Chapter 1

Barupu language and speakers

Barupu is a Papuan (or non-Austronesian) language spoken by almost 3000 people in Sandaun Province on the north coast of Papua New Guinea (see pp xxi & xxii).

It is the eastern-most member of the Piore River branch of the Macro-Skou family (Donohue 2004). The main village site is inland from the Sissano lagoon and there are outlying coastal and bush camps. The language is officially called ‘Bâuni’ (also the word for ‘no’), but speakers often refer to it as Barupu (with stress on the second syllable) or Warapu (with stress on the first syllable), which are also the names of the current and former village sites respectively. Up until a tsunami on July 17th, 1998, the village of Warapu was located on a sandspit between the Sissano lagoon and the ocean. Since then, the village of Barupu has been established inland from the lagoon, near traditional garden sites.

Section 1.1 of this chapter traces the migration of Barupu speakers from Papua (formerly West Papua and Irian Jaya) to the current site. Subsequent sections describe Barupu economic and cultural life, sketch the general typological features of Barupu and the use of the language in the community and the effects of English and Tok Pisin. Section 1.5 lists previous works on the language. The final section of this chapter describes the fieldwork carried out for this study.
1.1 Linguistic grouping and history

Skou languages are found as far west as immediately over the border with Indonesia and as far east as Barupu. Laycock (1975:851) identified Barupu (=Warapu) as part of the Krisa family of the Skou phylum, in the configuration shown in Figure 1.1.

![Figure 1.1 Laycock's internal grouping of the Skou Phylum](image)

Donohue and San Roque, however, provides the following regrouping of the languages of the Skou phylum (I'saka = Krisa), based on a walking survey carried out in 2000.¹

![Figure 1.2: Macro Skou](image)

Language codes: Ba, Barupu; Mo, Mori; No, Nouri; So, Sumo; Pu, Puari; Rm, Ramo; Rw, Rawo; Su, Sumararu; Wm, Womo.

¹The conventions are that 'italics and double underlines represent linkages where there are no clear language boundaries and normal font names showing separate languages. Vertical lines indicate genetic relationships' (Donohue and San Roque 2004:7). Nouri is characterised as a 'mixed language'. Laycock's 'Vanimo Family' is subsumed under 'Skou'.
As is clear from Figure 1.2, the most closely related languages to Barupu are Sumo and Ramo. Speakers refer to these as separate languages. A variety of Barupu, called Morom, is also spoken in nearby Pou village, see map on p.xxii. Speakers claim that Morom is essentially identical to Barupu.

According to Donohue (2004:5), the speakers of proto-Macro-Skou originally lived along the middle Pual River area in Papua New Guinea. [They] were disrupted by the intrusion of people ancestral to the modern Bewani, Mbo and Ningera languages [and] they moved away from this region, towards hills to the north and east.

One branch of the eastern migration came down along the Piore river and by the mid-1800s had probably reached an area inland of where the Sissano lagoon is now. These people are the forebears of modern day Ramo and Sumo. According to oral histories, modern day Barupu speakers, however, arrived later and their migration path was along the coast. This group does not seem to have been Skou-speaking originally; one hypothesis is that they were originally an Austronesian group from around the Yotefa Bay area of Jayapura. Modern Barupu people have close relatives over the border, at Ormu, and there is quite regular contact; many Barupu people have Traditional Border Crossing (TBC) passes. There do not seem to be as strong traditional ties with Wutung people or the West Papuan Skou speakers.

Oral histories generally agree that groups of Barupu ancestors first started coming to Sandaun Province about 300 years ago. The first stop for these migrants was Vanimo. Amunti (2001:1) gives the following dates: 1700-1800 AD Barupu/Warupu ancestors left West Irian and came to Wutung and Vanimo.2

These people settled in the Wutung/Vanimo area until about 1850. Then, because a woman went into a spirit house, they were punished with fire. Many people

---

2Original: '1700-1800 AD tumbuna bilong Barupu/Warupu i lusim West Irian — ikam olsem long Wutong na Vanimo.'
died but others ran away. According to Amunti (2001:3),

‘[t]hey came down the coast to the Otto river. They settled on two islands. Some old people settled on the island and some settled at the beach ... In 1884 white people came and named the village Warupu/Warapu.

Thomas (1941:163) noted that:

It would appear that about eighty or ninety years ago the headland where Vanimo station now is was occupied by the people of Warapu during the lifetime of the parents of some of the older men now living. Owing to the intrusion by a woman into the men’s house, it is said, these people migrated, to avoid divine retribution for the sacrilege. The majority of the people moved about two days’ journey to the east, and set up the village of Warapu on the Sissano lagoon. Owing to intermarriage with local villages, their dialect now differs considerably from the Vanimo coastal villages.

Laycock (1975:850) notes that this story is ‘unconfirmed by any other source. Even if true, it cannot have been Vanimo speakers who moved to Warapu ... Warapu cognates with Vanimo are unlikely to exceed 40%.’ These later migrants were probably mostly men who then intermarried with Ramo and Sumo women who were living around the inland shore of the lagoon. It is possible that the migrants gave up their language, however this hypothesis has not been explored in depth.

Written accounts of Barupu history begin in the 1890s. At this time people were living in two main settlement areas: two islands at the mouth of the lagoon and on a sandspit between the sea and the lagoon. Their gardens were situated inland, behind the lagoon. According to Davies (1999:43), after the arrival of German Society of the Divine Word (SVD) missionaries to Tumleo island in 1896 ‘young men were recruited for plantation work in Rabaul and Alexishafen, and some were educated at Vunapope.’

---

3Original: ‘Ol i kam bihainim nambis na kamap long Otto. Na ol i sindaun long tupela ailan. Sampela tumbuna i sindaun long ailan na sampela i sindaun long nambis ... Long 1884 ol waitman i kam na kolim dispela peles olem Warupu/Warapu.’
Richard Parkinson visited the Aitape coast (then Berlinhafen) in 1893 and again in 1899. Parkinson (1979:38) noted in 1899 that the village site was on a sandspit.

After Sissano comes the lagoon village Warrpu or Warpull ... The hinterland is swampy right to the foot of the mountains. It is bounded near the coast by many lagoons. The largest one belongs to the lake village Warapu. It covers in my estimate an area of 50 kms. The settlements are built on the narrow strip of land lying between the sea and the lagoon. This land is only slightly raised above sea level.

At least some people, however, were living on islands near the mouth of the lagoon. On the night of 15-16th of December 1907 there was an earthquake which caused the island settlements to sink under water. Oral and written histories diverge here. Oral history has it that before this subsidence there was no lagoon, just a river. However, Parkinson is written record of the existence of a large lagoon.

Neuhauss, another German visitor to the lagoon in 1909, describes the scene of the subsidence two years later:

After a voyage of half an hour on the Sissano lagoon one emerges from a forest of coconuts suddenly upon the sunken district where the dead and leafless palm stems are a melancholy spectacle ... Soon we are in the open lagoon and steer directly for the sunken island where formerly 2000 Waropu lived. Many houses have already fallen in ruin before the dashing waves, some have remained, especially a small spirit house into which we crept in order to loot its heaped up treasures. In their superstition, the Waropu let everything after the catastrophe lie untouched, so that we were able to carry away decorated skulls, objects of magic-working, the rare dancing masks worn at the circumcision festivals, and other such objects (in Churchill 1916: 13).

Two other Austronesian groups — Sissano and Arop — lived and still live on the coast on either side of the mouth of the lagoon and relations between these groups and Barupu were not friendly. Neuhauss (in Churchill 1916:13-14) wrote:

The Waropu formerly living between the Sissano and the Aráp had always been in fiercest enmity with their neighbors ... It was clearly a
judgement of God that the calamity of the earthquake fell upon the Waropu exclusively and that the sunken district ceased at the boundaries of the Sissano and Aróp ... A Sissano chief lost one after another of all five of his sons in the everlasting feuds with the Waropu.

Again there is some confusion in the various sources. Neuhauss (in Churchill 1916:13) has it that it was only after the earthquake that the Barupu people began to share land belonging to Sissano along the western shore of the lagoon. He wrote:

During the catastrophe the Waropu were able to embark quickly upon their boats, so that only two children were drowned. Early next morning they came for succor to the Sissano, who showed no sign of sympathy, but set themselves in readiness to massacre their ancient foes, now defenceless. Had Schulz [a retired copra farmer] not intervened there would have been a cruel bath of blood. The Waropu then built new towns on the shore of their lagoon.

However, as noted above, when Parkinson was there in the 1890s the sandspit site, Warapu, was already established but friendliness had never been achieved with the Sissano.

After the earthquake, the Warapu built more settlements along the inland shore of the lagoon, where they had previously been gardening. They established four or five villages around the inland shore, the main one called Aroporo. Aroporo, however, was abandoned in the 1930s. According to Catholic Mission archives (in Fasteurath (2003) and Stoner (2003)), people living at Aroporo moved to the sandspit site, Warapu, in 1937 after the death of the village catechist. Fasteurath (2003:5) writes,

the first Catechists were Jacob Kewatjawa and Petrus Kapira ... Kewatjawa died in April 1937 after a short illness of two days. Out of grief his wife burnt down their house. There was a strong wind blowing and soon the roof of the church caught fire and in no time the whole church was in flames ... In the same year the people moved their village down to the coast and built their village west of the Otow [Otto].
This version of events is supported by men who are now about seventy years old. These men recall being born at Aroporo and staying there when young, then moving to Warapu (Carl Aveni, Michael ‘Mikhail’ Morris & John ‘Johannes’ Tawiri, pers.comm. 2003).

What appears to have happened next, according to these same men, is that during the Pacific phase of WWII people moved from Warapu back to Aroporo to escape bombing. Then, as Laycock (1973b:250) suggested, after the war there was Australian administrative pressure to make Warapu the permanent site, probably for ease of patrolling; a new church and school were built in an attempt to encourage people to live there permanently.

Between 1945 and 1975, the year Papua New Guinea gained independence from Australia, Warapu was visited annually by patrol officers from the Australian Administration so some information is available on life during this period. For example, according to a patrol report of 1948, the bulk of the population was still living on the inland shore of the lagoon, rather than at the sandspit site (Morris 1948) — the patrol officer notes that they were living on reclaimed swamp and that there was much illness. A population of 791 was recorded. After WWII, villages on the Aitape coast were paid war damages. Morris (1948) reports that the Warapu had induced the surrounding villages to contribute their funds to a scheme aimed at buying a schooner to be used for transporting sago. It is not known what happened to this money but one account is that the widow of the ringleader rowed out to sea and threw the money overboard. In 1968 there was a dispute between the Sissano and the Warapu about some land near Aroporo (Kelly 1968). This dispute was never settled. Between 1975 and 1998 there is little in the way of written documentation about Barupu, with the exception of the linguistic work of Don Laycock, see §1.5, below.

At around 7pm on the 17th July 1998, three 10 - 15-metre tsunamis, caused by two magnitude 7 earthquakes offshore of Sissano Lagoon, hit the village (see Davies
1999). The tsunami destroyed all the houses, and about half the population of the village was killed, mostly babies and old people. Since then, Barupu people have lived inland in the current village, called Barupu. This site is quite a long way inland, behind Aroporo and very close to Ramo. Some border disputes are ongoing with Ramo.

1.2 Economic and cultural life

The staple diet of Barupu consists of sago, some fresh and smoked seafood — fish, prawns, crabs and shellfish — and ‘agroforestry’ (Terrell 2002) crops such as *aibika*[^4] and arboriculture: *tulip*[^5] and fruits such as coconuts, bananas, pawpaws and pineapples. Some people also maintain root crop gardens for taro and sweet potato.

There has been a period of adjustment to life away from the coast for Barupu people. People say that at the beach they had plenty of seafood but not much in the way of greens. Now they have plenty of greens but not as much seafood because the tsunami has apparently had an adverse effect on fish stocks in the lagoon, and the lagoon is now about an hour’s walk away from the top of the village. It also takes a long time to paddle from the Barupu side of the lagoon out to the ocean, where the big fish are. There are motor boats but the cost of fuel is prohibitive.

The nearest town is Aitape, one of the oldest European settlements in northern New Guinea. Aitape is about an hour and a half away by motor boat or a two-day walk. It has two supermarkets, a service station and hardware shop, as well as a police station, hospital and two high schools. It provides some avenues for employment for Barupu people.

There are two village-run schools in Barupu: an elementary school and a primary school which also has two additional ‘top-up’ years equivalent to the first

[^4]: *Hisbiscus manihot* or *Abelmoschus manihot*.
[^5]: *Ghetum Gnemon*. 
two years of high school. These schools are currently in the process of implementing new nation-wide initiatives in Tok Ples (local language) literacy. All but two of the teachers in these schools are native speakers of Barupu. The first two years of schooling at the elementary school are in vernacular and some Tok Pisin. The third year of schooling is at the primary school and this year is designed as a transition from vernacular to English. Fourth year and above is conducted in English. Most children complete primary school. High schooling is expensive as it involves a move away from the village — the Catholic church provides some bursaries for promising students.

The main religion in the village is Catholicism, but other religions such as Seventh Day Adventist, Jehovah’s Witness and Lutheran are also represented. Two Barupu men are ordained as Catholic priests.

There is very little paid employment in the village apart from teaching in the school and working in the Aid Post. Many Barupu families have been involved in vanilla planting since 2001, when Pacific countries were encouraged to plant vanilla to fill the gap in the market made by a blight on Madagascan vanilla crops. In the last two years, however, the Madagascan vanilla industry has revived and vanilla prices in Papua New Guinea have dropped dramatically.

1.3 Grammar overview

Barupu’s segmental phonology is not particularly complex. There are nine consonant phonemes, which undergo some allophony, and six vowel phonemes. It is a word-tone language in which words belong to one of five tone classes: L, H, LH, HL or HLH. Tones are for the most part predictably associated to the stressed syllable of the word and then spread one syllable to the right. Some words, however, are lexically specified with a tone on one or other of the final two syllables of the root.
At the clause level, Barupu is overwhelmingly head marking but it is unusual in having no overt dependent marking at all — no case markers, adpositions or particles give any information about a nominal's role in the clause. The only nominal morphology is an optional clitic which is pragmatic in function. Word order is canonically SOV and does play a role in identifying arguments, but there are some pragmatic alternations.

Verb morphology is agglutinative and two verb classes take infixing. Verbs obligatorily index the person and number as well as gender (except in duals and first person plural) of the subject of the clause. Verbs belong to one of five major conjugation classes. Transitive verbs fall into two classes: those that take suffixing for their object arguments and those that do not. There is also a separate inflection paradigm for Beneficiaries which is extended to mark external possession. Experiencers of involuntary states such as 'hunger' and 'sickness' are coded as morphological objects.

Verbs also obligatorily take a status prefix which marks them as realis or irrealis and this is the only inflectional instantiation of TMA in the verb. Tense is not marked morphologically at all. Aspectual distinctions can be made with morphological processes, including reduplication, as well as analytically with particles and a serial verb construction.

Clauses are right-headed but noun phrases are left-headed. The noun is the first element in the NP and is followed by modifiers, possession and demonstratives. Barupu has eight demonstrative forms signalling three degrees of distance, whether the participant is old or new information and whether the participant is in some sense real or imagined.

Barupu has a set of incorporated adverbials, and a set of participant-adding morphemes. Many of these forms appear to be in the middle of grammaticalising
from independent serial verbs to derivational morphology. Although they form a single word with their hosts, they show two interesting deviations from derivational morphology. First, they are found after, or external to, inflectional morphology and second, several of these forms retain their own agreement for subject. Barupu also makes use of independent serial verbs.

As is quite common in polysynthetic languages, non-finite verb forms do not play a large role in the grammar of Barupu, and there is little or no embedding in complex sentence formation. Instead, clauses are grouped via parataxis or simple coordination with meaningful alternations in status marking.

1.4 Language use in the community

Barupu language is still the major language for communication inside the village. Children learn Barupu as a first language and are actively encouraged to use it. Barupu is used at home, in meetings and sometimes at church. There are hymns and prayers in Barupu and the Summer Institute of Linguistics has recently begun Bible translation work in Pou village. Since the 1998 tsunami, widely referred to as the disaster, Barupu people have become even more conscious of retaining their culture and their language, and speakers also feel that their language has features which set it apart from other languages — for example, tone and rich verbal inflection. In town, and with outsiders, Tok Pisin is used. Most people have at least a smattering of English and there are many fluent English speakers.

1.4.1 Loan words

There are four prevalent grammatical word borrowings from Tok Pisin in Barupu: the disjunction o ‘or’, the epistemic ating ‘maybe’, the temporal adverbial clause marker taim and the future bai; there do not seem to be Barupu equivalents to these words. The future marker bai is also used to signal a purpose relationship between clauses.
There are two native purpose conjunctions *ke* and *bora* and the particle *bai* and the related *baimbai* can be substituted for either of the Barupu terms.

Tok Pisin lexical words also regularly crop up in everyday speech. There are established loan words for items that were not part of traditional life: for example *dokta* 'doctor', *marasin* 'medicine', *sule* 'school', but people also spontaneously use Tok Pisin or English words to replace Barupu words. Speakers more often substitute verbs than nouns, and it is not the rare or highly specific verbs that get replaced but high frequency words like *-yärä* 'see, know', replaced by Tok Pisin *lukim* 'see' or *save* 'know' and *-á* 'make, do' replaced by Tok Pisin *wokim* 'make'.

When Tok Pisin verbs are used they receive Class I inflection (see Chapter 3) and fall into the L tone class.

    RL-1SG.F-know
    'I know.'

1.5 Previous work

Previous published work on this language includes Laycock (1973a), Laycock (1973b), Laycock (1975) and Donohue (2003). Laycock (1973a) is a preliminary classification of the languages of the Sepik area; there is not much mention of Barupu (Warapu) in this work. Laycock (1973b) will be summarised in §1.5.1, below. Laycock (1975) places Warapu in the Sko Phylum and gives a typological overview of the family, as shown in Figure 1.1, above.

Donohue (2003) provides an analysis of the forms I have called participant-adding morphemes. His analysis of these forms is addressed in Chapter 7. Mentions of various aspects of Barupu in relation to other languages in the family can also be found in Donohue (2004) and Donohue and San Roque (2004).
A 205-item wordlist was taken by a patrol officer at Nori village in 1924 and appears in the 1924-25 administrative reports (Adams Wilkes 1926). In this list, about eighteen words bear a strong resemblance to words in modern Barupu. A comparison with modern day Nori has not been undertaken. A 131-item word list was taken by another patrol officer in Warapu village in 1950 (Murphy 1950). Allowing for differences in transcription (e.g. tone was not marked), there are no major differences between this wordlist and modern Barupu.

Unpublished works on Barupu are: San Roque (2001) — a thesis examining and comparing the uses of tone marking in the orthographies of Barupu and Krisa, another language of the Skou family, and Crowther (2000) — a paper presented to the Australian Linguistics Society describing some alternative realisations of word tones. Summer Institute of Linguistics workers Debbie Larkins and Beth Fuller have also produced a beginner alphabet book, some stories and translations of various books of the Bible.

1.5.1 Sissano contact — Laycock (1973b)

Laycock (1973b) contains some detailed information about Warapu, a brief phonology and a 175-item word list. This work is an attempt to trace the patterns and directions of borrowing between Warapu and the neighbouring Austronesian language, Sissano. On the basis of seventeen ‘fairly certain’ borrowings, Laycock (1973b:262) concludes that

> [t]here is ... no doubt that Sissano has exerted considerable lexical influence on Warapu, and that such influence has extended over a considerable period of time ... virtually no influence has been exerted in the other direction.

The seventeen borrowings identified by Laycock are listed in Table 1.1. The first column shows the number of the item in Laycock’s wordlist, the second column
lists the Sissano forms, the third column lists the Proto-Oceanic (POC) reconstructions provided by Laycock and the fourth column is Laycock’s transcription of Barupu words. In the fifth column, I have listed where my transcriptions differ from Laycock’s — most notably, where Laycock transcribes /u/, I transcribe /o/ and Laycock does not transcribe tones.

<table>
<thead>
<tr>
<th></th>
<th>Sissano</th>
<th>POC</th>
<th>Barupu (DL)</th>
<th>Barupu (MC)</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>prefix + apu</td>
<td>*apu (*mpu)</td>
<td>tyapu</td>
<td>chárpó</td>
<td>‘grandfather’</td>
</tr>
<tr>
<td>7</td>
<td>prefix + apu</td>
<td>*apu (*mpu)</td>
<td>kwopu</td>
<td>kwópù, kópù</td>
<td>‘grandmother’</td>
</tr>
<tr>
<td>30</td>
<td>tus</td>
<td>*susu</td>
<td>tu</td>
<td>tó</td>
<td>‘breast’</td>
</tr>
<tr>
<td>72</td>
<td>ai</td>
<td>*kai</td>
<td>ai</td>
<td>ái</td>
<td>‘tree, wood’</td>
</tr>
<tr>
<td>80</td>
<td>to’</td>
<td>*topu</td>
<td>ku</td>
<td>kó</td>
<td>‘sugarcane’</td>
</tr>
<tr>
<td>92</td>
<td>yeroin</td>
<td>yariri</td>
<td>yàriri</td>
<td>‘betel leaf’</td>
<td></td>
</tr>
<tr>
<td>94</td>
<td>vu</td>
<td>*apuR</td>
<td>bui</td>
<td>bói</td>
<td>‘lime’</td>
</tr>
<tr>
<td>110</td>
<td>vio</td>
<td></td>
<td>biu</td>
<td>biyó</td>
<td>‘cassowary’</td>
</tr>
<tr>
<td>112</td>
<td>main topar</td>
<td>men toupa</td>
<td>mâintópa</td>
<td>‘flying fox’</td>
<td></td>
</tr>
<tr>
<td>119</td>
<td>tapo</td>
<td>*ta+puqaya?</td>
<td>kapu</td>
<td>kápó</td>
<td>‘crocodile’</td>
</tr>
<tr>
<td>131</td>
<td>tail, tai</td>
<td>*tali</td>
<td>kai</td>
<td>kái</td>
<td>‘string’</td>
</tr>
<tr>
<td>138</td>
<td>por</td>
<td>*parau</td>
<td>poro</td>
<td>pòrò</td>
<td>‘dugout canoe’</td>
</tr>
<tr>
<td>139</td>
<td>vuak</td>
<td>*waŋkaŋ</td>
<td>wa</td>
<td>was, buà</td>
<td>‘outrigger canoe’</td>
</tr>
<tr>
<td>141</td>
<td>viös</td>
<td>*ponse</td>
<td>bistu</td>
<td>biétò, biótè</td>
<td>‘paddle’</td>
</tr>
<tr>
<td>151</td>
<td>yim</td>
<td>yin</td>
<td>ím</td>
<td>‘hot’</td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>marir</td>
<td>*ma(n)di(n)diŋ</td>
<td>mariri</td>
<td>máriri</td>
<td>‘cold’</td>
</tr>
<tr>
<td>161</td>
<td>ayel</td>
<td>yara</td>
<td>yárá</td>
<td>‘see’</td>
<td></td>
</tr>
</tbody>
</table>

Laycock establishes the directionality of borrowing with sound changes and with reference to the POC forms. The three sound changes he identifies are:

i Sissano /s/ > Barupu /t/ (141);

ii Sissano /v/ > Barupu /b, mb/ (94, 110, 139 and 141);

iii and Sissano /t/ > Barupu /k/ (80, 119 and 131).

He argues that at the time of borrowing Barupu lacked /t/, and that /k/ was the nearest equivalent; and that this in turn suggests that the current Barupu /t/ is a result
of a sound change from /s/ > /v/. He suggests that Barupu could have borrowed [v] as [b] because it was the closest sound. However, he also notes that other members of the Skou phylum 'appear to have /w/ and /v/ corresponding to Warapu /b/, but there are no indisputable examples' (1973b:254).

Laycock further argues that the sound correspondences are irreversible because /k/ and /t/ would not have undergone any changes if the borrowings had gone in the other direction, and in the case of /v/ > /b/, mb/, Sissano would have borrowed Barupu /b/ as /p/, not /v/. But this last argument does not hold if the original Barupu phoneme was /v/. Synchronically, [v] and [b] are allophones of the same phoneme; [v] occurs intervocalically and [b] occurs elsewhere. Words beginning with this phoneme are, however, often produced with an initial [v] after vowel-final words in connected speech, see Chapter 2. Where the sound changes do not provide evidence, Laycock argues that the obvious correspondences between the Sissano forms and Proto-Oceanic forms suggest an Austronesian provenance for words, such as (6), (7) and (72). There is, however, nothing to rule out the possibility that these words did not enter Barupu through Sissano, but rather that later coastal migrants brought their own POC reflexes.

In addition to the seventeen 'fairly certain' borrowings, Laycock also points out four examples where the direction of borrowing is not so clear. These four are given in Table 1.2.

<table>
<thead>
<tr>
<th>Sissano</th>
<th>POC</th>
<th>Barupu (DL)</th>
<th>Barupu (MC)</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>na</td>
<td>*lau(d)?</td>
<td>na</td>
<td>na, nau</td>
</tr>
<tr>
<td>87</td>
<td>vur, apone</td>
<td>*puti</td>
<td>apon</td>
<td>apón</td>
</tr>
<tr>
<td>91</td>
<td>pu', musu</td>
<td>*pua(q)</td>
<td>mutu</td>
<td>mutu</td>
</tr>
<tr>
<td>109</td>
<td>apar</td>
<td>*para</td>
<td>apar</td>
<td>apar</td>
</tr>
</tbody>
</table>

He notes that the initial /t/ of (30) nas 'breast' should by his changes come out as /k/ and so suggests that either Sissano underwent a /s/ > /t/ change after Barupu borrowed this word, or Barupu borrowed it after Barupu already had a /t/.
He notes that in the cases of (87) and (91), where there are two forms in Sissano, one of them clearly corresponds to a POC form and the other resembles a Barupu form, but he makes no further claims as to directionality. He suggests that the directionality of (55) could best be thought of as Sissano to Barupu, due to its meaning, because 'in the New Guinea area, words connected with marine technology are more readily borrowed from A[ustronesia]N languages by N[on]A[ustronesian]N languages than are other items' (1973b:256) — also note (138), (139) and (141) in Table 1.1, above.

Laycock further shows that there are some semantic overlaps that do not necessarily have a lexical correspondence. An example that does involve a lexical borrowing as well is that Barupu has the Austronesian generic bird prefix main— e.g. mampai ‘pigeon’, maintaka ‘wild fowl’ as well as the Austronesian trait of extending the generic bird species marker main to any flying creature, e.g. maintópa ‘flying fox’. Other semantic similarities that do not involve a lexical borrowing are that both languages have a single lexical item to refer to ‘head hair’ and ‘leaf’ (Barupu pe) and both languages use the same lexical item to refer to ‘tree’ and ‘wood’ (Barupu ái).

Finally Laycock argues that the only discernible influence Barupu has had on Sissano is in the counting system. Austronesian languages in the area, apart from Sissano and Sera (another Austronesian language abutting a non-Austronesian language), have ‘quinary counting systems with recognizable Oceanic numerals’ (1973b:261). In contrast, Sissano has a binary counting system, like Barupu and other non-Austronesian groups in the area.

7The Barupu word for generic bird is rú, and this also turns up in some other bird names, e.g. rukóko ‘chicken’, rumáiro ‘sea bird’.
1.6 Fieldwork for this study

Fieldwork for this study was carried out in January - July 2001, February - August 2003 and December 2004 - February 2005. Barupu was chosen as a fieldsite from a survey carried out by Mark Donohue, Melissa Crowther and Lila San Roque in 2000. During this survey it was discovered that Barupu speakers had great interest in making a dictionary for use in a vernacular literacy programme and this project began in 2000.

I arrived for the first time in January 2001, accompanied by Mark Donohue. My main focus at that time was the dictionary so I worked mostly with the teachers from the primary school. After Mark Donohue left, I lived with a family and my project gradually evolved into a grammatical description. I had many language teachers at home and learned much outside of structured elicitations.

On my second field trip a group of men organised themselves to come to my house every Monday for three months to record stories and lists of names of things for the dictionary. Many of the example sentences used in this thesis come from those sessions. Stories about women's lives were given by members of the Catholic Mothers Club of Barupu village, these texts also feature highly in the example sentences of this thesis.

1.6.1 Ethics

Ethical clearances were obtained, both from Sydney University and the National Research Institute of Papua New Guinea. A dialogue statement was drawn up and translated into Tok Pisin by two teachers from the primary school. Speakers either read the dialogue statement or had it read out to them and they were then recorded giving oral consent and outlining any special instructions they had for the storage of and access to the materials they had provided. The fieldwork for this study resulted in 36 hours of audio material. This material has been digitised and archived at
PARADISEC (The Pacific and Regional Archive for Digital Sources in Endangered Cultures).
Chapter 2

Phonology

This chapter describes the main features of the segmental and suprasegmental phonological system of Barupu. The segmental phoneme inventory consists of nine consonants /p t k b r m n j w/, and six vowels /i e a ə u/. The two surface glides [j w] arise in three circumstances: unpredictably as consonant phonemes; as predictable observable allophones of non-low vowels and as observable epenthetic segments produced between two vowels (see §2.2.4 and §2.3.1). The phonological system presented here differs from that of Laycock (1973a) who described eleven consonants, /p t k b d g m n r/ plus /j w/, and six vowels, /i e ə a o u/. I will make comparisons with his wordlist where possible.

Words belong to one of five tone classes: L; H; LH; HL or HLH. For the most part, the assignment of tone interacts predictably with penultimate stress. However, there is also a class of words for which tone is lexically assigned to either of the final two syllables of the word. Tone assignment on these words is not predictable. This is discussed in §2.4.
2.1 Syllable structure

The following table shows the surface syllable structures found in Barupu. In the table, C = any consonant, V = any vowel, G = glide (j, w), N = nasal (n, m), R = trill (r).

<table>
<thead>
<tr>
<th>Table 2.1 Syllables</th>
</tr>
</thead>
<tbody>
<tr>
<td>i V [á] 'rain'</td>
</tr>
<tr>
<td>ii VG [øj] 'sago'</td>
</tr>
<tr>
<td>iii VN [im] 'owl'</td>
</tr>
<tr>
<td>iv CV [kâ] 'roots'</td>
</tr>
<tr>
<td>v CVG [bêj] 'meat'</td>
</tr>
<tr>
<td>vi CVN [kôm] 'leg'</td>
</tr>
<tr>
<td>vii CVGN [bâwn] 'no'</td>
</tr>
<tr>
<td>viii CRV [bři.ri] 'red'</td>
</tr>
<tr>
<td>ix CGV [njâ] 'still'</td>
</tr>
<tr>
<td>x CGVG [njâw] 'log'</td>
</tr>
<tr>
<td>xi CGVN [bjâm] 'man'</td>
</tr>
</tbody>
</table>

A syllable can minimally consist of a single vowel and maximally consist of an onset, a nucleus and a coda. Codas can be simple, consisting only of a single glide or nasal, or complex, consisting of a glide followed by a nasal. Onsets can be simple, consisting of any single consonant, or complex, consisting of any consonant followed by a glide. The complex onset made up of a C followed by a trill is restricted to a few lexical items (see §2.1.2). Nuclei can only be simple; VV sequences are avoided by glide formation, glide epenthesis or vowel deletion (see §2.3.1, below).

There are no monosyllabic words in the data with CVGN structure, but syllables like this surface when a high vowel is dropped after a nasal as in the example [bâwn(i)] 'no' (see §2.3). Syllables like this also appear regularly in longer words, as in [rōnjkê] 'rat' and [bôjntin] 'sago post'. Pattern (x), CGVG, is extremely rare in monomorphemic words; the monosyllabic example [njâw] is one of only two monosyllables with this form in the data (the other is [njâj] 'frog.sp'). This syllable type can occur quite regularly however in polymorphemic words, due to glide formation processes, see §2.3.1. There are no syllables with the structure CGVGN.
Roots in Barupu are most often one or two syllables and less often three syllables. Four and five-syllable monomorphemic words are extremely rare, and while speakers accept them as one word synchronically, and they only have one stress and one tone, they can usually be analysed out as frozen compounds. For example, [âjpêtârê] 'green', can be broken into [âj] 'tree', [pê] 'leaf' and [târe] 'new', but the tones of the first two morphemes are not realised. The stress and tone behaviour distinguishes frozen compounds from productive multi-word compounds in which each element retains its own tone, see below. Another, not so analysable, example is [pjârûtû] 'tongue'. It is not clear what the exact breakdown of this compound is, but the form [pjâ] is also found in an N+V complex predicate meaning 'talk nonsense' and [rûtû] means 'antennae'.

2.1.1 Reduplication

Reduplication is a derivational process applied to verbs, adjectives and verb modifiers only, with various effects such as intensification and iterativity (see Chapters 4 and 9). Reduplication is also restricted phonologically: vowel-initial words never reduplicate. On polysyllabic words, the first two syllables of the root are copied and prefixed to the root.¹ For example, when the word /bariri/-L 'afternoon' is reduplicated it becomes [-bârî-bârîrî]. See §2.4.5 for discussion of the behaviour of tone in reduplication. Reduplication counts syllables not mora — for example, when a word containing heavy or closed syllables, such as /mêntan/ [mêntân] 'small', is reduplicated, it becomes [-mêntân-mêntân].

When the first two syllables of a consonant-initial word are identical, only one of these syllables is produced in the surface form of the reduplication. For example, when the word /-même/ 'small' is reduplicated, it becomes [-mê-mêmê]. This is arguably due to a process of haplology: in the case of too many identical syllables,

¹Two verb classes include some inflectional material in reduplication, see Chapters 3 and 7.
delete one. When monosyllabic roots reduplicate the whole root is copied and prefixed to the word. For example, when the word /-tá/ ‘paddle’ is reduplicated it becomes [-tá-tá].

2.1.2 CR onsets

Three words invariably have a complex onset involving a CR cluster.

<table>
<thead>
<tr>
<th>CR-initial words</th>
</tr>
</thead>
<tbody>
<tr>
<td>/briri/-L [briri] ‘bright, red’</td>
</tr>
<tr>
<td>/tribo/-L [trivò] ‘tree.sp’</td>
</tr>
<tr>
<td>/tore/-L [tòrò] ‘banana.sp’</td>
</tr>
</tbody>
</table>

Other words have two pronunciations in free variation, one with a cluster and one with a vowel between the stop and the trill.

<table>
<thead>
<tr>
<th>Alternating: CR ~ CVR</th>
</tr>
</thead>
<tbody>
<tr>
<td>/p(u)rumo/-L [pròmò] ~ [prìmò] ‘many’</td>
</tr>
<tr>
<td>/ak(o)ròn/ [akròn] ~ [akoròn] ‘cloud’</td>
</tr>
<tr>
<td>/p(a)rà/ [parà] ~ [prà] ‘other side’</td>
</tr>
</tbody>
</table>

A cluster is produced when an unstressed vowel between a stop and /r/ is reduced and elided. The three words with non-variant pronunciation may have been reanalysed as beginning with a cluster. Some evidence in favour of a disyllabic origin for these clusters comes from reduplication. When the words beginning with clusters are reduplicated, the reduplicant is the first CCV syllable, e.g. /prumo/-L →[prù-prùmò]; /briri/ →[bri-brìri], rather than the first two syllables: *[prùmò-prùmò]; *[bri-brìri].

2.2 Consonants

The consonantal system of Barupu has many features in common with the generalisations presented in Foley (1986:55-64) on the phonological systems found in
New Guinea. Relatively few phonemes undergo phonological processes to create a more elaborate system. Table 2.4 shows the sounds found in Barupu.

<table>
<thead>
<tr>
<th>Table 2.4 Consonant phones</th>
</tr>
</thead>
<tbody>
<tr>
<td>bilabial</td>
</tr>
<tr>
<td>stop voiceless</td>
</tr>
<tr>
<td>stop voiced</td>
</tr>
<tr>
<td>fricative</td>
</tr>
<tr>
<td>affricate</td>
</tr>
<tr>
<td>nasal</td>
</tr>
<tr>
<td>trill</td>
</tr>
<tr>
<td>approximant</td>
</tr>
</tbody>
</table>

We can derive the sounds shown in Table 2.4 from a basic nine-way distinction, through processes of lenition, fortition, palatalisation and assimilation.

The phonemes can be arranged in phonological classes, as in Table 2.5.

<table>
<thead>
<tr>
<th>Table 2.5 Consonant phonemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABIAL</td>
</tr>
<tr>
<td>voiceless</td>
</tr>
<tr>
<td>voiced</td>
</tr>
<tr>
<td>nasal</td>
</tr>
<tr>
<td>approximant</td>
</tr>
</tbody>
</table>

In this arrangement, /b/ and /t/ appear as the voiced counterparts of /p/ and /t/ respectively. According to Foley (1986:55), [r] and [l] are very common intervocalic allophones of /t/ in New Guinea languages. There is also a partial /r/ > /t/ sound change between Barupu and one of its most closely related languages, Ramo. For example, Barupu:/rau/-L, Ramo:/tau/-L ‘pig’; Barupu:/rara/-L, Ramo:/tara/-L ‘road’.

Table 2.6 is a near-minimal set showing the nine-way contrasts word-initially. The words presented in the following list do have different tones but these have no effect on the realisation of consonant phonemes. (There is some interaction in the other direction, i.e. certain consonants affect the realisations of the tones. This is
discussed in section 2.4.)

Table 2.6  Word-initial contrasts

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>/pa/-{L}H</td>
<td>‘behind’</td>
<td></td>
</tr>
<tr>
<td>/ta/-HLH</td>
<td>‘skin’</td>
<td></td>
</tr>
<tr>
<td>/ba/-{L}H</td>
<td>‘fish’</td>
<td></td>
</tr>
<tr>
<td>/ma/-{L}H</td>
<td>‘child’</td>
<td></td>
</tr>
<tr>
<td>/na/-L</td>
<td>‘ocean’</td>
<td></td>
</tr>
<tr>
<td>/ra/-{L}H</td>
<td>‘one’</td>
<td></td>
</tr>
<tr>
<td>/ka/-HL</td>
<td>‘roots’</td>
<td></td>
</tr>
<tr>
<td>/ja/-{L}H</td>
<td>‘3SG.M’</td>
<td></td>
</tr>
<tr>
<td>/wa/-L</td>
<td>‘canoe’</td>
<td></td>
</tr>
</tbody>
</table>

The following sections describe the various processes the nine phonemes undergo.

2.2.1  Stops /p,t,k,b/

There are four stop phonemes which contrast at the bilabial, alveolar and velar places of articulation, and there is one voicing distinction.

2.2.1.1  /k/

The velar stop, /k/, optionally lenites to [ɣ] intervocalically, or, more rarely, [x] (this process can also occur word-initially after vowel-final words within phrases), but it is also often heard as /k/. According to Foley (1986:56), lenition, which he defines as ‘weakening and voicing of stops between vowels’, is a common feature of Papuan languages, and especially lenition of /k/ in languages which lack /g/; a /ɣ/ phoneme is not common.

Rule: /k/ lenition

/k/ → [k, (x), ɣ]/V_ V

A rare, rounded voiceless fricative allophone of /k/, [x(^w)] is commonly produced in the interjection *yake* ‘enough’.
(12) /jake/-L → [ᵣɛkə] ~ [ᵣəx⁵e]
  ‘enough’

/k/ can show some voicing after a nasal.

**Rule: /k/ post-nasal voicing**

/k/ → [g]/N_

The voicing process is exemplified in (13). Note the nasal place assimilation with a following consonant (§2.2.3). The voicing of /k/ after a nasal and the intervocalic voiced fricative allophone accounts for examples of [g] in Laycock’s 1973 wordlist.

(13) /munka/-HL → [mʊŋga]
  ‘cat’

/k/ is realised as the palatal affricate [tʃ] when affected by palatalisation from a preceding or following [j], this will be discussed in §2.3.1.2.

2.2.1.2 /t,p/

There are several words in which /t/ varies with /s/ intervocalically. This is most likely a relic of an old sound change where the older /s/ became /t/ (as suggested by Laycock (1973b:254)).

(14) /buto/-L → [bʊtɔ] ~ [bʊsə]
  ‘white’

/-katora/-L → [-kətɔɾə] ~ [-kəsɔɾə]
  ‘huge’

/t/ is realised as the affricate /tʃ/ when preceded or followed by [j] (see §2.3.1.2).

The remaining voiceless stop /p/, is always realised as [p], usually with aspiration.

2.2.1.3 /b/

/b/ is always heard as [v] intervocalically. Word-initially it is mostly realised as [b], although it can also show some pre-nasalisation, especially for older speakers. When
it is not pre-nasalised, it can sometimes be heard as [v] word-initially after vowel-final words. It is always realised as [b] after nasals.

**Rule: /b/ lenition**

\[
/b/ \rightarrow [v]V - V
\]

Another possible analysis for the [b] ~ [v] alternation would be that [v] is the phoneme and [b] the allophone. A historical argument in favour of this is that, as Laycock (1973b:255) noted, other Skou languages have cognates with /w/ and /v/ in place of Barupu /b/. Synchronically, however, the same arguments could be marshalled to support either a word-initial and post-nasal fortition process, or an intervocalic lenition process. I have simply chosen the word-initial allophone [b] as the abstract representation.

2.2.2 **Trill /r/**

Word-initially and after a nasal, /r/ can be pre-stopped: [dr]. The pre-stopped allophone can also be pre-nasalised word-initially depending on the age of the speaker [ndr]. Older speakers show more pre-nasalisation.

(15) a) /raka/-L → [rækå] → [drækå] → [ndrækå]
    ‘river’

b) /monrai/-HL → [mondräj]
    ‘singsing’

These variations account for most instances of /d/ in Laycock’s wordlist. It also appears in a pre-stopped allophone of /j/, see §2.2.4. In children’s speech, /r/ is in free variation with /l/.

2.2.3 **Nasals /m,n/**

Nasals always assimilate to the place of the following consonant. This rule applies word-internally (16a) as well as across morpheme boundaries (16b). The process
across morpheme boundaries causes some syncretism in verb agreement (see Chapter 3).

(16) a) /antam/-L → [äntəm] ‘tree.sp’
    b) /n-om-raibi/-HLH → [nɔn’drajvi] IRR-2SG.F-cook ‘Cook!’

Rule: nasal place assimilation
N → N [alpha]...[alpha]

2.2.4 Glides

I include word-initial and intervocalic glides in the consonant phoneme inventory because they unpredictably create contrasts within that system, and they participate in some consonantal phonological processes. Other surface glides can be better analysed as operating within the vowel system, or as epenthetic — see §2.4.8, below.

/j/ and /w/ operate within the consonantal system, albeit with a very low functional load. For example, in the draft Barupu dictionary, /j/ is found initially in only eighteen words, and /w/ in only four. /j/ is found before and after every other vowel, including /i/ — e.g. /jin/-L ‘beach’, /ijija/-HL ‘sugar glider’.

/j/ has a fricative allophone [j] which can also be pre-stopped word-initially and after a nasal. The pre-stopped allophone triggers nasal place assimilation. For example:

(17) /k-om-jara-ø/-LH → [kɔn’jərə]
    RL-2SG.F-see-3SG.F ‘You see her.’

When /j/ appears inter-vocalically there is an off-glide off the vowel of the first syllable. For example /rajó/ ‘hunger’ sounds like [rə’jɔ]. This is reflected in the orthography as a vowel and a glide: e.g. raiyó. Some more examples follow.
There are only four words with word-initial /w/. One of these is /wa/-L ‘canoe’, a loan-word, and it can quite often be heard with a complex strengthened onset as [bwæ] or [bwà]. Speakers almost always write this word as bua. Another non-native word with word-initial /w/ is /wawa/-L ‘mother’s brother, father’s sister’s husband’. The other words with initial /w/ are /wo/-L meaning ‘saliva, foam, phlegm’, and /-woniwonini/ ‘dizzy’. /w/ can optionally be realised as [β] intervocalically and word-intially. When /w/ occurs intervocalically there is no audible off-glide on the preceding syllable — for example /néwái/ ‘good’ is pronounced [néwáj] ~ [né,βáj].

Two words have variant pronunciations in which [w] alternates with [m] and one of these words also shows a variation between [j] and [n]. The doubly variant word is /néwái/ [néwáj] ~ [néβáj] ‘good’ which alternates with /néman/ [némáν].

The other is the discourse-tracking demonstrative /b)émō/ [bémò] which alternates with /b)éwō/ [béwò] ~ [béβò]. There may be a diachronic explanation for these forms, but synchronically they are lexicalised options.

### 2.2.4.1 /b/ and /w/

It can be difficult to distinguish the intervocalic allophones of /b/ and /w/; [v] and [β] respectively. The main evidence that they are separate phonemes comes from careful speech — whereas the intervocalic allophone of /w/, [β], is apparently optional and

---

2. Laycock (1973b:271): Sissano *vuak*, Proto-Oceanic *wanjka*(*g*), as discussed in the previous chapter.

3. Purba et al. (1997:20) Ormu *wawa* ‘uncle’. As discussed in the previous chapter, Ormu is an Austronesian language, spoken near Jayapura. The coastal Barupu migrants are reported to have come from there.
can sometimes be heard as [w], the intervocalic allophone of /b/, [v], is the only possible realisation. Even in very careful speech, speakers never pronounce this as [b] intervocally.

Another environment where it might be difficult to establish the difference between /v/ and /w/ is after a nasal. In this strengthening environment, we would expect /w/ to have a pre-stopped allophone, like /v/, /r/ and /j/ and this is the case; the verb /-wa/-H, which is always written -bua, means ‘to construct a bucket out of bark’ this verb is always heard with a strengthened onset, as [-βwa] which is especially strong after a nasal. Evidence from reduplication however suggests that this verb does begin with /w/ and not /b/: the reduplicated form of this verb is [-bwa-wa].

2.3 Vowels

Barupu has six contrastive vowels in stressed open syllables, shown in Table 2.8. Foley (1986:53) identifies this system as the second most common six-vowel system in New Guinea.4

<table>
<thead>
<tr>
<th></th>
<th>front</th>
<th>central</th>
<th>back</th>
</tr>
</thead>
<tbody>
<tr>
<td>high</td>
<td>i</td>
<td>u</td>
<td></td>
</tr>
<tr>
<td>mid-close</td>
<td>e</td>
<td>o</td>
<td></td>
</tr>
<tr>
<td>mid-open</td>
<td>c</td>
<td></td>
<td>c</td>
</tr>
<tr>
<td>low</td>
<td></td>
<td>a</td>
<td></td>
</tr>
</tbody>
</table>

In unstressed and closed syllables the contrast is reduced to five — unstressed vowels are very short and the distinction between the mid-back vowels is collapsed. This distinction is also collapsed in closed syllables.

The front vowel phonemes /i/, /e/ and /a/ can be established by the following minimal or near minimal triplets:

4The most common involves /i e a o u/ and /a/ (1986:53).
The back-rounded vowel phonemes /u/, /o/ and /a/ can be established with the following minimal or near minimal triplets in open monosyllables. In closed monosyllables, however, the contrast is reduced to /u/ and /o/.

<table>
<thead>
<tr>
<th>same tone</th>
<th>same onset</th>
<th>same coda</th>
</tr>
</thead>
<tbody>
<tr>
<td>/i/-H ‘spear’</td>
<td>/pi/-H ‘water’</td>
<td>/im/-HL ‘hot’</td>
</tr>
<tr>
<td>/e/-H ‘tooth’</td>
<td>/pe/-HL ‘hair’</td>
<td>/atem/-HL ‘pandan’</td>
</tr>
<tr>
<td>/a/-H ‘rain’</td>
<td>/pa/-L ‘backside’</td>
<td>/am/-H ‘husband’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>same tone</th>
<th>same onset</th>
<th>same coda</th>
</tr>
</thead>
<tbody>
<tr>
<td>/u/-HL ‘snake’</td>
<td>/ru/-L ‘bird’</td>
<td>/pum/-L ‘make noise’</td>
</tr>
<tr>
<td>/o/-HL ‘saucepan’</td>
<td>/ro/-L ‘brother’</td>
<td>/kom/-L ‘leg’</td>
</tr>
<tr>
<td>/a/-HL ‘namesake’</td>
<td>/ra/-L ‘bottom’</td>
<td></td>
</tr>
</tbody>
</table>

The following table shows the distribution of [o] and [ə] in open monosyllables.

There are two full minimal pairs in the monosyllabic data: [ð] ‘clay pot’, [ɔ] ‘namesake’ and [rɔ] ‘brother’, [rɔ] ‘bottom’. And there are two pairs of homophones both involving [ɔ]: [mɔ] ‘mother’ ‘leech’ and [nɔ] ‘web’ ‘laplap’ and no homophones involving [o]. However, two words have varying pronunciations: [tɔ] ~ [tɔ] ‘breast’ and [wɔ] ~ [wɔ] ‘saliva’ depending on the speaker. Further phonetic work is required, especially on the effect of sociolinguistic variables such as age on the realisation of these vowels.

5 This could be semantic extension rather than just homophony.
In the current polysyllabic data there is another handful of sub-minimal pairs in which the mid-back vowels contrast in stressed syllables. These are shown in Table 2.10. This table also shows whether there is also a word which distinguishes [u] from [o].

<table>
<thead>
<tr>
<th></th>
<th>[ʒ] 'breath, feeling'</th>
<th>[ð] 'clay pot'</th>
<th>[ð] 'namesake'</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>(L)H</td>
<td>HL</td>
<td>HLH</td>
</tr>
<tr>
<td>o</td>
<td>[bɔ] 'place'</td>
<td>[bɔ] '3sg.f.'</td>
<td>[bɔ] 'work'</td>
</tr>
<tr>
<td>b</td>
<td>[tɔ] ~ [tɔ] 'breast'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>p</td>
<td>[kɔ] 'sugar'</td>
<td>[mɔ] 'morota roofing'</td>
<td>[mɔ] 'dust'</td>
</tr>
<tr>
<td>m</td>
<td>[nɔ] 'web' 'laplap'</td>
<td>[nɔ] 'blood'</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>[rɔ] 'opposite sex sibling'</td>
<td>[rɔ] 'mouth'</td>
<td></td>
</tr>
<tr>
<td>r</td>
<td>[wɔ] 'bottom'</td>
<td>[wɔ] 'saliva'</td>
<td></td>
</tr>
<tr>
<td>y</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These are the only sub-minimal pairs involving this contrast in the current data and they are notable in that they all involve the same vowel on either side of an /r/. Two older male speakers pronounced the word for 'tree kangaroo' as [əjvɔɾɔ], while two younger female speakers pronounced this word as [əjvɔɾɔ]. This data does show, however, that tone does not seem to be a determining factor in vowel realisation. For example, both vowels are found with falling pitch — [ɔɾɔ] 'house', [-rɔɾ] 'animal cry'; high pitch — [-əɾɔ] 'cut', [əjvɔɾɔ] 'tree kangaroo' and low pitch — [pɔɾɔ] 'canoe', [rɔɾo] 'night'. The current data lacks any polysyllabic full minimal pairs,
and speakers show variation in the realisation of mid-back vowel in stressed open
syllables. Nor are there any sub-minimal pairs that do not involve the same vowel on
either side of an /r/.

More work is needed on the effects of surrounding segments as well as on
speaker variation in the realisation of these vowels. The Barupu orthography makes
no distinction between these vowels, both mid-back vowels are written with the same
grapheme: ⟨o⟩.7

Vowels do not show much variation in realisation except that:

- Only the final two syllables of a monomorphemic word have the potential to
  bear tone; all other syllables are toneless and vowels in toneless syllables are
  very short.

- Final high vowels, in syllables without a lexically assigned tone (see §2.4
  below), can be optionally deleted after a nasal.

  /bauni/-HL ‘no’ → [bāwi] ~ [bāwn]
  /momu/-LH ‘2SG.F’ → [mōmi] ~ [mōm]
  /beni/-HL ‘already’ → [bēni] ~ [bēn]

A high vowel in a syllable with a lexically assigned tone cannot be deleted —
e.g. /mini/ ‘snake’ can never be pronounced as [min].

The schwa presented in Laycock’s phonemic inventory comes from one word in
his wordlist — /biatu/ ‘oar’; a loan word from Sissano: vi/as (Laycock 1973b:271).

The most commonly heard form in Barupu now is /biôte/ [bjôte], where the schwa

7Laycock (1973b) and Murphy (1950) mostly transcribe [o] as [u] in unstressed environments, although it occasionally appears as [o]. For example, ‘taro’ Laycock [itu], Murphy [i.tu]. The [o] in the sub-minimal pairs listed above mostly appears as [u], e.g. Laycock/Murphy ‘tree kangaroo’ [aivuru], although it can also appear as [ou]. For example, ‘house’ Laycock [uru] Murphy [ouro]. The transcriptions of the stressed vowel in other words can vary. For example, ‘children’ Laycock [mivova], Murphy [mībuwa], ‘shoulder’ Laycock [toom], Murphy [tōmi], ‘mountain’ Laycock [to], Murphy [to].
has been reanalysed as /e/, and the vowels /e/ and /o/ have metathesised. The pre-metathesised form is still heard occasionally but always with /e/ instead of [ə] — i.e. [bjetə].

Apart from the realisations above, the major process vowels undergo is glide formation and deletion. This is discussed in the next section.

2.3.1 Avoiding VV sequences

As mentioned in §2.1, above, sequences of two vowels are not found in the same syllable. Vowel sequences are avoided by processes of glide formation, glide epenthesis and vowel deletion.

2.3.1.1 Glide formation

Word-initial and intervocalic glides are analysed as operating within the consonantal system (see §2.2.4 above) or as epenthetic (see §2.4.8 below). Glides in codas and complex onsets are treated as resulting from a process of glide formation involving non-low vowels, partly because glide formation is a process that is directly observable across morpheme boundaries. Non-low vowels become glides before and after low vowels and vowels of opposite backness. For example, (18a) shows the high vowel /i/ of the 1DU prefix becoming a glide when it comes into contact with the initial /u/ of the verb üte ‘walk’. Example (18b) shows the /u/ of the same verb becoming a glide when it comes into contact with /a/ in the 1SG.M agreement prefix.

(18) a) /k-cpi-úte/ → [kè.pjú.tè]
   RL-1DU-walk
   ‘We two walked.’

b) /k-ana-úte/ → [kà.náw.tè]
   RL-1SG.M-walk
   ‘I walked.’

The apparent change from /u/ to /o/ probably reflects a difference in transcription rather than a sound change.
In (18a) the glide forms a complex onset with the preceding /p/; in (18b), the glide forms a coda.

When the two high vowels /u/ and /i/ come into contact as the final two segments of a word, the second vowel will always become a glide: /iu/ → [iw], e.g. /niu/-L [niw] ‘bee’ and /ui/ → [uj], e.g. /bui/-L [buj] ‘shark’. If there is another syllable following, the first vowel desyllabifies. That is, /iu/ → [ju]; for example:

(19) /k-epi-úte/ → [kè.pju.tè]
   RL-1DU-walk
   ‘We two walked.’

and /ui/ → [wi]; for example:

(20) /k-opu-irai/-HL → [kòpwiràj]
   RL-2SG.M-talk
   ‘You,PL,M talk.’

The mid-close vowels /e/ and /o/ can also be directly observed to become glides before and after the low vowel /a/ (see §2.3.1.4), and, like the high vowels, when they come into contact with each other, the first vowel becomes a glide before another syllable and the second vowel becomes a glide at the end of the word. When these vowels come into contact with high vowels, deletion or glide formation can occur, see §2.3.1.3.

In monomorphemic words, I treat all glides which surface as parts of complex onsets (e.g. [rwa]) as resulting from this process. One reason for this is that there are no other consonant clusters in the language (except the marginal CR) and in many cases where a glide is the second part of a complex onset in monomorphemic words, there is a careful pronunciation variation with a nuclear vowel and an epenthetic glide — for example, /niánta/ ‘prawn’ [njántà] ~ [ni.jántà]. Glides in codas are similarly treated as resulting from this process because word-final glide codas can also take tone, whereas nasal codas cannot (see §2.4), and glides can appear in complex codas
with nasals — e.g. /bointin/-HL 'sago posts' — and there are no other complex codas in the language.

Vowel and vowel-glide alternations Some words are in free variation with open final syllable and glide coda realisations. Table 2.11 presents some of these words. This seems to be age or dialectal variation; older speakers show a greater inclination to produce a glide coda.

| /nau/-L  | ‘ocean’     |
| /au/-L   | ‘something’ |
| /neu/-L  | ‘coconut’   |
| /eu/-L   | ‘bilum’     |
| /yiui/-L | ‘wild taro’ |
| /riui/-(L)H | ‘nut.sp’ (kalip)’ |
| /keu/-(L)H | ‘oyster’    |
| /niu/-(L)H | ‘bee’       |
| /rau/-(L)H | ‘one, another’ |
| /eu/-&&(L)H | ‘tooth’     |
| /niu/-HLH | ‘limbum’    |
| /tau/-HLH | ‘skin’      |
| /tui /-HLH | ‘tail’      |
| /moriamu/-HLH | ‘lizard.sp’ |
| /unkuriuau/-L | ‘ginger.sp’ |

The general pattern is for the word to vary between an open final syllable or a closed syllable ending in [w]. The exception is the word /tu/-HLH ‘tail’; the vowel in the open syllable version of this word is [u] and the glide coda is [j].

2.3.1.2 Palatalisation

A [j] coda can cause some palatalisation to the onset of a following syllable, while [j] in a complex onset can cause some palatalisation in the coda of a preceding syllable. In some cases the rightward palatalisation or rounding can move completely, to be realised in only the syllable following the original syllable. Example (21) shows a [j] coda triggering some palatalisation in the onset of the following syllable.
This process is also evident across word and morpheme boundaries. In the following example, a preceding glide coda can be realised in its own syllable, or it can trigger palatalisation of the following consonant and either still be realised as a glide in its own syllable, or as the palatalisation on the onset of the following syllable.

(22) /oi/-HL + /ne/-L → [ɔj nɛ] ~ [ɔj nˈɛ] ~ [ɔ nˈɛ]
‘sago’ ‘coconut’
‘coconut and sago cake’

The following example shows a complex onset involving a glide causing a palatal off-glide in the coda of the preceding syllable. The original complex onset never simplifies.

(23) /k-en-abe-a/-HL → [kɛnævja] ~ [kɛnæjvja] *[kɛnæjvə]
RL-1SG.F-hold-3SG.M
‘I hold him.’

When the phonemes /k/ and /t/ are affected by palatalisation they are realised as an alveolar affricate [tʃ]. This process can be exemplified in polymorphemic words, as in the following examples.

In example (24), the vowel-initial verb /-úte/ ‘walk’ triggers desyllabification of the 3PL.M prefix /e-/ and this in turn triggers palatalisation of the preceding realis prefix /k-/.

(24) /k-e-úte/ → [kjú.tɛ] ~ [tʃú.tɛ]
RL-3PL.M-walk
‘Those men walked.’

In (25) the vowel-only 3SG.M suffix /-a/ triggers desyllabification of the vowel-final verb /-te/ ‘shoot’ and this triggers palatalisation of the preceding /t/ of the verb root. The optional retention of the palatal feature can be seen in the offglide in the first syllable of the pronunciation [kaː.tja]
(25) /k-a-te-a/-L \rightarrow [kā.tjā] \sim [kā.tfā] \sim [kā.tfā]
  RL-3SG.M-shoot-3SG.M
  ‘Those men shot it.’

An example with a preceding [j] is shown in (26). The initial /i/ of this verb desyllabifies when it comes into contact with the 3SG.M suffix /a-/ and this triggers palatalisation of the following /l/.

(26) /k-a-ite-ni/-HL \rightarrow [kāj.tē.ni] \sim [kāj.tfē.ni] \sim [kā.tfē.ni]
  RL-3SG.M-burn-1SG.F
  ‘He burned me.’

An example across word boundaries is the compound ‘kina shell’. This compound is made up of /roi/-L ‘kina’ (edible shellfish) plus /ta/-HLH ‘skin’ and pronounced [rōi tā] \sim [rōj tā]. Some monomorphemic words also show the sound [tj] initially, so it may be that this sound is becoming, or will become, reanalysed as a phoneme.

(27) /tia/-LH \rightarrow [tjā] \sim [tjā]
  ‘head’

2.3.1.3 **Vowel deletion**

Sequences of two identical or very similar vowels are reduced to a single vowel.

Example (28) shows that when the /u/ of the 2PL.M prefix cluster, /o-pu/ comes into contact with the first /u/ of the verb root /ûte/, the result is the single short vowel [u].

(28) /k-opu-ûte/ \rightarrow [kōpûtē]
  RL-2PL.F-walk
  ‘You walk.’

When the mid-close vowels precede high vowels, they delete. Example (29) shows that when the /o/ of the 3SG.F prefix comes into contact with the first /u/ of the verb root /ûte/, the result is again the single short high vowel [u]. The /o/ is deleted.

(29) /k-o-ûte/ \rightarrow [kūtē]
  RL-3PL.F-walk
  ‘She walks.’
Similarly, example (33) shows that when the /e/ of the 3PL.M prefix comes into contact with the first /i/ of the verb root /iro/-HL, the result is the single short vowel [i]. The /e/ is deleted.

(30) /k-e-iro/-L → [kIrò]  
   RL-3PL.M-fell  
   ‘They pl.M fell (a tree).’

Verbs beginning with /o/ sometimes trigger glide formation in the mid-vowel prefix /o-/ and sometimes the mid-vowel prefix deletes. These alternatives are in free variation.

(31) /k-o-ora/-L → [kôrå] ~ [kuôrå]  
   RL-3SG.F-plant  
   ‘She plants.’

With the back low vowel prefix /a-/ the initial /o/ always becomes a glide and the word is two syllables.

(32) /k-a-ora/-L → [kâu.rå]  
   RL-3SG.M-plant  
   ‘He plants.’

2.3.1.4 /a/

The low vowel /a/ never becomes a glide. When two identical low vowels come into contact one of them deletes. For example, when the adjectival verb /-aipetare/ takes a low vowel prefix the prefix deletes.

(33) /k-a-aipetare/-HL → [kâipêtårê]  
   RL-3SG.M-green  
   ‘He is green.’

2.4 Suprasegmental phonology — tone and stress

Barupu is a word tone language; words belong to tone classes in the lexicon. The five tone classes in Barupu are: L; H; LH; HL and HLH. There is, however, no distinction
between H and LH in monosyllabic words. Monosyllabic words display one of four tone melodies.

Polysyllabic words, however, display eight surface melodies. In the following sections I will argue that Barupu has penultimate stress and exemplifies a type of pitch accent system in which, for the majority of words, lexically specified tones are predictably attracted to the stressed syllable and then part or whole of the tone spreads one syllable to the right. This accounts for five of the eight melodies. Other words may have a lexically specified as H- or HL-toned but rather than being associated to the word by rule, these tones are lexically (i.e. unpredictably) associated with either the penultimate or final syllable of the word. This accounts for the other three surface melodies.

As will be exemplified in the following sections, inflectional morphology is toneless but it can surface with tone if it happens to fall within the tone-bearing domain. There are some participant-adding morphemes that have their own tone and there can be some tone sandhi effects between them and their hosts. Some interactions are also observed between tones on nouns in compounds and words in phrases. There is much to be discovered about the Barupu tone system but the following sections present its major features.

2.4.1 Monosyllables

Near minimal quadruplets showing the tone classes in open monosyllables are presented in Table 2.12, below. There is no contrast between H and LH in monosyllables — they are in free variation.
Table 2.12 Near minimal quadruplets showing tonal contrasts on open monosyllables

<table>
<thead>
<tr>
<th>L</th>
<th>H/LH</th>
<th>HL</th>
<th>HLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>/yi(u)/</td>
<td>/i/</td>
<td>/mi/</td>
<td>/bi/</td>
</tr>
<tr>
<td>/kul</td>
<td>/u/</td>
<td>/u/</td>
<td>/bu/</td>
</tr>
<tr>
<td>lei</td>
<td>/e/</td>
<td>/e/</td>
<td>/-e/-</td>
</tr>
<tr>
<td>kol</td>
<td>/ko/</td>
<td>/o/</td>
<td>/o/</td>
</tr>
<tr>
<td>Inl</td>
<td>/ra/</td>
<td>/ra/</td>
<td>/a/</td>
</tr>
<tr>
<td>Ia!</td>
<td>/a/</td>
<td>/ka/</td>
<td>/ta/</td>
</tr>
</tbody>
</table>

Note that the data is missing the vowel /a/ with HLH. This probably represents a gap in the data rather than a gap in the language.

In Table 2.13, I list some examples of tones found on monosyllabic words with glide codas.

Table 2.13 Tones on words with glide codas

<table>
<thead>
<tr>
<th>L</th>
<th>H/LH</th>
<th>HL</th>
<th>HLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>/kai/</td>
<td>/bei/</td>
<td>/ai/</td>
<td>/nai/</td>
</tr>
<tr>
<td>/bui/</td>
<td>/moi/</td>
<td>/oi/</td>
<td>/roi/</td>
</tr>
<tr>
<td>/rau/</td>
<td>/iu/</td>
<td>/boi/</td>
<td>/-poi/</td>
</tr>
</tbody>
</table>

Finally, Table 2.14 shows some examples of the tones found on monosyllables with nasal codas. The HLH tone does not appear on nasal final monosyllables arguably because HLH cannot all fit on the vowel of a closed syllable and there is a blanket ban on assigning tones to consonants.9

Table 2.14 Tones on words with nasal codas

<table>
<thead>
<tr>
<th>L</th>
<th>H/LH</th>
<th>HL</th>
</tr>
</thead>
<tbody>
<tr>
<td>/yam/</td>
<td>/am/</td>
<td>/kan/</td>
</tr>
<tr>
<td>/im/</td>
<td>/im/</td>
<td>/-im/</td>
</tr>
<tr>
<td>/korn/</td>
<td>/om/</td>
<td></td>
</tr>
</tbody>
</table>

In monosyllables, there is no contrast between H and LH — they are in free variation (evidence for a class of LH words comes from polysyllables, see below).

9Tones that are assigned to vowels can sometimes be partially realised on neighbouring nasals.
Crowther (2000) also noted that H and LH were in variation in Barupu open monosyllables. I have found no monosyllabic minimal pairs distinguishing H and LH, but there are H/LH homophones (e.g. [ʊ] ~ [ʊ] 'nest' and [ʊ] ~ [ʊ] 'branch'). Further work on tone sandhi in compounds would perhaps uncover underlying class memberships of monosyllabic H/LH words. Below I present some fundamental frequency traces of H/LH monosyllables showing the variation between high and rising pitch realisations. See Rose (1988) and Yip (2002:5) for the difference between fundamental frequency, an acoustic measure, and pitch, a perceptual unit. These units often correlate but not always. For example, there is almost always a rise in fundamental frequency to a high pitch, but other factors such as the elapsed time between the release of a consonant and the start of the rise can determine whether this is perceived as rising or just high. The rises I will discuss in the F₀ traces in this chapter were perceived as rising by me, as well as by speakers, according to a fairly informal survey. The different contours were not felt to be contrastive.

Figure 2.1 shows fundamental frequency (F₀) traces for two different male speakers pronouncing the word á ‘rain’.¹⁰

¹⁰Male speakers are sampled at 75-300Hz; female speakers are sampled at 100-600Hz.
The first speaker (CA) produces this word at a fairly level high pitch, while the second speaker (HT) produces it with a rising contour.

Figure 2.2 shows the fundamental frequency traces of the same two speakers pronouncing the word *ba* ‘fish’. Again, CA produces it at a fairly level pitch. Note the sharp rise in *F₀* from the release of the /b/ into the vowel — this rise is not perceptible; the bulk of the syllable is produced at a level high pitch. HT produces this word with a rise that is perceptible over the whole syllable.\(^{11}\) The final sharp rise is due to interference on the original recording.
Figure 2.2  *fish*

Figure 2.3 shows the fundamental frequency traces of the same two speakers pronouncing the word *ti* 'bellybutton'. In this case, CA produces a very exaggerated rise, while HT produces a level high. Note that for CA, the high pitch on the high vowel reaches almost 400Hz, for HT it reaches over 200Hz. These are higher on average than the 150-200Hz target pitches of the low vowel tokens. Both tokens also have much higher start points, arguably due to their voiceless onsets. Yip (2002:7) notes that '[the] connection between voiceless obstruents and high pitch and voiced obstruents and low pitch is widely attested in natural languages.'
The tones beginning with a fall, HL and HLH, often show a short rising onglide to the beginning of the fall, an F₀ trace of an HL word is shown in Figure 2.7, below.

2.4.2 Polysyllables

Polysyllabic words display eight surface tone melodies. Table 2.15 shows some examples of disyllabic words and their surface melodies.
Table 2.15 Disyllabic tone melodies

<table>
<thead>
<tr>
<th>[M.L]</th>
<th>[bû.vû] 'crown pigeon'</th>
</tr>
</thead>
<tbody>
<tr>
<td>[H.H]</td>
<td>[-pû.pû] 'fly'</td>
</tr>
<tr>
<td>[LH.H]</td>
<td>[-yä.rä] 'see'</td>
</tr>
<tr>
<td>[L.H]</td>
<td>[mî.nî] 'snake'</td>
</tr>
<tr>
<td>[H.L]</td>
<td>[ó.môn] 'ant'</td>
</tr>
<tr>
<td>[HL.L]</td>
<td>[ð.rø] 'house'</td>
</tr>
<tr>
<td>[L.HL]</td>
<td>[kâ.mô] 'star'</td>
</tr>
<tr>
<td>[HL.H]</td>
<td>[kâ.pô] 'crocodile'</td>
</tr>
</tbody>
</table>

The following table shows some words of three syllables (as mentioned above, seemingly monomorphemic four and five-syllable words are usually analysable as frozen compounds).

Table 2.16 Trisyllabic tone melodies

<table>
<thead>
<tr>
<th>[L.M.L]</th>
<th>[à.pä.râ] 'possum'</th>
</tr>
</thead>
<tbody>
<tr>
<td>[L.H.H]</td>
<td>[i.pi.pô] 'tall'</td>
</tr>
<tr>
<td>[L.LH.H]</td>
<td>[mâ.rî.rî] 'cold'</td>
</tr>
<tr>
<td>[L.H.L]</td>
<td>[in.tâ.på] 'finger'</td>
</tr>
<tr>
<td>[L.L.H]</td>
<td>[bè.re.rên] 'fast'</td>
</tr>
<tr>
<td>[L.HL.L]</td>
<td>[à.kâ.rî] 'stone'</td>
</tr>
<tr>
<td>[L.HL.H]</td>
<td>[à.pô.poi] 'butterfly'</td>
</tr>
</tbody>
</table>

There are no minimal pairs distinguishing [H.H] from [LH.H] in polysyllables, but in contrast to monosyllables, words do not vary in realisation between these two patterns. Note that disyllabic and trisyllabic words show the same number of surface melodies.

The fact that there are five tone classes, but eight melodies, observable over polysyllables shows that tones can not be assigned left-to-right with one tone per tone-bearing unit. For example, if tones were distributed tone to syllable from left to right, there should be disyllabic words with the surface melody something like [H.L.H], because on an HLH-toned word, the first H should associate with the first syllable, L to the second and then the 'left over' second H should also associate to the second syllable and create a rising contour in combination with the L. This is shown
in (34).

(34) \[ \begin{array}{ccc}
    & H & L \\
    \sigma & \sigma & \sigma \\
\end{array} \]

But this pattern does not occur. Another possibility would be that the final unassociated H is deleted, resulting in the surface melody [H.L] — a melody that does occur. But the problem then is in accounting for [HL.H]; this melody should not occur under (34) because there would never be contours on the penultimate syllable. Whereas, with the exception of one melody, [L.HL], which has only four exemplars in the data, contours are overwhelmingly found on the penultimate syllable of disyllabic words in Barupu.

Trisyllables show the same number of melodies as disyllables and non-L tone is only ever found on the final two syllables of the word, providing evidence that the final two syllables make up the only domain relevant to tone. For example, if syllables other than the final two were possible tone-bearing units, we would expect three-syllable HLH-toned words to surface with a melody something like [H.L.H], because H should associate to the first syllable, L to the next and H to the last. This is shown in (35).

(35) \[ \begin{array}{ccc}
    & H & L & H \\
    \sigma & \sigma & \sigma \\
\end{array} \]

However, this pattern does not occur; non-L is never found anywhere except on the final two syllables of the word.

In the following sections I will show that Barupu has predictable penultimate stress and that five of the melodies can be accounted for by a rule stating that roots fall into one of five lexically specified tone classes but the phonetic realisation of the tones is determined by rule: tone is attracted to stressed syllables and part or all of the

\(^{12}\)One, /kamô/ 'star', is given in the table, the others are /kamû/ 'in the meantime', /parâ/ 'other side' and /ak(o)rôn/ 'cloud'.
tone spreads right, see below. According to Yip (2002:235-236), a very similar system is found in Isthmus Zapotec: '[e]ach word has a two-tone melody, which shows up on the stressed syllable, and then spreads right. Syllables before the stressed syllable are L'. Yip characterises Isthmus Zapotec as 'simply a lexical tone language ... the tones are attracted to the stressed syllable. There is no reason to suppose that the tones are a property of that syllable underlyingly' (2002:236). The M tone arises due to stress and is not phonemic.

Three of the melodies, [LH] [HL] and [LHL], however, arise when a word is lexically specified with a tone (i.e. belongs to one of the five tone classes), but in addition, the association of the tone to a particular syllable is also lexically specified and there is no spreading. The melody [HL.Ł] can arise due to either mechanism and will be discussed separately below.

Tables 2.15 and 2.16 summarise how the eight surface melodies arise from the two different tone-assignment mechanisms. Note that the melody [(L.)HL.Ł] appears in both tables, this is discussed below.

Table 2.17 Assignments by rule

<table>
<thead>
<tr>
<th></th>
<th>Disyllables</th>
<th>Polysyllables</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>[M.Ł]</td>
<td>[bu.✈u] ‘crown pigeon’ [L.M.Ł] [a.pä.rä] ‘possum’</td>
</tr>
<tr>
<td>H</td>
<td>[H.H]</td>
<td>[-pu.pu] ‘fly’ [L.H.H] [i.pi.pö] ‘big’</td>
</tr>
<tr>
<td>LH</td>
<td>[LH.H]</td>
<td>[-yä.rä] ‘see’ [L.H.L.H] [mä.ru.rä] ‘cold’</td>
</tr>
<tr>
<td>HL</td>
<td>[HL.Ł]</td>
<td>[o.rö] ‘house’ [L.H.L] [a.kä.ru] ‘stone’</td>
</tr>
<tr>
<td>HLH</td>
<td>[HL.H]</td>
<td>[kä.pö] ‘crocodile’ [L.H.H] [a.pö.pö] ‘butterfly’</td>
</tr>
</tbody>
</table>

Table 2.18 Lexical specifications to particular syllables

<table>
<thead>
<tr>
<th></th>
<th>Disyllables</th>
<th>Polysyllables</th>
</tr>
</thead>
<tbody>
<tr>
<td>HL + penultimate</td>
<td>[HL.L]</td>
<td>/pürü/ ‘fat’</td>
</tr>
<tr>
<td>HL + final</td>
<td>[L.H.L]</td>
<td>/kamö/ ‘star’</td>
</tr>
</tbody>
</table>
2.4.3 Stress

One piece of evidence for stress in Barupu comes from the prominence of the penultimate syllable in the L tone class. An example of this is shown in Figure 2.4, an F₀ trace of a female speaking the word /ora/-L ‘net’, which has an [M.L] surface melody; the first syllable is slightly higher than the second.

In Figure 2.4 the word is disyllabic and the two syllables have roughly the same duration, thus duration is not a marker of stress in two-syllable words. Compare this to the trisyllabic example in Figure 2.5, a trace of another female saying the word /apara/-L ‘possum’ [L.M.L]. Here the penultimate and final syllables are more than twice as long, almost three times as long, as the first, or antepenultimate syllable.¹³

¹³Note that the pitch of the first syllable in these words is not as low as the pitch of the second syllable. This has not been systematically studied but there may be some anticipatory raising in pitch preceding stressed or H-toned syllables.
Syllables other than the final two in Barupu are always very short.

The higher pitch of the penultimate syllable on these words is nowhere near the height of an H-toned syllable. Compare Figure 2.4 to Figure 2.6, a trace for another female saying the word /aivóro/ ‘tree kangaroo’ [L.H.L].

The word /ořo/-L ‘net’ might also appear to have a slightly falling contour but the contour of a real HL is much more dramatic. For example, Figure 2.7 is a trace of a female saying the word /ořo/-HL ‘house’ [HL.L].
Clearly, the higher pitch of the penultimate syllable on /ɔrə/-L ‘net’ cannot be accounted for by an H or HL tone. One possibility is that it is marked with a mid tone /M/ or else another kind of fall, /ML/, but there is no other evidence for these tones as phonemic. Predictable penultimate stress provides a simple explanation for the slightly higher pitch and longer duration of penultimate syllables (final syllables are long because they are final). As will be explicitly modelled below, penultimate stress also provides the simplest explanation for the assignment of contour tones — with the exception of the lexically assigned final HLs, contour tones appear on the stressed syllable.

That stress is predictably penultimate can be shown by its behaviour on suffixing verbs. For example, the transitive verb -te ‘shoot’ belongs to the L tone class. When this verb takes a -CV object suffix such as -re 3PL.F, as shown in (36) (plus realis and subject prefixing /k-a/-, see Chapter 3), main stress falls on the verb itself (I am using the symbol (') before the syllable to indicate stress — this is to avoid confusion with tone-marking diacritics).

\[
\text{(36) } /k-a-te-re/-L \rightarrow [kà.'tē.rē] \\
\text{RL-3SG.M-shoot-3PL.F} \\
\text{‘He shoots them F.’}
\]
When this verb takes the 3SG.M toneless, low vowel suffix /-a/, the vowel of the verb desyllabifies and triggers palatalisation of the /t/. The whole word is now only two syllables and stress falls on the subject plus mood prefix.

(37) /k-a-te-a/-L → ['kà.tà]
RL-3SG.M-shoot-3SG.M
'He shoots him.'

However, when this verb takes the 3PL.M non-low vowel suffix -i, desyllabification of the suffix occurs, but the stress assignment does not reapply because the resulting closed syllable apparently satisfies the requirements of the foot.

(38) /k-a-te-i/-L → [kà.'têj] *[kà.têj]
RL-3SG.M-shoot-3PL.M
'He shoots them.'

A final syllable with a glide coda does not normally attract stress in monomorphemic polysyllabic words — e.g. /aro/-L ['à.rôi] 'crow'. That is, stress assignment is not normally weight-sensitive but a closed syllable can satisfy the requirements of the foot when it is the result of this morpho-phonological process.

Another example of this is that when this verb takes a nasal plus high vowel suffix, such as 1SG.F /-ni/, the final high vowel can be deleted under the optional process of high vowel deletion after a nasal. As the following example shows, stress assignment does not reapply because the foot is satisfied by the closed syllable.

(39) /k-a-te-ni/-L → [kà.'tên]
RL-3SG.M-shoot-1SG.F
'He shoots me.'

Again, final syllables closed by a nasal do not attract stress in monomorphemic polysyllabic words, e.g. /akorom/-L [à.'kô.róm] 'food'; /beken/-L ['bë.kên] 'smoking platform', they only satisfy the foot when they are the result of this morpho-phonological process.
2.4.4 Interaction between stress and tone

As described above, stress is found on the penultimate syllable of the word and contour tones are assigned to stressed syllables and whole or part of the tone spreads right. The following summarises the stress assignment and tone association process:

i. build a left-headed, binary foot at the right edge of the word;
ii. associate the tone melody to the stressed syllable;
   (a) associate the entire tone melody to the stressed syllable, except:
   (b) if there are three tones, associate the third tone to the final syllable;
   (c) if (iib) does not apply, associate the entire tone melody to the stressed syllable and spread the final tone of the melody one syllable to the right;
   (d) assign a default L to toneless syllables.

The following examples show some derivations.

(40) shows how the pattern [H.H] arises from this process on /H/-toned words.

(40) /-pupu/-H  
[pu.pu] [H.H] 
(i) (iia) (iib) (iic) 
  pu.pu  pu.pu  pu.pu  
  s w   s w   s w  
  \F \F \F

The next example shows how the melody [HL.L] arises from the association of HL to the stressed syllable and L spread onto the final syllable.\(^\text{14}\)

\(^{14}\) [LH.H] is similarly analysed as LH with LH attracted to the stressed syllable and H spread onto the final syllable. This is not shown.
Example (42) shows how /HLH/ is realised over two syllables as [HL.H].

On trisyllabic words, only the final two syllables are footed. Example (43) shows the process on an /HL/ word.

The three surface melodies [H.L], [L.H] and [L.HL], do not arise from the above associations. In this section I will argue that words displaying these melodies are lexically specified with an H that is also lexically associated with either of the final
two syllables or an HL which is lexically associated to the final syllable. [HL.L] can also sometimes be analysed as arising from words that are lexically specified with HL associated to the final syllable. These assignments are represented in (44). There is no intervening stress assignment stage, and there is no spreading. A lexically specified penultimate HL has the same surface realisation as an HL assigned by rule, evidence for an underlying distinction comes from reduplication, this is discussed below.

(44)  
\[
\begin{array}{c|c|c|c|c}
\text{H} & \text{H} & \text{HL} & \text{HL} \\
\hline
\sigma & \sigma & \sigma & \sigma \\
\end{array}
\]
/ômon/ 'ant' /miná/ 'snake' /-púru/ 'fat' /kámá/ 'star'
H+ penultimate H + final HL + penultimate HL + final

The major distinction between words with tones assigned to syllables by rule and those with tones assigned to syllables by lexical specification is comes from suffixing verbs. Further differences are discussed below. Tones assigned to syllables by rule move according to the assignment of stress; tones that are lexically assigned stay put. For example, the LH-toned verb /-yaraLH/ 'see' has no lexical syllable association; tones are associated to this word by rule. When this verb takes a 3SG.F object suffix, which happens to be zero for this word, as well as realis prefixing and subject prefixing (k-en-, see Chapter 5) the assignment by rule produces [kénýāráá], with the rise on the penultimate syllable, as shown in (45).

(45)  
\[
\begin{array}{c|c|c}
\text{L H} & \text{L H} \\
\hline
\sigma & \sigma \\
\end{array}
\]
ken(ya.ra)

When this verb takes an overt suffix, such as 3SG.M /-ka/ the result is [kénýārááká]; the tone pattern is the same, LH on the penultimate syllable and H on the final — only the segments falling into the tone-bearing domain, or right-edge
left-headed foot, have changed.

(46)
\[
\begin{array}{c}
\text{LH} \\
\text{kenya(ra -ka)}
\end{array}
\]

As with stress assignment, suffixes made up of a single high vowel desyllabify, and apparently satisfy the requirements of the foot, as shown in (47) and (48).

(47)
\[
\begin{array}{c}
\text{LH} \\
\text{kenya(ra -i)}
\end{array}
\]

(48)
\[
\begin{array}{c}
\text{LH} \\
\text{kenya(ra i)}
\end{array}
\]

Suffixes consisting of a nasal plus a high vowel can be reduced to just the nasal under the rule of high-vowel deletion after a nasal as described above. In this case the LH is realised only on the final, now closed, syllable. This is shown in (49) and (50).

(49)
\[
\begin{array}{c}
\text{LH} \\
\text{kenya(ra -mu)}
\end{array}
\]

(50)
\[
\begin{array}{c}
\text{LH} \\
\text{kenya(ra -m)}
\end{array}
\]

This final syllable can sometimes be produced with an LH contour and sometimes as a level H. This process allows us to directly observe that a tone which is
always produced as LH over two syllables can have varying realisations in a final syllable. These tone assignments are exactly what we would expect to find if tones are assigned to the stressed syllable.

In contrast, verbs with lexically specified syllable assignments do not show this mobility. If an H-toned verb has the H specified on one of the final two syllables, the tone stays on the lexically associated syllable regardless of any suffixing. For example, the H-toned verb */-áka/ ‘make tired’ has the H tone lexically specified on the penultimate syllable. In (51a) the verb takes a zero 3SG.F suffix and the H is realised on the penultimate syllable. So far, it resembles regular penultimate assignment, though without spreading. When the verb takes an overt 3SG.M suffix, however, as in (51b), the tone does not move (as shown in the ungrammaticality of (51c)), it stays on the original syllable.

(51) a)  
\[
\begin{array}{c}
\text{H} \\
\text{kwa.ka}
\end{array}
\]

b)  
\[
\begin{array}{c}
\text{H} \\
\text{kwa.ka-ka}
\end{array}
\]

c)  
\[
\begin{array}{c}
* \text{H} \\
\text{kwa.ka-ka}
\end{array}
\]

The verb */-nepará/ ‘forget’ has an H tone lexically assigned to the final syllable. Example (52a) shows the realisation of this verb with a φ suffix for 3SG.F. (52b) shows that with the addition of the 3SG.M suffix -ka, the tone does not move. The
tone stays on the final syllable of the root.

(52)  a) 
   \[
   \begin{array}{c}
   \text{H} \\
   \text{ko.ne.para}
   \end{array}
   \]

   b) 
   \[
   \begin{array}{c}
   \text{H} \\
   \text{ko.ne.para-ka}
   \end{array}
   \]

   c) 
   \[
   \begin{array}{c}
   * \text{H} \\
   \text{ko.ne.para-ka}
   \end{array}
   \]

I noted above that a lexically specified penultimate HL has an identical surface realisation to an HL assigned by rule. If there are verbs with lexically specified penultimate HLs, they would be identifiable by displaying this behaviour, but to date there are no examples in the data.

A monosyllabic verb root can have a tone lexically assigned to the root itself — for example, the verb /-á/ 'make, do, want' is lexically specified with an H on the root: /k-e-n-á-ø/ (RL-1SG.F-1SG.F-make-3SG.F) [kená], /k-e-n-á-re/ (RL-1SG.F-1SG.F-make-3PL.F) [kenár]; the H tone stays on the root regardless of any prefixing or suffixing.

Monosyllabic roots can also have tones assigned by rule, in which case tone can appear on prefixes or suffixes if they appear in the final foot — for example, the verb /-a/-LH 'eat' LH-toned with no lexical assignment: /k-e-n-a/-LH (RL-1SG.F-1SG.F-eat), [kéná]. But there are no examples of monosyllabic verb roots dictating that an tone should be lexically assigned to another syllable in the inflected
2.4.5 Reduplication and tone

Further differences between words with tones attracted predictably to stressed syllables and those with tones that are lexically assigned to particular syllables are observed in reduplication. On polysyllabic roots with tones that are predictably attracted to the penultimate stressed syllable (e.g. /-tumo/-HL ‘grow wild’), tone is not copied onto reduplicants because it is outside the tone-bearing domain of regular single-predicate words; the reduplicated form of this word is [-tilmotiimo]. If tone is lexically assigned to a particular syllable of the root, and that syllable is in the reduplicant, the tone will also be copied: e.g. /mentan/ → [mémentan-mémentan].

As mentioned above, evidence for H.Ls lexically assigned to penultimately syllables can be drawn from this behaviour: when the word /-pûru/ ‘be fat’ is reduplicated it becomes [pûrupûrû] (the second fall has a lower start point than the first, see 2.4.7) with falling tone in two places on the word. In contrast the word /-putuf/-HL ‘swollen’ becomes [putûputû] with only one falling tone. This difference could be explained by positing that /-pûru/ is an H.L-toned verb with H.L lexically associated to the penultimate syllable, while /-putuf/-HL ‘swell up’ in an H.L-toned verb with no lexical syllable assignment; H.L is predictably attracted to the stressed syllable and that stress and tone attraction apply after reduplication.

When monosyllabic roots reduplicate, the whole root is copied and prefixed to the root. When a word which has a tone lexically assigned to a syllable such as /-tá/ ‘paddle’ is reduplicated it becomes [-tå-tå]; the tone is copied. Where the root has a predictable tone attraction, stress is reassigned after reduplication and regular tone attraction applies: e.g. /-toí/-HL ‘rinse’ → [-tōi-tōi].

15We know that this word has a lexically assigned final H and not a rule-assigned H because the inflected form of this verb is [k-ô-tå] (RL-3SG.F-paddle) ‘she paddles’, not *[kötå].
2.4.6 Tone lexically assigned to syllables and glide epenthesis

Another difference between tones assigned by predictable attraction to stressed syllables and lexically assigned tones to particular syllables is that when a non-low vowel appears in a syllable with a lexically assigned tone it does not become a glide if it would form part of a complex onset — i.e. before a low vowel. Rather, an epenthetic glide is inserted between it and the low vowel. For example, the monosyllabic verb root /ró/ ‘happy’ has an HL lexically assigned to the only syllable of the root, and when this verb is followed by the low vowel 3SG.M object suffix /-a/ the vowel does not form a glide.

(53) /k-o-ró-a/\[ko.rö.∫à\] *[ko.rwå]
RL-3SG.F-happy-3SG.M
‘He is happy.’

Compare this to the L-toned verb /-o/-L ‘give’ with no lexical assignment to a syllable. The vowel of this verb does become a glide before the /-a/ suffix.

(54) /k-o-rö-a/-L [[ko.rwå]] *[ko.rö.wå]
RL-3SG.F-3SG.F-give-3SG.M
‘She gives him.’

Another verb like this is /jé/ ‘hit, kill’ + /-a/ → [ko.jé.la].

High vowels in syllables with lexically assigned tones can always become glides if they form a coda to a syllable, as in /k-ana-úte/ → [kànåwte] in example (18) above.

2.4.7 Tone sandhi — verbs

Verbs can also appear with morphemes that carry their own tones and there are some tone sandhi effects at these boundaries. I do not yet have a full understanding of tone sandhi in Barupu but at least two rules can be established.

1. toneless → H / H _ H(L)
2. HL → \(^1\)HL/L...
Rule 1 states that toneless syllables are realised as H between two Hs. For example, the verb /-úte/ ‘walk’ has penultimately assigned H tone and the final syllable is toneless; this verb can appear with a participant-adding morpheme /-i/ which can be roughly translated as ‘with’ (although see Chapter 7). The morpheme itself is HL with penultimate assignment (it is monosyllabic but forms a foot with an obligatory object suffix). When this morpheme appears after /-úte/, the toneless syllable at the end of /útel/ is realised as high. This is shown in (56).16

(55) /k-en-úte/-/n-i-mu/-HL → [ké.nú té.ní.mú]  
RL-1SG.F-walk-AG-WITH-2SG.F  
‘I walked to be with you.’

(56) a) H  
   \   /  
ke.nú.te -ní -mu  

b) H  
   \   /  
ke.nú.te -ní -mu

This rule does not seem to affect reduplicated forms — e.g. when the word /méntan/ is reduplicated it is realised as [méntan-méntan], not [méntán-méntán], but this is still under investigation.

Rule 2 states that an HL tone following an L tone starts at the pitch of the preceding L and drops to a very low pitch. For example, the word /-kôe/-HL ‘go up’ belongs to the HL class. HL is assigned by rule to the penultimate syllable and spreads right: [kékôné].17 When this word is followed by a participant-adding morpheme belonging to the HL class (e.g. /-i/-HL ‘with’), the HL on the

16 These morphemes also agree with the subject of the verb; the actual morpheme is /-i/, the n- is 1SG agreement.
17 This verb takes a prefix and an infix between the two final vowels indexing the subject. See the next chapter.
Phonology 61

participant-adding morpheme is downstepped. That is, the highest point of the HL is much lower than in a non-downstepped HL: [kèkònènìmù]. This is shown in (57).

(57)  

\[
\begin{align*}
\text{a) } & \quad \text{HL} \quad \text{HL} \\
& \quad \text{kekone -ni -mu}
\end{align*}
\]

\[
\begin{align*}
\text{b) } & \quad \text{HL} \quad \text{!HL} \\
& \quad \text{kekone -ni -mu}
\end{align*}
\]

2.4.8 Tones and epenthetic glides

There is one instance where non-low vowels do not form glides next to a low vowel: instead the vowel is produced and an epenthetic glide is inserted between it and the subsequent low vowel. This process is exemplified by the behaviour of those participant-adding morphemes with contour tones. For example, when the morpheme /-i/-HL 'with' takes a low-vowel suffix /-a/ 3SG.M, the high vowel of /-i/-HL does not become a glide, as it would under normal syllabification processes; instead it is produced as a nuclear vowel and an epenthetic glide is inserted between the two nuclear vowels. The gloss AG refers to extra agreement for subject.

(58)  

/k-en-üte/-/n-i-a/-HL \rightarrow [kè.nù.tè.nì.jà] * [kè.nù.tè.njá]  
RL-1SG.F-walk-AG-WITH-3SG.M  
'I walked to be with him.'

The next example shows the same process with the LH-toned morpheme, /-e/-LH 'from'.

(59)  

/k-en-üte/-/n-e-a/-LH \rightarrow [kè.nù.tè.nè.jà] * [kè.nù.tè.njá]  
RL-1SG.F-walk-AG-FROM-3SG.M  
'I walked away from him.'

The next example shows the same process with HL again.
(60) /k-en-ûte/-/n-o-a/-HL
    → [kè.nù.té.nò.wà] *[kè.nù.té.nwà]
    RL-3SG.F-walk-AG-because.of-3SG.M
    'I walked on his behalf.'

Compare these to /-o/-L, which introduces a dative argument (see Chapter 7).

This morpheme is produced at a low pitch and is free to undergo glide formation,
which suggests the possibility that this morpheme is underlyingly toneless, or perhaps
that L is less active than the other tones.

(61) /k-en-ûte/-/n-o-a/
    → [kè.nù.tè.nwà] *[kè.nù.tè.nò.wà]
    RL-1SG.F-AG-walk-GIVE-3SG.M
    'I walked with him.'

2.4.9 Tone and noun compounds

Nouns in compounds retain their own tones. Rule 1 applies; toneless syllables are
produced as high between two Hs and this process also affects words in phrases. Rule
2 does not apply in compounds; there is no downstepping of HLs after L. Each
element of a productive compound retains its own tone, but the left-hand member is
somewhat reduced phonologically and the main stress of the compound appears on
the right-hand member of the compound, see Chapter 5.

In compounds where the two elements now form a single word, the left-hand
member of the compound loses its tone (and stress) entirely, and the word is produced
with the stress and tone of the right-hand member, over the final two syllables. Where
the right-hand member is monosyllabic, its tone is realised over the final syllable of
the left-hand member. For example, the single-word compound, orôka 'area under
the house', is arguably made up of /oro/-HL 'house' and /kâ/-HL 'roots' —
/orô/-HL was stripped of its tone and the segments formed a single trisyllabic word
with /ka/-HL: [ôrôkà]. Stress was reassigned to the penultimate syllable and the HL
of kâ predictably assigned to the stressed syllable. It should be pointed out that these

\[\text{18One interesting feature of these single-word compounds is that speakers often deny that they can be analysed out.}\]
single-word compounds are in the minority — most compounds are made up of separate phonological words.

2.5 Orthography

The practical orthography used by Barupu speakers is currently in a process of modernisation and shows some deviations from the orthography used in this thesis. Table 2.19, below shows the main areas of variation among speakers and outlines the orthographic conventions followed in this thesis. A hash (#) indicates a word boundary. The main areas of variation are in the representation of the sounds [tn] and the cluster [kw] as well as tone marking. As mentioned above in the local orthography [o] and [ɔ] are written with the same grapheme ⟨o⟩. Word-initial glides are represented by ⟨w⟩ and ⟨y⟩. Intervocalic glides are represented by ⟨w⟩ and ⟨iy⟩. Glides forming part of a diphthong in monomorphemic words are represented as ⟨u⟩ and ⟨i⟩.

Where the glide arises at a morpheme boundary and the underlying non-low vowel is part of a verb root it is written with the underlying form. For example:

(62) ⟨k-a-ore⟩ /k-a-ore/ [kaure]
    RL-3SG.M-seach
    ‘He searches.’

Older speakers have represented the sound [tn] as ⟨j⟩ since the 1950s, following the orthography devised when some missionaries translated prayers into Barupu. With more exposure to English, younger speakers wish to represent this sound as ⟨ch⟩. Teachers prefer the latter option because they feel that it facilitates transition between English and Barupu. They feel that ⟨j⟩ is a confusing choice because of its connection to the English sound [dʒ] and the Tok Pisin sound [s] (sounds they argue are not found in Barupu). I will represent the sound as ⟨ch⟩ in this thesis for the

19 This sound is not found in Tok Pisin — words like English ‘church’ become sios in Tok Pisin.
Table 2.19  Orthographic conventions

<table>
<thead>
<tr>
<th>sound</th>
<th>spelling variants</th>
<th>thesis spelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>e</td>
<td>e</td>
<td>e</td>
</tr>
<tr>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>c</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>i</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>u</td>
<td>u</td>
<td>u</td>
</tr>
<tr>
<td>#w</td>
<td>w</td>
<td>w</td>
</tr>
<tr>
<td>VwV</td>
<td>w</td>
<td>VwV</td>
</tr>
<tr>
<td>Cw</td>
<td>Cu</td>
<td>Cu</td>
</tr>
<tr>
<td>Vw</td>
<td>Vu</td>
<td>Vu</td>
</tr>
<tr>
<td>#j</td>
<td>y</td>
<td>y</td>
</tr>
<tr>
<td>VjV</td>
<td>ViyV</td>
<td>ViyV</td>
</tr>
<tr>
<td>Cj</td>
<td>Ci</td>
<td>Ci</td>
</tr>
<tr>
<td>Vj</td>
<td>Vi</td>
<td>Vi</td>
</tr>
<tr>
<td>j</td>
<td>y</td>
<td>y</td>
</tr>
<tr>
<td>tf</td>
<td>ch, j</td>
<td>ch</td>
</tr>
<tr>
<td>b</td>
<td>b</td>
<td>b</td>
</tr>
<tr>
<td>v, β</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>k,x,g,γ</td>
<td>k</td>
<td>k</td>
</tr>
<tr>
<td>t</td>
<td>t</td>
<td>t</td>
</tr>
<tr>
<td>η</td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td>r, r</td>
<td>r</td>
<td>r</td>
</tr>
<tr>
<td>kw</td>
<td>kw, ku, q, qu</td>
<td>kw k-u-</td>
</tr>
</tbody>
</table>

benefit of an English-speaking audience, and to avoid confusion with the phonetic symbol [j].

The cluster [kw] is also problematic as some younger speakers wish to represent this sound with ⟨q⟩. This is a more marginal area of variation. I represent this cluster as ⟨ku⟩. Where the cluster is formed from the realis prefix /k-/ plus glide formation on the 3SG.F subject prefix /o-/ preceding a vowel-initial root, it is still represented as ⟨k-u-⟩ orthographically.

Tone marking is the most fraught area of the orthography. I will use the diacritics in Table 2.20 in this thesis. L is not marked, regardless of whether it is underlyingly L or underlying θ. Tone sandhi effects are not marked.
See San Roque (2001) for an in-depth examination of tone marking choices in Barupu and another tonal Skou language, Krisa. The 1950s orthography did not mark tone, so there is no tradition here. One area of agreement is that, in principle at least, HL and HLH should both be marked with an apostrophe between two vowels: for example, /ru/-HL → (ru’u). Rising and high tones can be marked with an acute over the vowel or an apostrophe following the syllable. Low tones can be unmarked.

One group of speakers involved in Bible translation, however, have decided that not all high and rising words need to be marked with tone. They feel that high tone only needs to be marked where there are important minimal pairs. For example, as the translation group noted to me in an orthography workshop in 2003, the toneless conjunction *ya* and the H-toned 3SG.M pronoun *ya* are segmentally identical and when people write the words *ya k-a-ite* (and/he RL-3SG.M-walk), there is no way for the reader to tell immediately whether the conjunction or the pronoun is meant.

Pronouns have pragmatic functions in Barupu (see Chapter 6), so this was a situation they wanted to avoid. The group’s solution was to spell the pronoun with an ⟨h⟩ at the end: ⟨yah⟩. This solution was still being debated in the village in early 2005.

### Table 2.20 Tone marking

<table>
<thead>
<tr>
<th>tone</th>
<th>orthography</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>a</td>
</tr>
<tr>
<td>H/LH</td>
<td>á</td>
</tr>
<tr>
<td>HL</td>
<td>kâ</td>
</tr>
<tr>
<td>HLH</td>
<td>tâ</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>polysyllables</th>
</tr>
</thead>
<tbody>
<tr>
<td>[L.L]</td>
</tr>
<tr>
<td>[H.H]</td>
</tr>
<tr>
<td>[LH.H]</td>
</tr>
<tr>
<td>[HL.L]</td>
</tr>
<tr>
<td>[HL.H]</td>
</tr>
<tr>
<td>[L.H]</td>
</tr>
<tr>
<td>[H.L]</td>
</tr>
<tr>
<td>[L.HL]</td>
</tr>
</tbody>
</table>
Chapter 3

Inflectional verb morphology

In this chapter I describe the structure of obligatory subject and object agreement and TMA marking on Barupu verbs. The four possible structures are summarised in Table 3.1.

<table>
<thead>
<tr>
<th>Suffix object</th>
<th>Prefix subject</th>
<th>Prefix and infix subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suprasegmental object</td>
<td>TMA-SUBJ-ROOT-OBJ</td>
<td>TMA-SUBJ-RO(SUBJ)OT-OBJ</td>
</tr>
<tr>
<td></td>
<td>TMA-SUBJ-ROOT.OBJ</td>
<td>TMA-SUBJ-RO(SUBJ)OT.OBJ</td>
</tr>
</tbody>
</table>

Every verb takes an obligatory TMA prefix marking status: realis (k-) or irrealis (n-) — this is discussed in Chapter 9. Every verb also obligatorily takes subject marking, either as prefixing only, or as prefixing and infixing. Subject marking will be discussed first in §3.1. One class of transitive verbs takes obligatory object marking, which is mostly suffixing, but in some cases there is no segmental exponent of object. Some verbs show final vowel mutation instead — this is described in §3.2. As mentioned in the previous chapter, the inflectional morphemes are underlyingly toneless but they can surface with tone if they are in the final two syllables of the word.

1I am using the terms subject and object for convenience. Generally speaking, 'subject' refers to the most Agent-like participant of a transitive verb and the single participant of an intransitive verb, and 'object' refers to the non-Agent of a transitive verb, but see Chapter 6 for a fuller exposition of grammatical functions in Barupu.
3.1 Subject marking

Verbs fall into one of four conjugation classes. In one of the classes, the person, number and gender of the subject is marked by a single prefix. In three of the classes, subject marking is complex; two separable morphemes work together to index the person, number and gender of the subject — this can take the form of two prefixes or a prefix and an infix. In this section each class will be described in turn.

3.1.1 Class I

Class I is the largest verb class; approximately three quarters of the 270 verbs in the draft Barupu dictionary belong to this class. Class I is also the unmarked, open verb class. Evidence for this is that when Tok Pisin or English words are borrowed and inflected they receive Class I inflection. In addition, verb roots in this class can be any phonological shape except that of a single vowel (see Table 3.5 below); other verb classes are more restricted in their phonological shapes.

The Class I subject prefixes are listed in Table 3.2. There are twelve prefixes which index the person and number of the subject. Gender is also distinguished except in the duals and first person plural.

<table>
<thead>
<tr>
<th>Table 3.2</th>
<th>Class I prefixes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
<td></td>
</tr>
<tr>
<td>1 M</td>
<td>ana-</td>
</tr>
<tr>
<td>1 F</td>
<td>en(i)-</td>
</tr>
<tr>
<td>2 M</td>
<td>ama-</td>
</tr>
<tr>
<td>2 F</td>
<td>om(u)-</td>
</tr>
<tr>
<td>3 M</td>
<td>a-</td>
</tr>
<tr>
<td>3 F</td>
<td>o-</td>
</tr>
<tr>
<td>DU</td>
<td></td>
</tr>
<tr>
<td>1 M/F</td>
<td>epi-</td>
</tr>
<tr>
<td>2 M/F</td>
<td>oropu-</td>
</tr>
<tr>
<td>3 M/F</td>
<td>ere-</td>
</tr>
<tr>
<td>PL</td>
<td></td>
</tr>
<tr>
<td>1 M</td>
<td>cm(i)-</td>
</tr>
<tr>
<td>1 F</td>
<td>opu-</td>
</tr>
<tr>
<td>2 M</td>
<td>eve-</td>
</tr>
<tr>
<td>3 M</td>
<td>e-</td>
</tr>
<tr>
<td>3 F</td>
<td>ere-</td>
</tr>
</tbody>
</table>
These forms are quite clearly related to the free pronouns, listed in Table 3.3.²

<table>
<thead>
<tr>
<th>Table 3.3 Free pronouns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SG</strong></td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td><strong>DU</strong></td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td><strong>PL</strong></td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>F</td>
</tr>
</tbody>
</table>

The disyllabic CVCV free pronouns correspond to disyllabic VCV- subject prefixes with a change to the first vowel in 1SG.M and 2SG.M. For example, the 2SG.M free pronoun is *mēmā* and the 2SG.M prefix is *ama-*.

The monosyllabic CV(V) pronouns correspond to a monosyllabic vowel-only prefix (V-). For example, the 3SG.M pronoun is *yā* and the 3SG.M subject prefix is *a-*.

The dual category is not distinct for second and third person pronouns; either one of the plural pronouns can be used instead. The trisyllabic 2DU prefix, *oropu-*, appears to be a combination of 3PL.F (ere-) plus 2PL.M (opu-) with some vowel changes. In this class, the third person dual prefix is the same as the 3PL.F prefix, but this is not the case in other classes.

The prefixes have slightly different realisations depending on the initial segment of the verb. In Table 3.4 I list full paradigms of Class I agreement on: a verb beginning with a non-nasal consonant, *-pupu* ‘fly’; a verb beginning with a vowel, *-ute* ‘walk’ and a verb beginning with a nasal: *-mēntan*. The table presents the surface realisations of the morphemes and the allomorphy is described below. The examples in the table are shown with the realis STATUS prefix, *k-*.

²Pronouns in Barupu have no case distinctions.
Table 3.4 Class I example paradigms

<table>
<thead>
<tr>
<th></th>
<th>stop-initial</th>
<th>vowel-initial</th>
<th>nasal-initial</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SG</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 M</td>
<td>k-ānā-pūpu</td>
<td>k-ānā-wtē</td>
<td>k-ānā-méntān</td>
</tr>
<tr>
<td>F</td>
<td>k-ēm-pūpu</td>
<td>k-ēn-ūtē</td>
<td>k-ēnī-méntān</td>
</tr>
<tr>
<td>2 M</td>
<td>k-āmā-pūpu</td>
<td>k-āmā-wtē</td>
<td>k-āmā-méntān</td>
</tr>
<tr>
<td>F</td>
<td>k-ōm-pūpu</td>
<td>k-ōm-ūtē</td>
<td>k-ōmū-méntān</td>
</tr>
<tr>
<td>3 M</td>
<td>k-ā-pūpu</td>
<td>k-ā-wtē</td>
<td>k-ā-méntān</td>
</tr>
<tr>
<td>F</td>
<td>k-ō-pūpu</td>
<td>k-ūtē</td>
<td>k-ō-méntān</td>
</tr>
<tr>
<td><strong>DU</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>k-ēpil-pūpu</td>
<td>k-ēpj-ūtē</td>
<td>k-ēplī-méntān</td>
</tr>
<tr>
<td>2</td>
<td>k-ōrōpū-pūpu</td>
<td>k-ōrōp-ūtē</td>
<td>k-ōrōpū-méntān</td>
</tr>
<tr>
<td>3</td>
<td>k-ērē-pūpu</td>
<td>k-ērē/ēj-ūtē</td>
<td>k-ērē-méntān</td>
</tr>
<tr>
<td><strong>PL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>k-ēm(i)-pūpu</td>
<td>k-ēm(j)-ūtē</td>
<td>k-ēmī-méntān</td>
</tr>
<tr>
<td>2 M</td>
<td>k-ōpū-pūpu</td>
<td>k-ōp-ūtē</td>
<td>k-ōpū-méntān</td>
</tr>
<tr>
<td>F</td>
<td>k-ēvē-pūpu</td>
<td>k-ēvē-ūtē</td>
<td>k-ēvē-méntān</td>
</tr>
<tr>
<td>3 M</td>
<td>k-ē-pūpu</td>
<td>k-ē-ūtē</td>
<td>k-ē-méntān</td>
</tr>
<tr>
<td>F</td>
<td>k-ērē-pūpu</td>
<td>k-ēre/ēj-ūtē</td>
<td>k-ērē-méntān</td>
</tr>
</tbody>
</table>

The ISO.F and 2SG.F prefixes are VC- (en- and om- respectively) before a non-nasal consonant and before a vowel. For example, on -pūpu 2SG.F is om- and it is the same on ūtē. This is shown in (63).

(63) a) /k-om-pupu/-H → [kompupu]  
RL-2SG.F-fly  
‘You fly.’

b) /k-om-ūte/ → [kōmūtē]  
RL-2SG.F-walk  
‘You walk.’

The 1PL prefix can be VC- (em-) or VCV- (emi-) in these environments, depending on the speaker, as in (64).

(64) a) /k-em(i)-pupu/-H → [kempupu] ~ [kemipupu]  
RL-1PL-fly  
‘We fly.’

b) /k-em(i)-ūte/ → [kemūtē] ~ [kemjūtē]  
RL-1PL-walk  
‘We walk.’
Before nasal consonants, however, all three of these prefixes are always VCV-.

This is shown in (65).

(65) a) /k-en-méntan/ → [kènìméntân]
   RL-1SG.F-small
   ‘I<sub>F</sub> am small.’

b) /k-omu-méntan/ → [kòmùméntân]
   RL-2SG.F-small
   ‘You<sub>F</sub> are small.’

c) /k-emi-méntan/ → [kèniméntân]
   RL-1PL-small
   ‘We are small.’

The table also shows the results of the regular morphophonemic processes described in the previous chapter — nasal assimilation, glide formation and vowel deletion.

The nasal-final prefixes are subject to nasal assimilation. For example, on the verb -púpú ‘fly’, in Table 3.4, the 1SG.F prefix is en-, not en-, because the n has assimilated in place with the initial bilabial stop of the verb. This process causes syncretism between 1SG.F en- and 1PL prefix em-.

(66) a) /k-en-púpú/ → [kèmpúpú]
   RL-1SG.F-fly
   ‘I<sub>F</sub> fly.’

b) /k-em-púpú/ → [kèmpúpú]
   RL-1PL-fly
   ‘We fly.’

As discussed in the previous chapter, when vowel-final prefixes come into contact with vowel-initial verbs, two processes of vowel cluster reduction apply: glide formation and deletion. A non-low vowel at the end of a prefix will become a glide next to a low vowel and a vowel of opposite backness. For example, in Table 3.4 the final /i/ of the 1DU prefix epi- desyllabifies before -úte, resulting in [kèpjútè].
The mid-close vowels also form glides. For example, the 3PL.M prefix e-, becomes a glide before -ute; the resulting glide then triggers palatalisation in the realis prefix, so an alternative pronunciation of [kjútë] is [tjútë].

If the initial vowel of the verb is high or mid-close and the final vowel of the prefix is low then the initial high vowel of the verb undergoes glide formation. For example, the initial /u/ of -ute becomes the glide [w] after a 2SG.M prefix ama-, resulting in [kamawtë].

High vowels are deleted in front of identical vowels — for example, the final /u/ of the 2PL.M prefix is deleted before the initial /u/ of -ute, resulting in [kòpútë].

The mid-close vowels are deleted in front of identical vowels and high vowels of the same backness. For example, the 3SG.F prefix o- is deleted before the initial /u/ of ute, resulting in [kútë].
The 3PL.F prefix ere- is often produced with the /r/ elided, as simply [e]. This vowel does not form a glide; instead an epenthetic glide is produced between it and a vowel-initial verb, resulting in [k̡的帮助下].

\( /k̡-ere-ute/ \rightarrow [k̡的帮助下] \\
RL-3PL.F-walk ‘They\(_F\) walk.’

Table 3.5 shows some Class I verbs. Note that verb roots in this class can be any phonological shape except a single vowel.

<table>
<thead>
<tr>
<th>Table 3.5 Some Class I verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>-te</td>
</tr>
<tr>
<td>-ura</td>
</tr>
<tr>
<td>-yará</td>
</tr>
<tr>
<td>-påko</td>
</tr>
<tr>
<td>-títi</td>
</tr>
<tr>
<td>-ráivi</td>
</tr>
<tr>
<td>-parara</td>
</tr>
<tr>
<td>-ipóri</td>
</tr>
</tbody>
</table>

3.1.2 Class II

All Class II verb roots begin with a vowel and this is the only class in which roots can consist of just a vowel. Table 3.6 is a list of some Class II verbs.

<table>
<thead>
<tr>
<th>Table 3.6 Some Class II verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>vowel-only</td>
</tr>
<tr>
<td>-á ‘eat’</td>
</tr>
<tr>
<td>-á ‘make, do, want’</td>
</tr>
<tr>
<td>-é ‘carve, write’</td>
</tr>
<tr>
<td>-o ‘give to’</td>
</tr>
<tr>
<td>-u ‘pick (off)’</td>
</tr>
<tr>
<td>-ere ‘put’</td>
</tr>
<tr>
<td>-aro ‘go (downwards or toward the coast)’</td>
</tr>
<tr>
<td>-yé ‘hit, kill’</td>
</tr>
</tbody>
</table>

This is quite a small class, but the verbs themselves are very high-frequency.
For example, 'eat' and 'make, do, want' belong to this class.

The prefixes found on Class II verbs are given in Table 3.7. Again there are twelve distinctions, and the duals are fully distinct from the plurals in this class. Reasons for separating these prefixes into two separate morphemes are given below.

<table>
<thead>
<tr>
<th>Table 3.7 Class II prefixes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SG</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>2 M</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>3 M</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>DU</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td><strong>PL</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>3 M</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Class II prefixes are made up of two morphemes. The first morpheme is a prefix made up of either:

- a single vowel (V-) (1/2/3SG; 1PL; 2/3PL.M);
- a disyllabic (VCV-) prefix (1/3DU; 2/3PL.F);
- or a trisyllabic (VCVCV-) prefix (2DU).

Following one of these prefixes is a separate C- prefix. This is analysed as separate because it forms a tight-knit unit with the verb root that excludes the other prefix (henceforth 'the V(CV..)- prefix'). That is, the C- prefix is included in reduplication; no other prefixing can be included in reduplication, and the Beneficiary/Possessor paradigm, which replaces the whole Class I subject prefix, only replaces the V(CV..)- prefix on Class II verbs. These points are discussed below.
There are four consonants found in the C- prefix slot (/n, m, p, r/), and three vowels in the simple V- prefix slot (/a, o, e/). The consonants and vowels cannot be analysed as consistently marking any one feature. For example, /n/ does mark first person singular but /m/ is found in both first person dual and second person singular, so the consonants cannot be said to mark person or number. Likewise /r/ is found in third person singular for both genders but also in second and third person plural feminine. Finally, /p/ is found in the duals and in the second and third person plural masculine. This is summarised in Table 3.8.

<table>
<thead>
<tr>
<th>Table 3.8 Consonants and features</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
</tr>
<tr>
<td>m</td>
</tr>
<tr>
<td>r</td>
</tr>
<tr>
<td>p</td>
</tr>
</tbody>
</table>

Nor do the vowels by themselves mark any one feature such as gender or number. Table 3.9 shows the vowels found in the simple V- prefixes.

<table>
<thead>
<tr>
<th>Table 3.9 Vowels and features</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
</tr>
<tr>
<td>o</td>
</tr>
<tr>
<td>e</td>
</tr>
</tbody>
</table>

Only /a/ can be assigned a discrete feature — SG.M. The other two vowels, /o/ and /e/, are harder to assign features. /o/ is found in second and third person singular feminine and second person plural masculine. /e/ is found in first person singular feminine and first person plural. Rather than give each morpheme a gloss showing the

---

3Foley 1986:72 states 'an intriguing feature of many Papuan languages is the often transparent morphological association between the first and second persons, most commonly between the first person non-singular and the second person singular.' He notes that the conflation is only attested where there is no inclusive/exclusive distinction in first person and suggests that a possible motivation for it may be that the presence of an addressee (i.e. second person) is considered crucial to the formation of the first person non-singular, more so than the presence of a non-speech act participant (i.e. third person). That is, inclusive (speaker and addressee) is taken to be more salient than exclusive (speaker and non-speech act participant).
full potential of its uses, I gloss both prefixes as marking the same category. Example (73) shows a gloss for k-o-m-á ‘You do.’ with the full potential of each morpheme spelled out.

(73) k-o-m-á  
\[ \text{RL-2/3SG.F:2pL.M-l PL:2SG-do} \] 
‘You do.’

In (74) the two morphemes are given the same gloss, and for the sake of readability this is the convention that is followed in this thesis.

(74) k-o-m-á  
\[ \text{RL-2SG.F-2SG.F-do} \] 
‘You do.’

Table 3.24 shows full paradigms for -a ‘eat’ and -a ‘make, do, want’. The verb -a ‘eat’ has a rising tone which is predictably assigned to the penultimate syllable of the word and spreads right. The verb -á ‘make, do, want’ has an accented H assigned to it. The verbs in this class are all vowel-initial, the prefixes are all consonant-final and there is no allomorphy at the boundaries (the verb -ye is irregular, see §3.1.2.1).

<table>
<thead>
<tr>
<th>Table 3.10 Class II example paradigms</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>DU</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>PL</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Although the two prefixes work together to uniquely mark the features of the subject, as discussed above, the second C- prefix is separated out because it appears to be in a closer relationship to the verb than the V(CV..)- prefix and all the prefixes found in Class I. For example, the second C- in Class II is always included in reduplication. No other vowel-initial roots undergo reduplication — a reduplicant must always be at least CV. Following this rule, Class I vowel-initial roots cannot be reduplicated.

(75) /\k-em-úte-úte/ \rightarrow *[kêm-úte-úte] *[k-è-mútè-mútè]
    RL-1PL-REDUP-walk
    ‘...’

Surprisingly, Class II verbs, even though they are all vowel-initial, can be reduplicated, because the C- prefix can be included in the reduplicated material. In example (76) the Class II verb -ere ‘put’ is inflected with the 1PL prefixes e-m-.

(76) /\k-em-ere/-L \rightarrow [kêmêrê]
    RL- 1PL- 1PL- put
    ‘We all put (it).’

Example (78) shows the reduplicated form of this verb. The second C- prefix m- is included in the reduplication.

(77) /\k-em-ere- m- ere/ \rightarrow [kêmêrêmêrê]
    RL- 1PL- 1PL- put- 1PL- put
    ‘We all put (it) repeatedly.’

The C- prefix cannot be left out.

(78) */\k-em-ere- ere/ \rightarrow *[kêmêreêrê]
    RL- 1PL- 1PL- do- do
    ‘...’

The V(CV..)- cannot be included and no part of Class I prefixes can be included (hence the ungrammatical form *[kêmútèmútè] given in (75), above). These facts suggest that the C- prefixes are more closely integrated to the root than other prefixes.
Support for this can also be found in the structure of the Beneficiary/Possessor paradigm. The subject marking described in this chapter can be replaced by another separate paradigm that introduces a Beneficiary into the clause and can also be extended to mark external possession (see Chapter 8). The Beneficiary paradigm is made up of a vowel-only morpheme and agreement and it is probably derived from an ex-serial verb construction (see Chapter 8). On Class I verbs, this paradigm completely replaces normal subject prefixing. This is shown in the following examples. In (79) the Class I verb -yära is inflected with the regular Class I prefix for 2PL.M, opu- and it also has a 1SG.F object suffix, -ni.

(79) /köpùjârâni/ → [köpùjârâni]
    RL-2PL.M-see-1SG.F
    ‘You see me.’

In (80) opu- is replaced by the Beneficiary/Possessor paradigm, and the Possessor of the object is now marked with suffixing on the Beneficiary/Possessor morpheme and no longer on the verb itself.

(80) /kepinjârâni/ → [kepinjârâni]
    RL-2PL.M-BEN-1SG.F-see
    ‘You can see mine.’

On Class II verbs the Beneficiary/Possessor morpheme only replaces the first V(CV..)-. The second C- remains. This is shown in the following examples. In example (81), the Class II verb -üna ‘get.PLO’ takes the Class II 2PL.M subject prefixes o-p-.

(81) /nopÜna/ → [nopÜna]
    IRR-2PL.M-2PL.M-get.PLO
    ‘Get them.’

In example (82), the Class II verb -üna ‘get.PLO’ takes the Class II 3PL.F subject prefixes ere-r-.
In (82), the Beneficiary/Possessor paradigm replaces the first V- prefix of the
2PL.M, α-, but the second C- prefix, p- is still present, prefixed to the verb.

(82) /n- ere- r- úna/ → [nèrèrúnà]
IRR- 3PL.F- 3PL.F- get.PLO
‘They will get them.’

In (83), the Beneficiary/Possessor paradigm replaces the first V- prefix of the
2PL.M, α-, but the second C- prefix, p- is still present, prefixed to the verb.

(83) /n- ep-e-ni- p- úna/ → [nèpèmipúnà]
IRR- 2PL.M-BEN-1SG.F- 2PL.M- get.PLO
‘Get them for me.’

In (84), the Beneficiary/Possessor paradigm replaces the first VCV- prefix of the
3PL.F, ere-, but the second C- prefix, r- is still present, prefixed to the verb.

(84) /n- oror-o-mu- r- úna/ → [nòròròmùrúnà]
IRR- 3PL.F-BEN-2SG.F- 3PL.F- get.PLO
‘They will get them for you.’

The C- prefixes clearly have a closer relationship to the verb than other prefixes.

An alternative view of Class II verbs is that they are not vowel-initial with a
close-knit C- prefix at all. Instead, these verbs are consonant-initial, but there is a
process of initial-consonant mutation marking the subject. Some support for an
analysis such as this is that in the more conservative Skou languages spoken near the
border with the Indonesian province of Papua, verbs are monosyllabic and initial
consonant mutation, caused by the fusion of earlier prefixes, marks subject (Ross
(1980); Donohue (2004)). Further support comes from the fact that speakers insist
that the citation forms for these verbs in the dictionary should be consonant-initial
(either [r], representing 3SG, or [m] representing 1PL) — they do not feel that way
about vowel-initial Class I verbs. This alternative view will not be pursued here, but it
would be an interesting area for further comparative work.

3.1.2.1 Irregular Class II verb -yé ‘hit, kill’

The verb -yé ‘hit, kill’ is phonetically [jé]. The fact that it inflects in Class II strongly
suggests that the initial [j] is underlyingly vocalic, but it is irregular — it does not
take any of the \( r \)-prefixes. That is, in 3SG and PL.F, the prefixes found on this verb are exactly the same as those found on Class I verbs. The full paradigm for this verb is given in Table 3.11.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
<td>1 M</td>
<td>k-à-n-jé</td>
</tr>
<tr>
<td></td>
<td>1 F</td>
<td>k-è-n-jé</td>
</tr>
<tr>
<td></td>
<td>2 M</td>
<td>k-à-m-jé</td>
</tr>
<tr>
<td></td>
<td>2 F</td>
<td>k-ò-m-jé</td>
</tr>
<tr>
<td></td>
<td>3 M</td>
<td>k-à-jé</td>
</tr>
<tr>
<td></td>
<td>3 F</td>
<td>k-ò-jé</td>
</tr>
<tr>
<td>DU</td>
<td>1 M/F</td>
<td>k-èpì-p-jé</td>
</tr>
<tr>
<td></td>
<td>2 M/F</td>
<td>k-òrôpù-p-jé</td>
</tr>
<tr>
<td></td>
<td>3 M/F</td>
<td>k-èrè-p-jé</td>
</tr>
<tr>
<td>PL</td>
<td>1 M/F</td>
<td>k-è-m-jé</td>
</tr>
<tr>
<td></td>
<td>2 M</td>
<td>k-ò-p-jé</td>
</tr>
<tr>
<td></td>
<td>2 F</td>
<td>k-èvè-jé</td>
</tr>
<tr>
<td></td>
<td>3 M</td>
<td>k-è-p-jé</td>
</tr>
<tr>
<td></td>
<td>3 F</td>
<td>k-èrè-jé</td>
</tr>
</tbody>
</table>

### 3.1.3 Class III

Class III verb roots are, without exception, made up of either two vowels (VV) or a consonant followed by two vowels (CVV). Class III contains two definable semantic sub-classes that share the same final vowel. There are two direction of motion verbs -\( k̄ ae \) 'come' and -\( k̄ ò e \) 'go up' which share the same final vowel /e/ (\( -noi \) 'go along' has no specific directional component), and two posture verbs -\( r̄ o i \) 'stand up' and -\( k̄ ë i \) 'sit down' which also share the same final vowel (\( -rei \) 'fall down' might also be included). The rest of the verbs in this class are not so easily classified — this will be explored further below.4 Table 3.12 is a list of verbs known to belong to Class III.

---

4 Although this is a defining property of this class, Class I also has verbs with this shape: e.g. \( p̄ ò i \) 'whistle', \( -ai \) 'rain'.

Table 3.12 Class III verbs

<table>
<thead>
<tr>
<th>CVV</th>
<th>VV</th>
</tr>
</thead>
<tbody>
<tr>
<td>-kae ‘come’</td>
<td>-őa ‘fight’</td>
</tr>
<tr>
<td>-kōe ‘go (up/away from the coast)’</td>
<td>-őo ‘basket-weave’</td>
</tr>
<tr>
<td>-noi ‘go’</td>
<td>-ůa ‘fish using a net’</td>
</tr>
<tr>
<td>-kẹi ‘sit down’</td>
<td>-ůi ‘dig’</td>
</tr>
<tr>
<td>-rei ‘fall down’</td>
<td>-ai ‘curse’</td>
</tr>
<tr>
<td>-rōi ‘stand up’</td>
<td>-i ‘bite’</td>
</tr>
<tr>
<td>-rái ‘dieSG’</td>
<td>-éi ‘cover, protect’</td>
</tr>
<tr>
<td>pi-nii ‘wash’</td>
<td>-ii ‘summon’</td>
</tr>
<tr>
<td></td>
<td>-ėo ‘wear flowers in your hair’</td>
</tr>
<tr>
<td></td>
<td>-ua ‘spit’</td>
</tr>
</tbody>
</table>

Verbs in Class III take exactly the same morphemes as Class II in each category, but whereas both morphemes are prefixed to the Class II verbs, Class III verbs take a V.CV..- prefix and a (C) infix between the two final vowels.

Table 3.13 Class III morphemes

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SG</td>
<td>1</td>
<td>M</td>
<td>a-</td>
<td>(n)</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td>c-</td>
<td>(n)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>a-</td>
<td>(m)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td>o-</td>
<td>(m)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>a-</td>
<td>(r)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td>o-</td>
<td>(r)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DU</td>
<td>1</td>
<td></td>
<td>epi-</td>
<td>(p)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>oropu-</td>
<td>(p)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>ere-</td>
<td>(p)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PL</td>
<td>1</td>
<td></td>
<td>c-</td>
<td>(m)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>o-</td>
<td>(p)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td>eve-</td>
<td>(r)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>e-</td>
<td>(p)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td>ere-</td>
<td>(r)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.14 gives examples of the two types of verb found in this class: VV -ůa ‘trawl’ and CVV -noi ‘go along’. Note that whereas the 3SG infix is present in -ůa ‘trawl’, it is absent in -noi ‘go along’. This, and other allomorphy, is discussed below.
The expected processes of nasal assimilation, glide formation and deletion, as well as palatalisation of the realis prefix, as found in the Class I prefixes, are also found in Class III. The medial /r/ of the 3PL.F prefixes can also be elided.

The other major alternation found in Class III is that some of the verbs take ⟨r⟩ in third person singular and some do not. For example, in Table 3.14, the verb -ʊa takes an ⟨r⟩ and the verb -noi does not. The conditioning factor is phonological: the ⟨r⟩ is found when the first of the final two vowels would form a glide or if one of the final two vowels would delete.

For example, if the two vowels of -ʊa were allowed to meet, the first of these would form a glide, resulting in [wa], but this is avoided by the infix. Another example is the verb -pi nii ‘wash’. The two vowels in this verb are the same and if they were allowed to meet, one of them would delete, but again this is avoided by the infix: /pi k-o-ni(⟨r⟩)i/ → [kɔniri]. The vowels in -noi, however, are such that the second vowel would form a glide, resulting in [oj], and this is apparently allowed (these final syllables are stressed and attract tone — e.g. [kɔ.ˈnoj] not *[kɔ.nɔi]).
The \( r \) is always present in the feminine plurals and when the Barupu paradigms are compared with those of the two closely related languages — Ramo and Sumo — it turns out that the 3SG and PL.F infixes probably have different origins. Ramo and Sumo have the same number of conjugation classes but, as the following table shows, there are some differences in the forms of the affixes. The 3SG infix in Ramo and Sumo is \( t \), corresponding to the regular Blrl > RlS/t/ sound change, but the PL.F is \( r \).

| Table 3.15 Class III Ramo and Sumo |
|---|---|
| | Ramo | Sumo |
| SG | | |
| 1 | M | \( pi a-ni(n)i \) | \( pi r-a-ni(n)i \) |
| 2 | M | \( pi a-ni(m)i \) | \( pi r-a-ni(m)i \) |
| 3 | M | \( pi a-ni(t)i \) | \( pi r-a-ni(t)i \) |
| F | \( pi e-ni(n)i \) | \( pi r-a-ni(n)i \) |
| | \( pi o-ni(m)i \) | \( pi r-e-ni(m)i \) |
| | \( pi o-ni(t)i \) | \( pi r-o-ni(t)i \) |
| DU | | |
| 1 | | \( pi epi-ni(p)i \) | \( pi r-epi-ni(p)i \) |
| 2 | | \( pi oropu-ni(p)i \) | \( pi r-u-ni(p)i \) |
| 3 | | \( pi ere-ni(p)i \) | \( pi r-ere-ni(p)i \) |
| PL | | |
| 1 | | \( pi e-ni(m)i \) | \( pi r-e-ni(m)i \) |
| 2 | M | \( pi o-ni(p)i \) | \( pi r-o-ni(m)i \) |
| 3 | M | \( pi o-ni(p)i \) | \( pi r-e-ni(v)i \) |
| F | \( pi eve-ni(r)i \) | \( pi r-eve-ni(r)i \) |
| | \( pi ere-ni(r)i \) | \( pi r-e-ni(r)i \) |
| | \( pi -nii \) ‘wash’ | \( pi -nii \) ‘wash’ |

The Ramo and Sumo \( t \) is omitted in the same environments as the Barupu \( r \).

Inflexing is usually analysed in one of two ways. It can be analysed as a synchronic morphophonological process where morphemes can interrupt lexemes at specific points in a prosodic template (i.e. before or after a particular consonant or syllable; first, last, stressed etc. — see, for example, McCarthy and Prince (2001)). Or it can be explained as the result of ‘entrapment’, which is ‘the fusion of an outer

5The realis prefix in Ramo is 0. In Sumo the realis/irrealis distinction found in Barupu and Ramo is a three-way tense distinction. The forms shown in Table 3.15 for Sumo are in present tense. The verb \( pi-nii \) ‘wash’ is a complex predicate made up of an adjunct nominal \( pi \) ‘water’ and the verb \( -nii \) ‘wash’ (see §6.2.6).
Inflectional verb morphology

affix with a stem causing the intervening affix to become an infix' (Yu 2004:4), see also (Hapsemath 1993). There is a simple phonological statement for infixing in Barupu — infixes appear between two final vowels — however, in this section, I will speculate on an 'entrapment' analysis based on a possible historical development for the infixing classes.

Historically, the final vowel of Class III verbs may have been a separate morpheme (i.e. a Class II verb). Initial grounds for an analysis such as this were mentioned above — the fact that there are definable semantic classes which share a final vowel: the two direction of motion verbs ending in /e/ and the two posture verbs ending in /i/.

Other languages of the Skou family have comparable multi-word constructions that have been analysed as serial verbs or verb compounds. For example, Ross (1980:93) records complex verb forms in the Dumo dialect of Waremo, a distantly related language spoken near the Papua New Guinea border with Indonesia, in some cases verb combinations are used to mark perfective aspect. Example (85) shows the Dumo perfective form for 'he sat'. There are two verbs independently inflected for 3SG.M. First is the verb hve '3SG.M.sit' and second is the verb mɔ '3SG.M.be positioned', the second verb provides the perfective aspect. Subject inflection in Dumo is achieved with a combination of initial consonant mutation and in some cases vowel mutation. In a normal sentence these forms are preceded by the 3SG.M free pronoun.

(85) Ḵe hve ṃo.
    Ḵe 3sm.sit 3sm.be.positioned
    'He sat.'

Given this form in Dumo, it is tempting to speculate on a possible earlier form for 'he sat' in Barupu, shown in (86). Historically there may once have been two verbs. The realis marking and first subject prefix may have made up a portmanteau
Eventually, as the Piore River branch of the family became more polysynthetic, this complex may have been reanalysed as a single word and received more prefixing by analogy with other verb classes. That these are now unanalysable single words in Barupu is evidenced by two facts: they have only one tone and speakers cannot offer independent definitions for the final vowels in these words.

At present this can only remain speculation; more comparative work is needed. However, we can note in passing that infixing is found in other members of the Skou family and Donohue (2004:234-237) suggests a similar possible process of grammaticalisation of an earlier complex form in one of these, the Serra Hills language, Puare. He presents the following table of sample paradigms of three verbs in Puare. In the first column the verb *lsi* -o ‘cough’ is a transparent two-word complex predicate with only the second element showing verb agreement. The second and third columns show single words with only partial prefixing and apparent infixing; Donohue suggests that these forms may, historically at least, derive from complex multi-word forms similar to that given for ‘cough’.

<table>
<thead>
<tr>
<th></th>
<th>cough</th>
<th>drink</th>
<th>yell</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td><em>lsi</em> n-lo</td>
<td>n-luk-n-o</td>
<td>n-ka-n-e</td>
</tr>
<tr>
<td>2SG</td>
<td><em>lsi</em> m-lo</td>
<td>[-]luk-m-o</td>
<td>[-]ka-m-e</td>
</tr>
<tr>
<td>3SG</td>
<td><em>lsi</em> y-lo</td>
<td>[-]luk-y-o</td>
<td>[-]ka-[-]e</td>
</tr>
</tbody>
</table>

Donohue also notes in a footnote that there is some evidence that some of these Puare verbs are starting to appear with optional extra subject proclitics.
### 3.1.4 Class IV

Class IV is a very small class. The known roots are given in Table 3.17. Class IV does not seem to constitute a semantic class — the verbs -aichói ‘sneeze’ and -kwau ‘vomit’ might be onomatopoeic, but this couldn’t be claimed for other verbs in this class. Phonologically, Class IV verbs end in two vowels like Class III verbs, but unlike Class III verbs, they are always larger than (C)VV.

<table>
<thead>
<tr>
<th>Table 3.17</th>
<th>Some Class IV verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>-aichói</td>
<td>/aitɔi/ ‘sneeze’</td>
</tr>
<tr>
<td>-kwau</td>
<td>/kuau/ ‘vomit’</td>
</tr>
<tr>
<td>-puruei</td>
<td>‘blossom, bloom’</td>
</tr>
<tr>
<td>-risii</td>
<td>‘smell’</td>
</tr>
<tr>
<td>-raii</td>
<td>‘lie’</td>
</tr>
<tr>
<td>ro -raiu</td>
<td>‘remove scrapings’</td>
</tr>
<tr>
<td>-tie</td>
<td>‘open’</td>
</tr>
<tr>
<td>-ropoe</td>
<td>‘trick’</td>
</tr>
</tbody>
</table>

The morphemes found on these verbs are shown in Table 3.18. As the table shows, the verbs take the regular Class I prefixes, but they also take an infix between their two final vowels. The 3SG (r) is always present in this class.

<table>
<thead>
<tr>
<th>Table 3.18</th>
<th>Class IV morphemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG 1</td>
<td>M ana- (n)</td>
</tr>
<tr>
<td>F en(i)- (n)</td>
<td></td>
</tr>
<tr>
<td>2 M</td>
<td>ama- (m)</td>
</tr>
<tr>
<td>F om(u)- (m)</td>
<td></td>
</tr>
<tr>
<td>3 M</td>
<td>a- (r)</td>
</tr>
<tr>
<td>F o- (r)</td>
<td></td>
</tr>
<tr>
<td>DU 1</td>
<td>epi- (p)</td>
</tr>
<tr>
<td>2</td>
<td>oropu- (p)</td>
</tr>
<tr>
<td>3</td>
<td>ere- (p)</td>
</tr>
<tr>
<td>PL 1</td>
<td>em(i)- (m)</td>
</tr>
<tr>
<td>2 M</td>
<td>opu- (p)</td>
</tr>
<tr>
<td>F eve- (r)</td>
<td></td>
</tr>
<tr>
<td>3 M</td>
<td>e- (p)</td>
</tr>
<tr>
<td>F ere- (r)</td>
<td></td>
</tr>
</tbody>
</table>
An example of the full paradigm is given in Table 3.19.

Table 3.19 Class IV example paradigm

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
<td>1</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>k-ànà-kwa(n)ù</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>k-èn-kwa(n)ù</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>k-àmà-kwa(m)ù</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>k-òn-kwa(m)ù</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>k-à-kwā(r)ù</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>k-ò-kwā(r)ù</td>
</tr>
<tr>
<td>DU</td>
<td>1</td>
<td>M/F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>k-èpì-kwa(p)ù</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>M/F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>k-òròpù-kwā(p)ù</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>M/F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>k-èrè-kwā(p)ù</td>
</tr>
<tr>
<td>PL</td>
<td>1</td>
<td>M/F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>k-èn-kwa(m)ù</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>k-òpù-kwā(p)ù</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>ke-èvè-kwa(r)ù</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>k-è-kwā(p)ù</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>k-èrè-kwā(r)ù</td>
</tr>
</tbody>
</table>

For some of these verbs the infix and final vowel appear to be in the process of being dropped. For example, -aichoï ‘sneeze’ can be heard without this final syllable (e.g. kòpaitjò). The medial /r/ of 3PL.F can also be elided in this class (e.g. kòj.jaj.tjò).

3.2 Object marking

Most morphologically transitive verbs (see Chapter 4) take suffixing for the person, number and gender of their objects; transitive verbs come from all four conjugation classes and all four classes take the same suffixes. Suffixing transitive verbs are always vowel-final. Other transitive verbs show object marking through mutation of the final vowel or through root suppletion, as discussed below.

The object suffixes are presented in Table 3.20.
For the most part the object morphemes are made up of a -CV that is phonologically identical to the final CV of the Class I prefixes and the final CV of the free pronouns. The exceptions are 3SG.F, 3SG.M and 3PL.M — recall that these are the categories that have V- prefixes in Class I. Since transitive verbs are always vowel-final in Barupu, it could be argued that the object suffixes made up of glides, 3SG.F -u [-w] and 3PL.M -i [-j] are versions of the corresponding prefixes /o/- and /e/-, affected by glide formation.

The 3SG.M object suffix -a is identical to the 3SG.M prefix a- (the variant form -ka appears on verbs ending in /a/, see below).

The following table shows object agreement on the Class I verbs -tôve ‘be angry with’ and -yârâ ‘see’ and the Class III verb pi -nîi ‘wash’. The verbs in the table are all inflected for realis status and 3SG.F subject. Tone placement and object suffixing were discussed in the previous chapter. The verbs -tôve and -nîi have lexically specified Hs on their penultimate syllables; this tone remains on this syllable regardless of any suffixing. The verb -yâra has LH tone assigned by rule. When a suffix is attached it falls in the final foot of the word; stress is assigned to the
penultimate syllable of the inflected word; LH is assigned to the stressed syllable and spreads one syllable to the right.

### Table 3.21 Object suffix example paradigms with 3SG.F subject

<table>
<thead>
<tr>
<th></th>
<th>Class I /e/ final</th>
<th>Class I /a/ final</th>
<th>Class III /i/ final</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 M</td>
<td>k-o-töve-nå</td>
<td>k-o-järä-nå</td>
<td>k-o-ni(r)i-nå-a</td>
</tr>
<tr>
<td>F</td>
<td>k-o-töve-n(l)</td>
<td>k-o-järä-n(l)</td>
<td>k-o-ni(r)i-n(l)</td>
</tr>
<tr>
<td>2 M</td>
<td>k-o-töve-må</td>
<td>k-o-järä-må</td>
<td>k-o-ni(r)i-må</td>
</tr>
<tr>
<td>F</td>
<td>k-o-töve-m(û)</td>
<td>k-o-järä-m(û)</td>
<td>k-o-ni(r)i-m(û)</td>
</tr>
<tr>
<td>3 M</td>
<td>k-o-tovj-å</td>
<td>k-o-järä-kå</td>
<td>k-o-ni(r)i-jå</td>
</tr>
<tr>
<td>F</td>
<td>k-o-töve-w</td>
<td>k-o-järä-w</td>
<td>k-o-ni(r)i-w</td>
</tr>
<tr>
<td>~</td>
<td>k-o-töve</td>
<td>~ k-o-järä</td>
<td>~ k-o-ni(r)i</td>
</tr>
<tr>
<td>DU</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>k-o-töve-på</td>
<td>k-o-järä-på</td>
<td>k-o-ni(r)i-på</td>
</tr>
<tr>
<td>2</td>
<td>k-o-töve-pû</td>
<td>k-o-järä-pû</td>
<td>k-o-ni(r)i-pû</td>
</tr>
<tr>
<td>3</td>
<td>k-o-töve-ré</td>
<td>k-o-järä-ré</td>
<td>k-o-ni(r)i-ré</td>
</tr>
<tr>
<td>PL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>k-o-töve-m(l)</td>
<td>k-o-järä-m(l)</td>
<td>k-o-ni(r)i-m(l)</td>
</tr>
<tr>
<td>2 M</td>
<td>k-o-töve-pû</td>
<td>k-o-järä-pû</td>
<td>k-o-ni(r)i-pû</td>
</tr>
<tr>
<td>F</td>
<td>k-o-töve-vè</td>
<td>k-o-järä-vè</td>
<td>k-o-ni(r)i-vè</td>
</tr>
<tr>
<td>3 M</td>
<td>k-o-töve-j</td>
<td>k-o-järä-j</td>
<td>k-o-ni(r)i</td>
</tr>
<tr>
<td>F</td>
<td>k-o-töve-rè</td>
<td>k-o-järä-rè</td>
<td>k-o-ni(r)i-rè</td>
</tr>
</tbody>
</table>

The following table shows object agreement on the Class II verb -ö ‘give’ and the Class I verb -pù ‘blow, blow up’. The verbs in the Table are all inflected for realis status and 3SG.F subject. The verb -ö ‘give’ has L tone assigned by rule; stress is always on the penultimate syllable of the inflected word. The other verb -pù has a lexically specified H on the penultimate syllable.
Table 3.22  Object suffix example paradigms with 3SG.F subject

<table>
<thead>
<tr>
<th></th>
<th>Class II /o/ final</th>
<th>Class I /u/ final</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 M</td>
<td>k-ô-r-ô-ña</td>
<td>k-ô-pûtû-ña</td>
</tr>
<tr>
<td>F</td>
<td>k-ô-r-ô-n(i)</td>
<td>k-ô-pûtu-n(i)</td>
</tr>
<tr>
<td>2 M</td>
<td>k-ô-r-ô-mà</td>
<td>k-ô-pûtû-mà</td>
</tr>
<tr>
<td>F</td>
<td>k-ô-r-ô-m(u)</td>
<td>k-ô-pûtû-m(u)</td>
</tr>
<tr>
<td>3 M</td>
<td>k-ô-r-w-â</td>
<td>k-ô-pûtw-â</td>
</tr>
<tr>
<td>F</td>
<td>k-ô-r-ô</td>
<td>k-ô-pûtu</td>
</tr>
<tr>
<td>DU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>k-ô-r-o-pî</td>
<td>k-ô-pûtû-pî</td>
</tr>
<tr>
<td>2</td>
<td>k-ô-r-o-pu</td>
<td>k-ô-pûtû-pû</td>
</tr>
<tr>
<td>3</td>
<td>k-ô-r-o-re</td>
<td>k-ô-pûtu-rè</td>
</tr>
<tr>
<td>PL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>k-ô-r-o-m(i)</td>
<td>k-ô-pûtû-m(i)</td>
</tr>
<tr>
<td>2 M</td>
<td>k-ô-r-o-pû</td>
<td>k-ô-pûtû-pû</td>
</tr>
<tr>
<td>F</td>
<td>k-ô-r-o-vê</td>
<td>k-ô-pûtu-vê</td>
</tr>
<tr>
<td>3 M</td>
<td>k-ô-r-o-j</td>
<td>k-ô-pûtu-j</td>
</tr>
<tr>
<td>F</td>
<td>k-ô-r-o-rê</td>
<td>k-ô-pûtu-rê</td>
</tr>
</tbody>
</table>

-0 'give'  -putu 'blow up'

3.2.1 Allomorphy

There is age variation in the realisation of 3SG.F. For most older speakers, the 3SG.F suffix is [-w], except on verbs ending with rounded vowels, where it is zero. Younger speakers tend to mark this category with zero on all verbs. Various processes identify 3SG.F as the unmarked or default category — e.g. all abstract, inanimate and lower animate nouns are feminine (see Chapter 4) — so it is not unexpected that this should be the zero-marked category in the paradigm.

When a verb takes zero marking, stress and tones assigned by rule will be penultimate. For example, when the verb -yará takes zero marking for 3SG.F, the stressed syllable is still penultimate and the LH contour appears on the penultimate syllable e.g. /k-en-yara-ô/-LH (RL-1SG.F-see-3SG.F) 'I see it.' → [kényará]. When this verb takes -w, the LH contour appears on the final syllable, e.g. /k-en-yara-w/-LH (RL-1SG.F-see-3SG.F) 'I see it' → [kényàràw] ~ [kényàràw].

The 3SG.M suffix is -ka on /a/-final roots, possibly to avoid deletion. If deletion were allowed to occur with 3SG.M -a on /a/-final roots, such as -yará, there would no
longer be a contrast between those verbs inflected for zero-marked 3SG.F, and those inflected for 3SG.M. For the most part, the 3SG.M suffix /-a/ triggers glide formation in the final non-low vowel of a transitive verb. The exception, as discussed in Chapter 2, is if the final vowel has a lexically specified tone — here an epenthetic glide is inserted between the vowel of the root and the suffix, e.g. /k-o-rajó-a/ (RL-3SG.F-hunger-3SG.M) ‘He is hungry.’ -> [kòrài'jówà].

Vowel cluster reduction rules affect the surface realisations of object marking in various ways. As the tables show, the 3PL.M suffix is realised as [-j] on most verbs. On /i/-final verbs, there is no surface realisation of this category due to deletion. A high vowel after a nasal can optionally be dropped, so -ni, -mu and -mi can also be heard as -n, -m and -m.

3.2.1.1 3SG.F—vowel mutation

Three verbs show vowel mutation for 3SG.F object. The 3SG.F object marking is usually the +high, +round glide [-w], and those verbs with mutation take on either the round feature of this affix, as in -täipé and -äve, or the height, as in -te. This is shown in Table 3.23.

<table>
<thead>
<tr>
<th>3SG.F</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>/taipe/-LH ‘bad’</td>
<td>[täjpo]</td>
</tr>
<tr>
<td>/abe/-HL ‘hold’</td>
<td>[avò]</td>
</tr>
<tr>
<td>/te/-L ‘shoot’</td>
<td>[ti]</td>
</tr>
</tbody>
</table>

Vowel mutation for feminine objects is also found in Skou (Donohue 2004) and Krisa (Donohue and San Roque 2004) — where rounding marks feminine and fronting marks plural. It is interesting to note that in Barupu, rounding occurs after labial segments while raising occurs after the coronal segment. More data could perhaps affirm or deny this as a pattern. All three of these verbs have tones assigned by rule and vowel mutation has no effect on tone or stress placement; the penultimate
syllable is still the locus of tone and stress on these examples. For example, the verb
-âve has HL tone assigned by rule. With 1SG.M object suffixing, as in (87a), tone is
on the penultimate syllable of the inflected word, but the final syllable of the root. In
example (87b), there is no object suffix, and tone is still on the penultimate syllable of
the word, the first syllable of the root.

(87) a) /k-o-abe-ni/-HL → [kwâvëni]
   RL-3SG.F-hold-1SG.F
   'She holds me.'

   b) k-o-âbo → [kwâvô]
   RL-3SG.F-hold.3SG.F
   'She holds her.'

3.3 Other verbal inflection

3.3.1 Suppletion

One verb, -ko ‘get.SGO’, has a suppletive form, -ûna ‘get.PLO’, to mark the plurality
of the object. The ‘get.SGO’ verb can appear with plural subject marking to indicate
that each of the plural participants got one thing: e.g. rua k-e-ko (spear
IRR-3PL.M-get.SGO) ‘they each got one spear’.

Another verb suppletion marks the number of the subject rai ‘die.SG/DUS’ and
-viri ‘die.PLS’.

3.3.2 Verbs taking co-referential prefix and suffix

Finally, there is a class consisting of only two known roots: -bôvo- ‘sleep’ and -tâipé
‘bad’. These roots inflect with a co-referential Class I prefix series and an object
suffix — for example, N-em-bôvo-mi. (IRR-1PL-sleep-1PL) ‘We are going to sleep.’
and K-o-tâipô. (RL-3SG.F-bad.3SG.F) ‘She is bad.’.
Table 3.24  

<table>
<thead>
<tr>
<th></th>
<th>-täipé 'bad'</th>
<th>-bōvo 'sleep'</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SO</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 M</td>
<td>k-änä-täjpé-ná</td>
<td>k-änä-vóvó-ná</td>
</tr>
<tr>
<td>1 F</td>
<td>k-ën-täjpé-ní</td>
<td>k-ëm-bóvó-ní</td>
</tr>
<tr>
<td>2 M</td>
<td>k-ämä-täjpé-má</td>
<td>k-ämä-vóvó-mà</td>
</tr>
<tr>
<td>2 F</td>
<td>k-ön-täjpé-mú</td>
<td>k-öm-bóvó-mù</td>
</tr>
<tr>
<td>3 M</td>
<td>k-ä-täjpj-á</td>
<td>k-ä-vóvv-à</td>
</tr>
<tr>
<td>3 F</td>
<td>k-ö-täjpó</td>
<td>k-ö-vóvò</td>
</tr>
<tr>
<td><strong>DU</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 M/F</td>
<td>k-ëpl-täjpé-pí</td>
<td>k-ëpl-vóvó-pí</td>
</tr>
<tr>
<td>2 M/F</td>
<td>k-öröpü-täjpé-pú</td>
<td>k-öröpü-vóvó-pú</td>
</tr>
<tr>
<td>3 M/F</td>
<td>k-ërë-täjpé-ré</td>
<td>k-ërë-vóvó-ré</td>
</tr>
<tr>
<td><strong>PL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 M/F</td>
<td>k-ën/ëml-täjpé-mí</td>
<td>k-ëml(b)/vóvó-mí</td>
</tr>
<tr>
<td>2 M</td>
<td>k-ıpü-täjpé-pú</td>
<td>k-ıpü-vóvó-pú</td>
</tr>
<tr>
<td>2 F</td>
<td>k-ëvë-täjpé-vé</td>
<td>k-ëvë-vóvó-vé</td>
</tr>
<tr>
<td>3 M</td>
<td>k-ë-täjpé-j</td>
<td>k-ë-vóvò-j</td>
</tr>
<tr>
<td>3 F</td>
<td>k-ërë-täjpé-ré</td>
<td>k-ërë-vóvó-ré</td>
</tr>
</tbody>
</table>

-täipé 'bad'  -bōvo 'sleep'
Barupu has two open word classes: nouns and verbs. Nouns most prototypically denote animals, people and things and their main syntactic function is reference to those objects as the heads of noun phrases, although they can also be used for modification and predication. There is no inflectional morphology associated with nouns.

Verbs most prototypically denote actions, states and properties. Their major function is predication. All verbs have the potential to be the heads of clauses where they show obligatory prefixing inflection for realis or irrealis, and the person, number and gender of the subject of the clause, as outlined in the previous chapter.

The broad morphological division is thus:

- verbs — words which have the potential to head clauses and take obligatory status and subject inflection;
- nouns — words with no inflectional potential.

The morphological classes do not quite determine syntactic distribution, however. For example, temporals have the ability to appear inflected as the heads of clauses; morphologically they belong to the verb class. However, unlike the vast majority of verbs, they can also function as sentential modifiers (§4.2.8).
Likewise, there is no separate morphological class of adjectives — morphologically, words denoting properties behave like verbs, in that when they are functioning as predicates they must take the full range of inflectional morphology associated with verbs — but there are four reasons for distinguishing a syntactic sub-class of adjectival verbs:

- adjectival verbs, unlike other verbs, can function as modifiers in noun phrases without any morphology at all;
- some adjectival verbs can function uninflected to modify other verbs;
- there is a dedicated word for conjoining two clauses headed by adjectival verbs;
- reduplication of an adjectival verb indicates degree of a property; on other verbs, reduplication indicates iterative or distributive aspect.

There is no morphology in Barupu that derives words from one class into another — if roots are used in different functions they are found in their root form.

This chapter begins with a description of nouns and other nominals. This is followed by a description of the verb word class and its sub-classes. Finally I introduce the closed word classes: locationals; temporals; intensifiers; other verb modifiers; particles; demonstratives; quantifiers and various address terms, greetings and interjections. Where certain points are elaborated more fully in the thesis, chapter and section numbers are provided.

4.1 Nouns

There is no obligatory morphology associated with nouns. However, they do fall into underlying classes that surface only in inflectional morphology on verbs, or else dictate modification restrictions. These classes correspond to gender and mass/count distinctions.

Nominals are divided into two genders, masculine and feminine. The biggest group is feminine; most inanimate objects, lower animates, natural world phenomena
and abstract nominals belong to this class. Exceptions include culturally significant animals such as pigs, dogs, bandicoots and fish, which are usually masculine, or their biological sex. The sun and the moon are always masculine.

Examples of how gender surfaces in verb morphology are given in (88).

(88) a) *Umo kachëni.*
    k-a-ite-ni
    sun RL-3SG.M-burn-1SG.F
    ‘The sun burned me.’

b) *Pù k-o-pùtu.*
    wind RL-3SG.F-blow
    ‘The wind is blowing.’

In (88a) the sun is masculine and this is reflected by 3SG.M subject prefixing on the verb -ite ‘burn’. In (88b) the wind is feminine and this is shown by 3SG.F prefixing on the verb -pùtu ‘blow’.

Number is not marked morphologically on nouns, but there are two suppletive forms. The word má ‘child’ has the suppletive plural form mevôva (most likely a mutated fossilised compound: má ‘child’ + vôva ‘again, more’), and the word bió ‘person’ has the suppletive plural aro ‘people’. Otherwise the only indication of number is in the verb agreement. Examples (89 a & b) show that number is not marked on NPs but does surface in verb agreement.

(89) a) *Rau k-á-ute.*
    pig RL-3SG.M-walked
    ‘The pig walked.’

b) *Rau k-i-úte.*
    pig RL-3PL.M-walked
    ‘The pigs walked.’

In (89a) the pig is singular and this is reflected in the verb agreement. In (89b) the pigs are plural and the instantiation of this is on the verb, not the noun.

Another underlying distinction among nouns corresponds to a count vs. mass
distinction which is reflected in the fact that mass nouns like ɔi ‘sago’ cannot be modified by numerals (e.g. *ɔi riempin (sago two) ‘two sago’ is not grammatical but ɔi owu (sago some) ‘some sago’ is). Mass nouns are also treated as singular for the purposes of verb inflection, but this is not particularly distinctive because number marking on verbs is optional for inanimates (see below).

The major function of nouns is reference to participants as the heads of noun phrases. Nouns can also be used attributively in a compound with another noun — for example, a gender-neutral, but number-specific noun such as aro ‘people’ can be compounded with a gender-specific but singular noun like bôm ‘woman’ (e.g. aro bôm ‘women’). Compounding is a common process which is described in §5.1. Nouns can be modified by adjectives and quantifiers as well as be possessed. See Chapter 5 for a full description of noun phrase structure. There is one nominal discourse clitic (=a ~ =va), that operates at the phrase level, see §6.4.4.

Nominals can also be used for predication in nominal predicate clauses, as in example (90).

(90) Nêni Barupu bôm.
1SG.F PLN woman
‘I’m a Barupu woman.’

Nominals in verbless clauses do not take any verbal morphology. The construction is only possible in realis clauses, including those set in past time; a copular is required for irrealis clauses (see §6.5.1).

4.1.1 Other nominals

Other words which have similar distributions to nouns are: personal and interrogative pronouns, and proper names. Nominals in these sub-classes do not appear with the same range of modification as common nouns.
4.1.1.1 Personal pronouns

Barupu free pronouns distinguish singular and plural number and feminine and masculine gender for second and third person. First person distinguishes dual number in addition to singular and plural and only marks gender in the singular.

<table>
<thead>
<tr>
<th>Table 4.1 Free pronouns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SG</strong></td>
</tr>
<tr>
<td>1 M</td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td>2 M</td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td>3 M</td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td><strong>DU</strong></td>
</tr>
<tr>
<td>1 M/F</td>
</tr>
<tr>
<td>2 M/F</td>
</tr>
<tr>
<td>3 M/F</td>
</tr>
<tr>
<td><strong>PL</strong></td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2 M</td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td>3 M</td>
</tr>
<tr>
<td>F</td>
</tr>
</tbody>
</table>

There are no case distinctions on pronouns in Barupu — the same forms are found in all positions and semantic roles. These same forms are also used as possessive pronouns in NPs (see §5.3). The dual and plural forms of the first person pronoun can include both inclusive and exclusive reference.

4.1.1.2 Interrogative pronouns

There are three interrogative pronouns, which can function in the same slots as NPs. They are arāpe ‘what’, nāpe ‘who’ and rō(pe) ‘where’. Arāpe can also be heard as an interjection, arā, meaning ‘What?’, as in ‘I didn’t hear what you just said’ and nāpe, can be heard as an interjection, nā, meaning ‘Who?’. Interrogatives are discussed further in section 9.2.2.
4.1.1.3 Proper names

Barupu has two address terms (AT) which obligatorily appear before personal names and optionally appear before kin terms. Females are referred to as [kwa] (spelled Kwa or Kua) and males are referred to as [tJa] (spelled Cha or Ja). The thesis spellings are Kua and Cha. For example, a man and a woman named Moses and Manuela would be referred to as Cha Moses and Kua Manuela. Kua and Cha alternate with vocative second person forms Ma and O. Everyone has a ‘hidden’ name and a ‘Catholic’ name, but people are never referred to or addressed by their hidden names. In addition, there is a strong tendency to avoid using even ‘Catholic’ names. Instead it is much more common to refer to someone by a kin term such as nāi ‘aunt’ or tāita ‘father’, or another relationship such as ō ‘namesake’. These kin terms also appear with the address terms Kua and Cha, for example, Kua Nāi and Cha Tāita.

When two people are in an avoidance relationship (e.g. in-laws, especially of the opposite sex) they commonly refer to, and address, each other with a teknonym 1 — a circumlocution that refers to their relationship to someone else — rather than use each other’s personal name. The relationships relevant to this process are typically parental and spousal (e.g. people are commonly referred to as ‘X’s mother’ or ‘X’s father’, where X is the name of the oldest child, or ‘X’s husband/wife’, if there are no children). A speaker would also use this construction if they were talking about someone who was in an avoidance relationship with the person they were talking to.

(91) a) Kua Betty mō
   AT  PN  mother
   ‘Betty’s mother’

   b) Kua Betty aka
   AT  PN  father
   ‘Betty’s father’

See Chapter 5 for the structure of these compounds.

1 Teknonyms are a typically Austronesian, rather than Papuan, cultural trait (e.g. Geertz and Geertz 1975).
4.2 Verbs

Verbs in Barupu obligatorily inflect for realis or irrealis and the subject of the clause. Five major classes of verb may be established on the basis of valency.

i Intransitive
ii Transitive
iii Ditransitive
iv Ambitransitive
v Pseudotransitive

Intransitive verbs select one argument (subject). Transitive verbs select two arguments (subject and object) — see Chapter 6 for discussion of the use of the terms subject and object. Transitive verbs can be further divided into two sub-classes: those that take suffixing for the object argument, and those that do not. An ambitransitive root is one that can be used transitively or intransitively. Ditransitive verbs select three arguments (subject and two objects — one marked by a suffix and one not). Pseudotransitive verbs typically describe involuntary states such as hungry, sad, sick etc. These verbs take an Experiencer marked as an object on the verb and default 3SG.F subject marking. These verbs typically appear with a nominal indicating the Stimulus of the state, e.g. ‘sickness’, and these nominals can sometimes appear to be the subject argument of the clause, but they are better analysed as forming complex predicates with the verbs. These verb classes are described in turn below.

There is also a large class of adjectival verbs, discussed in §4.2.6. Finally, other minor classes of verbs include copulars (§4.2.7) and zero-intransitives: temporals (§4.2.8) and weather verbs (§4.2.9). Complement-taking predicates are discussed in Chapter 10.

Apart from status marking and agreement, other morphological processes associated with verbs are various valency increasers and location/direction suffixes
(see Chapter 7), a Benefactive/Possessor paradigm (see Chapter 8) and reduplication. Reduplication indicates degree on adjectival verbs and iterative or distributive aspect on other verbs (see Chapter 9).

4.2.1 Intransitive verbs

Intransitive verbs take a single argument. Agreement is nominative/accusative. Verbs can be unergative, where the argument is an Actor, or unaccusative, where the argument is an Undergoer — but these are not morphologically distinguished. Some examples of each are given in Table 4.2.

<table>
<thead>
<tr>
<th>Table 4.2 Some intransitive verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>unergative</strong></td>
</tr>
<tr>
<td>-kei ‘sit’</td>
</tr>
<tr>
<td>-ute ‘walk’</td>
</tr>
</tbody>
</table>

The two intransitive verb types exemplified in (92) & (93) are identical morphologically; they both belong to the infixing Class III conjugation class.

(92) K-e-ke(n)i.
RL-1SG.F-(1SG.F)sit
‘I’m sitting.’

(93) K-e-re(n)i.
RL-1SG.F-(1SG.F)fall
‘I’m falling.’

4.2.2 Monotransitive verbs

Monotransitive verbs involve two arguments. One class of transitive verb takes a suffix indexing the object. Examples are given in (94) & (95).

(94) Néni rau k-en-yará-ká.
1SG.F pig RL-1SG.F-see-3SG.M
‘I saw the pig.’
In (94) & (95) the pig is 3SG.M and is indexed as a suffix on the verb. Verbs such as these are called suffixing transitive verbs (STVs). Table 4.3 shows some of the verbs in this class.

<table>
<thead>
<tr>
<th>Table 4.3 Some STVs</th>
</tr>
</thead>
<tbody>
<tr>
<td>-yé</td>
</tr>
<tr>
<td>-te</td>
</tr>
<tr>
<td>-yárá</td>
</tr>
<tr>
<td>-mama</td>
</tr>
<tr>
<td>-áve</td>
</tr>
<tr>
<td>-tára</td>
</tr>
<tr>
<td>-ere</td>
</tr>
<tr>
<td>-tóve</td>
</tr>
<tr>
<td>-awe</td>
</tr>
<tr>
<td>-à</td>
</tr>
<tr>
<td>-óro</td>
</tr>
</tbody>
</table>

The major generalisation to make about these verbs is that all of the actions denoted by them are either only performed on higher animates (‘hit’, ‘shoot’ and ‘scold’) or they have the potential to be performed on higher animates as well as lower animates like prawns and insects and inanimate objects such as rocks and string bags (‘carry’, ‘put’). The important factor about these verbs is that their possible Undergoers are animate or anything concrete at all.

Another class of transitive verb does not take suffixing. These verbs are called non-suffixing transitive verbs (NSTVs). Their Undergoers are typically inanimate and in some sense semantically cognate with the verb. An example of a verb like this is given in (96).

(96) *Aro biám ái=a kiro.*

people man tree=PRM RL-3PL.M-fell

‘The men felled a/the tree(s).’

These verbs can appear with atypical animate Undergoers that can be cross-referenced on the verb using a special external possession strategy, this is discussed in Chapter 8.
Table 4.4 shows some NSTVs. This class is far larger than the STV class.

<table>
<thead>
<tr>
<th>gloss</th>
<th>typical Undergoer</th>
</tr>
</thead>
<tbody>
<tr>
<td>-ua 'trawl' - 'fish with a net'</td>
<td>marine life</td>
</tr>
<tr>
<td>-táura 'mow' - 'cut grass with a bushknife'</td>
<td>grass</td>
</tr>
<tr>
<td>-póiya 'weave armbands'</td>
<td>armbands</td>
</tr>
<tr>
<td>-tői 'rinse sago or milk coconut meat'</td>
<td>sago, coconut</td>
</tr>
<tr>
<td>-iro 'chop down a tree with an axe'</td>
<td>tree</td>
</tr>
<tr>
<td>-purutá 'chop into pieces'</td>
<td>inanimate</td>
</tr>
<tr>
<td>-ivó 'carve meat'</td>
<td>meat</td>
</tr>
<tr>
<td>-ê 'write, carve'</td>
<td>letters, designs</td>
</tr>
<tr>
<td>-ora 'plant'</td>
<td>plants</td>
</tr>
<tr>
<td>-táruru 'whittle, sharpen'</td>
<td>wood, axes</td>
</tr>
<tr>
<td>-u 'pick'</td>
<td>fruit</td>
</tr>
<tr>
<td>-riré 'scatter, sow'</td>
<td>seeds</td>
</tr>
<tr>
<td>-ê 'eat'</td>
<td>food</td>
</tr>
<tr>
<td>-tón 'drink'</td>
<td>liquid</td>
</tr>
</tbody>
</table>

Non-suffixing transitive verbs are less transitive than suffixing transitive verbs according to at least one of the transitivity features first outlined by Hopper & Thompson (1980): Individuation of the Patient. Hopper & Thompson (1980:253) define Individuation of the Patient as ‘the distinctness of the Patient from the A... and... its distinctness from its own background’. The first part of the definition, distinctness from A, is to do with reflexives and reciprocals. It is the second part of the definition that is relevant to Barupu verb morphology. Austin (1982) applied Individuation to six Australian languages and found that they have verbs which are semantically transitive in that they can be associated with two NPs, but morphologically intransitive because the NPs received intransitive-like case marking. He argued that the verbs were coded in this way because the Patient argument was somewhat predictable from the semantics of the verb and thus was not distinct ‘from its own background, i.e. the verb itself’ (1982:46).

In Barupu, for a verb to take a suffix its typical Undergoers must be individuated. Animacy is rated highly on the individuation scale and an Undergoer is
also considered to be individuated if it is distinct from its own background — that is, the semantics of the verb and other possible Undergoers. STVs have the potential to be performed only on animates or else a wide range of possible Undergoers, including animates, who are distinct from each other and not predictable from the semantics of the verb. In contrast, Undergoers of NSTVs like the ones given in Table 4.4 are not typically higher animate and the range of entities they can represent is largely dictated by the verb’s own semantics, and hence not very distinct from the background.

The point about NSTVs not taking suffixes is complicated by the fact that all the NSTVs typically take inanimate objects (food, trees, baskets etc.) or lower animates (fish, insects etc.) as their semantically cognate objects, and that lower animates and inanimates (except the sun and the moon) are feminine. Because for some speakers, some of the time, suffixing transitive verbs take a zero suffix for 3SG.F objects, (see Chapter 3), an alternative analysis is that non-suffixing transitive verbs simply take zero marking for third person singular feminine, or put another way, that inanimates and lower-animates are just not marked on the verb. There are three reasons for rejecting these analyses.

The first is that even when a NSTV takes an atypical, animate Undergoer, this argument cannot be marked with a suffix. This is shown in the following example taken from a text about a man-eating demon. Example (97a) is the clause from the text. Example (97b) shows that the addition of a suffix renders the clause ungrammatical (the form *bai is a future particle borrowed from Tok Pisin).

(97) a) Mémá tu bai n-e-n-à ríká n-e-o(n)ə-ke
    2SG.M TOO FUT 1RG-1SG.F-1SG.F-eat bone 1RG-1SG.F-(1SG.F)pile.up-INTS
tirin.
    separately
    ‘I’ll eat you too and pile up the bones in separate piles.’ [U-EM:01]

b) *Mémá n-e-n-à-ma.
    2SG.M 1RG-1SG.F-1SG.F-eat-2SG.M
...
Second, there is a suffix -re which marks 3PL.F. On suffixing verbs, plurality for inanimates and lower animates can be marked using this suffix, but it is optional.

(98) *Imo prumo k-o-r-a-re.
    armbandF many  RL-3SG.F-3SG.F-make-3PL.F
   ‘She made many armbands.’ [NS-MM:03]

NSTVs cannot mark plurality in this way. This is shown in the ungrammaticality of (99).

(99) *Aro biam āi kirore.
   k-e-iro-re
   people man  treeR RL-3PL.M-fell-3PL.F

There are two ways to mark plurality of the objects of NSTVs. The first is with quantification in the NP, as in (100).

(100) Aro biam āi prumo kiro.
   k-e-iro
   people man  tree many  RL-3PL.M-fell
   ‘The men felled many trees.’

The second way is to quantify over the whole event with reduplication of the verb root or repetition of the whole verb. Class I vowel-initial verbs do not reduplicate — in (101), iterativity is indicated with the repetition of the whole inflected verb. This example could also be used to indicate that men chopped the same tree repeatedly.

(101) Aro biam āi kiro kiro.
   k-e-iro  k-e-iro
   people man  treeR RL-3PL.M-fell  RL-3PL.M-fell
   ‘The men felled and felled trees.’

A clause without specific plural information for the object on either the NP or the verb is unspecified for number. It is not necessarily singular; only context will determine the correct interpretation.
Third, the NPs functioning as the objects of STVs and NSTVs have slightly different syntactic distributions in the clause. Objects of STVs can appear after the verb in a special pragmatic environment, objects of NSTVs must always appear before the verb, see Chapter 6.

4.2.3 Ambitransitive verbs

There is a small class of ambitransitive verbs which can be used intransitively or transitively. Some examples are given in the following table.

<table>
<thead>
<tr>
<th>Table 4.5 Some ambitransitive verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>suffixing</td>
</tr>
<tr>
<td>-tóve</td>
</tr>
<tr>
<td>-bará</td>
</tr>
<tr>
<td>pl-níí</td>
</tr>
<tr>
<td>á</td>
</tr>
<tr>
<td>-yárá</td>
</tr>
<tr>
<td>-pííu</td>
</tr>
<tr>
<td>non-suffixing</td>
</tr>
<tr>
<td>-rái</td>
</tr>
<tr>
<td>-bere</td>
</tr>
</tbody>
</table>

Example (102), shows the two uses of the complex ambitransitive verb pl-níí 'bathe, wash'. Note that in (102b) there are two overt NPs in addition to the nominal pl; pl is not an argument of the verb but rather forms a complex predicate with it (see §6.2.6).

(102)  a) Kuáni pl k-o-ní(r)i.
       mother water RL-3SG.F-(3SG.F)wash
       'Mother is washing (herself).'

       b) Bíó bóm mevóva bó pl k-o-ní(r)i-re.
       person woman children 3SG.F water RL-3SG.F-(3SG.F)wash-3PL.F
       'The woman is washing her children.'

4.2.4 Ditransitive verbs

Ditransitive verbs take three arguments — a subject and two objects. The verb is marked with a suffix for the Recipient/Goal but is not marked for the Theme. This is
probably again due to individuation; prototypical Recipients are animate and prototypical Themes are inanimate, see §6.1. Example (103) shows the use of the ditransitive verb -iritá ‘teach’. The suffixes used to mark the Recipient/Goal are the same as those used to mark the objects of monotransitive verbs.

(103)  Pokó Barupu k-a-m-iritá-ka rna.
neck PLN RL-2SG.M-2SG.M-teach-3SG.M child
‘You are teaching the child Barupu.’

NPs representing the arguments of these verbs have fixed positions in the clause. The Theme must appear before the verb and the Recipient after (see Chapter 6).

4.2.5 Pseudotransitive verbs

Pseudotransitive verbs typically denote involuntary physical or mental states such as hunger, thirst, tiredness etc. They are morphologically transitive in that they take a prefix and a suffix, like suffixing transitive verbs. The Experiencer of the involuntary state is marked with an object suffix and can be an overt NP. However, the verb is also marked with a 3SG.F subject prefix and either there is no other NP in the clause that this prefix could be cross-referencing, or there is another NP in the clause, but its status as subject is somewhat doubtful.

Experiencer object constructions like this are very common in both the Papuan and Austronesian languages of New Guinea (Foley 1986; Pawley et al. 2000; Bugenhagen 1990). Cross-linguistically, the morphological encoding of the Experiencer as object can be nominal (case) or verbal (inflection) or both. In most cases there is also a ‘Stimulus’ nominal (e.g. hunger, sickness) present in the clause that may or may not be functioning as the subject; many authors have pointed out that any actor/subject morphology in clauses like this is often default or portmanteau and thus could be cross-referencing the Stimulus nominal or, just as plausibly, some sort of non-overt anonymous nominal (see, for example, Bee 1973; Bruce 1984;
Bugenhagen 1990; Davies 1985; Gravelle 1997; Haiman 1980; Olson 1975; Pawley et al. 2000; Roberts 2001). In this way these constructions resemble the impersonal or dative subject constructions of Germanic languages (Allen 1995; Andrews 1982).

Yimas provides an interesting contrast in that the A marking is not ambiguous, it always agrees in noun class with the Stimulus (Foley 1991:99).

In addition to morphological ambiguity, another reason for being suspicious about the status of the Stimulus nominal is that very often, in languages with these constructions, syntactic processes, such as control, anaphoric antecedence, switch reference and word order, identify the Experiencer as the grammatical subject or pivot of the construction, and not the Stimulus, and the Stimulus nominal cannot take the full range of nominal modification. Pawley et al. (2000:154) note ‘[f]or the grammarian, the vexing problem is to understand the grammatical roles played by the other nominal or noun-like elements in Experiencer Object constructions.’

As mentioned above, there are two types of pseudotransitive in Barupu. In the first type there is no NP other than the Experiencer in the clause. Examples are given in (104), (105) and (106). These are the only three verbs known to belong to this type in Barupu.

(104) Cha Philip k-o-raiyó-wa.
    AT PN RL-3SG.F-hunger-3SG.M
    ‘Philip is hungry.’

(105) Mevóva kónire.
    k-o-óni-re
    children RL-3SG.F-diswant-3PL.F
    ‘The girls don’t want to.’

(106) Mevóva k-o-miminrá-i.
    children RL-3SG.F-paralyse-3PL.M
    ‘The boys were paralysed.’ [ANR-MN:01]

In these examples there is no overt nominal that the 3SG.F subject agreement could potentially be cross-referencing. For these verbs, the agreement can only be
dummy or default agreement.³

In the other type of involuntary state clause in Barupu there is another nominal in the clause: a body part or an abstract noun, something like ‘sickness’, which could potentially be the referent of agreement. But, in fact, the Experiencer seems to have more of the usual characteristics of subject, see below. In many Papuan languages with similar constructions, the typical pattern is to match a semantically specific Stimulus nominal (such as sickness, sadness etc.) with a semantically bleached or ‘light’ verb (such as ‘do’, ‘hit’ etc.). Languages like this often have very small verb inventories. Barupu has the interesting twist that it is the Stimulus that is light rather than the verb; in most cases the verb does supply the semantics. Some examples of pseudotransitive verbs are given in Table 4.6.

Table 4.6 Some involuntary state verbs

<table>
<thead>
<tr>
<th>verb</th>
<th>individual glosses</th>
<th>combined meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ro -ômo</td>
<td>stomach full</td>
<td>‘be full up, sated’</td>
</tr>
<tr>
<td>chá -woniwonini</td>
<td>head dizzy</td>
<td>‘feel dizzy’</td>
</tr>
<tr>
<td>ine -âka</td>
<td>eye sore</td>
<td>‘feel tired’</td>
</tr>
<tr>
<td>ó -neparâ</td>
<td>feeling forget</td>
<td>‘forget’</td>
</tr>
<tr>
<td>ó -rô</td>
<td>feeling happy</td>
<td>‘feel happy’</td>
</tr>
<tr>
<td>ó -taipe</td>
<td>feeling bad</td>
<td>‘feel sad’</td>
</tr>
<tr>
<td>rêkâ -yô</td>
<td>skin embarrassed</td>
<td>‘feel embarrassed’</td>
</tr>
<tr>
<td>X -ârá</td>
<td>anything not.understand</td>
<td>‘be unable’</td>
</tr>
<tr>
<td>a -â</td>
<td>thing sick</td>
<td>‘feel sick’</td>
</tr>
<tr>
<td>rî -â</td>
<td>stomach sick</td>
<td>‘feel sick in the stomach’</td>
</tr>
</tbody>
</table>

Sometimes any body part can be substituted in the body part constructions. This is true for -âka ‘be tired’ — any part of your body can get tired — but not for -woniwonini ‘be dizzy’, for obvious reasons. Some body part Experiencer object constructions use the benefactive/possessive agreement paradigm; these are discussed in Chapter 8.

The two questions to be asked about the Stimulus nominals in these

³One of these verbs is irregular — the verb -ôni ‘diswant’ takes co-referential subject and object marking in 1DU only, e.g. k-epi-ôni-pi (RL-1DU-diswant-1DU) ‘We don’t want to.’
constructions are: are they the subjects of the clause and, if not, what are they? Because there are no non-finite or reduced verb forms in Barupu, there are no definitive cross-clausal tests for subject. Clause-internal properties can only point to these nominals not being subjects. For example, basic word order in Barupu is SOV; subjects precede objects. In these constructions the Experiencer always precedes the Stimulus, as in the following examples.

(107) *Mevóva ó n-o-nepará-i.*
    children feeling IRR-3SG.F-forget-3PL.M
    ‘The children will forget.’ [P-MG:03]

(108) *Cha Matthew a k-o-r-á-ká.*
    AT PN thing RL-3SG.F-3SG.F-sick-3SG.F
    ‘Matthew is sick.’

This is not a definitive argument, however, because animates and topics are often fronted (see Chapter 6); Experiencers are obviously always animate and more topic-worthy than the inanimate Stimuli. Experiencers also share with subjects the ability to optionally control agreement on participant adding morphemes (see Chapter 7). In (109a), the participant-adding morpheme -i ‘with’ appears with an r- indicating 3SG agreement; in (109b), the same form appears with an n- indicating 1SG agreement. The 3SG agreement could still be ambiguous between cross-referencing the Stimulus or some anonymous 3SG. In (109b) the 1SG agreement is definitely cross-referencing the Experiencer. There is no difference in meaning between these examples.

(109) a) *A k-o-r-á-ni-r-i-mu.*
    thing RL-3SG.F-3SG.F-sick-1SG.F-AG-WITH-2SG.F
    ‘I was sick with you.’

    b) *A k-o-r-á-ni-n-i-mu.*
    thing RL-3SG.F-3SG.F-sick-1SG.F-AG-WITH-2SG.F
    ‘I was sick with you.’

Neither the word order, nor the potential agreement with participant-adding
morphemes gives a definite answer as to whether or not the Stimulus in these constructions is the subject, but they do suggest that it is not. This is further supported by the fact that the Stimulus nominals do not behave like nominal arguments at all; for example, they cannot be omitted under discourse identity, they cannot take the full range of nominal modification and they cannot be replaced by proforms. The fact that there are three verbs without a Stimulus nominal also provides evidence that verbs can take default agreement; that a clause need not necessarily have an overt NP subject.

I turn now to the second question, if these nominals are not subjects, what are they? In answering this question, it is useful to compare the Experiencer object construction to another common construction: N+V complex predicates (e.g. the combination of the nominal *pi* and the verb *-nii* in the ambitransitive complex predicate *pī -nīi* ‘bathe, wash’). Complex predicates involving a combination of a verb and another non-verbal element are common in New Guinea. They have been called ‘verbal adjunct constructions’ in the literature (e.g. Pawley et al. 2000:156), and nominals participating in this construction are sometimes called ‘adjunct nominals’ (e.g. Foley 1986; Donohue 2004) — the terminology I adopt here. As in other New Guinea languages, in Barupu the ‘adjunct’ nominals are not arguments of the verbs they appear with. Whereas true arguments can be full NPs, can be replaced by proforms, or be omitted altogether (see Chapter 6), ‘adjunct’ nominals are never more than a bare nominal,\(^4\) they cannot be replaced by proforms and they cannot be omitted, see §6.2.6 for more detail. The Stimulus nominals in involuntary state constructions in Barupu share these properties and should also be seen as forming complex predicates with the verb rather than functioning as arguments of it.

This analysis finds support in the literature. Pawley et al. (2000:174), for example, conclude that in Kalam, a Papuan language of Madang Province,

\(^4\)They can however appear with the prominence clitic, see Chapter 6.
Experiencer object constructions are 'a mixed bag ... in many cases the Condition
[=Stimulus] nominal is clearly the subject [this is not the case in Barupu. MC]. In
others it is hard to find compelling grounds for choosing between an analysis that
treats the Condition nominal as a "funny" Subject and one that treats it as a verbal
adjunct within a complex verb'. Similarly, Bugenhagen (1990:183) identifies
experiential constructions in Mangap Mbula, an Austronesian language of Morobe
Province, in which 'a body part plus a verb function together as a kind of composite
predicate'.

-tāipé 'bad' There is one root which can appear in an involuntary state construction
and as an intransitive verb. In the involuntary state construction it appears with the
adjunct nominal ó 'feeling, breath', to mean 'feel sad' (this is one of a small number
of verbs which show 3SG.F object marking with a change to the final vowel, see §3.2).

(110) ō k-o-tāipó.
    feeling RL-3SG.F-bad.3SG.F
    'She is sad.'

(111) ō k-o-taipē-ni.
    feeling RL-3SG.F-bad-1SG.F
    'I am sad.'

As discussed in the previous chapter, when this verb is used intransitively, it is
one of two verbs that inflect with a coreferential subject prefix and object suffix.6

(112)  a) K-o-tāipó.
    RL-3SG.F-bad.3SG.F
    'She is bad.'

     b) K-en-taipē-ni.
    RL-1SG.F-bad-1SG.F
    'I am bad.'

6The other is -vōvo 'sleep'.
4.2.6 Adjectival verbs

Adjectival verbs all share two equally core functions: predication and noun modification. A subset of them can also modify other verbs. The following sections describe their form and behaviour in each of these three functions. Some words belonging in the class of adjectival verbs are listed in Table 4.7.

Table 4.7 Adjectival verbs

<table>
<thead>
<tr>
<th>avovo</th>
<th>'white'</th>
</tr>
</thead>
<tbody>
<tr>
<td>néwai</td>
<td>'good'</td>
</tr>
<tr>
<td>páko</td>
<td>'big'</td>
</tr>
<tr>
<td>bererèn</td>
<td>'fast'</td>
</tr>
<tr>
<td>nainai</td>
<td>'soft'</td>
</tr>
</tbody>
</table>

These words can be used as predicates as the heads of adjectival clauses (see §6.5.2), where they take the obligatory status and subject inflection, as in (113).

When these words are used in this function I will refer to them as adjectival verbs. An example of this usage is shown in (113).

(113)  K-a-páko.
    RL-3SG.M-big
    'He is big.'

These words can also be used with no morphology in NPs to modify nouns, as in (114). When these words are used in this function I will refer to them as adjectives. An example of this usage is shown in (114).

(114)  rau páko nènì
    pig big  1SG.F
    'my big pig'

The property of appearing uninflected in noun phrases clearly distinguishes this as a special sub-class of verbs. All adjectival verbs inflect using the Class I paradigm. More discussion of adjectives in noun phrases can be found in section 5.2.
A syntactic distinction between actions and states on one hand and adjectival verbs on the other, is that there is a conjunction *to* which is only used to link clauses headed by adjectival verbs.

(115)  *K-ama-páko to k-ama-púru-púru.*

RL-2SG.M-big and RL-2SG.M-REDUP-fat

‘You are big and quite fat.’

Clauses headed by non-adjectival verbs can be coordinated by simple juxtaposition or be conjoined using various conjunctions introduced below (§4.3.7), they cannot be conjoined with *to*.

The other core function of these words, modifying nouns in noun phrases, is a major syntactic feature distinguishing these words from other verbs. The adjective is found in its root form with no morphology. An adjective cannot take any verbal morphology when found in this position. More adjectives can be added and they are freely ordered with one another; for example, with the addition of *buso* ‘white’ to *rau páko* (pig big), either of the following orders is acceptable: *rau páko buso* or *rau buso páko*.

Adjectives can be further modified for degree. In example (116) the intensifier *aka* ‘real(ly)’ modifies the adjective *páko*, to mean ‘really big pig’.

(116)  *rau páko aka*

pig big real

‘really big pig’

The final function of a sub-set of adjectival verbs is modification of other verbs. A word like *-bererén* ‘fast’ can also be used to modify another verb.

(117)  a)  *K-a-bererén.*

RL-3SG.M-fast

‘He is fast.’

---

6There is a marginal non-finite relative clause (NFRC) construction, involving other verbs, which has surface similarities to adjectives modifying verbs, but it turns out to be somewhat different. For example, adjectives are freely ordered with respect to one another but a NFRC must directly follow the noun. See §5.1.3 for details.
b) *K-a-parara* bererén.

\[RL-3SG.M\text{-}run \text{ fast}\]*

‘He runs fast.’

In (117b) the root -bererén appears after the verb -parara ‘run’ in a modifying relationship. It appears in the same position as other non-inflecting words that modify verbs (§4.3.3, below) and it never takes status or subject inflection in this position. Nor can it be further modified for degree by intensifiers in this position.

Adjectival verbs do not encode a change of state. For example, there are two separate, but clearly semantically and phonologically related, roots -ipo ‘grow’ and -ipipó ‘tall, long’. These two verbs may have come from the same root originally via reduplication, but there is no evidence that this is a synchronic process — no other verbs appear in alternations like this and synchronically, vowel-initial roots do not undergo reduplication.

Adjectival verbs do not encode a change of state. For example, there are two separate, but clearly semantically and phonologically related, roots -ipo ‘grow’ and -ipipó ‘tall, long’. The adjectival verb -ipipó ‘tall, long’ can be inflected like a verb, as in (118a) and it can modify a noun in a noun phrase as in (118b).

(118) a) *Ái ino koka k-ere-ipipó k-ere-mé-méme.*

\[tree \text{ NEG} \text{ trunk } RL-3PL.F\text{-}tall \text{ RL-3PL.F}\text{-}REDUP\text{-}small\]

‘The trunk of this tree is not tall, it’s small.’ [P-MG:03]

b) *K-a-kéi-tá-ó* ái ipipó.

\[RL-3SG.M\text{-}sit-ON-3SG.F \text{ tree tall}\]

‘He sits on a tall tree.’ [DICT-MF:01]

The non-adjectival verb -ipo expresses the change of state notion of ‘growing’, the resultant state of ‘being big’ is expressed with the adjectival verb -pako ‘big’.

This is shown in the following example.

(119) *Petapon k-en-e-ma-n-uru bora n-amá-ipo koka*

\[flower\text{.sp} \text{ RL-1SG.M}\text{-}BEN-2SG.M\text{-}1SG.M\text{-}rub PURP₁ \text{ IRR-2SG.M}\text{-}grow \text{ trunk} \]

\[n-amá-pako. \text{ IRR-2SG.M}\text{-}big\]

‘I will rub petapon petals on you so that you will grow, your body will be big.’ [DICT-PB:01]

The verb -ipo ‘grow’ is never found modifying nouns in noun phrases.
There are two verbs that alternate between being used as non-suffixing transitive verbs and to encode a resultant state. They are -ki ‘grill, be grilled’ and -tari ‘break, be broken’. For example, the verb -ki can be used as a non-suffixing transitive verb, as in (120a) and as an intransitive adjectival verb, as in (120b).

\[(120) \text{a) } K-\text{-\textipa{ia}ra}r-o-re, \quad \text{\textipa{Kapiak} n-eve-ki} \\
\quad \text{RL-3SG.M-say-AG-GIVE-3PL.F BREADFRUIT IRR-2PL.F-grill} \\
\quad n-\text{-}\text{m-a}.
\quad \text{IRR-1PL-1PL-eat} \\
\quad \text{'He said to them, ‘Grill breadfruit so we can eat (it).’" [DC-CA:03]}
\]

\[\text{b) } ... k-e-ki. \quad K-o-ki, \quad k-e-p-u-k\text{-}\textipa{a} \\
\quad \text{RL-3PL.M-grill RL-3SG.F-grill RL-3PL.M-3PL.M-pick-TOWARD} \\
\quad \text{‘... they grilled (it). When it was grilled they picked (it) off ... ’ [P-MG:03]}
\]

These are the only two verbs known to behave like this and they do not appear in noun phrases modifying nouns.

4.2.6.1 Numerals

The numerals moike ‘one’, riëmpin ‘two’ and another quantifying modifier pruno ‘many’ form a sub-class of adjectival verbs. For example, these words can take status and subject inflection and appear as the heads of clauses.

\[(121) K-\text{-}\textipa{e}riëmpin bai n-\text{-}\textipa{ep}i-p-\text{-}\textipa{a}. \\
\quad \text{RL-1DU-two FUT IRR-1DU-1DU-eat} \\
\quad \text{‘When we are two we will eat.’ [CB-JT:01]}
\]

Equally these words can appear uninflected in NPs. They differ from other adjectives in not being further modified by degree.

\[(122) \text{rau riëmpin} \\
\quad \text{pig \text{-}two} \\
\quad \text{‘two pigs’}
\]

The numeral riëmpin can also express the cardinal relation ‘second’, as shown in the following example. There is a separate non-inflecting word nini for ‘first’.
Like some other adjectival verbs, these words can also be found uninflected in the post-verbal verb modifying slot. This is shown in the following example:

(124) *Aro buso beya k-e-kō(p)e prumo vai.*
people white NEG RL-3PL.M-(3PL.M)go.up many POL
‘White people didn’t come in lots.

*K-e-kō(p)e moike-moike, riempin k-e-p-aro bam orō yei.*
RL-3PL.M-(3PL.M)go.up REDUP-one two RL-3PL.M-3PL.M-go.down return place 3PL.M
They came in ones or twos and went back down to their place.’ [TP-MN:01]

As this example shows, the numeral *moike* can be reduplicated, *moike-moike*, to function as the distributive numeral ‘one at a time’. This could be a calque from Tok Pisin *wanwan* (one one) with the same meaning.

There is another class of quantifiers, described in 4.3.11 below, that do not inflect and appear in a different slot in the NP to the numerals described in this section. For example, both *rau pako riempin* and *rau riempin pako* are equally good ways of expressing ‘two big pigs’, although the first one is more common. In contrast, quantifiers have a fixed position after any adjectives, e.g. the quantifier *owu* means ‘some’, and only *rau pako owu* and not *rau owu pako* can express ‘some big pigs’.

Other numbers are formed by combinations of these words, e.g. *riempin ra moike* (two one/another one) ‘three’, *riempin ra riempin* (two one/another two) ‘four’. There are also two phrasal number expressions: *éno parā moike* (hand side one) ‘five’ and *éno parā riempin* (hand side two) ‘ten’. Further counting can involve toes as well but these are not lexicalised to the same extent.
4.2.7 Copulars

Copulars are described in full in Chapter 6. There are two locational/existential copulars: -iniá ‘be at’ and -báuni ‘not be at’. Other copulars are: -ávé ‘be, become’, used in equative and proper inclusion clauses with irrealis status (realis equative and proper inclusion clauses are verbless) and -aka ‘resemble’, used to compare two entities. These verbs appear with two arguments but do not take object suffixing and they are treated as a separate class because their clause structure is atypical, see Chapter 6. Another copular, -íná ‘name’ has three arguments — the namer, the named and the name. The named argument is marked as an object on the verb, the name is not marked and usually appears after the verb.

4.2.8 Temporal verbs

The class of temporal verbs is very small. It consists of two zero-intransitive verbs which can appear fully inflected in temporal clauses, and uninflected as temporal sentential modifiers. Morphologically, these temporals are a sub-class of verbs. There is also another closed class set of temporals, described in §4.3.1, below.

<table>
<thead>
<tr>
<th>Table 4.8 Temporal verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>-úri</td>
</tr>
<tr>
<td>‘tomorrow, early the next morning’</td>
</tr>
<tr>
<td>-bariri</td>
</tr>
<tr>
<td>‘afternoon, yesterday’</td>
</tr>
</tbody>
</table>

In (125) the temporal verb bariri ‘yesterday/afternoon’ is inflected like a verb, with default 3SG.F subject agreement, and when combined with the verb -kae ‘come’ means ‘getting on for afternoon’.

(125) K-o-bari-bariri k-o-kae yéi k-e-no(p)i
    RL-3SG.F-REDup-afternoon RL-3SG.F-come 3PL.M RL-3PL.M-(3PL.M)go.along
    ótro.
    house
    ‘When it was getting on for late afternoon they went home.’[U-EM:01]

Temporal verbs also function as sentential modifiers to set events in time.
Example (126) shows *bariri* being used to mean ‘yesterday’.

(126) *Bariri pṭ k-e-ni(n)i.*

yesterday water RL-1SG.F-(1SG.F)wash
‘Yesterday I washed.’

Time is discussed in more detail in Chapter 9.

A temporal verb can also be the head of an NP modified by a quantifier. In the following example it is in an NP modified by the quantifier *ra* ‘one’.

(127) *bariri ra*

afternoon one/another
‘one afternoon’

This property clearly distinguishes temporal verbs from other verbs.

### 4.2.9 Weather predicates

Weather predicates are for the most part just like intransitive clauses. In the case of ‘rain’, the verb is not found in any other contexts.

(128) *Ā k-u-ai.*

rain RL-3SG.F-raining
‘The rain is raining.’

In the next example the verb *-pūtu* is an intransitive verb meaning ‘blow’.

(129) *Pū k-o-pūtu.*

wind RL-3SG.F-blow
‘The wind is blowing.’

However, one weather verb, *-plenki* ‘lightning’, is zero-intransitive; it takes 3SG.F subject agreement, like the temporal verbs and there is no cross-referencing nominal in the clause. This is the only word in the language containing an /1/.

(130) *K-o-ple-plenki.*

RL-3SG.F-REDUP-lightning
‘There’s lightning.’
Very commonly, weather predicates have the NP *bo* 'place' as the subject of the clause. The next two examples use the adjectival verbs *-ura* 'black' and *-im* 'hot'.

(131)  
*Bo kura.*
  
    k-o-ura
  
    place RL-3SG.F-black  
  
    'It's cloudy.' or 'The place is black.'

(132)  
*Bo k-u-im.*
  
    place RL-3SG.F-hot  
  
    'It's hot.' 'The place is hot.'

The following example is not as transparent in its meaning as the two above.

(133)  
*Bo k-o-rei.*
  
    place RL-3SG.F-fall  
  
    'There's thunder.' (Literally: 'The place is falling.')

4.3 Closed word classes

In this section I present the minor word classes with pointers to where more information can be found elsewhere in the thesis. As the discussions below will show, there is a syntactic slot after the verb reserved for words that modify something about the event rather than one of the participants. When words appear in this slot they perform one of the functions of what would be called adverbs in English. However, because words from the two open classes can also appear in this slot, and because some of the words that appear in this slot can also appear in other parts of the clause, there does not seem to be a unified class of adverbs in Barupu. Some of the words that can appear in this post-verbal slot are discussed under semantic labels: temporals; locationals; manner words and intensifiers. Words that appear here but that do not fall neatly under one of these headings are discussed separately in §4.3.5.
4.3.1 Temporals

In addition to the sub-class of verbs with temporal meanings, described in §4.2.8, above, there is also a closed class of temporals which do not inflect like verbs, listed in Table 4.9. Some of these are idiomatic multi-word constructions. The temporal verbs -bariri ‘afternoon, yesterday’ and uri ‘morning, tomorrow’ share the same functions as the non-inflecting temporals — it is only because of their extra ability to inflect that they were distinguished in 4.2.8. Note that the word roro can be used to mean ‘night’ or ‘day’, this is discussed below.

Table 4.9 Temporals

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>bó</td>
<td>‘first (before doing something else)’</td>
</tr>
<tr>
<td>kamá</td>
<td>‘in the meantime’</td>
</tr>
<tr>
<td>torua</td>
<td>‘for a long time’</td>
</tr>
<tr>
<td>māre</td>
<td>‘today, now’</td>
</tr>
<tr>
<td>roro</td>
<td>‘night’ ‘day’</td>
</tr>
<tr>
<td>tatāre</td>
<td>‘day before yesterday’</td>
</tr>
<tr>
<td>tora</td>
<td>‘long ago’</td>
</tr>
<tr>
<td>tī chā (line head)</td>
<td>‘in the beginning’ ‘first of all’</td>
</tr>
<tr>
<td>tī chā nini (line head front)</td>
<td>‘in the very beginning’ ‘very first’</td>
</tr>
</tbody>
</table>

When temporals provide information about the duration of an event or the time of an event with respect to another event, they appear in the post-verbal slot. The particular temporals in the following examples are always found after the verb.

(134)  N-o-ka(m)e kamá.
IRR-2SG.F-(2SG.F)come meantime
‘Come (here) in the meantime.’

(135)  N-o-ka(m)e bó!
IRR-2SG.F-(2SG.F)come first
‘Come (here) first!’

The word ben can mean ‘already’ but it is commonly used as a marker of perfect aspect, see Chapter 9.
When temporals provide information about 'temporal location' as opposed to duration they appear at the very beginning of the clause, as shown in the following examples.

(137) *Mâre ne*=

\n
\begin{align*}
\text{ne} & =va \\
\text{nainképu} & \\
\text{n-a-a(n)i-kepu} &
\end{align*}

now spell=PRM IRR-1SG.M-(1SG.M)curse-ADV-2PL.M

‘Now I’m going to cast a spell on you.’ [ANR-MN:01]

(138) *Tî chá cha*=

\begin{align*}
\text{cha} & =va \\
\text{k-e-m-â-o} &
\end{align*}

first net=PRM RL-1PL-1PL-make-3SG.F

‘First we make a net.’ [P-MB:03]

(139) *Tora, bî mèmes Baru pu bâ k-e-p-â.*

\begin{align*}
\text{tora} & \\
\text{mèmes Baru pu} & \\
\text{â k-e-p-â.}
\end{align*}

long.ago ancestors IPL PLN fish RL-3PL.M-3PL.M-do

‘Long ago, our ancestors caught fish.’ [CF-MN:01]

Two of these words, *tora* ‘long ago’ and *mâre* ‘today, now’ can also modify nouns.

(140) *K-e-n-â-ke anoku tora mèmes Baru pu ra n-en-trai.*

\begin{align*}
\text{k-e-n-â-ke} & \\
\text{anoku tora} & \\
\text{mèmes Baru pu} & \\
\text{ra n-en-trai.}
\end{align*}

RL-1SG.F-1SG.F-want-INTS legend long.ago IPL PLN one IRR-1SG.F-tell

‘I am going to tell one of our Barupu legends from long ago.’ [U-EM:01]

(141) *Mevôva mâre ó k-o-neparâ-i.*

\begin{align*}
\text{children} & \\
\text{now feeling} & \\
\text{RL-3SG.F-forget-3PL.M}
\end{align*}

‘The children of today have forgotten.’ [P-MG:03]

Some temporals can appear in both clause-initial and post-verbal position. These words indicate temporal location when they appear at the beginning of a clause, as in (142) and (143), and indicate duration when they appear after the verb, as in (144).
(142) **Bariri**  k-a-r-aro  óro.
afternoon  RL-3SG.M-3SG.M-go-down  house
‘In the afternoon he went home.’  [TP-MN:01]

(143) **K-e-turú**  úri  n-e-kô(p)e  uka.
RL-3PL.M-plan  tomorrow  IRR-3PL.M-(3PL.M)go-up  bush
‘They were planning that tomorrow they would go to the bush.’  [ANR-MN:01]

(144)  **Mônrai**  k-em-i-titi  roro.
singsing  RL-1PL-dance  night
‘We dance all night.’  [U-Gx:01]

The word *roro* has a wide range, it appears in two greetings, *roro* ‘goodnight’
and *roro* *nai* ‘good morning’ (*nai* is an unanalyzable form that also appears in the
greeting *umo nai* (sun?) ‘good day’). *Roro* is the basic word for ‘night’.

(145)  **Roro**  bió  prumo  n-e-tá.
night  person  many  IRR-3PL.M-paddle
‘At night, many men will paddle.’  [CF-MN:01]

(146)  **Roro**  ro  kómomi.  **Roro**  ya  n-em-bóvo-m.
k-o-ómo-mi  
night  stomach  RL-3SG.F-full-1PL  night  and  IRR-1PL.sleep-1PL
‘At night, we will be full. Night and we will sleep.’  [CB-JT:01]

However, *roro* is also the basic word for ‘day’.

(147)  **Roro**  ra,  biá  buto  ra,  biá  biám  k-a-tá  k-a-kae  béré
day  one  person  white  one  person  man  RL-3SG.M-paddle  RL-3SG.M-come  DDIST
pará,  k-a-kae  Jayapura.
other.side  RL-3SG.M-come  PLN

‘One day a white person, a white man, paddled from the the other side, he
came from Jayapura.’  [WM-MN:05]

And as mentioned above, the two temporal verbs; *bariri* ‘afternoon’ and *úri*
‘morning’ are able to be inflected.

(148) ...  **kope**  kúrináre.
  k-o-úri-ná-re
  then  RL-3SG.F-morning-APPL-3PL.F
  ‘... then morning came upon them.’  [WH-RX:03]
4.3.2 Locationals

Words describing the location of an action appear directly after the verb, as in (149).

(149) \textit{K-ere-ké(\textit{r})i-ro-ki(\textit{r})è} \textit{ārl.}
\textit{RL-3PL.F-(3PL.F)sit-HID-(AO)AWAY inside}
‘They sat hidden away inside.’ \textit{[WH-RX:03]}

Locationals can also modify nouns — e.g. \textit{ōro āri} (house inside) ‘inside the house’. Example (150) shows the word \textit{nake} ‘top’ in its locational sense.

(150) \textit{Mā k-\textit{u-iniå} \textit{nake}.}
\textit{child RL-3SG.F-be.at top}
‘The child stayed on top.’ \textit{[U-EM:01]}

Example (151) shows this word in combination with \textit{āi} ‘tree’ to mean ‘tree top’ or ‘top of the tree’.

(151) \textit{K-o-kéi [āi \textit{nake}].}
\textit{RL-3SG.F-sit tree top}
‘She sits in the tree top.’

This is discussed further in Chapter 5.

Following is a list of the known locationals.

<table>
<thead>
<tr>
<th>Table 4.10 Locationals</th>
</tr>
</thead>
<tbody>
<tr>
<td>āri</td>
</tr>
<tr>
<td>puō</td>
</tr>
<tr>
<td>nake</td>
</tr>
<tr>
<td>pika</td>
</tr>
<tr>
<td>ika</td>
</tr>
<tr>
<td>parå</td>
</tr>
<tr>
<td>nini</td>
</tr>
<tr>
<td>bāru</td>
</tr>
<tr>
<td>chá</td>
</tr>
<tr>
<td>pa</td>
</tr>
</tbody>
</table>

Two words that can function as locationals are members of the open class of nouns: \textit{pa} which is also a body part meaning ‘bottom’ or ‘back’ and and \textit{chá} ‘head’.
The locational *nini* 'in front' can also be used in a relative temporal sense, e.g. do something before someone else, or stand in front of somebody else. Context is necessary to establish the meanings.

Demonstratives are also found in the slot after the verb where they express notions such as 'here' and 'there', as discussed in §5.4.

### 4.3.3 Manner words

Manner words are those words which can appear after the verb and say something about the manner in which an action was carried out. Some examples of manner words are listed here. There can only be one of these in any clause.

<table>
<thead>
<tr>
<th>Manner Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>tororo</em></td>
<td>'badly'</td>
</tr>
<tr>
<td><em>torópo</em></td>
<td>'quietly'</td>
</tr>
<tr>
<td><em>kanāpó</em></td>
<td>'for no reason', 'in vain'</td>
</tr>
<tr>
<td><em>torón</em></td>
<td>'hard'</td>
</tr>
<tr>
<td><em>tirin</em></td>
<td>'separately'</td>
</tr>
<tr>
<td><em>rokorapo</em></td>
<td>'expertly'</td>
</tr>
</tbody>
</table>

These words appear after the verb.

(152) *N-o-kē(m)i* torópo.

IRR-2SG.F-(2SG.F)sit quietly

'Take it easy.'

Some of these manner words can modify nouns. For example, in (153), the manner word *kanāpó* modifies a verb to mean something like 'for no reason'.

(153) *K-o-r-aka* rōi

RL-3SG.F-3SG.F-resemble mushroom

'It's like a mushroom,

ino rōi=a k-o-kōe kanāpó ...
NOT mushroom=PRM RL-3SG.F-go.up no.reason

not a mushroom that just grows for no reason ...' [TP-MN:01]

---

8This is from a text explaining the correlation between the size of mushrooms found growing in a woman's rinsed out sago pith and the size of her breasts.
In the next example the same word modifies a noun phrase. In example (154) it means 'empty'.

(154) \( \ldots \, ya \, pi \, m\text{\text{\ occurrences}} \, ka\text{n}\text{\ occurrences} \, p\text{o} \, n \, k\text{-u\text{-in\text{\ occurrences}}} \).

and water soil empty only RL-3SG.F-be.at

'... and there is only empty muddy water.' (Describing the lack of fish in the lagoon after the 1998 tsunami.) [U-GX:01]

As mentioned above, some of the adjectival verbs, including the numerals, can also appear in this post-verbal verb-modifying position.

### 4.3.4 Intensifiers

Intensifiers can appear after adjectives in noun phrases (see §5.2) to indicate a greater degree of a property, but they can also modify verbs in the post-verbal slot.

<table>
<thead>
<tr>
<th>Table 4.12</th>
<th>Intensifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>rewo</td>
<td>'very'</td>
</tr>
<tr>
<td>aka</td>
<td>'really'</td>
</tr>
<tr>
<td></td>
<td>'well'</td>
</tr>
<tr>
<td></td>
<td>'honestly'</td>
</tr>
</tbody>
</table>

Example (155) shows an NP use of rewo.

(155) \( rau \, p\text{o}k\text{\ occurrences} \, rewo \).

pig big very
'very big pig'

Example (156) shows this word modifying a verb.

(156) \( T\text{o} \, k\text{\text{-ip\text{\ occurrences}}} \, rewo.\)

k-e-ip\text{\ occurrences}
breast RL-1SG.F-wrap well
'They wrapped the breast well.' [FF1-MN:01]

The word aka can also modify a noun to mean 'real'. For example, in narratives involving the supernatural, a person might be referred to as \( bi\text{o} \, aka \) (person true) 'real person', to distinguish them from ghosts or demons.
4.3.5 Other modifiers

In this section I present other words that can appear in the post-verbal modifying slot. Two of them can, however, also appear before the verb, after an NP. These words generally have scope over the word or constituent immediately preceding them, but they can have scope over the whole proposition.

<table>
<thead>
<tr>
<th>Table 4.13</th>
<th>Other verb modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>minia</td>
<td>‘too’</td>
</tr>
<tr>
<td>pôn</td>
<td>‘only’, ‘just’</td>
</tr>
<tr>
<td>unake</td>
<td>‘alone’</td>
</tr>
<tr>
<td>vôva</td>
<td>‘again’</td>
</tr>
</tbody>
</table>

The word minia can appear after a verb meaning something like ‘too’ or ‘as well’, as in (157).

\(157\) Tata n-e-ā\(n\)ó
basket IRR-1SG.F-(1SG.F)weave too
‘I’ll weave a basket too.’ (As well as doing something else.) [u-Gx:Oi]

With plural subjects, this word means something like ‘together’.

\(158\) N-e-ki\(m\)i
IRR-1PL-(1PL)sit too
‘We’ll sit together.’ [cB-JT:01]

The word pôn ‘only’, ‘just’ can also appear after a verb or after an NP. In (159) and (160), pôn has an exclusive function: it singles out the referent of the NP as the only one of its kind, or the only one involved in the action, as in the following examples.

\(159\) Nēna pôn mararacha n-ana-ko.
1SG.M only croton IRR-1SG.M-get.SGO
‘Only I will get the croton.’ [DICT-PB:01]

\(160\) Bió biâm pôn a bé n-e-p-á, bum bāun.
person man only thing DPROX IRR-3PL.M-3PL.M-do woman not.be
‘Only men will do this, not women.’ [DICT-PB:01]
The other function of *pón*, while it still appears after a noun phrase, is an emphatic or focussing one, like the use of 'just' in English. This is shown in the following examples, where it seems to be saying more about the manner of carrying out the action than describing anything in particular about the participant.

(161) Chá ma *pón* k-er-i-a-r-u.
    head nape only RL-3SG.F-BEN-3SG.M-3SG.F-shave
    ‘She just shaved the back of his neck.

Íne pé *pón* k-o-bere-tá-ka.
    eye water only RL-3SG.F-drip-ON-3SG.M
    Tears just dripped onto him.’ [NSC-CA:03]

(162) *Arápe* *pón* n-o-r-á?
    what only IRR-3SG.F-3SG.F-do
    ‘Just what will she do?’ [U-EM:01]

*pón* can also appear after the verb, where it focusses attention on the action, as in (163) and (164).

(163) K-o-ro *pón*.
    RL-3SG.F-cry only
    ‘She just cried.’ [NSC-CA:03]

(164) Není bo n-en-ávé rau mó,
    1SG.F TVF IRR-1SG.F-be pig mother
    ‘As for me, if I were a mother pig,

*n-e-rō(n)i* *pón* réi árí.
    IRR-1SG.F-(1SG.F)stand only fence inside
    I’d just stand inside a fence.’ [MP-EM:01]

The word *unake* ‘alone’, can appear in various positions in the clause (see Chapter 6) but it always has the subject in its scope.

(165) Yá *unake* ii chá k-a-noi é.
    3SG.M alone line head RL-3SG.M-go DPROX
    ‘He alone, he was the first to go there.’ [DC-CA:03]
One woman alone had a small baby, so she stayed home with it. [FF1-MN:01]

Unake can also be found post-verbally, where it still has scope over the subject.

`He sat by himself.' [ANR-MN:01]

The word *vôva* ‘again’ is found after the verb, as in (168).

Tomorrow she will paddle again.’ [CB-JT:01]

4.3.6 Particles

The particles are listed in Table 4.14. The particles typically express modal or aspectual distinctions. The modal forms are discussed in Chapter 9. Particles are toneless and stressless. The polysyllabic particles are pronounced with a slight emphasis on the second syllable.

<table>
<thead>
<tr>
<th>Particle</th>
<th>Meaning</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>bo</em></td>
<td>Truth value focus</td>
<td>Clause-initial</td>
</tr>
<tr>
<td><em>to</em></td>
<td>Content question</td>
<td>Clause-initial</td>
</tr>
<tr>
<td><em>era</em></td>
<td>Polar question</td>
<td>Clause-initial</td>
</tr>
<tr>
<td><em>tara</em></td>
<td>Irrealis polar question</td>
<td>Clause-initial</td>
</tr>
<tr>
<td><em>beya</em></td>
<td>Negative</td>
<td>Pre-verbal</td>
</tr>
<tr>
<td><em>vai</em></td>
<td>Polarity tag</td>
<td>Clause-final</td>
</tr>
<tr>
<td><em>biaka</em></td>
<td>‘Should’</td>
<td>Pre-verbal</td>
</tr>
<tr>
<td><em>nia</em></td>
<td>‘Often’ ‘still’</td>
<td>Pre-verbal</td>
</tr>
</tbody>
</table>

The particle *bo* has a truth-value focussing function — in realis clauses it counters the supposition that something might not be true. For example, in the following two examples one has *bo* and the other does not — one explanation of the
difference between these two clauses offered by one group of speakers is that in
(169b) the speaker really went and one speaker elaborated: 'she didn’t change her
mind.'

(169) a) \(K-e-no(n)i\) Mumuru.
\(RL-1SG.F-(1SG.F)go.along\ PLN\)
‘I went to Mumuru.’

b) Bo \(k-e-no(n)i\) Mumuru.
\(TVF RL-1SG.F-(1SG.F)go.along\ PLN\)
‘I went to Mumuru.’

However, this particle is also commonly found in irrealis clauses that are in an
adverbial coordination with another clause; this is discussed in Chapter 10.

4.3.7 Conjunctions

There are two nominal conjunctions: \(rê\)- used to conjoin singular participants and
\(avê\)- used to conjoin plural participants. Conjunctions take object suffixes referencing
either the combined person and number of the two conjoined NPs, or only the second
conjunct (see §5.7).

There are four clause-linking words which can be used to express modifying
relationships between two clauses (see §10.3), and two clause-linking words that link
simultaneous or sequential events (see §10.2) — these are set out in Table 4.15. The
final conjunction, \(to\), conjoins two clauses headed by adjectival verbs. An example of
this was given in (115), above. Clause-linking conjunctions are toneless and
stressless but the disyllabic conjunctions \(bora\) and \(kope\) are pronounced with slight
emphasis on the second syllable.

Unlike in many Papuan languages, there is no morphological switch-reference.
4.3.8 bêku ‘reflexive’

The word bêku has two functions: the first is a reflexive (170a), the other is an intensifier. Reflexives are discussed in more detail in §6.2.2.1.

(170) K-en-yarii-ni nêni bêku.
    RL·lsG.F-see-lsG.F ISG.F REFL
    ‘I see myself.’

4.3.9 beka ‘like’

The word beka is toneless but, in common with the conjunctions and particles, there is a slight emphasis on the second syllable. This word can be used in a similar way to ‘like’ in English.\(^9\) For example, it can be used for comparison, as shown in (171).

(171) ... eru pê=va k-e-p-á beka taveke.
    bush.tobacco leaf=PRM RL-3PL.M-3PL.M·do like tobacco
    ‘... they smoked bush tobacco leaves like tobacco.’ [TP-MN:01]

But the two major functions of the word beka in narratives are:

- as a ‘discourse-deictic’ — it refers to sections of text or speech, often in combination with a demonstrative. This is discussed in §5.4.
- as a complementiser — it is used to introduce reported speech or thought and sometimes direct speech as well. This is discussed in Chapter 10.

\(^9\)And olsem in Tok Pisin.
4.3.10 Demonstratives

Barupu has eight demonstratives which make distinctions on three different levels: spatial, discourse referential and epistemic. The first distinguishes between three degrees of proximity, the second distinction marks whether the referent has been mentioned before and the third establishes whether the referent is real or hypothetical. All of these demonstratives can function as locationals as well as modify noun phrases. They also help form relative clauses and impart some temporal information. The forms and function of demonstratives are described in §5.4.

4.3.11 Quantifiers

There are three quantifiers which appear before possessive pronouns inside the NP: *pin* ‘some (of)’; *owu* ‘some (of)’ and *ra* ‘one, another (of)’. The position and function of NP-intemal quantifiers are described in §5.5. There is another quantifying word *nőte* ‘all’, that is found after the NP it is quantifying — evidence for this is that it appears after possession and demonstratives. This word cannot appear after the verb.

(172) *Rau yá nőte k-eni-mama-i.*
\[
\text{pig 3SG.M all \ R L-1SG.F-look.after-3PL.M}
\]
'I look after all his pigs.'

(173) *Aro-émo, yei nőte bió bêi=a k-ê-p-á.*
\[
\text{people=DREF 3PL.M all \ person meat=PRM RL-3PL.M-3PL.M-eat}
\]
'Those people, all of them eat men's flesh.' [DICT-PW:01]

*Nőte* can appear inside an NP, that is, before a possessive or a demonstrative — but then it is no longer interpreted as a quantifier. In (174), below, *nőte* appears between a modifier and a determiner and it takes on the intensifier function of modifying *páko* for degree. Note that the subject of the verb is singular.

(174) *Rau páko nőte nêni k-a-rái.*
\[
\text{pig big all \ 1SG.F RL-3SG.M-die.SGS}
\]
'My altogether huge pig died.'
4.3.12 Greetings, interjections and address terms

There are four greetings which are used at specific times of the day. They can be used on their own or with néwai/néman ‘good’. Typically you will be met by a plain greeting and the expected response will be with néwai/néman, except in the case of ‘good night’ which is always plain.

The time when morning turns into day depends on when the sun (umo) is judged to be sufficiently high (usually about 10 or 11 am); people commonly look up at the sky before deciding which greeting to use.

<table>
<thead>
<tr>
<th>Table 4.16 Greetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>roro nai</td>
</tr>
<tr>
<td>umo nai</td>
</tr>
<tr>
<td>bariri</td>
</tr>
<tr>
<td>roro</td>
</tr>
</tbody>
</table>

Greetings can also be found with a suffixing morpheme indexing the addressee, as in the following example.

(175)  *Roro nai-nā-*mu.
      *morning-APPL-2SG.F*
      ‘Good morning to you.’

A common interjection expressing sympathy is *merērā-*.. This gets inflected for object. For example, inflected for 2SG.F, *mererā-mū*, it means something like ‘Poor you!’ (Tok Pisin *trangu* or *sori tru*). Another inflecting interjection is *aniē*-. Inflected for 2SG.F, *aniē-mu*, it means ‘shame on you’.

Another, non-inflecting, interjection is *eson-*ke ~ *eton-*ke (*-ke* is an intensifier suffix) meaning something like ‘yes that’s right’ (Tok Pisin *em nau*). Another interjection is *yake*, used when indicating that you’ve got enough of something. This word is also commonly used as a discourse organiser, signalling the end of an episode (Tok Pisin *inap* or *orait*).
‘Yes’ áwo is quite simple. ‘No’ -báuni is more complex — the form is morphologically a verb and it performs many functions. On its own it is the interjection ‘no’. With the intensifier suffix -ke it means ‘not yet’ (§9.3.6). Inflected with realis and 3SG.F it is the non-existential locational copular ‘not be at’ (§6.5.3). Inflected like this and with a participant-adding morpheme it functions as a negative possessive predicate ‘not have’ (§6.5.3). Inflected with realis and with the hither suffix -kie it appears in a serial verb construction where it means ‘done to completion’ (§7.1.3), and finally, with irrealis marking it helps form a counterfactual conditional (see Chapter 10). A clearly related interjection is báuve-ke which can mean something like ‘Who knows?’ or ‘Maybe’.
Chapter 5

Noun phrases

A fully expanded Barupu NP has the following structure:

\[ \text{Noun (Nominal/Locational/Verb) (Adjective (Intensifier)) (RC) (Quantifier) (Determiner)} \]

\[ \text{Figure 5.1 Ordering of elements in the noun phrase} \]

The head of the noun phrase identifies the real-world or abstract referent of the NP. Nothing can come before the head. The head can be simple (i.e. made up of a single noun) or compound (i.e. made up of two nouns or a noun and a verb or a noun and a locational). This is described in §5.1.

The ordering of elements after the head is fixed. The head is optionally followed by adjectives, as defined in Chapter 4. Adjectives describe properties of the referent such as size, shape, colour and so on. Theoretically, any number of adjectives can appear here but more than one is rare. An adjective can be optionally modified for degree by an intensifier.

The Determiner position can be filled by: a possessive pronoun; a demonstrative or a quantifier. Demonstratives and possessive pronouns cannot appear in the same NP and are both always definite. A quantifier is indefinite when used in the Determiner position, but it can also precede a possessive or demonstrative Determiner.
in which case it is 'partitive-definite' (Givón 2001a:4), see §5.5 below.

It is possible for NPs to appear without a head. In these cases the NPs are made up of an adjective or quantifier which takes as its understood referent a participant whose identity is recoverable from context and/or verb agreement (see §5.2 and §5.5). Nouns can also be modified by clauses, which appear before the Determiner; their structures are discussed in §5.6.

This chapter begins by introducing compound heads. Following this, each of the positions after the head and their functions in the NP will be described. It is rare to find fully expanded NPs in natural discourse. More common are NPs with one or two elements. Nominal conjoining is described in §5.7.

5.1 Compound heads

There are three different types of compound head. The first is a very tight-knit compound where two nouns combine to confer age, gender and number information on each other. The compound is non-interruptible; any further modification appears after, and has scope over, the whole. The second type of compound head involves two nouns which are in a looser relationship with one another — each can be independently modified. In this second type, two nouns may be apposed which have a part/whole or possessive relationship, or a noun can be compounded with a locational. The final type of compound head involves a noun and a verb root. The verb typically describes something about the manner in which the entity referred to by the noun was created, its resultant state or what it can be used for. This construction is also non-interruptible but it shows some agreement phenomena which are characteristic of clausal relationships.

These constructions all provide basic lexical items which have the same distribution in the NP and share that distribution with simple nouns. Although the
behaviour of tone on compound heads is not yet fully understood, it is the case that
there is very little tone sandhi. Each element of a compound retains its own stress and
tone, although the rightmost element has more prominence in terms of duration and
pitch realisations.

5.1.1 Tight compounds

Tight compounds are non-interruptible. The main function of these constructions is to
specify the gender, number and age of otherwise unspecified roots.

(176) a) bió biám
    person man
    ‘man’

b) aro bóm
    people woman
    ‘women’

c) má bóm
    child woman
    ‘girl’ ‘female child’

On one hand it would be possible to argue that in the above examples gender is
being conferred on the non-gender-specific human nouns bió ‘person’, aro ‘people’
and má ‘child’ by the nouns bóm ‘woman’ and biám ‘man’. However, because the
nouns biám and bóm can also be used on their own to mean ‘man’ and ‘woman’ it
could equally be argued that in (176b) number is being established on bóm ‘woman’
with the suppletive plural aro, while in (176c) age could be being conferred on bóm
with má ‘child’. It is thus not entirely clear that one of these elements is undeniably
the head of the compound. A better alternative might be to posit something like
(177), where neither is the head but both equally contribute.

(177) \[
\begin{array}{c}
\text{root} \\
\text{root}
\end{array}
\]
The set of nouns referring to human adults is somewhat unstable. Synchronically, the nouns *aro* ‘people’, *bió* ‘person’, *biám* ‘man’ and *bóm* ‘woman’ form a symmetrical system, as shown in Table 5.1.

<table>
<thead>
<tr>
<th>Table 5.1 Current system</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>biám</em> ‘man’</td>
</tr>
<tr>
<td>cf. <em>ám</em> ‘husband’, yá 3SG.M</td>
</tr>
<tr>
<td><em>bóm</em> ‘woman’</td>
</tr>
<tr>
<td>cf. <em>óm</em> ‘wife’, bó 3SG.F</td>
</tr>
<tr>
<td><em>bió</em> ‘person’</td>
</tr>
<tr>
<td><em>aro</em> ‘people’</td>
</tr>
</tbody>
</table>

But, there is one further human noun, *biá*, which sometimes means ‘women’ or ‘woman’, sometimes means ‘men’ or ‘man’ and sometimes just ‘people’ or ‘person’ and has to be further modified by one of the other human nouns to indicate gender. There may have been an earlier system something like the one shown in Table 5.2. The form *aro* ‘people’ was perhaps borrowed from somewhere, making the system unbalanced.

<table>
<thead>
<tr>
<th>Table 5.2 Possible earlier system</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>biám</em> ‘man’</td>
</tr>
<tr>
<td><em>bóm</em> ‘woman’</td>
</tr>
<tr>
<td><em>bió</em> ‘?person’ or ‘?women’</td>
</tr>
<tr>
<td><em>biá</em> ‘?people’ or ‘?men’</td>
</tr>
</tbody>
</table>

The nouns *mô* ‘mother’ and *aka* ‘father’ can be used to specify gender for animals, and baby animals are referred to as such with *má* ‘child’. In these constructions it is clearer that the animal is the head of the compound, being modified by the other nouns which provide gender and age information.

(178) a) *rau mó*

pig mother
‘mother pig’ ‘female pig’

b) *rau aka*

pig father
‘father pig’ ‘male pig’

(b) *aimâna má*

dog  child
‘puppy’
Any further modification of compounds like this must modify the whole — for example, biō bōm páko (person woman big) ‘big woman’, not *biō páko bóm; aimāna má páko ‘big puppy’, not *aimāna páko má.

The noun má ‘child’ is also used for young trees. Here, however, an adjective, târe ‘new, alive, raw’, comes between the two nouns:

(179) ĭрам târe má
fruit.sp new child
‘uram sapling’

The form târe má appears to be a frozen expression and not the result of a productive process. A bigger than average sapling is still modified after má (e.g. ĭram târe má páko ‘big uram sapling’).

Both elements of a tight compound retain their original tone, but the left-hand noun is somewhat reduced phonologically (vowels are shortened and consonant lenition is common). This has an effect on the realisation of tone on the first element. For example, the word má ‘child’ has high tone. As described in §2.4, there is no distinction between H and LH on monosyllables; H-toned monosyllables can sometimes be realised with a rising pitch. When má is the left-hand noun in a tight compound, as in má biām, its vowel is short and the tone is realised as a simple high pitch with no perceivable rising. When má is the right-hand noun, as in aimāna má, its vowel is long and the tone can be realised with a rising contour.

5.1.2 Loose compounds

Loose compounds are exemplified in (180a - f).

(180) a) ēno pé
hand leaf
‘finger’

b) āi ú
tree offshoot
‘tree branch’
c) \( pi \, \dot{u} \)
   water offshoot
   ‘rivulet’

d) \( ru \, ru \)
   bird egg
   ‘bird’s egg’

e) \( n\acute{a}ki \, \dot{a} \)
   dog excrement
   ‘dog shit’

f) \( \acute{a}i\acute{r}o \, puru \)
   beadfruit bundle
   ‘bundle of breadfruits’

In this construction the nominals express part/whole or possessive relationships (English equivalents might use ‘of’, e.g. ‘egg of a bird’).

These compounds are called loose compounds because the first noun can be independently modified by an adjective. For example: \( \acute{a}i \, \dot{p\acute{a}ko} \, \dot{u} \) (tree big branch) ‘branch of a big tree’, and \( \acute{a}i\acute{r}o \, \dot{p\acute{a}ko} \, puru \) ‘bundle of big breadfruits’. If modification appears after the compound then it has scope over the whole: \( \acute{a}i\acute{r}o \, puru \, \dot{p\acute{a}ko} \) ‘big bundle of breadfruits’; \( \acute{a}i\acute{u} \, \dot{p\acute{a}ko} \) ‘big tree branch’. Quantifiers and determiners such as demonstratives and possessive pronouns, as well as relative clauses, always appear after these compounds.

The behaviour of tone on these looser compounds is the same as that found on the root compounds. The behaviour of tone is thus not a defining factor between the two types of nominal compound heads. The major defining factors appear to be semantic function and interruptibility.

Nouns can also be compounded with locationals in loose compounds to express similar possessive or part/whole relationships, as was described in Chapter 4.

(181) \( \dot{o}r\acute{o} \, i\acute{k}a \)
   house side
   ‘side of a house’
5.1.3 N+V compounds

The final compound head is made up of a noun and a verb root. In this construction the verbs typically provide factive, resultative and instrumental information about a noun. The factive construction is where the entity is brought into existence by the action, as shown in (i) & (ii) below. The resultative describes the resultant state of an entity after the action has taken place, as in (iii), (iv) & (v). The instrumental expresses the relationship (N is used for V), as in (vi) & (vii).

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>ora buá</td>
<td>(bark.bucket sew)</td>
<td>'sewn bark.bucket'</td>
</tr>
<tr>
<td>ii</td>
<td>au ōrai</td>
<td>(thing say)</td>
<td>'story/remark'</td>
</tr>
<tr>
<td>iii</td>
<td>ēi rāivi</td>
<td>(sago fry)</td>
<td>'cooked sago'</td>
</tr>
<tr>
<td>iv</td>
<td>biō rāi</td>
<td>(person die.SGS)</td>
<td>'dead person'</td>
</tr>
<tr>
<td>v</td>
<td>bo tāura</td>
<td>(place mow)</td>
<td>'mown grass'</td>
</tr>
<tr>
<td>vi</td>
<td>biōte tā</td>
<td>(oar paddle)</td>
<td>'wooden spoon, flipper'</td>
</tr>
<tr>
<td>vii</td>
<td>ēi rati poi</td>
<td>(stick jelly stir)</td>
<td>'stick for stirring sago jelly'</td>
</tr>
</tbody>
</table>

This process is not highly productive. The combinations of nouns and verb roots only ever refer to habitual relationships between things and actions. For example, in (iii) ēi is the generic term for sago, but it is also the specific term for the flat sago pancake eaten at nearly every meal. The root -rāivi is the verb that describes cooking in a pot or pan (as opposed to straight over the fire), so together ēi rāivi also refers to the pancake, since it is the result of cooking sago in a pan. This construction is used if you especially want to contrast this type of sago with any other type. Similarly, the combination in (vi) can be used to describe a flat spoon used for stirring but it is also the name of the flippers of turtles; essentially it describes any oar-like thing commonly used in a paddling-type motion.

Two intransitive verbs ('die' and 'bad') are found in this construction modifying their subjects, but no other intransitive verbs (e.g. *rau ōte 'walking pig', rau kēi 'sitting pig'). This kind of modification must be made with finite relative clauses (see §5.6). Nor are suffixing transitive verbs found in this construction (e.g.
*rau ti (pig shoot) ‘shot pig’).

There is nothing actually marking the verbs in this construction as non-finite. The only indication of non-finiteness is their lack of mood and person marking and their presence in the noun phrase.

The verb -tiipe ‘be bad’ appears in this construction and when it does it must appear with object inflection marking the person and number of the noun it is modifying. This verb normally takes a co-referential subject and object prefix.

(182) a) Aro k-ere-taipe-re.
   people RL-3pL.F-bad-3PL.F
   ‘Those women are bad.’

   b) Ne taipé-re k-a-rfv6.
   magic bad-3pL.F RL-3sG.M-hear
   ‘He knows about bad magics.’ [DICT-PW:01]

An NP head made up of a noun and a verb is non-interruptible — any further modification must occur after it (see §5.2.2). On the surface this construction strongly resembles that of nouns modified by adjectives. In §5.2.2, after a discussion of adjectives, I will show how they differ.

5.1.4 Combinations of compounds

Some complex compounds have been recorded, such as the following, in which the compound biô kuro (person deep) is a common lexical item for ‘demon’, and the compound ái nake (tree top) is also a common lexical item, ‘tree top’.

(183) biô kuro ái nake
   person deep (=buried) tree top
   ‘tree top devil’ [DICT-PW:01]

5.2 Adjectives

The first position after the head of an NP is the adjective position. Words found in this position can describe inherent properties of the head such as size or colour. They
are also used to ascribe subjective value judgements like ‘good’, as well as relative situations in space, such as ‘near’ and ‘distant’. This is also where the ordinal numerals are found. As discussed in the previous chapter, numerals can be distinguished from other quantifiers primarily by their position in the NP and their ability to inflect like verbs.

As described in section 4.2.6, most of the words which appear in this position are morphologically a sub-class of verbs. Without any derivation they can modify nouns in a noun phrase or appear as the head of a main clause. Not all the words found in this slot of the NP have exactly the same characteristics, however. For example, some members of the class of manner words (defined in the previous chapter as those words that do not inflect and that appear after the verb, modifying the verb) are also available for use in this position. Numerals are also morphologically verbs but they differ from other adjectival verbs in that they cannot be modified for degree. Some examples of the words found in the adjective slot are given in Table 5.4.

<table>
<thead>
<tr>
<th>Table 5.4 Some adjectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>adjectival verbs</strong></td>
</tr>
<tr>
<td>pako</td>
</tr>
<tr>
<td>rirívá</td>
</tr>
<tr>
<td>kuken</td>
</tr>
<tr>
<td>mén tan</td>
</tr>
<tr>
<td>târe</td>
</tr>
<tr>
<td>tororo</td>
</tr>
<tr>
<td>buso, avovo</td>
</tr>
<tr>
<td>ura, roro</td>
</tr>
<tr>
<td>opo</td>
</tr>
<tr>
<td>bumbím</td>
</tr>
<tr>
<td>aipetare</td>
</tr>
<tr>
<td>briri</td>
</tr>
<tr>
<td>ném an, néwai</td>
</tr>
<tr>
<td>totopo</td>
</tr>
<tr>
<td><strong>numerals</strong></td>
</tr>
<tr>
<td>moike</td>
</tr>
<tr>
<td>ríempin</td>
</tr>
<tr>
<td>prumo, maumau</td>
</tr>
<tr>
<td><strong>manner words</strong></td>
</tr>
<tr>
<td>rokorapo</td>
</tr>
<tr>
<td>kanápó</td>
</tr>
</tbody>
</table>
Some adjectives are quite polysemous and can describe different properties, depending on the meaning of the noun they are modifying. For example, if the word *ririvā* ‘long’ modifies a discrete object with the possibility for dimension like *minī* ‘snake’, as in *minī ririvā*, then its most probable meaning is ‘long’. If, however, it modifies a somewhat indeterminate noun like *bo* ‘place’, as in *bo ririvā*, then the most normative interpretation is ‘distant’.

Non-numeral adjectives can subsequently be modified by the intensifiers *aka* ‘really’ and *rewo* ‘very’. Any more than two adjectives is very rare, but two is quite common. Some examples of nouns modified by adjectives and intensifiers follow.

(184) a) āi koka páko rewo
tree trunk big very
‘a very big tree trunk’ [DICT-PW:01]

b) Mōmū rau mō pepana aka rewo.
2SG.F pig mother strong really very
‘You are a really very strong mother pig.’ [MP-EM:01]

An adjective can also appear in an elliptical NP where the referent of the head recoverable from immediate context, as shown in the text fragment below. The modifiers are *tāre* ‘new, alive, raw’ (unsmoked in this context) and *ura* ‘black’ (from being smoked).

(185) Bariri nākī taveke tāre, ura, īrī k-a-r-o-a yā. Cha
afternoon dog tobacco new black seed RL-3SG.M-3SG.M-give-3SG.M 3SG.M AT
Menriri taveke īrī k-a-poro-ke, tāre k-a-tī. Ura
PN tobacco seed RL-3SG.M-wrap-INTs new RL-3SG.M-tie.up black
k-a-r-rō k-a-r-ā.
RL-3SG.M-roll RL-3SG.M-3SG.M-do.

‘In the afternoon the dog-spirit gave him fresh tobacco, dry [tobacco] and seeds. Cha Menriri put away the tobacco seeds and tied up the fresh [tobacco]. He rolled up and smoked the dry [tobacco].’ [FF1-MN:01]

The identities of the heads are only recoverable from the immediate context, preferably no more than one clause away.
An example of the numeral riempin 'two' in the adjective slot is given in (186).

(186) Åukà rápi riempin bó n-ere-putu-pútu.
shoulder gooseflesh two 3SG.F IRR-3PL.F-REDUP-swollen
‘Her two armpits will be very swollen.’ [DICT-PW:01]

An example of the manner word kanāpō ‘empty, in vain’ in the adjective slot is given in (187).

(187) Ōro kanāpō pōn k-u-inà.
village empty only RL-3SG.F-be.at
‘There was just an empty village.’ [U-EM:01]

5.2.1 Reduplication

Some adjectives can be reduplicated to indicate gradations of the property.

Reduplication indicates a greater degree of the property, e.g. nó bri-briri (blood REDUP-red) ‘very red blood’. Some, such as nēman ‘good’, however, are always modified by an intensifier. There is no way of predicting whether a consonant-initial adjective will be available for reduplication or not. Vowel-initial adjectives, such as aipetāre ‘green’, do not reduplicate due to a language-wide ban on reduplicating vowel-initial words.

Reduplication is also used in forming superlatives. In Barupu, there are two gradations of superlative: ‘biggest’ and ‘next biggest’. The superlative is formed with the suffix -ki\(^1\) on an adjectival verb, e.g. mà pāko-ki ‘biggest (oldest) child’. The meaning, ‘next biggest’, is achieved by reduplicating the adjective and adding -ki, e.g. mà pāko-pāko-ki ‘middle or next biggest child’.

5.2.2 Adjectives vs. N+V compounds

There is an obvious similarity between adjectives modifying nouns and the N+V compounds described above (both involve non-finite verbs) but the similarity is only

\(^1\)This is a multi-purpose morpheme described in full in Chapter 7.
on the surface. There are four main differences.

First, an N+V cannot be further modified for degree. For example, it is not possible to say something like *ôi râivi aka 'really fried sago'. This could only be said with a finite relative clause using an intensifier rewo 'well' (e.g. ôi [bé k-o-râivi rewo] bé 'the sago she cooked well-done', see §5.6).

Related to this is that while verbs in N+V compounds can be reduplicated, reduplication indicates distributive or iterative aspect, not degree. For example, aro viri-viri (people REDUP-dead) means many dead people all over the place, not very dead people. ² There is no superlative construction on N+V compounds.

Second, there can be only one V in an N+V compound and it is not freely ordered with regard to an adjective. The compounded verb must appear next to the noun. For example, ora buá páko 'big sewn basket', not *ora páko buá. In contrast, there can be more than one adjective and adjectives are freely ordered with respect to one another, although an indication of the special status of numerals is that they do tend to come after other adjectives.

Third, a verb in a compound can never subsequently stand in for the head in an unheaded NP.

Finally, according to the criteria introduced in Chapter 4, the verbs found in the compound construction are non-adjectival; clauses headed by these verbs cannot be conjoined with to.

²The singular form cannot be reduplicated: *bio ráirá 'very dead person'. Further evidence that this verb is not an adjectival verb 'be dead' is that the way to describe someone as dead is with the verb 'die' plus the perfect particle bēn, e.g. Aka yá k-a-râi bēn (father 3sg.m RL-3sg.m-die.sgs already) 'His father is dead.' ('His father has died.')
5.3 Possession

Possession is always formed with a possessive pronoun in the determiner position. Barupu has only one set of pronouns which do not change their form in their different functions (see §4.1.1.1). A possessive pronoun is identical in form to a personal pronoun. The possessive pronoun can be optionally followed by an NP specifying the identity of the possessor, as in (188), below. This combination of the pronoun plus possessor NP is called the possession complex.

(188) óro ya Cha Charlie
   house 3SG.M AT PN
   ‘Charlie’s house’

In the above example the possession complex is made up of the pronoun ya 3SG.M followed by an NP headed with a proper name. Recursive possession is formed by stacking possession complexes one after the other, as in (189), below.

(189) Ae! To bó óm něná bé.
   EXCL breast 3SG.F wife 1SG.M DPROX
   ‘Hey! This is my wife’s breast.’  [FF1-MN:01]

5.4 Demonstratives

Barupu has five basic demonstratives, some of which have free and clitic variants. Three are primarily spatial; they indicate three distances from the speaker or deictic centre. The proximal form is also used to express the temporal notion ‘now’. In addition to the spatial demonstratives, there is a tracking demonstrative which refers to things that have been mentioned before, and what I will call an irrealis demonstrative which may occur in negated, questioned or hypothetical clauses, as well as in declarative clauses when it points to imaginary/unreal objects or places.

The tracking and irrealis demonstratives replace the spatial ones where appropriate. Tracking is a very common function of demonstratives.
cross-linguistically, and it is not unusual to find dedicated forms for this function (Anderson and Keenan 1985; Himmelmann 1996; Dixon 2003). Irrealis demonstratives are not as common, although they are found in Austronesian languages, e.g. in the Micronesian language Trukese (Anderson and Keenan 1985:299), where they often perform something like an evidential function.

As will be shown below, demonstratives can be used adnominally and they can also appear in the verb modifying slot. As adnominals they can modify any common noun (not pronouns or proper names). They cannot be used pronominally to mean something like ‘this one’, instead they must combine with the generic noun a ‘thing’. Demonstratives can also appear after the verb in the regular slot for verb modifiers and provide locational and/or temporal information. In combination with beka ‘like’, the tracking and irrealis demonstratives can be used to refer to sections of narrative and direct speech. Himmelmann (1996:224) calls this use ‘discourse-deictic’. The demonstratives also play important roles in verbless clauses (§6.5.1) and relative clauses (§5.6).

The demonstratives are summarised in Table 5.5. Some of the sets show variation between a consonant-initial and a vowel-initial form. Except for the proximal, the vowel-initial forms cliticise to the preceding word. For the most part the variation appears to be free but there is some difference in distribution in the forms for the proximal. This is discussed below.

<table>
<thead>
<tr>
<th>Table 5.5 Demonstratives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>spatial</strong></td>
</tr>
<tr>
<td>é, bé</td>
</tr>
<tr>
<td>boró</td>
</tr>
<tr>
<td>ére, béré</td>
</tr>
<tr>
<td><strong>tracking</strong></td>
</tr>
<tr>
<td>émo, bêmo</td>
</tr>
<tr>
<td><strong>irrealis</strong></td>
</tr>
<tr>
<td>éro</td>
</tr>
<tr>
<td>DPROX</td>
</tr>
<tr>
<td>DMID</td>
</tr>
<tr>
<td>DDIST</td>
</tr>
<tr>
<td>DREF</td>
</tr>
<tr>
<td>DIRR</td>
</tr>
</tbody>
</table>
5.4.1 *é/bé* — DPROX

The basic proximal demonstrative is *bé*. It can be used adnominally, as shown in the following examples from the Barupu dictionary. The first example is from the definition of the nominal conjunction *ré* ‘and’. In this example *bé* is deictic in that it refers to the word *ré* which is printed on the page just above the definition.3

(190) *Awó bé k-o-r-iko-r-o-r-i-fí l miñíá au írai owu.*
    name DPROX RL-3SG.F-3SG.F-put.in-AG-WITH-3SG.F too thing say some
    ‘She puts this word in together with some other words.’ [DICT-MM:01]

The next example is also from the dictionary but it is in reported speech from an example sentence. This example shows one of the metaphorical temporal uses of *bé* — the vowel-initial form of the proximal demonstrative, *é*, can also be used in the verb modifying slot to mean ‘now’, this is discussed below. Even though it may be daytime at the moment of utterance and ‘this moon’ may not be visible, it can be taken to always have current reference, e.g. this year, this week.

(191) *Cha Vava k-a-írai beko*
    AT uncle RL-3SG.M-say like
    ‘Uncle said that

    *ura bé n-a-rei ya bo tāipō niniñānāmi.*
    moon DPROX IRR-3SG.M-fall then place bad.3SG.F IRR-3PL.M-be.at-APPL-1PL
    next month (after this moon falls) they will initiate us.’ [DICT-PW:01]

*Bé* can also be used as a locational — (192) is a straightforward example of conversational use.

(192) *N-o-ka(m)e bé!
    IRR-2SG.F-(2SG.F)come DPROX
    ‘Come here!’*

The next two examples are from direct speech quoted in narratives. When demonstratives are used as locationals in narratives, it is not uncommon for them to

3The examples taken from the dictionary are from written sources — I have regularised the spellings used in the dictionary entries to reflect the spellings used in this thesis.
be followed by an NP identifying the location, e.g. *pīta* ‘down below’ in example (193) and *erora* ‘garden’ in (194).

(193) ̄Nēnī ̄pōn unake n-e-kē(n)i-para-ma ̄bē, ̄pīta.
      1SG.F only alone  IRR-1SG.F-(1SG.F)sit-UNDER-2SG.M DPROX down.below
      ‘And me, I’ll just sit by myself under you here down below.’ [U-EM:01]

(194) Īurī ya n-ēpi-ka(p)e ̄bē, ̄erora.
      tomorrow then IRR-1DU-(1DU)come here garden
      Tomorrow we’ll come back here to the garden.’[TP-MN:01]

Other locational words (see Chapter 4) can also appear between verbs and location NPs, such as *bāru* ‘return’ in the following example.

(195) ̄... kōpe n-ere-ruworu ̄bāru rikeren.
      then  IRR-3PL.F-smoke return grill
      ‘... then they smoke it back on the grill.’ [DC-MM:03]

The vowel-initial form of the proximal demonstrative is ̄ē. It is never used adnominally. It is only ever found following a verb and while it can mean ‘here’, it can often also be interpreted as ‘now’. The consonant-initial form ̄bē does not ever seem to have this temporal meaning. Example (196) would frequently occur when I would arrive to see people and other people would be trying to hurry them up.

(196) K-o-kae k-o-kēi ̄ē.
      RL-3SG.F-come RL-3SG.F-sit DPROX
      ‘She’s come, she’s sitting here/now.’

The next example is a ubiquitous introduction to narrated stories.

(197) K-a-n-ā au ̄īrai n-anā-īrai ̄ē.
      RL-1SG.M-1SG.M-want thing say IRR-1SG.M-tell DPROX
      ‘I’m going to tell a story here/now.’

Examples (196) & (197) are somewhat ambiguous as to whether the demonstrative means ‘here’ or ‘now’ but ‘now’ is a very likely interpretation. The next example may be an unambiguous example where the demonstrative only means ‘here’, but the
speaker is concerned with saying that she hasn’t moved from the exact same spot she is sitting in now, so there might still be some ambiguity.

(198) Bâuni! Ino biá k-en-yarâ-kâ.
no NOT person RL-1SG.F-see-3SG.M
’No I didn’t see the man.

Bo nên k-e-ké(n) k-e-ké(n) é.
TVF 1SG.F RL-1SG.F-(1SG.F)sit RL-1SG.F-(1SG.F)sit DPROX
I’ve just been sitting here.’ [FF2-CA:03]

Where once ê and bé might have been in free variation (this is still true for the distal and tracking demonstratives) there now seems to be a semantic split where bé can be used adnominally or after a verb, but the vowel-initial form ê can only be found post-verbally, providing locational or temporal information.

5.4.2 borô — DMID

The demonstrative borô refers to a point in the middle distance. In the following text extract a woman is sitting inside her house and a demon is outside telling her to heat up a clay pot on the fire. The fire is nearer the demon than the clay pot.

(199) Okutari pôn n-em-e-n-ki borô aî kéra bé.
clay.pot only lRR-2SG.F-BEN-1SG.F-grill DMID fire DPROX
‘Just heat up that clay pot there for me on this fire.’ [U-EM:01]

There is no vowel-initial variant of this form.

5.4.3 ére/bére — DDIST

The distal demonstratives are bére and ére. There is a tonal variation for these two forms; with H on the first syllable, they indicate a point in the distance, however the H can be moved to the final syllable, eré, beré to indicate an even further distance.

Both the consonant-initial and vowel-initial forms can be used adnominally or post-verbally in apparently free variation. The following example shows the two uses
of bére, first as the post-verbal locational and second as an adnominal in the location NP kikom bére ‘that mangrove’.

(200) N-o-m-a-r-o-m-o-n
    IRR-2SG.F-2SG.F-go.down-AG-REG-1SG.F
    ‘Come with me

    ke n-epi-tá bére, kikom bére.
    PURP2 IRR-IDu-paddle DDIST mangrove DDIST
    so we can paddle there, to that mangrove.’ [NS-MM:03]

Example (201) shows another adnominal use.

(201) bo rirfva here, bo Rapi
    place long DDIST place Serra
    ‘that faraway place, Serra’ [U-EM:01]

The following example shows the use of ère as an adnominal. This form cliticises to the preceding word. As discussed in Chapter 2, sequences of two vowels are dispreferred in Barupu and various processes of glide formation and deletion work to eliminate them. When the vowel-initial demonstrative cliticises to a vowel-final word, these same processes take effect. In the following example, the host ends in a back low vowel, so the initial /e/ of the demonstrative becomes a glide. In this particular example, the final syllable of the host biá ‘person’ is H-toned, as is the first syllable of the clitic; the two Hs coalesce and the word is produced with one H on the low back vowel of the resulting diphthong. Other tone sandhi effects between clitics and their hosts are still under investigation.

(202) Biá=ere  k-ere-ropo(r)é-ni.
    person=DDIST RL-3PL.F-(3PL.F)trick-1SG.F
    ‘Those women tricked me.’

The following example shows ère as a locational.4 This example also shows that the distant demonstrative can be used to express an unidentified location. In the

---

4There are no examples of this demonstrative as temporal — i.e. ‘then’.
context of the following, the implied meaning is that the speaker doesn’t care where the addressee goes, as long as it’s a long way away. It can still be thought of as deictic, however, because in this sense it means ‘anywhere that’s not here’.

(203) \textit{N-om-pupu n-o-no(m)=ére.}  
\begin{footnotesize}  
\text{IRR-2sG.F-fly IRR-2sG.F-(2sG.F)go.along=DDIST}  
\end{footnotesize}  
Fly over there! (Go away.) [U-EM:01]

5.4.4 \textit{émo/bémo} — DREF

The spatial demonstratives described above are replaced by \textit{bémo} or \textit{émo} if the participant or location has been mentioned before. These forms can also be heard as \textit{[béwo]} or \textit{[béβo]}, and \textit{[éwo]} or \textit{[éβo]}, some speakers use one form more than another, but they are not distinct semantically.\(^5\) In this chapter they will be written \textit{bémo} and \textit{émo}, elsewhere in the thesis they will be spelled according to the original written source or as reflecting the pronunciation of the oral source.

The following example shows \textit{bémo} as an adnominal. This is from a narrative about how people traditionally made paint. This particular section is about how they made yellow paint, which was made from leaves from certain trees. The speaker describes how the paint is made with each of the different leaves and at the end of the yellow paint discussion he wants to make the point that the suitable trees only grow at the old village site on the beach. They don’t grow at the new village site in the bush.

(204) \textit{Ai bémo k-ere-k6(r)e nau, uka biiuni.}  
\begin{footnotesize}  
\text{tree DREF RL-3PL.F-(3pL.F)go.up beach bush no}  
\end{footnotesize}  
‘These trees grow at the beach, not in the bush.’ [P-MG:03]

The following text extract shows \textit{émo} in the same function. The subject under discussion is some game meat which the husband doesn’t know he’s been tricked out of. The wife comes to tell him it’s not in his bag and he tells her to have a better look:

\(^{5\text{Irni} \sim /w/ \text{and } /n/ \sim /j/ \text{alternations are also found in the variants of the word ‘good’: } nēman \sim nēwai.}\)
(205) 'N-om-yārā-ø-wō(m)o ekōkō k-a-n-ere-ke.'
IRR-2SG.F-see-3SG.F-(2SG.F)DOWN string.bag RL-1SG.M-1SG.M-put-INTS
"You'll see it inside the string bag I put (there)!

Om=a k-u-frai-r-o-a,
wife=PRM RL-3SG.F-say-AG-GIVE-3SG.M
His wife says to him,

'Ekoko kaniipo, akiiiri pan k-ey-lnia ekoko=emo.'
string.bag nothing stone only RL-3PL.F-be.at string.bag=DREF
"The string bag's empty, there's only stones in this string bag.' [ANR-MN:01]

In the following example bémo is used to refer to the place that was just mentioned in the previous clause. The following example also shows the use of demonstratives in relative clauses. Notice the two demonstratives (bé and ē) in the NP containing the relative clause (bo bé biā keviri nenopi ē) — demonstratives are very common in relative clauses, see §5.6, below.

(206) ... ya k-a-rōi bo bé, [bo bé biā k-e-viri]
and RL-3SG.M-stand place DPROX place DPROX people IRR-3PL.M-die.PLS
n-e-no(pi) ē,
IRR-3PL.M-(3PL.M)go.along DPROX
'... he stood at this place, this place where when people die they will go,

k-a-rōi bémo ya k-ā-irai-kā-r-o-ø
RL-3SG.M-stand DREF and RL-3SG.M-say-TOWARD-AG-GIVE-3SG.F wife
he stood there and said to his wife ...

The speaker felt the need to further identify where the man was standing with a relative clause, and in doing so he got off the main track of the discourse. To get back to where he was he repeats 'stand' and uses the tracking locational bémo.

The next example shows émo in a similar situation. This is part of the same story as (198), above. Some bees have captured a man and were planning to eat him but an old bee was left behind and has helped him run away. In (198) above they had come back to find him gone and the old bee was protesting that she had nothing to do with it, that she had been sitting in the same place the whole time. At this point the narrator realised he had forgotten to tell part of the story (that the reason the old bee
had let the man go was that she was angry because the young bees hadn’t given her any food). The next example comes when the narrator finishes telling the background story and wants to return to the argument between the old bee and the younger bees.

(207) Bóm biá moro-moro k-o-kéi=émo
woman person REDUP-wrinkled RL-3SG.F-sit=DREF
So the old woman sitting there,
kópu k-o-kéi=émo k-u-irai-r-o-re...
grandmother RL-3SG.F-sit=DREF RL-3SG.F-say-AG-GIVE-3PL.F
the grandmother sitting there, said to them ...’ [FF2-CA:03]

The following example show the use of beka and émo together in the ‘discourse-deictic’ function.

(208) ... ya kope k-á-irai-r-o-ø mó,
and then RL-3SG.M-say-AG-GIVE-3SG.F mother
‘... and then he says to his mother,
Mán n-om-ore-o(m)o bére, nâpe k-e-ka(p)e?’
mama IRR-2SG.F-search-(2SG.F)DOWN DDIST who RL-3PL.M-(3PL.M)come
“Mama look down there, is anyone coming?”
K-u-ore-o beká=emo kope k-u-ore-ko...
RL-3SG.F-search-DOWN like=DREF then RL-3SG.F-search-UP
She looked down, like he said, and then she looked up ...’ [DC-CA:03]

Only the vowel-initial form ever appears with beka ‘like’ to refer to the contents of speech. As example (191) above showed, one use of beka is introducing reported speech. It can also refer to tracts of narrated text. In the following, a man’s wife and baby have been killed and the perpetrator has piled up their bones on the fire; this has all been related in a previous episode. In the example here, the man has come home and seen what has happened.

(209) Ám=a k-a-kae, k-a-yárá-ø beká=emo.
husband=PRM RL-3SG.M-come RL-3SG.M-see-3SG.F like=DREF
‘The husband came and saw all this.’ [FF2-CA:03]

In texts beka=émo very commonly refers to the contents of direct speech as a sort of framing device to kick off the next part of the text. For example, narrators
might quote some direct speech but, before going on to the next bit of the story, they might round up what has just happened. Another example follows:

(210)  \textit{K-a-rívó-r-o-o beka=emo ya k-a-kéi torópo.}  \\
\textit{RL-3SG.M-hear-AG-GIVE-3SG.F like=DREF and RL-3SG.M-sit quietly}  \\
\textit{‘He heard what she said and sat quietly.’} [U-EM:01]

5.4.5 \textit{éro} — \textit{DIRR}

\textit{Éro} often appears in hypothetical or negated clauses and polar questions. It can also appear in declarative clauses to refer to imaginary entities. I call this demonstrative irrealis and as Givón (2001b:327) notes, irrealis is related to evidentiality in that ‘irrealis is so weak and tentative that it falls below the threshold of the need to bother with evidence’. The use of this demonstrative is not obligatory in any context; speakers appear to have the choice of weakly asserting the reality of a thing or place with the use of the irrealis demonstrative.

The irrealis demonstrative can be found in realis-marked clauses which nonetheless have a degree of irreality about them: negatives, polar interrogatives, declaratives about imaginary entities, as well as in irrealis-marked clauses, such as hypotheticals. It is not, however, found in all irrealis-marked clauses; for example, future clauses do not always use this demonstrative (see (193), above), and nor do imperatives (192), although these are both examples of irrealis clauses.

The following example shows \textit{éro} in a hypothetical clause. This is from the bee narrative and here the old bee is telling the captured man to run away. This demonstrative does not have a consonant-initial variant, and cliticises to a preceding word if there is one.

(211)  \textit{N-a-ké(m)i=éro. k-ere-kô(r)e k-ey-ore}  \\
\textit{IRR-2SG.M-(2SG.M)sit=DIRR RL-3PL.F-(3PL.F)go.up RL-3PL.F-search}  \\
\textit{‘If you just sit there, while they’ve gone foraging,}  \\
\textit{n-ere-r-aro n-ere-ye-ma.}  \\
\textit{IRR-3PL.F-3PL.F-go.down IRR-3PL.F-kill-2SG.M}  \\
\textit{they’ll come back and kill you.’} [FF2-CA:03]
The next examples show the use of this demonstrative in negative clauses.

(212) **Éro bâun!**
**Dirr not.be.at**
‘Not there!’ (as in ‘Don’t put it there.’)

(213) **Cha Raeyau k-ā-irai-r-o-i,**
**AT PN RL-3SG.M-say-AG-GIVE-3PL.M**
‘Raeyau said to them,

‘Bâuni, bô=ero beya n-e-no(m)i vai.’
**no place=Dirr NEG IRR-lpL-(IPL)go POL**
“No, that place, we’re not going.” [ANR-EM:05]

The next example shows the use of this demonstrative in a polar interrogative.

There are no generic nouns of the type ‘someone’ or ‘anyone’, instead polar questions can be framed as content interrogatives with interrogative pronouns. In a way the demonstrative is not only appearing in this clause because it is hypothetical but is also contributing some of the irrealis interpretation.

(214) **Ei! nāpe aninia nēnā k-e-p-u=éro?**
**EXCL who fruit.sp ISG.M RL-3PL.M-3PL.M-pick Dirr**
‘Hey is someone picking my fruit there?’ [ANR-MN:01]

In the above examples the places and objects might be real but the situations are not. Another use for éro is when the objects and places themselves are not real. It is used very often in example sentences in the Barupu dictionary. Example (190) above, was from a definition of the word ré-, visible on the page above the definition.

Example (215) below is a made up sentence about a made up tree.

(215) **Āiten=éro, chápo nēnā k-a-ora-r-o-na.**
**tree=Dirr grandfather ISG.M RL-3SG.M-plant-AG-GIVE-1SG.M**
‘This aiten tree, my grandfather planted it for me.’ [DICT-PB:01]

The next sentence is also from an example sentence in the dictionary and there is something borderline about the reality of ghosts and demons.
The following is an example of a borderline-reallocation. This is the first mention of the 'place where dead people go'. Later in the story, as was shown in (206), the place is referred to with one of the spatial or tracking demonstratives. Even here in the immediately following location NP, a real spatial demonstrative is used. But in the first mention the place is established as one which no living person has seen.

The form ero can also appear with beka 'like' in the discourse-deictic function. In (218) a man has put a spell on a piece of fruit so that he can throw it a long way away and escape; beká=ero here is referring to a previous clause where he has laid out his plan in full in his mind. The hypothetical demonstrative is used because it is talking about a hypothetical event.
5.5 Quantifiers

As discussed in section 4.3.11, the NP-internal quantifiers are *pin* and *owu*, both of which mean ‘some, not all’; and *ra* ‘one, another’. Examples (220a & b) show the quantifiers *ra* ‘one’ and *owu* ‘some’ functioning in the Determiner slot.

(219) a) *roro ra*
    day one
    ‘one day’

b) *K-epi-kē(p)i au īrai owu kepīrai*.
    k-epi-irai
    RL-IDU-(1DU)sit thing say some RL-IDU-say
    ‘We’re sitting telling some stories.’ [CF-MN:Ol]

These quantifiers can also appear before a possessive or demonstrative, where they have a partitive function, e.g. ‘one of’, ‘some of’.

(220) *K-ā-irai-r-o-i miniā rāi owu yā*.
    RL-3SG.M-say-AG-GIVE-3PL.M too sibling some 3SG.M
    ‘He told some of his brothers about it too.’ [U-EM:01]

Like adjectives, quantifiers can appear in un-headed NPs where they always have a partitive function, because in the absence of an overt NP, third person verb agreement morphemes are almost always definite. First and second person verb agreement morphemes are always definite, see Chapter 6.

(221) *Ra n-amā-ute, owu n-o-kē(p)i*.
    one IRR-2SG.M-walk some IRR-2PL.M-(2PL.M)sit
    ‘One of you will go, some of you will stay.’

The verbs -*ute* ‘walk’ and -*kēi* ‘sit’ are intransitive, thus there is no recoverability problem over the identity of the referents of *ra* and *owu*. It is interesting to note that -*ute* takes singular agreement even though the statement is obviously being addressed to a group.

---

As discussed in §4.3.11, there is another quantifying word *nōtē* ‘all’, that is found after the NP it is quantifying — evidence for this is that it appears after possession and demonstratives.
5.6 Relative clauses

Relative clauses are clauses which modify nouns. They come in two main forms: restrictive and non-restrictive. According to Comrie (1989:143), a restrictive relative clause ‘consists necessarily of a head and a restricting clause. The head ... has a certain potential range of referents, but the restricting clause restricts this set by giving a proposition that must be true of the actual referents of the overall construction.’ In non-restrictive relative clauses the relative clause simply provides more information about a head whose real-world referent is not under question. Barupu uncontroversially has restrictive relative clauses, but does not seem to make use of non-restrictive relative clauses.

Relative clauses in Barupu can take the form of either a plain clause or clauses following the head, or they can appear with a determiner such as a pronoun, demonstrative or quantifier. The verbs in relative clauses are fully finite and there is no special verbal marking of relativisation. However, there is a strong tendency to lenite realis marking in relative clauses.

The relativised NP is external to the relative clause, but if it would normally be represented by verb morphology then that morphology is retained. The plain relatives can be seen in the following examples. Any participant may be relativised on example (222) shows a relativised subject. The =va is not obligatory. It is possible to demonstrate that all non-subject relativised NPs are external, because they are not in their normal position in the clause. Subject relativised NPs, however, could be analysed as internal or external.

(222) *Bió [tôman=a k-a-ti-a] k-en-yarâ-kâ.*

*man bandicoot=PRM RL-3SG.M-shoot-3SG.M RL-1SG.F-see-3SG.M*

‘I saw the man who shot the bandicoot.’

Example (223) shows a relativised object of a suffixing transitive verb.
bandicoot man=PRM RL-3SG.M-shoot-3SG.M RL-1SG.F-see-3SG.M
'I saw the bandicoot that the man shot.'

Example (224) shows a relativised object of a non-suffixing transitive verb.

(224) Awei=a [k-amā-irai] beya k-u-fnia vai.
game.meat=PRM RL-2SG.M-say NEG RL-3SG.F-be.at POL
'The game you talked about is not here.' [ANR-MN:01]

Example (225) shows a relativised location.

(225) K-a-rōi-ro-wo āi koka nai
RL-3SG.M-stand-HID-DOWN tree trunk large
'He stood hidden in the large tree trunk
[nāki k-a-kēi-ro-ko para].
PN RL-3SG.M-sit-HID-UP post
that the dog-spirit (usually) sat hidden up in the roots of.' [TP-MN:01]

That the head is external is shown most clearly with relativised on locations. In example (226), below, a relativised location is embedded inside another relative clause. The head of the ‘outer’ relative clause is ūram tāre mā ‘ūram sapling’ and the relative clause is [korōi ōro ika bó rē ām kerekēpī] ‘it stands at the side of the house that she and her husband live in’. Ŭram tāre mā is represented inside the relative clause by 3SG.F agreement on the verb -rōi ‘stand’. The head of the ‘inner’ relative clause is ōro ika, a compound meaning ‘side of house’ and the relative clause is [bō rē ām kerekēpī] ’she and her husband sit(=live)’.

(226) ... ya k-u-amo-ko ūram tāre mā
and RL-3SG.F-hang-up fruit.sp new child
‘... then she hung upside down in the ūram sapling
[k-o-rōi ōro ika [bō rē ām kerekēpī]].
RL-3SG.F-stand house side 3SG.F and husband RL-3DU-(3DU)sit
that stood at the side of the house where she and the husband lived.’ [U-EM:01]

In a main clause, the normal place for a location is after the verb. For example:
When the location is relativised on, it is moved out of its regular position and is not represented in the relative clause at all. It is very common for the realis marker $k$- to be lenited to [x] and sometimes even $\emptyset$ in relative clauses.

A restrictive relative clause is one of the ways in which speakers of a language can 'delimit the potential referents' (Comrie 1989:139) of common nouns. Demonstratives are another and the two often go together in Barupu. In many cases a demonstrative occurs twice, once at the beginning of the relative clause and once at the end of the NP. In (228) and (229) the default, proximal demonstrative is used both to at the beginning of the relative clause and at the end of the NP.

(228) $A$ bé $k-o-p-\acute{a}$ bé beya $k-o-n\acute{e}m\acute{a}$n vai.
thing DPROX RL-2PL.M-2PL.M-do DPROX NEG RL-3SG.F-good POL K-o-tāipō.
RL-3SG.F-bad.3SG.F
'This thing that you all do is not good. It's bad.' [NSC1-CA:03]

(229) Imo=va bé $k-ere-r-\acute{a}-\acute{a}$ bé $k-ere-bere$
armband=PRM DPROX RL-3PL.F-3PL.F-make-3SG.F DPROX RL-3PL.F-pour rīnā.
sago.bark
'They filled the sago bark with those armbands that they made.' [WH-RX:03]

Only the spatial demonstratives can be used at the beginning of the relative clause. Usually the two demonstratives are the same, as shown in the following example.

(230) Biō bōm bé $k-en-\acute{r}-\acute{a}-\acute{a}$ bé $k-ama-y\acute{a}r\acute{a}-\acute{a}$.
person woman DPROX RL-1SG.F-say-AG-GIVE-3SG.F DPROX RL-2SG.M-see-3SG.F
'You saw the woman that I was speaking to.'

However, the second demonstrative can also be whichever demonstrative is required by the discourse or irrealis status of the relativised participant. Some
examples from texts follow. In (231) the proximal demonstrative is used at the beginning of the relative clause but the tracking demonstrative is used as the second demonstrative, because this is the second mention of this definition in the dictionary entry.7

(231) **Au bé měmí bió k-e-ké(m)i-romō-ré-ke béwo:**

thing DPROX 1PL person RL-1PL-(1PL)sit-AMID-3PL.F-INTS DREF

'These things that we people sit amongst:

**au beka ài bió ame pi pú měnī akorom.**

thing like tree person animal water wind soil food things like trees, people, animals, water, wind, ground, food.' [DICT-CM:Olj]

In (232) the middle distance demonstrative is used first and the irrealis demonstrative is used as the second demonstrative, possibly because the clause is negative or because it is from a translation of a literacy primer and the pig is not real.

(232) **Báuni, beya rau boró k-a-páko to k-a-púru-púru=éro.**

no NEG pig DMID RL-3SG.M-big and RL-3SG.M-REDUP-fat=DIRR

'No, not this pig that is big and fat.' [C-EM:03]

Quantifiers can also appear in place of the second demonstrative, as shown in example (233). They always have a partitive function.

(233) **... awei=a [bère k-a-n-ere-ná-u ekókó] ra=va**

game.meat=PRM DDIST RL-1SG.M-1SG.M-put-APPL-3SG.F string.bag one=PRM n-o-m-yé-ya.
IRR-2SG.F-2SG.F-hit-3SG.M

'... kill one of the game animals that I put with the string bag.' [ANR-MN:01]

There are no non-specific heads in Barupu. Instead the construction *a be* 'this thing' is used.

(234) **A [bé ám=a k-á-irai-r-o-σ] (hes) émo**

something DPROX husband=PRM RL-3SG.M-say-AG-GIVE-3SG.F DREF

k-o-r-á bën ...
RL-3SG.F-3SG.F-do already

'She had done this thing that her husband had told her ...' [ANR-MN:01]

---

7 In both (230) and (231) the relativised participant is an added object; in (231), for example, the relativised on argument is *au* 'thing', an added object introduced by the locational *romō*- 'among'; objects of these morphemes are called added objects and they unmarkedly appear after the verb. Added objects are discussed more fully in Chapters 6 and 7.
5.7 Nominal conjunction

Barupu has four nominal conjunction strategies: simple listing of participants with no conjunction; the use of a pronoun which indexes all participants plus listing of any or all of the participants; the use of an inflecting conjunction re-, which will be glossed as ‘and’; and the use of an inflecting comitative avé-, which will be glossed as ‘with’. These will be described in turn. Disjunction is formed with the borrowed Tok Pisin particle o ‘or’. It simply appears between two NPs.

5.7.1 Listing

A very common strategy is to list the participants one after the other and if the participants are both animate, the verb agrees with the dual or plural form of the participant highest on the following hierarchy.

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd human</th>
<th>non-human animate</th>
<th>inanimate</th>
</tr>
</thead>
</table>

Figure 5.2 Person hierarchy

The listing strategy is most commonly used for conjoining either a human with a lower animate or inanimates. In the former, the verb agrees only with the human.

(235) Bió bī nāki k-a-tiriri-nă-i rau.
    person ancestor dog RL-3SG.M-hunt-APPL-3PL.M pig
    ‘An ancestor [and] dog went hunting for pigs.’ [TP-MN:01]

(236) Mō apón oti n-o-r-o-a má.
    mother banana pawpaw IRR-3SG.F-3SG.F-give-3SG.M child
    ‘The mother will give bananas [and] pawpaws to the boy.’ [DICT-PB:01]

Another common strategy related to listing is to add any other participants as afterthoughts after the verb.

(237) Imo k-e-p-una, ari tī.
    armband RL-3PL.M-3PL.M-get.PLO apron tail
    ‘They got their armbands, and their long bark aprons worn at the back.’
    [U-EM:01]
5.7.2 Inclusory construction

An extension of the listing strategy uses a pronoun indexing all the participants, followed by a list of any particular participants the speaker feels are relevant. The verb always agrees with the pronoun.

(239) Mēpi Cha Charlie n-epi-p-aro Aitape
1DU AT PN RL-1DU-1DU-go.down PLN
'We two, [me and] Charlie, will go to Aitape.'

5.7.3 Singular conjunction — ré-

The conjunction, ré-, is only used to conjoin two singular participants and the verb agrees with a combination of the participants, so always appears with dual marking. The conjunction itself also takes suffixing dual inflection, which is obligatory when one of the conjuncts is first or second person but optional, and quite rare, if both conjuncts are third person. Person agreement on the verbs and the conjunction follows the same person hierarchy outlined above. The suffixes found on the conjunctions are the same as the object suffixes found on verbs. This is shown in examples (240a - c).

A combination of first person and second or third person results in 1DU marking on the conjunction and the verb, as in (240a). A combination of second and third person results in 2DU marking on the conjunction and the verb, as in (240b). Example (240c) shows no marking on the conjunction between two third person participants but 3DU marking on the verb.
This conjunction can also be used to conjoin inanimate objects as in *oti ré apón k-ë-n-á* ‘I ate a pawpaw and a banana.’

5.7.4 Dual and plural conjunction — *avé-*

This conjunction is used in situations where the second conjunct is dual or plural and all participants are animate. On the surface the plural conjunction *avé-* ‘with’ appears very similar to the singular conjunction *ré-* in that it inflects and appears between two NPs, but there are some differences:

- *avé-* agrees with the second conjunct only (never both);
- the verb may agree either with a combination of the two conjuncts according to the person hierarchy, or with the first conjunct;
- both the first and second conjuncts can be omitted, provided their identities are recoverable from preceding discourse or verb agreement.

The two possibilities for verb agreement are shown in (241). In (241a) the verb agrees only with the first conjunct — *1SG.F*. In (241b) the verb agrees with the combined participants — *1PL*. In both cases the *conjunction* agrees with the second conjunct only — *3PL.M.*

(241) a) *Nëñëi avé-i mevóva akorom k-ë-n-á.*  
*1SG.F with-3PL.M children food  RL-1SG.F-1SG.F-eat*  
‘I ate with the children.’

Note: I am using the suppletive plural noun *mevóva* to make the point clearer but a noun does not have to be morphologically marked for number to be used as a plural.
b) *Něni avé-i mevôva akorom k-e-m-á.*

1SG.F with-3PL.M children food RL-1PL-1PL-eat

'I ate with the children.'

This conjunction can appear with the conjuncts omitted, given the right discourse conditions; that is, the identities of both conjuncts are recoverable. This is shown in the following example.

(242) *Avé-i k-a-kae.*

with-3PL.M RL-3SG.M-come

'He is coming with them.' [FF1-MN:01]