>
</table>

On the GIDS, Papapana is at level 4 since some literacy, albeit limited, is transmitted through education (see §8.3.5), but it is not clear whether this criteria is intended to include “some literacy” or whether it means thorough, successful literacy education. Papapana can also be classified as somewhere between level 6 and 7 since there are speakers in each generation who speak the language but only two children speak Papapana as their first language (see §8.3.1.1 and §8.3.1.3). Lewis and Simons (2010) critiqued the GIDS and proposed the Extended GIDS (EGIDS). This framework extends Fishman’s (1991) GIDS from eight to thirteen levels. Level 4 “educational” and level 7 “shifting” are the same as GIDS, but level 6 is split into two and on the EGIDS Papapana scores 6b
“threatened” because “the language is used orally by all generations but only some of the child-bearing generation are transmitting it to their children” (Lewis and Simons 2010: 110).

EGIDS is not an improvement on GIDS as far as the Papapana sociolinguistic milieu is concerned because more than one level still applies to Papapana. This is because both GIDS and EGIDS consider different factors at different levels within one categorisation scale. To choose a particular level, as the Ethnologue (Lewis et al. 2014) does for Papapana, would be to ignore other pertinent factors and thus be misleading. Application of GIDS elsewhere in Melanesia has led Landweer (2012: 159) to conclude that GIDS “didn’t present a fine enough grid to differentiate the relative viability of languages in PNG”, while Dwyer (2011: 2) deems it inadequate for distinguishing a threatened language from one that is being maintained.

10.3.1.3 UNESCO (2003) Language Vitality and Endangerment Framework

At the International Expert Meeting on UNESCO Programme Safeguarding of Endangered Languages, Brenzinger, Yamamoto et al. (2003) proposed nine factors that together can be used to characterise a language’s overall sociolinguistic situation. Brenzinger, Yamamoto et al. (2003) identified six factors that can be used to evaluate a language’s vitality and state of endangerment, two factors to assess language attitudes and one factor to evaluate the urgency for documentation. An important caveat is that “no single factor alone can be used to assess a language’s vitality or its need for documentation” (Brenzinger et al. 2003: 7), while it should also be noted that in application these nine factors are sometimes all falsely assumed to be indicators, as in Lewis (2006): “[the UNESCO framework] assesses the level of language endangerment using nine factors” (Lewis 2006: 11).

Like Fishman’s (1991) GIDS, the UNESCO framework considers intergenerational transmission (GIDS level 6-8), domains (GIDS level 1-3), and literacy and education materials (GIDS level 4-5); however, the UNESCO framework treats each of these factors on distinct six-levelled scales. The UNESCO framework also considers response to new domains and both the absolute and relative population of speakers as factors in assessing linguistic vitality. These six factors, along with the factors assessing attitudes and documentation, are presented in Table 10.2 to Table 10.9 below, along with an assessment of Papapana for each factor.

Factor 1: Intergenerational language transmission

Based on the information presented in §8.3.1.3 Papapana can be classified as grade 3 “definitively endangered” and to some extent as grade 4 “unsafe”. Further discussion of this factor in Brenzinger, Yamamoto et al. (2003: 8) suggests that grade 3 is a better assessment since “at this stage, parents may still speak their language to their children, but their children do not typically respond in the language” whereas for grade 4, “most but not all children… speak their language as their first language” and two children cannot be considered “most but not all”.
TABLE 10.2 UNESCO FACTOR 1 (FROM BRENZINGER ET AL. 2003)

<table>
<thead>
<tr>
<th>Degree of Endangerment</th>
<th>Grade</th>
<th>Speaker Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>safe</td>
<td>5</td>
<td>The language is used by all ages, from children up.</td>
</tr>
<tr>
<td>unsafe</td>
<td>4</td>
<td>The language is used by some children in all domains; it is used by all children in limited domains.</td>
</tr>
<tr>
<td>definitively endangered</td>
<td>3</td>
<td>The language is used mostly by the parental generation and up.</td>
</tr>
<tr>
<td>severely endangered</td>
<td>2</td>
<td>The language is used mostly by the grandparental generation and up.</td>
</tr>
<tr>
<td>critically endangered</td>
<td>1</td>
<td>The language is used mostly by very few speakers, of great-grandparental generation.</td>
</tr>
<tr>
<td>extinct</td>
<td>0</td>
<td>There exists no speaker.</td>
</tr>
</tbody>
</table>

Factor 2: Absolute number of speakers

There is no scale for this factor but as §2.2 reports, Papapana has 106 fluent speakers.

Factor 3: Proportion of speakers within the total population

Papapana could be assessed as grade 2 “severely endangered” for this factor since, as §2.2 reports, fluent speakers only account for between 12% and 21% of the population of each village and between 17% and 21% of the total population of all the Teperoi villages. Presumably such figures can be considered as a “minority” but without further specification it could be argued that they equate to “very few”. The UNESCO levels here should therefore be clarified.

TABLE 10.3 UNESCO FACTOR 3 (FROM BRENZINGER ET AL. 2003)

<table>
<thead>
<tr>
<th>Degree of Endangerment</th>
<th>Grade</th>
<th>Proportion of Speakers Within the Total Reference Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>safe</td>
<td>5</td>
<td>All speak the language.</td>
</tr>
<tr>
<td>unsafe</td>
<td>4</td>
<td>Nearly all speak the language.</td>
</tr>
<tr>
<td>definitively endangered</td>
<td>3</td>
<td>A majority speak the language.</td>
</tr>
<tr>
<td>severely endangered</td>
<td>2</td>
<td>A minority speak the language.</td>
</tr>
<tr>
<td>critically endangered</td>
<td>1</td>
<td>Very few speak the language.</td>
</tr>
<tr>
<td>extinct</td>
<td>0</td>
<td>None speak the language.</td>
</tr>
</tbody>
</table>

Factor 4: Trends in existing language domains

As §8.3 reports, Tok Pisin is the language of all domains, but Papapana could be used among Papapana speakers in these domains, and while Papapana exists most strongly in the home domain, the dominant language is increasingly Tok Pisin. As with factor 1, merely using the table presents some difficulties as Papapana seems to fall between grade 2 and 3. Brenzinger, Yamamoto et al.’s (2003: 10) detailed description suggests grade 3 “dwindling domains” most accurately depicts the Papapana situation: “at home, parents begin to use the dominant language in their everyday interactions with their children, and children become semi-speakers of their own language (receptive bilinguals). Parents and older members of the community tend to be productively bilingual in the dominant and
indigenous languages… Bilingual children may exist in families where the indigenous language is actively used” (Brenzinger et al. 2003: 10, emphasis added).

**TABLE 10.4 UNESCO FACTOR 4 (FROM BRENZINGER ET AL. 2003)**

<table>
<thead>
<tr>
<th>Degree of Endangerment</th>
<th>Grade</th>
<th>Domains and Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>universal use</td>
<td>5</td>
<td>The language is used in all domains and for all functions</td>
</tr>
<tr>
<td>multilingual parity</td>
<td>4</td>
<td>Two or more languages may be used in most social domains and for most functions.</td>
</tr>
<tr>
<td>dwindling domains</td>
<td>3</td>
<td>The language is in home domains and for many functions, but the dominant language begins to penetrate even home domains.</td>
</tr>
<tr>
<td>limited or formal domains</td>
<td>2</td>
<td>The language is used in limited social domains and for several functions</td>
</tr>
<tr>
<td>highly limited domains</td>
<td>1</td>
<td>The language is used only in a very restricted domains and for a very few functions</td>
</tr>
<tr>
<td>extinct</td>
<td>0</td>
<td>The language is not used in any domain and for any function.</td>
</tr>
</tbody>
</table>

**Factor 5: Response to new domains and media**

A new domain could be new work environments, new educational environments or new media, including broadcast media and the Internet. Papapana has not been adopted in any new domains (see §8.3) so it is straightforwardly grade 0 “inactive”.

**TABLE 10.5 UNESCO FACTOR 5 (FROM BRENZINGER ET AL. 2003)**

<table>
<thead>
<tr>
<th>Degree of Endangerment</th>
<th>Grade</th>
<th>New Domains and Media Accepted by the Endangered Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>dynamic</td>
<td>5</td>
<td>The language is used in all new domains.</td>
</tr>
<tr>
<td>robust/active</td>
<td>4</td>
<td>The language is used in most new domains.</td>
</tr>
<tr>
<td>receptive</td>
<td>3</td>
<td>The language is used in many domains.</td>
</tr>
<tr>
<td>coping</td>
<td>2</td>
<td>The language is used in some new domains.</td>
</tr>
<tr>
<td>minimal</td>
<td>1</td>
<td>The language is used only in a few new domains.</td>
</tr>
<tr>
<td>inactive</td>
<td>0</td>
<td>The language is not used in any new domains.</td>
</tr>
</tbody>
</table>

**Factor 6: Materials for language education and literacy**

For each level of this scale, a number of variables are considered and consequently Papapana partially meets the criteria for several levels. Papapana can be assessed as grade 3 (although §2.4 and §8.3.5 report that the written materials are not permanent), as grade 2 (except that literacy education is part of the school curriculum at Elementary school (see §8.3.5)), or as grade 1 (except that permanent materials are not being written).
TABLE 10.6 UNESCO FACTOR 6 (FROM BRENZINGER ET AL. 2003)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Accessibility of Written Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>There is an established orthography, literacy tradition with grammars, dictionaries, texts, literature, and everyday media. Writing in the language is used in administration and education.</td>
</tr>
<tr>
<td>4</td>
<td>Written materials exist, and at school, children are developing literacy in the language. Writing in the language is not used in administration.</td>
</tr>
<tr>
<td>3</td>
<td>Written materials exist and children may be exposed to the written form at school. Literacy is not promoted through print media.</td>
</tr>
<tr>
<td>2</td>
<td>Written materials exist, but they may only be useful for some members of the community; and for others, they may have a symbolic significance. Literacy education in the language is not a part of the school curriculum.</td>
</tr>
<tr>
<td>1</td>
<td>A practical orthography is known to the community and some material is being written.</td>
</tr>
<tr>
<td>0</td>
<td>No orthography available to the community.</td>
</tr>
</tbody>
</table>

Factor 7: Governmental and institutional language attitudes and policies, including official status and use

Papapana does not fit into any of the categories described for this factor. Brenzinger, Yamamoto et al. (2003: 13) further describe grade 5 “equal support” as “all of a country’s languages are valued as assets… [and] protected by law, and the government encourages the maintenance of all languages by implementing explicit policies”. Papapana is not protected by law in the sense of having any kind of official or national status, but there are official educational policies promoting the use of vernacular languages in elementary schools, though these are not especially practical or fully implemented in Teperoi (see §8.3.5). Grade 4 “differentiated support” is described as “non-dominant languages are explicitly protected by the government, but there are clear differences in the contexts in which the dominant/official language(s) and non-dominant (protected) language(s) are used. The government encourages ethnolinguistic groups to maintain and use their languages, most often in private domains (as the home language), rather than in public domains (e.g. in schools)” (Brenzinger et al. 2003: 13). The government does encourage the use of vernacular languages in schools, although this is only in elementary education, and there are differences in the contexts in which the official languages and vernacular languages are used. Grade 4 and 5 are not the most accurate descriptions of Papapana but they are certainly more appropriate than the other grades which, in Brenzinger, Yamamoto et al.’s more detailed descriptions and discussion (2003: 12-14), make an assumption that there is a “dominant group”, “dominant culture” and “dominant community”. This is certainly not the case in a country of 836 languages, and where Tok Pisin does not belong to a dominant group but is a creole, developed for the purposes of intergroup communication.
TABLE 10.7 UNESCO FACTOR 7 (FROM BRENZINGER ET AL. 2003)

<table>
<thead>
<tr>
<th>Degree of Support</th>
<th>Grade</th>
<th>Official Attitudes toward Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>equal support</td>
<td>5</td>
<td>All languages are protected.</td>
</tr>
<tr>
<td>differentiated support</td>
<td>4</td>
<td>Minority languages are protected primarily as the language of the private domains. The use of the language is prestigious.</td>
</tr>
<tr>
<td>passive assimilation</td>
<td>3</td>
<td>No explicit policy exists for minority languages; the dominant language prevails in the public domain.</td>
</tr>
<tr>
<td>active assimilation</td>
<td>2</td>
<td>Government encourages assimilation to the dominant language. There is no protection for minority languages.</td>
</tr>
<tr>
<td>forced assimilation</td>
<td>1</td>
<td>The dominant language is the sole official language, while non-dominant languages are neither recognized nor protected.</td>
</tr>
<tr>
<td>prohibition</td>
<td>0</td>
<td>Minority languages are prohibited.</td>
</tr>
</tbody>
</table>

Factor 8: Community members’ attitudes toward their own language

Based on the final part of the discussion in §10.2.3, Papapana could be assessed as grade 2 or 3 for this factor, depending on how one defines “some” and “many”.

TABLE 10.8 UNESCO FACTOR 8 (FROM BRENZINGER ET AL. 2003)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Community Members’ Attitudes toward Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td><em>All</em> members value their language and wish to see it promoted.</td>
</tr>
<tr>
<td>4</td>
<td><em>Most</em> members support language maintenance.</td>
</tr>
<tr>
<td>3</td>
<td><em>Many</em> members support language maintenance; others are indifferent or may even support language loss.</td>
</tr>
<tr>
<td>2</td>
<td><em>Some</em> members support language maintenance; others are indifferent or may even support language loss.</td>
</tr>
<tr>
<td>1</td>
<td>Only <em>a few</em> members support language maintenance; others are indifferent or may even support language loss.</td>
</tr>
<tr>
<td>0</td>
<td><em>No one</em> cares if the language is lost; all prefer to use a dominant language.</td>
</tr>
</tbody>
</table>

Factor 9: Amount and quality of documentation

Prior to the commencement of this project, Papapana could be assessed as somewhere between Grade 0 “undocumented” and Grade 1 “inadequate” since there was only a partial grammatical sketch and there were no texts, though on the other hand there were annotated audio recordings, bringing it closer to Grade 2 “fragmentary” (see §2.4). Following the completion of this project, Papapana could be described as somewhere between Grade 3 “fair” and Grade 4 “good” since there will be a grammar, a short dictionary, texts, and adequately annotated high-quality recordings, but no literature or everyday media. This categorisation scale does not provide a clear fit for Papapana and does not allow for a situation in which there is no grammar but there are other materials such as wordlists.
### TABLE 10.9 UNESCO FACTOR 9 (FROM BRENZINGER ET AL. 2003)

<table>
<thead>
<tr>
<th>Nature of Documentation</th>
<th>Grade</th>
<th>Language Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>superlative</td>
<td>5</td>
<td>There are comprehensive grammars and dictionaries, extensive texts; constant flow of language materials. Abundant annotated high-quality audio and video recordings exist.</td>
</tr>
<tr>
<td>good</td>
<td>4</td>
<td>There are one good grammar and a number of adequate grammars, dictionaries, texts, literature, and occasionally updated everyday media; adequate annotated high-quality audio and video recordings.</td>
</tr>
<tr>
<td>fair</td>
<td>3</td>
<td>There may be an adequate grammar or sufficient amount of grammars, dictionaries, and texts, but no everyday media; audio and video recordings may exist in varying quality or degree of annotation.</td>
</tr>
<tr>
<td>fragmentary</td>
<td>2</td>
<td>There are some grammatical sketches, word-lists, and texts useful for limited linguistic research but with inadequate coverage. Audio and video recordings may exist in varying quality, with or without any annotation.</td>
</tr>
<tr>
<td>inadequate</td>
<td>1</td>
<td>Only a few grammatical sketches, short word-lists, and fragmentary texts. Audio and video recordings do not exist, are of unusable quality, or are completely unannotated.</td>
</tr>
<tr>
<td>undocumented</td>
<td>0</td>
<td>No material exists.</td>
</tr>
</tbody>
</table>

In summary, Papapana scores grade 3 for intergenerational language transmission and trends in existing language domains, grade 2 for proportion of speakers, grade 0 for response to new domains and media, grade 1-3 for education and literacy materials, possibly grade 5 or nothing at all for language attitudes and policies, grade 2-3 for community attitudes and grade 0-2 or 3-4 for documentation. By separating the factors in this way it is possible to see that what makes Papapana most vulnerable is the low proportion of speakers relative to the total population, and the fact that Papapana is no longer used in any new domains. If one were to put these factors together, Papapana might score an overall grade of 3, but this would mask the fact that it is weaker in some respects than others.

#### 10.3.1.4 Landweer (2012) Indicators of Ethnolinguistic Vitality (IEV)

One of the issues with the frameworks outlined above is that factors are often irrelevant to the Melanesian context. For example, Wurm (1998) refers to a “large” language that has a speaker base who regard monolingualism as the norm, while the UNESCO framework (Brenzinger et al. 2003) refers to a “dominant group” and “dominant language”. It is true that many of the world’s languages have disappeared as the result of numerical, social and cultural domination and sometimes by oppressive groups who force their language on those they dominate; however, the many hundreds of languages spoken in Melanesia are spoken by small speech communities with an average of 2,382 speakers where “egalitarian multilingualism is the norm and domination by a world language is less marked” (Landweer 2012: 153). A framework that assumes there is a “dominant” and “non-dominant”
language therefore renders itself irrelevant to the Melanesian context. Landweer (2012) suggests other ways in which the Melanesian context differs from other parts of the world: languages have small speaker bases; language is highly important to ethnic identity; contact is limited by physical barriers and underdeveloped infrastructure; villages have dense and multiplex social networks (Milroy 1987); and there is less technological development. Having considered a few assessment approaches, including Fishman’s (1991) GIDS, Landweer argues that previous assessment tools have been “developed in sociolinguistic contexts that do not coincide with Melanesia” (Landweer 2012: 153). To substantiate this claim Landweer examines the literature and finds that “the languages of Melanesia have been woefully under-represented” (Landweer 2012: 153) and therefore it is “no wonder the unique Melanesian context... was not reflected in the assessment techniques... for 97.6% of the language case studies cited in... benchmark theoretical and typological constructs were outside of Melanesia” (Landweer 2012: 161).

In response to this and taking into account the ways in which the Melanesian sociolinguistic context is different, Landweer (2012: 164-170) proposes eight Indicators of Ethnolinguistic Vitality (IEV). Each of these indicators has a score of 0-4 and these points are accumulated to give an overall vitality score. Landweer’s (2012: 164-170) discussion of the organisation and implementation of the IEV is summarised below, along with an assessment of Papapana for each indicator.

**Indicator 1: Potential for contact**

The speech community is/has:
- (3) no easy access to or from nearest urban (or population) centre;
- (2) marginal access to and from nearest urban (or population) centre;
- (1) fairly easy access to and from nearest urban (or population) centre;
- (0) located within an urban or population centre.

Under Landweer’s (2012: 164) criteria, a population centre can include government stations, regional schools and mission compounds, and access should take into account the availability and cost of transport and not only the distance, since in PNG people regularly travel several hours to and from their village homes, thus the perception of remoteness is culturally defined. In light of this, and considering the information presented in §8.2.6, the Papapana speech community scores 1.

**Indicator 2: Domains in which the target language is used**

The vernacular vitality score is:
- (3) if the targeted language is the language of choice in the home, and during all cultural and social events;
- (2) if the targeted language is the language of choice in the home and within cultural events, but where communication within social events mixes it with a lingua franca or other languages;
- (1) if the targeted language is the language of choice in the home, but where both cultural events and social events mix it with a lingua franca or other languages;
- (0) if the targeted language is mixed with a lingua franca or other languages in every domain across society include the home environment.
Landweer (2012: 165) defines cultural events as being “traditional” and found within the culture prior to Western contact while social events include those that have been introduced since Western contact. Papapana receives a score of 0 for this indicator (see §8.3).

**Indicator 3: Frequency and type of code-switching**

The scale ranking the effects of the frequency and type of code switching is:

- (3) if there is monolingual allegiance to the vernacular among the majority of speakers;
- (2) if there is evidence of a diglossic or a stable bilingual situation;
- (1) if there is infrequent individual unbounded code switching (code mixing);
- (0) if there is frequent individual unbounded code switching (code mixing).

Landweer (2012: 166) defines code-switching within a multilingual context as occurring “when a speaker embeds elements from one language in an utterance that is primarily composed of another language”. Landweer (2012: 166) differentiates two types: “inter-sentential code switching” occurs at major communication boundaries and can be referred to as “bounded”, while “intra-sentential code switching”, or “code mixing”, are language shifts that occur within a single thought group and occur typically without redefinition of the communication situation, thus can be referred to as “unbounded”. While no study of code-switching has been carried out, impressionistically Papapana scores 0 for this indicator.

**Indicator 4: Population and group dynamics**

- (3) immigrants are actively bilingual — they speak the vernacular of their adopted home;
- (2) immigrants are passively bilingual — they understand the vernacular of their adopted home but respond using a lingua franca or trade language;
- (1) immigrants require two-way communication entirely via a lingua franca or trade language;
- (0) immigrants maintain their own language and insist others in their adopted home learn to speak it for the purposes of communication with them.

This indicator relates to the need for a core of fluent speakers and the fact that this core can be supported or undermined by the language use of immigrants into the speech community (via employment, trade alliances or marriage). Papapana scores between 1 and 2 for this indicator since some immigrants are passively bilingual (see §2.2).

**Indicator 5: Social networks**

- (3) cross cultural independence, intra-community interdependence with dense, multiplex network utilizing the local language to meet communication needs;
- (2) cross cultural interdependence — divided network systems, internally dense and with a degree of multiplexity modified by the necessity to communicate with outsiders who do not know the local language for some goods and services;
- (1) cross cultural dependence — divided network systems, internally dense, however, there is the necessity to communicate with outsiders who do not know the local language for all goods and services;
- (0) individual independence — sparse network — few to nil repetitive social connections supportive of the vernacular.
This indicator is based on Milroy’s (1987) concept of social networks (though Landweer (2012) does not actually explain Milroy’s concepts). A social network is described as relatively dense “if a large number of the persons to whom ego [an individual] is linked are also linked to each other” (Milroy 1987: 50). Multiplexity refers to the number of separate social connections between any two individuals (Milroy 1987: 51). A single tie between individuals, such as a shared workplace, is a uniplex relationship whereas a multiplex relationship is one where the individuals interact in multiple social contexts. For this indicator, Papapana seems to best fit a score of 1 (see §8.2.6 and §8.3).

Indicator 6: Social outlook

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>strong internal identity, high status or notoriety conferred by outsiders, with cultural markers present;</td>
</tr>
<tr>
<td>2</td>
<td>strong internal identity, neutral status conferred by outsiders, with cultural markers present;</td>
</tr>
<tr>
<td>1</td>
<td>weak internal identity, neutral status conferred by outsiders, with some cultural markers present;</td>
</tr>
<tr>
<td>0</td>
<td>weak internal identity, negative status conferred by outsiders, with few if any cultural markers present.</td>
</tr>
</tbody>
</table>

This indicator questions whether there is internal and/or external recognition of the language community as separate and unique within the broader society, and whether there is material or non-material evidence (cultural markers) of such a distinction. Based on the discussion in §10.2.3, Papapana scores 1 for this indicator.

Indicator 7: Language prestige

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>the language in question is a prestigious, nationally recognized lingua franca;</td>
</tr>
<tr>
<td>2</td>
<td>the language in question is a regionally recognized lingua franca, church, education, and/or trade language;</td>
</tr>
<tr>
<td>1</td>
<td>the language in question is a locally recognized variety with neutral status;</td>
</tr>
<tr>
<td>0</td>
<td>the language in question is a locally disparaged variety.</td>
</tr>
</tbody>
</table>

Based on the discussion in §10.2.3 and on §8.3, Papapana scores 1 for this indicator.

Indicator 8: Access to a stable and acceptable economic base

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>stable and acceptable economic base where the vernacular is the code of choice;</td>
</tr>
<tr>
<td>2</td>
<td>adequate dual economy where the language used is dictated by choice of economic base;</td>
</tr>
<tr>
<td>1</td>
<td>marginal subsistence economy requiring augmentation of the traditional means of subsistence with cash-based economic schemes requiring use of a language other than the target language;</td>
</tr>
<tr>
<td>0</td>
<td>dependence on an economic system requiring use of language other than the target language.</td>
</tr>
</tbody>
</table>

Based on the discussion in §10.2.3 and on §8.3.2 Papapana scores 1 for this indicator.

Overall, Landweer’s (2012) IEV instrument is very well defined. Cumulatively, Papapana scores between 6 and 7 and can be labelled “endangered”: a score of 18 points upwards indicates “probable
continued language viability”, 15-17 points indicates “possible viability”, 12-14 is considered “on the cusp of shifting” and 0-12 is “endangered” (Landweer 2012: 163). What is perplexing though is that for the first category there is a margin of six points, for the second two there is a margin of three points, yet for the final category, “endangered” there is a margin of twelve points. The whole purpose of assessing linguistic vitality is to aid the identification and prioritization of the languages most in need of documentation and/or revitalization. A language that scores 11 is surely in quite a different state of endangerment to a language that scores 1 so it is puzzling why Landweer would wish to include such different situations into one category. Perhaps she was trying to avoid quantifying “endangered” and adding to the list of labels proffered by other categorisation scales, but even so the grouping of languages on the basis of six point, three point and twelve point margins seems inconsistent, with the scale seesawing between broad and fine-grained. Moreover, many of the assessment frameworks do not make a distinction between indicators and causes of language endangerment (see §10.3.2 for a detailed discussion) and this is particularly the case with Landweer’s IEV.

10.3.1.5 Catalogue of Endangered Languages Project’s (ELCat) Language Endangerment Index (LEI) (Way and Lee 2013)

The most recent addition to the multitude of assessment frameworks is The Catalogue of Endangered Languages Project’s (ELCat) Language Endangerment Index (LEI) (Way and Lee 2013). The LEI considers four categories: intergenerational transmission, absolute speaker numbers, speaker number trends and domains of use. For each of these categories, a language is assigned a score of 0-5 based on how well it meets the criteria shown in Table 10.10. Intergenerational transmission is worth twice each of the other factors.

Papapana scores 2-3 for intergenerational transmission, which when doubled gives a score of 4-6: the criteria for the score of 2 fits Papapana nicely as it allows for the fact that children are “generally” not speakers, however, the conflict here is that “some adults” (from score 3) is more accurate than “most adults” (score 2). A score of 3 is assigned for absolute speaker numbers, 4 for speaker trends and 4 for domains; however, score 0 for domains also applies because Papapana is used in school, though overall score 4 fits best as Papapana is certainly not used “in most domains”. If no information is available for a particular category, it is not scored for that category and the number of points available from that category is deducted from the total points available. Since there is information available for all categories for Papapana, the total points available are 25. A percentage is then calculated from the total score and the total points available: 0% indicates “safe”, 1-20% “vulnerable”, 21-40% “threatened”, 41-60% “endangered”, 61-80% “severely endangered”, and 81-100% “critically endangered”. Papapana scores between 64% or 72% and is thus categorised “severely endangered”. A level of certainty accompanies each endangerment score, showing the degree of confidence in the score and is calculated based on the percentage of factors that are known and entered. For Papapana, all factors are known so the certainty level is 25/25, i.e. 100%. For those languages that score 0% but
the level of certainty is less than 100% certain, it is identified as “at risk”. The catalogue also identifies some languages as “dormant” if a source reports that there are no known L1 speakers, or as “awakening” if the language was previously dormant but is now being revitalised.

### TABLE 10.10 CATALOGUE OF ENDANGERED LANGUAGES PROJECT’S LANGUAGE ENDANGERMENT INDEX (LEI) (WAY AND LEE 2013)

<table>
<thead>
<tr>
<th>Level of Endangerment</th>
<th>Intergenerational Transmission</th>
<th>Absolute Number of Speakers</th>
<th>Speaker Number Trends</th>
<th>Domains of use of the language</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Critical Endangered</td>
<td>There are only a few elderly speakers.</td>
<td>1-9 speakers</td>
<td>A small percentage of the community speaks the language, and speaker numbers are decreasing very rapidly.</td>
<td>Used only in a few very specific domains, such as in ceremonies, songs, prayer, proverbs, or certain limited domestic activities.</td>
</tr>
<tr>
<td>4 Severely Endangered</td>
<td>Many of the grandparent generation speak the language, but younger people generally do not.</td>
<td>10-99 speakers</td>
<td>Less than half of the community speaks the language, and speaker numbers are decreasing at an accelerated pace.</td>
<td>Used mainly just in the home and/or with family, and may not be the primary language even in these domains for many community members.</td>
</tr>
<tr>
<td>3 Endangered</td>
<td>Some adults in the community are speakers, but the language is not spoken by children.</td>
<td>100-999 speakers</td>
<td>Only about half of community members speak the language. Speaker numbers are decreasing steadily, but not at an accelerated pace.</td>
<td>Used mainly just in the home and/or with family, but remains the primary language of these domains for many community members.</td>
</tr>
<tr>
<td>2 Threatened</td>
<td>Most adults in the community are speakers, but children generally are not.</td>
<td>1000-9999 speakers</td>
<td>A majority of community members speak the language. Speaker numbers are gradually decreasing.</td>
<td>Used in some non-official domains along with other languages, and remains the primary language used in the home for many community members.</td>
</tr>
<tr>
<td>1 Vulnerable</td>
<td>Most adults and some children are speakers.</td>
<td>10,000-99,999 speakers</td>
<td>Most members of the community or ethnic group speak the language. Speaker numbers may be decreasing, but very slowly.</td>
<td>Used in most domains except for official ones such as government, mass media, education etc.</td>
</tr>
<tr>
<td>0 Safe</td>
<td>All members of the community, including children, speak the language.</td>
<td>&gt;100,000 speakers</td>
<td>Almost all community members or members of the ethnic group speak the language, and speaker numbers are stable or increasing.</td>
<td>Used in most domains, including official ones such as government, mass media, education etc.</td>
</tr>
</tbody>
</table>

### 10.3.2 Evaluation of assessment frameworks

Having used the frameworks to assess the vitality status of Papapana, it becomes apparent that there are an overwhelming number of different labels: Papapana can be described as “endangered” (Krauss 1998, Wurm 1998, Landweer 2012), “definitively endangered” (Krauss 2007, Brenzinger et al. 2003),
“severely endangered” (Brenzinger et al. 2003, Way and Lee 2013), “instable” (Krauss 2007), “dwindling” and “inactive” (Brenzinger et al. 2003), “threatened” and “shifting” (Lewis and Simons 2010). Common pitfalls with the assessment frameworks are a lack of clear definitions, and general criteria that make it unclear how literally the factors are to be taken. They also do not allow for the fact that individual speakers may shift to varying extents at different times. There was also an assumption that shift was to a language of a “dominant” group, and all the frameworks applied only to situations of top-down shift. The United Nations Educational, Scientific and Cultural Organization (UNESCO) framework (Brenzinger et al. 2003), Landweer’s (2012) IEV and the ELCat’s LEI (Way and Lee 2013) were better designed than the GIDS (Fishman 1991) and EGIDS (Lewis and Simons 2010) because they separated factors onto different scales, allowing a better understanding of where weaknesses and strengths lay, though their downfall could be that they require in-situ studies, which might not always be possible (Dwyer 2011: 9). Indeed, Lewis (2006) applied the UNESCO framework to the world’s languages but concluded that more data and better reporting were needed to make such an assessment (p.28-29).

A major problem is that many of the assessment frameworks did not make a distinction “between directly observable symptoms (indications) of language endangerment and their often not so clearly discernible causes” (Himmelmann 2010: 46). The following discussion makes this distinction for the factors discussed in the above assessment frameworks and evaluates the feasibility of identifying such factors.

10.3.2.1 Absolute number of speakers

Kibrik (1991), the UNESCO framework (Brenzinger et al. 2003), Landweer (2012) and ELCat’s LEI (Way and Lee 2013) all consider the number of speakers as an indicator of linguistic vitality: a language with a large number of speakers is assumed to be more vital and in a safer position than a language with a small number of speakers. However, establishing accurate figures is problematic. Firstly, as Kibrik (1991) points out, the sources do not always distinguish between the population of the ethnic group and the number of speakers of its traditional language. Secondly, as discussed in §10.1, the definition of speaker is debatable. Thirdly, even if one decides on a level of proficiency that is required to qualify as a speaker, how does one go about testing every individual’s proficiency in a large population? That’s assuming one has access to every individual. If not, can one rely on another individual’s evaluation? Furthermore, even if an accurate number of speakers were established, there is no consensus in the literature as to what constitutes a “safe” figure. Crystal (2000: 12) notes that some linguists consider a language to be endangered if it has less than 20,000 speakers, Dixon (1991: 231) suggests 10,000 speakers as a safe figure but Crystal (2000: 12) argues that “most people would accept that a language spoken by less than 100 is in a very dangerous situation”. For Melanesia, such figures are unhelpful since Melanesian languages have an average of 2,382 speakers (Landweer 2012: 153). More importantly, while it is true that a small speech community is more vulnerable to decimation and is more likely to merge with a neighbouring group (Brenzinger et al. 2003: 8), even a language with a
large number of speakers could be in danger “if the external pressures on it were great, while a very small language could be perfectly safe as long as the community was functional and the environment stable” (Nettle and Romaine 2000: 41). Barrena et al. (2007: 135-136) provide examples of languages with few speakers which display great vitality, such as Gumawana in PNG, and examples of languages which had high numbers of speakers but are now facing extinction, such as Breton in France. Absolute number of speakers does not therefore indicate the extent to which a language is endangered.

### 10.3.2.2 Proportion of speakers

The UNESCO framework (Brenzinger et al. 2003) considers the number of speakers in relation to the total population of a group as an indicator of linguistic vitality, with a higher proportion indicating a safer language. While Landweer (2012) and Kibrik (1991) do not explicitly consider the proportion of speakers as a vitality indicator, Landweer does mention how the absolute number of speakers can be supported or undermined by the language use of immigrants, and Kibrik considers the ethnic character of marriages (whether they are intra-ethnic or inter-ethnic) and the location of an ethnic group (whether the group has a dense population or is spread out over different territories). This indicator is perhaps more problematic when it comes to establishing accurate figures since one needs to not only gather figures on speaker numbers, but also population figures for the communities in which these speakers live. One still also needs to define speaker and accurately assess speaker’s proficiency. Nonetheless, the proportion of speakers is much more meaningful than absolute numbers and Brenzinger (1997: 276) considers the ratio between the number of members of the ethnic group and the number of speakers of the ethnic tongue as “the most serious indicator of the vitality of a language”. As Bauer (2008: 63) explains, communities speak languages and if there is nobody to speak to then the language is not spoken. For there to be a reasonable chance that a language will be spoken, there has to be a reasonable chance that those spoken to will also speak the language. As discussed in §10.2.3, if speakers are too diluted in their community by non-speakers, then they will not have many opportunities to speak the language and the conversation is more likely to shift to a lingua franca.

### 10.3.2.3 Domains

The domains in which a language is used is considered an indicator of linguistic vitality by many frameworks including GIDS (Fishman 1991), EGIDS (Lewis and Simons 2010), UNESCO (Brenzinger et al. 2003) and IEV (Landweer 2012). Kibrik (1991: 260) does not explicitly discuss domains but considers the preservation of traditional ways of life as key to preserving a language, whereas “adaptation to modern ways of life makes preserving the language more difficult”. Traditional ways of life may be associated with existing domains while modern ways of life may be associated with new domains. If a language is to be spoken, there has to be the opportunity to speak the language. The fewer domains a language is spoken in, the less opportunity speakers have to speak their language. It is therefore widely accepted that “the greater the number of domains where the target language is the language of choice, the greater reinforcement and maintenance of its use” (Landweer 2012: 165).
Himmelmann (2010: 46) argues that the number and quality of domains is “one essential symptom for the vitality of a language” and language endangerment may be defined as “a rapid decline in the number and quality of domains in which a given language is used” (Himmelmann 2010: 47). The number of domains is important because different domains involve different registers, but the quality of domains is also significant, that is, “the importance of a given domain within the overall language ecology in a given speech community, based on the breadth and variety of linguistic behaviour found in that domain” (Himmelmann 2010: 46). For example, the use of a language once a week in the church domain could be seen as less relevant to the vitality of the language than the use of the language every day in the school domain. I would also add that it is important to consider the dominance of a language within a domain, and ELCat’s LEI (Way and Lee 2013) goes some way to addressing this in its inclusion of which language is “primary” in a domain. Investigating the use of the language in particular domains involves in-situ observations if one is to gain reliable information. For example, Papapana community members might say that Papapana is used in church but in-situ observations showed that this really only applied to the occasional song (see §8.3.4), while Papua New Guinean language policy might state that the vernacular language is to be used as the medium of instruction in elementary schools but in-situ observations revealed that Papapana was far from the language of the education domain (see §8.3.5).

10.3.2.4 Education domain and literacy materials

School education is one type of domain that may exist in a community. GIDS (Fishman 1991), EGIDS (Lewis and Simons 2010) and the UNESCO framework (Brenzinger et al. 2003) all mention school education in their discussion of existing and new domains, and in their discussion of whether literacy is being transmitted through education. If a language is spoken in the school domain there is more opportunity to use it and its use is reinforced. If it is not spoken in the school domain it does not necessarily indicate that the language is endangered; the school domain should be considered along with other domains when assessing linguistic vitality.

The UNESCO framework (Brenzinger et al. 2003) also discusses education and literacy in terms of whether there are educational and literacy materials in the language: this should not be considered an indicator of linguistic vitality. A lack of materials, and therefore support, may reflect institutional or community attitudes, and/or it might mean that language use in the school domain is undermined, as in Teperoi Primary school; both of these things can cause language shift. Nevertheless, educational and literacy materials are not a directly observable symptom of linguistic vitality; if they were, that presupposes that every culture has a school domain and wishes their language to be written, which is not always the case. Using the absence or presence of materials as evidence for the use of the language in the school domain is also problematic: the existence of materials does not mean the language is used in the school domain, and conversely a language could still be used even if there were no materials, as in Teperoi, albeit to lesser success.
10.3.2.5 Home domain and intergenerational language transmission

Kibrik (1991), Krauss (1997, 2007), Wurm (1998), GIDS (Fishman 1991), EGIDS (Lewis and Simons 2010), and the UNESCO framework (Brenzinger et al. 2003) all consider intergenerational language transmission as a crucial indicator of linguistic vitality. Surprisingly, Landweer (2012) does not consider it explicitly but does consider domains, including the home. As with any domain, identifying use of the language in the home domain may involve observations, particularly of child-adult interactions. Home domain usage can also be identified by measuring intergenerational language transmission which in turn is measured by categorising speakers by age group and identifying whether speakers exist in the younger generations. Eisenbeiss (2005: 124-125) argues that “the ultimate test and predictor of language maintenance is in parent-child interactions, because interactions between family members, in contrast to more formal situations, typically allow for real choice between languages”. The parents may choose, consciously or subconsciously, not to transmit their language to their children, or it could be that the parents are transmitting but the children choose to respond in another language. These choices would be the result of a change in attitudes brought about by an environmental change. The directly observable symptom is an interruption in intergenerational language transmission. The home domain is arguably the most important domain, since the interaction between caregivers and children determines the existence/absence of intergenerational language transmission, and consequently the fate of the language. After all, “a language that is losing, or has lost, children speakers to another language, is in danger of disappearing” (Wurm 1998: 198) because as speakers die out, the speaker base is not being replenished. Wurm (2001: 1) even quantifies this by arguing that a language is endangered if it is not being learned by at least 30% of the children in a community.

10.3.2.6 Institutional attitudes and policies, prestige and status

Wurm (1998) considers status/prestige in intergroup contexts, Kibrik (1991) factors in state language policy, the UNESCO framework (Brenzinger et al. 2003) considers governmental/institutional attitudes and policies, including status and use, and Landweer (2012) considers prestige and status at the local, regional and national level to be an indicator of linguistic vitality. Thomason (2001: 242) also argues that “[a] way of looking for “safe” languages is to see which ones are official languages of one or more nations because official state support is also another good indicator of safety”. It is true that many safe languages enjoy official status within nations and consequently tend to be held in higher prestige (Grenoble and Whaley 2006: 18), while endangered languages tend not to; however, there are many languages that are safe even though they do not have official status. This is particularly the case in multilingual nations with great linguistic diversity, such as PNG. Conversely, equal legal status does not guarantee language maintenance and long-term vitality (Brenzinger et al. 2003: 13). Moreover, language status and policies reflect institutional attitudes towards a language which may be among the causes of language shift; however, they are not a symptom of language endangerment. As Landweer states, “the concept of inter-language prestige is summoned as a motivating force for
language maintenance and shift” (2012: 168, emphasis added); prestige is a cause, not an indicator, so it is puzzling that Landweer includes prestige as an indicator. Even though this is one of UNESCO’s nine factors, it is crucially not one of their six indicators of linguistic vitality (Brenzinger et al. 2003). Indeed the UNESCO framework recognises that attitudes are a cause of endangerment, not an indication: “the linguistic ideology of a state may inspire linguistic minorities to mobilize their populations toward the maintenance of their languages, or may force them to abandon them. These linguistic attitudes can be a powerful force both for promotion and loss of their languages” (Brenzinger et al. 2003: 12, emphasis added).

10.3.2.7 Community attitudes and identity
Kibrik (1991: 260) suggests that a lack of national identity (or rather, ethnic identity in other parts of the world) is counterproductive to the normal development of a language, while one of Landweer’s (2012) indicators is “social outlook” which pertains to identity and markers of cultural distinctiveness: “the perception a group has of itself can impact the value associated with their language and ultimately their choice of language” (Landweer 2012: 168). The UNESCO framework (Brenzinger et al. 2003) also includes community members’ attitudes towards their language as a factor, though crucially the UNESCO framework does not include this factor as one of the six indicators of linguistic vitality. Instead the UNESCO framework recognises that community attitudes “interact with governmental policy and societal pressures to result in increased or decreased language use in different domains” (Brenzinger et al. 2003: 15, emphasis added). Indeed it is a change in attitudes, brought about by environmental changes, that is the ultimate cause of language shift. There is no denying that positive community attitudes to a language are crucial for the long-term stability of a language; however, like institutional attitudes and perhaps more so, community attitudes are not a measure of language use and linguistic vitality.

10.3.2.8 Economic access
Landweer’s (2012) eighth indicator of ethnolinguistic vitality is “access to a stable and acceptable economic base”. Landweer (2012: 169) is right to state that “one of the most common motivations for individuals in a community to shift from one language to another is for perceived economic benefit”; however, Landweer (2012) calls this factor an “indicator” yet uses the term “motivation” to describe it, which is exactly what this factor is. Whether or not there is access to a stable and acceptable economic base tells us nothing about the linguistic vitality status of a language and whether it is being used or not; it tells us about a possible cause for speakers’ attitudes which in turn motivate language choice and use.

10.3.2.9 Language contact
Kibrik (1991) and Landweer (2012) both consider contact with other language groups to be a factor in language endangerment. Kibrik (1991: 260) states that the more contact there is with other cultures, the worse it is for the viability of a language, while Landweer (2012) considers potential contact as a
factor, i.e. the distance and accessibility to places where individuals will be exposed to, and potentially required to use language(s) other than their vernacular. Landweer (2012: 167) also considers social networks as a factor and argues that “dense and multiplex networks can serve to insulate speakers, isolating and protecting them from language contact pressures towards change”. Language contact is of course a factor in language endangerment, precisely because it is a prerequisite for language shift. As §10.2.1 further explains, identifying the type of language contact situation might help us to predict the likelihood of language endangerment, the type of language shift to occur and the causes of shift. Nevertheless, language shift is just one possible outcome of language contact and contact does not necessarily lead to language shift. The amount of contact is therefore not an indicator of the extent to which a language is endangered.

10.3.2.10 Code-switching

Landweer’s (2012) IEV is the only framework to consider the frequency and type of code-switching as an indicator of ethnolinguistic vitality:

“[since] code switching is used as a momentary marker of group identification for the purpose of renegotiating role relations within a communication context… [and] as language contact and use are mitigating factors toward language change for that person, so the frequency and type of code switching within the communication patterns of a community of speakers impact the strength of the vernacular code in that community”

(Landweer 2012: 166)

Landweer (2012) distinguishes “inter-sentential” code-switching from “intra-sentential”. Inter-sentential code-switching often occurs at major communication boundaries. Such code-switches may be evidence of diglossia or stable bilingualism. On the other hand, intra-sentential code-switching (or code mixes) are language switches that occur within a single thought group and usually occur without redefinition of the communication situation. The more frequent intra-sentential code-switches are, the more endangered the language is. This argument presumably reflects Poplack’s findings that while “fluent bilinguals tended to switch at various syntactic boundaries within the sentence, non-fluent bilinguals favoured switching between sentences” (Poplack 1980: 581), i.e. “the ability to switch at the intra-sentential level correlates with increased mastery of linguistic structures” (Bullock and Toribio 2009: 8). If intra-sentential code-switches require greater fluency in and knowledge of both languages than inter-sentential code switches, then a higher rate of intra-sentential code-switches would suggest that there were more speakers with greater fluency in the L2, thus increasing the likelihood of language shift. Of course, language shift could progress to the point where a speaker is a non-fluent bilingual but with the ethnic language less dominant than the language to which the community is shifting. In such a case, this non-fluent bilingual may display very few intra-sentential code switches yet language shift and endangerment is clearly more progressed than when a fluent bilingual is producing intra-sentential switches. Landweer (2012) does not seem to account for this possibility.
Moreover, the relationship between code-switching and language endangerment needs extensive investigation before it can be factored into an ethnolinguistic vitality assessment framework.

### 10.4 Papapana speakers in transition: the hows and whys of language endangerment

Papapana is one of the world’s 6000 to 7000 languages that is at great risk of disappearing within the next century. As with any language, its disappearance would be a major loss to the field of linguistics, science and the community. Papapana is endangered because there has been considerable language shift to Tok Pisin, specifically voluntary, top-down shift. It is extremely difficult to systematically identify the causes of language endangerment because the factors are so intertwined. What is clear is that environmental changes alter speaker attitudes which in turn affect a speaker’s choice of language. In the Papapana community, economic and cultural changes have increased mobility to population centres which has increased the contact Papapana speakers have with other language communities. In turn, intermarriage has increased, which has further increased contact, both inside and outside of the Papapana villages. The Papapana community has undergone further population movement due to permanent migration, and displacement from colonial expansion and the Bougainville civil war, and has been particularly vulnerable to contact due to the community’s coastal location. Increased contact among people with so many different linguistic backgrounds has heightened the exposure and need for the lingua franca Tok Pisin. The lack of or weak representation in institutions such as school, church and the media has resulted in the use and prestige of Papapana being undermined in these domains. These factors combined with an already small speaker base, have left the population of Papapana speakers smaller than ever before. A small speaker base and small proportion of speakers in the community, as well as the lack of support in particular institutions, means there are fewer opportunities to speak Papapana, and speakers’ attitudes towards Papapana are seriously damaged. A change in attitudes may also be attributed to the perception that Papapana is not a powerful language and that it is endangered, as well as the fact that the Papapana community has suffered greatly from the devastating effects of the Bougainville Crisis. It is also possible that subconsciously there has been a shift from ethnic identity to regional identity which has promoted the use of Tok Pisin even further.

Papapana is now spoken by less than 20% of the total population of the villages, intergenerational transmission has almost ceased with only two children speaking Papapana as a L1 and Tok Pisin is the dominant language of all domains, though Papapana may be used among Papapana speakers in these domains and is used in elementary school to a limited degree. It is safe to say that Papapana is “endangered” but unfortunately the assessment frameworks described here did nothing to further delineate Papapana’s vitality status. Instead the assessment of Papapana revealed some of the problems with these frameworks which should be addressed in the development of future models.

Any assessment model should employ clear definitional criteria for each level and should not assume that individuals shift languages to the same extent at the same time, nor that languages completely
disappear from domains in a uniform order. In this latter respect, the quality, as well as number of domains should be considered. A good assessment model separates the individual components of the assessment so it is easier to find a level that is appropriate in all respects, and to identify where strengths and weaknesses lie. It is necessary to ensure there is no bias towards a particular end of the scale so that the assessment model can be used to assess languages with a range of vitality statuses, from the more endangered to the safer languages. A good assessment framework should be relevant to a variety of language shift situations and should not assume that all shift is top-down, or that all speech communities shift to the language of a “dominant” group. Developing a model which is relevant to a diverse range of circumstances and cultures is certainly challenging but perhaps this will be possible with more studies of endangerment scenarios. Assessing Papapana also emphasised the need for in-situ observations as the vernacular education policy did not reflect actual educational practice, and without participant observation, the two Papapana-speaking children may have gone unnoticed. In reality though an in-situ assessment is not always possible and therefore an assessment framework should allow for the intricacies that an in-situ assessment reveals, but not depend on it. Finally, although the current assessment frameworks were useful in highlighting some of the factors involved in language endangerment situations, they often confused indicators and causes of language endangerment.

Admittedly, it is very difficult to untangle indicators and causes of language endangerment. This study has shown that proportion of speakers within a community can indicate linguistic vitality status; however, demographic changes in absolute and relative number of speakers can be a cause. Similarly, while the number and quality of domains is an indicator of vitality, changes in domain usage can cause attitudes to change and language shift to occur. A particular factor might even be a symptom and a cause of language shift at the same time; for example, a decrease in domains leads to intergenerational transmission ceasing, which is a symptom of shift, but at the same time will most likely cause demographic changes. Sometimes an indicator might provide crucial clues to the causes of language shift. For instance, in the Papapana speech community, the youngest fluent speakers were born in the early to mid-1980s, with the exception of two children. Children born after this, i.e. in the late 1980s, were not brought up speaking Papapana as their L1. It is unlikely to be a coincidence that the late 1980s saw the beginning of the Bougainville Crisis, which caused population displacement and a general breakdown in stability, and is one of the causes of language shift.

Despite the difficulty in untangling symptoms and causes, it is nevertheless possible to do so. Whichever definition of language death one adopts, the common factor is that the language is not being used anymore; therefore, if we want to assess how close to that point of death a language is, i.e. the extent of endangerment, we need to assess how much the language is being used. Usage depends on opportunities to use the language in particular settings and with particular interlocutors. The number and quality of domains, and the proportion of speakers within a community are thus crucial indicators of linguistic vitality: the more domains and the higher the proportion of speakers, the greater the chance of the language being used. These two factors must be considered together to provide an
accurate assessment: a language could exist in a particular domain but if there is a low proportion of speakers, it might not be used very much in that domain. The home domain and the school domain are particularly crucial as they impact on intergenerational transmission and therefore whether the speaker base is being replenished for the future. Intergenerational transmission is therefore also an indicator as it reflects the extent to which the language is used in these domains and the future of the language.

Investigating causes of endangerment in the Papapana community has exemplified the fact that language endangerment is the result of complex and interrelated sociolinguistic variables, and demonstrated the unique ways in which these variables interact in the Papapana setting. The assessment of Papapana’s linguistic vitality status using the current assessment frameworks draws attention to the elements that would make a successful assessment model and the indicators that should be considered. If one wants to develop a predictive model, that is, one which identifies the vulnerability of a language to endangerment and predicts what might happen to a language, then it is necessary to consider the potential causes of language endangerment discussed here. The important thing is to make a clear distinction between causes and symptoms as such assessments might have different applications: a predictive model may be used to prevent or reverse the demise of a language, while a diagnostic model may be used to identify and prioritise the languages that most need documenting or revitalising.
References


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