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A Reconstruction of Proto-Sogeram

Phonology, Lexicon, and Morphosyntax

A dissertation in partial satisfaction

of the requirements for the degree

Doctor of Philosophy in Linguistics

by

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I also give special thanks and praise to God for creating us, endowing us with reason, and setting us loose in such a wonderful and fascinating world. It is my sincere hope that this work of scholarship will bring him honor.

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Archival Collections

Daniels, Don (collector, researcher). 2014. *Documenting the Sogeram Language Family of Papua New Guinea.* Endangered Languages Archive (ELAR), 145 items. http://elar.soas.ac.uk/node/292770.

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Presentations

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Abstract

A Reconstruction of Proto–Sogeram: Phonology, Lexicon, and Morphosyntax

by

Don Roger Daniels

The Sogeram languages are a family of ten languages spoken in central Madang Province, Papua New Guinea. This dissertation presents a reconstruction of Proto-Sogeram, including sections on its phonology, lexicon, verbal morphology, nominal morphology, and syntax. The methodology employed is, for the most part, the traditional comparative method, especially in the sections focusing on phonology, lexicon, and morphology. But I also argue for methodological innovations to the comparative method, which are grounded in a theoretical understanding of the nature of language and language change. These innovations allow for the reconstruction of syntax, and I reconstruct a good deal of the grammar of Proto-Sogeram. I also discuss many of the various innovations that the Sogeram languages have undergone, and conclude with a grammar sketch of Proto-Sogeram as I reconstruct it.

The dissertation also contains six appendices, each of which is a grammar sketch of a previously undescribed Sogeram language. (Appendix 4 is actually a description of the two closely related Aisi languages.) These are the result of my fieldwork in Madang Province. The data from that fieldwork, along with data from other linguists on the three other Sogeram languages, constitutes the synchronic material on which the reconstruction is based.

Contents

List of Abbreviations

1	first person		ILOC	location of item
1/2	first or second person		IMP	imperative
2	second person		INDF	indefinite
2/3	non-first person		INF	infinitive
3	third person		INS	instrumental
ACC	accusative		INT	intensifier/linker
ADJZ	adjectivizer		IPST	immediate past
ADVZ	adverbializer		IRR	irrealis
AJTZ	adjunctivizer		LI	locative/instrumental
BEN	benefactive		LNK	linking morpheme
CAUS	causative		LOC	locative
CHAR	characterized by		MD	middle deictic distance
COM	comitative		MPST	middle past
COMP	completive		MULT	multiplicative
CONT	continuous		ND	near deictic distance
CPR	comparison		NEG	negative
CTR	contrastive		NFUT	non-future
CTRF	counterfactual		NMLZ	nominalizer
DEF	definite		NMPT	nominalizer/participle
DELAY	delayed relative tense		NOM	nominative
DESID	desiderative		OBJ	object
DIM	diminutive		OBL	oblique
DISTR	distributive plural		PAUC	paucal
DS	different subject		PL	plural
DU	dual		POSS	possessive
EMPH	emphatic		PRAG	pragmatically salient
EXST	existential		PRED	predicate
FAR	far (tense)		PROH	prohibitive
FD	far deictic distance		PRS	present
FFUT	far future		PTCP	participle
FOC	focus		PURP	purposive
FPST	far past		Q	interrogative particle
FRUST	frustrative		QD	interrogative demonstrative
FUT	future		QUOT	quotative particle
GEN	genitive		RPST	recent past
HAB	habitual		SEQ	sequential
HIS	historic (tense)		SET	setting
HPST	historic past		SIM	simultaneous
IFUT	immediate future		SG	singular

SPEC	specific	TR	transitivizer
SS	same subject	UFUT	uncertain future
TEMP	temporal	VBLZ	verbalizer
TOP	topic	VOC	vocative
TPST	today past	YPST	yesterday past

Chapter 1

Introduction

In this dissertation I present a reconstruction of the Proto-Sogeram language, the common ancestor to the Sogeram language family of Papua New Guinea. My goal is to achieve as complete a picture of Proto-Sogeram (PSog) as possible, and so I have devoted chapters to the reconstruction of phonology, morphology, syntax, and the lexicon. The chapters on phonology, morphology, and lexicon stand firmly in the long tradition of comparative reconstruction that has been going on for centuries. The chapter on syntax, though, attempts to further develop the comparative method so that it can handle syntactic data. Due to ongoing changes in the theoretical landscape in linguistics, recent years have seen a lively conversation emerge about syntactic reconstruction. Scholars differ on the question of whether the comparative method can sensibly and profitably be applied to syntactic data, and consequently whether syntax can be reconstructed.

Another goal, then, is to develop a workable methodology for syntactic reconstruction and to demonstrate its effectiveness by applying it to the Sogeram data. The critics of syntactic reconstruction have pointed out numerous problems one encounters when trying to apply the comparative method to syntactic data. Some of these putative problems are more genuinely problematic than others, but I argue, and hopefully demonstrate, that none of them are insuperable.

A further important goal of this project is language documentation. The Sogeram languages are spoken in Madang Province, which is located along the northeastern coast and in its hinterland on the island of New Guinea. This is an area of Papua New Guinea where language shift to Tok Pisin is very advanced (Kulick 1992), and the Sogeram languages, by and large, have not escaped this trend. I conducted fieldwork on seven languages, all but one or two of which are no longer being learned by children. In recording, transcribing, and analyzing these languages I have tried to create a lasting record that will benefit the communities after firsthand knowledge of their languages has been lost.

A final goal is to broaden our theoretical understanding of language structure and language change. This goal emerges naturally when one is conducting new fieldwork and making new reconstructions, but it needs to be borne in mind nonetheless. In analyzing the languages on which I conducted fieldwork, and in reconstructing PSog and outlining the innovations by which each modern language was formed, I have contributed to the storehouse of data against which our theories ought to be measured. I also sought to conduct my analysis and reconstruction with sensitivity to those theories, pointing out areas of potential significance as they were encountered and interpreting their meaning for our theoretical understanding of language structure and language change.

What follows, then, is an ambitious project. From the collection of the first Magɨ wordlist to the reconstruction of PSog serial verbs, I have tried to "do it all" so I can describe, at least in some detail, what PSog was like. The structure of the dissertation, however, does not match the way the work proceeded. The synchronic descriptions of

previously undescribed languages are in the six appendices; the reconstruction of PSOG is found in the body of the dissertation. The reconstruction begins with PSOG phonology in Chapter 2, then proceeds with verbal and nominal morphology in Chapters 3 and 4, grammatical constructions in Chapter 5, and the reconstructed lexicon in Chapter 6. I conclude in Chapter 7. The appendices contain grammar sketches of the Sogeram languages for which I conducted fieldwork. These are, in the order they are presented, Mand, Manat, Sirva, Aisi,[1] Kursav, and Gants.

Before I launch into the reconstruction and the sketches, though, I must address a number of preliminary matters. In the following section I introduce the Sogeram languages and their comparative-historical setting; I introduce my methodology for reconstructing syntax (§1.2); and I discuss the internal relationships of the Sogeram languages and the merits of family trees, wave diagrams, and other devices for modelling language relationships (§1.3).

1.1. The Setting

The Sogeram family consists of ten languages spoken along the Ramu and Sogeram Rivers in inland Madang Province, Papua New Guinea. Their location is shown in Figure 1. Four of

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[1] Aisi is actually two closely related languages, Magɨ and Mabɨŋ. In previous work—both mine and others'—Aisi was referred to as one language because linguists had not yet discovered Magɨ. I heard about it during my fieldwork and conducted very brief research on it, so Aisi Mabɨŋ features much more prominently in the discussion. But the languages are related so closely that often referring to them together as Aisi is sufficient.

the languages—Mand, Manat, Magɨ, and Kursav—are spoken in only one village. Others, such as Gants, Apalɨ, and Mum, are spoken across much larger territories. The largest languages are Gants and Mum, with two to three thousand speakers each. The smallest is Mand, with only eight remaining speakers; Kursav is a close second with ten. In general language shift to Tok Pisin is quite advanced in central Madang, and all of the Sogeram
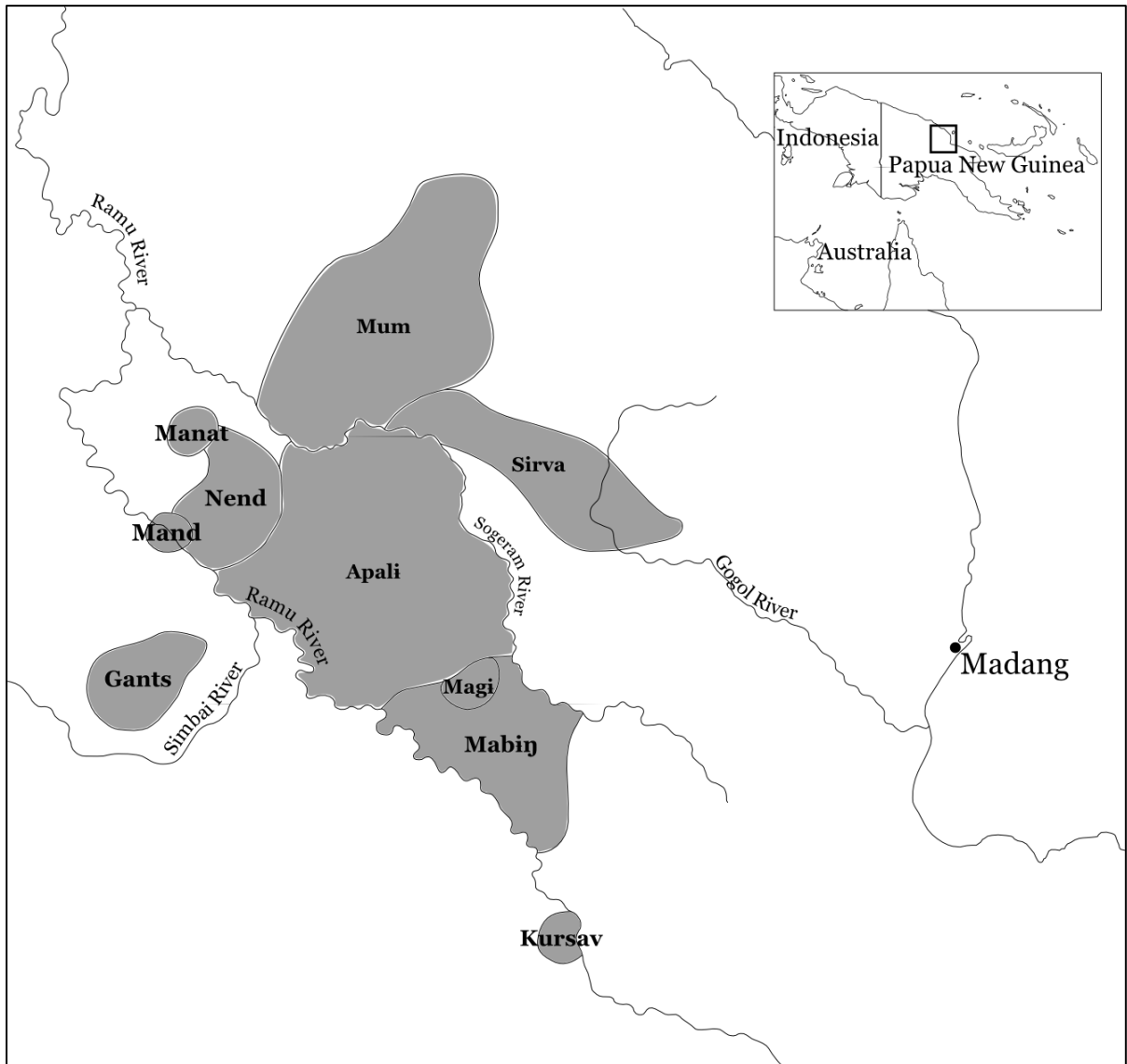
Figure 1. Map of the Sogeram languages

languages (with the possible exception of Gants) are endangered. In none of my fieldwork did I ever hear a child speaking one of the languages I was investigating.

The issue of language names is somewhat complicated. The names used in the current edition of the *Ethnologue* (Lewis et al. 2015) are generally taken from Z'graggen's pioneering work in the Madang area (Z'graggen 1971, 1975*a*). In these works Z'graggen "used important and well known village names as language names, because such names are a handy reference to the location." He also noted that people in Madang often have no name for their language and declared that "the speakers of a language themselves are invited to give their own language name to replace the proposed name" (Z'graggen 1975*a*: 5). Because languages in the Sogeram area generally *do* have a name by which they are known, I have decided, at the risk of further multiplying the number of language names in the Papuanist literature, to use the names by which speakers refer to their languages instead of the names by which Z'graggen originally referred to them. The names he used, with the exception of Gants, are village names that do not refer to a language or a kind of speech. Rather, when speakers wish to refer to a language, they often refer to it by means of a salient word in that language, often "no." Thus Mand, Nend, Manat, Apalɨ, Magɨ, and Mabɨŋ are named after the word for "no" in each of those respective languages. Similarly, Mum and Aisi are named after the words for "what" and "why." And sometimes a language has a name that does not appear to have any meaning apart from its use as a language name; this is the case for Sirva, Kursav, and Gants. Table 1 shows the language names that I (and speakers) use, what they mean, the names Z'graggen used, and what they mean. It should be noted that in three cases—Nend, Apalɨ, and Mum—the name of the language had been

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changed by missionaries with Pioneer Bible Translators well before my arrival on the scene.

Table 1. Language names

Name used here	meaning	Z'graggen's name	meaning
Mand	'no'	Atemple	village name
Nend	'no'	Angaua	demonym
Manat	'no'	Paynamar	village name
Apalɨ	'no'	Emerum	village name
Mum	'what'	Katiati	village name
Sirva	language name	Sileibi	village name?
Magɨ	'no'	n/a	
Aisi (Mabɨŋ)	'why (no)'	Musak	village name
Kursav	language name	Faita	village name
Gants	language name	Gants	language name

Matters become somewhat complicated with the Aisi languages, Magɨ and Mabɨŋ. These are two closely related languages that are not mutually intelligible. In Z'graggen's work, though, only Mabɨŋ was surveyed, so it is the only one of these languages recognized in sources like the *Ethnologue.* Magɨ is spoken in the single village of Wanang, which is not contained in Z'graggen's list of villages (1975*a*: 68–94). Z'graggen referred to the language he surveyed as Musak, but as that is the name of a village, it will not do as a name for the language. Speakers of both languages refer to their language as Aisi, which is their word for 'why' (composed of the word for 'what,' *ai*, with the benefactive enclitic *=si*), so this is a convenient label for the grouping. Speakers of Magɨ will also refer to their language as *magɨ*, their word for 'no.' This, then, serves as a convenient label for that language. But speakers of Mabɨŋ do not have a name besides Aisi that they commonly use to refer to their language. For this reason I have chosen their word for 'no,' *mabɨŋ*, as a label for the

language because it parallels the Magɨ choice of name. But readers should be aware that speakers of Mabɨŋ refer to their language as Aisi.

One other entity has been renamed, and that is the Sogeram family itself. In Z'graggen's original classification (1971, 1975*b*), the closest thing to the Sogeram subgroup was his Wanang stock, which contained Mand, Nend, Manat, Apalɨ, and Aisi. Subsequent research has added Kursav from Z'graggen's Brahman group (Pawley 2001); Gants from the East New Guinea Highlands group (Pawley 2006*a*); and Mum and Sirva from Z'graggen's Josephstaal group (Daniels 2010). The addition of the previously un-surveyed Magɨ was noted above. The Sogeram group is thus substantially different from Z'graggen's Wanang group, so a new name is justified. It may also be that Z'graggen intended to name the group "Sogeram" in the first place. He says that his Wanang group is "named after the Wanang River, which in turn is one of the main tributaries of the Ramu River" (Z'graggen 1971: 61), but the Wanang flows into the Sogeram; the Sogeram flows into the Ramu. So it is not clear which river Z'graggen had in mind when he named the Wanang group—the Wanag is still, technically, a tributary of the Ramu—but it is possible that it was the Sogeram. Given, then, that the family under discussion here differs substantially from Z'graggen's Wanang, that "Sogeram" is more appropriate geographically, and that Z'graggen may have intended the name to be "Sogeram" all along, I consider the relabeling of this genetic unit justified.

A few words about orthography are also in order. Orthographies have been developed for Bible translation projects in Nend, Apalɨ, and Mum, and I employ those orthographies when citing data from these languages. For the rest, I have developed my own orthography. In general, prenasalization on voiced stops is not written, so <b d g>

represent /mb nd ŋg/. The exceptions to this are Nend, where the prenasalization is written even though it is not phonemic; and Aisi, where prenasalized stops lost prenasalization and now contrast with nasal–stop clusters, so single-unit phonemes <b d g> contrast with clusters <mb nd ŋg>. The Sogeram languages have at most one liquid, although a couple have no phonemic liquid (only an allomorph of /d/ or /t/). The symbol for this liquid is <r> in every language except Apalɨ, where it is <l>. The presence of fricatives /ɸ/, /β/ and /ɣ/ is common, and these are represented by the symbols <f>, <v>, and <h> in every language. The palatal nasal /ɲ/ is written <ñ>, and the palatal consonants /c/ and /ʧ/, since they are not contrastive in any language, are both written <c>. The symbol <z> has perhaps the most confusing range of uses. In Mand it represents a voiced post-alveolar fricative /ʒ/; in Nend it represents the alveolar /z/; and in Manat, Mum, and Sirva it represents a prenasalized alveolar fricative /nz/.

1.1.1. Madang and Trans New Guinea

The Sogeram subgroup belongs to the Madang family, which is generally recognized as the "largest well-defined branch" of Trans New Guinea (Pawley 2006*a*: 429). Madang contains some 107 languages (Lewis et al. 2015) which belong to four primary subgroups: Kalam–Kobon, Croisilles, Rai Coast, and South Adelbert. An additional pair of languages, Korak and Waskia, may belong to the South Adelbert group (Ross 2000), or to the North Adelbert branch of the Croisilles group (Z'graggen 1975*b*: 577), or to a fifth first-order subgroup of Madang (Pawley 2006*a*). Sogeram belongs to the South Adelbert group, which also contains the Josephstaal subgroup, consisting of five languages.

The Madang group belongs to the Trans New Guinea (TNG) family, a large genetic grouping that has been argued to contain most of the Papuan languages across the central cordillera of New Guinea as well as many others (Pawley 2005, Ross 2005). The position of the ten Sogeram languages within this large family is shown in Figure 2.
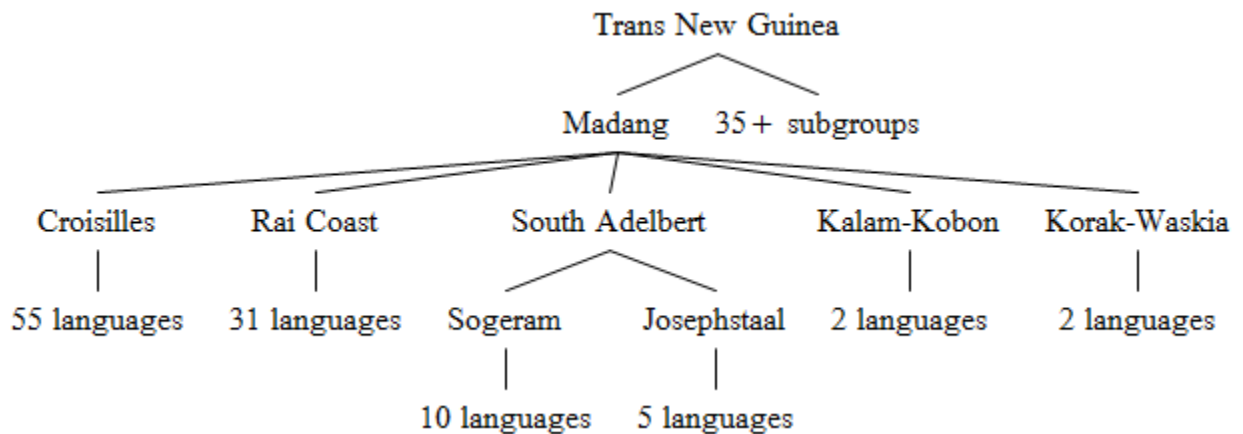
Figure 2. The position of Sogeram within TNG

The history of the TNG hypothesis has been documented in detail by Pawley (1998a, 2005), so I provide only a brief overview here. TNG was first proposed by McElhanon & Voorhoeve (1970) and was expanded on significantly in an edited volume five years later (Wurm 1975). However, these early attempts at classification were marred by serious methodological weaknesses (Haiman 1979, Lang 1976), and historical-linguistic work on the Papuan languages of New Guinea lost steam. Some two decades later, researchers at the Australian National University reinvigorated the research program by arguing that although Wurm and his colleagues had overreached in many respects, the core of TNG was indeed a valid genetic grouping. These researchers offered reconstructions and subgroupings based on a more traditional interpretation of the comparative method

(Pawley 1995, 1998*a*, 2001, 2005, 2012, Ross 1995, 2000, 2005), and their findings have as a consequence been regarded more positively.

In the history of TNG studies, Madang's place in the family has not been in doubt since Z'graggen first argued for its inclusion (Z'graggen 1975*b*). The boundaries of the Madang branch are well defined, as it is characterized by the innovation of the Proto-Madang 1SG, 2SG, and 3SG pronouns *ya, *na, and *nu from Proto-TNG *na, *ŋga, and *ya (Pawley 1998*a*: 683). And its relationship to other secure TNG subgroups is not in doubt, as cognacy can be established for other pronouns, verbal morphology, and core vocabulary (Suter 1997, Pawley 2005, Ross 2005).

1.1.2. Previous Research

Research into the history of the Sogeram family, as well as into the synchronic structure of the Sogeram languages, has been extremely limited. The first surveys into the area were conducted by E. R. Stanley (1921), Aloys Kaspruś (1942–45), and Arthur Capell (1951, 1952). Stanley's expedition reportedly collected a Mand wordlist that I have been unable to locate, and Kaspruś likewise collected wordlists for Mand, Nend, Apalɨ, and Aisi which I have not located (Kaspruś n.d.). Capell, as far as I can tell, never surveyed a Sogeram language during his fieldwork.

The seminal work on the languages of Madang was done by John Z'graggen (1971, 1975*a*,*b*, 1980*a–d*), who conducted fieldwork on the vast majority of the over 150 languages in the Province. He also did extensive bibliographic work to compile and summarize previous research that had been conducted in the area. (It is due to his efforts that I am

aware of the surveys by Stanley and Kaspruś.) A significant aspect of this pioneering work was establishing what languages existed in Madang. Thus, in his 1971 work, Z'graggen listed Mum and Manat as "previously unrecorded" (1971: 59,63). Sirva was not discovered until later fieldwork had been done; in 1975 it is described as "a new entry" (1975*b*: 584). Kursav was not surveyed until 1973 (Z'graggen 1975*b*: 628), and also appears to have been previously unrecorded. As mentioned above, Stanley and Kaspruś had collected wordlists for Mand, Nend, Apalɨ, and Aisi, but Z'graggen placed those languages in a wider comparative and geographic context, and made the material that he collected widely available. He collected wordlists and basic grammatical information for each of the Sogeram languages, although his wordlist for Gants was "very brief" (1971: 95). He published the Sogeram material (except for Gants, which he considered a member of the East New Guinea Highlands group) in his South Adelbert wordlist (1980*a*).

I am unaware of other research since then on any of the Sogeram languages, with three exceptions. In the 1980's, Pioneer Bible Translators, a missionary organization, started Bible translation projects among the Nend, Mum, and Apalɨ people, and the missionaries working on these projects have produced some descriptive materials.

The Nend project has changed hands a few times, but the linguistic work was done by Kyle Harris. He produced a short dictionary (n.d.*a*) and a collection of texts (n.d.*b*), and published a grammar sketch (1990).

The Mum project has also undergone some transformation, but the linguistic work was done by Michael Sweeney. He produced a phonological description (1994*a*), an

ethnographic sketch (1994*b*), some very brief grammar notes (n.d.*a*), and a collection of texts (n.d.*b*).

The most productive project, in linguistic terms, has been the Apalɨ one with Martha Wade. She has produced a phonological description (1987), a 256-page grammar sketch (1989), an ethnographic sketch (1991), a dictionary (n.d.*a*), a collection of texts (n.d.*b*), and two journal articles (1993, 1997).

Aside from these materials, I am unaware of any other research on the Sogeram languages. There has been more research in the areas surrounding the Sogeram languages, and on the other languages in the Madang group. It is not feasible to provide an exhaustive survey of all the work that has been done in Madang province (but see Carrington 1996), but I provide a brief overview.

There are five non-Sogeram languages in the South Adelbert branch of Madang. These are called the Josephstaal languages, and two of them have been researched (outside of Z'graggen's wordlists). Capell (1951: 143–147) published some grammatical notes and a brief text on Moresada (which he called Murusapa). Andrew Ingram worked on Anamuxra, writing a grammar (2001) and papers describing the classifier system (2003) and serial verbs (2010).

Outside of South Adelbert, I am aware of 17 Madang languages that have received significant grammatical or lexical documentation and analysis, out of a total of 93 non-South Adelbert languages. Most of this work takes the form of documentary and descriptive materials produced by members of SIL International (formerly the Summer Institute of Linguistics). This body of work includes grammars and a few dictionaries on 14

languages: Amele (Roberts 1987), Anjam (Rucker 1983), Bargam (Hepner 2002, 2006), Girawa (Gasaway et al. 1992, Lillie 1999), Kesawai (Priestley 1986*a–c*, 2009), Kobon (Davies 1981), Maia (Hardin 2002, Hardin et al. 2007), Mauwake (Berghäll 2010, Järvinen & Kwan 2007), Ogea (Colburn n.d.), Pamosu (Tupper 2012), Saep (Voltmer 1998), Siroi (Wells 1979), Usan (Reesink 1987), and Waskia (Barker & Lee 1985). There has also been some work done by other scholars, including work on Kalam (Pawley 1966, Lane 2007, Pawley & Bulmer 2011), Tauya (MacDonald 1990, 2013), and Waskia (Ross & Paol 1978). Finally, there is one grammar written by a German colonial-era missionary on Bongu (Hanke 1909).

1.1.3. My Fieldwork

Fieldwork for this project was carried out over four separate trips to Madang Province between 2006 and 2014. The first was conducted for my undergraduate thesis at Dartmouth and took place in January and February 2006. During this trip I collected wordlists on Nend, Manat, Mum, Sirva, Aisi, and Kursav, aimed at conducting lexical and phonological reconstruction that was eventually published (Daniels 2010). Grammatical research was limited to the collection of a few verb paradigms.

The second trip took place in July and August of 2010, after I had begun my graduate studies at UCSB. During this trip I conducted three weeks of intensive fieldwork on Manat in order to ascertain whether it was possible, in such a limited timeframe, to collect enough grammatical data for grammatical reconstruction. The trip was a success, so I decided to plan a longer trip to conduct fieldwork on the remaining Sogeram languages.

That trip lasted seven months, from December 2011 to July 2012. During that time I conducted two to three weeks of fieldwork on each of Mand, Sirva, Aisi, Kursav, and Gants. This fieldwork was conducted in the village for every language except Gants; Gants fieldwork was conducted in Madang town. During this field trip I also conducted one week of follow-up fieldwork on Manat.

The final field trip took place in July and August 2014. During this time I conducted two weeks of follow-up fieldwork on each of Mand and Kursav, and also conducted brief follow-up elicitation sessions on Manat, Sirva, and Aisi.

In total, these four trips constitute twelve months of fieldwork in Madang Province and include visits to five Sogeram-speaking villages. While such an accelerated fieldwork schedule naturally did not allow me to delve into many of the finer points of the grammars of these languages, the breadth of coverage nonetheless represents a sizeable contribution to knowledge.

1.2. Methodology

In much of the material below I employ a fairly standard version of the comparative method. While readers may disagree with me on particular cases presented in the chapters on phonological, lexical, and morphological reconstruction below, I do not expect the methodology exemplified in those chapters to be controversial. Syntactic reconstruction, however, is more disputed territory. It is not new—Schleicher claimed 150 years ago "that

cohesive sentences can ... be constructed in Proto-Indo-European" (1868: 206)[2]—but scholars do not agree on how it is to be done properly, or even whether it can be done. For this reason I present my methodology below.

First, however, I wish to discuss another methodological point which requires some attention, namely the issue of how to weigh Sogeram-external evidence against Sogeram-internal evidence in reconstruction. There are, of course, several cases where the internal Sogeram evidence is inconclusive and reference can be made to a closely related extra-Sogeram language to determine what should be reconstructed. I have employed this strategy in cases where the external evidence is fairly unambiguous, but have refrained from using it when the external evidence is less clear. For example, in the case of the future tense suffix *-ɨmpa (§3.3.5) the only Sogeram reflexes are found in Apalɨ and Aisi, which is not sufficient for reconstruction. But apparently cognate suffixes are found in two languages of the Josephstaal group, the sister to Sogeram: Moresada –*mba* and Anamuxra -*ba* (with prenasalized *b*). Since these suffixes are fairly clearly cognate, I propose the PSOG reconstruction *-ɨmpa.

In many other cases, however, it is not as clear how to interpret external evidence. The phonological (morphological, syntactic, etc.) history of the Josephstaal languages is not well understood, so the question of how Josephstaal data bears on Sogeram questions is tricky. The issue is even murkier when one goes farther afield. For example, the Sogeram languages show evidence for two possible reconstructions of an interrogative pronoun

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[2] "Dass ... zusammenhangende sätze in indogermanischer ursprache gebildet werden können."

'who': *uña and *ani (§4.2.6). In neither case is the internal evidence quite sufficient to warrant reconstruction, but an external cognate could secure either reconstruction. Pawley (2005: 87) reconstructs Proto-TNG *wani 'who,' but this could be interpreted as evidence for both reconstructions. Did the *wa sequence simplify to PS$_{OG}$ *u, was a final *a added, and was the *ni sequence actually a palatal nasal? If so, PTNG *wani could give PS$_{OG}$ *uña. But if, instead, word-initial liquids were lost, then *wani could give *ani. At present we simply do not know enough about the history of the parents to PS$_{OG}$ to reach a judgment, so I remain agnostic. In general, this is more often the case: I do not know how to interpret the external evidence because of our lack of knowledge about the history of the relevant TNG subgroups. But where the external evidence is straightforwardly interpretable, I try to use it whenever it is available.

I turn now to the discussion about syntactic reconstruction. I begin by introducing the arguments that have been made in recent years both for it and against it, and then propose a methodology to address the concerns that have been raised. Before the rationale behind this methodology for syntactic reconstruction can be appreciated, though, it is necessary to settle on definitions of the relevant terms: "syntax" and "reconstruction." I begin with the latter, explaining why the comparative method works when it is used in lexical and phonological reconstruction. Following that I outline my theoretical understanding of what syntax is, and only then do I discuss how syntactic reconstruction can be done.

1.2.1. The Current Discussion about Syntactic Reconstruction

In what follows I forego a discussion of the entire history of syntactic reconstruction, referring the reader instead to Walkden's capable summary of earlier attempts (2013: 96–99). I begin rather by outlining the four main objections that scholars have raised in recent years about syntactic reconstruction, which I refer to as the correspondence problem, the regularity problem, the arbitrariness problem, and the directionality problem. To these I add a fifth, which I call the design space problem.

The correspondence problem has perhaps received the most attention, as for many linguists it is the most serious (Lightfoot 1979, 2002*a,b*, von Mengden 2008, Willis 2011, Walkden 2013, 2014). The view is that linguistic entities "in sister languages correspond if (and only if) they go back to one and the same item in the parent language" (von Mengden 2008: 103). But if "sentences are not transmitted as whole units from generation to generation," (Willis 2011: 411), then no diachronic correspondence between sentences is possible, either between two chronologically separated varieties of the same language, or, consequently, between two related languages.[3] If such correspondence is impossible, then reconstruction, at least via the comparative method, is also impossible.

The response has been that the emphasis on sentences is misplaced, and that what should instead be compared is grammatical patterns (Harris & Campbell 1995, Campbell & Harris 2002, Harris 2008) or constructions (Barðdal & Eythórsson 2012*a,b*, Barðdal et al.

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[3] Campbell & Harris (2002: 606) note that there is a potential exception to this principle in the case of "formulaic language." For an attempt at the reconstruction of a linguistic formula, see Slade (2008).

2012, Barðdal 2013). These can be transmitted from generation to generation and can therefore be cognate, which means that correspondences of diachronic identity can be set up.

While some scholars in the first group have conceded that the idea of cognate patterns or constructions is at least plausible (for example, Walkden [2013: 103] concedes that they can be cognate "insofar as they have psychological validity"), they agree that this is not enough to resolve the correspondence problem. At this point their arguments diverge somewhat. Walkden (2013: 104) and von Mengden (2008: 103) contend that correspondences cannot be set up because the combinatorial possibilities are too large: while the productivity of any language's phonological system is relatively constrained, a syntactic system must be able "to account for the discrete infinity of sentences that are grammatical in any language" (Walkden 2013: 104). Thus, for them, the analogy between phonological reconstruction and syntactic reconstruction breaks down.

Willis takes a different tack. He points out that while, "in phonology, each affected lexical item is independent evidence of a prior sound change, in syntax, there is only really a single observation" (Willis 2011: 413), and that single observation is not enough to set up a correspondence. This response actually addresses the regularity problem, not the correspondence problem, but it serves as a convenient segue for our discussion. The regularity problem is the observation that phonological correspondences—like English *f* to Latin *p*—are confirmed by their regular occurrence throughout the lexicon of each sister language, while no such confirmation is possible for syntactic correspondences. The regularity objection certainly holds merit, as it is plain that syntactic changes do not

spread regularly through the lexicon in the same way that phonological changes often do. We must therefore think carefully about the role that regularity plays in reconstruction, to see how the comparative method might be able to handle syntax.

Turning now to arbitrariness, there is much less to say, as the issue has not received much attention from historical linguists. But the idea is that (i) words are usually arbitrary pairings of form and meaning, (ii) this arbitrariness has diachronic consequences that are important for the comparative method, and (iii) it is not clear that grammar possesses this particular kind of arbitrariness. Therefore, grammar may exhibit different diachronic behavior and be unsuitable for reconstruction via the comparative method. This issue has been almost completely ignored by linguists working in the generative tradition, and I am not aware of any attempt to assess the implications of arbitrariness for the comparative method, especially as it is applied to syntax.

Arbitrariness becomes more important in functional views of language, although even in the functionalist literature I have not found a detailed discussion of the role it might play in syntactic reconstruction. Barðdal and Eythórsson offer brief treatments in a number of their papers, concluding that "the arbitrariness requirement is simply not needed for syntactic reconstruction" (Barðdal 2013: 446; cf. also Barðdal & Eythórsson 2012*a*: 367, Barðdal & Eythórsson 2012*b*: 267). They offer two arguments in support of this claim. First, arbitrariness is only needed to establish the genetic relatedness of languages, which has usually already been established by the time anyone starts trying to reconstruct syntax. Second, syntactic constructions can be arbitrary because their meaning can be (and often is) non-compositional. I disagree with both of these points, and discuss the proper

role that arbitrariness plays in the comparative method, as well as the proper interpretation of the concept for the reconstruction of syntactic signs, in §1.2.3 below.

Another issue is the directionality problem. This problem is encountered after correspondences between different items have been established. If one language exhibits pattern A while another exhibits pattern B, we need a "strong, efficacious and sustainable theory of change" (Balles 2008: 179–180) in order to make a reconstruction. We need to have a theory that tells us whether pattern A is more likely to become pattern B, or vice versa, or whether a pattern C turning into both A and B is most likely—in other words, a theory about what direction change will probably proceed in. Without such a theory, we cannot argue that any reconstruction is more plausible than the alternatives because we have no idea of what constitutes a plausible change. Several authors, particularly within the generative tradition, have argued that syntactic change does not exhibit this kind of directionality, and that syntactic reconstruction is therefore impossible (see especially Lightfoot 1979, 2002*a,b*).

Finally, there is what I refer to as the design space problem. There is a huge amount of phonetic variation that the human vocal tract is capable of creating, and consequently there is a huge range of possibility when one is considering the different shapes that words might take. In other words, the "design space" for lexemes is huge. Because of this, the odds that two words in different languages would resemble each other by chance are relatively small. On the other hand, the range of potential variation for basic word order is much smaller. There are only six logically possible orders for the subject, the object, and the verb of a transitive clause. Because of this, the odds that languages resemble each other

by chance in this domain are much larger. In general, as the design space for a domain—the range of logically possible solutions to the communicative problems that domain poses—grows smaller, the odds of chance resemblance grow larger. And syntax, particularly very high-level syntax like basic word order, tends to have a much smaller design space than phonology and therefore exhibits a higher risk of chance resemblances. This is what I call the design space problem.

In the following discussion I advance my argument that these problems can be resolved and that syntactic reconstruction is possible. As the discussion makes clear, though, these problems are not illusory and they have very real consequences for the comparative method and its application to syntactic structures. A large part of the argument hinges on the nature of the linguistic sign, a fundamental issue in linguistics about which there is still disagreement, and the reasons why the comparative method is an appropriate method when dealing with linguistic signs. I begin with a discussion of lexical signs and how they are reconstructed.

1.2.2. Lexical and Phonological Reconstruction

I begin with a linguistic token which will serve as an example in the discussion below. Figure 3 is a spectrogram of me saying the word *tree*. This is as synchronic as language gets: it was a speech event that began sometime in the afternoon of January 23, 2015, and ended half a second later. It is not cognate with anything. It is nonsensical to even try to apply the notion of cognacy to it, because it is an event, and events cannot be cognate. Examining the
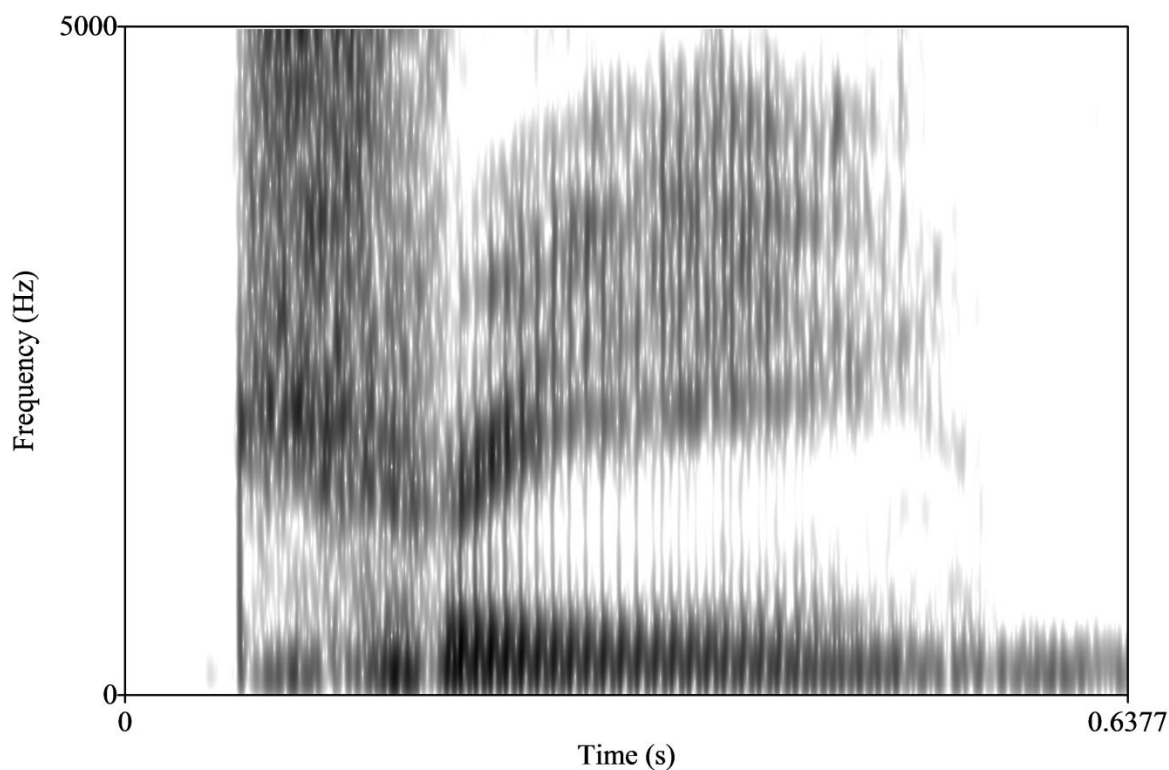
Figure 3. A token of *tree*

spectrogram, we can make several observations—that I affricated /t/ before /r/, that during the /r/ F3 shifted from 2406 Hz to 2563 Hz, that the vowel lasted 250ms and had an F1 of 215 Hz and an F2 of 2170 Hz—and none of these observations are particularly relevant for the comparative method. They are facts about a *token* of speech, and the comparative method does not deal in tokens. They simply are not made of the right stuff for it to operate on them. The comparative method deals in *types*, as presented in (1).

(1)   /tri/

This is the word *tree* in phonemic transcription. It represents a linguistic *sign*, in the Saussurean sense, and now we have something that the comparative method can use.

Specifically, (1) represents the part of the sign known as the *signifier*, which combines via a process of reference (the nature of which is not important for our present purposes) with a *signified*—in this case, the concept of trees—to form the complete sign. I will examine the signifier, the signified, and the referential link in turn.

The first observation we can make about the signifier is that it is structured: it is composed of a specific set of phonemes in a specific chronological order. Changing this structure changes the signifier: thus *bat* and *pat* are different words, as are *bat* and *tab*.

Another feature is that the signifier is a generalization over a number of real-world tokens of experience that are stored in the language user's memory. These tokens are obviously not distributed at random, but cluster around certain phonetic sequences that are meaningful in the language user's speech community. Thus I have many tokens of /tri/ stored in my lexicon, but not of /tro/ or /træ/ because those are not English words. Importantly, these meaningful token clusters are clusters, not points; in other words, speakers store "detailed phonetic knowledge of a type which is not readily modelled using the categories and categorical rules of phonological theory" (Pierrehumbert 2001: 137). Mental representations of words, and the phonemes that compose them, emerge from this collection of tokens so that "words are represented in the lexicon as a range of phonetic variation" (Bybee 2001*a*: 137) which displays these clustering properties. This means that phonemes exhibit more gradience than traditional phonological theory has typically admitted (Hooper 1976). But speakers do form generalizations about the token clusters they store, and the central parts of any cluster, being more frequent, can replace less frequent representations (Bybee 2001*a*: 143). Thus the concept of the phoneme should be

retained on empirical grounds as well as for analytic convenience (see also Nguyen et al. 2009).

Each such signifier has a meaning: it refers to a signified. These meanings have been shown to exhibit a prototype structure in the mental lexicon (Rosch 1978). This mental representation is also embedded in a network of related concepts, called a *frame* (Fillmore 1982, Petruck 1997), and each individual token of use emphasizes a subset of those related concepts. Thus in the range of meanings expressible by any particular item, there are "differences in structural weight" (Geeraerts 1999: 94) between the prototypical meanings at the center of the range and those at the periphery. As a result of these facts about the structure of meaning, individual lexemes exhibit a high degree of semantic inertia but are also able to shift their meanings through gradual shifts in the prototypical core or the periphery of their meaning (Geeraerts 1997).

Turning to the referential link that binds the signifier to the signified, we observe that it is usually arbitrary. (This is not the case for onomatopoetic words, and I return to this point later.) The particular arrangement of phonemes in the signifier is not motivated by any real-world properties of the signified. The tokens that compose the signifier are also arbitrary, in that the particular phonetic facts about any token of *tree* do not correlate in any way with the specific meaning of *tree* that was intended by that token. That is, a token of *tree* with a particularly long vowel would not be expected to refer to a particularly tall tree.

The sign, then, is composed of two generalizations—one phonemic, one semantic—bound by a referential link. As such it is a linguistic type, an abstraction from a number of

linguistic experiences. And because it is abstracted from multiple experiences, a type is an inherently diachronic entity, although at a shallow enough time depth that it is generally used to make synchronic statements and is best conceived of synchronically. (It would be odd, at the very least, to say that English *tree* and Proto-Indo-European *dréwo-, its etymological source, are the same lexical type.) To see how types behave over longer stretches of time, and to see why the comparative method works, I will employ Henning Andersen's concept of a "tradition of speaking" (Andersen 2001, 2006: 65–66). A sign is a linguistic tool that is traditionally used within a particular community to express a certain concept. Every new use of that sign participates in, and is informed by, that tradition, while simultaneously extending it and thereby changing it. Thus English *tree* and Proto-Indo-European *dréwo- are a part of the same tradition of speaking, connected by an uninterrupted chain of usage, token after token of people making alveolar and rhotic gestures with their tongues to convey ideas of tree-ness to their interlocutors. From this perspective, a linguistic type is simply any reasonably circumscribed collection of tokens in a given tradition of speaking, such that the collection's phonological and semantic properties are sufficiently homogeneous. This relationship between token, type, and tradition is illustrated in Figure 4. The horizontal dimension represents time, running from left to right, and each dot along the line is a linguistic token. This diagram makes explicit the relationship between Proto-Indo-European *dréwo-, Proto-Germanic *trewa-, and English *tree* (Kroonen 2013: 522). On this view, cognacy can be defined as descent from the same tradition of speaking.
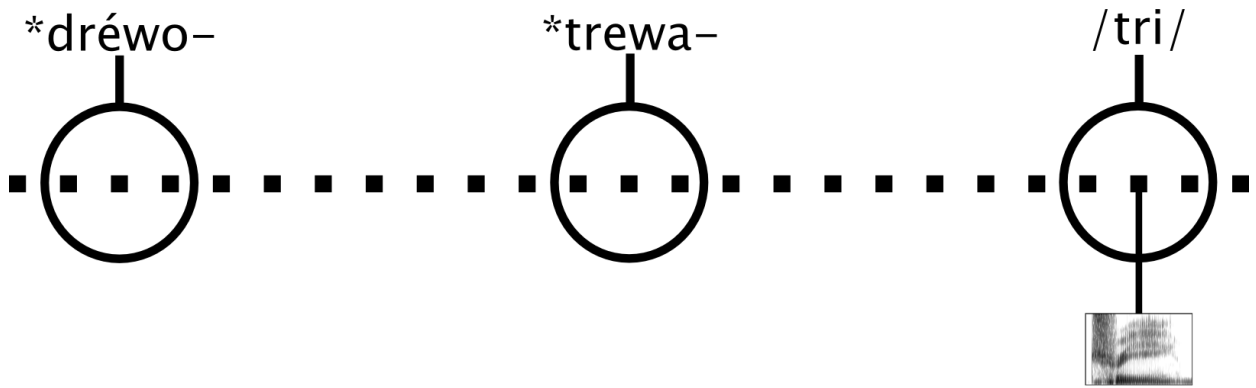
Figure 4. A tradition of speaking. (Not to scale.)

And now we can see why the comparative method deals only in types, not tokens: types are diachronic, while tokens are not. Types are capable of being cognate because they extend along a tradition of speaking. To use the visual metaphor of Figure 4, types exist along the horizontal dimension. This means that they not only participate in the tradition, they *are* the tradition, in a very meaningful sense. The difference between a type and a tradition is one of degree: how long a time span are we dealing with? The difference between a type and a token, though, is one of kind: types are generalizations, tokens are events. They are points on the timeline, not lines, and therefore they cannot be cognate.

Any token is, of course, an *expression* of some linguistic type, but it itself is not that type. In fact, it depends wholly on that type for its interpretation; nobody would be able to make sense of me saying *tree* if there were not already a rich tradition of people saying *tree* to mean "tree." For this reason it may strike readers as unintuitive to say that linguistic tokens are incapable of cognacy, but this is only because the way we think about tokens is mediated by types. We use the types we have stored in our lexicon to decode the tokens we encounter, and when we encounter a new token, we assign it to its proper type. So a token

(like Figure 3) participates in a type (*tree*), and a type may be cognate (i.e., descended from the same tradition of speaking) with a type in another language, like Danish *træ*. If we then find a token of *træ*, we can establish a relationship between tokens in the two languages. But this relationship is not profitably understood as a relationship of cognacy, only as *mediated* by a relationship of cognacy. This distinction is less apparent when considering prototypical tokens, because prototypical tokens, by definition, closely resemble their types. But our two hypothetical tokens may be non-prototypical in many ways—they may contain disfluencies, or abnormal vowel height, or mistimed articulators of various kinds—and they would still be tokens of their respective types. But we would not want to say that *this* disfluency or *that* abnormally low vowel in the token of *tree* is "cognate" with the corresponding part of the token of *træ*. We would only say that we have a non-prototypical token of *tree* on our hands, and that the type it represents is still cognate with the Danish type *træ*.

Now that we have established that signs are capable of cognacy, it is time to turn to the comparative method and establish how they are reconstructed. For this discussion I focus on reconstructing the form, the signifier, since reconstruction of the meaning is less systematic. We have seen that the signifier is a structured sequence of phonemes that is passed along in a tradition of speaking, but this alone does not mean that it needs to be diachronically stable. It is conceivable that it would change often enough, or in a sufficiently random way, that reconstruction would be impossible. The question then becomes, why is the signifier diachronically stable? There are two answers.

The first answer has to do with the structure of the collection of tokens from which the lexical type emerges. Recall that the collection of tokens is a cluster, with more tokens in the center than around the periphery. The center of the cluster is the prototype, and unless there is a reason to produce non-prototypical tokens (such as articulatory ease, which I discuss below), new tokens will tend strongly to be prototypical. They thereby reinforce the strength of the center of the cluster, further increasing the likelihood that future tokens will also be prototypical. So we see that inertia is built into the very structure of the system, and change is thereby rendered unlikely. This fact is obscured by the fact that most linguistic research focuses on the dynamic aspects of the linguistic system, which are perhaps more inherently interesting, but the fact remains that at any given time most parts of most languages are not changing.

The other factor that contributes to the diachronic stability of the sign is the arbitrariness of the referential link between the signifier and the signified. There is no reason for the particular sequence of phonemes /tri/ to signify "tree," and because of that there is also no reason for that sequence of phonemes to change or resist change. This becomes particularly apparent when we attempt to reconstruct onomatopoetic words, which *are* motivated and which therefore either change, or fail to change, in unpredictable ways. Attempting to reconstruct the Proto-Oceanic (POc) term for 'chicken,' Clark (2011: 284) is able to observe only that a "pattern of consonants occurs which could represent POc *k-k-r-k, though the vowels are not consistent and one or other of the consonants may not appear." He also notes "that *k in this term is never lenited (to ɣ, ʔ etc) in the many languages where this is a regular change. This presumably reflects its onomatopoetic

origin" as an imitation of the rooster's crow. He hesitantly offers the reconstruction *kokorako. On the other hand, the POc word for 'starling,' *pusiRa, is much easier to reconstruct in spite of having far fewer reflexes (Clark 2011: 348).

These two factors—the inertia inherent in the collection of tokens and the arbitrariness of the sign—explain why the sign is diachronically stable, and therefore why reconstruction is valid in cases of identity. We reason that, if we see identical signs in two different traditions of speaking, both had their origin in the same tradition of speaking, which has been inherited unchanged in each one. This is plausible because the sign is diachronically stable.

However, change does happen, and for our purposes we can divide it into two categories: unmotivated and motivated. Many examples of vowel change can be conceived of as the former, such as the oft-cited hypothetical where the historical linguist is presented with reflexes *a* and *o* of some proto-vowel. This kind of unmotivated change is rare for the reasons stated above. This means that when it does occur, it will usually only take place in one or two daughter traditions of the original tradition of speaking, allowing the historical linguist to posit that the more common reflex is the original one. In a scenario where this is not the case, such as *a changing to *o* independently in two out of three daughter languages, the comparative method fails.

Motivated change can take many forms. The motivation can be the desire for articulatory ease, based on the physiological composition of the vocal tract (assimilation, word-final devoicing, etc.); the creation by another change of a new, easier articulatory possibility (pull chains); encroachment into phonetic space by some other segment (push

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chains); extension of predominant patterns in the lexicon (analogy); and so on. The key to reconstruction in all of these cases is an understanding of the motivation behind the change. The historical linguist simply posits a proto-form that can be accounted for by motivated changes and then lists those changes. This principle, which has been called the directionality principle (cf. Walkden 2014: 48), accounts for the fact that, when presented with cognate words like, say, *apa* and *aba*, we know to reconstruct *apa and posit intervocalic voicing. But note that the reasoning behind that reconstruction is the same as the reasoning behind reconstruction in cases of analogical change: we have two forms, one of which can be explained by a common motivating factor (voicing assimilation or analogy), the other of which cannot. We posit that the unexplainable form is archaic, and that the other form changed in an explainable way as a result of the motivating factor.

And that is how, and why, the comparative method works when applied to lexical signs. To review: signs are generalizations over two sets of tokens—one phonetic, one semantic—bound by a (usually arbitrary) referential link. They are resistant to change because the composition of the collections of tokens encourages future tokens to be prototypical, that is, not innovative. When they do change, it is usually for a reason. A linguist who understands these reasons can reconstruct earlier stages of language by positing a scenario in which a plausible proto-stage is followed by plausible changes to give an internally consistent, reasonable account of the data.

I now turn to syntax, to see whether it exhibits the features necessary for reconstruction. As such the discussion proceeds on an ontological level: I am concerned with what syntax *is*. This question has been the subject of vigorous debate, and rightly so—

it is very difficult to answer. But I attempt to make my theoretical position clear, and to support it with evidence, so that its implications for my methodology of syntactic reconstruction can be properly evaluated.

1.2.3. Syntax and Syntactic Reconstruction

Syntax, like the lexicon, is made up of signs. This is the fundamental hypothesis of construction grammar (Hoffmann & Trousdale 2013*a*: 1), and I consider it correct. Syntax and the lexicon are thus essentially the same thing, existing at opposite ends of a continuum of schematicity. At one end, lexical signs have signifiers that contain only phonological material, as with *tree.* At the other end, the signifiers of maximally schematic constructions contain only other constructions, like the English ditransitive construction [S V O O]*.* And in between there is a wide range of variation, with different constructions specifying various amounts of phonological and constructional material. Importantly, like lexical signs, grammatical signs[4] are types that are generalized over a number of tokens of experience.

These points are not conceived of as analytic devices or notational conventions: they are claims about objective (primarily cognitive) reality. Language is not *viewed as* constructions or *treated constructionally.* The claim is that "language *is* the inventory of its

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[4] In this discussion I use *construction*, in its technical, construction-grammatical sense, and *grammatical sign* interchangeably to highlight the parallel between constructions and lexical signs.

constructions" (Fried & Östman 2004: 13, emphasis in original; see also Fillmore 1988: 37, 2013: 112).

This is the basic claim of construction grammar, although it remains at this point a hypothesis. But it is a hypothesis with a considerable body of evidence to support it, and below I present some of this evidence from child language acquisition, adult language use, and diachronic observations. More information can be found in the chapters in Hoffmann & Trousdale's volume (2013*b*).

The original motivation for construction grammar was a desire to account for certain idiosyncratic constructions in English, and these constructions remain some of the primary theoretical evidence that grammar is composed of signs and that these signs exist on a continuum of schematicity with words. They are construction grammar's favorite examples, and any comprehensive theory of grammar must be able to explain them. How does an idiosyncratic construction like the *let alone* construction (Fillmore et al. 1988) or [*what's* X *doing* Y], as in "What am I doing reading this paper?" (Kay & Fillmore 1999) work? Where do the semantics of transfer come from in *I'll bake you a cake*, or the semantics of caused motion in *She sneezed the foam off the cappuccino* (Goldberg 2006)?

But there is also empirical evidence for constructions, especially from child language acquisition. Children first learn only single words, including complex constructions that they treat as single words, such as *all-gone*. Next, they begin to produce 'pivot constructions,' forms consisting of a 'pivot word' and productive empty slot (Braine 1976). These can be arrived at either by analyzing a previously unanalyzed holophrase (thus *all-gone* may become [*all* X], as in *all done* and *all broke*) or by adding a productive slot to a

single word (so *more* might become [*more* X], as in *more cereal* and *more cookie*). Tomasello (1992) makes a similar observation about children's early verb-argument constructions, which are usually tied to particular verbs. This pattern also holds for questions, which are learned as formulae that gradually become more flexible: [*what's* X *doing*] becomes [*what's* X Y-*ing*] and eventually [*what* AUX NP V] (Dąbrowska 2000). Even the acquisition of the most schematic constructions, like the argument structure constructions [S V O O] and [S V O Obl], proceeds along lexical lines. In child language input, tokens of these constructions occur most frequently with certain semantically basic verbs—in our examples, *give* for [S V O O] and *put* for [S V O Obl]. The meanings of these verbs are then associated with the constructions, and as children acquire more verbs that occur in these positions, the constructional meaning emerges. That is, the generalization that unifies all tokens of [S V O O] in the child's mind (something like, "This arrangement of elements means 'X causes Y to receive Z'") becomes stronger as the instantiating tokens become more diverse (Goldberg 1999, Goldberg et al. 2004).

So we see that children acquire language via gradual increases in the productivity of individual constructions, which begin on the lexical end of the spectrum of schematicity and slowly become more abstract. And this pattern continues into adult language use: certain lexemes continue to prefer certain constructions and vice versa (Stefanowitsch & Gries 2003). Ungrammaticality—the unacceptability of certain forms—can then be explained as extremely low frequency or non-occurrence of similar forms in a given person's language experience (Bybee & Eddington 2006). In other words, there continues to be an important interaction between types and tokens at every stage of language use. This

can be seen particularly clearly when one examines the emergence of particular constructions over longer stretches of time in what is known as grammaticalization.

There are several facts about long-term grammatical change that seem to support a usage-based view of the emergence of grammar. First, grammatical reanalysis is often gradual (Haspelmath 1998). For example, in the creation of English *gonna*, the verb *go* was originally the main verb in the construction *be going to V*, but now the second verb is. It is difficult to pinpoint a single moment or generation when this reanalysis took place. Rather, the process is better explained by suggesting a gradual change in the composition of the cluster of tokens that underlie the construction (Bybee 2006: 721). The gradualness of reanalysis implies a second, related fact: constituency is gradient. To illustrate, the English complex preposition *in spite of* behaves in some ways like a complex phrase composed of *in*, *spite*, and *of*, and in some ways like a simple preposition. There is thus no clear-cut answer to the question whether *of*, in this case, heads a prepositional phrase that is a constituent of another prepositional phrase headed by *in* (see Bybee 2010: 138ff. for a more detailed discussion of *in spite of*).

Multiple strands of evidence thus converge on the conclusion that our language faculty is composed of constructions, and that these constructions are signs in the traditional sense of ordered strings of linguistic material that convey meaning. This does not mean, however, that one can apply the comparative method to grammar in the same way as the lexicon. There is a very important ontological difference between words and grammar: lexemes are signs made out of phonemes, while grammatical constructions are signs made out of other signs. This difference has far-reaching implications for diachrony, and we

must examine the five problems raised in §1.2.1 carefully to see how syntax interacts with the comparative method.

Perhaps the least serious of these problems is the correspondence problem. If the basic claims of construction grammar are accepted, then it follows naturally that diachronic correspondences can occur between successive stages of a grammatical construction, and therefore also between related constructions in sister languages. This has been recognized, among others, by Campbell & Harris (2002) and Barðdal et al. (2012). An important component of the correspondence problem is what Walkden (2013: 101, 2014: 50) calls the "Double Cognacy Condition." In order for two things to be cognate, their component parts (in lexical reconstruction, their phonemes) and the arrangement of components (i.e., the whole words) must both be cognate. On the articulation of construction grammar given above, in grammatical correspondences constructions and their fillers must both be cognate just as in lexical correspondences words and their phonemes must both be cognate. Thus the Double Cognacy Condition is satisfied in a way that accounts for the staggeringly large number of sentences possible in any language: the fillers of grammatical constructions are linearly ordered in the same way that phonemes are in words. But because the fillers are themselves signs, the combinatorial possibilities are huge.

The fact that constructions are signs made out of other signs has more serious implications for the arbitrariness problem, which proponents of grammatical reconstruction have not always recognized. Because the elements that compose the grammatical sign are meaningful, it is possible for their referents to have real-world properties or relationships that can influence the structure of the grammatical sign. In

other words, we find iconicity in syntax (Haiman 1985). For example, subject-initial word order can easily be conceived of as iconic: in languages that have subjects, those subjects will usually be the originators of the events of their clauses. So because real-world events usually begin with their subjects, there is iconic motivation for abstract word-order constructions to also begin with their subjects.

As we saw with lexical signs, arbitrariness plays an important role in maintaining the diachronic stability of the sign and is therefore an important factor to consider when attempting comparative reconstruction. When reconstructing syntax, we must be on the lookout to see if there is any potentially iconic motivation for the changes that we see. If there is, we can still propose a reconstruction, but we must be modest in our assessment of its probable reality, as with the POc term for 'chicken' discussed above.

It is important to note that this conception of arbitrariness differs importantly from the conception employed by Barðdal and her colleagues in their works on syntactic reconstruction. They take the arbitrariness of a sign to stand in opposition to its non-compositionality, and consider the meaning of a construction to be arbitrary when the meaning of the whole cannot be predictably derived from the meanings of the parts (Barðdal & Eythórsson 2012*b*: 367, Barðdal 2013: 446). This conception fails to capture why arbitrariness is important in reconstruction: it is important because it can affect the ways signs change. The conception of arbitrariness that is important in reconstruction is opposed to iconicity, not non-compositionality. We must ask whether the *arrangement* of component signs in a grammatical sign is arbitrary, not whether the meanings of the component signs have a predictable relationship to the meaning of the parent sign.

It is important to note, though, that although I concede that iconicity in syntax may interfere with the diachronic transmission of some grammatical signs, this does not mean that they are not still transmitted from generation to generation. It only means that expected patterns of change may not manifest themselves, that unexpected changes may crop up, and that languages may undergo similar changes independently of one another. There is still diachronic identity between successive manifestations of constructions, and therefore correspondences can still exist between signs inherited into sister languages. Iconicity just adds noise to the signal: it means that, in reconstructing grammar, we face potentially "onomatopoetic" forms—forms that behave in unexpected ways because they are iconic—more often.

The regularity problem (Pires & Thomason 2008: 52, Barðdal & Eythórsson 2012*b*: 367) is the observation that the analogy between phonological and syntactic reconstruction breaks down in the following way. Sound changes are hypothesized (and often seen) to be regular: when we propose a rule *t > *d* in a particular environment, we expect *t to change to *d* consistently whenever it occurs in that environment (Osthoff & Brugmann 1878). This regularity assures us that two languages under examination really are related. It also allows us, under favorable circumstances, to identify borrowed vocabulary by recognizing that a particular sound change is not reflected where it should be or vice versa. This is not possible with syntactic constructions, though, for two reasons. First, wholly schematic constructions, by definition, do not contain phonemes so nothing can be tested for cognacy. Second, even constructions that specify phonological material often—but not always—display unexpected sound changes because individual constructions change on

their own. For example, when *going to* changed to *gonna* in the purpose construction (Bybee 2006), it did not undergo a similar change in any other construction. Thus the change from *going to* to *gonna* was not regular in the historical-linguistic sense of the word, and the same can be said, in general, of grammatical change as a whole. Each change to a grammatical construction is irregular because it affects that, and only that, construction.

It should be noted that this understanding of regularity puts me at odds, once again, with Barðdal and her colleagues. They state that "the perceived lack of regularity in syntactic change, i.e. the perceived lack of directionality, is not crucial ... for syntactic reconstruction. First of all, not all sound changes are regular, in the sense that their directionality is known" (Barðdal & Eythórsson 2012*b*: 367). Here they use *regular* in its more everyday sense of "ordinary," rather than its technical historical-linguistic sense of "complete." That is, for them sound changes are regular if they are typologically "normal" and their directionality can therefore be inferred. But the sense of *regular* typically used by historical linguists is very different. A sound change is regular if it affects a particular phoneme (like *t) regularly in a given environment in every instance, whether or not the change at hand displays the typologically expected directionality.

But this kind of regularity cannot occur in grammatical constructions because they take a different kind of filler. Rather than phonemes, grammatical constructions take other constructions as fillers. And when a particular filler or sequence of fillers undergoes a change in some construction, in general that same sequence *does not* undergo the same change in other constructions, although of course it may. This is true with phonological fillers such as *going to,* as well as constructional ones. For example, when main clauses

undergo changes that affect their constructional fillers (such as the order of subject, object, and verb), subordinate clauses often do not (Bybee 2001*b*).

In spite of the fact that syntactic change is technically irregular, though, the diachronic identity between successive stages such as purposive *going to* and *gonna* is obvious. The expressions are part of the same tradition of speaking; they are cognate. This situation is analogous to what we find when dealing with irregular phonological change. For example, the Modern English numeral *one* has developed irregularly from the Old English *ān*: this rhyme would normally be expected to develop as in *stone* or *bone*, from Old English *stān* and *bān* (*OED Online* 2015). But although Old English *ān* developed irregularly in *one*, there is still diachronic identity between the two forms. It has just been obscured by irregular phonological change, presumably because this particular numeral is a high-frequency lexeme (cf. Bybee 2002). Thus correspondence, and therefore cognacy, is still possible in cases of irregular lexical or grammatical change where we have only one attestation of a given change.

So while I acknowledge that syntactic change is, in general, not regular, I maintain that diachronic identity still obtains between successive iterations of a construction undergoing change. Because of this, when cognacy can be established for non-identical sister constructions, reconstruction is still possible when we have a robust theory of the directionality of syntactic change.

And so we come to the directionality problem. On this issue I have relatively little to say, as I consider the matter more or less settled. Lightfoot's (2002*a*: 126) claim that "we have no well-founded basis for claiming that languages or grammars change in one

direction but not in another" is simply no longer tenable, given our present state of knowledge. Countless pages have been written in the name of grammaticalization, documenting the fact that grammars do, in fact, change in one direction and not another (cf. Heine et al. 1991, Heine & Traugott 1991, Heine & Kuteva 2002, and Hopper & Traugott 2003). These directional principles are not exceptionless (Norde 2009), but they do not have to be. Just as phonological change generally proceeds in expected ways but sometimes veers off the beaten path, so grammatical change exhibits overall patterns with occasional exceptions. And just as the occasional odd sound change does not invalidate phonological reconstruction, so the occasional odd grammatical change does not invalidate syntactic reconstruction.

As for the design space problem, this issue, much like the arbitrariness problem, cannot be directly addressed but must rather be remembered by the analyst and potential reconstructions must be made with it in mind. In some cases, the communicative need that the construction at hand is addressing could also be addressed in many other ways. In such cases the odds of chance resemblance are comparatively small. But in other scenarios this is not so. For example, in the case of noun–adjective word order there are only two logically possible orders, so the odds of chance resemblance are 50%. Even if we allow that some languages do not have adjectives, and some that do do not have a dominant order of noun and adjective, there is still a rather small set of possible configurations. Reconstruction in such circumstances must be much more tentative for the simple fact that one will always encounter a high degree of resemblance among daughter languages, and so that resemblance is much less meaningful. As stated, this hazard cannot be directly

mitigated. The historical linguist must simply make an assessment of the likelihood of chance resemblance, and offer a reconstruction with an appropriate evaluation of its likely veracity.

One very important consideration that I have so far neglected is that of contact. This is not a problem that is unique to syntactic reconstruction, but it does manifest itself differently in this domain. When social circumstances produce multilingualism, languages often begin to affect each other (Thomason & Kaufman 1988). In extreme circumstances, this contact can result in the wholesale copying of syntactic patterns from one language into another, as has been observed on Karkar Island off the coast of Madang (Ross 2007). In this case, Papuan syntax was copied into an Austronesian language, but importantly, it was accompanied by very little lexical or morphological borrowing. Rather, the borrower language, Takia, has copied the donor language patterns with native Austronesian morphology. This means that even when identical syntactic patterns are found in two languages, we cannot be sure that they existed in the common ancestor of those languages, as the pattern could have been innovated after the breakup of the proto-language and then spread via contact. This is contra the claim that "a contact situation that entails mutual [syntactic] borrowing should result in a number of [lexical] cognates across the languages in contact, and their form should be easily recognizable as borrowed" (Barðdal et al. 2012: 524).

Now that I have presented several problems with syntactic reconstructions, it is time to proffer some solutions. In the section below I attempt to design an effective methodology that will inoculate practitioners of the comparative method against some of the pitfalls of

syntactic reconstruction. As I have stated, however, not all of the problems can be avoided. The problems of arbitrariness and design space, in particular, must simply be borne in mind by the analyst and reconstructions must be evaluated in light of the possibility that constructions in related languages actually resemble each other because of iconicity or chance. The methodology presented below, then, attempts to describe how correspondence sets can be established, how directionality can be assessed, and how reconstruction can be done in the absence of regularity, all in a way that guards against the reality of syntactic borrowing.

1.2.4. A Methodology for Syntactic Reconstruction

Given the considerations discussed above, I propose the following methodology for reconstructing syntax. First, correspondences must be set up. Because of the lack of regularity in syntactic change, more care must be used in this step than is necessary in lexical reconstruction. In particular, the historical linguist must be more conservative when it comes to semantic innovations. Note also that the more fillers a construction has, the less likely another construction is to resemble it by chance, so correspondences involving longer, more complex constructions are more secure. Finally, to mitigate the problem of borrowing, the grammatical constructions in the correspondence set must specify some amount of phonological material that can be tested for cognacy. In other words, only partially schematic constructions can be directly reconstructed; fully schematic constructions cannot. Since borrowings can be spotted with some confidence in phonology due to the regularity of phonological change, restricting ourselves to the

reconstruction of partially schematic constructions reduces the risk of reconstructing constructions that have actually spread through contact. This requirement has the added benefit of making us less vulnerable to the design space problem. By restricting ourselves to the reconstruction of partially schematic constructions, the odds that our correspondence sets contain constructions that look alike by chance are lowered significantly.

Once correspondences have been set up, the historical linguist can use our understanding of grammaticalization and other grammatical change to posit a proto-form and a set of innovations deriving the modern forms from it. This is possible even in the absence of regularity because the directionality of change in many cases of grammaticalization is quite strong. When the direction of a change is less apparent, the reconstruction is obviously less secure.

This methodology is not flawless, though. It can fail when the amount of phonological material contained in the construction is so little that it is not diagnostically useful, or when the particular sequence of phonemes in the construction is not expected to reflect diagnostic sound changes. There is also the possibility that irregular phonological attrition, which is often part of grammaticalization, has affected the relevant phonological material. The methodology can also fail in some instances of parallel grammaticalization. Suppose, for example, that Proto-AB breaks into Language A and Language B, and that Language A then innovates a new construction employing its reflex of the Proto-AB word *aka, which is *aʔa*. If Language B then borrows this construction but employs its own reflex of *aka, *aga*, then this method also fails. If Language B had borrowed the Language A form *aʔa*, we could

spot the borrowing, as it would not exhibit the expected reflex of Proto-AB *k. But if Language B copies the Language A pattern *with its own cognate word*, this method is not capable of discovering that this innovative construction does not date to Proto-AB.

These limitations, while real, are not crippling. The comparativist must simply use appropriate judgment when applying the method to particular data sets. It must be decided on a case-by-case basis whether the amount of phonological material specified in a particular construction is sufficient for secure reconstruction. The possibility of parallel grammaticalization must also be kept in mind, appropriate discussion of geographical proximity and known contact histories must be made, and the likelihood that two constructions resemble each other by chance—given the number of potential constructions that could serve a similar communicative function—must be assessed.

When applied judiciously, this method is in fact capable of reconstructing wholly schematic constructions, just not directly. An example will illustrate how this can be done. In §5.4.2 I argue for the reconstruction of three related subordination constructions that employed demonstrative forms to subordinate clause chains. These subordinate clause chains functioned as noun phrases in their matrix clauses, and their matrix functions were signaled by the form of the demonstrative that was used as a subordinator. These constructions are shown in (2)–(4); the demonstrative forms used in these constructions are the topic/object suffix *-n, the locative enclitic *=ñ, and the bare middle demonstrative *ka. These are securely reconstructed in §4.3.

(2)   *[S DEM-n]$_{NP}$ Syntax: noun phrase in topic or object position

(3)   *[S DEM=ñ]$_{NP}$ Syntax: locative noun phrase

(4)   *[S ka]_{NP}   Syntax: topic-fronted noun phrase

Based on these three reconstructions, we can generalize a broader, fully schematic construction, illustrated in (5).

(5)   *[S DEM=CASE]_{NP}   Syntax: noun phrase with function indicated by CASE

The schematic construction in (5) is generalized based on other reconstructions; it is not itself directly reconstructed. In a sense, it is the result of a "synchronic" analysis of PSOG, as PSOG is exemplified in (2)–(4). This analysis leads to the question: can we, based on (5), posit that other reconstructed PSOG demonstratives also functioned as subordinators? For example, can we claim that focus demonstratives with the suffix *-kw (§4.3.8) could be used in this construction, even though such a construction cannot be directly reconstructed? I see no principled way to resolve this issue. The inference that, if topic/object, locative, and bare demonstratives could function as subordinators, then focus demonstratives in *-kw probably could too, can certainly be made. But the conclusion that, since we cannot directly reconstruct a subordinating function for *-kw, we cannot reliably know whether it existed in PSOG, is also reasonable. I tend to find the latter position more compelling, in part because it is more conservative. Therefore if there is not direct attestation of a construction in sufficiently diverse witnesses, I refrain from reconstruction. But this aspect of the methodology will benefit from further thought and exploration.

An additional consideration to bear in mind is the potential influence of iconicity on grammatical patterns. To illustrate this issue I present the orientation serial verb construction, which is reconstructed in §3.2.3. In this construction, shown in (6), an

intransitive serialized verb precedes the other serialized verbs, which may take objects of their own. The initial intransitive verb, which is usually a verb of motion or posture, orients the subject of the clause to the action expressed by the other verbs in the clause. This construction is exemplified in the Gants example (7), where the intransitive serial verb *aŋa* 'go' is separated from the other verbs by the object *kɨmna yue* 'seeds of food.'

(6)   (NP$_{SBJ}$) *V$_{INTR}$ [(NP$_{OBJ}$) V-INFL]$_{VP}$

Gants
(7)   *Ya   op-ɨdɨŋ   **aŋa**   kɨmna   yue   ada   mai-ci-nɨŋ   wa-m-ek.*
       1SG   garden-DEF.SG   **go**   food   seed   do   bring-PRS-1SG   say-FPST-3SG
       '"I'm going to the garden and bringing seeds," he said.'

This construction is potentially iconic in that the intransitive verb is located to the left of any objects, which places it next to the subject. Because the subject is the only argument of the intransitive verb, it is conceivable that the verb would be drawn towards the subject over time, and that its location to the left of the object does not date to PSOG but is rather an innovation that has taken place independently in several daughter languages. This parallel innovation may have been motivated by the real-world relationship between an intransitive event and its single argument. A potential scenario might play out as follows. Suppose orientation serial verbs in PSOG were located where all the other verbs are: at the end of the clause, after all the arguments (8).

(8)   †(NP$_{SBJ}$) (NP$_{OBJ}$) V$_{INTR}$ V-INFL

But orientation serial verbs have a natural affinity for their subjects, so they were moved to the left of the object in multiple daughter languages. This process would have been helped by intransitive clauses, where the intransitive verb was already next to the

subject due to the fact that there was no object. It would also have been helped by the affinity of a transitive verb for its object, which are also separated in the hypothetical reconstruction in (8).

This is a plausible scenario, and although I am not proposing that it actually took place, its plausibility casts doubt on my actual reconstruction, given in (6). In cases like this, where a reconstructed construction is not wholly arbitrary, the historical linguist must acknowledge that, discuss the potential ways iconicity could have interfered with the construction, and propose a reconstruction with appropriate caution.

1.3. Trees and Waves

Modeling the often complex historical relationships between languages is a challenging task, and various methods have been devised for it. The most popular is the family tree model, proposed by August Schleicher (1853) to capture the way "that one people, the Proto-Indo-Europeans, split up, over time, into those eight peoples, each of which then later differentiated in a similar way until the diversity of our era eventually developed."[5] For Schleicher, then, family trees were principally a representation of population history, depicting a process in which people groups split up into discrete subgroups, which later split up themselves.

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[5]"... dass eine Nation, das indogermanische Urvolk, sich mit der Zeit in jene acht Völker getheilt habe, von denen jedes in ähnlicher Weise sich später wieder differenzierte, bis endlich die Mannigfaltigkeit unserer Epoche entstand." The "eight peoples" to which Schleicher refers are the recognized Indo-European subgroups of his day: speakers of Celtic, Germanic, Baltic, Slavic, Italic, Greek, Iranian, and Indic languages.

We now know, however, that matters are rarely so simple. The split-ups implied by Schleicher's model are hardly ever punctual events, but rather take place over generations or centuries. And as populations gradually disperse, linguistic innovations can continue to spread through them unevenly, producing overlapping isoglosses that are difficult for the family tree model to capture (François 2014). Because of this shortcoming, Johannes Schmidt proposed the wave model as an alternative to the family tree model (Schmidt 1872). In this model, linguistic innovations are conceived of as waves rippling out from a central point of innovation, spreading geographically some distance through a speech community and eventually stopping. Waves can overlap, but as they accumulate, speech varieties gradually become less mutually intelligible.

Although the family tree and wave models were initially put forward as mutually exclusive conceptualizations, later generations of linguists have recognized that they are in fact compatible with one another: a perfect family tree is simply what arises when waves happen not to overlap (Pawley 1999). While this formulation can be understood as a concession that the wave model is the correct one, as it can model family tree situations as well as others, it is better to think of the difference between family trees and wave models in terms of the level of abstraction employed. A wave diagram attempts to capture the messiness of overlapping isoglosses and represent the linguistic history of a family fairly accurately. A tree diagram, on the other hand, abstracts away from the mess to give a simpler, more easily understood picture of the history of a family.

When they are conceptualized this way, it is easy to see that family trees and wave diagrams both have their place, as do intermediate ways of diagramming language relationships like Ross's (1988) device for drawing dialect linkages in family trees.

The Sogeram family is what Pawley calls an "imperfect subgroup," a chain of lects in which some innovations "spread over the whole chain, in contrast to other innovations which spread only over parts of the chain" (Pawley 1999: 130). While Proto-South Adelbert, the immediate parent of PSOG, has not been reconstructed in much detail (but see Pawley 1998*b*), it is clear that Sogeram is defined by at least one innovation: the loss of the Proto-South Adelbert plural pronominal formative *-ŋ and the generalization of the dual formative *-ra to all non-singular numbers (Ross 2000: 11; see pronominal data in Z'graggen 1980*a*: 86).

Within Sogeram, though, the pattern of innovations revealed by comparative-historical investigation suggests that the family diversified into a contact chain that ran approximately from northwest to southeast. The relations of contact are represented in Figure 5; note that two of the nodes in this chain, NCS (= North Central Sogeram) and Aisi, represent two languages each. In both cases these languages underwent a long history of common development and contact with their neighbors before splitting into Mum and Sirva (in the NCS case), and Magɨ and Mabɨŋ (in the Aisi case).
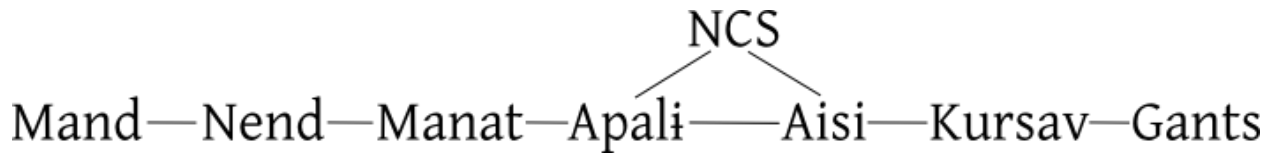
Figure 5. The Sogeram contact chain

Several of the contact links here are geographically non-trivial, as comparison with the map in Figure 1 reveals. Manat and Apalɨ are no longer geographically contiguous, and the same is true of NCS and Aisi. Kursav and Gants are actually located at the far eastern and western reaches of the family, respectively; Gants is much closer to the western languages geographically. But Gants is located in the highlands while the western languages are located along lowland riverbanks, and I have found no evidence of contact between Gants and the more westerly languages. What is more, the area along the southern bank of the Ramu between Kursav and Gants is shown as being uninhabited on essentially all language maps since Z'graggen's original survey, but that is not actually the case. Unfortunately, the languages spoken in that area remain unsurveyed. It may turn out that they are Sogeram languages, and if they are varieties of Sogeram that are intermediate between Kursav and Gants they could explain the geographically strange affinity between those two languages. But at present we can only speculate.

Although the Sogeram languages certainly constitute a dialect chain, not all links are equally strong. Because of this, it is possible to draw a family tree, although it is important to remember that it is an idealization. The most natural way to break up the chain shown in Figure 5 is as shown in Figure 6: the two westernmost languages are assigned to a West Sogeram group, the four central languages to a Central Sogeram group, and the others to

50

an East Sogeram group. This is essentially the subgrouping I have proposed in previous work (Daniels 2010, 2014), but it differs in the addition of Magɨ and Gants to the family. The addition of Gants renders the name "East Sogeram" somewhat awkward, as Gants is located fairly far to the west, but I have chosen to leave the name unchanged.
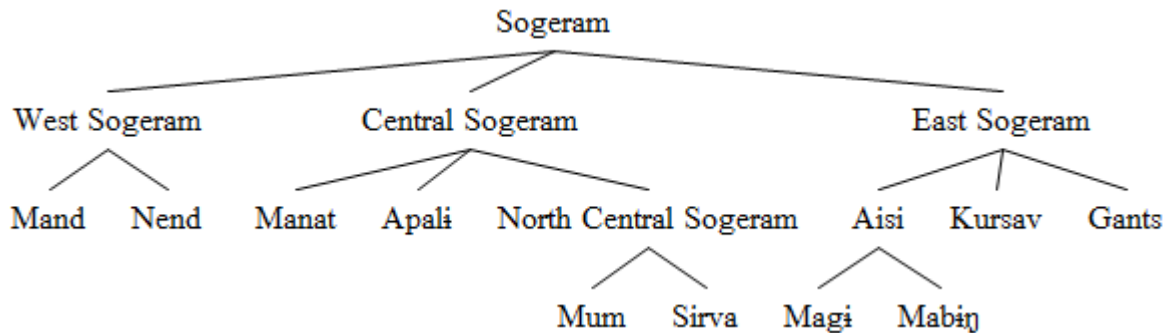
Figure 6. Sogeram family tree

An important question for future research will be determining how accurate this tree is. When one examines phonological innovations it holds up fairly well, but the application of a more comprehensive method such as historical glottometry (François 2014, Kalyan & François f/c), in which innovations of all kinds are tallied and subjected to statistical analysis, may suggest a different tree. For the purposes of this study, then, I treat this tree as fairly accurate, but recognize the limitations of the family tree model and maintain an awareness of contact throughout the discussion of innovations and reconstructions.

A final topic to discuss is the age and internal diversity of the Sogeram language family, but arriving at an objective assessment is difficult. Z'graggen (1971: 62–68) conducted a lexicostatistical analysis of some of the languages, the results of which are presented in Table 2. Unfortunately, he did not group Kursav or Gants with the other Sogeram

languages, and he had not yet discovered Sirva, so he presents no figures for those languages.

Table 2. Z'graggen's cognacy rates

	Mand	Nend	Manat	Apalɨ	Mum	Aisi
Mand	100	47	12	14	6	11
Nend		100	17	15	9	11
Manat			100	12	12	10
Apalɨ				100	17	36
Mum					100	13
Aisi						100

This table suggests that Sogeram languages from different subgroups which have no history of contact are quite distantly related. Mum and the West Sogeram languages share 6–9% cognate vocabulary; Aisi shares 10–11% with the West Sogeram languages and Manat. These figures are extraordinarily low. Per Z'graggen's own methodology (1971: 6), this level of shared vocabulary indicates that the languages are related at the level of the "phylum" or "microphylum." The percentages suggest that Sogeram is as old as Indo-European: Dyen et al. (1992) give similar cognate percentages between Irish and Afghan (9.3%), Catalan and Albanian (11.0%), Frisian and Bengali (12.8%), and Latvian and Armenian (13.1%).

But in fact Z'graggen's figures are artificially low, owing to his not understanding the phonological history of the Sogeram languages. Several cognates, such as Mand *bɨ-* ~ Mum *kɨmu-* 'die,' look so different today that Z'graggen could not have spotted them. I have conducted brief cognacy counts of my own on three of the Sogeram languages—Mand, Sirva, and Gants—and I present the results in Table 3. These percentages were calculated using a 103-item wordlist based on the one used by Boerger & Zimmerman (2012). The figures are not absolute; even given a solid understanding of the phonological relationships

among languages, generous scoring and stringent scoring can yield differences of about 3%. In other words, the figures in Table 3 can be understood to be valid ±1.5%.

Table 3. Cognacy rates for three Sogeram languages

	Mand	Sirva	Gants
Mand	100	21	18
Sirva		100	28
Gants			100

These percentages, ranging from 18–28%, are significantly higher than Z'graggen's. But they still suggest that Sogeram is older than most Indo-European subgroups. The figures are consistent with the view that the most distantly related Sogeram languages are as closely related to one another as members of geographically adjacent subgroups of Indo-European. For example, Dyen et al. (1992) give similar cognate percentages between Italic and Celtic (e.g., Spanish and Welsh at 19.0%), Italic and Slavic (French and Polish at 21.9%), Germanic and Slavic (German and Czech at 25.9%), Baltic and Slavic (Latvian and Bulgarian at 30.6%), Greek and Armenian (18.7%), Indo-Aryan and Iranian (Punjabi and Persian at 20.2%), and distantly related Indo-Aryan languages (Sinhalese and Bengali at 27.9%). While the limitations of the lexicostatistical method are well known, this quick count and comparison with Indo-European will hopefully help readers form an intuition about the internal diversity of the Sogeram languages. If some of the suggested ages of the primary Indo-European branches are to be believed (as found in, for example, Atkinson & Gray 2006), the Sogeram family may be on the order of 3,000 or 4,000 years old. However, it must be borne in mind that prehistoric social situations in New Guinea were in all likelihood very different from those in Eurasia, and rates of linguistic diversification may have been

quite different too. For this reason I prefer a more conservative estimate of the age of the Sogeram family, and suggest that 3,000 years ago is the best guess for when PSog may have been spoken.

Chapter 2

Phonology

In this chapter I present the phonological reconstruction of Proto-Sogeram (PSOG) and discuss the phonological innovations that have taken place in each daughter language. I have already discussed PSOG phonology in some detail in previous work (Daniels 2010), although for the present study I had access to significantly better data and the reconstruction below differs from my previous analysis in some important details. I begin below by presenting the reconstructed phonological inventory and discussing phonotactic patterns. The rest of the chapter then covers phonological developments in the daughter branches.

2.1. Proto-Sogeram Phonological Inventory

Most prominently, I now propose the reconstruction of two additional phonemes, *ñ and *v, yielding the reconstructed phoneme inventory given in (1). (Where the orthographic symbol I use differs from the phonetic character that I posit for a reconstructed phoneme, I present the orthographic symbol in <angled brackets> on the right.)

(1) *p   *t   *k   *kʷ <kw>   *i   *ɨ   *u
     *β <v> *s
     *m   *n   *ɲ <ñ>   *ŋ   *a
                                                                                    *r

Three aspects of this reconstruction merit special discussion: the lack of a series of prenasalized stops, the reconstruction of *kw, and the reconstruction of *v. On the first

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point, while I do not reconstruct a series of voiced, prenasalized stops—i.e., *mb *nd *ŋg *ŋgw—I do reconstruct frequent nasal–stop clusters, as in *ampiŋ 'wing,' *kɨntɨr 'root,' *miŋka 'come down,' and *iŋkwa 'give.' These clusters were voiced and became prenasalized stops in Central Sogeram (CS; §2.3.1.1) and East Sogeram (ES; §2.4.1.1), but the reconstruction presented here is preferable because of the reflexes in West Sogeram (WS), particularly Mand. Table 1 gives several correspondences involving all of the PSᴏɢ nasal–stop clusters. Note that in Mand, the nasal in these clusters was lost (§2.2.2.1), giving a consistent reflex of a simple voiceless stop. In Nend, the original cluster was sometimes retained (as in, for example, 'wing' and 'root') and sometimes voiced to become a prenasalized stop (as in 'walk' and 'give'). In every other language, the reflex is a voiced, prenasalized stop—except Aisi, where prenasalization was lost and *nt has a reflex of *r* (§2.4.2.2).

We are then faced with a classic problem of the comparative method. We can reconstruct prenasalized stops, which requires positing an unusual change in WS, namely devoicing these stops in every environment, even intervocalically. Or we can reconstruct nasal–stop clusters, which requires positing two changes instead of just one, namely the formation of prenasalized stops in both Proto-Central Sogeram (PCS) and Proto-East Sogeram (PES). I prefer the latter analysis for two reasons: (i) we do not actually have to posit two separate changes in PCS and PES, but can rather posit a very early change that affected the dialects of PSᴏɢ that eventually became PCS and PES; and (ii) even if this change happened twice, it is a very natural change, and positing that it happened twice is still preferable to positing a single instance of devoicing in Proto-West Sogeram (PWS).

Table 1. Word-medial stop correspondences

| WS | | CS | | | | ES | | | |
Mand	Nend	Manat	Apalɨ	Mum	Sirva	Aisi	Kursav	Gants	PSOG
apɨh	mpɨŋ	(v)ab	abɨŋ	abɨ	abɨ				*ampɨŋ 'wing'
ipi(a)			ibi	ñibi	ib	ib	-(n)ibe	ibe	*impi 'name'
tɨr	ntɨr		hidɨlɨ	kɨdɨ		kɨrɨr	-kɨdɨr	kɨdi	*kɨntɨr 'root'
ta-	da-	da-	hɨda-	kɨda-	kɨda-	kr-		kɨda	*kɨnta 'walk'
ka(jɨ)-	ŋka-	mɨga-	mɨga-	mɨga-	mɨga-	mɨga		mɨga	*mɨŋka 'come down'
kiñ	ŋkiñ		lɨgiŋ				rigi	tɨgin	*tɨŋkɨñ 'black'
ikw-	egwa-	igu-	igu-	gu-	gu-	igw-		gw-	*iŋkwa 'give'

At present, little is known about the phonological developments that preceded the PSOG stage. However, it is quite possible that when more research is conducted on the phonological history of Madang and Trans-New Guinea languages, it will be decided that the parent of PSOG, Proto-South Adelbert, probably had prenasalized stops. After all, they are extremely common in the region, and they have been tentatively reconstructed for Proto-South Adelbert (Pawley 1998*b*) and Proto-Trans New Guinea (PTNG; Pawley 1998*a*, 2001, 2012). If this analysis is confirmed, then the reasoning outlined above becomes invalid and the question will have to be reframed as: At what stage did the PTNG prenasalized stops devoice? However, there is some evidence that this will not be necessary. Capell (1951) surveyed some languages of the Bogia district, including Moresada [msx], which he called Murusapa. This language belongs to the Josephstaal group, which is a sister to Sogeram. Capell gives several sentences and a short text, and some brief analysis reveals the following forms. A verb *ntarɛmbiŋ* seems to mean 'they will hear,' with the likely morphological breaks *ntarɛ-mb-iŋ* [hear-FUT-3PL] (Capell 1951: 146). A further verb *ŋkɛrga* 'see' appears several times on pages 146–147. These verbs suggest two things. First, they appear cognate with the PSOG reconstructions *intar 'hear' and *iŋka 'see,' suggesting that

these *nt and *ŋk clusters contained voiceless stops in Proto-South Adelbert, which were then inherited into both PSOG and Moresada.[6] Second, they suggest that Moresada regularly lost word-initial *i. This conclusion is supported by another apparent cognate: *samaŋ* 'brother' (Capell 1951: 146), which resembles PSOG *isaŋ 'same-sex older sibling (1.POSS).'

For now, then, I consider it more likely that PSOG had nasal–voiceless stop clusters, and no prenasalized stops. But this question is not yet settled, and further data will have to be brought to bear on it.

The reconstruction of the labiovelar stop *kw faces a similar problem in that it pits the WS reflexes against those of CS and ES. In both WS languages, the labiovelar obstruents *kw*, *gw*, and *hw* are clearly single phonemes. In Mand, for example, they have a distribution similar to other obstruents, occurring in complex onsets like *kwrih* 'arrow, spear' and complex codas like *arhw* '1PL.' And for some Southern Nend speakers, the lip rounding approaches full closure, so that *kw* could be considered a coarticulated [k͡p]. In the CS and ES languages, though, the reflexes of *kw are more ambiguous, and are perhaps most easily analyzed as two segments, *k* and *w* (or perhaps *k* and an allophone of *u*). This is especially the case in CS, where many sequences of *kwV became *ku (§2.3.1.2). The situation in ES is similar, though; reflexes in Kursav, for example, include *kwaka 'cut, chop' > *kwaka-* and

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[6] Note that the Moresada future tense suffix *-mb*, probably cognate with the PSOG future tense suffix *-ɨmpa, appears to contain a voiced prenasalized stop. It may be that in Moresada only stops in word-initial nasal–stop clusters remained unvoiced, and that word-medial clusters behaved differently. But at present not enough is known about the language to be sure.

*mirkwa 'cordyline' > *merkwa*. In both of these cases the *kw* is phonetically a [kw] sequence and, at the present state of research, there is little to suggest that an analysis as a single phoneme is preferable.

As this discussion makes clear, the question of whether to reconstruct *kw also involves other questions, such as whether to reconstruct *w as a separate phoneme or as an allophone of *u, and what the permitted PSᴏɢ vowel sequences were and how they were syllabified. So we must either reconstruct a single phoneme *kʷ and posit that it became two in PCS and PES, or reconstruct a cluster *kw and posit that it became a single phoneme in PWS. In this case considerations of naturalness are of little help: both changes are equally plausible, as are both proposed PSᴏɢ consonant inventories. I reconstruct a single segment *kʷ (written *kw), citing three deciding factors: (i) the reflexes of the sequence of PSᴏɢ *k, *u, and *a in the North Central Sogeram (NCS) languages (§2.3.1.4), (ii) the behavior of *kw-final verbs in a morphophonemic vowel elision process, and (iii) a *kw-conditioned vowel-rounding change in Aisi Mabɨŋ (§2.4.4.2).

The first point hinges on the only reconstructed *kua sequence in the lexicon, *kuar 'garden.' As I discuss below, this would have been pronounced as two syllables, with an epenthetic *[w]: *[ku.war]. Epenthetic *w, along with the consonantal allophone *[w] of *u (see below), underwent fortition in Manat, Mum, and Sirva (§2.3.1.4), giving the reflex *kɨva* in the latter two languages. This reflex clearly differs from reflexes of *kwa sequences, like *iŋkwa 'give' > Sirva *gwa-* and *kwaka 'cut, chop' > Sirva *kwaha-*. These divergent reflexes show that the *kw in forms like *iŋkwa and *kwaka is not composed of *k plus the consonantal allophone of *u, because *k plus *u develops as in *kuar. This leaves us with

two possible explanations. First, we can posit a new phoneme that was distinct from *u—say, *w—and propose that clusters of *k and *w behaved differently before *a than sequences of *k and *u. Or second, we can reconstruct a single segment *kw instead of a cluster, and say that this segment developed differently than *ku. The latter hypothesis is to be preferred, because if we adopt the former, we are pressed into explaining why *w only occurs in one environment, namely after *k, since there is no evidence of a *w-like consonant that is distinct from *u occurring anywhere else in the language.

The second piece of evidence for reconstructing a single labiovelar segment *kw comes from patterns of verbal morphophonemics. The final vowel of a verb root was often elided in the presence of vowel-initial suffixes. So for example the *a of *mɨŋa- 'get' was elided in the presence of the *i in *-in '1SG.IPST': *mɨŋ-in. This also applied to verbs that ended in *u, such as *kɨmu- 'die,' which became *kɨm-in with this suffix. This elision process still occurs in most Sogeram languages—for example, the reflex of *kɨm-in is *hɨm-in* in Manat and *kum-enɨŋ* in Gants. But verbs that ended in *kw did not undergo this process. For example, when *iŋkw- 'give' was combined with *-in, the result was *iŋkw-in, with no elision. This can still be seen in multiple reflexes like Mand *ikw-in*, Apalɨ *igu-in*, Sirva *gw-in*, Aisi *igw-eŋ*, and Gants *go-inɨŋ*. This difference in behavior between verbs that ended in *u and verbs that ended in *kw demonstrates that *kw-final verbs ended in a consonant, not a vowel. And as above, we can say that the consonant was a *w that followed a *k, or we can say that it was a single segment *kw. For the reasons I have stated, the latter analysis is preferable.

The last piece of support for reconstructing a single segment *kw comes from a sound change in Aisi Mabɨŋ (§2.4.4.2). In this change, reflexes of PSOG *kw raised and rounded a

preceding *a, so *iakw- 'go up' > *yok*- and *taŋkw- 'step on' > *tog*-, which suggests that a significant amount of coarticulatory lip rounding still occurred with the *k as late as Proto-Aisi (PAɪꜱ). This development only took place in these two forms, which is admittedly scanty evidence on which to base this conclusion—and it is not even clear from this evidence that *kw was a single phoneme in PAɪꜱ, since such a change could easily have taken place with a cluster of *k and *w. But the evidence is suggestive, and, taken together with the evidence from NCS and morphophonemics discussed above, I believe that it renders the reconstruction of a labiovelar consonant *kw preferable to any alternatives.

I turn now to the reconstruction of *v. It seems best to reconstruct a further non-nasal bilabial consonant in addition to *p, assumed to be a bilabial fricative represented here as *v. Reflexes of this consonant are shown in Table 2, and they include *u, w, v, f, b*, and *p*. Reflexes of *p are also given for comparison.

Table 2. Reflexes of PSᴏɢ *v and *p

WS		CS				ES			
Mand	Nend	Manat	Apalɨ	Mum	Sirva	Aisi	Kursav	Gants	PSᴏɢ
v	*w*	*v*	*v, f*	*p, v*	*p, v*	*b, u*	*v*	*p*	*v
p	*p, v*	*p, v*	*v*	*p, v*	*p, v*	*p*	*p*	*p*	*p

In Daniels 2010 I accounted for some of these reflexes by positing sporadic unusual developments to *p, but it seems now that the costs of positing an additional PSᴏɢ phoneme, in terms of the economy of the reconstruction, are outweighed by the benefits. Apalɨ *f* can now be accounted for as a reflex of *v, although it occasionally voiced to *v* (§2.3.3.5). In Aisi *v regularly became [w] (probably an allophone of *u*) in onset position and remained [β] (which became an allophone of *b*) in coda position (§2.4.2.2 and §2.4.4.4),

while *p remained *p*. The contrast between *v and *p is preserved almost unchanged in Kursav, where *v* today has the word-initial allophone [ɸ]. And in Gants *v merged with *p, which is usually pronounced [ɸ] word-initially and [β] elsewhere. Future research may reveal that positing this phoneme to PSOG is unnecessary and unwarranted by the data; but at the present stage of analysis, positing an additional labial phoneme appears to be the simplest analysis.

As regards the phonetic quality of this phoneme, I prefer to reconstruct the allophonic distribution current in Kursav: *[ɸ] word-initially and *[β] elsewhere. (The choice of <v> as the orthographic symbol instead of <f> is thus essentially arbitrary, which is why I placed *v on the same line as *s in (1) above.) This accounts for the fact that in Apalɨ, the *f* reflex is most common word-initially while the *v* reflex is most common word-medially (although the distribution is not perfect). It also helps explain the word-initial fortition that took place in Proto-North Central Sogeram (PNCS; §2.3.4.1) and the merger between *v and *p that took place in Gants (§2.4.6.3). Lenition to *w* in Nend (§2.2.3.6) and Aisi Mabɨŋ (§2.4.4.4) could then be explained by positing that the *[ɸ] allophone became voiced, and *[β] then underwent deaffrication to [w].

2.1.1. Proto–Sogeram Phonotactics

Several phonotactic generalizations can be made about PSOG based on the words that have been reconstructed. Nasal–stop clusters (or prenasalized stops) occurred only word-medially, never word-initially and word-finally only in two lexemes, both of which have problematic correspondence sets: *impɨnt 'good' and *-(na)mp 'daughter-in-law.' While

these homorganic nasal–stop clusters were very common, non-homorganic clusters also occasionally occurred, although they were uncommon and show irregular development in most cases. Almost all of the reconstructed non-homorganic clusters include *k: *tamkan 'eye,' *kwɨmka 'stomach,' *-mku 'nephew, niece,' and *-ñki 'paternal grandfather.' The only exception is *-ŋti 'father (2.POSS).'

The phoneme *r did not occur word-initally, meaning that the contrast between *t and *r was restricted to non-initial position. However, the contrast is securely reconstructed by the minimal pair *mita 'leave' and *mira 'firelight.' The only other phonemes that do not appear to have occurred word-initially are *ŋ and *ɨ.

Word-initially, the corpus only contains the onset clusters *kr (*kra- 'roast') and *vr (*vrɨ- 'scratch'), although *pr was probably also allowed, as the cluster is contained as an onset in many forms, like *ampra 'place,' *kupra 'jump,' and *upri 'dog.' There are also two examples that are reconstructed with a *kwr cluster, so this may also have been allowed word-initially: *akwra 'carry' and *añɨkwriñ 'the day before yesterday.' Both of these correspondence sets have problems, though.

It seems that any consonant besides *kw could occur word-finally, although the nasals and *r were the only consonants that occurred word-finally with any regularity. Word-final examples of the voiceless stops, *s, and *v can be seen, though, in forms like *kap 'just,' *kut 'back,' *-muk 'brother of female ego,' *kwɨŋkɨs 'armpit,' and *kariv 'flying fox.' There are even two forms that may have ended in *kw: *tɨkwɨ 'area under,' which has the irregular Manat reflex *rɨk* instead of the expected *†riku*. This may be because the form was

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actually *tɨkw, and *kw became *k* word-finally in Manat. The other form is *kɨñakw 'paint tree,' which only has reflexes in Mand and Gants, and they are somewhat problematic.

Various sequences of two vowels were allowed in PSOG, although none of them included *ɨ. The most common was the sequence *ai, and reconstructing it is fairly straightforward in a form like *umai 'bean' (cf. Manat *mai*, Mum *umai*, and Kursav *wamai*). The other rising sequence, *au, also occurred, although its reflexes are somewhat more complicated. It became *av in PNCS (§2.3.4.2), but otherwise reflexes are not numerous enough to describe patterns with confidence. These two sequences were syllabified together, although it is unclear whether they should be treated as a diphthong—a single complex nucleus—or as a sequence in which the *a was the nucleus and the high vowels took their consonantal allophones *[j] and *[w]. Two reconstructed forms, *kaur 'unripe' and *naunti 'woman,' suggest that analyzing them as a diphthong is preferable because the alternative analysis requires positing complex codas, which are not attested elsewhere. It is, of course, possible that PSOG only allowed this kind of complex coda. Moreover, both correspondence sets have problems, so I consider the question unresolved.

The falling sequences, *ia and *ua, were syllabified differently depending on the context. When they were preceded by a consonant, the first vowel in the sequence was realized as a vowel, an epenthetic glide was pronounced between the vowels, and the *a was pronounced in a separate syllable. That is, they were pronounced *[Ci.ja] and *[Cu.wa]. For example, *kia 'speech' is still two syllables in Apalɨ *ciaŋ*, Kursav *–kia* 'festival,' and Gants *kia*, although in other languages this has changed (such as Mand, Nend *ya* and Sirva *kya*).

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Similarly, *kuar is still two syllables in Apalɨ *hualɨ*, and the epenthetic glide has changed to *v* in Mum and Sirva *kɨva*.

When *ia and *ua were not preceded by a consonant, the first vowel was realized as a consonant, *[j] or *[w]. It was affected by WS initial consonant deletion (§2.2.1.1), so for example *iakw- 'go up' (pronounced *[jakʷ]) > Mand *ako-*, Nend *akwɨ-*, Manat *aku-*, and *uaka 'maybe' (pronounced *[wa.ka]) > Manat *aka(d)*. That *[j] and *[w] should be considered allophones of *i and *u, instead of phonemes in their own right, is demonstrated by the resyllabification that took place in some forms after PWS initial consonant deletion (§2.2.1.1). Forms like *kuar 'garden' and *kia 'speech' originally contained the vocalic allophones of these vowels, as evidenced by the forms cited above. But when the initial consonant of these forms was lost, the following vowel became a consonant, as reflected in Mand *var*, Nend *war*, and Manat *var* 'garden' (< *kuar) and in Mand, Nend *ya* 'speech' (< *kia).

The sequences *iu and *ui behaved in similar ways. The first of these only occurs once in the reconstructed lexicon, and it is a difficult form to interpret. PS<small>OG</small> *iui 'nephew, niece (1.POSS)' > Apalɨ *iui*, Gants *yue*. The Apalɨ form is syllabified [i.wi], while the Gants form is syllabified [ju.we], with epenthetic [w] inserted between the second and third vowels. Unfortunately, these reflexes do not allow us to reconstruct a syllabification pattern to PS<small>OG</small>, since Apalɨ apparently parses from right to left while Gants parses from left to right. So while we can reconstruct the *iu sequence in *iui 'nephew, niece (1.POSS),' we cannot reconstruct how it behaved.

The sequence *ui appears three other times in the reconstructed lexicon: *muiam 'cassowary,' *kuimaŋ 'coconut,' and *kui 'shoot, pierce.' The first of these is straightforward, since it would have been parsed *[mu.jam], leaving the two vowels in different syllables. This vowel sequence gives expected reflexes in every language (except for Mand, where *[j] does not undergo fortition to †z; cf. §2.2.2.6). The second form, *kuimaŋ 'coconut,' appears to have been parsed disyllabically as *[kuj.maŋ], not trisyllabically as †[ku.wi.maŋ]. This is suggested by unexpected reflexes in several languages. The *ui sequence became oi in Mand (koim, with unusual final nasal loss) and Gants (koimaŋ, where the lowering of *u can be ascribed to a regular process of harmony with the following *a; cf. §2.4.1.4). In Manat the sequence was simplified to u (huma), while in Apalɨ it became i (himaŋ). And in PNCS the *i became the nucleus and the *u became a glide (Mum, Sirva kwima). These reflexes are quite different from the Apalɨ and Gants reflexes of *iui, suggesting that *ui was only disyllabic when it was not followed by a consonant.

Armed with this analysis, we can turn to *kui 'shoot, pierce,' which turns out to be quite a difficult form. As will be shown in the next chapter, PSOG verbs occurred in three importantly different environments: as an unbound stem (used in serial verb constructions), as a bound root followed by a consonant, and as a bound root followed by a vowel. The unbound form would probably have been *kui, pronounced [ku.wi], or possibly *kuia [ku.ya]. The bound form followed by a consonant would have been, for example, *kui-na 'shoot-2SG.IPST,' pronounced [kuj.na]. And the bound form with a following vowel would have been, for example, *kui-in 'shoot-1SG.IPST,' probably pronounced either

[ku.win] or [kujn], although this is not certain. These different root shapes would have influenced each other analogically, which makes analysis difficult, especially given the rarity of correspondence sets for *ui.

A few other patterns appear to occur in the PSOG lexicon, but they are not numerous or regular enough to describe in detail—although hopefully someday they will be. I now turn to a discussion of the phonological developments in each of the Sogeram subgroups and languages, beginning with WS.

2.2. The West Sogeram Branch

The two West Sogeram (WS) languages, Mand and Nend, share only two phonological innovations—word-initial consonant deletion (§2.2.1.1) and word-final *ki palatalization (§2.2.1.2)—and the former is sometimes shared with Manat, a CS language. But there are morphological innovations that indicate that Mand and Nend shared a fairly long common development, and so I consider the WS branch of the family quite secure.

2.2.1. West Sogeram Innovations

The West Sogeram phoneme inventory was almost identical to that of PSOG, adding only a palatal affricate *c. There may also have been an innovation which changed PSOG *v > PWS *w, although it is unclear whether that change happened in PWS or only in Nend (see §2.2.3.6).

(2)   *p   *t   *k   *kʷ <kw>   *i   *ɨ   *u
              *t͡ʃ <c>
      *β <v> *s
      *m   *n   *ɲ <ñ> *ŋ   *a
                                                                              *r

2.2.1.1. Word–initial consonant deletion

Word-initial consonants were lost from almost all polysyllabic words in West Sogeram, along with any following *ɨ. This change had a sweeping effect on the appearance of the lexicon, and affected all consonant types, including plosives (*takam 'vulva' > PWS *akam > Mand *akam*, Southern Nend *aham*; *vaŋan 'bag' > PWS *aŋan > Mand, Nend *aŋan*), nasals (*mɨnta 'sword grass' > PWS *nta > Mand *ta*, Nend *nta*), fricatives (*sɨŋki 'pot' > PWS *ŋki > Nend *ncɨ*), and consonantal allophones of vowels (*iaka 'come up' > PWS *akai- > Mand *akai-*, Nend *akay-*).

The only consonant that appears to have been affected unusually is *ñ. Although initial *ñ appears to have been rare in PSᴏɢ, a few correspondence sets shed light on its behavior. The 1.ᴘᴏss form of the term for 'same-sex younger sibling,' *ñama, has retained the *ñ in Mand *ñam*, but changed it to *n* in Nend *nama*. Positing a subsequent *ñ > n development in Nend is problematic, because word-initial consonant loss created some instances of word-initial *ñ that are retained in Nend as *ñ*, such as *kɨñɨ- 'stay' > *ñɨ-*. It seems, then, that this change proceeded somewhat differently in two dialects of PWS: in one, initial *ñ was simply retained; this state of affairs is retained in Mand. In the other, initial *ñ became *n at the same time as the loss of initial consonants; this state of affairs is retained in Nend.

As mentioned, this change did not affect monosyllabic words: *pam 'one' > PWS *pam > Mand *vam*, Nend *pam*; and *tɨm 'piece' > PWS *tɨm > Mand, Southern Nend *tɨm*. Verbs

usually underwent this change even if they were monosyllabic, because they would often have occurred with suffixes that would make them polysyllabic. Thus *vai 'come' > PWS *ai- > Mand *ai-*, Nend *ay-.* But some very short verbs, particularly those that could combine with common suffixes like *-in '1SG.IPST' or *-i '3SG.IPST' and remain monosyllabic, kept their initial consonants: *kra 'roast' > PWS *kra- > Mand, Nend *kra-.* One of these verbs also reflects the changes to *ñ discussed above: *ña 'eat' > PWS *ña > Mand *ja-,* Nend *na-.*

2.2.1.2. Palatalization of word–final *ki

PSOG *ki was palatalized to *c* in PWS when it was word-final. Three sequences of word-final *ki have survived into each language: *-pɨki 'paternal grandmother' > Mand *-pɨc*, Nend *-pɨj*; *-ñki 'paternal grandfather' > Mand *–ca(ñ)*, Nend *nca*; *-ɨk-i 'DS.SEQ-3SG' > Mand *-c* 'DS'; and *sɨŋki 'pot' > Nend *ncɨ*. The forms for 'paternal grandfather' are somewhat problematic, as the reflex of *i is *a*, not †Ø or †ɨ as expected. The 'pot' form illustrates that this change followed word-initial consonant loss (§2.2.1.1), as *ki palatalization would have rendered *sɨŋki monosyllabic (†*sɨñc*) and would have blocked deletion of the *s.

2.2.2. Mand Innovations

The Mand phoneme inventory is presented in (3). Mand has added a series of prenasalized stops, palatal affricates, a voiceless fricative *f*, and voiced fricatives *z, h*, and *hw*. It has also added mid vowels, including possibly a mid central *ə*.

(3)

p	t		k	kʷ \<kw\>	i	ɨ	u
		ʧ \<c\>			e	(ə)	o
mb \<b\>	nd \<d\>		ŋg \<g\>	ŋgʷ \<gw\>	a		
		ndʒ \<j\>					
ɸ \<f\>	s						
β \<v\>		ʒ \<z\>	ɣ \<h\>	ɣʷ \<hw\>			
m	n	ɲ \<ñ\>	ŋ				
	ɾ \<r\>						
w		j \<y\>					

The prenasalized stops were added by nasal fortition (§2.2.2.5), which also created the prenasalized affricate *j* by fortition of PSᴏɢ *ñ. It is unclear how *f* arose; it is very rare in Mand, and none of my PSᴏɢ cognate sets contain it. The alveopalatal fricative *z* arose via fortition of consonantal *i (§2.2.2.6). The velar fricatives were formed by lenition of *k and *kw (§2.2.2.2) as well as from word-final *ŋ (§2.2.2.5). The schwa was created as a non-initial allophone of *a, and may still be best considered an allophone. But loanwords with non-initial [a] have complicated matters, and *ə* could also be considered a separate phoneme today.

2.2.2.1. Nasal loss

Mand lost all nasals from PSᴏɢ homorganic nasal–stop sequences. This applied to nasals before bilabial stops (*kaiampra 'village' > *azapir*), alveolar stops (*kɨntɨr 'root' > *tɨr*), velar stops (*tiŋkiñ 'black' > *kiñ*), and labiovelar stops (*iŋkwa 'give' > *ikw-*), regardless of environment. Even in words where Nend exhibits an irregularly voiced form, such as *da-* 'walk' (< *kɨnta), Mand consistently has a voiceless stop: *ta-* 'walk.'

Non-homorganic clusters were less frequent, and it is therefore difficult to make generalizations about them. It seems, for example, that *mk was retained (*-mku 'nephew,

niece' > *ñamku* 'female ego's brother's child'), but that *ñk gave *c* (*-ñki 'paternal grandfather' > -*ca*), presumably after perseverative place assimilation palatalized the *k (cf. Nend *nca* 'grandfather'). But these are only single examples, not consistent patterns in the lexicon, so we cannot yet make generalizations about non-homorganic nasal–stop clusters.

2.2.2.2. Sporadic *k and *kw lenition

Some word-medial instances of *k and *kw were lenited to *h*. This change appears to have been sporadic, although it affected every instance of these consonants before *r (for example, *kikra 'watch' > *ihra*, *akwra 'carry' > *ahwro* 'take away'). But it also affected some reflexes without a following *r (*-kuna 'sister of male ego' > -*(i)hun* 'sister-in-law,' *akwasa 'betelnut' > *ahwas*), although it did not affect every such reflex (*kwaka 'cut, chop' > *aka-*, *iaka 'come up' > *akai-*). In fact, one word exhibits synchronic variation: during my fieldwork, I recorded 'chicken' as both *ikɨkar* and *ikɨhar*.

The fact that this change never affects a Mand *k* that had a preceding nasal in PWS suggests that it followed nasal deletion: *iŋkɨn 'ground possum' > *(bor)ikɨn*, *maŋkra 'pull' > *akra-* 'fish with a net,' not †*ahra-* (although the semantic innovation in the second form makes it less than perfectly reliable, and it is the only example of a PSᴏɢ *ŋkr sequence with a Mand reflex).

2.2.2.3. *a–centering

Mand occasionally centered *a to *ɨ* when it occurred in the middle of a longer word. Because most reconstructed words are only one or two syllables, this change only applied to three forms: *apapara 'butterfly' > *apɨpar*, *ikakara 'chicken' > *ikɨkar*, and *kukasa 'frog' >

uki̵s. The last of these forms suggests this change took place before word-final *a-loss, as the pre-Mand form *ukas probably would not have undergone this change.

It is worth noting that two forms which appear to match the criteria for undergoing this change did not: *akwasa 'betelnut' > *ahwas*, and *kayampra 'village' > *azapi̵r*. Further research into the stress systems of the Sogeram languages might reveal a consistent pattern.

2.2.2.4. Word–final *a loss

Mand lost most instances of word-final *a. When the preceding segments were a vowel plus a sonorant or sibilant, the *a was simply lost, as in *ñama 'same-sex younger sibling (1.POSS)' > *ñam*, and *akwasa 'betelnut' > *ahwas.* When the *a followed a single segment, it became *i̵*, as in *ña 'son' > *ñi̵*. This also happened when the preceding consonant was a plosive: *maŋka 'egg' > *aki̵.* There are a few exceptions to this change, such as *mi̵nta 'sword grass' > *ta*, *kia 'speech' > *ya*, and *kunsa 'yam' > *usa* 'taro.'

2.2.2.5. Nasal fortition and final *ŋ > h

Many nasals became prenasalized stops in Mand. This change was regular, and affected nasals at all points of articulation: bilabial (*tama 'put' > PWS *ama- > *aba-*), alveolar (*ina 'sun' > *ida*), palatal (*ña 'eat' > *ja-*), and velar (*miŋra 'vomit' > *igra-*). It did not affect word-final nasals, so *uram 'house' > *uram*, and *mansi̵n 'bowstring' > *asi̵n*. When a word-final nasal was present, the change also did not affect any preceding nasals, so *aman 'breast' > *aman* and *vaŋan 'bag' > *aŋan.* This patterning created a few suppletive alternations in the lexicon when certain verb suffixes allowed nasal fortition and others blocked it. For

example, *kɨmu 'die' > PWS *ma- (with change of verb class) > *bɨ-*, but this verb has retained the root *ma-* with the adjunctivizing suffix *–m: ma-m.* Similarly, *kɨñi- 'stay' > PWS *ñɨ- > *jɨ-*, but this verb now has an irregular reduplicated nominalizer/participle *ñɨ~ñ.* This pattern is also visible in one tense suffix, the middle past. This suffix was *-iamɨ > PWS *-emɨ*, with the coalescence of *ia > e.* With the 2SG person agreement suffix *–n* (< *-na), the suffix remains *-emɨ-n.* But with the 3SG suffix *–i* (< *-i), *-emɨ underwent fortition to become *-eb-i.*

Nasal fortition followed word-final *a-loss, because nasals that were rendered final by that change did not become stops. This is illustrated by the patterning of the 2SG agreement suffix above, as well as by forms like *ñama 'same-sex younger sibling (1.POSS)' > *ñam*, not †*jab* or †*jabɨ.* Note that the behavior of the monosyllabic form *ña 'son' > *ñɨ* suggests that the final *ɨ*, created by word-final *a loss (§2.2.2.4), was not phonemic when nasal fortition took place because the *ñ* did not become †*j.*

A related change is the fricativization of word-final *ŋ > h.* This also appears to have been regular: *ampɨŋ 'wing' > *apɨh*, *kansɨŋ 'festival decoration' > *asɨh*, and *pumpɨŋ 'sweat' > *upɨh.* However, one would expect this change to either bleed or feed nasal fortition: if this change came first, preceding nasals in a word-final *NVŋ sequence would become stops, while if this change came later, preceding nasals would remain nasals. Unfortunately, the corpus of reconstructed PSOG forms only contains two words that contain such a sequence and have reflexes in Mand, and they contradict each other. The first is *kinaŋ 'axe' > *idaŋ* 'bamboo knife,' and the second is *nɨ-mɨŋ '3SG.POSS-mother' > *mɨŋ.* These two forms are not sufficient evidence for any analysis.

2.2.2.6. Glide fortition

The PWS glides *[j] and *[w], possibly still allophones of *i and *u, became the voiced fricatives *z* and *v* in Mand. These changes were fairly regular, and affected most instances of these sounds in onset position. Thus *kaiampra 'village' > *azapɨr*, *kui 'shoot, pierce' > PWS *uyɨ- > *uz-*, and *kuar 'garden' > PWS *war > *var*. A few instances of *i did not change (*kia > PWS *ya > *ya*, *muiam > PWS *uyam > *uyam*), suggesting that this sound change was not completely regular. But the only instance of *w that did not undergo the change to *v* can be accounted for by pointing out that it was *u in PSOG, and could still have been *u when this change took place (*ua 'go' > *wa-*). It should be mentioned that this change may have interacted with the change *v > *w (§2.2.3.6), which is reflected in Nend forms like *wan* 'father' (< *-van), because it is possible that *v > *w actually took place in PWS, not Nend. It may just as easily have taken place only in Nend, though, so it is unclear whether PSOG *v became PWS *w and then became Mand *v again or not. In any case, it is clear that glides that were formed by PWS word-initial consonant loss (§2.2.1.1), such as *kuar 'garden' > PWS *war > Mand *var*, were also strengthened to *v*.

2.2.3. Nend Innovations

The Nend phoneme inventory is presented in (4) below. The Nend inventory is very similar to that of Mand, differing only in that Nend lacks *f* and *ə*, and that Nend *z* is alveolar, not alveopalatal.

(4) p   t   k   kʷ <kw>   i   ɨ   u
                tʃ <c>   e   o
     mb <b>   nd <d>   ŋg <g>   ŋgʷ <gw>   a
                ndʒ <j>
                s
     β <v>   z   ɣ <h>   ɣʷ <hw>
     m   n   ɲ <ñ>   ŋ
                ɾ <r>
     w   j <y>

Nend created prenasalized stops by voicing and merging certain nasal–voiceless stop clusters (§2.2.3.1). The same change also produced the voiced fricatives *v*, *h*, and *hw*, as well as more tokens of *r*, when the stop had no preceding nasal. More tokens of *c* were created by palatalization of *s before *i, as suggested by *isi 'fetch water' > *icɨ-*. The mid vowels were created by a process of harmony triggered by a nearby *a (§2.2.3.5). The voiced alveolar fricative *z* was created by apparently irregular voicing of *s, primarily in the Northern dialect.

The dialect situation in Nend appears to be complex, and the fact that I have data from different villages complicates analysis. I conducted research in the southern village of Kwaringri, but Kyle Harris, whose data I use considerably, was based in the northern village of Pasinkap. My analysis is based primarily on Harris's northern data, of which I have more, but I note the use of southern forms, and possible phonological differences between the two dialects, where appropriate.

2.2.3.1. Plosive voicing

Nend underwent a sporadic plosive voicing process. In this change, intervocalic plosives became voiced fricatives if they were not preceded by a nasal, and if they were they

combined with the nasal to become voiced prenasalized stops. The vowel *ɨ did not trigger this voicing change, only *i, *a, and *u did. Thus *takam 'vulva' > *aham* and *tantam 'leg' > *andam*, but *tutɨm 'salt' > *utɨm* and *mantɨŋ 'side' > *antɨŋ*. This change affected labiovelars as well: *akwasa 'betelnut' > Southern *ahwas* and *iŋkwa 'give' > Northern *eŋgwa-*, Southern *iŋgwa-*. As stated, however, this change was sporadic, and sometimes plosives did not voice even though they occurred in the triggering environment: *kapa 'bird' > *apa* and *taŋkwa 'step on' > *aŋkwa-*.

2.2.3.2. Word-final *i loss

Nend lost most reflexes of word-final *i. Depending on the preceding consonant, this loss sometimes resulted in a syllabic resonant, such as the syllabic *r* in *imɨr* 'cold' (< *kimri), and sometimes in a new *ɨ*, as in *antɨ* 'woman' (< *naunti). This change did not affect *i when it was preceded by a vowel: *sakai 'bamboo' > *ahai*. Final *i-loss followed plosive voicing (§2.2.3.1), as evidenced by *upri 'dog' > Southern *ovɨr*, not †*opɨr*, and by *kakri 'axe' > *kahɨr*, not †*kakɨr*.

2.2.3.3. Word-final *n-rhotacization

Word-finally, many instances of PWS *n became *r* in Nend. This change may also have affected other alveolar consonants, as there is one example of final *nd (*impɨnt 'good' > *imbɨr*) that appears to have undergone this change. (But it should be noted that the voicing of the *mp cluster suggests this form was borrowed from Manat *ibɨd* 'good,' in which case it would have been a final *nd, not a final *nt, which rhotacized.) This change was blocked if the preceding consonant was a nasal, so *kuman 'arm, hand' > *oman* and *vaŋan 'bag' >

aŋan. Otherwise, it is reflected in only two PSOG reflexes (*iŋkɨn 'ground possum' > *iŋkɨr* and *miŋkɨn 'penis' > *gɨr*), but is reflected fairly consistently in multiple WS correspondences (such as *umpan 'top' > Mand *upan*, Nend *ompar* and *in 'now, today' > Mand *in*, Nend *ir*).

2.2.3.4. Sporadic word–initial *a loss

There are a few correspondence sets in which Nend lost initial *a, although this change appears to have been quite infrequent. Thus *ataŋ 'far' > *taŋ(opɨr)* and *amɨr 'yesterday' > *mɨr*, but *akwasa 'betelnut' > *ahwas* and *apar 'mountain' > *apar*. There are no examples of an *a being lost after WS word-initial consonant deletion, but this is probably only because of the rarity of word-initial *a-loss.

2.2.3.5. Sporadic vowel harmony

Several instances of *ɨ and *u were lowered to *e* and *o* in Nend when they preceded an *a. Thus *ika 'cut, chop' > *eka-*, *mira 'firelight' > *era*, *kuman 'arm, hand' > *oman*, and *uram 'house' > *oram*. This change is distributed unevenly through the Nend dialect area. For example, Northern Nend has *eŋgwa- 'give' (< *iŋkwa), while Southern Nend has *iŋgwa-*. But both varieties have un-harmonized *unsa 'yam' (< *kunsa) as well as harmonized *oyam 'cassowary' (< *muiam). It appears that the change is more common in the north, but that it is not fully regular anywhere.

2.2.3.6. *v lenition

The PSOG fricative *v probably became a glide *w in Nend. This analysis is rather tentative, as the change is only reflected in one Nend form today (*-van 'father' > Nend *wan*), and

suggested by another (*mavra 'crocodile' > Pre-Nend *mawr > *mor*). The change may in fact be reflected only in Northern Nend; I collected a Southern form *irɨvɨr* 'straight' (< *sɨrɨvɨr*) that may indicate that *v is retained as *v* in Southern Nend, although this form is problematic. The paucity of Nend reflexes appears to be a result of the rarity of this phoneme in PSOG, and the fact that it frequently occurred word-initially and was thus deleted from many forms (§2.2.1.1).

It should also be noted that it is equally possible that this change took place in PWS, as it is clear that Mand underwent a glide fortition change of its own that changed *w > *v* (§2.2.2.6). At present, there is little to indicate which analysis should be preferred, as they both posit the same number and type of changes; the only difference is whether *v > *w happened in PWS or Nend.

2.3. The Central Sogeram Branch

The Central Sogeram (CS) languages are Manat, Apalɨ, Mum, and Sirva. A number of isoglosses include two or three CS languages, but only two—the creation of prenasalized stops (§2.3.1.1) and the loss of *kw (§2.3.1.2)—are shared by all four. Moreover, the first of these is shared with PES (§2.4.1.1), which raises the question of the validity of the CS subgroup. I defer the subgrouping question for now, preferring to discuss it in light of morphosyntactic innovations treated in later chapters.

2.3.1. Central Sogeram Innovations

In this section I discuss those innovations that define the CS branch, as well as a few changes that affected some, but not all, of the CS languages. The phoneme inventory of PCS is given in (5). PCS created a series of prenasalized stops from the PSOG homorganic nasal–stop sequences, as well as a voiced prenasalized fricative *z from *ns (§2.3.1.1). It also lost the labiovelar place of articulation, turning *kw into a sequence of *k plus *w (§2.3.1.2), although this *w was still distinct from the consonantal allophone of *u for at least a while (§2.3.1.4).

(5) *p   *t   *k   *i   *ɨ   *u
     *mb <b>   *nd <d>   *ŋg <g>
     *β <v>   *s   *a
                         *nz <z>
     *m   *n   *ɲ <ñ>   *ŋ
               *ɾ <r>

2.3.1.1. Creation of prenasalized stops and *z

The frequent word-medial clusters of a nasal and a homorganic voiceless stop all became voiced prenasalized stops in PCS. This innovation was shared with PES (§2.4.1.1). This took place with *mp (*impi 'name' > PCS *ibi > Apalɨ ibi, Mum ñibi, Sirva ib), *nt (*kɨnta 'walk' > PCS *kɨda > Manat da-, Apalɨ hɨda-, Mum, Sirva kɨda-), *ŋk (*mɨŋka 'come down' > PCS *mɨga > Manat, Apalɨ, Mum, Sirva mɨga-), and *ŋkw (*iŋkw- 'give' > PCS *igu- > Manat, Apalɨ igu-, Mum, Sirva gu-). It took place regardless of the nature of the surrounding vowels, and also when the nasal–stop cluster was part of a larger consonant cluster (*kuŋkra 'cook' > PCS *kugra > Apalɨ hugɨla-, Mum kugra-, Sirva kwagra-). Because there was no palatal stop in PSOG, there were no clusters of the palatal nasal *ñ with a homorganic stop.

The sequence *ns underwent a similar change, becoming a voiced prenasalized fricative: *kunsa 'yam' > PCS *kuza > Manat *huza* 'k.o. yam,' Apalɨ *huja*, Mum *kuja*; *punsɨŋ 'bone' > PCS *puzɨŋ > Mum *puj*, Sirva *puzu*.

The stops in non-homorganic clusters also became prenasalized stops, but in these cases the preceding nasal did not assimilate with the stop. Rather, it retained its original place of articulation, and an epenthetic *ɨ was later inserted in some circumstances to break up the cluster. So *tamkan 'eye' > PCS *tamgan > Manat *amɨga*, Apalɨ *lamɨgaŋ*, Mum *tamga*; *-mku 'nephew, niece' > PCS *-mgu > Mum *-mɨgw*, Sirva *-mugu*.

2.3.1.2. *kw loss

The PSOG labiovelar stop *kw was lost in PCS, becoming a sequence of *k and *u. So *iŋkwa 'give' > Sirva *gwa-*, *iakwa 'go up' > Apalɨ *iahua*. (Recall that *u had a consonantal allophone *[w] that became a phoneme in some languages.) When the following vowel was *ɨ, it was lost and the newly created *u became the new nucleus of the syllable: *kwɨŋkɨs 'armpit' > PCS *kugɨs > Apalɨ *huji*, Mum *kugɨs*, Sirva *kugus*; *tɨkwɨ 'area under' > PCS *tɨku > Apalɨ *lihu*, Mum *tuhw*, Sirva *tuhu*. For this reason verb-final *kw usually became PCS *ku in bound forms of verb roots, as with the two examples cited above: the bound form of *iŋkwa 'give' was *iŋkw- > PCS *igu- > Manat, Apalɨ *igu-*, Mum, Sirva *gu-*. Similarly *iakw- > PCS *iaku- > Mum *yahu-*. When the vowel following *kw was *a, it was sometimes lost (*akwasa 'betelnut' > Manat *ahusa*, *mirkwa 'cordyline' > Apalɨ *milɨhu*) and sometimes retained (*kwaka 'cut, chop > Sirva *kwaha-*).

2.3.1.3. Word–final nasal deletion with ɨ–deletion in Manat, Mum, and Sirva

This change probably originated in PNCS and spread to Manat as well as PES (§2.4.1.2). In Mum and Sirva, word-final nasals—and also resonants (§2.3.4.3)—are consistently lost. The only exceptions appear to be short monosyllables like *pɨm 'weight' (> Mum *pɨm* 'heavy') and *tam 'tail' (> Sirva *tam*). Otherwise, word-final nasals were all lost, including *m (*muiam 'cassowary' > Mum, Sirva *muya*), *n (*vaŋan 'bag' > Mum, Sirva *paŋa*), *ñ (*kasɨñ 'sand' > Mum, Sirva *kas*), and *ŋ (*mikuŋ 'brain' > Mum *miku* 'head,' Sirva *miku*). The process did not apply recursively: *manɨŋ 'banana' > Mum, Sirva *man*.

In Manat, it appears to have primarily affected the non-labial nasals *n (*tamkan 'eye' > *amɨga*), *ñ (*kasɨñ 'sand' > *has*), and *ŋ (*kansɨŋ > *azɨ*), while *m was usually retained (*tantam 'foot, leg' > *adam*, *saŋkam 'fight' > *agam*). However, sometimes non-labial nasals also remained unaffected (*mɨŋkɨn 'penis' > *mɨgɨn*, *-mɨŋ 'mother' > *-mɨŋ*) and sometimes *m was lost (*mɨrɨm 'sap' > *mɨrmɨr*).

As the examples above illustrate, the deletion of a final nasal was accompanied by the deletion of any preceding *ɨ. (The final ɨ in Manat *azɨ* 'festival decoration' [< *kansɨŋ] was probably added later; cf. *kwɨŋkɨs 'armpit' > *gisɨ*.)

2.3.1.4. *u fortition in Manat, Mum, and Sirva

The consonantal allophone of *u became *v in these languages, as illustrated by *ir wara 'exceed' > Sirva *irvara-*; *waka 'maybe' > Sirva *vaha*, and *wa 'go, say' > Manat *vu-*, Mum, Sirva *va-* 'say.'

Two forms suggest that the epenthetic *[w] that sometimes followed *u before *a also became *v, while the *u became *ɨ. Recall that the sequence *ua, when the *u was vocalic, was pronounced with an epenthetic *[w] as *[u.wa], which means that this change involved two changes: the centering of the *u to *ɨ, and the fortition of the epenthetic *[w] to *v. The two forms in question are *kuar 'garden' > *kɨvar > Manat *var*, Mum, Sirva *kɨva*; and *tua 'burn (intr.)' > Manat *rɨva-*.

This change had the effect of merging word-medial *u (when it was consonantal) and *v as *[β]. But recall that *v had the word-initial allophone *[ɸ], so the distinction between *u and *v was preserved word-initially in these languages (as reflected in Sirva, for example, by *vaŋka 'leaf' > *paga* and *uaka 'maybe' > *vaha* 'when').

2.3.1.5. Word–initial plosive lenition in Manat and Apalɨ

This somewhat unusual change took place in Manat and Apalɨ. In it, the stops *p *t *k were lenited to *v *r *h in word-initial position. Recall that PS𝗈𝗀 *r did not occur word-initially, so this change did not affect any phonemic distinctions. It affected *p (*pat 'center' > Manat *vat*, *pumpiŋ 'sweat' > Apalɨ *vubiŋ*), *t (*tɨmpu 'tie' > Manat *rɨbu-*, Apalɨ *lɨbu-*), and *k (*kɨmu 'die' > Manat *hɨmu-*, Apalɨ *hɨma-*). In Apalɨ initial PS𝗈𝗀 *kw gives initial *hu*, as in *kwɨmka 'stomach' > *humɨgaŋ*. There are no PS𝗈𝗀 reconstructions that begin with *kw and have Manat reflexes that have not lost their initial consonant (like *kwɨŋkɨs 'armpit' > *gisɨ*).

2.3.2. Manat Innovations

Manat is the westernmost CS language. Its phoneme inventory is presented in (6).

```
(6)   p          t                    k                      i      ɨ      u
                         tʃ <c>                              e
      mb <b>     nd <d>                ŋg <g>                        a
                 s
      β <v>                            ɣ <h>
                 nz <z>
      m          n          ɲ <ñ>      ŋ
                 ɾ <r>
```

Manat has inherited the PCS prenasalized stops and *v, but added *h*—and merged many instances of *p with *v and *t with *r—via word-initial lenition, which it shared with Apalɨ (§2.3.1.5). It also added *c*, although it is unclear how since the phoneme does not occur in any cognate sets except *paka 'only' > *vaca* 'one,' which probably reflects an irregular development. Manat also has *e*, although it is a very rare vowel in the language and it is also unclear how it arose. It does not appear to have come from PSOG *ai, which is regularly retained as *ai* (*vai 'come' > *ai-*, *umai 'bean' > *mai*).

Manat appears to have been in intense contact with Nend for some time. Some Nend innovations, such as initial consonant loss, occur sporadically in Manat, although the morphological innovations present in Manat suggest that it should be considered a CS language. This naturally raises the question of whether the words that lost initial consonants are native Manat vocabulary or were borrowed from Nend. I believe that they are numerous enough, and basic enough, that an analysis of sporadic Manat-internal consonant loss is preferable. Basic vocabulary items that lost initial consonants include *kɨñɨ- 'stay' > *ñɨ-*, *tantam 'leg' > *adam*, *iakw- 'go up' > *aku*, *kɨnta 'walk' > *da-*, and many others.

2.3.2.1. Sporadic word–initial vowel loss with *u metathesis

This is a change that Manat appears to be currently undergoing. Often a word will be pronounced differently from speech act to speech act, sometimes eliding the initial vowel, and sometimes retaining it. The change appears to have progressed somewhat in the last fifty years, as Z'graggen transcribed many word-initial vowels that had disappeared by the time I conducted my fieldwork (Z'graggen 1980*a*). However, the variation clearly existed when he collected his wordlist, since he transcribed *ubram* 'arm, hand' as *brʌm*, a pronunciation that I also heard far more often than *ubram*.

In cases where the vowel being lost was *u, the *u would sometimes metathesize with the following consonant and become a *w*, as in *kukasa 'frog' > *kwasa.* I also observed this variation in a few synchronic forms (such as *utaya ~ twaya* 'cockatoo' and *uzam ~ zwam* 'father's sister (1.POSS)'). In one high-frequency word, the metathesized *w* appears to have replaced the *a: *kuram 'man' > *uram > *rwam > *rum.* This may have been a regular process when the vowel was *ɨ, as suggested by *mukɨr 'white hair' > *kur(umɨn).*

This change clearly follows word-initial plosive lenition. This can be inferred because the latter is a very old change, being shared with Apalɨ, while the former is currently underway. But it is also supported by the data, since plosives that are rendered word-initial by vowel loss are not lenited: *ipra 'hide' > *pra(vu)-*, *kukasa 'frog' > *kwasa.*

2.3.3. Apalɨ Innovations

The Apalɨ phoneme inventory is presented in (7).

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(7)

p	t		k		i	ɨ	u
		tʃ <c>			e		o
mb <b>	nd <d>		ŋg <g>			a	
		ndʒ <j>					
ɸ <f>	s						
β <v>			ɣ <h>				
m	n		ŋ				
	ɾ <l>						

Apalɨ retains the PCS series of voiceless stops, adding a voiceless affricate *c* by palatalizing *k and *s (§2.3.3.3). It also turned the prenasalized fricative *z into a prenasalized affricate *j* (§2.3.3.7), although it also created some tokens of *j* by affrication. Apalɨ added a voiceless fricative *f*, created by devoicing some tokens of *v (§2.3.3.5). Some tokens of *v remained *v*, while others were created, along with tokens of *r* and the new phoneme *h,* by word-initial (§2.3.1.5) and word-medial (§2.3.3.5) lenition. Apalɨ lost *ñ, merging it with *n (§2.3.3.1) and creating some tokens of the new vowel *e* in the process. More tokens of *e* were also created from the sequence *ai (§2.3.3.6). The vowel *o* is extremely rare, and may not be native to Apalɨ (Martha Wade p.c.).

Apalɨ has two quite divergent dialects, named after their words for 'what': Akɨ and Acɨ. The latter appears to be more closely related to the NCS languages, and Wade has suggested that Apalɨ was formed by the convergence of these two lects, rather than by the divergence of a putative Proto-Apalɨ (Wade 1993). This suggestion comports with a lot of the data, as Acɨ forms often reflect NCS developments rather than typical Apalɨ developments, which are more regularly reflected in Akɨ forms. Acɨ is also interesting in that /c/ and /j/ are realized phonetically as dental stops in that dialect, although the phonemic system appears to be largely the same (Martha Wade p.c.). Where relevant, I

point out which dialect a particular form is from, although there has been extensive inter-dialect borrowing and many forms, particularly for basic vocabulary, are the same in both dialects.

2.3.3.1. Merger of *ñ and *n

Apalɨ lost the palatal nasal, changing it to an alveolar one as in *ña 'eat' > na-. Before the distinction was lost, however, *ñ often fronted a preceding vowel, either *a > e (*kañaŋ 'bone' > henaŋ) or *ɨ > i (*sumɨñ 'vine' > sumiŋ). Word-final examples like this last one demonstrate that this vowel fronting took place before word-final nasal velarization (§2.3.3.2).

2.3.3.2. Word–final nasal velarization

Most word-final nasals in Apalɨ were changed to ŋ, so that this is now by far the most common word-final nasal. This change affected *m (*muiam 'cassowary' > muiaŋ), *n (tamkan 'eye' > lamɨgaŋ), and *ñ (*kasɨñ 'sand' > haciŋ). However, it also occasionally left the nasals *m and *n unaffected, as in *tutɨm 'salt' > lulɨm and *iman 'louse' > iman. There are no examples of final *ñ failing to undergo velarization, which suggests this change may have affected this consonant regularly before *ñ > n (§2.3.3.1), but after the fronting of vowels preceding *ñ.

However regular this change was, it created many instances of word-final ŋ, such that this consonant was so common word-finally that it has often been inserted, presumably by analogy, into words that did not have it. Wade (p.c.) remarks that "there is often variation between the two main dialects on the presence and absence of /ŋ/, and sometimes within a

dialect there is disagreement about it," and there are numerous examples of spontaneous ŋ-genesis, such as *kia 'speech' > *ciaŋ*, *kamɨŋaua 'millipede' > *hamɨŋauaŋ*, and *kapa 'bird' > *havaŋ*. Compare these forms to the WS reflexes, where word-final nasals are generally unaffected: Mand, Nend *ya* 'speech,' Mand *amɨŋau* 'millipede,' and Nend *apa* 'bird.'

2.3.3.3. Palatalization of *k and *s

PCS *k and *g were palatalized to *c* and *j* before *i, as in *kinaŋ 'axe' > Acɨ *cinaŋ*, *kia 'speech' > *ciaŋ*, and *siŋki 'pot' > PCS *sɨgi > *siji*. This change appears to have affected both dialects equally—or at least, innovative forms do not appear to be predominant in one dialect today—which raises the question of how it interacted with word-initial (§2.3.1.5) and word-medial (§2.3.3.5) lenition of *k > h. It is also worth mentioning that a similar change has happened in Sirva, although in that language [tʃ] and [ndʒ] remain allophones of /k/ and /g/ before /i/.

Another innovation that appears to have happened with much less regularity is the palatalization of *s > *c*, which sometimes took place before *i (*sikɨñ 'three days away' > *ciheŋ*) and sometimes before *ɨ (*kasɨñ 'sand' > *hacɨŋ*). Note that both of these forms also contained other palatal consonants, which is common, although not universal, among words that undergo this change. The innovation appears to have originated in the Acɨ dialect, as shown in the variation in words for 'navel': *simpirɨm > Akɨ *sibilɨm*, Acɨ *cibilɨm.*

2.3.3.4. Epenthesis and paragoge

Apalɨ has inserted epenthetic *ɨ* to break up every consonant cluster. Thus, *ampra 'place' > *abɨla*, *kaŋra- 'run' > *haŋɨla-*, and *kukra- 'grow' > *huhɨla-*. It also paragogically added *ɨ* after

every word-final non-nasal coda: *kantar 'shadow' > *hadalɨ*, *kɨsar 'spear' > *hɨsalɨ*, and
*mukɨr 'white hair' > *muhɨlɨ*.

Sometimes, the paragogic vowel was *i* instead of *ɨ*, although this was not very common:
*amɨr 'yesterday' > *amili* 'one day away,' *tar 'tree' > *lali*, *vɨr 'ground, land' > *fili*.

2.3.3.5. Plosive voicing and *v > f

After epenthetic and paragogic insertion of *ɨ*, the Akɨ dialect of Apalɨ lenited all intervocalic
stops—that is to say, all non-word-initial stops. In combination with the word-initial
lenition that took place in Apalɨ and Manat (§2.3.1.5), this change had the effect of voicing
every voiceless stop in Akɨ. And indeed, Wade states that in Akɨ, voiceless stops "are so
infrequent that they could have been imported into the phonology from another language"
(1993: 79).

How *v interacted with this change is unclear. Clearly some instances of *v underwent
devoicing to *f*, which preserved the phonemic contrast between erstwhile *v and *p: *kɨvɨr
'night' > *hifɨlɨ* and *ivu 'hit, kill' > *ifa-*. But others did not, such as *uvia 'evening star' > *uvia*
and *ia-van '1.POSS-father' > *iavaŋ*. There has probably been a good deal of inter-dialect
borrowing as well as irregular phonetic change, and the interplay between these factors
has rendered analysis difficult.

2.3.3.6. *ai > e

Apalɨ simplified the sequence *ai > *e* in almost all environments. When *ai was split
between two syllables this change did not take place: *kaiampra 'village' > *haiabɨla*.

Otherwise, this change was regular, although PSOG *ai has not been reconstructed in closed syllables: *kusai 'first' > *huse*, *nampai 'daughter-in-law (1.POSS)' > *nabe*, *umai 'bean' > *ume*.

2.3.3.7. Palatalization of *z in Apalɨ and possibly Mum

There are a few cognate sets that suggest Apalɨ and Mum palatalized PCS *z (which developed from PSOG *ns) to *j*. These are *kunsa 'yam' > Apalɨ *huja*, Mum *kuja*; *kansɨŋ 'festival decoration' > Apalɨ *hajiŋ*; and *punsɨŋ 'bone' > Mum *puj*. But note that the palatal pronunciation of these sounds in Mum was recorded during my own fieldwork, and that Sweeney transcribes them with <z>, suggesting the dialect or speaker he was working with did not reflect this change. For example, his reflex of *kansɨŋ 'festival decoration' is *kaz*.

2.3.4. North Central Sogeram Innovations

The North Central Sogeram (NCS) languages are Mum and Sirva, and they have undergone several sound changes together which suggest that they form a subgroup apart from the other CS languages, Manat and Apalɨ. These were the loss of *i at word boundaries, plosive lenition, *v fortition, *au fortition, and word-final resonant deletion. The last of these may have spread to Manat (§2.3.1.3) and ES (§2.4.1.2) as word-final nasal deletion, but two features suggest that it applied differently to Mum and Sirva than these other groups. First, it applied much more regularly in NCS than elsewhere, and second, in NCS this change also deleted word-final *r, which is why I term it word-final resonant deletion. (Alternatively, these may simply have been two separate changes: a nasal deletion rule that spread outside of NCS, and an *r deletion rule that did not.)

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Two of the other changes, *i-loss (§2.3.4.4) and plosive lenition (§2.3.4.5), show unusual patterns of inheritance into the two NCS languages: sometimes Mum reflects a change while Sirva does not, sometimes vice versa, sometimes both languages reflect it, and sometimes neither does. These patterns are difficult to explain, but suggest that later in its history, PNCS formed a rather diffuse dialect network, and that these changes moved geographically through the speech community, as well as through the lexicon, irregularly. This patchwork of isoglosses means that sound changes cannot easily be assigned to one language (or PNCS dialect). The situation is clearly quite complex, and calls for further investigation. It does suggest, however, that those changes that are consistently reflected in both Mum and Sirva preceded these irregular changes, since they probably took place before PNCS became such a diffuse dialect network.

The PNCS phoneme inventory is shown in (8). The only sure difference between PNCS and PCS is the addition of the voiced fricative *h, which was created from *k via an irregular lenition process (§2.3.4.5). PNCS may also have had a mid front vowel *e, but this is only reflected in one cognate set: *kariv 'flying fox' > PNCS *karev > Mum, Sirva *karev*. It is unclear how to interpret this set, so for now I only posit *e to PNCS tentatively.

(8) *p   *t   *k   *i   *ɨ   *u
     *mb \<b> *nd \<d>   *ŋg \<g>   (*e)

              *s   *a
     *β \<v>   *ɣ \<h>
              *nz \<z>
     *m   *n   *ɲ \<ñ>   *ŋ
              *ɾ \<r>

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2.3.4.1. Word–initial *v fortition

Word-initially, *v became *p. Recall that *v is reconstructed with the word-initial allophone *[ɸ], which renders this change somewhat less unusual. Examples of this change include *vai- 'come' > PNCS *pai- > Mum *pai-*, Sirva *pi-*; *vɨka 'slice, cut' > Mum, Sirva *pɨha-*; *vrɨ- 'scratch' > Mum *prɨ-*; and *vɨr 'land' > Mum *pɨr*. Word-medially, *v remained *v: *-van 'father' > Mum, Sirva *-va*; *ivu 'hit, kill' > Mum *yɨvu-*. Word-finally, it vocalized to *u in one form (*av 'fire' > PNCS *au > Mum *ahu/awu*,[7] Sirva *au*) and remained *v in another (*kariv 'flying fox' > Mum, Sirva *karev*).

2.3.4.2. *u fortition

The *u in the sequence *au appears to have become *v in PNCS. While PSₒG *au was fairly rare, this change is reflected in every instance that has a NCS reflex, suggesting it was regular: *naunti 'woman' > Mum *navudi*; *kaura 'loincloth' > Sirva *kavɨr*; and *tauka 'buy' > Mum *tavha-*, Sirva *tavɨha-*. The vowel following *v* in these examples, either *u*, *ɨ*, or nothing, may reflect inconsistent transcription, sporadic change, or differing developments in as yet undetermined phonological environments.

2.3.4.3. Word–final *r deletion

Word-final resonants were lost from Mum and Sirva. The deletion of nasals was discussed in §2.3.1.3, but in the NCS languages *r was also lost, as in *amur > Mum, Sirva *amu* and

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[7] Sweeney (n.d.) contains both transcriptions, which may be two permitted variants or two different transcriptions of the same form.

*kuar 'garden' > Mum, Sirva kɨva. As with nasal deletion, monosyllabic words appear to have been exempt from this process: *mir 'tongue' > Mum, Sirva mir, *tar 'tree' > Sirva tar. Syllabic *r (i.e., a final *ɨr sequence) was completely lost when preceded by a nasal (*amɨr 'yesterday' > Mum am), but it left a ɨ behind when preceded by an obstruent (*kɨvɨr 'night' > Mum kɨvɨ; *kɨntɨr 'root' > Mum kɨdɨ).

2.3.4.4. Sporadic *i–loss

Many instances of word-initial and word-final *i were lost in Mum and Sirva, although the loss in both environments shows irregular patterns of inheritance.

Word-initially, we see *iŋka 'see, perceive' > Mum, Sirva ga and *iŋkwa 'give' > Mum gu-, Sirva gwa-. Unusually, sometimes Mum loses initial *i while Sirva retains it (*isa 'bite' > Mum sa-, Sirva isa-), while other times the reverse is the case (*intar- 'hear' > Mum idar-, Sirva darɨ-).

Word-final *i shows the same pattern. Some cognate sets show the change applying in Mum but not in Sirva (for example, *sɨŋki 'pot' > Mum sɨg, Sirva sigi and *kɨmi 'bow' > Mum kɨm, Sirva kimi), while others show the reverse (like *impi 'name' > Mum ñibi, Sirva ib and *-si 'same-sex older sibling' > Mum –si, Sirva –s). Note that this change was shared with Proto-Aisi, where it was regular, and it may have spread to PNCS from PAɪs (§2.4.2.1).

It is clear from forms like *ina 'sun' (> Mum, Sirva ina) and *upri 'dog' (> Mum upri, Sirva uvri) that the change was not fully regular, so it may possible to explain these unusual patterns of inheritance by positing different patterns of application in the dialects of PNCS.

2.3.4.5. Sporadic plosive lenition

The plosives *p *t *k were lenited to *v *r *h intervocalically. As with *i-loss, this change is sometimes reflected in Mum (*kapra 'throw' > PCS *kapara > Mum *kavara-*, Sirva *kapara-*), sometimes in Sirva (*mita 'leave' > Mum *mita-*, Sirva *mira-*), sometimes in neither (*sɨku 'very' > Mum *sɨkw*, Sirva *suku*), and sometimes in both (*kaka 'fasten' > Mum, Sirva *kaha-*).

This change represents the same intervocalic lenition process that the Akɨ dialect of Apalɨ underwent (§2.3.3.5), and the two changes are probably related in some way, although it is not clear how. In fact, the other dialect of Apalɨ, called Acɨ, also underwent this sound change sporadically, much like Mum and Sirva did. As noted, it has been suggested that the dialects of Apalɨ were formed by the convergence of two distinct language varieties rather than the divergence of a Proto-Apalɨ, and that Acɨ shows signs of a closer affinity with Mum (Wade 1993). Given this complicated state of affairs, it seems likely that this sound change originated in Akɨ and spread irregularly through the speech community that was a parent to Acɨ, Mum, and Sirva.

2.3.5. Mum Innovations

The Mum phoneme inventory is shown in (9).

(9)	p	t		k	(kʷ <kw>)	i	ɨ	u
	mb <b>	nd <d>		ŋg <g>	(ŋgʷ <gw>)	(e)		
		s						a
	β <v>			ɣ <h>	(ɣʷ <hw>)			
		nz <z>						
	m	n	ɲ <ñ>	ŋ				
		ɾ <r>						

Mum has changed little since the PNCS stage. The uncertain status of *e* remains, as it is only attested in a few forms and may be the result of regular phonemic processes—that is, it may not be a phoneme. It may also have re-created a labiovelar series of obstruents (§2.3.5.1), although it is unclear whether the labiovelars created by this process should be considered phonemic. Another possible change is that *z may have become a prenasalized affricate *j* in some dialects. In this respect Sweeney (n.d.) and I differ in our transcriptions: he prefers *z* while I prefer *j*. I defer to his superior knowledge of the language, although it is possible that [nz] and [nʤ] are two permissible (or phonetically conditioned) pronunciations of the same phoneme, in which case perhaps Mum underwent an affrication process similar to that seen in Apalɨ (§2.3.3.7).

2.3.5.1. Word–final labiovelar creation

Word-final sequences of a velar obstruent (*k, *g, or *h) plus *u became *kw*, *gw*, and *hw*, which are often (but not always) pronounced with a following epenthetic *ɨ*. For example, *aku 'sleep (n.)' > *akw*, *-mku 'nephew, niece' > PCS *-mgu > *-mɨgw*, and *tɨkwɨ 'area under' > PCS *tɨhu > *tuhw*. This change followed word-final nasal deletion (§2.3.1.3), as illustrated by forms like *takun 'moon' > *takw* and *naŋkum 'neck' > *nagw*, in which the final nasal was lost first, creating the environment for this change to operate.

2.3.5.2. Word–initial *i fortition

Word-initial *i was sometimes strengthened to *ñ* if the following consonant was nasal. If the *i was vocalic, it became *ñi*, as in *impi 'name' > *ñibi* and *iman 'louse' > *ñiman*. If the *i was consonantal, it became *ñ*, as in *iaŋkum 'red' > *ñagw* and *iŋar 'sun' > *iaŋari (probably

borrowed from pre-Sirva; cf. §2.3.6.1) > *ñaŋari* 'moon.' This change never affected initial *i

in a non-nasal environment, although one possibly related unusual development was the

breaking of initial *i in *ivu 'hit, kill' > *yɨvu-.* And even in nasal environments, not every

initial *i was strengthened: *ina 'sun' > *ina* and *intar 'hear, perceive' > *idar-.* Recall also

that several instances of word-initial *i were lost (§2.3.4.4).

There is the possibility that this change did not actually affect vocalic *i, but only the

consonantal allophone *[j], and that it was regular, affecting all tokens of *[j] before nasal

consonants. This analysis requires invoking the word-initial vowel breaking change that

took place in Sirva (§2.3.6.1) and positing that it spread irregularly to pre-Mum, affecting

some *i-initial words but not others. On this analysis, cases like *impi 'name' > *ñibi* and

*iman 'louse' > *ñiman* actually involve an intermediate stage where the initial vowel had

begun to break but had not yet fully changed to †*ya.* For example, *impi 'name' > *yɨbi >

ñibi, and *iman 'louse' > *yɨman > *ñiman.* This analysis comports with the fact that Sweeney

(n.d.) sometimes transcribes 'name' *ñibi* and sometimes *ñɨbi*—if *i became *yɨ, we might

expect the *ɨ to remain when the *y nasalizes to *ñ.*

2.3.5.3. Sporadic vowel centering

Some vowels occasionally centered to *ɨ in Mum. This only happened when they were not

word-initial and were in the penultimate syllable, and even then the change was far from

regular. Examples include *miŋra 'vomit' > *mɨhra-,* *maŋka 'egg' > *mɨga,* and *kimri 'cold' >

Mum *kɨmri.* Some of these forms are shared with other CS languages (Sirva *mɨga* 'egg,'

Manat *himri* 'cold'), but the change seems centered in Mum. Because of its rarity I leave a fuller investigation for future research.

2.3.6. Sirva Innovations

The Sirva phoneme inventory is shown in (10). It is identical to the PNCS inventory in terms of consonants. Sirva has not added palatal affricates, although [ʧ] and [nʤ] are allophones of *k* and *g* before *i*. The vowel *e* is clearly a phoneme in Sirva, having arisen from *ai (*umai 'bean' > *ume*). Similarly, *au sometimes created *o* (*kaur 'unripe' > *kor* 'young'), although this sequence more frequently underwent fortition in PNCS (§2.3.4.2). While *e* and *o* are clearly phonemes in Sirva, they are still quite rare. Sirva also often harmonized *ɨ to *i* or *u* when that vowel came in the next syllable, as in *kɨmi 'bow' > *kimi* and *kɨmu 'die' > *kumu-*. This change is shared with PES and is described in more detail in §2.4.1.3.

(10)

p	t		k		i	ɨ	u
mb \<b\>	nd \<d\>		ŋg \<g\>		e		o
	s					a	
β \<v\>			ɣ \<h\>				
	nz \<z\>						
m	n	ɲ \<ñ\>	ŋ				
	ɾ \<r\>						

2.3.6.1. Word–initial *i and *u breaking

Sirva often broke initial *i and *u to *ya* and *wa*, as in *iŋar 'sun' > *yaŋari*, *ika 'cut, chop' > *yaha-*, *uram 'house' > *wara*, and *ura 'yell' > *warwar* 'yelling' (with reduplication). This change was not fully regular, and many word-initial instances of these vowels remain, such as *iŋkra 'split' > *igra-*, *impi 'name' > *ib*, *umai 'bean' > *ume*, and *upri 'dog' > *uvri*. A similar change, which affected only *u, took place in Kursav (§2.4.5.4).

2.3.6.2. *h-loss

PNCS *h was lost between *ɨ and *i, creating the sequence /ɨi/ which exists in Sirva but no other Sogeram language. Only one PSOG sequence of *ɨki voiced the *k > PNCS *h and has a reflex in Sirva: *-sɨki 'maternal grandfather' > PNCS *-sɨhi > -sɨi. But this sound change can also be seen in the behavior of the different-subject paradigm. The *h from the PNCS DS suffix *-ɨha survives intact in some forms, like –hana '2SG.DS' (< PNCS *-ɨha-na 'DS-2SG' < *-ɨka-na) and –har '1PL.DS' (< PNCS *-ɨha-r 'DS-1PL' < *-ɨka-rɨŋ), but in others this sound change removed the *h: –ɨin '1SG.DS' (< PNCS *-ɨh-in < *-ɨk-in) and –ɨi '3SG.DS' (< PNCS *-ɨh-i < *-ɨk-i).

2.4. The East Sogeram Branch

The East Sogeram (ES) branch consists of the two Aisi Languages—Aisi Magɨ and Aisi Mabɨŋ—as well as Kursav and Gants.

2.4.1. East Sogeram Innovations

The PES phoneme inventory is presented in (11).

(11)
*p	*t		*k	*kʷ <kw>	*i	*ɨ	*u
*mb <b>	*nd <d>	(*ɲɟ <j>)	*ŋg <g>	*ŋgʷ <gw>			
*β <v>	*s					*a	
*m	*n	*ɲ <ñ>	*ŋ				
	*ɾ <r>						

Like PCS, PES created a series of voiced prenasalized stops from the PSOG homorganic nasal–stop clusters (§2.4.1.1). It is unclear how this change affected *ns, although one form (*mansɨŋ 'bowstring' > Gants majɨm) suggests a prenasalized palatal stop as the outcome.

Otherwise, PES left the PSoG phoneme inventory unaffected, although, as mentioned in the introduction, *kw and *gw may have not have been simple phonemes in PES, but rather clusters of *k and the consonantal allophone of *u.

2.4.1.1. Creation of prenasalized stops

As in PCS (§2.3.1.1), the frequent word-medial clusters of a nasal and a homorganic voiceless stop became voiced prenasalized stops in PES. This took place with *mp (*impi 'name' > PES *ibi > Aisi ib, Kursav -nibe, Gants ibe), *nt (*kɨntɨr 'root' > PES *kɨdɨr > Aisi Mabɨŋ kirɨr, Kursav -kidɨr, Gants kɨdi), *ŋk (*mɨŋka 'come down' > PES *mɨga > Aisi Magɨ miga, Aisi Mabɨŋ mɨg-, Gants miga), and *ŋkw (*taŋkwa 'step on' > PES *tagw- > Aisi Mabɨŋ togu-, Kursav rago, Gants tago). It took place regardless of the nature of the surrounding vowels, and also when the nasal–stop cluster was part of a larger consonant cluster (*kuŋkra 'cook' > PES *kugra > Aisi Mabɨŋ kogr-, Kursav kogra-). Because of the lack of a palatal stop in PSoG, there were no clusters of the palatal nasal *ñ with a homorganic stop.

Unlike in PCS, the stops in non-homorganic clusters did not become prenasalized stops, but rather were simply lost: *tamkan 'eye' > PES *tama > Aisi tamɨ, Kursav –tama; *kwɨmka 'stomach' > PES *kuma > Aisi Mabɨŋ kumu.

The behavior of *ns in this change is unclear, since there is only one reflex of this cluster in ES, and it is problematic: *mansɨn 'bowstring' > Gants majɨm. The final nasal calls into question whether this form is cognate, but if it is the form suggests *ns became a prenasalized palatal stop or affricate in PES. This question will have to await further research.

2.4.1.2. Word–final nasal loss in Aisi and Kursav

Another change that PES shared with PCS, although only with three of the CS languages in this case (§2.3.1.3), is word-final nasal deletion. This change appears to have originated in PNCS, where it was most regular, and from there to have spread west to Manat and east to PES, where it was only sporadic. Moreover, it only affected the Aisi languages and Kursav; Gants only underwent sporadic word-final *m-loss, which may or may not have been related (§2.4.6.1). For example, the correspondence set *uram 'house' > Aisi Magɨ *ur*, Aisi Mabɨŋ *uru*, Gants *wara* suggests a PES reconstruction *ura in which the loss of *m was shared by these languages. But *mɨrɨm 'sap' > Aisi Magɨ *mɨrɨm*, Aisi Mabɨŋ *mɨr*, Kursav *mɨrɨm*, Gants *mi* suggests a more complicated history. In general, nasal loss appears to have been most common in Aisi Mabɨŋ and Kursav, as illustrated by *iman 'louse' > Aisi Magɨ *imaŋ*, Aisi Mabɨŋ *imu*, Kursav *ima*, Gants *iman.* Other forms illustrate the loss of word-final *n (*vaŋan 'bag' > Aisi *waŋɨ*, Kursav *vaŋa*), *ñ (*sumiñ 'vine' > PES *sɨmiñ > Aisi Magɨ *simi*, Kursav *sime*), and *ŋ (*manɨŋ 'banana' > PES *man > Aisi *maŋ*).

2.4.1.3. *ɨ harmonization

In most ES languages, as well as Sirva, *ɨ changed to *i or *u when followed by either of those vowels. So for example *kɨmi 'bow' > Sirva *kimi*, Aisi *kim*; *-sɨki 'maternal grandfather' > Aisi *-sɨki*, Kursav *–sike*; and *sɨŋki 'pot' > Sirva *sigi*, Aisi Mabɨŋ *sig*, and Kursav *sigi* illustrate the change *ɨ > *i, which appears to have been quite regular. And *kɨmu 'die' > Sirva *kumu-*, Aisi *kum-*, Kursav, Gants *kumo*; and *mɨŋku 'go down' > Sirva *mugu-*, Aisi Magɨ *mugu-*, Aisi Mabɨŋ *mug-*, Kursav *moga-* illustrate the change *ɨ > *u, which appears to have been less

regular. Gants, in particular, usually did not participate in these changes. It sometimes harmonized *ɨ > *u, as in 'die,' but sometimes did not; cf. its form for 'go down,' *migo*. And it appears not to have participated in *ɨ > *ɨ at all. For example, *tɨki 'fill' > Gants *tiki*, but Aisi Magɨ *tik-* and Aisi Mabɨŋ *tiki-*.

While *ɨ > i may have been fully regular in the languages besides Gants, *ɨ > u does not appear regular in these languages. For example, *tɨmpu 'tie' > Aisi Magɨ *tɨb-*, Aisi Mabɨŋ *tɨb(ram)-*, Kursav *(ne)rɨbu-* 'swallow,' and Gants *tɨbo*.

2.4.1.4. Lowering of *i and *u in Kursav and Gants

Kursav and Gants underwent two changes that lowered *i and *u to *e and *o. One took place word-finally, and the other took place before *a.

Word-final *i and *u lowering appears to have been quite regular. Thus *impi 'name' > Kursav *–nibe*, Gants *ibe*, *mɨti 'cough (n)' > Kursav *mite*, Gants *mire*, *kamu 'wind' > Kursav *kamo*, Gants *kamo(ren)*, and *kɨmu 'die' > Kursav, Gants *kumo*. One form did not undergo the change in either language: *mi 'thought' > Kursav, Gants *mi*. Note, however, that this change does appear to have affected monosyllabic words, such as *su 'feces' > Kursav *so*. In Kursav, this change also appears to have preceded word-final nasal deletion (§2.4.1.2), as most tokens of these vowels that were followed by nasals did not lower, such as *takun 'moon' > *taku* and *naŋkum 'neck' > *-nagu* 'nape.' Final *i does not appear to have been lowered when it followed *a: *umai 'bean' > Kursav *wamai*, *kusai 'first' > Gants *kusai*.

The other environment in which *i and *u were lowered to *e and *o is preceding an *a in the next syllable. Thus *kinakina 'crooked' > Gants *kenakena*, *mirkwa 'cordyline' >

Kursav *merkwa*, and *kukra 'grow' > Kursav *kokra*, Gants *kokra* 'be born.' However, these vowels had to be preceded by a consonant to undergo this change. Word-initial *i remained *i*, as in *iman 'louse' > Kursav *ima*, Gants *iman*, and *irka 'cry' > Kursav *irɨka-*, Gants *ika*. And word-initial *u, rather than lowering to *o, appears to have been broken to *wa in the presence of an upcoming *a: *umai 'bean' > Kursav *wamai*, *ura 'call out' > Kursav *wara-*, *uram 'house' > Gants *wara*.

2.4.2. Aisi Innovations

The two Aisi languages, Aisi Magɨ and Aisi Mabɨŋ, are quite closely related and share several phonological innovations. The phoneme inventory of Proto-Aisi (PAIS) is given in (12).

(12)

*p	*t	*k	*kʷ <kw>		*i	*ɨ	*u
*b	*d	*g	*gʷ <gw>		*e		
	*s					*a	
*β <v>							
*m	*n	*ŋ					
	*ɾ <r>						

The most significant change in PAIS is the loss of prenasalization in the series of voiced stops, creating a series of plain voiced stops (§2.4.2.2). This change also merged *b with *v in non-initial position, leaving only the initial tokens of *v as contrastive phonemes. Since PSOG *v is reconstructed with the word-initial allophone *[ɸ], one might expect that this development would change *v to *f, at least in the orthographic representation of the phoneme inventory. But reflexes of PSOG *v are all voiced in Magɨ and Mabɨŋ, suggesting that the word-initial allophone of *v became voiced in PAIS, leaving a word-initial fricative

*[β] that contrasted with the word-initial stop *b. PAɪs also lost PES *ñ, merging it with *n (§2.4.2.6) and created *e from *ai (§2.4.2.5).

PAɪs also underwent sporadic word-final nasal velarization with Apalɨ (§2.3.3.2). Recall that Aisi and Kursav sporadically lost many word-final nasals (§2.4.1.2). Of those that remained, *n and *ñ velarized to PAɪs *ŋ. So *kuman 'arm, hand' > Mabɨŋ *komaŋ* 'branch,' *sɨkan 'completely' > Mabɨŋ *sɨkaŋ*, and *kɨmpañ 'saliva' > Mabɨŋ *kibiŋ* (but Magɨ *kibin*). This change took place after the word-final nasal loss referred to above, as shown by *manɨŋ 'banana' > PES *man > Magɨ, Mabɨŋ *maŋ.* This form also suggests that word-final nasal velarization in Aisi may be a separate change from the similar Apalɨ innovation, since Apalɨ preserves *man* 'banana.' This change only happened with one token of word-final *m (*muiam 'cassowary' > *muyaŋ* 'cassowary's call'), while others remained at the bilabial place of articulation: *tantam 'foot, leg' > Magɨ, Mabɨŋ *taram* 'thigh,' *naŋram 'frog' > Magɨ, Mabɨŋ *naŋam.*

2.4.2.1. Word–final *i deletion

Word-final *i was consistently lost in PAɪs. This sound change was partially shared with PNCS, where it was only sporadic (§2.3.4.4). Examples include *impi 'name' > Magɨ, Mabɨŋ *ib* and *kɨmi 'bow' > PES *kimi > Magɨ, Mabɨŋ *kim.* When the preceding consonant was a voiceless plosive, *i became an epenthetic *ɨ, as in *kɨki 'new' > PES *kiki > Magɨ, Mabɨŋ

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kikɨ.[8] This epenthetic *ɨ* may also have been created when final *i was in a monosyllabic word, although only one form suggests this: *mi 'thought' > PAɪs *mɨ > Magɨ, Mabɨŋ *mɨ(ndam)-* 'think.' When the preceding consonant was a voiced plosive, no *ɨ appears to have been created: *kanti 'sick' > Magɨ, Mabɨŋ *kar.* This change preceded word-final *a centering (§2.4.2.4), as illustrated by *kia 'speech,' which became Magɨ and Mabɨŋ *ki*, not [†]*kɨ.*

2.4.2.2. Stop denasalization

All the prenasalized stops that had been created in PES (§2.4.1.1) lost their prenasalization and became plain voiceless stops. In both varieties the bilabial and velar stops are realized as the stops [b g] word-initially and after nasals, and as the fricatives [β ɣ] elsewhere. The alveolar stop initially showed different allophony, being realized as [r] word-finally and [d] elsewhere, as I discuss below. This distribution of reflexes of *nt is preserved in Magɨ, but Mabɨŋ later lenited word-medial *d to *r* (§2.4.4.3).

This denasalization cannot be seen with the orthography I employ, as I write prenasalized /mb nd ŋg/ as <b d g>, but examples of the change include *ampa 'speak' >

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[8] The interaction of this change with ES *ɨ-harmony (§2.4.1.3) creates a pattern in which PSᴏɢ *CɨCi sequences often appear to metathesize to *CiCɨ in PAɪs, an analysis that I tentatively proposed in previous work (Daniels 2010: 181). Further study has now revealed that this pattern is actually due to these two separate changes. First, ES *ɨ-harmony changed *CɨCi > *CɨCɨ, and second, Aisi word-final *i loss changed some instances of *CɨCi > *CɨCɨ.

PES *aba > Magɨ, Mabɨŋ *ab-*; *mantɨŋ 'side' > PES *madɨŋ > Magɨ *madɨŋ*; *mɨŋka 'come down' > PES *mɨga > Magɨ, Mabɨŋ *mɨg-*; and *iŋkw- 'give' > PES *igw- > Magɨ, Mabɨŋ *igw-*.

This change probably followed word-final *i loss (§2.4.2.1), as illustrated by the two instances of word-final *nti with Aisi reflexes, *kanti 'sick' and *naunti 'woman.' Both yield *r* in both Aisi varieties: *kanti 'sick' > Magɨ, Mabɨŋ *kar*, and *naunti 'woman' > PAɪꜱ *nur 'daughter' > Magɨ *nur*, Mabɨŋ *nor*. If stop denasalization came first, we would expect these *nti sequences to become *di, and for that *d to be retained word-finally in Magɨ today (although it is of course possible that it was retained for a while and only later lenited to *r*). But it is simpler to propose that *i loss came first, and that it left no epenthetic *ɨ after a prenasalized stop. Thus *kanti > PES *kadi > Pre-PAɪꜱ *kad. Then when stop denasalization took place, it affected word-final *d differently than other stops by not only removing the prenasalization, but also leniting it to *r.

Stop denasalization also had the effect of merging PES *b and *v in non-initial position. An example is PSᴏɢ *av 'fire.' When *b lost prenasalization and developed the non-initial allophone *[β], it merged with *v, which was also pronounced *[β] in non-initial position: Magɨ, Mabɨŋ *ab* [aβ] 'fire.' Word-initially, though, the contrast was preserved, and subsequent developments have preserved the contrast in Mabɨŋ (§2.4.4.4), but it appears to have been neutralized in Magɨ. I only have two (related) tokens of initial *v in my Magɨ data, but they suggest initial *v underwent fortition to *b*: *vɨr 'ground, land' > *bi* and *vɨr kama 'dawn (v)' > *bikame* 'dawn (adv).'

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2.4.2.3. Word–internal *r loss

PSᴏɢ *r was lost word-internally when it preceded *k (*mirkwa 'cordyline' > Magɨ *miku*, Mabɨŋ *meko* and *irka 'cry' > Magɨ, Mabɨŋ *ik-*) or when it followed *ŋ (*naŋram 'frog' > Magɨ, Mabɨŋ *naŋam*). These three examples are the only PSᴏɢ forms that contain such a sequence and have Aisi reflexes, so the change appears regular, although there is not a great deal of supporting data.

2.4.2.4. Word–final *a centering

Word-final *a was centered to *ɨ in PAɪs. So *maka 'tooth' > Magɨ, Mabɨŋ *makɨ* and *sɨka 'piece' > Magɨ, Mabɨŋ *sɨkɨ.* When final *a followed another vowel, the resulting *ɨ was lost, as in *kia 'speech' > Magɨ, Mabɨŋ *ki.* This change followed word-final nasal loss (§2.4.1.2), as instances of *a that were rendered final by that change centered to *ɨ: *aman 'breast' > PES *ama > Magɨ, Mabɨŋ *amɨ*, *kinaŋ 'axe' > *kina > Magɨ, Mabɨŋ *kinɨ.*

2.4.2.5. Simplification of vowel sequences

Vowel sequences that were syllabified together tended to be simplified to one vowel in Aisi. There are not many examples of this change, but *ai became *e (*umai 'bean' > Magɨ, Mabɨŋ *ume*), *au became *u (*naunti 'daughter' > Magɨ *nur*, Mabɨŋ *nor*), and *ui became *i (*kui 'shoot, pierce' > Magɨ *ki-* 'shoot'). Two-vowel sequences that were in different syllables were apparently unaffected, although they appear to have been resyllabified into one syllable: *kuar 'garden' > Magɨ, Mabɨŋ *kwar.* There is one counter-example to this change: *nampai 'daughter-in-law (1.ᴘᴏss)' > Magɨ *nabai*, although in Mabɨŋ it is *nabe.*

2.4.2.6. Merger of *ñ and *n

PAIS appears to have merged *ñ and *n as *n, as in *ña 'eat' > Magɨ, Mabɨŋ *n-* and *kɨñɨ- 'stay' > Magɨ, Mabɨŋ *kin-*. This often happened with raising of adjacent vowels, as in *kɨmpañ 'saliva' > Magɨ *kibin*, Mabɨŋ *kibiŋ* and *añɨr 'two days away' > Magɨ *anɨr*, Mabɨŋ *anir* 'the day after tomorrow.' These examples illustrate that this change appears to have taken place fairly late in the history of PAIS, as it is sometimes inherited differently into the two languages.

After *ñ loss, Magɨ appears to have borrowed the phoneme back into its inventory. My data contains two words with *ñ*, one of which appears to be reconstructible to PSOG: *kañaŋ 'bone.'

2.4.3. Aisi Magɨ Innovations

The Aisi Magɨ phoneme inventory did not change much from PAIS, as shown in (13).

(13)

p	t		k	kʷ \<kw>		i	ɨ	u
b	d		g	gʷ \<gw>		e		
	s						a	
m	n	ɲ \<ñ>	ŋ					
	ɾ \<r>							

The most significant change is the merger of *b and *v (§2.4.2.2). Magɨ appears to have borrowed *ñ* back into its phoneme inventory (§2.4.2.6). Otherwise, Magɨ is like PAIS in every respect, including that it has *e* but lacks *o*. The status of *kw* and *gw*, as in most of ES, is ambiguous. While reflexes like *ikw-* 'go up' (< *iakw-) and *igw-* 'give' (< *iŋkw-) appear to confirm that these phonemes were retained, reflexes of PSOG *ku are sometimes identical

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(*kuar 'garden' > *kwar*), which suggests that *kw has become two segments in Magɨ. I leave the question for future research.

2.4.3.1. *r vocalization

There are a couple examples of word-final syllabic *r vocalizing to *i*. These are *vɨr 'ground, land' > *bi* and *upri 'dog' > PAɪs *apɨr > *api*. The irregular development of *tar 'tree' > *te* is also suggestive of such a development, although consonantal *r did not behave this way in any other form. There is only one example of syllabic *r not vocalizing, and that is *añɨr 'two days away' > *anɨr*.

2.4.4. Aisi Mabɨŋ Innovations

Aisi Mabɨŋ changed a few things about the phoneme inventory of PAɪs, as shown in (14).

(14)	p	t	k			i	ɨ	u
	b	d	g			e		o
		s					a	
	m	n	ŋ					

Mabɨŋ merged *d and *r, eliminating *r as a phoneme (§2.4.4.3). It also lost the labiovelar consonants (§2.4.4.2). The contrast between *b and *v had become restricted to word-initial position in PAɪs (§2.4.2.2), and in Mabɨŋ the remaining, word-initial tokens of *v merged with *u to become *u* and *w* (§2.4.4.4). Mabɨŋ also lowered many tokens of *i and *u, creating the phoneme *o* in the process (§2.4.4.1).

2.4.4.1. *i and *u lowering

After it separated from Magɨ, Aisi Mabiŋ underwent several rounds of *i and *u lowering. This took place in several different environments, one of which was preceding *ɨ. This environment was somewhat rare, but the change is reflected in five forms in the data: *mukɨr 'white hair' > *mokɨr* 'white (of hair)'; *mu kɨm 'a certain thing' > *mokɨm* 'greed'; *kuntɨ 'morning' > *kondɨ*; *sikɨñ 'three days away' > *sekɨr* 'the day after the day after tomorrow'; and *tintɨ 'star' > *tendɨ*. Two of these are problematic because they retain prenasalization, suggesting they were borrowed (*kondɨ* and *tendɨ*), and *mokɨm* 'greed' is semantically quite innovative. Nevertheless, this appears to be a consistent change.

Another environment in which *i and *u lowered to *e* and *o* is preceding or following an *a. Examples of lowering triggered by a preceding *a include *kariv 'flying fox' > *kareb*, *amur 'tomorrow' > *amor*, and *kamu 'fog, cloud' > *kamo*. Examples of a following *a providing the lowering environment include *kiman 'firstborn' > *kemaŋ*, *kuŋkra 'cook' > *kogr-*, and *kukra 'grow' > *kokr-*.

Occasionally, *i and *u lowered word-finally, although this was less common. This change took place much more regularly in Kursav and Gants (§2.4.1.4). Examples of this change include *kari 'betelnut' > *kare*, *sumɨñ 'vine' > PAIS *sɨmi > *sime*, and *mu 'SPEC' > *mo*.

All of these changes appear to have exceptions—whether because of subsequent borrowing or because they were only sporadic, it is unclear. So *naŋkum 'neck' > *nagum*, *ñaŋkur 'mosquito' > *nagur*, *muiam 'cassowary' > *muyaŋ* 'cassowary's call,' *kia 'speech' > PAIS *ki > *ki*, and *isaŋ 'same-sex older sibling (1.POSS)' > *isam*.

2.4.4.2. Labiovelar loss and *a rounding

Not many word-internal tokens of *kw have reflexes in Mabɨŋ, but two that followed *a lost lip rounding and became plain velars, while the preceding *a rounded to *o*: *iakw- 'go up' > *yok-*, *taŋkw- 'step on' > *tog-*. Two labiovelars followed *i, and the one that came before *a also lost its lip rounding (*mirkwa 'cordyline' > *meko*), while the other did not (*iŋkw- 'give' > *igw-*).

2.4.4.3. *d lenition

Mabɨŋ lenited all non-initial instances of *d, created by denasalization (§2.4.2.2), to *r*. Because the contrast between PAɪs *d and *r did not exist word-initially (*r did not occur there), this change had the effect of completely removing that contrast, as all tokens of *r now became non-initial allophones of /d/. Thus *kɨntɨr 'root' > *kirɨr*, *sɨntaŋ 'fat (n)' > *sirɨ*, and *tantam 'leg, foot' > *taram* 'thigh.'

2.4.4.4. Glide formation

PAɪs *v existed only word-initially; elsewhere the contrast between it and *b was neutralized, and these non-initial tokens of *v have survived into modern Mabɨŋ as allophones of *b. Initial *v, on the other hand, changed to *u* or *w*. It changed to *u* when followed by *ɨ or a consonant, as can be seen in three examples: *vrɨ- 'scratch' > PAɪs *vr- > *ur(i)-*; *vɨr 'land, ground' > *ur*; and *vɨka 'slice, cut' > PAɪs *vɨk- > *uk-*. When followed by another vowel, *v changed to *w*, as can be seen in *vaŋan 'bag' > PAɪs *vaŋɨ > *waŋɨ* and *vai- 'come' > *way-*.

2.4.5. Kursav Innovations

The Kursav phoneme inventory is given in (15). The inventory given here differs significantly from that given in Daniels (2010), which was based on poorer data and was inaccurate in several respects.

(15)
p	t	k	(kw)		i	ɨ	u
mb \<b>	nd \<d>	ŋg \<g>	(ŋgw \<gw>)		e		o
	s					a	
β \<v>		ɣ \<h>					
m	n	ŋ					
	ɾ \<r>						

Kursav has preserved the PSᴏɢ labiovelars (e.g., in *kwaka 'cut, chop' > *kwaka*), although it is unclear whether they should be considered one phoneme synchronically or a cluster of *k* or *g* with *w*. It has preserved the fricative *v as *v* and added a voiced velar fricative *h*. This is reflected in only one form descended from PSᴏɢ: *miŋra 'vomit' > *mehra*, where the *ŋ appears to have assimilated to the *r by losing nasality. But while *h* is a rare phoneme in Kursav, it does exist in contexts that do not include a following *r*, suggesting that more tokens of *h* have been borrowed into the language. Kursav lost the palatal nasal *ñ, merging it with *n and raising adjacent vowels (§2.4.5.3) in a process that may have been shared with PAɪꜱ (§2.4.2.6). It is unclear what happened to the possible PES phoneme *j in Kursav, since there is no Kursav reflex of PSᴏɢ *ns in the data. Kursav also created mid vowels via some *i and *u lowering processes that it shared with Gᴀɴᴛꜱ (§2.4.1.4).

2.4.5.1. Sporadic word–initial *t lenition

Word-initial *t was lenited to *r* in most cases. Thus *tama 'put' > *rama*, *tɨku 'look' > *ruko*, and *tiŋkiñ 'black' > *rigi* 'dirty.' There are three exceptions to this process, though: *takun 'moon' > *taku*, *tar 'tree' > *tar*, and *tɨm 'stick' > *tum*. This change seems to have followed the creation of inalienable possession prefixes for body parts, as shown by the forms for 'eye' (*tamkan > PES *tama > *-tama*) and 'tail' (*tam > *-tam*).

2.4.5.2. *e lowering

Some instances of *e that were created before *a (see §2.4.1.4) were lowered again in Kursav, this time to *a*. There are only two clear examples of this: *mira 'firelight' > *mera > *-mara* and *mita 'leave' > *meta > *mata*. Some other forms with phonologically similar environments did not undergo this change: *kiman 'firstborn' > *keman* 'lastborn' and *mirkwa 'cordyline' > *merkwa*. Uncovering the precise environment under which this change took place will have to await further research.

2.4.5.3. Merger of *ñ and *n

Kursav lost the palatal nasal, merging it with the alveolar one in all environments. Before being lost, *ñ fronted a preceding *ɨ to *i, as in *kɨña 'stay' > *in*, *kɨñam 'near' > *kinam*, and *tiŋkiñ 'black' > *rigi* 'dirty.' The last of these suggests this *i-fronting effect may have extended back to preceding syllables, as well. The forms for 'near' and 'black' also illustrate that this change followed both *i-lowering changes described in §2.4.1.4. The form for 'near' illustrates that it followed *i-lowering triggered by a following *a, since the reflex is

kinam, not *†kenam*. And the form for 'black' illustrates that it followed word-final lowering, since the reflex is *rigi*, not *†rige*. An additional form, *ña 'eat' > ne*, suggests that *ñ may have also sometimes affected a following vowel, although *kañaŋ 'bone' > -kana* makes it difficult to be sure how exactly this effect was realized.

2.4.5.4. Word–initial *u breaking

Initial *u appears to have sometimes become *wa* in Kursav. The two supporting examples are *umai 'bean' > wamai* and *ura 'call out' > wara*. One exception, *upri 'dog' > ovɨra*, involves other unusual changes and exhibits an unusual, lowered reflex of *u. A more serious counterexample, which suggests the change may not have been fully regular, is *uvia 'morning star' > uvia*. A similar change affected initial *i and *u in Sirva (§2.3.6.1).

2.4.6. Gants Innovations

The Gants phoneme inventory is given in (16).

(16)

p	t	c	k		i	ɨ	u
mb \<b>	nd \<d>	ɲɟ \<j>	ŋg \<g>		e		o
	s					a	
m	n	ɲ \<ñ>	ŋ				

Gants added the palatal stops *c* and *j*, although it is unclear how. The only token of *c* in my data that is inherited from PSOG arose through an irregular assimilation process involving *k and *ñ: *kɨñɨ- 'stay' > cɨ-. The only two tokens of *j* inherited from PSOG are in problematic cognate sets: *kuŋkiŋ 'whistle' > kojɨŋ and *mansɨŋ 'bowstring' > majɨm. These appear to have arisen via the palatalization of PSOG *ŋk and *ns, but more research is needed to be sure. Gants also lost the bilabial fricative *v, which it merged with *p

(§2.4.6.3). It also lost *r, which it merged with *t (§2.4.6.2). Finally, it added the mid vowels *e* and *o* by lowering some tokens of *i and *u in a change it shared with Kursav (§2.4.1.4).

2.4.6.1. Sporadic word–final *m loss

Gants did not lose all word-final nasals, like the other ES languages (§2.4.1.2), although it did often lose final *m, as in *kuram 'man' > *kura*, *mumim 'earthquake' > *mumi*, and *uram 'house' > *wara*. But just as often, Gants retained final *m, as in *kɨñam 'near' > *kɨñam*, *pɨm 'weight' > *pum*, and *tantam 'foot, leg' > *tadam* 'thigh.' In two instances, it changed final *m > ŋ: *-mum 'husband' > *-moŋ* and *aŋam 'red brush turkey' > *aŋaŋ.*

2.4.6.2. Non–initial *t lenition

Gants lenited all non-initial tokens of *t to *r*, which eliminated the distinction between PES *t and *r. Recall that in PSᴏɢ and PES the contrast only existed word-initially, so this change had the effect of turning all tokens of *r into allophones of /t/. The effect of this change can best be seen with a pair like *mita 'leave' and *mira 'firelight,' which became *mera* and *meraŋ* (with the irregular addition of final ŋ), respectively. But this change also affected other forms, such as *mɨti 'cough (n)' > *mɨre.*

2.4.6.3. Merger of *p and *v

Orthographically, *p and *v are now both represented in Gants as <p>, but conceiving of this change as *v fortition is not entirely accurate. Gants /p/ is most commonly pronounced [β] in connected speech, or [ɸ] at the beginning of an utterance. This is the allophonic variation that I reconstruct for PSᴏɢ *v. In careful speech, though, Gants /p/ is

usually pronounced [p], and this pronunciation is regarded as "basic" in some sense by speakers, in spite of its rarity. What actually happened, then, is that *p was lenited to initial [ɸ] and intervocalic [β], which merged it with *v. Because *p was much more common than *v, most instances of this new phoneme could be pronounced [p] in careful speech, and this pattern was then generalized to the reflexes of *v, which previously could not be pronounced that way. Thus *vɨka 'slice, cut' > pɨka, *ivra 'buy' > epra, and *vɨr kama 'dawn (v)' > pi kam-.

It may be the case that *v only merged with *p in onset position, and that in coda position it was vocalized instead. The two forms where *v appears in coda position are *av 'fire' > au(r) and *ivu 'hit, kill' > yo. The first is difficult because of the r that was added, while the second is difficult because the *v would sometimes have been in coda position and sometimes in onset position, and these different root forms probably interacted with each other analogically. But these two forms are the only examples of *v in coda position, so it is best to say that only onset *v merged with *p, while coda *v vocalized to u or o.

2.4.6.4. Syllable–final *r vocalization

In a development that resembles *r vocalization in Aisi Magɨ (§2.4.3.1), Gants changed syllable-final *r > i. In Magɨ this change only affected syllabic *r, and only occurred word-finally, but in Gants syllabic *r as well as consonantal *r were affected. This can be seen from syllabic forms like *kɨntɨr 'root' > kɨdi and *vɨr kama 'dawn (v)' > pi kam-, as well as consonantal forms like *kuntar 'centipede' > kodai and *tar 'tree' > tai. Gants also seems to have changed word-internal *r > i when it came syllable-finally, as shown by *irka 'cry' >

ika, where the new *i merged with the pre-existing one. (This change probably followed *i lowering [2.4.1.4], which was shared with Kursav, meaning that the history of Gants *ika* is probably actually *irka > *erka > *eika > *ika*.) The vocalization of *r followed word-final *m loss (§2.4.6.1), as illustrated by *mɨrɨm 'sap' > *mɨr > *mi*, not [†]*mɨr.* It also followed non-initial *t lenition (§2.4.6.2), as illustrated by *pat 'center' > Pre-Gants *par > *pai* 'side,' not [†]*par.*

This change was widespread, but it does not appear to have been fully regular. Forms that preserve final *r include *amur 'tomorrow' > *amor* and *añɨr 'two days away' > *añɨr.*

Chapter 3

Verbs and Verb Morphology

In this chapter I present the verbal system of Proto-Sogeram (PSOG). Verbs were the most complicated word class, morphologically speaking, and their development in each of the daughter branches has been complex. However, this complexity also provides us with fertile ground for reconstruction, and the behavior of PSOG verbs can be reconstructed in some detail: I reconstruct ten final verb categories, five medial categories (including one that functioned both medially and finally), three other verb suffixes, and several aspects of the PSOG system of verb serialization.

But first there are several aspects of PSOG verbs to introduce, which I do in §3.1. Then I present my reconstruction of verb serialization in §3.2, and verb morphology in the following three sections. Like many Papuan languages today, PSOG distinguished medial and final morphology, so §3.3 is concerned with final morphology while §3.4 covers medial morphology. §3.3 also discusses the different sets of subject agreement suffixes that were used in various TAM categories, both medial and final. Then §3.5 covers verb morphology that is not easily categorized as medial or final. The last section, §3.6, is concerned with various innovations that have changed the reconstructed system in the daughter languages.

3.1. The Proto–Sogeram Verb

In this section I discuss several preliminary topics related to the PSOG verb. I begin with what I call "root vowels" and the system of vowel elision in the next section. Then I address the issue of reconstructing a dual/plural distinction in §3.1.2, and the complicated way PSOG marked 3PL in §3.1.3.

3.1.1. Root Vowels and Vowel Elision

PSOG verb roots had two forms: the uninflected form and the inflected form. The uninflected form is discussed in more detail in the section on verb serialization (§3.2); here I concern myself with the inflected form of the verb. When affixed, all PSOG verbs ended in either *a, *u, *i, or a consonant. I call the first three classes *a*-roots, *u*-roots, and *i*-roots, and divide consonant-final roots into *kw*-roots—roots that ended in the labio-velar *kw— and C-roots, which ended in any other consonant.[9] The verb classes behaved differently in the presence of certain kinds of suffixes, especially with respect to vowel elision.

When a vowel-final verb root was combined with a consonant-initial suffix, neither form was changed. But when a vowel-final root was combined with a vowel-initial suffix, one of the two vowels at the morpheme boundary was usually elided. Here the verb classes

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[9] Verbs that ended in a consonant could also be said to end in *ɨ, since this vowel was often epenthetically inserted between the verb root and a following suffix. I choose not to call these *i*-roots, though, because the uninflected form of these verbs never contained the *ɨ; for example, *intarɨ- 'hear' had the uninflected form *intar.

behave differently. The *a of the *a*-roots was elided in the presence of an *i, as in *-in '1SG.IPST' (§3.3.1), or an *ɨ, as in *-ɨt 'IRR' (§3.3.10). Only a few suffixes with initial *u can be reconstructed, such as *-u '2SG.IMP' (§3.3.7), but it seems that both vowels were retained in this circumstance. No suffixes have been reconstructed with an initial *a. Reflexes of each environment are given in Table 1 with the verbs *tama 'put,' *ua 'go,' and *miŋa 'get.'

Table 1. Vowel elision with *a*-roots

Mand	Manat	Aisi	Gants	PSOG	PSOG Gloss
aba-n	*rama-nad*	*tama-ŋ*	*tama-naŋ*	*tama-na	put-2SG.IPST
ab-in	*ram-in*		*tam-eniŋ*	*tam-in	put-1SG.IPST
wa-u		*w-o*		*ua-u	go-2SG.IMP
	miŋ-itiŋ		*miŋ-riŋ*	*miŋ-ɨt-iŋ	get-IRR-1SG

The *u*-roots, like *a*-roots, lost their *u in the presence of an *i-initial suffix. It seems that the *u was also elided in the presence of *ɨ, but this is less clear. In Manat and Gants the reflex of a PSOG *u-ɨ morpheme boundary is *i*, while in Apalɨ and Kursav the reflexes are somewhat more ambiguous, and a great deal depends on accidents of inheritance. (For example, only two PSOG *u*-roots, *tɨmpu 'tie' and *kapu 'carry,' survive into Apalɨ as *u*-roots, and even those are *a*-roots in some dialects.) But the forms in Table 2 suggest that the *u of *u*-roots was elided in the presence of both *i and *ɨ.

Table 2. Vowel elision with *u*-roots

Manat	Gants	PSOG	PSOG Gloss
humu-nad	*kumo-naŋ*	*kɨmu-na	die-2SG.IPST
hɨm-in	*kum-eniŋ*	*kɨm-in	die-1SG.IPST
	tub-ina	*tump-ɨt-na	tie-IRR-2SG
hɨm-ɨn		*kɨm-ɨt-na	die-IRR-2SG

PSOG *i*-roots were quite rare, and their morphophonological properties are not well understood. When combined with *i-initial suffixes, the final *i of the root and the initial *i

of the suffix probably became a single *i. In the presence of *i-initial suffixes, it seems that the *i was not elided. For example, the Aisi reflexes of *tiki 'fill' and *-impia-n 'FUT-1SG' are *tiki-* and *-ibyaŋ*, and when they combine the root vowel remains: *tiki-byaŋ*. Nothing is yet known about the interaction of *i*-roots with *u-initial suffixes.

This brings us to the consonant-final roots. Of these, the C-roots were quite simple. Before a vowel-initial suffix the root remained unchanged, and before a consonant-initial suffix an epenthetic *i was inserted.

The *kw*-roots behaved like C-roots in the presence of *i-initial suffixes: their root shape did not change. This, incidentally, is often an important way to distinguish PSOG *kw*-roots from *u*-roots in languages that no longer preserve the labiovelar consonant. For example, Table 3 shows several reflexes of PSOG *iŋkw-in 'give-1SG.IPST,' and none of them exhibit the vowel elision that takes place in *u*-roots. In the presence of consonant-initial suffixes, like *-na '2SG.IPST' and *-ta 'SS.DELAY,' the final consonant of *kw*-roots became a sequence of *k and *u. This also appears to have been the case with *i-initial suffixes, such as *-ika 'DS' and *-it 'IRR'; it seems that the *i was elided, and the *kw*-root behaved as if in the presence of a consonant-initial suffix. All of these environments are presented in Table 3.

Table 3. *Kw*-roots

Mand	Apali	Sirva	Aisi	Gants	PSOG	PSOG Gloss
ikw-in	igu-in	gw-in	igw-eŋ	go-iniŋ	*iŋkw-in	give-1SG.IPST
	igu-naŋ			go-naŋ	*iŋku-na	give-2SG.IPST
		gu-ra		go-da	*iŋku-ta	give-SS.DELAY
iku-c	igu-ci	gu-i		go-k-e	*iŋku-k-i	give-DS-3SG
		gw-in	igu-kiŋ		*iŋku-k-in	give-DS-1SG
ik-u		g-u			*iŋk-u	give-2SG.IMP
			igu-nda	gu-na	*iŋku-t-na	give-IRR-2SG

In addition to the classes described above, three verbs ended in a diphthong: *vai- 'come,' *kui 'shoot, pierce,' and *tai 'go up.' The morphological behavior of these unusual verbs is not well understood, and remains a topic for future research.

It should now be apparent that a verb's class was not always discernible in all morphological environments. For example, when suffixed with *-i '3SG.IPST,' a-roots, u-roots, i-roots, and C-roots all looked identical. This created a ripe environment for verbs to move between classes, and many did. A typical example is the u-root *kɨmu 'die,' which became an a-root in Proto-West Sogeram (PWS) and Akɨ dialect of Apalɨ. It was most common for verbs to become a-roots, as this is by far the most numerous group in the reconstructed lexicon. Of 84 reconstructed verb roots in §6.2, 51 are a-roots. The rest consist of 12 u-roots, 6 i-roots, 6 kw-roots, 6 C-roots, and the three diphthong roots. But verbs also joined other classes, especially when phonological processes raised the proportion of roots that belonged to a particular class.

3.1.2. Dual and Plural Number

The issue of what number categories PSOG marked—essentially, of whether it had a dual—is complicated. Certainly the predecessor to PSOG had a dual. It has been reconstructed for Proto-Madang (Ross 2000) and has been inherited into the Josephstaal languages Moresada (Capell 1951) and Anamuxra (Ingram 2001). And traces of it can still be seen in some Sogeram languages: Mand and Manat have dual pronouns, and Sirva has a 1DU imperative suffix. So it is likely that dual number played some role in PSOG, but determining exactly what role that might have been is quite difficult.

It is clear that the Sogeram plural comes from the Proto-Madang and Proto-South

Adelbert dual. This can be seen from a quick comparison of the Anamuxra near tense,

shown in Table 4, and the reconstructed PSOG immediate past tense in Table 5. The PSOG 1PL

suffix *-riŋ is plainly cognate with the Anamuxra 1DU suffix –r, and the PSOG 2PL/3PL *-ra is

cognate with the Anamuxra 2DU/3DU –ra. (Note that this table posits 2PL/3PL polysemy for

the PSOG suffix *-ra; I return to this point in §3.1.3 below.)

Table 4. Anamuxra near tense

	SG	DU	PL
first person	-i-n	-r	-ŋ
second person	-na		
		-ra	-ŋa
third person	-ri		

Table 5. PSOG immediate past tense

	SG	PL
first person	*-in	*-riŋ
second person	*-na	
		*-ra
third person	*-i	

Because dual number is so rare in the Sogeram languages, I reconstruct that rarity to

PSOG. But the fact that it survives into some Sogeram languages suggests that it may still

have been used infrequently at the PSOG stage. However, I do not reconstruct a dual/plural

distinction for PSOG agreement suffixes for two reasons. First, the dual forms that survive

into Mand and Manat are pronouns, not agreement suffixes. Second, even those pronouns

cannot be reconstructed, as I discuss in §4.2.1. And third, the only modern Sogeram verb

agreement suffix I have found is the Sirva 1DU.OPT suffix –idaŋ. This suffix is formally very

similar to the other first person optative suffixes (1SG -ida and 1PL -idagra), so it could easily

have been innovated after the loss of the dual/plural distinction. Moreover, Sirva borders

on three or four non-Sogeram Madang languages, which may have motivated this innovation.

So I reconstruct a PSOG system in which neither verb agreement markers nor pronouns distinguish singular from plural. The PSOG plural verb suffixes are descended from Proto-Madang and Proto-South Adelbert dual forms. As more is learned about PSOG's sisters and parents, this picture may become more nuanced. In particular, it is possible that some Proto-Madang plural suffixes survived into PSOG instead of the dual forms. But for now, since I see no compelling Sogeram-internal evidence for reconstructing a dual/plural distinction in verb morphology, I do not.

3.1.3. The Third Person Plural

The Sogeram languages exhibit a bewildering array of strategies for marking 3PL subject agreement on their verbs. While agreement suffixes are often different in different TAM categories, each language does have a dominant strategy. These are shown in Table 6. For only four languages—Mum, Aisi Magɨ, Aisi Mabɨŋ, and Kursav—is this strategy a dedicated 3PL agreement suffix. The other Sogeram languages mark 3PL by combining the 3SG suffix with a separate plural suffix. This plural suffix is always to the left of the 3SG suffix; in some TAM categories the two are adjacent and in others they are not. Confusingly, the WS languages employ this strategy in the second person as well as the third person. Even more confusingly, none of the plural suffixes appear cognate with one another.

Table 6. Third person plural

Mand	Nend	Manat	Apalɨ	Mum
-e-3SG	-mgɨ-3SG	-(h)ura-3SG	-havɨ-3SG	-yu

Table 6, continued.

Sirva	Aisi Magɨ	Aisi Mabɨŋ	Kursav	Gants	PSOG
-b/-rɨb/-rub-3SG	-uŋ	-uŋ, -oŋ	-o	-i-3SG	*-?

What are we to make of this? If the strategy of marking the 3PL by combining the 3SG with a plural suffix were inherited into all of these languages from PSOG that would help explain how common it is in the family—but none of the suffixes are cognate.

Some help comes from the system of verb serialization. Serial verb constructions (SVCs) are discussed in more detail in §3.2, but briefly, they consist of some uninflected verbs followed by a verb that carries all of the inflection. Sometimes this last verb would not have its normal lexical meaning, but rather contributed aspectual or other grammatical meaning to the predicate (§3.2.2). There are two pieces of evidence that the different plural suffixes originated as verbs in the final position of SVCs.

Verbs sometimes had a different root shape when they were the uninflected verb in an SVC; specifically, they often added a final *a to the normal shape of the root. Gants has retained this alternation with the verb 'stay,' for example, which is *cɨ-* when inflected but *ca* when uninflected. Interestingly, when the verb root is next to the plural suffix *-i*, it takes its *uninflected* form—suggesting that verbs in that position used to actually be uninflected. To illustrate with 'stay,' a typical 3SG form is *cɨ-k-e* 'stay-DS.SEQ-3SG,' and the corresponding 3PL is *ca-i-k-e* 'stay-PL-DS.SEQ-3.'

This brings us to the second piece of evidence: position in the template. Note that in the example just cited, *caike*, the plural suffix *-i* is to the left of the different-subject suffix *-k.* This is not always the case, and here the Manat verb template is particularly instructive. The Manat plural suffix is *-ura*, although it often triggers the appearance of an extra *h* in the morpheme that precedes it so one could argue that it is *-hura*. The Manat historic past habitual verb form is composed of the habitual suffix *-r(ha)*, the past suffix *-ma*, and an agreement suffix, the choice of which determines whether the verb is historic past habitual or middle past habitual. For example, *ñɨ-r-m-id* [stay-HAB-PST-3SG.HIS] 's/he used to stay (long ago).' When the plural is added to this form, it comes between *-rha* and *-ma*: *ñɨ-rh-ura-m-id* [stay-HAB-PL-PST-3.HIS] 'they used to stay (long ago).' In this case, *-ma* is a very old suffix, dating back at least to PSOG (§3.3.4). The habitual suffix *-rha*, on the other hand, is newer; it was grammaticalized from the verb *rɨha-* 'do' (§3.6.5.1) and has no cognates as a suffix outside of Manat.

When we examine the placement of plural suffixes more generally, this observation about the Manat historic past habitual becomes a generalization. The plural suffix always occurs to the left of old suffixes, and usually occurs to the right of new suffixes. And this is exactly what we expect if it originated as the last verb in an SVC. In this scenario, it started as a separate verb bearing PSOG verb suffixes. Eventually, it grammaticalized and became a suffix on the verb that preceded it in the SVC. At this point it was the leftmost suffix in the template. But after it grammaticalized, other verb morphology continued to grammaticalize from the same serializing construction—that is, other verbs in the final position of an SVC followed the same grammaticalization path and became suffixes. These

newer suffixes are now located to the left of the plural suffix. Occasionally, a newly grammaticalized TAM suffix is found to the right of the plural suffix. For example, the Sirva far past suffix *–s* was grammaticalized after the PSᴏɢ stage (§3.6.7.1), but it is found to the right of the plural suffix: *ki-rib-is-a* 'stay-PL-FPST-3.' This kind of situation can be explained either by positing that the TAM was moved on analogy with other, older TAM suffixes, or by positing that the TAM suffix grammaticalized before the plural suffix did.

The evidence thus supports the conclusion that in PSᴏɢ the 3PL was marked by placing a pluralizing verb in the last position of an SVC and marking it with 3SG agreement suffixes. Recall that Anamuxra sometimes does not distinguish between second and third person in non-singular number. This pattern is widespread in Madang languages (I encountered it in fieldwork on Panim, for example, from the distantly related Croisilles branch of the family), and likely dates back to Proto-Madang. PSᴏɢ may thus have been filling a semantic gap by developing this strategy to differentiate between 2PL and 3PL. This means that in presenting reconstructed verb paradigms, there is no 3PL form to give, so I leave that cell blank. I remain agnostic as to whether the 2PL suffix could still be used with 3PL meaning in PSᴏɢ, or whether this 3PL construction had completely replaced it when the subject was 3PL.

As regards the bewildering variety of plural suffixes now present in the family, I speculate that they arose in a manner similar to the French negative morpheme *pas*. In the PSᴏɢ stage the 3PL construction was more productive, and the pluralizing verb was one that was semantically appropriate to the action that was being pluralized. As PSᴏɢ split up the construction gradually lost productivity and the set of pluralizing verbs became more

restricted. Eventually one verb became fixed, and at that point it grammaticalized into an affix. But the verb that became fixed was not the same in every language, giving rise to the modern situation. I should reiterate that this scenario is speculative, though; while it does explain the diversity of plural suffixes, there is no evidence that supports it.

3.2. Serial Verb Constructions

Serial verb constructions (SVCs) have been mentioned above, but I describe them here in more detail. Genuine SVCs, in which each verb is a separate phonological word, are found in only five of the Sogeram languages (Apalɨ, Sirva, Aisi Magɨ, Kursav, and Gants), but it is clear that verb serialization was common in PSOG. Some languages that lack SVCs instead have verb–verb compounds (Nend, Manat, and Mum), which were created by a process of phonological attrition that turned adjacent verbs in an SVC into a single phonological word. And in Apalɨ and Sirva some SVCs have remained SVCs while others have become compounds.

The PSOG system of verb serialization can be reconstructed in some detail, as I discuss in this section. I begin in the next section by presenting the form of SVCs, and then discuss various types of SVC that can be reconstructed afterwards: aspectual SVCs (§3.2.2), orientation SVCs (§3.2.3), and causative and manner SVCs (§3.2.4).

3.2.1. The Form of Serialized Verbs

SVCs were composed of a series of uninflected verb roots followed by a root that was inflected for person, number, TAM, and/or switch reference. With the exception of

orientation SVCs (§3.2.3), no other words could intervene between the serialized verbs.[10] This structure has been inherited, in one form or another, into every Sogeram language; examples below are from Nend (1), Manat (2), Apalɨ (3), Sirva (4), Aisi Magɨ (5), Kursav (6), and Gants (7).

Nend

(1) *Avɨ-z*   *ŋgw-am-e*   **hɨr-ay-ma-r.**
do.thus-3SG.DS   go.inside-put-SS   **carry-come-HPST-3SG**
'Then he put it and brought it.'   (Harris n.d.)

Manat

(2) **Aŋra-vata-n**   *muhrɨt ka-b*   *inɨ-ba*   *aih-ura-ma-g=a.*
run-swim-2/3.SS   some   MD-NOM   ND-LOC   come-PL-PST-3.FAR=INT
'They fled (run-swim), and some came here.'

Apalɨ

(3) **Lagu-sɨjia-vɨla**   *migɨla-vɨ-m-i.*
stand.on-close-ss   watch-PL-HPST-3
'They stood and blocked the trail and watched.'   (Wade n.d.)

Sirva

(4) *Ka-ma*   *ad-ii*   *beau*   **miŋa-siisiir-a**   *wa-ra*   **miŋa-sɨkr-i-Ø.**
MD-ADVZ   do-3SG.DS   DEF.ACC   **get-itch-ss**   go-ss   **get-break-TPST-3SG**
'So she scratched and scratched it (lit. 'scratched it and went') and broke it.'

Aisi Magɨ

(5) *Ramu*   *an=iŋ,*   *supe-s-uŋ.*   **Supe**   **kapir-kitiŋ**   *ga,*   *ya-s-uŋ.*
Ramu   water=LOC   finish-FPST-3PL   **finish**   **throw-ss**   TOP   come-FPST-3PL
'They finished (the road) at the Ramu River. They totally finished it, and came back.'

Kursav

(6) *Om*   **magra**   **visa-da,**   *ya-ba*   *ya-koma*   *bin*   *skra-da ...*
land   **pull**   **get-ss**   1SG-EMPH   1SG.POSS-arm   LOC   put-ss
'I'll get the land back, and put it in my own hands, and ...'

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[10] It is possible that the negative particle *ma could intervene between non-orientation SVCs, as it can today in Gants, but this is not certain.

Gants

(7) *Miga   ci-k-e   miŋa   yako-da …*
     come.down   stay-DS.SEQ-3SG   get   go.up-SS
     'It had fallen down (come.down stay) and she picked it up (get go.up) and …'

Note that this construction occurs in both medial and final clauses; the Sirva and Gants examples even include one of each. Reconstruction with only the data given above would be premature, but for the sake of discussion I present a formalization of the observed pattern. Further discussion will make it clear that this was the structure of PSOG SVCs.

(8) *(NP$_{OBJ}$) V$_{UNINFLECTED}$ V-INFL

An additional feature of PSOG SVCs can be reconstructed, namely the form of the uninflected verb roots. In Gants, where the uninflected roots remain separate words, some verbs have different root shapes when they are not inflected compared to when they are. For example, *maya* 'bring' becomes *mai-* when it is inflected (9). Note that this is not due to vowel elision, as the suffix here is *–da* 'SS,' which is inherited from PSOG *-ta and which has never caused vowel elision.

Gants

(9) *Sop   **mai-da,**   **maya**   yo   maka-da …*
     soap   **bring-ss**   **bring**   clean   clean-SS
     'She brought soap, brought it and cleaned and …'

Similarly, when verbs are uninflected in Aisi Magɨ, they often add a final *ɨ*. For example, *ab-* 'speak' (< *ampa) becomes *abɨ*, *tib-* 'close' (< *tɨmpu 'tie') becomes *tibɨ*, and *miŋ-* 'get' (< *miŋa) becomes *miŋɨ*. Recall that word-final *a centered to *ɨ in Proto-Aisi (PAIS; §2.4.2.4), suggesting that this final *ɨ* is cognate with Gants final *a*.

The Sirva far past tense gives another clue to the shape of PSOG uninflected verbs. This tense was formed from an SVC in which an uninflected verb stem combined with the verb

*si- 'do' to form a past tense construction (§3.6.7.1). This verb eventually grammaticalized into a new past tense suffix which was inherited into Proto-North Central Sogeram (PNCS) and PAɪs. In Sirva, the SVC origin of this suffix can still be seen in the shape of the verb stems that combine with it. For example, *iŋkwa 'give' is retained as *gwa-* in *gwa-s-a* (10), but as *gu-* in *gu-ra* (11). Other verbs exhibit similar allophony: *tua 'burn (intr.)' yields *tua-* and *tu-*.

Sirva
(10) *Kwagr-a   mir-a,   kyumr-u   nuru   **gwa-s-a.***
    cook-ss   leave-ss   distribute-ss   3PL.OBJ   **give-FPST-3SG**
    'She cooked it, distributed it, and gave it to them.'

Sirva
(11) *Ma   **gu-ra**   wa-s-a.*
    NEG   **give-ss**   go-FPST-3SG
    'He didn't give (it) and he left.'   Elicited

Apalɨ verb forms give similar clues to the shape of PSoɢ serialized verbs. Several modern Apalɨ verb suffixes have their origins in earlier SVCs, and some Apalɨ verbs can still be uninflected in a construction that is inherited from PSoɢ orientation SVCs (§3.2.3). In both cases, verbs in these constructions often possess an extra final *a* that is not there in the presence of other suffixes. For example, the verb *lagua* 'step on,' from PSoɢ *taŋkwa, is *lagua* when uninflected (12) or when followed by the innovated suffix *–vɨla* 'ss' (13), but is *lagu-* when followed by the older suffix *–ma* 'HPST' (< PSoɢ *-ma; see §3.3.4), as in (14).

Apalɨ
(12) *La   avɨli   aga-ŋ   cɨhu   **lagua**   ve-mɨ-dɨ   u-alɨ.*
    do   water   DEF-NOM   again   **stand.on**   come-PROH-3SG   say-3SG.FPST
    '"It did (it) and the water again should not stand and come," he said.'   (Wade p.c.)

Apalɨ

(13) *Ha-meŋ   sadaŋ   iŋam   sabaŋ   **lagua-vɨla**   sɨbu   lama-vɨ-la-lɨ.*
MD-CPR   because   dog   pig   **stand.on-ss**   spit   put-PL-HAB-3.FPST
'Because of that when they step on a dog or pig they will spit on it.'   (Wade n.d.)

Apalɨ

(14) *Ve   **lagu-m-i.***
come   **stand.on-HPST-3SG**
'He came and stood.'   (Wade n.d.)

A final clue to the shape of PSOG serialized verbs is the Kursav 1SG.NFUT, which is descended from serialized verbs (§3.6.14.1). For many verbs, the shape of the 1SG.NFUT form is the same as the simple PSOG root, with the relevant sound changes. For example, *tama 'put' gives *rama* and *ampa 'speak' gives *aba* (15). But the reflex of *iŋkwa 'give' is *ubua* (16) (with the irregular development of *ŋkw > *gw > b). The irregular verb *ve* 'come' (< *vai) also has an irregular 1SG.NFUT form, *via* (17).

Kursav

(15) *Ya   mi   **rama-Ø**   map   ka   **aba-Ø.***
1SG   thought   **put-1SG.NFUT**   like   MD   **speak-1SG.NFUT**
'I talked about what I thought about.'

Kursav

(16) *Karia=si   sanav   **u-b-ua.***
betelnut=BEN   money   **3SG.OBJ-give-1SG.NFUT**
'I gave her money for (i.e., to buy) betelnut.'

Kursav

(17) *Midim   skur   bin   i-da,   mata-da,   vuruva=ni   **v-ia.***
before   school   LOC   stay-ss   leave-ss   village=LOC   **come-1SG.NFUT**
'Long ago, I was at school but I left and came home.'

The evidence from all these languages suggests strongly that we should reconstruct a serialized form of many verbs that adds an additional *a to the end of the root. However, deciding exactly which roots had this additional *a and which did not is quite difficult. Analogical leveling has been at play in every daughter language, removing allomorphy and

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changing the appearance of the lexicon so that determining the precise shape of PSOG verb roots is often impossible. For example, the innovative *-s past tense suffix, derived from an SVC involving the verb *sɨ 'do' (§3.6.7.1), left evidence in Sirva of the shape of PSOG serialized verbs. Presumably this evidence was also there at some point in Mum, Aisi Magɨ, and Aisi Mabɨŋ, since these languages all also inherited the *-s past. But the different root shapes, which presumably used to exist in these languages, have all been removed by analogy with the more common root shapes that occurred with older suffixes. For example, while in Sirva *iŋkwa 'give' is retained as *gwa-* in the *-s past but *gu-* elsewhere, in Mum the *gu-* allomorph has been generalized to all contexts, including the *-s past (18).

Mum
(18) *U-ta   tav   mu   gu-sm-i   harɨm ...*
     go-SS   house another give-FPST-3SG   CAUS
     'He went and gave another house and because of this ...'   (Sweeney n.d.)

Similarly, after the *–ua* ending on many erstwhile serialized verbs had become reanalyzed in Kursav as a 1SG.NFUT suffix, it spread to several verbs that definitely did not end in *ua in PSOG, such as *ne* 'eat,' which is descended from *ña (19).

Kursav
(19) *Ya   bua   n-ua.*
     1SG   enough   eat-1SG.NFUT
     'I've eaten enough.'   Elicited

Unpacking the complicated processes that have created the modern diversity of verb endings, then, is a difficult task. To illustrate, Table 7 presents reflexes of PSOG uninflected verbs in the four languages discussed above. Apalɨ reflexes are uninflected forms from the Akɨ dialect, except for *havu* 'carry,' *hɨmu* 'die,' and *ifu* 'hit,' which are Acɨ forms. Sirva forms are from the *-s past. Kursav forms are either serialized, if uninflected, or 1SG.NFUT. Recall

that Kursav retains a certain amount of verb serialization; serialized forms of verbs often differ from the 1SG.NFUT form. Gants forms are serialized, except for 'give' which is not attested in serialized form in my corpus, and which is given in its inflected form.

Table 7. Reflexes of PSOG uninflected verbs

	Apalɨ	Sirva	Kursav	Gants	PSOG
'give'	igua	gwa-	-b-ua	go-	*iŋkwa
'carry'	havu	kavu-	kap-ua		*kapu
'burn (intr.)'		tua-	ro	tua	*tua
'die'	hɨmu	kumu-	kumo, kum-ua	kumo	*kɨmu
'go'	ua	wa-		wa	*ua
'go down'	mɨgua	mugu-		mɨgo	*mɨŋkwa
'go up'	iahua	yakɨva-		yako	*iakwa
'step on'	lagua			tago	*taŋkwa
'hit'	ifu		ivo, iv-ua	yo	*ivu

As this table makes clear, not every PSOG verb root ended in *a when serialized. For this reason, I prefer to analyze this extra *a as belonging to an alternate root shape, rather than as a linking suffix of some kind. Naturally it is possible that in a stage prior to PSOG there was a linking suffix *-a which accreted onto many roots and created PSOG SVCs, but this analysis does not seem best for the PSOG stage.

3.2.2. Aspectual Serial Verbs

When PSOG verbs were serialized, the last verb would often not contribute its normal lexical semantics to the SVC, but instead contributed aspectual semantics. Four such verbs can be reconstructed: *kɨnta 'walk,' which contributed imperfective aspect; *kɨña 'stay,' which contributed stative aspect; *tama 'put,' which contributed completive aspect; and *tɨku 'see,' which contributed conative aspect. I discuss each of these reconstructions in turn.

For *kɨnta, I begin the discussion with Gants, where the reflex is *kɨda* 'walk.' When this verb is the last of an SVC, it can be interpreted as contributing habitual aspect: in (20) and (21), no literal walking is taking place. Note, though, that the habitual interpretation is not obligatory, and *kɨda* can also denote literal walking in this position.

Gants
(20) *Krim   mɨda,   araka,   dugep,   kra   nuduŋ   rotu   ada   **kɨda-m-ek.**
     night COM   noon   afternoon TOP   3SG.POSS worship do   **walk-FPST-3SG**
     'Night, day, and afternoon, she would always worship.'

Gants
(21) *Node   God   kia   mɨŋa   **kɨd-ek.**
     woman God   speech get   **walk-3SG.IPST**
     'The woman holds (i.e., follows) God's talk.'

Manat does not have SVCs, but it does have verb–verb compounds. In these compounds the second verb root will sometimes contribute aspectual semantics instead of its normal lexical semantics; one such verb is *da-* 'walk,' which contributes progressive (22) or continuous (23) aspect.

Manat
(22) *Trɨh-ura-s   vihir   ka-b   **kubru-da-n=a ...**
     pull-PL-3.DS   bamboo   MD-NOM   **break-walk-2/3.SS=INT**
     'They pulled and the bamboo was breaking and ...'

Manat
(23) *Pu   **ara-da-n**   bram   ini-n   migra-ma-g.*
     bang   **say-walk-2/3.SS**   arm   ND-ACC   cut-PST-3SG.FAR
     'It made a big noise and cut their hands.'

Apalɨ possesses a suffix –*da* which Wade (1989: 165) labels 'continuous.' In combination with the historic past tense, this suffix "indicates historic habitual tense/aspect, i.e. something that was done regularly (repeatedly) in the historic past" (Wade 1989: 166), as in

(24). With the immediate past, *–da* "indicates a kind of present continuous form, i.e. something going on at that time" (Wade 1989: 172), as in (25).

Apalɨ
(24) *Iauacaŋ   ia-dɨ   aga-ŋ   nɨbu   sɨmɨŋ   **ma**   **iga-da-m-ɨ.***
grandfather 1SG-OBL DEF-NOM 3SG.NOM food **NEG** **see-CONT-HPST-3SG**
'My grandfather, he used to not see food.'   (Wade n.d.)

Apalɨ
(25) *Viaŋ   sɨmɨŋ   **na-d-in.***
1SG.NOM food **eat-CONT-1SG.IPST**
'I am eating food.'   (Wade 1989: 172)

Unlike most TAM morphology, *–da* can occur on medial verbs, specifically those marked with different-subject suffixes. In this context, it signals "simultaneous or overlapping activities being done by different subjects" (Wade 1989: 165), as in (26).

Apalɨ
(26) *H-eŋ   **hɨni-da-mɨli**   hulaŋ   u-ava-lɨ.***
MD-LOC **stay-CONT-1PL.DS** man go-PL-3.FPST
'We were staying there while the men went.'   (Wade 1989: 173)

This Apalɨ suffix, then, has habitual meaning with the historic past, continuous meaning with the immediate past, and simultaneous meaning with different-subject forms. Its central meaning could probably be best described as 'imperfective,' although we should bear in mind that it appears to be developing slightly different functions in different contexts.[11]

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[11] Indeed, in a 1997 paper, Wade opts to gloss the medial function 'SIM' and the other functions 'CONT,' although since *–da* was not the focus of that paper this decision should probably not be interpreted as a claim that they are different suffixes.

The description above pertains to the Akɨ dialect of Apalɨ. And while Wade devotes less discussion to the Acɨ dialect, she does provide a paradigm of Acɨ 'habitual' suffixes in one of her papers (Wade 1993: 92) in which the habitual suffix is *-hɨda*—no doubt a less-eroded reflex of PSOG *kɨnta that is cognate with the Akɨ suffix *–da* described above.

Mum has a similar suffix *–da*, which marks habitual aspect (27).

Mum
(27) *Arhad   kuyu-i   kuku   aru **va-da-rɨŋ.***
     1PL.POSS   speech-LOC water   big **say-HAB-1PL**
     'In our language, we usually say "big water."'   (Sweeney n.d.)

Finally, Kursav also has a habitual suffix *–d* (28).

Kursav
(28) *Nɨn   rɨpa-da   **dai-d-o**   ma.*
     3PL   fear-SS   **walk-HAB-3PL**   NEG
     'They were afraid and they didn't walk around (i.e., they stayed at home).'

Based on these reflexes, we can reconstruct an SVC to PSOG in which the final verb was *kɨnta 'walk' and that verb contributed habitual aspect instead of its normal lexical semantics. This function has been inherited into most modern languages, with the exception of Manat and Apalɨ, where it refers to different kinds of imperfective aspect.

The verb *kɨña 'stay' contributed stative aspect when it was in this position of an SVC. In Gants, its reflex *ca* 'stay' still has this function, as shown in (29).

Gants
(29) *Ai-da   ada ga-k-e   ga, oŋai   ma   mia   **cɨ-m-ek.***
     come-SS   do perceive-DS.SEQ-3SG   TOP possum NEG hold **stay-FPST-3SG**
     'He came back and when he looked, it wasn't holding a possum.'

This construction has also undergone grammaticalization, and the verb *ca* has become the present tense suffix *-cɨ* (30). Today both reflexes of stative *kɨña survive and they can be used together (31).

Gants
(30) *Nɨ-komɨr   kaneŋ kɨrmo aya   arpim **adɨ-c-ek.***
3.POSS-brother group some come help **do-PRS-3PL**
'Now some of his brothers are coming to help him.'

Gants
(31) *Oŋai   mia   **cɨ-cɨ-k**   aba   wa ga-k-e   ma cɨ-m-ek.*
possum hold **stay-PRS-3SG** speak go perceive-DS.SEQ-3SG NEG stay-FPST-3SG
'He thought it was holding (lit. 'said, "It's holding"') a possum and went and looked and there wasn't one.'

In Manat verb–verb compounds, *ñi-* 'stay' can contribute stative aspect when it is the second verb in a compound (32). Matters appear to be similar in Nend, where *ñi-* 'stay' seems to contribute stative or durative aspect in verb–verb compounds (33). However, while Harris (1990: 84) briefly discusses Nend verb–verb compounds, he does not go into detail about their semantic properties so this analysis remains conjectural.

Manat
(32) *Mɨgra-n   g-ura-s,   o   vaca tak   **agrama-ñi-ma-g.***
cut-2/3.SS give-PL-3.DS oh one   only **stand-stay-PST-3SG.FAR**
'They cut them all up, and oh, just one was left standing.'

Nend
(33) *Wɨram mba-na-mb kɨrɨm   **aŋkwa-ñi~ndɨñ-i.***
man   ND-CTR-NOM just   **stand-stay~TPST-3SG**
'This man just stood there.'   (Harris n.d.)

Similarly, in Apalɨ *hɨni-* 'stay' "realizes durative aspect in compound verb roots" (Wade 1989: 188), as in (34).

Apalɨ
(34) *Via* **migila** **hini-da-ci** ...
get watch stay-CONT-3SG.DS
'He got it and was watching while ...'   (Wade 1989: 188)

The verb *tɨku 'see, look' could contribute conative meaning ('try to V')[12] when it was

the last verb of an SVC. This reconstruction is based on reflexes of this function in Manat

and Kursav. In Manat, when the verb *rɨku-* 'see' is the second verb in a compound, it

indicates that the first verb of the compound was (or should be) attempted (35). This

function is quite gramamticalized, so that *rɨku-* can even mark itself conatively (36).

Manat
(35) *Huma*   *inɨ-n*   **mɨgra-rɨk-itɨŋd**
coconut   ND-ACC   cut-see-1SG.IMP
'Let me try to cut this coconut.'   Elicited

Manat
(36) **Ruku-ruk-utɨŋd**
see-see-1SG.IMP
'Let me try to see.'   Elicited

In Kursav *ruko* 'see' also indicates that the action of the SVC was, or should be,

attempted (37).

Kursav
(37) *Maski,*   *niga,* *opim*   *du*   **ruko-ku.**
nevermind   SPEC   open   do   see-2SG.IMP
'Nevermind, try to open another one.'

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[12] While conative could be considered an aspect, I recognize that it is probably more properly considered

a mood. In addition, many forms that have grammaticalized via this construction, such as the many plural

suffixes and the *-s past tense (§3.6.7.1) are not really aspects. In spite of this, I prefer to call this SVC

construction "aspectual serial verbs" because a more appropriate label, such as "grammatical serial verbs,"

would be too broad.

The similarity in form and function between these two constructions is striking. Given that Manat and Kursav are quite divergent languages and there is no evidence of their having been in contact in the past, this construction should be reconstructed to PSOG.

The final aspectual SVC that can be reconstructed involves *tama 'put,' which contributed completive aspect. This function is still exhibited in Kursav today, as illustrated in (38), where no literal putting is taking place. Rather, *tama* here indicates that the act of coming and standing was completed.

Kursav
(38) *Kain sirik raŋa adiko pakai aya tagurama **tama-m-ek.***
dog itch CHAR this again come stand **put-FPST-3SG**
'This mangy (lit. 'characterized by itching') dog came and stood up again.'

This function also appears to be retained in Manat verb–verb compounds, although my corpus does not contain any examples as clear as (38). For example, in (39) *rama-* 'put' appears to contribute completive aspect in (39), although it could also refer to literal putting.

Manat
(39) *Akei urum mu=k **pravu-ram-ura-ma-g.***
okay man SPEC=ACC **hide-put-PL-PST-3.FAR**
'Okay, they hid one man.'

Another piece of evidence for this meaning in Manat, or rather Pre-Manat, comes from the innovative verb root *miŋatama-* 'hear.' This is the only Manat verb for hearing that I recorded; I found no reflex of PSOG *intar 'hear.' While *tama-* is not a verb root in Manat, the reflex of *tama being *rama-*, the behavior of *miŋatama-* in reduplication indicates that, etymologically at least, it was composed of two verbs. When the reduplicative nominalizing suffix is attached to it, only the *tama-* element is copied (40).

Manat
(40) *Hɨmñav vana* **mɨŋatama~dama=k** *Aminahu.*
song speech **hear~NMLZ=ACC** Aminahu
'The (place for) hearing about songs is Aminahu.'

The etymology of this verb is thus quite apparent: it comes from an older SVC or compound consisting of the verbs *miŋa* 'get' and *tama* 'put.' It is apparently quite old, since it fused before word-initial consonant lenition, which was shared with Apalɨ (§2.3.1.5), changed *tama* to *rama-*. It only remains to posit a plausible path of semantic innovation that leads from 'get-put' to 'hear,' and here is where the completive meaning of 'put' comes to our aid. It is quite plausible to suppose that *miŋa* 'get' came to mean 'understand' in some contexts, as it does in American English today. If *tama* 'put' did not refer to literal putting, but rather contributed completive aspect, then this SVC would have meant 'understand completely.' It only takes a small semantic change to move from this meaning to 'hear.'

Finally, there is a Mum morpheme *–rama* which Sweeney glosses 'PL.' There are only three tokens of it in Sweeney's data, but all of them, like (41), occur between a verb root and its suffixes, and pluralize a motion event performed by many subjects. While this form is not well understood, the semantic link to the meaning of completion found in Gants and Manat is apparent: a shift from "they completely went" to "they all went" seems plausible.

Mum
(41) *Yad   kru   ha   kura-yɨ   migu-i   tɨ-h-i   vahi   sɨhanaga*
1SG.POSS man   MD   bush-LOC go.down-3SG.IPST do-DS-3SG several everyone

kru   yaha-rama-ta ...
man   **come.up-PL-SS**
"My boy went to the bush," he said and all the men came up ...'   (Sweeney n.d.)

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To summarize, the four aspectual SVCs we have reconstructed to PSOG are presented in Table 8, along with the languages in which reflexes can be found.

Table 8. Aspectual serial verb constructions

Verb	Lexical sense	Aspectual meaning	Reflexes
*kɨnta	walk	habitual	Manat, Apalɨ, Mum, Kursav, Gants
*kɨña	stay	stative	Nend, Manat, Apalɨ, Gants
*tɨku	see	conative	Manat, Kursav
*tama	put	completive	Manat, Mum, Gants

It should be noted that while these are the only aspectual SVCs that can be positively reconstructed to PSOG, it is almost certain that more existed. This construction, as formalized in (42), has given rise to multiple new morphemes throughout the history of the family. In addition to the grammaticalization of the Apalɨ imperfective suffix, the Mum and Kursav habitual suffix, and the Gants present tense suffix described above, this construction gave rise to the *-s past tense forms in PNCS and PAIS (§3.6.7.1) and to several plural suffixes (§3.1.3).

(42) *(NP$_{\text{OBJ}}$) V$_{\text{LEXICAL}}$ V$_{\text{ASPECTUAL}}$-INFL

3.2.3. Orientation Serial Verbs

There is evidence for reconstructing a serialized verb position that was separate from the other serialized verbs, occurring to the left of the object in the PSOG clause. Evidence for this reconstruction comes from SVCs in Gants, Sirva, Aisi Magɨ, and Apalɨ, as well as from a Manat quasi-verbal particle that appears to be descended from this construction.

In Gants SVCs, a serialized verb can occur to the left of the object, as illustrated in (43). Aside from their position away from the rest of the SVC, these verbs are identical to other

serialized verbs: they are uninflected and they take the uninflected root shape, as (44) illustrates (the inflected root for 'come' is *ai-*).

> Gants
> (43) ***Aŋa*** *asɨko* *miŋa-m-ek.*
> **go** ginger get-FPST-3SG
> 'He went and got ginger.'

> Gants
> (44) ***Aya*** *maj* *taki* *kra* *ada* *ña* *tapr-ek.*
> **come** sweet.potato cold TOP do eat finish-3SG.IPST
> 'He came and ate up the cold sweet potatoes.'

Verbs in this position are necessarily intransitive, as the minimal pair in (45) and (46) illustrates. In (45) *aba* 'speak,' which is a labile verb that can take an object, is intransitive. In (46) it is difficult to say whether *aba*, *miŋa*, or both take the object *node*, but *aba* seems to have a transitivizing function in this clause; it often appears in this position when a verb takes a human object that normally would not, such as *miŋa* 'get.'

> Gants
> (45) *Ya* ***aba*** *node* *miŋa-da ...*
> 1SG **speak** woman get-SS
> 'I talked and I got my wife and ...' Elicited

> Gants
> (46) *Ya* *node* *aba* *miŋa-da ...*
> 1SG woman speak get-SS
> 'I got my wife.' Elicited

The rightmost verbs in PSOG SVCs, which were all adjacent, fused in Proto-Central Sogeram (PCS) and are inherited as compounds in CS languages (§3.6.4). However, verb serialization still exists in Sirva and Apalɨ. In Sirva, uninflected verb roots can occur to the left of the object and other non-subject arguments, as in (47) and (48). All of the unambiguous examples of this construction involve motion verbs, although it is possible

that other semantic classes of verbs can be used in this way. Nevertheless, it is fairly certain that verbs in this position must be intransitive. Even in ambiguous examples like (49), where the (potentially) serialized verb is adjacent to the inflected verb, the serialized verb is intransitive.

Sirva
(47) Be   kav   kɨd-a   **pi**   puza, tɨk=ɨñ   hasa gu-rub-ɨi …
3SG just walk-SS **come** shaft piece=LI FOC give-PL-3.DS
'(The fathers) used to just walk over and offer just a spear shaft, and …'

Sirva
(48) Mir-a   **tɨva**   od-on   ki-rav-ri.
leave-SS **go.upriver** FD-LOC stay-HAB-3SG
'He left and went upriver and lived there.'

Sirva
(49) Kɨki   uhu   k-on   **yavru**   kɨ-i~gɨi,   nɨ-sɨ   be   pi~rapi
drum hole MD-LOC **hide**   stay-3SG.DS~SIM 3.POSS-older.sib 3SG come~PTCP

ga-s-a   ka-ga …
see-FPST-3SG MD-TOP
'While he was hiding in the drum hole, his older brother came and looked, and …'

It is unclear whether Sirva serialized verbs are descended from PSOG uninflected verbs. Only three motion verbs are reconstructed with this pattern of root allomorphy: *ua/*u- 'go,' *iakwa/*iakw- 'go up,' and *mɨŋkwa/*mɨŋkw- 'go down.' Of these, the first two are not attested in the serialization construction, and the last has lost this pattern of allomorphy and is attested as *mugu* in every construction (50).

Sirva
(50) Wa-ra **mugu**   Buhati ada-ma   mar   wa-ra …
go-SS **go.down** Bugati FD-ADVZ like go-SS
'He went down and went like that to Bugati and …'

Verb serialization in Aisi Magɨ is not well understood, but it consists primarily of intransitive verbs of motion (51) or posture (52) that can precede several kinds of non-

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subject argument, including the object (53). Serialized verbs sometimes possess an additional root-final *ɨ*, as with *kipɨ* in (52) (compare the bound root shape *kip-*), but this alternation cannot be said to be cognate with the alternation between inflected and uninflected verb root shapes that has been reconstructed to PSOG (§3.2.1). Rather, in PAIS, almost all verbs became *a*-roots (3.6.11), and because these verbs now ended in *a, all of these vowels, new as well as old, were reanalyzed as part of the suffix when they were present. Uninflected verbs, meanwhile, underwent a regular sound change in which word-final *a was centered to *ɨ (§2.4.2.4), as can be seen with *kipɨ* itself, which is descended from PSOG *kɨpa 'get up.' This sound change also had the effect of eliminating many word-final tokens of *a that *were* originally on uninflected verbs, such as the one on *mɨŋkwa 'go down,' in which the *ɨ that was presumably created from the *a by this sound change was merged into the preceding *u* and was lost, giving the form *mugu* seen in (51).

Aisi Magɨ
(51) *Maban* **mugu,**   *ka-niŋ*   *kitɨ*   *kitɨ ...*
      Mawan **go.down**   MD-LOC   stay.SS stay.SS
      'I went down to Mawan and stayed and stayed there, and ...'

Aisi Magɨ
(52) *Kundɨ*   **kipɨ**   *Sande*   *ga,*   *abi*   *yaka=nɨŋ*   *ab-is-iŋ.*
      morning **get.up**   Sunday   TOP   woman   1SG.POSS=ACC   speak-FPST-1SG
      'I got up on Sunday morning and spoke to my wife.'

Aisi Magɨ
(53) *Tewad*   *taku*   *sibi-kitɨŋ*   **yakite,**   *tewad*   *kapir-kitɨŋ ...*
      leaf   cut   cover-SS   **come.upstream**   leaf   throw-SS
      'I cut a leaf and covered (myself) and came up and I threw the leaf away and ...'

Apalɨ possesses a construction which Wade labels the "immediate sequential same subject" construction. In this construction, verb roots are "juxtaposed to indicate that two

activities follow each other immediately in time," and these roots "may have other arguments which occur between" them (Wade 1989: 70). While I have not conducted detailed counts, Apali texts give the impression that verbs of motion are the most common kind in this construction (54). Additionally, verbs in this construction are almost always in the uninflected form with an additional final *a* (55).

Apali
(54) *Lihuŋ* **iahua** *sabɨ hivɨ hɨni-d-i.*
bird.type **go.up** top LI stay-CONT-3SG
'The *lihuŋ* bird is above on top.' (Wade n.d.)

Apali
(55) **Ua hɨnia** *Anialɨci h-eŋ hɨlan-ava-lɨ.*
go stay Anialɨci MD-LOC cook-PL-3.FPST
'They went and stayed and then they cooked there at Anialɨci.' (Wade n.d.)

Unlike in any of the languages described above, verbs in this Apali construction do not have to be intransitive (56).

Apali
(56) *Kɨlɨ* **iha** *hulɨn* **iha-laha** *hulɨn hivɨ hah-avɨ-la-lɨ.*
tree **cut** plant.type **cut-tear** plant.type LI tie-PL-HAB-3.FPST
'They cut a tree, break down *hulɨn* plants and tie it with them.' (Wade n.d.)

Finally, Manat possesses a quasi-verbal particle *hɨd*, which I gloss 'move' and which appears to be descended from PSOG *kɨnta 'walk.' While this particle can head a clause on its own (57), it far more commonly functions as an adverb that adds motion semantics to a predicate headed by a proper verb. In this function it usually precedes the object (58) and other non-subject arguments (59). An additional piece of evidence that this particle is descended from a verb is the fact that it can take the reduplicative nominalizing suffix (§3.5.1), which derives nouns from verbs (60).

Manat

(57) *Ara-n   ta-n   bɨ   **hɨd.***
say-2/3.SS leave-2/3.SS 3.NOM **move**
'He said that, left, and went away.'

Manat

(58) ***Hɨd**   nadi   añiŋa kai   ini-n   gu-r-m-id.*
move woman two   LOC   ND-ACC   give-HAB-PST-3SG.HIS
'He used to go give it to the two women.'

Manat

(59) *Akai **hɨd**   mɨkɨñ   kai   mɨgu-ma-g.*
okay **move** fishing.net LOC go.down-PST-3SG.FAR
'Okay, he went down into the fishing net.'

Manat

(60) *Inɨ-ba   **hɨd~ɨhɨd**   rɨh-id   ar-ura-ma-g.*
ND-LOC **move~NMLZ** do-3SG.IPST say-PL-PST-3.FAR
'"She's wandering around here," they said.'

We have now examined constructions in Manat, Apalɨ, Sirva, Aisi Magɨ, and Gants. I have so far ignored the structural question: what is the relationship between the serialized intransitive verb and the other verbs? While I lack the data for a definitive answer, I present relevant facts from Apalɨ and Gants. In Apalɨ, these serialized verbs do not necessarily have the same value for negation (61) or illocutionary force (62) as the verbs that follow them; for this reason Wade considers them separate clauses.

Apalɨ

(61) *Iga   ma   sɨhu-i.*
see   NEG defecate-3SG.IPST
'She saw it and did not defecate.'   (Wade 1989: 72)

Apalɨ

(62) *Iga   sɨhu-mɨnaŋ ...*
see   defecate-2SG.PROH
'You see it and don't you defecate ...'   (Wade 1989: 71)

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In Gants, while it is clear that serialized verbs can have different polarity and illocutionary force values, there are no clear examples of this for the intransitive SVC construction. Nevertheless, (63) demonstrates that serialized verbs can have different polarity values. And (64), where *sikasika tago miŋa* '(when you) get dirt on your feet' is not under the scope of the negative imperative marking of the clause, shows the same for illocutionary force.

Gants

(63) O **okra**   ma   ga-da   bɨr   kuyara-paŋ-dɨk.
      oh **look.for** NEG perceive-SS TOP   sit-FUT-3SG
      'Oh, he'll look for it and won't find it and he'll sit down.'

Gants

(64) *Sɨkasɨka* **tago** **miŋa** *kɨneb* *kenɨŋ* *yak* *ko* *ma* *ai-p-raŋ.*
      debris   **step** **get** house   inside   1SG.OBJ DEF   NEG   come-IMP-2PL
      'Don't track dirt inside my house!'

The facts above suggest that these intransitive serialized verbs are structurally less integrated with the other verbs in the clause. While this is far from a definitive analysis, I provisionally consider them separate verb phrases that are coordinated within a single clause. This accounts for the negation and illocutionary force properties discussed above, as well as the fact that serialized verbs all have the same subject.

To review, the constructions presented above share several properties. Each is composed of an uninflected verb root situated to the left of other verb roots and their non-subject arguments. In Apalɨ and Gants, these verbs take their uninflected form; in Manat and Magɨ it is not possible, for phonological reasons, to discern whether the verbs are reflexes of the PSOG uninflected forms; and in Sirva accidents of inheritance make the question difficult to settle. And in every language except Apalɨ the verbs are intransitive.

We thus have a valid correspondence set, although a rather tenuous one by the standards I have set. The form of the cognate constructions matches, as all are composed of an uninflected verb followed by a verb phrase. The meanings also match, as they all (with one exception) employ intransitive verbs. A reconstruction based on these considerations would look like (65): an intransitive verb followed by a verb phrase, itself composed of an optional object and the inflected verb.

(65) $*V_{INTR} [(NP_{OBJ}) \text{ V-INFL}]_{VP}$

But in this case there is precious little phonological material with which to ensure that syntactic borrowing has not taken place. The only piece of phonological material specific to this construction is the final *a that occurs on uninflected verb roots in Apalɨ and Gants—admittedly not much.

An additional problem with this reconstruction concerns the issue of arbitrariness. The construction in (65) is somewhat iconic: the intransitive verb, for which the subject is the only argument, is located immediately to the right of that subject. It is thus possible that this construction did not exist in PSOG but was rather formed independently in several daughter branches due to this iconic motivation. The scenario I am alluding to would begin with all PSOG serialized verbs being located at the right edge of the clause, after all the arguments. But intransitive verbs would then be moved leftwards in some daughter languages to be closer to the subject, for which they had a greater affinity.

So we must ask ourselves which scenario is most likely. Did the construction in (65) exist in PSOG, and was it inherited into the daughter languages as shown in the examples above? Or did this construction not exist in PSOG but rather spread due to contact or

iconicity after PSₒɢ had broken up? The former scenario seems more probable to me. The construction has reflexes in divergent languages from the CS and ES branches, and if it spread via contact it must have spread quite early in the history of the family to be inherited into both Manat and Gants—so early that even if it was a later innovation, it could at least be attributed to a late variety of PSₒɢ. As for the iconicity objection, while I have acknowledged that the construction in (65) is iconic to some degree, this iconicity does not strike me as so strong that it would be likely to motivate multiple instances of verb movement of the kind I have described above.

Of course others may disagree with my analysis, and I may be wrong in my assessment of these likelihoods. Such is the lot of the comparativist. Nevertheless, for the reasons stated above I consider it more likely than not that PSₒɢ had a construction like (65), which I refer to as the "orientation SVC." To summarize: uninflected verbs occurred to the left of the (other) verb phrase—that is, to the left of the other serialized verbs and of their arguments. These verbs were generally intransitive posture or motion verbs that oriented the subject with respect to the other events of the clause.

3.2.4. Causative and Manner Serial Verbs

A further SVC position that can be reconstructed for PSₒɢ is what I call the causative position. The verb in the causative position of an SVC described the manner in which the action of the other verbs was caused. The causative verb could affect the valence of the SVC as a whole, although due to the limited number of manner SVCs that can be reconstructed the extent of this pattern is unclear. It is clear, though, that this

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construction involved a change of subject from the causative verb to the following verb: the causative verb described the causal action, which was performed by the subject of the clause, and the following verb described the result of that action. An example is the Mum verb *miŋahumu-* 'kill' in (66), which is descended from **miŋa kɨmu* 'get die,' which would have meant 'kill by hand.' The subject of *miŋa-* 'get,' as well as that of the clause as a whole (as shown by the 3PL agreement suffix *–u*), is the killers, but the notional subject of *humu-* 'die' is the victim.

Mum

(66) *Pa-ta   nin-iŋ   Aŋihuru   ñaniŋ   amaz-iŋ   **miŋahumu-h-u ...***
    come-SS   who-OBJ   Angihuru   his.son   eighth.born-OBJ   **kill-DS-3PL**
    'They came and killed, uh, the son of Angihuru, the eighth born son ...'

(Sweeney n.d.)

Two verbs can be reconstructed for the causative position: **miŋa* 'get' meant 'cause to happen manually' and **iŋkwa* 'give' meant 'cause to happen by giving.' A third verb, **ampa* 'speak,' may have meant 'cause to happen verbally,' but it is not clear that this verb involved a change of subject in this position or had the same causative semantics. Rather, it may have simply had manner semantics and meant 'do by speaking.'

The causative use of **miŋa* 'get' can be reconstructed based on the Mum example above and the Gants example in (67). This latter example is somewhat curious, since it is the only Gants SVC in my corpus that contains a change of subject. Further reflexes of causative **miŋa* can be seen in the Sirva example in (68) and the Apalɨ example in (69). The Aisi Mabɨŋ lexeme *miŋimbr-* 'ruin' is also descended from this construction. This word is composed of reflexes of **miŋa* 'get' and **impra* 'act badly, go bad,' which are retained in Mabɨŋ as *miŋ-* 'make' and *imbr-* 'spoil.'

Gants
(67) *Mɨga   cɨ-k-e   **mɨŋa   yako-da**...*
come.down stay-DS.SEQ-3SG **get   go.up-SS**
'It fell down and she picked it up and ...'

Sirva
(68) *Ka-ma   ad-ɨi   beau   **mɨŋa-sɨisɨir-a**   wa-ra   **mɨŋa-sɨkr-i-Ø.***
MD-ADVZ do-3SG.DS DEF.ACC **get-itch-SS**   go-SS   **get-break-TPST-3SG**
'So she scratched and scratched it (lit. 'scratched it and went') and broke it.'

Apalɨ
(69) *Nɨbu   nu-dɨ   ibi   **mɨŋa-iaha-vɨ-hada-m-i.***
3SG.NOM   3SG-OBL   name   **hold-get.up-PL-CONT-HPST-3**
'As for him, they were habitually lifting up his name.'   (Wade p.c.)

Finally, the Nend example in (70) may be cognate with the other examples if the verb *aka-*, glossed 'cut,' is labile and can mean 'become detached.' Such verbs are not uncommon among the Sogeram languages, but Harris's glossing suggests that this is not such a verb.

Nend
(70) *Avɨ-z   awar-oh-e   ahah   ha-n   **ŋ-ak-e**...*
do.thus-3SG.DS up.ridge-go-SS mature.betelnut MD-ACC **get-cut-SS**
'Then he climbed up and picked the mature betelnut and ...'   (Harris n.d.)

The verb *iŋkwa 'give' could also be used causatively, although only one SVC involving this verb can be reconstructed: *iŋkwa ña 'give eat,' which meant 'feed.' The semantics match those of *mɨŋa in this construction, in that the action of *ña 'eat' is caused by the action of *iŋkwa 'give' and there is a change of subject between the two verbs. The reconstruction of this SVC is secure based on reflexes in Nend (71), Manat (72), and Aisi (73), and it also occurs in Apalɨ (Martha Wade p.c.). But it is unclear whether *iŋkwa could occur with verbs besides *ña 'eat' or whether *iŋkwa ña was a lexicalized pair that meant 'feed' or 'give to eat.'

Nend

(71) *Hɨrɨmbɨ-mb   kambɨr-ɨr   Aŋɨmere   eŋkwa-n-an-j.*
cook~NMLZ   friend-kin   Aŋɨmere   give-eat-HPST-3SG
'Cooking (it), he used to give it to his friend Aŋɨmere.'   (Harris n.d.)

Manat

(72) *Ñaŋ̃a   tak   ai-n=a,   mihra-n   igu-ña-md=a.*
food   only   come-2/3.SS=INT   take.much-2/3.SS   give-eat-2SG.IMP=INT
'Please come take all this food and give it out.'

Aisi Mabɨŋ

(73) *Igon-ogi   na,   kwi   wa-s-uŋ.*
feed-3PL.DS   and   back   come-FPST-3PL
'They gave them (salt) and they came back.'

Finally, *ampa 'speak' could occur in this position, although probably with manner semantics instead of causative semantics. The only example I can find in which the action of the following appears to be caused by speaking, and which involves a change of subject, is the Mum word *abahumu-* 'scold,' composed of reflexes of *ampa 'speak' and *kɨmu 'die'—in other words, 'cause to die by speaking.' In every other language, though, *ampa appears to simply mean 'do by speaking,' rather than 'cause by speaking.' For example, in the Gants examples below, the actions of the verbs following *aba* are performed verbally. In (74) the object is human and was 'gotten' via speech, since humans must in the main be reasoned with rather than picked up and moved. Similarly, in (75), *aba go* 'speak give' means 'tell'—that is, 'give (information) by speaking.'

Gants

(74) *Ya   nak   aba   mɨŋa-da   aŋa-paŋ-nɨŋ   wa-m-enɨŋ.*
1SG   2SG.OBJ   speak   get-ss   go-FUT-1SG   say-FPST-1SG
'I said, "I'm going to take you and we'll go."'

Gants
(75) *Wisɨn mod ko mɨgo-da aya* **aba go-da** *aŋa-m-ek.*
sleep during DEF descend-SS come **speak give-SS** go-FPST-3SG
'He came and told me in a dream and left.'

The same SVC can be found in Kursav (76): *aba bu-* 'speak give' means 'tell, inform.' In

Aisi Magɨ, *abɨ ir-* 'speak perceive' means 'ask' (77); in other words, 'investigate (or perceive)

by speaking.'

Kursav
(76) *Va-da ka-ka guro, midim* **aba u-b-ua.**
say-SS MD-TOP speech before **speak 3SG.OBJ-give-1SG.NFUT**
'I said that and I told him this stuff before.'

Aisi Magɨ
(77) *Ka-ŋga itɨ ga, yɨ* **abɨ ir-ɨs-iŋ.**
MD-ADJZ thus TOP 1SG **speak perceive-FPST-1SG**
'So I asked him.'

Finally, while Manat has lost its reflex of *ampa, at least one SVC involving the verb

survives. Example (78) shows the verb *abiva-* 'fight,' which is descended from *ampa 'speak'

and *ivu 'hit.'

Manat
(78) *Bɨ* **abiv-tara-n** *agram-ur-id.*
3.NOM **fight-PURP-2/3.SS** stand-PL-3.IPST
'They're standing up to fight.'

There are many examples of other verbs occurring in what appear to be reflexes of the

causative/manner SVC position, and it is likely that some of these uses date to PSOG. But in

the absence of diverse reflexes, examples like these cannot confidently be reconstructed.

For example, the Apalɨ compound *ifɨ-hɨma-* 'hit-die' means 'kill,' and appears to be

descended from *ivu 'hit' in causative position, as the compound means 'cause to die by

hitting.' Similarly, *kra* 'burn' in (79) has manner semantics very similar to those of *ampa in

the examples above—that is, the SVC means 'eat (or consume) by burning.' (Note that *kevɨ-* 'throw' here is contributing habitual semantics to the SVC.) But until further research uncovers similar examples in other Sogeram languages, these forms cannot be reconstructed to PSOG.

Kursav
(79) *Itu   kra   ne   kevɨ-d-o.*
tobacco **burn eat throw**-HAB-3PL
'They used to smoke tobacco.'

3.3. Final Morphology

The morphology of all the Sogeram languages, as well as that of PSOG, can be divided into two types: medial and final. This is a common division among Papuan languages, particularly those of the Trans New Guinea family. Medial morphology marks switch reference, that is, the identity or non-identity of a verb's subject with the subject of the following verb. Verbs with medial morphology are chained together and each chain ends with a final verb. Final verbs—verbs with final morphology—are marked for person and number, and also distinguish the full range of TAM categories. This information has scope over the preceding chain, as medial verbs are unmarked for tense. Medial verbs do, however, sometimes mark relative tense, that is, whether the events of the marked verb and the following verb are simultaneous or sequential. They also sometimes distinguish realis from irrealis.

In the following sections I present my reconstructions of the final verb categories: the immediate past tense, the today past tense, the recent and far past tenses, the historic past tense, the future tense, the habitual aspect, the imperative mood, the prohibitive mood,

and the counterfactual mood. I also present one verb category, the irrealis, which could be used both medially and finally.

Before presenting the reconstructed paradigms, I must discuss the general verb template that most TAM categories followed, presented in (80).

(80) Root – TAM – Agreement

PSOG verbs were composed of the root, followed by a TAM suffix, followed by a subject agreement suffix. The subject agreement suffix was taken from one of several sets of suffixes. These are often difficult to reconstruct, and there was often analogical replacement of suffixes from one set with suffixes from another set. The reconstructed sets are presented in Table 9. Recall that there was no dedicated 3PL agreement suffix. In the imperative paradigm a 3SG form cannot be reconstructed and it is unclear whether one existed.

Table 9. Agreement suffixes

Name	1SG	2SG	3SG	1PL	2PL	TAM categories
Set I	*-in	*-na	*-i	*-riŋ	*-ra	Immediate past, historic past, DS realis
Set II	*-n	*-na	*-r, *-i	*-uriŋ	*-ra	Today past, recent past, far past
Set III	*-n	*-na	*-ri	*-riŋ	*-ra	Future
Set IV	*-n	*-na	*-i	*-riŋ	*-ra	Habitual
Set V	*-ŋ	*-na	*-r, *-i	*-riŋ	*-ra	Counterfactual, Irrealis
Set VI	*-ŋ	*-u		*-ɨmɨri	*-mar	Imperative
Set VII	*-ñ	*-na	*-nt	*-riŋ	*-ra	Prohibitive

Set II and Set IV could each be split into two sets based on the 3SG suffix that is used. For example, while three TAM categories use Set II, the today past uses 3SG *-i and the recent and far past use *-r. I have decided to present the suffix sets this way, though, because it is often quite difficult, for a given TAM paradigm, to reconstruct every subject

agreement suffix with certainty. There is also often analogical change in suffix agreement paradigms: for example, reflexes of the today past are found with 3SG *-i in Mand and Apalɨ but with *-r in Nend.

Several aspects of these agreement suffixes pose problems. The 1PL suffix was probably not so consistently *-rɨŋ; Apalɨ and Gants both suggest it often had a round vowel *u, and may have lacked the final nasal in some agreement sets. I currently analyze these reflexes as generalizations of the Set II suffix *-urɨŋ with irregular phonological attrition yielding *-ru or *-ruŋ. But the issue remains cloudy, and future research may change the reconstruction.

There has been a great deal of analogical change to these sets. Often, suffixes from a lesser-used set will be replaced with suffixes from more common sets, most often Set I. Because of this, individual reconstructions in the less-common agreement sets sometimes rest on a single witness because all other languages have replaced the suffix with one from Set I. For example, in the counterfactual mood the Set V 1SG suffix *-ŋ is only retained in the Aisi form, while the only other reflex, Apalɨ, has *-in from Set I. I reconstruct *-ŋ because replacement of a Set V suffix with a Set I suffix is more likely than the reverse, but in cases like this the reconstruction is obviously suspect. I nevertheless propose these tentative reconstructions as the most likely explanation for the current diversity of reflexes, while acknowledging the uncertainty.

3.3.1. Immediate Past

The immediate past tense has been reconstructed and discussed in previous work (Daniels 2010: 170, 2014: 387), and I present it again in Table 10. It was formed with no tense suffix (indicated by *-Ø in the table) and the Set I agreement suffixes.

Table 10. Immediate past

	Mand	Nend	Manat	Apalɨ	Mum
1SG	-in	-in	-in	-in	-in
2SG	-n	-n	-nad	-naŋ	-na
3SG	-i(d)	-i	-id	-i	-i
1PL	-inhw	-riŋ	-r	-lu	-riŋ
2PL	-e-n	-mgɨ-n	-rad	-laŋ	-ra
3PL	-e-d	-mg-i	-ur-id	-hav-i	-yu

Table 10, continued.

	Sirva	Aisi Magɨ	Aisi Mabɨŋ	Kursav	Gants	PSOG
1SG	-ri-n	-iŋ	-iŋ, -eŋ	-Ø	-eniŋ	*-Ø-in
2SG	-ri-na	-aŋ	-aŋ	-na	-naŋ	*-Ø-na
3SG	-ri-Ø	-i	-i, -e	-e	-ek	*-Ø-i
1PL	-ri-r	-ar	-aŋ	-r	-ruŋ	*-Ø-riŋ
2PL	-ri-ra	-ar	-ar	-ra	-raŋ	*-Ø-ra
3PL	-b-ri	-uŋ	-uŋ, -oŋ	-u	-ik	

A few observations are in order. Mand has added *d* to the 3SG (where it is optional) and 3PL suffixes, and has innovated a new 1PL suffix. Both it and Nend are innovative in forming the 2PL via a discrete plural suffix in combination with the 2SG suffix. Manat has added *d* to the vowel-final suffixes—that is, 2SG, 3SG, 2PL, and 3PL. Mum, Aisi, and Kursav have innovated new 3PL suffixes, and Sirva has innovated a separate IPST suffix (§3.6.9.1). Aisi has merged almost all stem vowels to *a* (§3.6.11), a process which has moved them onto those suffixes that began with consonants. Kursav innovated a new 1SG form. And Gants added velar consonants to each suffix: *ŋ* in first and second person, and *k* in third person.

In spite of these variations, the reconstruction is for the most part straightforward. 1SG *-in is reflected clearly in Mand, Nend, Manat, Apalɨ, Mum, and Aisi, and also in Sirva and Gants with little change.

2SG *-na is reflected as expected in Mand, Mum, Sirva, and Kursav. In Nend it lost final *a irregularly, in Manat, Apalɨ, and Gants a consonant was added, and in Aisi final *a would have become *ɨ but this was then lost irregularly.

3SG *-i is retained in Mand, Nend, Apalɨ, Mum, Aisi, and Kursav. Manat and Gants again added consonants, and the process that created the Sirva ipst suffix –ri has obscured matters, but the i in this suffix is inherited from PSOG *-i.

In the 1PL things are more complicated. Nend, Manat, Mum, Sirva, Aisi Magɨ, and Kursav reflect *-rɨŋ, which suggests that this suffix should be reconstructed. But Apalɨ and Gants both reflect a PSOG 1PL suffix *-ru (with an ŋ in Gants). If these two suffixes did not appear cognate, they could perhaps be written off as innovations. But they do seem to be cognate, and because they are found in two disparate languages we must consider the possibility that they trace their ancestry to PSOG. Several possible explanations present themselves. First, they could reflect dialect variation that existed in PSOG but that has been lost in the other Sogeram languages. If this were the case, though, we would expect the geographical distribution of *-ru to be contiguous. Second, perhaps *-ru was actually *-ruŋ and *-rɨŋ was a fast-speech variant. This requires us to explain the unusual loss of final *ŋ in Apalɨ. Third, it is possible that one of the suffixes was 1DU (probably *-rɨŋ) while the other was 1PL (probably *-ru). On this analysis, we must explain why the PSOG 1PL was generalized to plural in Apalɨ and Gants instead of the 1DU, as was usually the case. While this last account

seems most plausible to me, at this stage we must conclude that we do not know what explains the Apalɨ and Gants 1PL.IPST suffixes. And it is also possible that they are both unrelated irregular developments and do not date to PSOG at all.

The 2PL suffix *-ra is again quite simple. It is reflected in Mum, Sirva, and Kursav. Manat, Apalɨ, and Gants have added consonants, and in Aisi final *a became *ɨ but was then lost irregularly.

The meaning of this tense is fairly homogeneous across the family. In most languages, it refers to events occurring in the present moment and extends some distance into the past. Only Nend and Gants have dedicated present tenses, and these are innovations. And even in these languages, the immediate past is used as a narrative present. In Mand, Nend, and Apalɨ this tense refers to events extending to a few hours before the speech act. In Manat it extends to the morning of the speech act, and in Sirva to the night before. In Aisi it covers past events on the day of the speech act as well as the day before it. And in Kursav it extends infinitely far back; it has become a non-future tense. In Gants the time reference of this tense is not as fixed as in other languages, and speakers have more latitude to construe events as "recent" or "remote" by the tense they choose. But of all the past tenses (Gants has four), it is the closest to the present.

So we reconstruct a tense that referred to the present moment and extended some distance into the past. It seems most likely that the time reference of this tense was restricted to the day of the speech act in PSOG, as this meaning is found in every non-ES language. Because of the reconstruction of a separate today past tense (see below), this

tense is reconstructed with a time reference that extended a few hours before the speech act.

3.3.2. Today Past

Cognate past tenses that refer to recent events exist in Mand, Nend, and Apalɨ. The forms are presented in Table 11. In Mand this is a recent past tense, its time reference beginning the day before the speech act and extending an unknown distance into the past. In Nend it is a yesterday past, referring to "events that occurred between sunset last night and sunset the night before" (Harris 1990: 126). And in Apalɨ it is a today past, referring to events on the day of the speech act, but prior to the range referred to by the immediate past.

Table 11. Today past

	Mand	Nend	Apalɨ	PSOG
1SG	-emɨ-n	-em-en	-iem-in	*-iamɨ-n
2SG	-emɨ-n	-em-an	-iemɨ-naŋ	*-iamɨ-na
3SG	-eb-i	-emɨ-r	-iem-i	*-iam-i
1PL	-emɨ-nhw	-em-oriŋ	-iemɨ-lu	*-iam-urɨŋ
2PL	-emɨ-n	-mg-em-an	-iemɨ-laŋ	*-iamɨ-ra
3PL	-eb-i	-mg-emɨ-r	-hav-iem-i	

The reconstruction of the tense suffix *-iamɨ at first appears unwarranted, as every language has the vowel *e*. Recall, though, that PSOG did not have the vowel [†]*e*, and that raising *a to *e* in this environment is a likely explanation for the presence of *e* in all three modern languages. This reconstruction is confirmed by Wade's observation that, although the Apalɨ form is usually –*iem*, "in the Uagalɨhu dialect the variant form –*iam* is used" (Wade 1989: 168). The reconstruction of *a also reinforces the reconstruction of the suffix-initial

*i, as the presence of this vowel explains the WS reflex *e* for *ia, whereas a reconstruction of simply *i or simply *a could not.

Reconstructing the agreement suffixes is somewhat more difficult. In the 2SG and 2PL every language reflects the usual *-na and *-ra, although Apalɨ adds its usual final *ŋ*. For the 1SG I reconstruct the Set II suffix *-n, which is only retained in Mand, for two reasons. First, this reconstruction can account for the other forms: the Nend suffix *-en* can be explained via irregular harmony of *ɨ to the preceding *e*, and the Apalɨ suffix *-in* is simply the more frequent Set I suffix replacing a less frequent form. Secondly, reconstructing another suffix would not explain the Mand form well. The suffix *-n became homophonous in Mand with the reflex of the 2SG suffix *-na, due to regular word-final loss of *a (§2.2.2.4). Because of this, if the original 1SG suffix had been something other than *-n, it is unlikely that Mand would have changed it to *-n because that would have rendered it homophonous with the 2SG form. Rather, it is more likely that this homophony developed via the phonological change described above and has not been eliminated in Mand.

In the 3SG *-i is reconstructed on the strength of the Mand and Apalɨ reflexes; Nend is taken to have replaced the agreement suffix with the other Set II suffix *-r, as this suffix is generally associated with past tenses. The 1PL suffix is somewhat difficult. Mand and Apalɨ both have their usual 1PL agreement suffixes, which suggests this paradigm either had the common 1PL suffix *-rɨŋ or Mand and Apalɨ replaced the original, less common agreement suffix with more common ones. I have decided to treat the Nend form as archaic for two reasons: (i) it is only reflected in two Nend paradigms—this one and the Nend far past—

suggesting that it was not placed into this paradigm by analogy; and (ii) it is difficult to see how it could have been innovated.

Having reconstructed the tense suffix *-iamɨ and its agreement suffixes, I now address the meaning of this paradigm. Here we must take into account both the semantic ranges of the modern reflexes and the PSₒG tense system into which this tense fit. The "median" meaning of this tense is a yesterday past, as reflected in Nend—in Mand its time reference is earlier than that, in Apalɨ more recent. This factor favors reconstructing a yesterday past for this paradigm, as it would involve only two innovations: one in Mand and another in Apalɨ. But there is another scenario that only involves positing two innovations, namely reconstructing the Apalɨ meaning of today past. In this scenario, the tense became a yesterday past in PWS (probably when the innovative PWS today past was formed; see §3.6.1.1), and then its time reference was extended farther back in Mand.

So we are left with two possibilities—today past and yesterday past—and we turn to the reconstructed PSₒG tense system to help us decide. There is one past tense that has a more recent time reference (the immediate past, §3.3.1) and three that have more remote time references (the recent, far, and historic pasts; §3.3.3 and §3.3.4). As such, it seems likely that this tense had a more recent time reference rather than a more remote one, as temporal distinctions tend to be finer closer to the present. Thus we reconstruct a today past, as reflected in Apalɨ, and posit semantic innovations in PWS and Mand.

Finally, we must address the question of the antiquity of this tense paradigm. It is reflected in Mand and Apalɨ, which just barely qualifies it for reconstruction to PSₒG according to the criteria I have laid out. But these two languages, while they have not been

in direct contact with one another, have both been in contact with Nend, which raises the possibility that this was a post-PSOG innovation that spread to all three languages. This question probably cannot be conclusively resolved yet, but an important factor to consider is that there is no obvious path of innovation by which this paradigm could have been innovated. For that reason, I tentatively reconstruct it to PSOG.

3.3.3. Recent and Far Past

These tenses are only attested in two languages, shown in Table 12 and Table 13, but the languages are disparate enough that reconstruction appears secure.

Table 12. Recent past

	Manat	Gants	PSOG
1SG	-ŋin	-gi-niŋ	*-ŋkɨ-n
2SG	-ŋinad	-gɨ-naŋ	*-ŋkɨ-na
3SG	-g	-g-rɨk	*-ŋkɨ-r
1PL	-gɨr	-g-ruŋ	*-ŋk-urɨŋ
2PL	-grad	-g-raŋ	*-ŋkɨ-ra
3PL	-ura-g	-g-rek	

The recent past was formed with the RPST suffix *-ŋkɨ and the Set II agreement suffixes. In both Manat and Gants the *ŋk cluster is reflected as a prenasalized *g.* This then lenited to *ŋ* in the Manat 1SG and 2SG, where it was followed by a nasal consonant. Both languages added consonants to many verbal suffixes—Manat usually *d,* Gants *ŋ* or *k*—and this paradigm is no exception. (These additions are most likely the vestige of an old subordination construction; see §5.4.2.) In the 1SG, Manat did not add anything while Gants added *ŋ.* In the 2SG, both languages added consonants. In the 3SG, Manat irregularly lost final *r, while Gants added *k*. The 1PL reflects the *-rɨŋ/*-ru divergence discussed for the

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immediate past above: Manat reflects the suffix *-rɨŋ while Gants reflects *-ru, with added ŋ. For the moment I reconstruct *-rɨŋ, although this may have to be revised. In the 2PL both languages again added their respective consonants.

In both Manat and Gants, the recent past has a time reference that precedes the immediate past but follows the far past, so this order should be reconstructed for PSₒG. But we must also decide whether its time reference precedes or follows the today past (§3.3.2). In both Manat and Gants, the time reference of this tense can extend years into the past, as shown with the Manat statement in (81), which was uttered in 2010. Since the today past does not refer to events more than a few days before the speech act in any language, the recent past should be reconstructed with a time reference that precedes the today past.

Manat

(81) *Vana   ibɨd   ini-n   tutausenfaif kai,   ara-ŋin.*
     speech good   ND-ACC 2005   LOC   say-1SG.RPST
     'I said these good things in 2005.'

Table 13. Far past

	Manat	Gants	PSₒG
1SG	*-ma-ŋin*	*-ma-gɨ-niŋ*	*-ma-ŋkɨ-n
2SG	*-ma-ŋinad*	*-ma-gɨ-naŋ*	*-ma-ŋkɨ-na
3SG	*-ma-g*	*-ma-g-rɨk*	*-ma-ŋkɨ-r
1PL	*-ma-gɨr*	*-ma-g-ruŋ*	*-ma-ŋk-urɨŋ
2PL	*-ma-grad*	*-ma-g-raŋ*	*-ma-ŋk-ra
3PL	*-ura-ma-g*	*-ma-g-rek*	

The far past was formed by adding the historic past suffix *-ma (which was also used in the historic past; see below) to the recent past forms. Otherwise, the forms were identical to those used in the recent past. The time reference of this tense precedes the recent past in both languages, and should be reconstructed as such.

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3.3.4. Historic Past

The historic past was formed with the historic past suffix *-ma in combination with the Set I agreement suffixes, as shown in Table 14. The Manat forms here are from two paradigms. The 1SG, 3SG, and 3PL are from the historic past, which is directly inherited from the PSOG historic past. This paradigm is defective in Manat, though, and no longer hs 2SG, 1PL, or 2PL forms. So these cells are filled with far past habitual suffixes, which are formed with the PSOG historic past in combination with the innovative habitual suffix *-rha* (§3.6.5.1). The Apalɨ form *-m-i* is used in the Akɨ dialect, while *-ma-lɨ* is used in Acɨ. The Nend forms come from the Nend historic past paradigm, which is not cognate in the first and second person.

Table 14. Historic past

	Nend	Manat	Apalɨ	Mum	Sirva	Gants	PSOG
1SG		-m-in	-m-in	-m-in	-ma-n	-m-enɨŋ	*-m-in
2SG		(-r)-ma-nad	-ma-naŋ	-ma-na	-ma-na	-me-naŋ	*-ma-na
3SG	-ma-r	-m-id	-m-i/-ma-lɨ	-m-i	-m	-m-ek	*-m-i
1PL		(-r)-ma-r	-mɨ-lu	-ma-rɨŋ	-ma-r	-me-ruŋ	*-ma-rɨŋ
2PL		(-r)-ma-rad	-ma-laŋ	-ma-ra	-ma-ra	-me-raŋ	*-ma-ra
3PL	-mgɨ-ma-r	-ura-m-id	-havɨ-m-i	-m-u	-bɨ-m	-m-aik	

The first thing to notice is the variation in 3SG suffixes. Nend and Acɨ Apalɨ reflect *-r, which is the suffix used in the recent past and far past (§3.3.3), while other languages reflect *-i, the suffix used in the immediate past (§3.3.1). Note that Sirva reflects final *i, as it sporadically lost this vowel word-finally (§2.3.4.4), whereas the suffix *-r would yield [†]-ma, with loss of word-final *r (§2.3.4.3) and retention of *a.

We must therefore choose which change is more likely: from *-i to *-r, or vice versa. Both are plausible: *-i is from the immediate past paradigm, the most unmarked TAM category, and it could therefore be expected to become generalized to more positions. On

the other hand, *-r was used in the other "true" past tenses (i.e., not the immediate past, which also had present time reference), and could therefore be extended to the historic past on the basis of this association with past-ness. Neither change appears significantly more likely than the other, so we must examine the distribution of witnesses. In this case, the distribution is decisive in favor of *-i. Positing PSOG *-m-i requires two innovations: one in Nend and one in Aci Apalɨ. Positing *-ma-r, however, requires several. The presence of the Aci form means that the analogical replacement of *-r with *-i cannot be placed at the PCS stage and must instead be posited separately for Manat, Akɨ Apalɨ, and PNCS, in addition to Gants. This is clearly less likely than the former scenario, so the reconstruction of *-m-i in the 3SG should be preferred.

A few other innovations can be observed in this table. Mum changed the 3PL form with its innovative 3PL suffix; Sirva changed the vowel in the 1SG form; and Gants changed the vowel of *-ma to *e* on analogy with the 1SG and 3SG forms.

3.3.5. Future

Reconstructing the future tense is difficult because cognate paradigms are only found in Apalɨ and Aisi. These languages are adjacent and show evidence of contact, so this is not a broad enough attestation to reconstruct the paradigm to PSOG. Luckily, two Josephstaal languages have a cognate future suffix: Moresada (Capell 1951) and Anamuxra (Ingram 2001). The relevant forms are presented in Table 15. The Aisi suffixes are identical in both Aisi languages with the exception of the 1PL suffix, which is *-ɨberar* in Magɨ. The

reconstructed suffix *-ɨmpa was also used on its own in the irrealis infinitive verb form (§3.5.3).

Table 15. Future

	Moresada	Anamuxra	Apalɨ	Aisi	PSOG
1SG	-mbam	-ba-m	-ɨb-en	-ɨbyaŋ	*-ɨmpia-n
2SG	-mbal	-ba-ta	-ɨba-naŋ	-ɨberaŋ	*-ɨmpa-na
3SG	-mbat	-ba-t	-ɨba-li	-ɨber	*-ɨmpa-ri
1PL	-mbamaŋ	-ba-mŋ	-ɨba-lu	-ɨberaŋ	*-ɨmpa-riŋ
2PL	-mɔr	-ba-taŋa	-ɨba-laŋ	-ɨberar	*-ɨmpa-ra
3PL	-mbiŋ	-ba-tŋ	-havɨ-ba-li	-ɨberuŋ	
1DU	-mbatpar	-ba-pr			
2DU	-mɔr	-ba-tar			
3DU	-mbatɛr	-ba-tr			

The Proto-Josephstaal future tense suffix was apparently *-ba. In Apalɨ the suffix is *-ɨba*, and in Aisi it seems to have been *-ɨber*, although the 1SG form is anomalous. Disregarding the 1SG for the moment, reconstructing the PSOG suffix as *-ɨmpa seems the best solution. Both Sogeram languages have an initial *ɨ*, so this vowel was probably part of the PSOG suffix. The *mp cluster is clearly reflected in every language. The following vowel poses some difficulties, though, as Apalɨ has *a* while Aisi has *e.* It seems, though, that Aisi has combined PSOG *-ɨmpa with another element, possibly *-ira, which has resulted in the longer suffix. Indeed, the non-1SG Aisi forms may be built on the irrealis infinitive (§3.5.3) and not directly descended from this future paradigm. In any case, reconstructing the vowel as *a is best, given the Josephstaal and Apalɨ reflexes.

This brings us to the 1SG form, which is anomalous in both Apalɨ and Aisi. The Josephstaal forms are no longer any help, as they reflect a different subject agreement suffix, *-m. It is unclear how the Aisi form could have been innovated, as there are no

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known PSOG processes that would have inserted an *i into a suffix in this way. Moreover, the *e* in the Apalɨ form could easily be a cognate with the Aisi *ya* sequence. Given that both Sogeram languages support this reconstruction, then, I have reconstructed an irregular form of the future tense suffix for the 1SG, *-ɨmpia, which combined with the Set III agreement suffix *-n. This reconstruction seems somewhat odd, and future discoveries may change it, but it best fits the data available to us now.

The other person–number forms are easier to reconstruct. The 2SG and 2PL forms show the usual reflexes, so *-na and *-ra are reconstructed. The usual 1PL suffix is innovative in both Apalɨ and Aisi so an exact reconstruction is impossible, but I have reconstructed the most common 1PL suffix *-rɨŋ. And the 3SG suffix *-li* in Apalɨ is attested in the Apalɨ future tenses only, and as such is taken to be archaic. The Aisi form could also be a reflex of this suffix, as word-final *i was regularly lost in PAIS (§2.4.2.1).

3.3.6. Habitual

There is good evidence that PSOG had a set of suffixes that denoted habitual aspect. The reflexes of this paradigm and the PSOG reconstruction are presented in Table 16.

Table 16. Habitual

	Mand	Nend	Apalɨ	Magɨ	Mabɨŋ	PSOG
1SG	-cɨ-n	-j-in	-ila-n	-ite-ŋ	-er-iŋ	*-ɨtia-n
2SG	-cɨ-n	-ri-n	-ila-naŋ	-ity-aŋ	-er-aŋ	*-ɨtia-na
3SG	-cɨ-n	-j	-ila-lɨ	-ite-i	-er-i	*-ɨtia-i
1PL	-cɨ-nhw	-ri-rɨŋ	-ila-lu	-ite-r	-er-aŋ	*-ɨtia-rɨŋ
2PL	-e-cɨ-n	-mgɨ-rɨ-n	-ila-laŋ	-ite-r	-er-ar	*-ɨtia-ra
3PL	-e-cɨ-n	-mgɨ-j	-havɨ-la-lɨ	-ɨtya-uŋ	-er-uŋ	

In Mand, Magɨ, and Mabɨŋ this form is the only habitual aspect and has no specific time reference. In Nend the paradigm given is the present and recent past habitual aspect, and it is distinguished from a historic past habitual paradigm. The Apalɨ paradigm is the (near) past habitual, which is distinguished from the present habitual and the historic past habitual.

The Mand forms are somewhat unusual in that a single agreement suffix appears to have been generalized to the whole paradigm, with the exception of the 1PL form. The form that was generalized appears to have been 1SG, which is somewhat unusual since in most TAM categories Mand has generalized the 3SG form to all person–number combinations.

Aside from Mand, the forms appear fairly straightforwardly cognate, although arriving at a precise reconstruction is somewhat challenging. I discuss several aspects of the reconstruction in turn: the reconstruction of the suffix-initial *ɨ, the reconstruction of the *t, the reconstruction of the vowel cluster *ia, and the reconstruction of the agreement suffixes.

Reconstructing the suffix-initial *ɨ is relatively unproblematic. The WS languages do not reflect it, but they often replace suffix-initial *ɨ with the root vowel of the verb; other examples of the same analogical process occur with the different-subject realis suffix *-ɨka (§3.4.2) and the irrealis suffix *-ɨt (§3.3.10). In Mabɨŋ it seems that the *ia sequence became *e, and that the *ɨ then harmonized to this upcoming *e. And indeed, *ɨ often harmonized to upcoming vowels in Mabɨŋ. Given, then, that the loss of suffix-initial *ɨ in PWS appears to be a regular process, that *ɨ accounts for the suffix-initial *e* in Mabɨŋ, and that no simple

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path of innovation presents itself to account for the suffix-initial ɨ in Apalɨ and Magɨ, we reconstruct *ɨ.

Turning to the reconstruction of *t, we see that this consonant is reflected unproblematically in Apalɨ and Magɨ, and in the Nend 1PL and second person. The innovation to j in the other Nend forms is plausibly the result of palatalization before *i; this would also explain the innovative Mand suffix, which, as mentioned above, appears to be a generalization of the 1SG form. This analysis requires positing several specific events. First, the *i was lost from the *ia sequence in *-ɨtia. Then the set of agreement suffixes was changed by analogy with other paradigms, and the 1SG and 3SG suffixes became *-in and *-i, respectively, in PWS. Finally, the *t palatalized to *c and later voiced to j in Nend. The Aisi Mabɨŋ suffix is also divergent in reflecting r, which is never a reflex of *t in regular phonological change. But suffixes and other grammatical items are sometimes subject to irregular phonological attrition, and such a change could easily have produced this r.

We turn, then, to the vowel sequence *ia, which is a far less certain part of this reconstruction. It is reflected in its entirety only in one language, Magɨ, and even there only in two forms, the 2SG and the 3PL. In the WS languages it is reflected as ɨ and in Apalɨ and Mabɨŋ it is a. Nevertheless, reconstructing *ia provides explanations for several things, and appears to be the best analysis. The first benefit, of course, is an explanation of the Magɨ forms that retain it. These forms would be quite difficult to account for under any other analysis—and indeed, in reconstructing morphology, unless there is evidence to the contrary it is often correct to reconstruct the longest surviving reflex and to posit that in other languages it has undergone phonological attrition. Reconstructing *ia also explains

the *e* in the other Magɨ forms, as *e* is rare in Magɨ and was probably created primarily through irregular processes, such as the monophthongization that appears to have happened here.

Another benefit is explaining the many differences in agreement suffixes, even between close neighbors. Mand has 1SG *–n* while Nend has *–in*; Magɨ has *–ŋ* while Mabɨŋ has *–iŋ*. While analogical changes to agreement suffixes are fairly common, one would still expect close relatives to exhibit less divergence. By reconstructing *ia in the suffix, though, a partial explanation is reached. The 1SG form, as reconstructed, was *-ɨtia-n, with the Set IV agreement suffix. Simply dropping the *a, producing *-ɨtin, would render this form much more similar to 1SG verb forms that used the Set I agreement suffix *-in, which was much more common. Reconstructing *ia, along with the Set IV 1SG agreement suffix *-n, thus creates a simple path of innovation that would explain the parallel innovations that resulted in the peculiar distribution of *–in* suffixes today.

Reconstructing *ia also explains the Apalɨ reflex, a simple *a*, which cannot itself be reconstructed because it would plainly be inadequate to explain the variation seen in the other languages. And finally, reconstructing *ia offers an explanation for the suffix-initial *e* in Mabɨŋ, which was described above. Given that *ia appears superior to any alternative proposals, it should be reconstructed. Nevertheless, the diversity of reflexes casts doubt on this aspect of PSOG verbal morphology.

I turn now to the subject agreement suffixes. The reconstruction of *-n for the 1SG has been discussed above. The reconstruction of 2SG *-na is straightforward, as every language exhibits its normal reflex of that suffix. The 3SG is more difficult: Mand has no reflex, Nend

and the Aisi languages reflect *-i[13], and Apalɨ reflects *-r. Moreover, Aisi Magɨ is unusual in that it reflects an *-i that did not elide the preceding vowel, as was normally the case in PSoɢ (§3.1.1). This unusual form is thus probably archaic, for as Koch (1996: 219) notes, "irregular or anomalous forms" are more likely to be archaic "since regular forms can easily result from regularising or simplifying processes." The analogy from the reconstructed form to the vowel-eliding -i reflected in Nend and Mabɨŋ is a simple process, as is the Apalɨ change to a reflex of the Set II 3sɢ agreement suffix *-r. In the 1ᴘʟ, Nend and Magɨ show reflexes of *-rɨŋ, while Mand, Apalɨ, and Mabɨŋ each have their own innovative suffix. Given that Nend and Magɨ belong to divergent branches, and there is no evidence of contact between them, *-rɨŋ should be reconstructed. The 2ᴘʟ is again straightforward, as every non-WS shows regular reflexes of *-ra.

Finally, we turn to the semantic reconstruction. Since this paradigm denotes simple habitual aspect in Mand and the Aisi languages, with no tense meaning, that reconstruction seems best. Add to that the fact that the other Nend and Apalɨ habitual paradigms are probably innovative, and the reconstruction of a simple habitual aspect with no special time reference seems quite secure.

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[13] The Nend evidence for *i is that *t palatalized to j before word-final *i was lost (§2.2.3.2).

3.3.7. Imperative

The PSOG paradigm of imperative suffixes is difficult to reconstruct, although such a paradigm almost certainly existed. Table 17 presents the relevant forms and some reconstructed suffixes, although readers will note the paradigm is incomplete.

Table 17. Imperative

	Mand	Nend	Manat	Apalɨ	Mum	Sirva	Magɨ	Mabɨŋ	Kursav	PSOG
1SG	-ŋ	-ŋ							-n	*-ŋ
2SG	-u			-ɨha		-u	-u	-o(k)	-ku	*-u
3SG							-ɨkur	-ɨkur	-koro	
1PL		-m		-imɨli	-im					*-ɨmɨri
2PL	-e-u		-mar	-ɨhalaŋ	-mara	-uhra	-ɨmai	-ɨmai(t)	-kura	*-mar
3PL							-ɨkiruŋ	-ɨkiruŋ	-konou	

Most languages in this table have full paradigms of imperative suffixes, but many of those suffixes descend from another PSOG TAM category, such as the irrealis (§3.3.10) or the participle (§3.5.2). The Sirva forms are synchronically analyzed as irrealis suffixes.

The reconstruction of *-u '2SG.IMP' is quite apparent, given the Mand, Sirva, and Aisi reflexes. Aisi Mabɨŋ occasionally adds final stops to some of its imperative forms, but a comparison with Magɨ and other Sogeram languages suggests they are innovative, perhaps the result of an utterance-final fortition process such as the one that created English *nope.* The 2PL reconstruction is also fairly straightforward, as Manat, Mum, and Aisi Magɨ reflect the sequence *-mar. Mum added final *a on analogy with other 2PL forms, most of which ended in *-ra. The Mabɨŋ form, which reflects word-final *r > *i*, looks like a borrowing from Magɨ. The only question to resolve is that of the suffix-initial *ɨ, which is present in Aisi but not in Manat or Mum. The prohibitive suffixes contain initial *-ɨm (§3.3.8), and given the semantic similarity between imperative and prohibitive that could have been an impetus

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for analogic change in Aisi. Moreover, Manat retains suffix-initial *ɨ in the prohibitive suffixes, and it would be peculiar for the imperative suffix to lose *ɨ when the prohibitive suffixes retain it. But this aspect of the reconstruction remains less secure.

For the 1PL we must make do with very little data. The Nend suffix is only possibly cognate; while Nend did lose word-final *i (§2.2.3.2) and suffix-initial *ɨ, it did not usually lose final *r. This suffix may rather be a reflex of the PSOG adjectival participle (§3.5.2). Mum -ɨm, on the other hand, appears cognate with Apalɨ -imɨli. The suffix-initial i suggests this, as does the fact that Mum lost both final *i (§2.3.4.4) and final *r (§2.3.4.3). But reflexes in Apalɨ and Mum are not sufficient to date a form to PSOG. Looking to Anamuxra, though, we find the cognate suffix -mr-i '1DU-NEG.IRR,' which marks the "negative irrealis/future" and signals that "an event will, would, or should not occur" (Ingram 2001).[14] This suffix, then, must date at least to Proto-South Adelbert with some kind of irrealis meaning. It has been retained in the Sogeram languages with imperative meaning, suggesting that this was the meaning it had developed by the PSOG stage.

In the 1SG we have very little to go on: a single nasal consonant, found in the WS languages and Kursav. Unfortunately, the consonants are different and are probably not cognate. However, given that the WS languages generally retain PSOG final nasals

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[14] Interestingly, this suffix also marks the 1DU different-subject in Anamuxra, a function that Apalɨ -imɨli also fulfills. (In Anamuxra it functions only in irrealis chains, and in Apalɨ it functions in all chains.) This suggests that PSOG *-imɨri also had a different-subject function in some circumstances, but the details of this function remain unclear.

unchanged, and Kursav occasionally changes *ŋ to *n* irregularly, it is possible that all three

suffixes trace their origin to a PSᴏɢ suffix *-ŋ '1sɢ.ɪᴍᴘ.'

Finally, we turn to the third person forms. Here we have only ES reflexes that begin

with *k* or *ɨk*, which we can compare with two Apalɨ second person suffixes that begin with

ɨh. While it is certainly possible that these forms are inherited from some PSᴏɢ paradigm

with a suffix that began with *-ɨk*, it is far from certain. The Proto-East Sogeram (PES)

3sɢ.ɪᴍᴘ suffix appears to have been *-ɨkur, but a reconstruction to PSᴏɢ will have to await

more data.

3.3.8. Prohibitive

The PSᴏɢ prohibitive paradigm and its reflexes are presented in Table 18.

Table 18. Prohibitive

	Mand	Nend	Manat	Apalɨ	PSᴏɢ
1sɢ		-mɨ-ñ		-ɨm-agaŋ	*-ɨmɨ-ñ
2sɢ	-mɨn	-mɨ-n	-ɨmin	-ɨm-ɨnaŋ	*-ɨmɨ-na
3sɢ		-mɨ-j	-ɨnad	-ɨm-ɨdɨ	*-ɨmɨ-nt
1ᴘʟ		-mɨ-riŋ		-ɨm-agalu	*-ɨmɨ-riŋ
2ᴘʟ	-e-mɨn	-mgɨ-mɨ-n	-ɨmir	-ɨm-ɨlaŋ	*-ɨmɨ-ra
3ᴘʟ		-mgɨ-mɨ-j	-ɨnad-ur-id	-avɨ-m-ɨdɨ	

It seems likely that PSᴏɢ had a prohibitive paradigm. The forms above suggest it and

some Anamuxra forms seem to confirm it, such as the imperative suffixes *-mna* '1sɢ.ɪᴍᴘ'

and *-mra* '1ᴅᴜ.ɪᴍᴘ.' But while these facts support reconstructing the existence of a

prohibitive paradigm, reconstructing the details is almost impossible. In fact, most of the

agreement suffixes in Table 18 are only speculative; I do not consider any besides the 2sɢ

securely reconstructed.

Another wrinkle is the fact that the Manat forms appear to have undergone an unusual innovation: the PSOG first person forms have become second person forms, and the second person has become third person.

Nevertheless, the prohibitive suffix *-ɨmɨ is attested in every language and can be reconstructed to PSOG, although some Apalɨ forms suggest it might have sometimes been *-ɨma. And the 2SG form can be reconstructed since *-na is reflected in every language. But in the other person–number categories, agreement between Nend and Apalɨ is difficult to find. The 1SG can perhaps be reconstructed as *-ñ if the Manat 2SG reflects changing the final *ñ > n, which may have been a regular process (cf. *añɨkwrɨñ 'day before yesterday > añɨhrin). The 1PL suffix *-rɨŋ is also reflected in Nend and Manat, and can tentatively be reconstructed. The Nend and Apalɨ 3SG suffixes may be cognate. If we posit that Nend added *-i on analogy with the Set I agreement suffixes, this vowel would have caused the *nt to palatalize to j before Nend word-final *i deletion (§2.2.3.2). For the 2PL the only reflex is Apalɨ -laŋ, so that must be reconstructed. Thus we see that while the outlines of the paradigm are well reconstructed, many individual details depend for their reconstruction on a single reflex, and as such remain speculative.

3.3.9. Counterfactual

Two Sogeram languages, Apalɨ and Aisi Mabɨŋ, have counterfactual paradigms, and two others, Nend and Gants, appear to have cognate imperative suffixes. The forms are presented in Table 19 along with two Aisi Magɨ suffixes that are not well understood but that appear to be counterfactuals. In Gants these are the only imperative suffixes,

suggesting what was previously an entire paradigm has become restricted to the second person. In Nend these are two forms from a complete imperative paradigm, but the other imperative suffixes are not descended from the PSOG counterfactual.

Table 19. Counterfactual

	Nend	Apalɨ	Magɨ	Mabiŋ	Gants	PSOG
	IMP	CTRF	CTRF?	CTRF	IMP	
1SG		-ɨv-in		-ɨbiŋ		*-ɨvɨ-ŋ
2SG	-v	-ɨva-naŋ	-ɨbaŋ	-ɨbaŋ	-pɨ-naŋ	*-ɨvɨ-na
3SG		-ɨv-i		-ɨbar		*-ɨva-r
1PL		-ɨvɨ-lu		-ɨbɨr		*-ɨvɨ-rɨŋ
2PL	-var	-ɨva-laŋ	-ɨbas	-ɨbasɨrɨ	-p-raŋ	*-ɨva-ra
3PL		-havɨ-v-i		-ɨbiruŋ		

There is considerable variety in the forms, although all of them involve reflexes of PSOG *v. The initial *ɨ should also be reconstructed, as both Apalɨ and Aisi retain it and Nend consistently removed initial *ɨ from verb suffixes. Beyond that, some forms suggest a suffix *-ɨva while others suggest *-ɨvɨ, and the Aisi 2PL even suggests *-ɨvasɨ. The languages also disagree about the agreement suffixes used. Moreover, in the first and third persons we have only two witnesses, which is inadequate for a confident reconstruction. Given all this I tentatively offer the reconstruction below, while acknowledging that many of its details remain speculative.

Since both Apalɨ and Aisi retain forms with the *-ɨva and *-ɨvɨ suffixes, this variation should be reconstructed to PSOG. But deciding which form was marked with which suffix is difficult, and the issue is entwined with the issue of agreement suffixes since those often elide the final vowel of the counterfactual suffix. For the 1SG and 3SG, I consider the Aisi forms more archaic. The Apalɨ forms contain Set I agreement suffixes, and since languages

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often replace agreement suffixes with Set I forms I consider it more likely that Apalɨ is innovative here than Aisi. An issue remains, though: the Aisi form could be a reflex of either *-n or *-ŋ. I reconstruct *-ŋ since this suffix is also used in the irrealis paradigm (§3.3.10), which is most semantically similar to the counterfactual paradigm. But this may not be correct. For the 2SG, Nend and Gants reflect *-ɨvɨ while Apalɨ and Aisi reflect *-ɨva. I reconstruct the form suggested by Nend and Gants, since they are more divergent witnesses and the Apalɨ and Aisi forms could be explained by a single shared innovation. In the 1PL we must simply decide between the Apalɨ and Aisi reflexes. Apalɨ has generalized the 1PL suffix *–lu* to almost every paradigm, suggesting that Aisi is archaic. In the 2PL every language supports reconstructing the usual 2PL agreement suffix *-ra. As for the mood suffix, Nend and Apalɨ support reconstructing *-ɨva, Gants supports *-ɨvɨ, and Aisi supports *-ɨvasɨ. The anomalous Aisi form may well be archaic, as it is difficult to explain how it could have been innovated. But in the absence of more support for the reconstruction of *-ɨvasɨ, I tentatively reconstruct *-ɨva.

Semantically, the Apalɨ paradigm refers to "something that would have or could have been done, but was not or will not be done" (Wade 1989: 170), as in (82). The Aisi paradigm also refers to things as they are not (83), but can also be used with an enclitic *=de* to form prohibitives (84).

Apalɨ
(82) *Sibɨla apalɨ li-ci huaci u-vɨ-lu.*
work none do-3SG.DS good go-CTRF-1PL
'(If) there was no work, we easily could go.' (Wade 1989: 170)

Aisi Mabɨŋ

(83) *Ya gi ika yaka kin-i akɨ ga, ga-rib*
1SG FOC father.1.POSS 1SG.POSS stay-3SG.IPST maybe TOP MD-ADJZ

kr-ɨbɨŋ.
walk-1SG.CTRF
'If *my* father were alive, I'd walk around like that (too).'

Aisi Mabɨŋ

(84) *W-i kɨtɨŋ gi, na* **lustɨŋtɨŋ** **am-ban=de.**
go-SS and FOC 2SG **forget** do-2SG.CTRF=PRAG
'(When) you go, don't forget.'

This meaning of the PSOG paradigm was probably similar: it referred to hypothetical events and other events that did not happen. However, the fact that innovation to imperative meaning took place in both Nend and Gants suggests that this paradigm may also have been used to form directives. The existence of the negative imperative function in Aisi corroborates this hypothesis.

3.3.10. Irrealis

The verb category I reconstruct as irrealis has reflexes all across the family, in every Sogeram language except Sirva and Magɨ, in both medial and final contexts. When used finally, they usually have imperative meaning. When used medially, they have different-subject (DS) meaning. Since I also reconstruct a paradigm of realis DS suffixes (§3.4.2), I am positing that PSOG DS medial verbs distinguished realis from irrealis mood. This distinction in DS suffixes is still preserved today in Kursav and Gants. The reflexes of this paradigm, which was formed with the IRR suffix *-ɨt, are shown in Table 20, along with the meaning of each column of suffixes. The Mum suffix –ɨtɨn is marked with an asterisk because it belongs to the irrealis paradigm, as the label indicates, but also to the imperative paradigm.

Table 20. Irrealis

	Mand (IMP)	Nend (DS)	Nend (IMP)	Manat (DS)	Manat (IMP)	Apalɨ (DS)
1SG		-ŋ	-ŋ	-it	-itiŋ(d)	-ɨlɨŋ
2SG		-n		-in		-inaŋ
3SG		-z	-z	-s	-s	
1PL	-r	-riŋ		-r		-ɨmɨli
2PL		-mgɨ-n		-ir		-ɨlaŋ
3PL		-mgɨ-z	-mgɨ-z	-ura-s	-ura-s	

Table 20, continued.

	Apalɨ (IMP)	Mum (IRR)	Mabɨŋ (DS)	Kursav (IRR)	Gants (IRR)	PSOG
1SG	-ɨlɨŋ	-itin*		-it	-iriŋ	*-ɨt-ɨŋ
2SG		-ina	-inda	-ita	-ina	*-ɨt-na
3SG		-iti		-ite	-ire	*-ɨt-i
1PL	-ɨmɨli	-itriŋ		-itɨr	-ruŋ	*-ɨt-rɨŋ
2PL		-itra		-itɨra	-iraŋ	*-ɨt-ra
3PL		-itu		-ito	-i-re	

In Kursav and Gants, this paradigm of suffixes can function both medially and finally. When it is medial, it marks different-subject in a clause chain that ends in an irrealis clause—that is, one that belongs to a TAM category such as imperative (85) or future (86). When this paradigm functions finally, it marks things like negative deontic modality (87) and imperative mood (88).

Kursav
(85) *Nuaya   kura   nɨga,   **rabɨra-t-a**   ve-da   ya   soro   inu-koro.*
     white   man   SPEC   **send-IRR-2SG**   come-SS   1SG   COM   stay-3SG.IMP
     'Send a white man to come (lit. 'and he should come') stay with me.'

Gants
(86) ***Ab-rɨŋ***   *ai-re*   *ga-paŋ-nɨŋ*   *wa-da ...*
     speak-1SG.IRR   **come-3SG.IRR**   perceive-FUT-1SG   say-SS
     '"I'll tell him to come (lit. 'talk and he will come') and I'll see him," she said, and ...'

Kursav
(87) *I-ka   skur   bin,   **in-ɨt-o**   ma.*
     ND-TOP   school   LOC   **stay-IRR-3PL**   NEG
     'They can't/shouldn't stay in this school.'

Gants

(88) *Miñ* **wisik-ina** *wa-m-ek.*
vine **untie-2SG.OPT** say-FPST-3SG
'"Untie the ropes," he said.'

This variation appears to be present in Mum, too, where these suffixes can serve as irrealis DS (89) or optatives (90). This paradigm is called a prohibitive paradigm by Wade (1993), but since a complete analysis of Mum verb morphology has yet to be done I provisionally gloss it 'IRR.'

Mum

(89) *Turaha-ta* **miga-t-i** *ahutɨv ha karha-ɨrma-n va-m-i.*
burn.fall.down-SS **come.down-IRR-3SG** firewood MD sleep-FUT-1SG say-HPST-3SG
'"When it is burned and has fallen down I will lie down," he said.' Sweeney n.d.

Mum

(90) *Mina iduhu-ta* **g-it-in** *va-ta ...*
let.me enter.exit-SS **look-IRR-1SG** say-SS
'"Let me go in and look," he said, and ...' Sweeney n.d.

Based on these reflexes, the variation between medial and final functions should be reconstructed to PSOG. Additionally, as can be seen from Table 20, the reflexes of this paradigm are inherited with both DS and imperative meaning, often within the same language. Matters are confused somewhat by the fact that often not the whole paradigm is inherited. For example, in Apalɨ the first and second person DS forms come from this paradigm, while the third person forms come from the realis DS paradigm (§3.4.2). Similarly, in Manat the 1SG and third person imperative suffixes come from this paradigm, while the 2SG comes from a participial form (§3.5.2) and the 2PL comes from the imperative paradigm (§3.3.7). Nevertheless, even though sometimes only a few irrealis suffixes are

inherited into a paradigm, it is clear that the PSₒɢ irrealis is commonly inherited with both ᴅs and imperative meaning.

A few reconstruction decisions must still be made, though. The first concerns the final nasal of the 1sɢ form. Manat and Gants suggest *ŋ, while Mum suggests *n. Apalɨ ŋ could be a reflex of either one. Nend also suggests *ŋ, although the Nend reflex has undergone a good deal of erosion, so that it is not entirely certain it is cognate. Still, in Manat and Gants two divergent witnesses support the reconstruction of the velar nasal, so it should be preferred. Moreover, the Mum form could have been formed by analogy with the Set III agreement suffixes, where the 1sɢ was also *-n. Supporting this conjecture is the fact that the Set III suffixes were also used with a semantically irrealis ᴛᴀᴍ category, the future (§3.3.5).

Another decision concerns the form of the 1ᴘʟ suffix. Nend, Manat, Mum, and Kursav all support reconstructing *-ɨt-rɨŋ, and this fits well with the rest of the paradigm. But the Apalɨ suffix *–ɨmɨli* was also present in PSₒɢ; this is assured because a cognate exists in the Josephstaal language Anamuxra (Ingram 2001): *-mr-i* '1ᴅᴜ.ɪʀʀ-ᴅs.sᴇǫ.' Since Josephstaal is a sister to Sogeram, this suffix can be reconstructed to Proto-South Adelbert and was inherited into PSₒɢ and then Apalɨ. We must therefore decide what the respective functions of PSₒɢ *-ɨt-rɨŋ and *-mɨri were. A simple solution presents itself: *-mɨri may have been the dual form, and *-ɨt-rɨŋ the plural. This solution is less than ideal for a few reasons. First of all, it is simply an *ad hoc* stipulation to resolve the problem of having two suffixes. Second, the *-mɨri form lacks the reconstructed ɪʀʀ suffix *-ɨt, which we would expect it to have. And third, the agreement suffix *-rɨŋ was probably dual in PSₒɢ, not

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plural; this is the meaning that has been reconstructed for it in §3.1.2. A better solution is to assign the *-mɨri suffix to the imperative paradigm, as I have done in that section (§3.3.7).

Finally, I briefly mention some of the irregular innovations that the forms in Table 20 contain. Mand lost final *ŋ in the 1PL form, for which the expected reflex is †h. Nend and Manat both exhibit a great deal of erosion to the 2SG and third person form, and the third person suffix in particular may not be cognate. Because it performs the same functions as PSOG *-ɨt-i, though—it markes DS and imperative—and because the affrication of *t to *s before *i is a plausible irregular change, I consider these forms cognate. Aisi Mabɨŋ retained only the 2SG suffix from this paradigm, preserving the *tn cluster as a (presumably metathesized) nd. Incidentally, the reconstructed *tn cluster has not, in general, fared well: only the *t is retained in Kursav, and only the *n in Nend, Manat, Apalɨ, Mum and Gants. No language preserves them both in their original order. Finally, Gants appears to have replaced the 1PL form with a form from a different paradigm.

3.4. Medial Morphology

The medial morphology that can be reconstructed is presented here. PSOG had two same-subject suffixes, *-i and *-ta, which were not marked for subject agreement. Different-subject verbs did agree with their subjects, and were marked either with a realis paradigm (§3.4.2) or with the irrealis paradigm (§3.3.10; this paradigm could be used both medially and finally). Different-subject verbs could also be reduplicated to indicate that the event of their clause occurred simultaneously with that of the following clause (§3.4.3).

3.4.1. Same-subject

The Sogeram languages exhibit reflexes of two same-subject suffixes, *-i and *-ta. Most languages only retain one of these two forms, as shown in Table 21, which makes reconstructing the semantic distinction between these two suffixes difficult.

Table 21. Same-subject suffixes

Mand	Nend	Apalɨ	Mum	Sirva	Magɨ	Mabɨŋ	Kursav	Gants
-i	-e	-(vɨ)la	-ta	-ra	-i	-i	-da	-da

First, it should be noted that reflexes of both suffixes are well-distributed and should be reconstructed to PSOG. Mand, Nend, and Aisi reflect *-i, giving this suffix reflexes in WS and ES. The rest of the Sogeram languages reflect *-ta, giving it reflexes in CS and ES languages—and importantly, not languages that have a history of contact.

Adding to the diversity of reflexes is the fact that in some languages that only retain one suffix, the other is preserved in some irregular same-subject verb forms. For example, Sirva *-ra* is a regular reflex of *-ta, but the same-subject form of the verb *kɨ-* 'stay' (< *kɨñɨ-) is *kɨñi*, reflecting PSOG *kɨñ-i. Similarly, Aisi Mabɨŋ retains *-i unchanged as *-i*, but has an irregular form of *kɨn-* 'stay' (< *kɨñɨ-) which is *kɨtɨ*, reflecting *-ta with irregular loss of *ñ and regular centering of final *a > ɨ. At least two other Aisi verbs also have irregular same-subject forms that reflect *-ta: *n-* 'eat' (*nɨtɨ*, from *ña-ta) and *i-* 'get' (*itɨ*, from *i-ta). Unfortunatlely, the distribution of these reflexes is not helpful for reconstruction: neither suffix seems to prefer certain semantic classes of verbs, for example.

Fortunately, Aisi appears to have retained *-ta as a productive verbal suffix *-ta.* The final *a did not center to [†]ɨ as expected, but the meaning of the suffix is sufficiently similar

to the reflexes of *-ta in Apalɨ, Mum, Sirva, Kursav, and ɢᴀɴᴛs that it should be considered cognate with them. Aisi *-ta* is a same-subject delayed suffix; it indicates that a significant interval of time elapsed between the action of the marked verb and the action of the following verb, as illustrated by the minimal pair in (91) and (92).

> Aisi Mabɨŋ
> (91) *Sɨkɨbyaŋ* **kri-ta** *n-ɨbyaŋ*
> food **cook-ss.ᴅᴇʟᴀʏ** eat-1sɢ.ꜰᴜᴛ
> 'I'll cook my food and eat it later.' Elicited

> Aisi Mabɨŋ
> (92) *Sɨkɨbyaŋ* **kr-i** *n-ɨbyaŋ*
> food **cook-ss** eat-1sɢ.ꜰᴜᴛ
> 'I'll cook my food and eat it (afterwards).' Elicited

Since Aisi is the only language to preserve a distinction between *-i and *-ta, the simplest analysis is that the same distinction existed in PSᴏɢ. This analysis requires the fewest number of innovations to arrive at the modern situation, so we posit two PSᴏɢ same-subject suffixes: *-i 'ss.sᴇǫ' and *-ta 'ss.ᴅᴇʟᴀʏ.' However, we must acknowledge that while the phonological forms *-i and *-ta are well distributed and securely reconstructed, and the more general meaning of 'ss' is also well distributed and securely reconstructed for both suffixes, the more specific meanings of 'ss.sᴇǫ' and 'ss.ᴅᴇʟᴀʏ' are not well distributed and therefore less securely reconstructed.

3.4.2. Different–subject Realis

PSᴏɢ had two paradigms of different-subject suffixes, one for realis chains and another for irrealis chains. Both paradigms denoted sequential action; simultaneous action was marked by reduplicating the appropriate different-subject verb (§3.4.3). The distinction between

realis and irrealis different-subject suffixes is preserved in Kursav and Gᴀɴᴛs, and further reasons for reconstructing the distinction to Psᴏɢ are presented in the section on the irrealis paradigm (§3.3.10). The different-subject realis suffixes are straightforward to reconstruct in some ways and challenging in others. The relevant synchronic forms are presented in Table 22. (Blank cells indicate that the relevant form in that language is not cognate.)

Table 22. Different-subject realis

	Mand	Manat	Apalɨ	Mum	Sirva	Magɨ	Mabɨŋ	Kursav	Gants	Psᴏɢ
1ꜱɢ		*-ih-in*		*-h-in*	*-iin*	*-ɨkiŋ*	*-ɨkiŋ*	*-ku*	*-k-enɨŋ*	**-ɨk-in*
2ꜱɢ		*-iha-nad*		*-ha-na*	*-ha-na*	*-ɨkaŋ*		*-kuna*	*-ke-naŋ*	**-ɨka-na*
3ꜱɢ	*-c*	*-ih-id*	*-ic-i*	*-h-i*	*-ii*		*-egi*	*-eke/-ike*	*-k-e*	**-ɨk-i*
1ᴘʟ		*-iha-r*		*-ha-rɨŋ*	*-ha-r*	*-ɨkar*	*-ikuŋ*	*-kuru*	*-ke-ruŋ*	**-ɨka-rɨŋ*
2ᴘʟ		*-iha-rad*		*-ha-ra*	*-ha-ra*	*-ɨkar*	*-ogi*	*-kura*	*-ke-raŋ*	**-ɨka-ra*
3ᴘʟ		*-ih-ur-id*	*-av-ic-i*	*-h-u*	*-b-ii*		*-ogi*	*-oko/-uko*	*-i-k-e*	

In Mand the suffix *-c* is the only surviving member of this paradigm, and it refers to all person–number combinations. It is descended from the 3ꜱɢ form.

The Manat forms in this table are not suffixes *per se*, but represent a pattern of verb root allomorphy. Some verb roots change their root shape in the presence of the immediate past suffixes and the plural suffix *-ura*. When these verbs precede a triggering suffix, they replace their final vowel with an *ɨha* sequence; the forms in Table 22 show the shape of these final sequences in the presence of the immediate past paradigm. An example of this kind of verb is given in (93), where the verb *ape-* 'thatch' becomes *apɨha-* in the presence of the 2ꜱɢ immediate past suffix *-nad*.

Manat

(93) Am=avan   *apɨha-nad*   *ara-ma-g.*
      2.NOM=very   **thatch-2SG.IPST**   say-PST-3SG.FAR
      '"You yourself built it," she said.'

The other forms are all different-subject suffixes. In Mum and Sirva they contrast with a paradigm of different-subject simultaneous suffixes which is formed reduplicatively from the paradigm in Table 22. In Mand, Magɨ, and Mabɨŋ they are the only way to mark different-subject (although Magɨ has a suffix *-isɨr* which is not well understood, but which may mark 2PL irrealis different-subject). And in Kursav and Gants this paradigm contrasts with both an irrealis paradigm and a simultaneous paradigm which is formed by reduplicating the irrealis forms.

A few aspects of the reconstruction fall into place immediately. The element **ka* can be easily reconstructed. The agreement suffixes are clearly from Set I. And the meaning can be straightforwardly reconstructed, since 'different-subject realis sequential' is retained in every language but Manat (notwithstanding the fact that some languages have expanded the meaning to include irrealis clause chains).

Reconstructing the suffix-initial **ɨ* is less clear, but becomes more apparent upon a closer examination of the data. The vowel is retained as *ɨ* in Manat, Apalɨ, Sirva (in the 1SG and third person), Magɨ, and Mabɨŋ (in the first person). It has been lost completely in Mand, Mum, and Gants, as well as from some forms in Sirva (1PL and second person) and Kursav (first and second person). The suffix-initial *e* or *i* in the Mabɨŋ and Kursav 3SG, and the initial *o* or *u* in the Kursav 3PL, should also be considered reflexes of **ɨ*. Recall that **ɨ*

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harmonized to *i and *u in these languages when followed by those vowels (§2.4.1.3), and that *i and *u were then sometimes lowered to *e* and *o* (§2.4.1.4, §2.4.4.1).

On distributional grounds, then, we could reconstruct either *ɨ or nothing—both reflexes are well distributed. So we must ask ourselves which innovation is the more likely, and here it becomes clear that *ɨ should be reconstructed. It is difficult to say how the preceding vowel, which would have been the last vowel of the verb root and could have been *a, *i, or *u, could have been consistently centered to *ɨ and reanalyzed as a part of the suffix. A sporadic vowel-centering change did take place in Mum and possibly some other CS languages (§2.3.5.3), but this could not account for all the CS reflexes, let alone the Aisi or Kursav ones. On the other hand, the change from *-ɨka to *-ka is easy to explain: languages simply removed the *ɨ by analogy with verb forms where the root-final vowel was retained, that is, verb forms with a consonant-initial suffix or no suffixes. For example, *tama 'put' would have been realized as *tama without a suffix, as *tama-na [put-2SG.IPST] with a consonant-initial suffix, and *tam-ɨk-i [put-DS.SEQ-3SG] with the suffix *-ɨka. The *ɨ in the last form could be changed to the root vowel on analogy with the other forms, creating, for example, Mand *aba-c* 'put-DS' and Mum *tama-h-i* 'put-DS-3SG.' Moreover, the WS languages consistently eliminate suffix-initial *ɨ (compare the habitual in §3.3.6 and the irrealis in §3.3.10).

Given the reconstruction of *-ɨka, we can now turn our attention to some innovations shown in Table 22. Some of these are easier to explain than others. Perhaps the most puzzling is the semantic innovation in Manat, where these suffixes have apparently become part of some verb roots and ceased to contribute any meaning at all. Many

questions can be raised about this process (Why did *ɨha attach to certain verb roots and not others? Why was *k voiced when only word-initial *k usually voices in Manat? What was the syntactic environment in which this reanalysis took place?), none of which I have good anwers for.

I should note that Apalɨ has first and second person far past suffixes that resemble these forms: *-c-in* '-FPST-1SG,' *–ha-naŋ* '-FPST-2SG,' *-hɨ-lu* '-FPST-1PL,' and *–ha-laŋ* '-FPST-2PL.' I do not consider these forms cognate and have four reasons for this. First, the semantic innovation from different-subject to far past seems unusual, although I do not know whether it is unattested. Second, the far past suffixes lack *ɨ, while the reflex of the 3SG *-ɨk-i retains it in *-ic-i*. Third, the far past suffixes attach to reflexes of PSOG uninflected verbs, suggesting they are inherited from SVCs (or later verb–verb compounds): *iahua-h-ɨlu* 'get.up-FPST-1PL' is descended from *iakwa, not the bound form *iakw-, and *ua-c-in* 'go-FPST-1SG' is descended from *ua, not the bound form *u-. And fourth, a verb exists in the WS languages that is a plausible etymological source for this innovative Apalɨ suffix: *ka-* 'do, say' (94).

Mand
(94) *Mac,   dɨh=i   ñac   hr=i   j-om   **ka-rd.**
     enough   DU=COM   daughter 3SG.POSS=COM eat-AJTZ **do-FPST**
     'Alright, she and her daughter ate.'

The Mabɨŋ suffix *–ogi* is unique in that it is both the 2PL and the 3PL form. It appears to be derived from the 3SG somehow—note that it ends in *i*—but it is unclear how, and it is unclear how this suffix came to refer to two person–number categories.

The *a in *-ɨka was changed to *u* in Kursav; I have no explanation for this.

Finally, in Gants the *a in *-ɨka was changed to *e.* This appears to have happened via analogy to the 1sɢ and 3sɢ forms. PSoɢ *-ɨk-in and *-ɨk-i became *–k-en(ɨŋ)* and *–k-e* due to regular phonological changes, and then the *–ke* sequences from these suffixes spread to other person–number categories.

3.4.3. Different–subject Simultaneous

Different-subject simultaneous markers are found in several Sogeram languages, and in all of them they are formed by reduplication. (Apalɨ is an exception to this rule, but its strategy is innovative, as discussed in §3.6.6.1.) It seems, then, that a reduplicative morpheme of some sort marked simultaneous activities in PSoɢ clause chains. Recall that PSoɢ had two paradigms of ᴅs suffixes: one for realis chains and another for irrealis chains. In many modern languages only one paradigm or the other is inherited, and in some languages a single ᴅs paradigm is composed, etymologically, of suffixes from both the PSoɢ paradigms. This is relevant because it is possible that in PSoɢ only one of the two ᴅs paradigms was reduplicated to add simultaneous meaning, and that this reduplication has then been analogically extended to the other paradigm in some languages. So we are faced with two questions about the reduplicative simultaneous suffix in PSoɢ. First, did it attach only to realis ᴅs verbs, only to irrealis ᴅs verbs, or to both? And second, how was it formed—what exactly did it copy from the ᴅs verb? I address these questions below, beginning with the latter. But first, I present the reflexes of the PSoɢ simultaneous suffix in Table 23, along with my proposed reconstruction. I have indicated the size of the reduplicant in square brackets: in Manat the whole word is copied; in Mum the preceding

suffixes are copied (the µ here represents "morphemes," not moras); and in Sirva the suffix copies the preceding syllable. The blank cells in the Mum columns indicate that a form is not attested in the data I have. I suspect that most of these forms are in fact possible.

Table 23. Different-subject simultaneous

	Manat	Mum (R)	Mum (IRR)	Sirva	Kursav	Gants	PSOG
1SG	-it~[ω]	-h-in~[µ]		-iin~[σ]	-titi	-ire-riŋ	*~[ω]
2SG	-in~[ω]			-ha-na~[σ]	-tata	-ine-na	*~[ω]
3SG	-s~[ω]	-h-i~[µ]		-ii~[σ]	-tete	-ire-re	*~[ω]
1PL	-r~[ω]	-ha-riŋ~[µ]		-ha-r~[σ]	-titir	-ire-ruŋ	*~[ω]
2PL	-ir~[ω]		-t-ra~[ω]	-ha-ra~[σ]	-titira	-ire-raŋ	*~[ω]
3PL	-ura-s~[ω]	-h-u~[µ]	-t-u~[µ]	-b-ii~[σ]	-toto	-i-re-re	*~[ω]

In Manat the suffix copies the preceding word, as illustrated in (95). This example also illustrates that the reduplicated morpheme is phonologically a separate word, as *sñ* is not a permissible consonant cluster in Manat. When the suffix attaches to a compound verb, only the last root is copied, as (96) illustrates. There are some exceptions to this, as shown in (97), but these are rare enough that they can be accounted for by positing that certain compound verbs are sometimes reanalyzed as single roots.

Manat
(95) *Akai* **ñiŋ-ura-s~ñiŋuras=a,** *rum ini-b ini-ba da-ma-g.*
okay stay-PL-3.DS~SIM=INT man ND-NOM ND-LOC walk-PST-3SG.FAR
'While they were there, this man was wandering around here.'

Manat
(96) *Ñanɨk-ɨb* **miga-ñɨ-s~ñɨs=a,** *akai aih-ura-ma-g,*
son.3.POSS-NOM come.down-stay-3SG.DS~SIM=INT COMP come-PL-PST-3.FAR

nɨ-hav-ati-b.
3.POSS-uncle-PL-NOM
'While her son was sleeping, his uncles came.'

Manat
(97) *Nɨd* *b=emtak,* **rapra-ñiŋ-ura-s~raprañiŋuras=a,** *akai ŋar ka-b*
2/3DU 3.NOM=alone wait.for-stay-PL-3.DS~SIM=INT COMP sun MD-NOM

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mɨgu-n   vɨha=k   aku-ma-ɡ.
go.down-2/3.SS   ripe=ACC   go.up-PST-3SG.FAR
'As just the two of them were waiting for them, the sun went down and turned red.'

In Mum, DS simultaneous forms are usually formed by reduplicating the realis DS verb, which is formed with the *–ha* suffix. The reduplicant copies the *–ha* plus the agreement suffix; in the 1SG and third person this amounts to copying the last syllable (98), but in the 1PL it means copying two syllables (99).

Mum

(98) *Karha-ta* **ma-ɡa-h-i~hi**   *karaɡaravuz   mɨzataya   mɨŋa-m-i.*
     sleep-SS   **NEG-look-DS-3SG~SIM**   rib   one   take-HPST-3SG
     'He slept and while he was not looking God took one of his ribs.'   Sweeney n.d.

Mum

(99) *Blesim-ta* **u-ha-rɨŋ~harɨŋ**   *kutvu   kɨmu-m-i.*
     bless-SS   **go-DS-1PL~SIM**   back   die-HPST-3SG
     'We blessed and while we were going he died at our backs.'   Sweeney n.d.

Additionally, in Mum this reduplicative suffix can apparently also be attached to irrealis verbs. There are only two tokens of this in the data I have, and they are presented below. In (100) the meaning appears to be similar to that of the examples above: DS simultaneous, only in an irrealis chain (imperative, specifically) instead of a realis one. The shape of the suffix is also the same, as it copies the preceding suffixes, but not the verb root. Example (101) is more confusing. Here the suffix copies the whole preceding word, including the verb root; the form is used at the end of a clause chain, not medially; and the meaning appears to be imperative. Without a more complete analysis of Mum verb morphology available it is difficult to interpret this example. But it appears from (100), at least, that in Mum this reduplicative suffix can attach to either kind of DS verb (realis or

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irrealis); that it copies the preceding DS suffix and the agreement suffix; and that it adds simultaneous meaning.

Mum
(100) **Yɨvu-t-u~tu**   navudi   yad   tav   ha   ñaŋra   tama-m-u.
hit-IRR-3PL~SIM   woman   1SG.POSS   house   MD   clean   put-IMP-3PL
'They must cut and the women must make my house clean.'   Sweeney n.d.

Mum
(101) *Mɨgu-ta*   dabu   wokman   da-ŋnɨŋ   naga   **kɨ-t-ra~gitra,**   va-sm-u.
go.down-SS   FD.LOC   workman   FD-PL   with   **stay-IRR-2PL~SIM**   say-FPST-3PL
'"You go down over there with those workmen," they said.'   Sweeney n.d.

In Sirva the simultaneous suffix copies the preceding syllable. This usually only involves copying material from other suffixes, but in the 1SG and 3SG it involves copying some material from the verb root (102).

Sirva
(102) *Pev*   **w-i~wi**   narah   be   hasa   wari   kɨ-s-a.
forest   **go-3SG.DS~SIM**   younger.sib.3.POSS   3SG   FOC   village   stay-FPST-3SG
'While he went to the forest, his younger brother stayed in the village.'

In texts this suffix consistently copies only the preceding syllable. But when I conducted more extensive elicitation, my consultant would occasionally produce a longer reduplicant. For example, for *kumu-* 'die' he gave *kumu-in~gumuin* in the 1SG—although he said that *kumu-in~iin* was better. I believe this variation is a relic of the fact that the reduplicant used to be longer, as it still is in Manat and Mum.

In Kursav and Gants, the form of the suffix is no longer reduplicative, although its reduplicative origin is plain to see from the forms in Table 23. In Kursav it looks as though the reduplicant originally copied the irrealis suffix and the agreement suffix, and that the agreement suffix has been eroded since then. In Gants it seems that the same process took

place, but the *–re* that was formed in the 3sg was then reanalyzed as a simultaneous suffix, which then spread to the rest of the paradigm. The only exception is 2sg, where the nasal that remains reveals the reduplicative origins of these forms.

Given all this, we must decide what length to reconstruct for the PSog reduplicative suffix. There are essentially two options. One is to reconstruct a shorter reduplicant, such as is found in most languages, and to posit some process that lengthened it in Manat and possibly Mum and Sirva. Another option is to reconstruct whole-word reduplication and to say that this reduplicant was eroded in every language except Manat. Normally this decision would be simple, as phonological reduction is typically not reversible so change could only have proceeded in one direction. But in the case of reduplication phonological reduction *is* reversible because the base on which the reduplicant is formed is still present, so there are two possible directions of change. Nevertheless, I still consider reduction more likely than lengthening because it can be motivated, namely on the grounds of ease of articulation. But a similar motivation for lengthening is more difficult to find. Ease of perception cannot account for it, since the forms in Kursav and Gants, though short, are still unambiguous. For this reason I reconstruct a PSog morpheme that copied a ds medial verb in its entirety to signal that the event of that verb occurred simultaneously with the event of the following verb. Given that modern reflexes copy both realis and irrealis ds medial verbs, I reconstruct a morpheme that functioned likewise, and could copy both realis and irrealis verbs.

3.5. Other Morphology

A few pieces of morphology can be reconstructed that are not easily classified as medial or final. These include a reduplicative nominalization, discussed below, a participial suffix *-m (§3.5.2), and an irrealis infinitive suffix (§3.5.3).

3.5.1. Nominalization

PSOG possessed a derivational suffix that formed nouns from verbs. This suffix was formed via reduplication, and reflexes are found across the family, in every language except Aisi and Kursav. The functions of these different reflexes show some variation, but largely correspond. In almost every daughter language this form can be used nominally as well as adverbially, much like English gerunds in *-ing.* They can often also be used adjectivally, but this can be understood as an example of the nominal function, since Sogeram nouns can function attributively.

In Mand this suffix derives nouns from verbs (103) and can also perform adverbial functions (104). The form of the reduplicant is not perfectly understood, but it is usually shortened and voiceless stops are lenited to fricatives.

Mand
(103) *Pɨ aci w-e a, ya **ka~h** ka-p aba-ŋarid.*
3 FOC go-SS ah speech **talk~NMPT** FD-LOC put-FUT
'He'll go, uh, put it in that recorder (lit. 'speech talker').'

Mand
(104) ***Ihra~hɨr** ku-ŋari.*
watch~NMPT see-FUT
'Watching, he'll see (it).'

The Nend form also derives "nominal forms from verbs" which "can function nominally and adjectivally as well as verbally" (Harris 1990: 86), as shown in (105) and (106). As in Mand, the reduplicant is shorter than the verb and stops are lenited to voiced fricatives. Harris describes the phonological processes involved in Harris 1990: 81.

Nend
(105) *Ya*   **ka~h**   *ohɨra* *ha-n*   *eto-ma-r*   *wonjɨr-ɨndɨv.*
       speech **talk~NMLZ** large MD-ACC leave-HPST-3SG fathers-BEN
       'They left the ones who could talk for the fathers.'   (Harris n.d.)

Nend
(106) *Uyi-v*   *ŋaka-z*   *mɨra* **na-n**   **na-n**   *ñɨ-mg-ɨz …*
       place-SBJ dawn-3SG.DS pig **eat~NMLZ** **eat~NMLZ** stay-PL-3.DS
       'At dawn they stayed eating and eating the pig and …'   (Harris n.d.)

The Manat form can function nominally (107) and adverbially (108). The reduplicant is usually a full reduplication of the last verb root (not the whole stem in compound verbs), but sometimes it is slightly abbreviated. Additionally, a velar nasal consonant will sometimes be inserted between the root and the reduplicative suffix, as in *ita~gita* 'leave~NMLZ' or *ña~ŋɨñ* 'eat-NMLZ.' This intrusive nasal sometimes replaces the initial consonant of the root, as in *bata~gata* 'sit~NMLZ,' and sometimes combines with it to create a prenasalized stop, as in *rama~dama* 'put-NMLZ.'

Manat
(107) *Na* *bavad* *pas*   *vaga* **vɨka~vɨka**   *kai* *v-itɨha-nad=ɨk …*
       and quickly banana leaf **write~NMLZ** LOC go-FFUT-2SG=ACC
       'And if you go to the missionaries (lit. 'paper-writers') quickly …'

Manat
(108) *Ñaŋña=k*   **mɨŋa~mɨŋ**   *gu-ñ-ura-ma-g.*
       food=ACC   **get~NMLZ** give-eat-PL-PST-3.FAR
       'Taking food, they fed them.'

Wade refers to the cognate Apalɨ construction as a gerund and observes that it can "fill nominal positions in postposition phrases and in non-verbal clauses" (Wade 1989: 119), as in (109), and also functions "verbally to indicate simultaneous same subject following" (Wade 1989: 189), as in (110). The reduplicant appears to usually be a full repetition of the last verb root. However, Wade observes that in "the Uagalɨhu dialect, which often retains final ŋ's, the reduplicated forms of verbs take on a more complex form due to morphophonemics, i.e. *viŋ-viŋ* 'get-get' becomes *vi-biŋ*" (Wade 1989: 190). This passage suggests Apalɨ may have some vestiges of an *ŋ that was somehow involved in this construction. In addition, Wade (p.c.) reports that a small number of verbs have related nominal forms that contain an additional final ŋ or iŋ, such as *latɨhi* 'divide' and *latɨhiŋ* 'a division.' She says these forms "fill all the normal nominal positions, but are obviously formed from verb roots."

Apalɨ
(109) *Lɨbulɨbu*   ***viha~viha***   *saŋ*   *ab-in.*
grass   cut.up~NMLZ   BEN   talk-1SG.IPST
'I was talking about cutting the grass.'   (Wade 1989: 189)

Apalɨ
(110) *Hɨda* *hulaŋ* *mu*   *aga-dɨ* *vaŋ*   ***miŋa~miŋa*** *ab-i.*
walk   man   another DEF-OBL string.bag   hold~NMLZ   talk-3SG.IPST
'He walked and was holding the other man's string bag while he talked.'
(Wade n.d.)

The functions of the cognate Mum suffix have not been described, but Sweeney (n.d.) glosses it as a gerund, and examples can be found of what are apparently nominal (111) and adverbial (112) functions. The reduplicant copies the whole verb and lenites voiceless stops, sometimes to voiced fricatives as in (112), and sometimes to prenasalized stops. It

appears that the same verb can take both forms: *kur-* 'shoot' is *kurhur* in (112) but the form

kurgur is also present in the corpus.

Mum
(111) *Musi kɨbadav   mɨŋa~mɨŋa   du   sɨbra-rɨm   abavara-ɨrma-n .*
today house.on.posts **take~NMLZ**   POSS   work-BEN   tell.story-FUT-1SG
'Today I will tell the story concerning the work building a house on posts.'

(Sweeney n.d.)

Mum
(112) *Kava kuñiv kur~hur   nuŋuva   kɨs~hɨs   kakra-yɨ   tama-m-i.*
bird   bird.sp **shoot~NMLZ** his.father **smoke~NMLZ** limbum-LOC   put-HPST-3SG
'He was shooting birds of paradise and his father smoked them and put them on
limbum.'   (Sweeney n.d.)

In Sirva the reduplicative nominalization also creates forms that can be used as nouns

(113) or adverbs (114). The form of the reduplicant is not well understood. It is sometimes a

full reduplication as in *kwemgwem* and *mɨŋamɨŋa* below, and sometimes partial, as in *adɨ~d*

'do~NMLZ.' Voiceless stops are sometimes left unchanged (*tai~tai* 'go.up~NMLZ'), sometimes

prenasalized (*tama~dama* 'put~NMLZ'), and sometimes lenited to voiced fricatives

(*kapara~vara* 'throw~NMLZ'). And two verbs, *kɨ-* 'stay' and *aku-* 'sleep,' have irregular

nominalized forms that are made with the suffix –*ŋ* (115).

Sirva
(113) *Uhu   kwem~gwem   be   yakɨva-vanadi-Ø, n-i.*
ground   **unite~NMLZ**   3SG   get.up-FUT-3SG   ND-SET
'The land meeting will happen, here.'

Sirva
(114) *Ivɨ   siki   beau,   mɨŋa~mɨŋa kavar-a   mir-a   kusu k-i*
grass.sp root   DEF.ACC **get~NMLZ**   throw-SS   leave-SS food MD-SET

kur-ava-b-ri.
plant-HAB-PL-3
'Uprooting the *ivɨ* roots, they throw them away, and plant food thre.'

Sirva

(115) *Ka-ma   ad-ii,   asɨk=iñ **aku-ŋ**   kɨd-i-Ø.*
MD-ADVZ do-3SG.DS fire=LI **sleep-NMLZ**   walk-TPST-3SG
'It would do that, and he would sleep by the fire.'

In Aisi and Kursav there is no cognate construction. However, I have found one form in Aisi Mabɨŋ that appears to be descended from a nominalization: *uror* 'shouting,' from a reduplication of PSOG **ura* 'call out' (116), which itself survives into Aisi as *ur-*.[15]

Aisi Mabɨŋ

(116) *Kaw-i   kitiŋ, **uror=ɨra**   **uror=ɨra,**   ur=eŋ   w-e.*
carry-SS and **shouting=COM** **shouting=COM** house-LOC go-3SG.IPST
'He carried them and went home hooting and hollering.'

Finally, verb reduplication in Gants is not very common and therefore not well understood. But it appears to form participles that function primarily as adverbs (117) or as verb adjuncts.

Gants

(117) *Tai mañ kra **tɨga~tɨga**   arɨp ko   arɨp ko   aŋ-ek.*
tree seed TOP **scatter~PTCP** right DEF right DEF go-3SG.IPST
'The fruit scattered and went all around.'

Given the geographic diversity of reflexes, the uniformity of functions presented in Table 24 is quite striking. In every WS and CS language, reduplicated verbs can function as nouns and adverbs, which is sufficient evidence for reconstructing those functions to PSOG. But the ES branch also supports this reconstruction, as there is evidence of the nominal function in Aisi and the adverbial function survives into Gants.

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[15] Interestingly, the cognate form in Sirva has also lexicalized. There the form *warwar* 'yelling' is the only reflex of PSOG **ura* 'call out,' which is no longer a productive verb.

Table 24. Nominalizer properties

	nominal function	adverbial function	formal properties
Mand	yes	yes	partial reduplication
Nend	yes	yes	partial reduplication
Manat	yes	yes	full reduplication; *ŋ/g* insertion
Apalɨ	yes	yes	full reduplication; irregular –*ŋ*
Mum	yes	yes	full reduplication
Sirva	yes	yes	full reduplication; irregular –*ŋ*
Aisi	yes?	no	
Gants	no	yes	full reduplication

Reconstructing the form of the reduplicant is more difficult. In resolving the difference between partial reduplication in WS and full reduplication elsewhere, we can reconstruct full reduplication to PSOG for the same reason we reconstructed the longer reduplicant for the different-subject simultaneous (§3.4.3): a motivation can easily be proposed for shortening but not for lengthening. The shorter WS forms are thus considered innovative. But the velar nasals in Manat, Apalɨ, and Sirva are puzzling. Based on these witnesses we should reconstruct, at least to PCS, an *ŋ that was involved in this construction. The irregular distribution of the velar pattern in Manat suggests a reconstruction similar to the modern Apalɨ and Sirva situation: most verbs were simply reduplicated, while a few irregular verbs were nominalized with *-ŋ. We can then posit that in Mum, the predominant pattern has been generalized. And in Manat, some of the irregular *-ŋ verbs added reduplicants on analogy with the predominant pattern but also kept the *-ŋ.

Once we have reconstructed this pattern to PCS, we must decide whether to reconstruct it to PSOG as well. If it did not exist in PSOG, it is possible that it was innovated in PCS in a construction that involved the accusative enclitic *=ŋ (§4.2.2). And if it did exist

in PS<small>OG</small>, it could have been lost in PWS and PES when the predominant pattern was generalized to the whole lexicon. I consider the latter analysis slightly more plausible, but recognize that there is little evidence in favor of either reconstruction and remain largely agnostic. One major shortcoming to the reconstruction of irregular *-ŋ is the fact that I am unable to say which verbs took the irregular suffix because its inheritance into Manat, Apalɨ, and Sirva has been so inconsistent.

So I reconstruct a reduplicative nominalizer that copied bare verb roots in their entirety. Forms created with this nominalizer could be used as nouns or adverbs. And it is possible that some irregular verbs were nominalized with a suffix *-ŋ instead.

3.5.2. Participle

PS<small>OG</small> had a participial suffix *-m which derived adjectives from verbs. The primary evidence for this suffix comes from Mand and Kursav. In Kursav, this suffix derives adjectives from verbs. Kursav adjectives can either precede (118) or follow (119) their head noun. They have many nominal properties, and are actually best considered a subclass of nouns; they can head noun phrases on their own, although they are usually best understood as modifying an unexpressed head noun, as in (120).

Kursav
(118) *Mɨda* **kra-m** *mɨnei, koŋe ne kevɨ-d-o.*
grass.sp **burn-PTCP** time bandicoot eat throw-HAB-3PL
'At the time (we) burn the kunai grass, they eat bandicoots.'

Kursav
(119) *Kura, ka-ka* **dɨ-m** *nɨga v-e.*
man MD-TOP **do-PTCP** SPEC come-3SG.NFUT
'One such man (lit. 'a that-doing man') came.'

Kursav
(120) *Kin* **ragura-m,** *v-e.*
sore **care.for-PTCP** come-3SG.NFUT
'A doctor (lit. 'sore-caring-for (person)') comes.'

The function of this suffix in Mand is less well understood. Its primary function appears to be to derive verb adjuncts, verbal forms that occur with an inflected light verb to form a complex predicate. The most common light verb for Mand *–m* forms is *ga-* 'grab' (121), but they can also occur with others such as *ka-* 'do' (122).

Mand
(121) *Ñɨ* *ñac* *zau* *na-n* *j-e* **uhra-m** *g-e-d.*
son daughter fish ND-ACC eat-SS **grow-AJTZ** grab-PL-3.IPST
'The children eat this fish and grow big.'

Mand
(122) *Arhw* **kre-m** *ka-cɨ-nhw.*
1PL **make.so-AJTZ** do-HAB-1PL
'That's what we do.'

It is not clear, however, exactly what "verb adjuncts" are in Mand. For the moment I analyze them as a separate word class, semantically related to verbs but morphologically distinct. This is an attested feature of other languages in the area (notably Kalam; see Pawley & Bulmer 2011), but it has not yet been demonstrated that it is the correct analysis for Mand. It may turn out that there is no separate word class of adjuncts, but only a verb adjunct construction—and that the words I currently analyze as verb adjuncts are in fact nouns, adjectives, or other parts of speech that are simply used in this construction. This is a question for future research. For the moment it is enough to observe that Mand *–m* forms are deverbalized to some extent. There is even an example of an *–m* form occurring with a demonstrative, suggesting that these forms have some nominal or adjectival properties.

Mand
(123) **Awari-m**   ka-g,   ahw-ahw-ahw   ara.
     yell-AJTZ   FD-NOM   boo-boo-boo   QUOT
     'As for the yelling, they said "Boo! Boo! Boo!"'

On the strength of the Mand and Kursav witnesses, then, we can reconstruct a PSOG

derivational suffix *-m that went on verbs. Reconstructing the grammatical function of

words derived with *-m is a little trickier, but we can narrow the list of candidates down to

nouns, adjectives, and verb adjuncts. Of these, nouns seem unlikely, both because the

nominal function of –m appears to be marginal in both Mand and Kursav, and, less

importantly, because other nominalizing morphology can be reconstructed (§3.5.1).

Reconstructing a suffix that formed verb adjuncts is also not ideal, as it is not even clear

that synchronic –m forms verb adjuncts in Mand, let alone that PSOG had a word class of

verb adjuncts. So we are left with the third option: reconstruct a suffix *-m that formed

adjectives from verbs. This option accounts well for the data: Kursav –m currently forms

adjectives, and adjectives are commonly employed as verb adjuncts in Mand. This can be

seen in (124), where the adjective urat 'cold' is placed inside the two negative morphemes,

indicating that it is functioning as a verb adjunct.

Mand
(124) *Yar*   *mɨz*   *mɨ*   **urat**   *ka-m.*
     1SG.OBJ   body   NEG   **cold**   do-NEG
     'I'm not cold.'   Elicited

This reconstruction has been made based entirely on the Mand and Kursav witnesses.

But *-m actually has reflexes in a number of other Sogeram languages, although *-m is

retained as an imperative suffix in all of these languages. In Nend, it is a 1PL imperative

suffix, in Manat and Aisi it is 2SG, and in Apalɨ and Mum it is 3SG and 3PL. The

grammaticalization path from nonfinite verb form to imperative is well-trodden: for example, in her book on imperatives Aikhenvald (2010: 363) describes the common "pathway of desubordination," whereby imperatives are formed when the use of dependent verb forms as directives becomes routinized. The fact that *-m* marks several different person–number categories of imperative also suggests that these forms are innovative in the languages where *-m* is an imperative suffix, and the participial suffix *-m offers a very plausible etymology.

Finally, reflexes of *-m can be seen in some grammaticalized periphrastic constructions, too. The Nend plural suffix *–mgɨ* is descended from a construction with an *-m participle plus a light verb (§3.6.3.1), and the Kursav future tense is formed with an *–m* participle plus the verb *du* 'do' (§3.6.14.2). This grammaticalization pattern suggests that PSₒG *-m participles were commonly used in conjunction with light verbs in a verb-adjunct-like construction—or at least, that they came to be in Nend and Kursav.

3.5.3. Irrealis Infinitive

The PSₒG future tense suffix *-ɨmpa was used in combination with the Set III agreement suffixes to form the future tense (§3.3.5). But this suffix could also be used on its own in what was probably an irrealis infinitive construction. Reflexes of this survive into Apalɨ, Aisi, and Kursav. In Apalɨ the suffix *-ɨba* seems to function as a desiderative and is usually followed by the verb *lɨ-* 'do,' as in (125).

      Apalɨ
(125) *Uleŋ*   **u-ba**   *lɨ-mɨli*   *alu-dɨ*   *ab-ava-lɨ.*
      village   **go-FUT**   do-1PL.DS   1PL-OBL   talk-PL-3.FPST
      'We got ready to go to the village and they said to us.'   (Wade 1989: 89)

In Aisi I analyze the suffix *-ɨba* as a participle derivative; this form usually functions adverbially to modify the action of the main verb of the clause (126). It can also be used on its own, in which case it appears to describe some typical or characteristic trait of its subject (127).

Aisi Mabɨŋ
(126) *Ga-rib* **ab-ɨba** *yok-e,* *pɨnɨ* *garaŋ* *g-oŋ.*
MD-ADJZ **talk-PTCP** go.up-3SG.IPST palm.sp long MD-TOP
'Saying that, she went up a long *pɨnɨ* palm.'

Aisi Mabɨŋ
(127) *Ameki* *ga-ku* *gyou* *pa* **n-ɨba.**
lastborn MD-NOM snake.sp only **eat-PTCP**
'The lastborn used to just eat *gyou* snakes.'

And in Kursav I analyze the suffix *–ba* as a negative nominalizer, which derives a noun (or verb adjunct) that refers to not performing the action of the verb. It is always followed by the verb *dɨ-* 'do,' as in (128) and (129).

Kursav
(128) *Bua* *pa* *ma* **dɨ-ba** *d-eke ...*
enough only NEG **do-NEG.NMLZ** do-3SG.DS
'It wasn't good, so ...'

Kursav
(129) *An* *ma* **na-bu-ba** *d-uar*
1PL NEG **2SG.OBJ-give-NEG.NMLZ** do-1PL.NFUT
'We haven't given it to you yet.' Elicited

An apparently cognate Anamuxra suffix *–ba* is called the "negative realis/non-future" by Ingram (2001). This suffix also occurs without agreement suffixes, as in (130).

Anamuxra
(130) *Aŋ-ma* **yivŋanaz-ba.**
1PL-NEG **night.spear.fish-NEG**
'We didn't go night spear fishing.' (Ingram 2001)

These suffixes all exhibit obvious formal similarities, and their functions are also quite similar. Kursav has lost the suffix-initial *ɨ, but otherwise the phonological reconstruction of *-ɨmpa is clear. Semantically, the suffixes are all deverbalizing to some extent, and in Apalɨ and Kursav they add irrealis meaning: future in Apalɨ and negative in Kursav. Only the Aisi form appears to have lost this meaning. For these reasons I reconstruct a suffix *-ɨmpa that created a deverbalized form with irrealis meaning. Its precise grammatical function remains unclear (i.e., it may have derived verb adjuncts or nouns, or been an infinitival form), as does its specific irrealis meaning. Clearly a future infinitive meaning is likely, given that the same suffix *-ɨmpa was used in the future tense paradigm, but for now I reconstruct an infinitive suffix with a more generalized irrealis meaning.

3.6. Innovations

In this section I describe the innovations that have taken place in the various Sogeram branches, as far as they can be reconstructed. A great deal of the innovations simply cannot be explained at this stage in the research on Sogeram. I point these out where appropriate but do not provide much commentary. Indeed, the commentary in this section is brief in general; even where I do argue for an etymology for a given form, I do not provide exhaustive supporting evidence. This section is intended rather as a series of notes on various grammatical developments in the Sogeram languages, which may prove to be interesting topics for future research. The innovations are presented, roughly, by genetic subgroup, but many innovations cut across putative genetic boundaries. Rather than

creating a new section for every isogloss, which would be unwieldy, I present each innovation in the section corresponding to the group where it appears to be centered.

3.6.1. West Sogeram Innovations

The WS languages share the innovation of the today past and far past tenses. The former is more clearly innovative, while the latter may actually date to PSOG.

3.6.1.1. Today past tense

The today past is formed with a reduplicative suffix consisting of a –d(ɨ) plus reduplicated material, followed by an agreement suffix, as illustrated in (131) and (132).

Mand
(131) *Sag   a-i   dar   **ku~dɨkw-in.***
      again   come-SS   2SG.OBJ   see~TPST-1SG
      'I came back and saw you.'

Nend
(132) *Kindau-v   emakapɨr   ha-n   ac-i   wɨr   ha-n   itɨkɨrɨm   **ŋa~ndɨŋ-i***
      Kindau-NOM   snot   MD-ACC   sniffle-SS   breath   MD-ACC   strongly   get~TPST-3SG
      'Kindau sniffled and breathed heavily.'   Harris n.d.

These suffixes are plainly cognate, and something like them can be reconstructed to PWS. But several questions remain, most prominently the unusual correspondence of Mand *d* ~ Nend *nd.* Typically Mand prenasalized stops are descended from PSOG and PWS nasals, while older nasal–stop sequences gave rise to voiceless stops. So we would expect a correspondence of either Mand *d* ~ Nend *n* or Mand *t* ~ Nend *nd.* It is possible that this tense originated as two words, though, in which case the application of phonological processes may have been different. In any case, uncovering the history of this tense suffix will require more research.

3.6.1.2. Far past tense

The far past tense in Mand and Nend offers an interesting puzzle. The forms are presented in Table 25 along with some relevant Apalɨ forms. The Nend forms, in particular, are difficult to explain as innovations. Most of them appear to be reflexes of the Set II agreement suffixes, but curiously they do not have a tense suffix. Unless an old PSOG tense suffix eroded and gave rise to this paradigm, an explanation for these Nend forms is difficult to come by. I can think of no construction in which a set of agreement suffixes, which had always been used in combination with tense suffixes, would simply be attached to verbs on its own. This suggests that using the Set II agreement suffixes on their own as a past tense paradigm dates to PSOG, but unfortunately there are not enough reflexes of this pattern to reconstruct it with confidence.

Table 25. Far past

	Mand	Nend	Apalɨ	PSOG
1SG	*-rɨ-n*	*-en*		
2SG	*-rɨ-n*	*-an*		
3SG	*-r, -rɨd*	*-r*	*-lɨ*	**-r*
1PL	*-rɨ-nhw*	*-orɨŋ*		
2PL	*-eu-rɨ-n*	*-mg-an*		
3PL	*-eu-r, -eu-rɨd*	*-mgɨ-r*	*-hava-lɨ*	

Table 25 does provide one tantalizing suggestion, though: reflexes of the Set II 3SG agreement suffix *-r are found with far past meaning in Mand, Nend, and Apalɨ. In Mand this suffix appears to have been generalized to the other person–number categories as a tense suffix, and in Apalɨ the rest of the far past paradigm is made with what are apparently unrelated innovative forms. But the 3SG hints at the possibility that the Set II agreement suffixes were indeed used on their own in PSOG as past tense markers. Another

form that is suggestive of this is the Mum 3SG yesterday past form *–s-rɨ*. As I discuss in §3.6.7.1, the Mum past tense suffix *–s* is innovative, being derived from the PSOG verb *sɨ-‘do’ in the aspectual position of an SVC. So this form could also be cited in support of the argument that PSOG *-r was used on its own as a past tense form, although in the Mum case it must also be acknowledged that the suffix could have been changed analogically after *–s* grammaticalized. So for now I consider this function of PSOG *-r only an intriguing possibility; a single suffix, consisting of a single segment, in four geographically contiguous languages is not sufficient evidence to make a reconstruction.

3.6.2. Mand Innovations

Several innovative Mand forms cannot currently be explained. Among these is the plural suffix *–e* (sometimes *–eu*), which is used to mark plural subject agreement in the second and third person, in conjunction with the appropriate singular agreement suffix (133).

> Mand
> (133) *Ida   utɨmar=an   **ab-e-d.***
>   sun   two=very   **put-PL-3.IPST**
>   'During the day they put two (down).'

The suffix *–ŋ*, which I gloss as a purposive suffix, is also mysterious. It is often used for 1SG optative statements (134), which suggests that it may derive from the 1SG irrealis suffix *-ɨt-iŋ* or the (tentatively reconstructed) 1SG imperative suffix *-ŋ, but this is not certain and it does not explain the other purposive uses of *–ŋ*, or why word-final *ŋ did not become †*h* as expected.

Mand

(134) *Api   dar   watɨm   **wa-ŋ.**
     1SG   2SG.OBJ   after   **go-PURP**
     'I want to follow after you.'

Finally, Mand has innovated a new 1PL agreement suffix –*inhw* (sometimes –*nhw*), which is used in many TAM categories (immediate past, today past, recent past, far past, future, and habitual). This form appears to be built from the old 1SG suffixes *-in (from Set I) and *-n (from Sets II, III, and IV) plus an element *hw* which is of uncertain etymology. The pattern may have been motivated by analogy with the second and third person, where the plural is formed by adding a plural morpheme to the singular, but the origin of *hw* remains a puzzle.

3.6.2.1. Future

The Mand future tense suffix is –*ŋara* (135). This form was grammaticalized from a construction involving the purposive suffix –*ŋ* (which, as mentioned above, is of uncertain etymology) and the post-quote verb *ara-* 'say, do thus.' The main piece of evidence for this etymology is that the first *a* in –*ŋara* is pronounced with the word-initial allophone [a], not the usual word-medial allophone [ə]. An additional piece of evidence is that this is one of the few tense suffixes that can occur with negation (136); none of the older tense suffixes can.

Mand

(135) *Api   sag   urak   **wa-ŋar-in**   ar.
     1SG   again   hunt   **go-FUT-1SG**   QUOT
     '"I'm gonna go hunt again," he said.'

Mand

(136) *Api*   *dar*   *dɨh*   *ku~dɨkw-in*   *ara.*   **M=agra-ŋara-m**   *ara.*
        1SG   2SG.OBJ   COMPL   see~TPST-1SG   QUOT   **NEG=run.SG-FUT-NEG**   QUOT
        '"I've seen through you," he said. "You won't run away," he said.'

3.6.3. Nend Innovations

Nend contains more unanswered questions than perhaps any other Sogeram language. This may be a simple product of the wealth of TAM categories it possesses: it, along with Manat and Apalɨ, possesses 14 TAM categories, more than any other Sogeram language. (The average among the other languages is less than nine.) With so many paradigms, it is simply more likely that more would remain unexplained. Among the paradigms for which I have no explanation are the present, the probable future, the far future, and the far past habitual. I reproduce these paradigms in Table 26; see Harris 1990 for further discussion of their synchronic properties.

Table 26. Unexplained Nend paradigms

	PRS	PROBABLE FUT	FAR FUT	FPST HAB
1SG	*-nɨ-mbɨr-in*	*-ŋɨ-n*	*-ndar-in*	*-anj-in*
2SG	*-nɨ-mbɨra -n*	*-ŋ-an*	*-ndara-n*	*-andɨ-n*
3SG	*-nɨ-mbɨr-i*	*-ŋɨ-nj*	*-ndar-i*	*-an-j*
1PL	*-nɨ-mbɨra-riŋ*	*-ŋ-ariŋ*	*-ndara-riŋ*	*-andɨ-riŋ*
2PL	*-mgɨ-mbɨra-n*	*-mgɨ-ŋ-an*	*-ndara-mgɨ-n*	*-mg-andɨ-n*
3PL	*-mgɨ-mbɨr-i*	*-mgɨ-ŋɨ-nj*	*-ndara-mg-i*	*-mg-an-j*

3.6.3.1. Plural suffix

The Nend plural suffix is *-mgɨ*, and like the Mand suffix *-e* it is used in both the second and third persons (137). This suffix may be derived from the PSOG participial suffix *-m plus a verb *gɨ-* 'become, do.' Such a construction is common in Mand today (138). I have found no trace of a light verb of similar meaning and form in another Sogeram branch, though,

which casts some doubt on this etymology. However, Kalam does have a potential cognate: the verb *g*, which Pawley (1987: 337) defines as "do, act, make, work, occur, happen, function, operate, create, cause."

Nend
(137) Mac   *mɨra-oma-ndɨv*   kɨrɨm   **nda-mg-an-j.**
     finish pig-fish-BEN   just   **walk-PL-HPST-3.HAB**
     'Then they just used to walk around for animals (i.e. hunted for animals).'
(Harris 1990: 95)

Mand
(138) *Ñɨ*   ñac   *zau* *na-n* *j-e* **ohra-m**   **g-id.**
     son daughter fish ND-ACC eat-SS **grow-AJTZ** **become-IPST**
     'The children eat this fish and grow big.'

3.6.3.2. Historic past

The Nend historic past paradigm appears to contain the PSOG historic past tense suffix *-ma (§3.3.4), but in conjunction with an element *nd* which is of uncertain etymology. (This is only true of the first and second person forms; the third person forms are reflexes of the PSOG historic past.) Apparently cognate historic past forms are found in the Acɨ dialect of Apalɨ. These forms are shown in Table 27 along with the Akɨ Apalɨ yesterday past, which also appears to contain a reflex of *-ma.

Table 27. Nend and Apalɨ historic past

	Nend	Acɨ	Akɨ
1SG	*-manj-in*	*-mad-in*	*-malam-in*
2SG	*-mandɨ-n*	*-madɨ-naŋ*	*-malamɨ-naŋ*
3SG			*-malam-i*
1PL	*-mandɨ-rɨŋ*	*-madɨ-lu*	*-malamɨ-lu*
2PL	*-mgɨ-mandɨ-n*	*-madɨ-laŋ*	*-malamɨ-laŋ*
3PL			*-havɨ-malam-i*

While these paradigms are not sufficient evidence for any reconstruction, they do suggest that the PSOG historic past suffix *-ma may not have had to occur with an agreement suffix. Recall that the future tense suffix *-ɨmpa could function with an agreement suffix to form the future tense (§3.3.5) or on its own to form an irrealis infinitive (§3.5.3). The suffix *-ma may have behaved similarly. There is not enough evidence to reconstruct a past infinitive consisting of just the suffix *-ma, but the forms in Table 27 would be easier to explain if such a form existed. The Nend and Acɨ could be accounted for as grammaticalizations of this infinitive plus reflexes of the verb *antɨ- 'do,' while the Akɨ paradigm could be accounted for as a grammaticalization of this infinitive with a reflex of *tama 'put.' If this were so, it would raise the question of whether the recent and far past paradigms (§3.3.3) really date to PSOG, or if they are parallel innovations in Manat and Gants. But until further data become available, this line of inquiry will have to remain speculative.

3.6.3.3. Counterfactual

The Nend counterfactual paradigm is quite similar to the prohibitive paradigm: both are formed with the suffix –mɨ. They have different paradigms of agreement suffixes, but these actually only differ in the third person, where the counterfactual has –r and the prohibitive has –j. The counterfactual paradigm can thus be explained as a reflex of the PSOG prohibitive paradigm (§3.3.8) in which the third person suffix has been changed, either by analogy with other paradigms or by irregular phonological processes.

3.6.3.4. Verb–zɨ–verb compounds

Nend created an innovative verb compounding construction that Harris (1990: 84) refers to as a "compound verb stem involving a change of subject." These stems are "especially common in verbs expressing physical manipulation of an object" (ibid.), and are composed of an initial transitive root, a fossilized 3SG.DS suffix -z, and an intransitive root that expresses the result of the first root. The object of the first root is the subject of the second; a typical example is given in (139).

Nend

(139) *Oŋgɨraŋgen*   *mba-n*   **avɨ-zɨ-ŋg-e**   *kɨrɨm* *ŋgañ-i.*
       sago.beater   ND-ACC   **throw-3SG.DS-go.down-SS**   just   sleep-3SG.IPST
       'He threw down his sago beater and just slept.'   (Harris n.d.)

As I discuss in Daniels 2014, this compounding construction is cognate with two-verb clause chains such as the Manat (140) and Apalɨ (141) examples below.

Manat

(140) *Vu-n*   *bata-n=a,*   *hɨd*   **gra-s**   **vu-ma-g.**
       go-2/3.SS   sit-2/3.SS=INT   move   **put.in-3SG.DS**   **go-PST-3SG.FAR**
       'She went and sat, and put it inside.'

Apalɨ

(141) **Ik-ɨlɨŋ**   **mɨg-ici**   *sukuala-c-in,*   *maci* *aga-dɨ.*
       cut-1SG.DS   **move.down-3SG.DS**   finish-FPST-1SG   sago   DEF-ACC
       'I cut the sago down and finished it.'   (Wade n.d.)

As these two-verb clause chains became more and more integrated in Nend, they began to be reanalyzed as consisting of a single verb stem. For example, both verbs in (142) have 3SG subjects, making the agreement suffix on *uyizɨwarɨmar* ambiguous. Thus speakers could analyze the verb as a compound meaning 'break (something) open' rather than a clause chain. After this reanalysis had taken place, forms like (143) became possible. Here the

subject of the first verb is 2SG and the subject of the second is 3SG, but the compound takes

2SG agreement. Note that the 3SG.DS suffix –z remains fossilized inside the compound.

Nend
(142) *Oma   ha-mb   uyi-zi-wari-ma-r.*
      fish   MD-NOM   stab-3SG.DS-break-HPST-3SG
      'The fish burst out (lit. 'stabbed it and it broke').'   (Harris n.d.)

Nend
(143) *Aria   ŋ-e   avi-zi-ŋgwi-v   a-ma-r.*
      okay   get-SS throw-3SG.DS-go.inside-2SG.IMP say-HPST-3SG
      'She said, "Okay take the post and throw it down."'   (Harris n.d.)

3.6.4. Central Sogeram Innovations

The CS languages do not share many exclusive innovations, but one appears to be the univerbation of clause-final serial verbs—that is, serialized verbs excluding orientation verbs (§3.2.3). In Manat, these forms now undergo a vowel lenition process that only applies within words. This is illustrated by the form *v-apara-* [go-throw] 'go away, disperse' in (144), where the vowel of the verb *vu-* 'go' has been elided before the initial vowel of *apara-* 'throw.'

Manat
(144) *Hɨmñav   abra=k   ita-n,   hɨd   v-apar-ura-ma-g.*
      song   place=ACC leave-2/3.SS move   go-throw-PL-PST-3SG.FAR
      'They left the place of the ceremony and went away.'

Similarly, in Mum and Sirva the second verb in a compound often reflects lenition processes that did not occur word-initially. For example, the Mum verb *mɨŋahumu-* 'kill' is composed of reflexes of *mɨŋa 'get' and *kɨmu 'die.' The initial *k in 'die' was lenited to *h* in *mɨŋahumu-*, but not when it remained word-initial; the word for 'die' in Mum is still *kumu-*. A similar pattern can be seen in the Sirva verb *tama-* 'put,' which is realized as *rama-* in

compounds. Example (145) illustrates this with the Sirva reflex of the SVC *taŋkwa tama 'step put,' meaning 'stand,' which can be reconstructed to PSₒG.

Sirva
(145) *Wa-ra* *añi* *pat* *mɨrada* *k-i* **tagu-ram-ra ...**
go-SS water center big MD-SET step-put-SS
'They went and arrived at a big river, and ...'

Finally, while Wade does not provide phonological evidence that these compounds now consist of a single phonological word, she does gloss them that way, as illustrated in (146).

Apalɨ
(146) *Mugasalɨ* **ifɨ-cabɨla-m-i.**
nose hit-crush-HPST-3
'He smashed his nose.' (Wade 1989: 186)

Given that PSₒG clause-final SVCs are reflected as single words in every CS language, then, this should be reconstructed to PCS, meaning that the innovation likely happened in the stage between PSₒG and PCS.

3.6.5. Manat Innovations

Several features of Manat verb morphology are difficult to explain. Perhaps the most puzzling of all are the same-subject suffixes, *-z* '1.SS' and *-n* '2/3.SS.' Manat is the only Sogeram language that distinguishes person in its same-subject markers, and it is unclear how such a system could have arisen. Moreover, neither of the Manat suffixes appears to be a reflex of either of the PSₒG same-subject suffixes *-ta and *-i.

Other forms that I cannot explain are presented in Table 28. It is intriguing that both future suffixes begin with *ɨt*, suggesting they may be related to the PSₒG irrealis suffix *-ɨt (§3.3.10). But since no plausible etymology presents itself for the rest of these forms, they

remain unexplained. It should also be noted that the Manat desiderative suffix *-itra* may be related to the near future forms—but I also have no etymology for the desiderative suffix. Finally, the near future suffix *-itrak* and the habitual suffix *–rat* can be used on their own as infinitive suffixes in a construction which also remains unexplained.

Table 28. Unexplained Manat paradigms

	NEAR FUT	FAR FUT	HAB
1SG	*-itrak-in*	*-itih-in*	
2SG	*-itraka-nad*	*-itiha-nad*	*-rat-nad*
3SG	*-itrak-id*	*-itih-id*	
1PL	*-itraka-r*	*-itiha-r*	*-rat-ri*
2PL	*-itraka-rad*	*-itiha-rad*	*-rat-rad*
3PL	*-itrak-ur-id*	*-itih-ur-id*	*-rat-ur-id*

The Manat plural suffix *–ura* may be descended from a PSOG verb *kwra. Some classes of Manat verbs add a final *h* to their root in the presence of certain suffixes, and *–ura* is one such suffix. So while synchronically the suffix is *–ura*, it may historically have been *–hura*. Additional support for this analysis comes from Mand, where a few verbs exhibit suppletion between a root for singular subjects and one for plural subjects. The plural roots often end in *hri*, as with *kimohri-* 'sit (plural subject),' *tahri-* 'walk (plural subject),' and *udihahri-* 'sleep (plural subject).' This *hri* may be cognate with Manat *hura.* But this is admittedly scant evidence, and the etymology of *–ura* remains unresolved.

3.6.5.1. Habitual

One set of paradigms that can be explained is the habitual forms aside from the *–rat* habitual. These are presented in Table 29.

Table 29. Manat habitual paradigms

	PRS HAB	MPST HAB	FPST HAB
1SG	-rh-in	-r-ma-ŋin	-r-m-in
2SG	-rha-nad	-r-ma-ŋɨnad	-r-ma-nad
3SG	-rh-id	-r-ma-g	-r-m-id
1PL	-rha-r	-r-ma-gɨr	-r-ma-r
2PL	-rha-rad	-r-ma-grad	-r-ma-rad
3PL	-rh-ur-id	-rh-ura-ma-g	-rh-ura-m-id

The suffix *–r*, sometimes *–rh* or *–rha*, is cognate with the verb *rɨ-* 'do,' which is irregular, having the root shape *rɨha-* in some environments. Two of these environments are before the Set I agreement suffixes and before the plural suffix *-ura*, which is exactly what we see in the forms in Table 29 (with regular elision of the *a* before vowels). This verb, which is a reflex of PSOG *=rɨ-* 'be' (a verb that originally cliticized to adjectives), presumably began occurring as an aspectual serial verb in the final position of SVCs or verb–verb compounds (§3.2.2) and grammaticalized into a suffix from there.

3.6.6. Apalɨ Innovations

Several Apalɨ innovations are difficult to account for. Some of these have already been mentioned in previous sections, such as the Acɨ historic past and the Akɨ yesterday past (see §3.6.3.2), but they are reproduced in Table 30 here. Additionally, the Acɨ future, also shown in Table 30, appears to be cognate with the Nend far future (§3.6.3), but neither can be reconstructed to PSOG. And the first and second person far past forms appear to be built on an innovative element *-ka which is difficult to explain. Finally, the Apalɨ plural suffix is *–hava*, sometimes shortened to *-havɨ* or *–vɨ*, and it is also of uncertain origin.

Table 30. Unexplained Apalɨ paradigms

	Acɨ HPST	Akɨ YPST	Acɨ FUT	FPST
1SG	*-mad-in*	*-malam-in*	*-da-ŋ*	*-c-in*
2SG	*-madɨ-naŋ*	*-malamɨ-naŋ*	*-dɨ-naŋ*	*-ha-naŋ*
3SG		*-malam-i*	*-dɨ*	
1PL	*-madɨ-lu*	*-malamɨ-lu*	*-dɨ-lu*	*-h-ɨlu*
2PL	*-madɨ-laŋ*	*-malamɨ-laŋ*	*-dɨ-laŋ*	*-ha-laŋ*
3PL		*-havɨ-malam-i*	*-havɨ-dɨ*	

There are some innovations which can be explained, however. One of these is the continuous suffix *–da*, which is derived from PSOG *kɨnta ‘walk’ in the aspectual position of SVCs, as described in §3.2.2. The same-subject suffix is also innovative, as described below.

3.6.6.1. Same–subject

The Apalɨ same-subject suffix is *–vɨla*, which appears to be composed of the PSOG same-subject suffix *-ta on a reflex of *ua ‘say.’ This verb, especially in the CS languages, is often used as a verb of performance, meaning ‘do (or say) something just mentioned,’ as in Sirva, where one of its functions is to enable the borrowing of Tok Pisin verbs (147).

> Sirva
> (147) *Sue   udukɨb   uva   **bihainim**   **va-bɨ-s-a.***
>   so   road   SPEC   **follow**   **say-PL-FPST-3**
>   ‘They followed another road.’

This etymology explains several unusual facts about the Apalɨ same-subject suffix. First, it attaches to the long root forms—etymologically, the unbound forms—as with *iguavɨla* and *mɨguavɨla* in (148), where we might otherwise expect †*iguvɨla* and †*mɨguvɨla*.

> Apalɨ
> (148) *Nadi   hekɨlɨ   aga-saŋ   **igua-vɨla**   nɨbu   **mɨgua-vɨla** ...*
>   daughter big   DEF-BEN   **give-ss**   3SG.NOM   **move.down.go-ss**
>   ‘She gave it to her daughter and she went down and ...’

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Apalɨ also has an unusual construction in which a single verb can carry both different-subject and same-subject morphology. Wade (1997) discusses this construction in detail, concluding that it signals topic continuity in cases where a non-topical entity is the subject of a clause, as with the feathers in (149). The existence of this construction is much easier to account for historically if it originated as two separate words, and –*vɨla* later attached to the preceding word.

Apalɨ
(149) *Fɨhɨ-ci*   **iah-u-ci-vɨla**   *nɨbu*   *h-eŋ*   *vihɨ-la-lɨ*
pull.out-3SG.DS   **move.up-go-3SG.DS-SS**   3SG.NOM   MD-LOC   cut.up-HAB-3SG.FPST
'He (the bird) pulls it (feathers) out and it comes up and he then tears it up.'
(Wade 1997: 11)

3.6.7. North Central Sogeram Innovations

The NCS languages Mum and Sirva share only one grammatical innovation, although they share several phonological innovations. And this grammatical innovation, the creation of a past tense suffix *–s, was shared with the Aisi languages.

3.6.7.1. The –s past

PNCS grammaticalized a new past tense suffix *-s, a development which it shared with PAIS (and possibly also with Kursav, but Kursav lost all past tenses so we cannot know). This suffix is used in the Mum yesterday past and far past, in the Sirva far past, and in the Aisi far past, as shown in Table 31.

Table 31. The *-s past

	Mum YPST	Mum FPST	Sirva	Aisi Magɨ	Aisi Mabɨŋ	PNCS–PAɪs
1SG	-s-in	-s-m-in	-sɨ-n	-s-iŋ	-s-iŋ	*-s-in
2SG	-s-na	-s-ma-na	-sɨ-na	-s-aŋ	-s-aŋ	*-s-na
3SG	-s-rɨ	-s-m-i	-s-a	-s-i	-s-i	*-s-i
1PL	-s-rɨŋ	-s-ma-rɨŋ	-sɨ-r	-s-ar	-s-aŋ	*-s-rɨŋ
2PL	-s-ra	-s-ma-ra	-sɨ-ra	-s-ar	-s-ar	*-s-ra
3PL	-s-yu	-s-m-u	-bɨ-s-a	-s-uŋ	-s-uŋ	

Although the NCS languages and the Aisi languages belong to different branches of Sogeram, there is significant evidence of shared history between these languages and they most likely developed this suffix together. The fact that it occurs to the left of the past tense suffix –*ma* in the Mum FPST suggests that *-s grammaticalized from a serial verb construction. This is because *-ma is a very old suffix, dating at least to PSOG, and a new tense that grammaticalized from the right edge of the word would have no obvious way to jump over *-ma and occupy the position closest to the stem.

Luckily, a very likely etymological source presents itself in the WS languages: the basic verb *sɨ-* 'do,' illustrated in (150) and (151).

Mand
(150) W-e   tɨh   **s-i**   a-i,   Udɨmapɨh   watɨm   pi-rɨd.
      go-SS work   **do-SS** come-SS Udɨmapɨh   after   take-FPST
      'I went, worked, came back, and later had Udɨmapɨh.'

Nend
(151) Wɨram   mba-na-mb   ha-n-av-e   ñi-ma-r   marɨv **sɨ-ma-r**
      man   ND-CTR-NOM   MD-ACC-do.thus-SS stay-HPST-3SG spirit **do-HPST-3SG**

      ha-n.
      MD-ACC
      'The man whom the spirit had done to stayed like that.'   Harris n.d.

This verb also has a reflex in Aisi Magɨ, where it is the post-quote verb *s-* 'say' (152).

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Aisi Magɨ

(152) *Yɨ   u-kitiŋ   ir-ɨbyaŋ   s-iŋ.*
      1SG   go-SS   perceive-1SG.FUT   say-1SG.IPST
      'I said, "I'll go see."'

This allows us to posit that, in the ancestor to PNCS and PAIS, there existed a serial verb construction in which *sɨ- 'do' occupied the aspectual position (§3.2.2) and contributed past-tense meaning. This construction was, at least for a while, quite productive. Modern reflexes are descended from at least three separate TAM categories. Most forms appear to be descended from the immediate past (§3.3.1); but the Mum 3SG.YPST and perhaps the Sirva 1SG have Set II agreement suffixes, which suggest a different origin; and the Mum far past is descended from the historic past (§3.3.4), having added *–s* and left the other morphemes unchanged.

3.6.8. Mum Innovations

Mum verb morphology appears, on the whole, to be fairly conservative. The language has innovated a new 3PL agreement suffix, which is realized as *–u* or *–yu* depending on the TAM category. I have no etymology for this suffix, although it resembles the Aisi suffix *-uŋ* and the Kursav suffix *-u.*

Mum also has a future tense paradigm, shown in Table 32, that is difficult to explain. Like the Manat paradigms shown in §3.6.5, it appears to begin with a reflex of the PSOG irrealis suffix *-ɨt. This may be followed by a reflex of the historic past suffix *-ma, suggesting that this suffix marked far distance from the present, not necessarily just past tense. But there are too many questions about this tense to consider that possibility anything more than speculation.

Table 32. Mum future

	SG	PL
first person	*-ɨrman*	*-ɨmdaŋ*
second person	*-ɨrmana*	*-ɨrmadra*
third person	*-ɨrma*	*-ɨrmadyu*

3.6.9. Sirva Innovations

As with other languages, several Sirva verb forms remain unexplained. These include the plural suffix, which is used with the 3SG suffix, as in many other Sogeram languages, to mark 3PL subject agreement. In Sirva it varies between *–b*, *–rɨb*, and *–rub*, the choice of allomorph being determined lexically. Some paradigms also cannot yet be explained, and these are given in Table 33.

Table 33. Unexplained Sirva paradigms

	FUT	OPT
1SG	*-vanadi-n*	*-ɨda*
2SG	*-vanadi-na*	
3SG	*-vanadi-Ø*	
1PL	*-vanadi-r*	*-ɨdagra*
2PL	*-vanadi-ra*	
3PL	*-vana-bri*	*-b-adi*
1DU		*-ɨdaŋ*

The future tense seems quite plainly to be made up of the desiderative suffix *–vana* and the verb *adɨ-* 'do' with the immediate past suffixes. But the etymology of *–vana* is difficult to pin down. It may be related to the Gants future tense suffix *–paŋ*, since Sirva *v* and Gants *p* are both reflexes of PSOG *v. But a more detailed proposal cannot be made at this stage.

The optative forms are also puzzling. The second person forms are descended from the PSOG imperative suffixes (§3.3.7), but the forms given in this table cannot yet be explained. The presence of a dual suffix *–ɨdaŋ* is particularly intriguing.

Some forms can be accounted for, though, such as the immediate past and habitual suffixes, discussed below. Sirva also changed the 1SG agreement suffix from *-in to *-n* in every TAM category, even those that would be expected to inherit the Set I form *-in. This change would probably have been motivated by two factors. First, the suffix *-n was fairly common, occurring in several sets of agreement suffixes. And second, the analogical change that created the immediate past suffix *-ri*, discussed below, redrew the morpheme boundaries in the immediate past so that the 1SG suffix became *-n.* Because the immediate past is a very high-frequency verb form, other paradigms were now more likely to change the 1SG suffix to *-n.* This occurred in the YPST, where the PSOG HPST form *-m-in (§3.3.4) changed to *-ma-n.*

3.6.9.1. Immediate past

Sirva created a dedicated suffix *-ri* for the immediate past tense, as shown in Table 34. In PSOG this tense was simply marked with the Set I agreement suffixes and no tense suffix (§3.3.1).

Table 34. Sirva immediate past

	SG	PL
first person	*-ri-n*	*-ri-r*
second person	*-ri-na*	*-ri-ra*
third person	*-ri-Ø*	*-b-ri*

The Sirva reanalysis probably began with a construction in which a reflex of *=rɨ- 'be' was used in the aspectual SVC position (§3.2.2) in the immediate past. This form then became bleached of much of its meaning, until it was reanalyzed as the immediate past suffix. At this point it would have still been *-rɨ, but the *ɨ would have been elided in the

presence of the 1SG suffix *-in and the 3SG suffix *-i. The *ri sequence from these two person–number forms, then, appears to have been generalized to the other forms, replacing, for example, 2SG *-rɨ-na with modern *-ri-na*. This reanalysis resulted in a redrawing of the morpheme boundaries in the 1SG and 3SG: the 1SG suffix is now *-n*, not [†]*-in*, and the 3SG suffix is *-Ø*.

3.6.9.2. Habitual

The Sirva habitual paradigm is defective, consisting only of the 3SG form *-rav-ri* and the 3PL *-rava-b-ri*. The fact that it ends in the immediate past suffixes, though, provides a clue to its etymology. The *va* element is probably cognate with the verb *va-* 'say, do,' in turn derived from PSOG *ua, u-* 'go, say.' This suggests that the habitual suffix *-rava* consists of the same-subject suffix *-ra* (< PSOG *-ta) plus the verb *va-*. This construction, when in the immediate past, appears to have grammaticalized with habitual meaning, creating the modern verb forms. It remains unclear, though, why this process only created third person forms.

3.6.10. East Sogeram Innovations

The two Aisi languages, as mentioned in §3.6.7.1, shared the innovation of the *s*-past with Mum and Sirva. Kursav may also have undergone this innovation, but it is no longer possible to know because Kursav lost all non-immediate past tenses, turning the PSOG immediate past into a non-future. Otherwise, there are no innovations shared exclusively by the four ES languages.

One change shared by three of the ES languages—the two Aisi languages and Kursav—is the innovation of a new 3PL suffix *-uN. Unlike many other Sogeram languages, these

languages do not mark 3PL with a plural suffix that combines with the 3SG suffix. Rather, the Aisi languages employ the 3PL suffix *–uŋ* (sometimes *–oŋ* in Mabɨŋ) and Kursav the suffix *–u* (sometimes *–o*). The origin of this suffix is not known, but it can be reconstructed as either *-un or *-uŋ, both of which could be reflected by final ŋ in Aisi. It is unclear whether this suffix is related to the Mum 3PL suffix *–yu*.

Another innovation, this one shared by Kursav and Gants, is the irregular change of PSOG *-ta 'SS.DELAY' to *–da* 'SS.' While irregular voicing in bound morphology is to be expected from time to time, this change is somewhat unusual because *d* is prenasalized in Kursav and Gants. This means that although the sound change can be understood as a kind of lenition, it also involved the addition of an articulatory gesture, namely the lowering of the velum.

3.6.11. Aisi Innovations

The major innovation shared by the two Aisi languages is a process of *a*-root analogy that went through the whole verbal lexicon and changed every PSOG *u*-root and C-root to an *a*-root. This had the effect of redrawing morpheme boundaries in several cases where PSOG suffixes were consonant-initial. For example, the PSOG 2SG immediate past suffix *-na (§3.3.1) has become *–aŋ* in both Magɨ and Mabɨŋ, and 2PL *-ra has become *–ar*. (Note that both these suffixes are expected to have final [†]ɨ according to regular sound changes, but this vowel appears to have been lost due to the sort of phonological erosion that often affects bound morphology.)

The process of analogy that created the new morpheme boundaries can be seen with the *a*-root *tama 'put' and the C-root *kɨñɨ- 'stay.' First, *kɨñɨ- became an *a*-root on analogy with other *a*-roots (recall that *a*-roots were by far the most common PSOG verb class). Thus the 2SG.IPST of this verb changed from PSOG *kɨñɨ-na to PAIS *kɨna-ŋ (today it is *kin-aŋ*). The 2SG.IPST of *tama became *tama-ŋ (today *tam-aŋ*), as with other *a*-roots, meaning that now the 2SG.IPST of every erstwhile *a*-root, *u*-root, and C-root ended in a final sequence of *aŋ. This ending then spread to the *i*-roots and *kw*-roots, a much smaller group of roots, by analogy. PSOG *iŋku-na 'give-2SG.IPST' became PAIS *igw-aŋ (now *igw-aŋ*) and *i-na 'hold-2SG.IPST' became *y-aŋ (now *y-aŋ*). After this process was completed, every 2SG.IPST verb ended in *-aŋ so the vowel *a, which had formerly been part of the root, became part of the suffix. The same process redrew morpheme boundaries and added initial *a* to many other PSOG consonant-initial roots.

3.6.12. Magɨ Innovations

Because PAIS seems to have split up fairly recently, and because so little is known about Magɨ, there is fairly little to say about innovations that Magɨ has undergone on its own. The only forms I cannot explain are the third person different-subject suffixes, *-iniŋ* '3SG.DS' and *-inuŋ* '3PL.DS.' The rest of the Magɨ different-subject paradigm is inherited from the PSOG different-subject realis paradigm (§3.4.2).

3.6.13. Mabɨŋ Innovations

There are a few verb categories in Aisi Mabɨŋ that remain unexplained. One of these, a suffix *-ri* that occurs on some different-subject verbs, is not understood well enough

synchronically to begin speculating about its origins. Another suffix for which I can present no etymology is the nominalizer, which is *-be* for some verbs and *-bi* for others. This suffix resembles the participial suffix *-ɨba*, descended from the PSOG irrealis infinitive *-ɨmpa (§3.5.3), but it is difficult to concoct a plausible etymology for it. It does seem, however, that the desiderative suffix *-bes* or *-bis* is probably derived from the nominalizer combined with the benefactive postposition *si.*

3.6.13.1. Different–subject frustrative

Aisi Mabɨŋ possesses two different-subject suffixes which indicate that the action of the marked verb was not successfully completed. These are *-eg* '3SG.DS.FRUST' and *-og* '3PL.DS.FRUST.' Interestingly, they appear to be derived from the regular different-subject suffixes *-egi* '3SG.DS' and *-ogi* '3PL.DS,' which are in turn derived from the PSOG 3SG different-subject realis suffix *-ɨk-i. (The 3PL also appears to reflect the insertion of the innovative 3PL suffix *-u/-o* which is found in Aisi and Kursav). How the frustrative suffixes were formed is an interesting question, for which I see two possible answers.

The first is simply that they underwent irregular phonological erosion in a specific constructional environment. The frustrative suffixes are always used with the negative particle *ma* following the verb (153), and it is possible that this construction originally consisted simply of a different-subject verb plus *ma*, and that the third person suffixes then underwent irregular reduction. This hypothesis seems to be supported by examples like (154), where non-third person different-subject forms are used in what is apparently the same constructon.

Aisi Mabɨŋ

(153) *Mɨt-i w-oginɨŋ, nɨrɨ yak-i **ir-og** ma, mabɨŋ.*
leave-SS go-3PL.DS 3PL come.up-SS **perceive-3PL.DS.FRUST** NEG no
'They$_i$ went away and they$_j$ came up and looked, but no (they$_i$ were gone).'

Aisi Mabɨŋ

(154) *Ga-nɨŋ **kɨn-ɨkuŋ** ma, sɨb ga-ku gi, ino urunda.*
MD-LOC **stay-1PL.DS** NEG village MD-NOM FOC NEG good
'We wanted to live there, but that village wasn't good.'

The other possibility is simultaneously more intriguing and more unlikely. The irregular reduction described above is an *ad hoc* stipulation to explain an irregular phonological outcome. But recall that PAɪs regularly lost word-final *i (§2.4.2.1); this sound change may have played a role in the formation of the frustrative suffixes. The fact that the regular different-subject suffixes retain final *i suggests that this sound change may have only taken place in certain intonational environments—for example, it may not have applied at the right edge of an intonational boundary. This explains the retention of *i in the regular different-subject suffixes, as these often occur at the end of an intonation unit, and also explains its loss in the frustrative forms, as they were not intonation unit-final. It also explains how the change could have been as (apparently) regular as it was while not affecting verb morphology (other unaffected suffixes include *-i '3SG.IPST' > –*i*, *-ɨtia-i 'HAB-3SG' > Magɨ -*ite-i*, Mabɨŋ –*er-i*, and the *-s past form *-s-i 'PST-3SG' > -*s-i*). Since the Sogeram languages have always been verb-final, verbs would normally come at the end of intonation units while non-verbs would normally not. Thus the verbs would be exempted from this sound change even as it applied regularly to other parts of speech.

This path of innovation remains speculative and would require more research, but it is an intriguing possibility with some ability to explain the shape of the Aisi lexicon. If it is

confirmed, it would constitute a valuable example of what Round (2010) calls "edge-aligned reconstruction"—the ability to reconstruct syntactic and intonational facts about proto-languages by studying the different ways sound changes have affected various parts of speech because of their typical location in the intonation unit.

3.6.14. Kursav Innovations

A few innovations can be described for Kursav. One of the most striking, given the typical profile of the Sogeram languages, is the loss of all non-immediate past tenses. Sogeram languages typically have several verb forms with past time reference: Nend and Apalɨ have six, Manat seven, Gants four, and PSOG is reconstructed with five. In Kursav, though, the time reference of the immediate past has extended back to cover everything before the present. Since this tense also referred to present tense events, it has become a non-future in Kursav.

Kursav also innovated a habitual suffix *–d* from the aspectual SVC with *kɨnta 'walk' that was described in §3.2.2.

One Kursav verb form that I cannot explain, and which is still imperfectly understood, is what I call the uncertain future. This paradigm only contains second person forms (-*manau* '2SG.UFUT' and –*marau* '2PL.UFUT'), both of which are infrequent and of uncertain meaning. Formally these suffixes bear some resemblance to the PSOG prohibitive suffixes *-ɨmɨ-na* 'PROH-2SG' and *-ɨm-ara* 'PROH-2PL,' but the resemblance is not perfect and the semantic connection is somewhat tenuous.

3.6.14.1. First person singular –Ø

In many TAM categories, most notably the non-future and forms derived from it (such as the future and the habitual), the PSOG 1SG agreement suffix *-in has been lost and replaced with either a null suffix –Ø or the suffix –ua, the choice being determined lexically. These forms appear to be derived from uninflected serialized verb forms. Most verbs that were a-roots in PSOG now take –Ø in Kursav, such as aba 'speak' (< *ampa), ika 'chop' (< *ika), isa 'bite' (< *isa), and rama 'put' (< *tama). (Recall that PSOG a-roots did not exhibit any difference between their bound and free roots.) On the other hand, all other PSOG roots now take the –ua suffix, such as in 'stay' (< *kɨña), ivo 'hit' (< *ivu), kumo 'die' (< *kɨmu), and ruko 'see' (< *tɨku). This was probably on analogy with the pattern of alternation that occurred in some verbs between the bound form and the free form, such as with *iŋkwa, *iŋkw- 'give.' This alternation in 'give' is inherited into Kursav, although the labiovelar consonant has irregularly become bilabial: -b-ua 'give-1SG.NFUT,' bu-m 'give-PTCP.' As this alternation spread analogically through the lexicon, it also affected a handful of a-roots, such as ne 'eat' (< *ña) and mata 'leave' (< *mita), which now have the 1SG.NFUT forms n-ua and mat-ua.

After this process had created new 1SG forms, it spread analogically through the non-future paradigm, so that all forms that take –ua in the 1SG now also insert it between the verb root and the old PSOG suffix in the 1PL and the second person. For example, ne 'eat' is now n-uana in the 2SG (< *ña-na), n-uar in the 1PL (< *ña-rɨŋ), and n-uara in the 2PL (< *ña-ra).

While the evidence is strong that the analogical processes I describe above did take place—especially the correspondence between PSOG verb class and Kursav verb class—one important question remains unanswered. How did uninflected serialized verbs, which could be used in any clause regardless of subject, come to be associated with first person singular meaning? This question will have to remain unanswered for now.

3.6.14.2. Future

Kursav created a new future tense suffix *-md*, almost certainly from a construction consisting of a participial verb form in *-m* (< *-m) and the verb *du, di-* 'do' (< *anta, anti-*). This appears to be a fairly recent innovation, as it is still practically indistinguishable, phonetically, from a two-word sequence of participle plus 'do.' But clause chains ending in future verbs take irrealis different-subject suffixes (155), suggesting that this form should not be analyzed as a participle plus a non-future suffix.

Kursav

(155) *Ba-m   neite   waka,   guro   **kev-it-Ø,**   Vikura gwayam ariga*
      QD-TEMP   time   maybe   speech   **throw-IRR-1SG**   Fikura old.man two

ve-md-o.
come-FUT-3PL
'Whenever I send word, two Fikura (clan) elders will come.'

3.6.15. Gants Innovations

Gants exhibits several innovations relative to the reconstructed PSOG verbal system, but they are mostly quite difficult to explain. A few suffixes are poorly understood, such as the desiderative *-inaba* and the nominalizer *-ko*, and these cannot be explained until their synchronic properties are more fully understood. Gants also has a same-subject delayed

suffix *–medi* which does not appear cognate with any other Sogeram suffix. There is also a future suffix *–paŋ* which can occur either on its own, forming a future infinitive, or with an agreement suffix, forming the future tense shown in Table 35. The etymology of *–paŋ* is uncertain, although it may be cognate with the *va* element of the Sirva desiderative suffix *-vana.*

Table 35. Gants future

	SG	PL
first person	*–paŋ-niŋ*	*–paŋ-ruŋ*
second person	*–paŋ-naŋ*	*–paŋ-raŋ*
third person	*–paŋ-dɨk*	*–paŋ-dek*

Gants, like many Sogeram languages, has a plural suffix which it often combines with the 3SG to form the 3PL. In Gants this suffix is *–i*, and it is uncertain what its etymology is. It may be descended from *i 'hold, carry,' but there is no evidence to support this hypothesis. It may also be cognate with the Mand plural suffix *–e*; if it is this is almost certainly a case of parallel innovation rather than shared inheritance, given the genetic distance between these two languages and the diversity of plural-marking strategies found in other Sogeram languages. But the Mand suffix is sometimes *–eu*, which casts doubt on this relationship.

Gants also created a present tense suffix *–cɨ* via the grammaticalization of *kɨña 'stay' in the aspectual SVC position, as described in §3.2.2.

Finally, Gants changed the historic past suffix *-ma (§3.3.4) to *-me* by analogy with the 1SG and 3SG forms, which originally were *-m-in and *-m-i and in which the vowels were lowered to *e*. The suffix is now *–me* in the 2SG, 1PL, and 2PL (for example, *-me-naŋ* 'FPST-2SG'),

although in the 3PL the older form has survived in the presence of an *i* that is apparently related to the plural suffix: *-m-aik* 'FPST-3PL.'

Chapter 4

Nominal Morphology

In this chapter I present reconstructions of three noun-related word classes and their attendant morphology. I begin with inalienably possessed nouns, which are a subclass of nouns, in the following section. I then cover pronouns in §4.2 and demonstratives in §4.3. The treatment of pronouns and demonstratives involves a lot of discussion of noun phrase-final enclitics, so some sections are actually devoted to those. Also, there has been a good deal of analogic change to these systems, which has been challenging to unravel. Consequently, the proportion of tentative reconstructions is somewhat higher in this section than in others, and I point out the more speculative lines of reasoning where appropriate.

Unlike in the chapter on verbs and verb morphology, I do not devote a separate section to the discussion of innovations here. The number of unexplained demonstrative suffixes, in particular, would make such a section unwieldy. Rather, I examine daughter language innovations in the sections where they are relevant—that is, where the innovation relates to the reconstruction that is under analysis.

4.1. Inalienably Possessed Nouns

PSᴏɢ had a subclass of nouns—almost all kin terms—that were inalienably possessed. Inalienably possessed nouns differed in a few respects from common nouns. First, as discussed in §4.2.2 below, they could host some enclitics that common nouns could not.

Second, they took possessive prefixes that common nouns did not. And third, it is possible (although uncertain) that they took plural marking, which common nouns did not. The latter two features are discussed in the sections below.

4.1.1. Possessive Prefixes

Inalienably possessed nouns took obligatory possessive prefixes that distinguished the person, but not the number, of the possessor. The prefixes were *a- '1.POSS,' *na- '2.POSS,' and *nɨ- '3.POSS.' Table 1 shows the reflexes that support these reconstructions.

Table 1. Possessive prefixes

	Mand	Nend	Manat	Apalɨ	Mum	Sirva	Aisi	Kursav	Gants	PSOG
1.POSS	a-	a-	a-	a-	ya-	a-	a-	a-	a-	*a-
2.POSS	a-	a-	na-	na-	na-	na-	na-	na-	na-	*na-
3.POSS	Ø-	Ø-	nɨ-	nɨ-	nɨŋu-	nɨ-	nɨ-	nɨ-, no-	nɨ-, no-	*nɨ-

The loss of word-initial consonants in the West Sogeram (WS) languages (§2.2.1.1) resulted in the merger of the 1.POSS and 2.POSS prefixes into a speech-act-participant prefix, which now stands in opposition to a null 3.POSS prefix. In Mum the 1.POSS prefix became *ya-* on analogy with the first person subject pronoun *ia. Also, the 3.POSS prefix added an element *ŋu* which I cannot explain. A rare variant of the PSOG 3.POSS prefix was *nu-, which mimicked the third person subject pronoun *nu; Kursav and Gants have generalized this variant to more contexts. Otherwise, the reflexes of all three possessive prefixes are remarkably regular, and reconstruction is consequently unproblematic. The specific lexical histories of the sixteen reconstructed kin terms are discussed in §6.3.

4.1.2. Plural Suffix

It is possible that inalienably possessed nouns were marked for number, although the reconstruction is not without its problems. Not all Sogeram languages mark number on inalienably possessed nouns today, so this analysis hinges primarily on reflexes in Mand and Nend, on the one hand, and Sirva on the other. The Mand plural suffix is usually *–oja*, although under certain circumstances, which are not fully understood, it can be *-oj* (1) or *-ja*. The Nend plural suffix is *–onj* (Harris 1990: 87), which appears to be cognate.

<div style="margin-left:2em">

Mand

(1) *Agr-e*   *w-e*   **v-oj**   *hr=ir*   *ka-rd=a.*
run-SS   go-SS   **father.3.POSS-PL**   3SG.POSS=ACC   talk-FPST=LNK
'She ran and told her fathers.'

</div>

Sirva has a wide variety of plural suffixes for kin terms, each of which is used with only one or two lexemes. The suffix for the words *mudu* 'male in-law' and *mudumɨge* 'mother-in-law' is *-ña*. (Other suffixes include *–zar*, *-har*, *-gar*, and *–nin*.)

If the only reflexes available to us were the Mand allomorph *–ja* and the Sirva allomorph *-ña*, we could easily reconstruct **-ña* and each of these would be a regular reflex. But the suffix-initial *o* in Mand complicates matters; what happened to this vowel in Sirva? The Nend reflex *ŋj* also causes problems. Mand *j* is a regular reflex of **ñ* because Mand underwent nasal fortition (§2.2.2.5). But Nend did not undergo nasal fortition, and would not be expected to borrow such a suffix from Mand, so we must question whether the WS and Sirva forms are even cognate. Unfortunately the question cannot be conclusively resolved with the available data. It may be that PSOG had a plural suffix **-ña* or **-uña* for inalienably possessed nouns. It may also be that both these suffixes come from a

construction involving the pronoun *uña 'who' (see §4.2.6). For example, an expression like *nɨ-van uña '3.POSS-father who' could have originally meant 'the father and who(ever).' Such an expression could then have undergone grammaticalization so that the pronoun *uña 'who' eventually became a plural suffix. But the evidence for neither of these scenarios is conclusive, so for now this plural suffix, or plural construction, cannot be reconstructed.

Another plural word, *kati, can be reconstructed at least for Proto-Central Sogeram (PCS). Reflexes of this word mean 'group' or 'people' in Manat and Mum, and 'head' in Apalɨ. Some plural suffixes, like Manat –*ati* (2) and Sirva –*har* (3) also appear to be reflexes of *kati.

Manat
(2) *Igu-ma-g,*   **ni-hav-ati=k.**
give-PST-3SG.FAR   **3.POSS-uncle-PL=ACC**
'She gave it to his uncles.'

Sirva
(3) *Sue* **nu-husu-har**   *bira añi*   *pɨi-vana*   *mugura-bɨ-s-a.*
so   **3.POSS-son-PL**   3PL   water   bathe-DESID   go.down-PL-FPST-3
'So his sons went down to the water to bathe.'

These suffixes appear to have grammaticalized fairly recently, given that their likely source construction can still be found in Mum (4).

Mum
(4) *Arhina* **hati**   *mɨgu-ta*   *Josephstaal*   *tavra-m-u.*
Arhina   **people**   go.down-SS   Josephstaal   wait-IMP-3PL
'The people of Arhina must go down to Josephstaal and wait.'   (Sweeney n.d.)

Look-alike forms can be found in non-CS languages, but they are divergent enough that it is unclear whether they should be considered cognate with the CS forms. These include

Mand *ata* 'group,' Magɨ and Mabiŋ *katam* 'head,' Kursav *–hata* 'plural kin term suffix,' and Gants *karaŋ* 'headwater.' Taken together these forms are all suggestive of a PSOG form *kat(i/a)[m], for which the second vowel could have been *i or *a and which may or may not have had a final *m. This form, if it existed, would probably have meant 'head,' but the Mand and Kursav forms are semantically somewhat divergent. But the problems with the cognate set are numerous enough that reconstruction to PSOG remains premature. Rather, reconstruction should be restricted to PCS *kati for now.

4.2. Pronouns

In this section I discuss the five sets of pronouns that can be reconstructed to PSOG, beginning in the next section with the subject pronouns and continuing with the object pronouns (§4.2.2), oblique pronouns (§4.2.3), possessive pronouns (§4.2.4), and emphatic pronouns (§4.2.5). I also discuss the interrogative pronoun 'who' (§4.2.6) and the reconstruction of a special topic enclitic (§4.2.7) which was probably not actually a pronoun.

4.2.1. Subject Pronouns

The PSOG subject pronouns have been reconstructed by Ross (2000: 9, under the label "pWanang") as well as in my previous work (Daniels 2010). The reconstruction presented in Table 2 below differs in some details from those reconstructions, but the general picture remains the same. Specifically, Ross proposes *ba '3SG' and *ba-ra '3PL' as variants of the third person pronouns, but I consider the data he cites in support of this reconstruction to

be reflexes of the emphatic set (§4.2.5). Here and throughout this chapter I use [square brackets] to indicate that a form is functionally equivalent but that I do not consider it cognate. So for example, the Sirva 3SG and 3PL pronouns in this table are synchronically subject pronouns, but they are descended from the topic enclitic (§4.2.7), not from the PSOG subject pronouns.

Table 2. Subject pronouns

	Mand	Nend	Manat	Apalɨ	Mum	Sirva	Aisi	Kursav	Gants	PSOG
1SG	[api]	[nzɨ]	[zɨ]	[viaŋ]	yi	ya	yɨ, ya	ya	ya	*ia
2SG	[abɨ]	[am]	[am]	[nama]	na	na	na	na	na	*na
3SG	[pɨ]	[mbɨ]	[bɨ]	[nɨbu]	nu	[be]	ni, nu	ni, nu	nu	*nɨ, nu
1PL	[arhw]	[ar]	[ar]	[alaŋ]	ara	ara	arɨ, anɨ	an	ayu	*ara
2PL	[abɨ]	[am]	[am]	[namɨlaŋ]	nar	nara	narɨ	nan	nayu	*nara
3PL	[pɨ]	[mbɨ]	[bɨ]	[nubɨlaŋ]	nɨr	[bira]	nirɨ	nin	niu	*nɨra
1DU	[di]		[nad]							
2DU	[dɨh]		[nid]							
3DU	[dɨh]		[nɨd]							

A few remarks about the data in this table are in order. First, Mand, Nend, Manat, and Apalɨ, all in the western part of the family, have innovated a new set of subject pronouns from the PSOG emphatic pronouns, as I discuss in §4.2.5. The Apalɨ 3SG and 3PL forms exhibit variation between *ɨ* and *u* in their first vowel, which has been left out of the table for space reasons. Thus the 3SG can be *nɨbu* and *nubu*, while the 3PL can be *nɨbɨlaŋ* and *nubɨlaŋ*. Where there are two forms in the Aisi column, the left form is Aisi Magɨ while the right is Aisi Mabiŋ. The Kursav 3SG is normally *nɨ* in connected speech, although speakers accept *nu* as a valid pronunciation and occasionally produce it themselves.

The 1SG and 2SG forms are fairly straightforward to reconstruct, especially since they date to Proto-Madang and cognates can be found in many languages outside the Sogeram

group. Examples include Anamuxra *ya* '1sɢ' and *na* '2sɢ' (Ingram 2001), Kalam *yad* '1sɢ' and *nad* '2sɢ' (Pawley & Bulmer 2011: 41), Tauya *ya* '1sɢ' and *na* '2sɢ' (MacDonald 1990: 92), and Wasembo *ya-* '1sɢ.ᴏʙᴊ' and *na-* '2sɢ.ᴏʙᴊ' (McElhanon 1975: 900). Ross also reconstructs the same forms (2000: 9). (Note that my 1sɢ reconstruction *ia is a notational variant of Ross's *ya, not a different reconstruction; my *i was pronounced as a consonant *[j] before *a.)

The 3sɢ forms are more difficult. We are faced with variation between *nɨ* forms and *nu* forms, sometimes as variants within a language (as in Kursav), sometimes as different reflexes in closely related languages (as in the Aisi languages). Finding the variation in both Apalɨ and Kursav is evidence that it dates to PSᴏɢ. In addition, reflexes of both forms can be found throughout the family—if, that is, the Mand, Nend, and Manat third person pronouns are in fact reflexes of *nɨ, as I argue in §4.2.5 below. It remains to be discovered how, and whether, *nɨ and *nu differed in function.

The plural pronouns are all formed with an element *-ra. Previously I reconstructed this element as *-raN, with a final nasal reflected only by Apalɨ *ŋ* (Daniels 2010: 171). More careful comparative work has revealed that this segment is better accounted for as an Apalɨ addition. (Addition of final *ŋ* is not uncommon in Apalɨ.) In particular, the evidence from the Josephstaal branch of South Adelbert shows no evidence of a final nasal, suggesting a reconstruction of *-ra: Moresada *arɛ* '1ᴅᴜ,' *nara* '2ᴅᴜ' (Capell 1951: 144); Osum and Pondoma *arɨ* '1ᴅᴜ,' *narɨ* '2ᴅᴜ'; and Wadaginam *nara* '2ᴅᴜ,' *nɨra* '3ᴅᴜ' (Z'graggen 1980*a*: 86).

These forms make something else clear: the PSᴏɢ plural pronouns are reflexes of Proto-South Adelbert duals. PSᴏɢ generalized the dual to all non-singular numbers, losing the dual–plural distinction. Or so it would seem, but for two complicating factors: the presence

of dual pronouns in Mand and Manat, and the nasal in the Aisi Mabɨŋ 1PL and the plural Kursav pronouns. The dual pronouns in Mand and Manat are difficult to explain; they do not appear cognate with any other Sogeram or Josephstaal pronouns. And the fact that the Sogeram plural pronouns are so plainly cognate with the Josephstaal dual pronouns makes it difficult to see where the Mand and Manat duals could have come from, since they did not originate as Proto-South Adelbert dual pronouns. One clue is the beginning of the non-first person dual pronoun, which is *di-* in Mand and *nɨ-* in Manat. Both of these are regular reflexes of *nɨ, the PSOG 3SG pronoun, suggesting the Mand and Manat dual pronouns may have originated as members of some other, non-subject set of pronouns. But it is not even possible at this point to speculate about what set of pronouns that might have been. For now, then, their origin remains unresolved, although it does not appear to cast doubt on the reconstruction of the PSOG pronoun system as contrasting only singular vs. plural number.

The Aisi Mabɨŋ form *ani* '1PL' and the Kursav plural pronouns *an* '1PL,' *nan* '2PL,' and *nɨn* '3PL' are a more serious problem. Previously I had accounted for these as an irregular innovation (Daniels 2010: 172), although it is difficult to see what might motivate the spontaneous nasalization of *r to *n*. This hypothesis also runs into subgrouping problems, as the nasal is not found in Aisi Magɨ, which shares a long history of common development with Aisi Mabɨŋ. Accounting for the presence of the nasal in Aisi Mabɨŋ and Kursav, and its absence in Aisi Magɨ, is difficult. An alternative hypothesis is that the Proto-South Adelbert plural pronouns were actually retained in PSOG. This hypothesis faces the same subgrouping issues, and runs into other problems. First, there are no relics of the Proto-

South Adelbert plural pronouns in any other Sogeram language. And second, the Josephstaal languages suggest that the Proto-South Adelbert plural pronominal formative was *-ŋa: Moresada has –ŋa (Capell 1951: 144) while every other language has –ŋ (Z'graggen 1980a: 86). Aisi and Kursav, though, reflect *-na, with regular centering to -nɨ in Aisi (§2.4.2.4) and irregular loss of final *a in Kursav. These forms are not wildly different, of course, but a change from velar to alveolar nasal, or vice versa, must have taken place at some point if we wish to maintain that these forms are related to the Josephstaal forms. And such a change would be somewhat difficult to motivate on phonological grounds.

These Aisi Mabɨŋ and Kursav pronouns thus remain a puzzle. Both possible explanations—that they are an irregular post-PSog development, or that they are reflexes of the Proto-South Adelbert plural pronouns—have problems. The data strike me as inconclusive so I remain essentially agnostic, although I lean towards the hypothesis that they are a post-PSog development. For this reason I do not reconstruct a dual–plural distinction in the PSog pronouns.

Having addressed those issues, we can now turn to the individual reconstructions of the three PSog plural pronouns. The 1PL is straightforward, as the initial element *a- is reflected in every language and is also reflected in the Josephstaal languages. The Mand form appears to be a reflex of a possessive pronoun (§4.2.4); Nend and Manat irregularly lost final *a; and Gants appears to have irregularly lost final *a, then regularly changed final *r > i (§2.4.6.4), then irregularly added final u. Otherwise the forms behave as expected.

The 2PL forms exhibit the same regularity, with the exception of the innovative pronouns in the western area. Gants appears to have undergone the same process as in the 1PL.

The 3PL forms are less regular. The innovative western forms are present once again, and Sirva is also innovative. Gants appears to have undergone the same process as in the 1PL and 2PL, although in this instance loss of final *a resulted in *nɨr, in which the *r vocalization change resulted in a vocalic *i: *ni. This form then took the same final *u* found in the other plural pronouns. It is worth asking whether the same variation found in the 3SG might have also been present in the PSOG 3PL: might the 3PL have varied between *nɨra and *nura? It does not seem so, as the evidence for *nura is quite weak. Reflexes of *ɨ are found in Apalɨ, Mum, Aisi, Kursav, Gants, and possibly the innovative western forms. The only possible reflex of *u is found in Apalɨ *nubɨlaŋ*, which varies with *nɨbɨlaŋ.* This form could easily have arisen on analogy with the 3SG pronoun *nubu*, and as such I consider it innovative. Thus I reconstruct only one form for the 3PL pronoun, *nɨra, to PSOG.

4.2.2. Object Pronouns

The PSOG object pronouns, as well as the oblique pronouns (discussed in the next section), were formed with case enclitics that were not restricted to use on pronouns but could also attach to the end of other noun phrases. In some languages these enclitics survive only as enclitics, in others they survive only on pronouns, and in still others both functions persist. The object enclitic is reconstructed as *=ŋ and the oblique enclitic as *=nt. They sometimes occur together on pronouns, usually in the order *=nt=ɨŋ but sometimes the reverse. The

forms that reflect the object enclitic *=ŋ are given in Table 3. Note that when in the presence of a clitic, the plural pronouns lose their final *a. Thus, for example, the 1PL object pronoun is reconstructed as *ar=iŋ, not †ara=ŋ.

Table 3. Object pronouns

	Mand	Nend	Manat	Mum	Sirva	Magɨ	Mabɨŋ	Gants	PSOG
	OBJ	OBJ	OBJ	OBJ	POSS	OBJ	OBJ	POSS	
1SG	[yar]	[yan]	[zɨ]	yaŋ	yaŋ	yadɨŋ	yaŋ	yadɨŋ	*ia=ŋ
2SG	[dar]	[nan]	nɨ	naŋ	naŋ	nadɨŋ	naŋ	nadɨŋ	*na=ŋ
3SG	dɨhɨr	[ndɨn]		nɨŋ	nɨŋ	nɨdɨŋ	nuŋ	nuduŋ	*nɨ=ŋ, nu=ŋ
1PL	[arhur]	ariŋ	ar	ariŋ	ariŋ	adaniŋ		aiduŋ	*ar=iŋ
2PL	adɨhur	andiŋ	nar	nariŋ	nariŋ	nadaniŋ		naiduŋ	*nar=iŋ
3PL	dɨhur	ndiŋ		nɨriŋ	nɨriŋ	nɨdaniŋ		niduŋ	*nɨr=iŋ

Manat does not have third person object pronouns; it uses demonstratives instead. Some of these forms, notably the 1SG and 2SG with only *=ŋ, do not have a wide enough distribution on their own to be reconstructed to PSOG. But when the paradigm is taken as a whole, the pattern in the 3SG and the plural forms, the reflex of *=ŋ in Gants, and the extant 1SG and 2SG reflexes in Mum, Sirva, and Mabɨŋ, make the reconstruction of *ia=ŋ '1SG=OBJ' and *na=ŋ '2SG=OBJ' quite likely.

The Mand 3SG form is a reflex of *nɨ=ŋ with the addition of an (apparently) innovative object enclitic =r; the changes of word-final *ŋ > h and *n > d are both regular (§2.2.2.5). The other Mand forms are more problematic. They also have the object enclitic =r, along with a vowel u that is of unknown origin. The rest of the material in these pronouns can be explained as regular reflexes of hypothetical forms *nan=iŋ and *nɨn=iŋ, or as irregular reflexes of *nar=nt=iŋ and *nɨr=nt=iŋ in which the *r was lost and *nt is retained as d instead of †t. The latter scenario is more likely for three reasons. First, there is no evidence

for *nan=iŋ or *nɨn=iŋ in any other language. Second, the loss of *r from the 2PL and 3PL forms before consonants is also seen in the possessive (§4.2.4) and emphatic (§4.2.5) pronouns. And third, the Nend forms *andɨŋ* '2PL.OBJ' and *ndɨŋ* '3PL.OBJ' are evidence that *nar=nt=ɨŋ and *nɨr=nt=ɨŋ were reflected in PWS as *antɨŋ and *ntɨŋ, which could easily have been retained in Mand with irregular reflexes of *nt.

In addition to Nend *andɨŋ* and *ndɨŋ*, which reflect *=nt=ɨŋ, the Nend 1PL form *arɨŋ* reflects only *=ŋ and appears to be a fully regular reflex of *ar=ɨŋ.

Manat underwent word-final nasal loss (§2.3.1.3), and as such the Manat forms in Table 3 could be reflexes of forms with final *=ŋ or not. It is somewhat more likely that they are not, though, since word-final nasal loss also affected Mum, Sirva, and Aisi, and all of these languages have preserved reflexes of *=ŋ. The given Manat forms are therefore probably descended from the subject forms; in the first person Manat does not distinguish subject from object pronouns, while in the second and third person the subject forms are descended from PSOG emphatic pronouns (§4.2.5).

The Mum and Sirva forms are straightforward reflexes of the reconstructed PSOG forms, with the caveat that word-final nasal loss, which normally affected polysyllabic words quite regularly, did not affect the plural pronouns. Additionally, these pronouns have possessive meaning in Sirva, as shown in (5). How this semantic shift happened is not clear, although it must have been recent since these pronouns still have object meaning in closely related Mum. Interestingly, the PSOG possessive pronouns now have object meaning (see §4.2.4), meaning that these two paradigms have switched functions.

Sirva

(5) *Naŋ*   *wari*   *wa-hana~na,*   *ara*   *ka-ma*   *ki-vadi-r.*
    2SG.POSS   village   go-2SG.DS~SIM   1PL   MD-ADVZ   stay-FUT-1PL
    'When you go to your home, we'll stay like this.'

The Aisi Magɨ singular pronouns are the expected reflexes for forms with the enclitics *=nt=ɨŋ*. The plural forms, on the other hand, seem to have followed a more complicated path of development. The initial sequence, excluding the final *-anɨŋ* that these pronouns share, appears to be a reflex of pronouns in *=nt*. The final *-nɨŋ* sequence appears to be a reflex of the 3SG object pronoun *nɨ=ŋ*, which may have grammaticalized into an accusative postposition in Magɨ, as shown in (6). That leaves the *a* that is wedged in between these two forms, for which, unfortunately, I do not have an explanation.

Aisi Magɨ

(6) *Abi*   *yaka*   ***nɨŋ***   *ab-ɨs-iŋ.*
    woman   1SG.POSS   **ACC**   speak-FPST-1SG
    'I spoke to my wife.'

In examining the Aisi Mabɨŋ singular pronouns we once again find straightforward reflexes of the PSOG pronouns in *=ŋ*. The 3SG *nuŋ* is a clear reflex of a *nu* form, meaning that both *nu=ŋ* and *nɨ=ŋ* should probably be reconstructed to PSOG (the latter having reflexes in Mand, Mum, and Sirva). The plural forms are composed of the subject pronouns plus an element *-gunuŋ*, which probably grammaticalized from the genitive postposition *ginɨŋ*.

The Gants pronouns are reflexes of forms with the *=nt=ɨŋ* clitic complex. The plural forms have interposed a *u* between the two clitics, which is of uncertain origin. It may have spread from the 3SG, where *nu=nt=ɨŋ* apparently underwent irregular vowel harmony to become *nuduŋ*, but this is not certain. These pronouns are normally used as possessive

forms (7), but they can also occur with subjects in a construction that is not well understood (8).

Gants
(7) *Tɨpa pi* **nuduŋ** *ai-m-ek*
fear village **3SG.POSS** come-FPST-3SG
'He fled to his village.'

Gants
(8) *Kɨdɨk, pakai Don* **nuduŋ** *erkara ai-da=n ...*
later again Don **3SG.POSS** turn come-SS=LNK
'Later, Don will come back again and ...'

As mentioned above, the object clitic *=ŋ also survives in some languages as an enclitic on the noun phrase. Examples below are from Mum (9), Sirva (10), and Aisi Mabɨŋ (11). In Sirva the enclitic *=ŋ* has undergone the same meaning shift as the pronouns and is now a possessive form.

Mum
(9) ***Niŋu-m=iŋ*** *kur-ta irha-m-i.*
3.POSS-mother=OBJ shoot-SS cry-HPST-3SG
'He shot his mother and he cried.' (Sweeney n.d.)

Sirva
(10) ***Nua=ŋ,*** *kya beau, kapar-a mir-a ...*
father.3.POSS=POSS speech DEF.ACC throw-SS leave-SS
'He threw away (i.e., ignored) his father's speech and ...'

Aisi Mabɨŋ
(11) ***Kris=iŋ*** *ir-ɨbyaŋ aba yoku-s-iŋ.*
Chris=ACC perceive-1SG.FUT QUOT go.up-FPST-1SG
'I went up to see Chris (lit. 'I said, "I'll see Chris," and went up').'

These enclitics attach to the end of the noun phrase, but only under certain circumstances. The noun phrase must be headed by an inalienably possessed noun, as in (9) and (10), or a proper name, as in (11). Otherwise, a demonstrative must be present at the end of the noun phrase for the enclitic to attach to, as in (12) and (13).

Sirva

(12) *Uhu   timu   n-umu,   amge   **n-udu=ŋ**   uhu   va-bɨ-s-a.*
ground side ND-LOC woman **ND-PRAG=POSS** ground say-PL-FPST-3
'"On this side of the land, (it's) the woman's land," they said.'

Aisi Mabɨŋ

(13) *Ya   kɨtɨ   kɨtɨ   ga,   ya,   ki   **ga-rib=iŋ**   aŋandam-s-iŋ.*
1SG stay.SS and TOP 1SG speech **MD-ADJZ=ACC** hear-FPST-1SG
'I was staying, and I heard that kind of talk.'

While reflexes in Mum, Sirva, and Aisi are normally not enough for a reconstruction to
PSOG, this enclitic is quite plainly the same form that is found on the pronouns in Table 3,
and as such can be reconstructed to PSOG. The meaning should be reconstructed as
accusative, and the distribution can be reconstructed as follows: the enclitic could attach to
the end of a pronoun or any noun phrase headed by an inalienably possessed noun. It could
also attach to the end of certain demonstrative forms.

Finally, it is worth briefly discussing the Nend enclitic *=ŋ*, which also attaches to the
end of the noun phrase. This enclitic is almost certainly not a reflex of PSOG *=ŋ* 'ACC,' in
spite of its phonological and distributional similarities. It is semantically divergent,
denoting 'LOCATIVE/INSTRUMENTAL' case; and it occurs most often on noun phrases headed by
common nouns, as in (14).

Nend

(14) *Norɨ-rɨ=v   oram   **inca=ŋ**   ñ-i.*
son-3.POSS=NOM house **inside=LI** stay-3SG.IPST
'The son was in the house.'   (Harris 1990: 94)

4.2.3. Oblique Pronouns

The oblique pronouns were formed with the oblique enclitic *=nt. This enclitic, and
consequently the pronominal paradigm, are less securely reconstructed than the other

paradigms. Reflexes of the enclitic are found in Mand, Nend, Apalɨ, and Mum, while reflexes of the pronouns are given in Table 4.

Table 4. Oblique pronouns

| | Mand | Nend | Manat | Apalɨ | Mum | Magɨ | Gants | PSOG |
	POSS	POSS	POSS	OBL	POSS	OBJ	POSS	
1SG	[adu]	ihind	[yak]	iadɨ	yad	yadiŋ	yadiŋ	*ia=nt
2SG	[ahɨr]	[amakɨr]	[amɨnak]	nadɨ	nad	nadiŋ	nadiŋ	*na=nt
3SG	[hɨr]	[mbɨkɨr]	[banɨk]	nudɨ	nu(ŋ)ad	nidiŋ	nuduŋ	*nɨ=nt, nu=nt
1PL	arhud	ariŋind	arɨd	aludɨ	arhad	adaniŋ	aiduŋ	*ar=nt
2PL	[akur]	amandɨŋ	amarad	naludɨ	narhad	nadaniŋ	naiduŋ	*nar=nt
3PL	[kur]	mbindɨŋ	barad	nulɨdɨ	nuhurad	nɨdaniŋ	niduŋ	*nɨr=nt

Several problems present themselves with this reconstruction. One is that only one of the modern pronoun sets has oblique meaning (although the enclitics in Mand, Nend, and Apalɨ also do), while possessive meaning is much more frequent. Another is the frequent co-occurrence of this enclitic with the object enclitic *=ŋ; this occurs in Nend, Magɨ, and Gants. Yet another is the Mand reflex *d*, which should be †*t* according to regular sound changes. But in spite of these difficulties, the frequent occurrence of *d* throughout the family, in pronouns and on noun phrase enclitics, calls for an explanation. The most likely explanation is that all of these *d*'s date to a PSOG enclitic *=nt which had a distribution similar to the object enclitic *=ŋ, discussed above: it attached to pronouns and noun phrases. Reconstructing the meaning of this enclitic is more difficult, but I make an attempt at semantic reconstruction after discussing the modern forms below.

The Mand, Nend, and Manat pronouns are simple possessive forms, with no apparent vestiges of other meaning. The Mand 1PL form *arhud* appears to consist of the enclitic *=nt attached to a reflex of the 1PL possessive pronoun *arkw (§4.2.4). It is uncertain how the

Nend 1SG was formed, but the 1PL appears to consist of both the object and oblique enclitics attached to the 1PL pronoun. The 2PL and 3PL likewise contain both enclitics, but in the reverse order. These forms are reflexes of *nar=nt and *nɨr=nt that have undergone the regular loss of initial consonants (§2.2.1.1), lost *r (which may have been a regular change to Nend pronouns; see §4.2.2 and §4.2.5), and then compounded with the second and third person subject pronouns *am* and *mbɨ*.

The Manat 2PL and 3PL forms followed a similar trajectory, except for the fact that they appear to be reflexes of pronouns with a final *a. (Recall that the PSOG plural subject pronouns all had final *a, as in *nara '2PL,' but that cliticized forms lacked this vowel, e.g. *nar=ɨŋ.) How this happened is unclear. The 1PL form, on the other hand, appears to be a regular reflex of *ar=nt.

The Apalɨ forms are mostly straightforward reflexes of the reconstructed PSOG pronouns. The insertion of *u* in the 1PL and 2PL is the main inconsistency for which I have no explanation. The 3PL also contains *u* in the first syllable, which is a common change to Apalɨ 3PL pronouns. Wade (1989) glosses these pronouns as oblique markers, and their primary functions are to mark objects (15) and possessors (16).

Apalɨ
(15) **Nu-dɨ**   iga-lɨ.
     3SG-OBL   see-3SG.FPST
     'He saw **him**.'   (Wade 1989: 123)

Apalɨ
(16) **Nu-dɨ**   iŋam   hekɨlɨ   aga-ŋ   iava-m-i.
     3SG-OBL   dog   big   DEF-NOM   bite-HPST-3SG
     '**His** big dog bit (him).'   (Wade 1989: 123)

The Mum 1sg and 2sg pronouns are clear reflexes of *ia=nt and *na=nt. Mum has innovated a new 3sg root, *nua-* or *nuŋa-*, for some pronominal categories, but otherwise the 3sg is also regular. In the 1pl and 2pl an element *ha* intervenes between the pronominal root and the enclitic; this element is difficult to explain. And the 3pl is problematic in several ways. This paradigm of pronouns marks possession.

In Aisi Magɨ and Gants, the singular pronouns are composed of reflexes of the reconstructed PSog oblique pronouns with the enclitic *=ŋ attached. In Gants the plurals are composed the same way, although an intrusive *u* has been inserted between the two clitics. The Magɨ plurals, as discussed above, are composed of PSog oblique pronouns, plus an intrusive *a*, plus the Magɨ accusative postposition *nɨŋ*.

The Gants forms illustrate that the PSog plural pronouns should not be reconstructed with an epenthetic *ɨ between the root and the enclitic. Syllable-final *r vocalized to *i* in Gants (§2.4.6.4), and since the tokens of *r in the plural pronouns vocalized, we can conclude that they were syllable-final. Thus, we reconstruct *ar=nt, *nar=nt, and *nɨr=nt.

As the discussion above makes clear, this putative set of reconstructed pronouns is quite problematic. Matters improve somewhat when we discuss non-pronominal reflexes of the oblique enclitic *=nt, found in Mand, Nend, Apalɨ, and Mum.

In Mand, the oblique enclitic *=d* attaches to the end of the noun phrase. Its primary function is to mark non-locative oblique arguments, as in (17). It can also occur within a larger noun phrase, in which case the item it marks functions attributively to modify the head noun (18). Finally, it can mark possession, as in (19); it is unclear whether the

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possessive function should be considered a subtype of the attributive function, or a

separate function.

Mand
(17) *Arhw* **zau=d** *ovra-cɨ-nhw.*
1PL **fish=OBL** barter-HAB-1PL
'We used to barter with fish.'

Mand
(18) *Kuram* **taŋ=d** *ka-g* *ai-d.*
man **yonder=OBL** FD-NOM come-IPST
'A man from far away is coming.'

Mand
(19) *ñac* **adu=d** *ñɨ*
daughter **1SG.POSS=OBL** son
'my daughter's son'

The Nend oblique enclitic is *=nd* (Harris 1990: 96–7), and it most commonly marks

possession (20), although it can also mark a noun as functioning attributively within a

larger noun phrase (21). When functioning attributively, it often marks the place of origin

of an unstated head noun (22). Finally, *=nd* can also mark goals (23).

Nend
(20) **Tɨhɨr=nd** *ensa* *Arɨkɨm.*
moon=OBL name Arɨkɨm
'The moon's name was Arɨkɨm.'   (Harris 1990: 96)

Nend
(21) *Ñaka* *aŋgwɨram-i,* *unsa* **anta=nd.**
yam.type turn.into-3SG.IPST yam **jungle=OBL**
'He turned into a kind of yam, a wild yam.'   (Harris 1990: 96)

Nend
(22) *Mac* **Norɨbu=nd** *ha-mb* *ka-mg-ir.*
finish **Norɨbu=OBL** MD-NOM talk-PL-3.FPST
'Then (those ones from) Norɨbu said ...'   (Harris 1990: 96)

Nend

(23) **Say=nd**   oreŋg~eŋg   r-in   ar-em-en.
     youth=OBL   call~NMLZ   do-1SG.IPST   say-YPST-1SG
     '"I was calling for the young people," I said.'   (Harris 1990: 97)

In Apalɨ the oblique postposition *dɨ* "is an independent word when used with most words, but acts as a clitic with the unaffixed pronouns, definite markers and definite deictics" (Wade 1989: 92). It serves a variety of functions, which Wade characterizes as marking patients (24), addressees (25), and experiencers (26). It should be noted that all three of these functions can be construed as object-marking, but *dɨ* also appears to mark possessors (27).

Apalɨ

(24) *Viaŋ*   **na-dɨ**   *miŋa-nikɨli-liŋ.*
     1SG.NOM   **2SG-OBL**   hold-push-1SG.IMP
     'I should shove (hold-push) you aside.'   (Wade 1989: 93)

Apalɨ

(25) *Cakɨven*   **dɨ**   *abɨ-liŋ?*
     Cakɨven   **OBL**   talk-1SG.IMP
     'Should I tell Cakɨven?'   (Wade 1989: 93)

Apalɨ

(26) **Ia-dɨ**   *ihulu*   *l-i.*
     1SG-OBL   tired   do-3SG.IPST
     'I am tired.' or 'I don't want to do it.'   (Wade 1989: 93)

Apalɨ

(27) *Lɨ-ci*   *dakɨta*   **dɨ**   *ninaŋ*   *aga-ŋ*   *iga*   *aba-lɨ.*
     do-3SG.DS   doctor   **OBL**   son   DEF-NOM   see   talk-3SG.FPST
     'He did that and the doctor's son saw it and spoke.'   (Wade n.d.)

The Mum postposition *du* is glossed 'POSSESSIVE' by Sweeney (1994), but it appears to serve a fairly wide array of functions. A more complete analysis of Mum grammar has yet to be done, but a brief examination of the Mum data I have available reveals that *du* marks possessors (28), origins (29), and possibly some locative oblique functions (30).

Mum

(28) *Yi   muya   **du**   kuyu   abavar-irma-n.*
1SG   cassowary   POSS   talk   tell.story-FUT-1SG
'I will tell the story of the talk of the cassowary.'   (Sweeney n.d.)

Mum

(29) *U-ta   kura-ñ   **du**   miŋa-ta   ña.*
go-SS   bush-LOC   POSS   take-SS   eat
'Go get some from the bush and eat it.'   (Sweeney n.d.)

Mum

(30) *Kava   suksɨrab   sɨrab   kɨyɨ-m-i   tɨv   ha-ñ   **du**   kur-ta*
bird   small   small   stay-HPST-3SG   beside   MD-LOC   POSS   shoot-SS

kɨda-m-i.
walk-HPST-3SG
'The little birds were there nearby and he was shooting them and he walked.'
                 (Sweeney n.d.)

Reviewing these reflexes of *=nt, we see that in Mand, Nend, and Mum they can mark a noun phrase as functioning attributively to modify the head noun of a larger noun phrase; the Mand example (18) is typical. This construction can be expressed as in (31): a subordinate noun (phrase) with =d modifies the head noun of a larger noun phrase, with the semantic interpretation that the head noun is somehow characterized by the *d*-marked noun. The semantic leap from such a construction to a construction expressing possession is quite small—indeed, possession can be conceived of as a subtype of characterization. 'The son characterized by the doctor' can easily be interpreted as 'the doctor's son,' and that usage can then become routinized. Moreover, the semantic shift from a nominal oblique marker to a marker of attributive possession is common (Heine 1997: 144).

(31) [N$_i$ [N$_j$=d]]$_{NP}$ Semantics: "N$_i$ is characterized by N$_j$ in some way"

Reconstructing a construction like (31) and conceiving of possession as a subtype of characterization also explains why the pronouns with *=nt so frequently have possessive

meaning while the surviving enclitics have much more varied meanings. The range of meaning expressed by the PSᴏɢ enclitic *=nt probably included possession, since that is a natural way for one noun to be relevant to the interpretation of another. When this enclitic was used on pronouns, then, it probably had its possessive interpretation more often than usual, and this aspect of its meaning often became lexicalized on pronouns. On noun phrases, though, it was free to retain its broader range of meanings.

Then, to account for the fact that the Magɨ pronouns that reflect *=nt mark objects, we simply observe that they reflect both pronominal enclitics, *=nt=ɨŋ. Apparently the meaning of the accusative enclitic has predominated.

Two issues remain. One is the question of how *=nt came to have object-marking meaning in some languages, notably Apalɨ. One possibility is to invoke constructions where a constituent marked with *=nt modifies an omitted head noun—for example, the construction meaning 'the ones from Norɨbu' in (22). If such constructions occurred as objects frequently enough, the enclitic could be reanalyzed as marking accusative case. The problem with this scenario is that there is no apparent reason for such noun phrases to occur as objects more frequently than as non-objects, which makes the reanalysis unlikely. Another possibility is that the non-attributive oblique function found in Mand and Nend also dates to PSᴏɢ, and that this oblique case shifted its meaning to accusative. For now, this question remains unresolved.

Another issue is the question of placement: did the item bearing *=nt precede or follow the head noun that it modified? I do not believe the available data are sufficient to answer this question. Modern reflexes vary, sometimes even within the same language (as in Mand

and Nend). It is possible that the same variation was found in PSOG, but it is also possible that word order in PSOG was fixed and has changed for various reasons in certain languages. This question will have to await further research.

4.2.4. Possessive Pronouns

The possessive pronouns were formed with a suffix *-kw, as shown in Table 5. The reflexes of these forms remain possessive pronouns in most languages, but in Sirva and Gants they have become object pronouns.

Table 5. Possessive pronouns

| | Mand | Manat | Sirva | Magɨ | Mabɨŋ | Kursav | Gants | PSOG |
	POSS	POSS	OBJ	POSS	POSS	POSS	OBJ	
1SG	[adu]	yak	yau	yaka	yaka	yaku	yak	*ia-kw
2SG	ahɨr	amɨnak	nau	naka	naka	naku	nak	*na-kw
3SG	hɨr, kɨr	banɨk	nu(hu)	nuku	nɨku	nuku	nuk	*nɨ-kw
1PL	arhud	[arɨd]	aru	arɨkuŋ	andu	anuku	ayuk	*ar-kw
2PL	akur	[amarad]	naru(hu)	narɨkuŋ	narɨkuŋ	nanuku	nayuk	*nar-kw
3PL	kur	[barad]	nuru	nurukuŋ	nɨrukuŋ	nunuku	niuk	*nɨr-kw

The reconstruction of the possessive pronominal suffix *-kw is also supported by Anamuxra, in which alienable possession is expressed with the help of a "possessor word" which can be either –ka or –xwu, the latter of which appears to be cognate with PSOG *-kw. This possessor word always takes a pronominal prefix and intervenes between the possessor and the possessed noun (32). The form of the possessive word –xwu with the Anamuxra singular and dual possessive prefixes is given in Table 6; note the similarities to the reconstructed PSOG forms in Table 5.

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Anamuxra

(32) *Peter* **n-xwu** *mugu-pa*
    Peter 3SG.POSS-POSS house-CLASSIFIER
    'Peter's house'   (Ingram 2001)

Table 6. Anamuxra possessive word *–xwu*

	SG	DU
first person	ya-xwu	ar-xwu
second person	na-xwu	nar-xwu
third person	n-xwu	nr-xwu

Given the reflexes in Table 5 and in Anamuxra, the reconstruction of the possessive pronouns is secure, although we must still account for several innovative forms. In Mand the 1SG possessive pronoun, *adu*, is not cognate with this paradigm. Most of the other pronouns have added a final *–r*, which is of unknown origin. The 1PL form has added *–d*, which may be a reflex of the oblique enclitic *=nt. The singular pronouns lost the rounding from *kw and voiced it to *h*, while the plural pronouns preserved the rounding as *u* and did not voice the stop. The plural pronouns also lost *r, which offers a possible explanation for the final *–r* in the second and third person pronouns. The 2PL and 3PL forms may have metathesized the *r and the *kw as follows: 2PL *narkw > PWS *arkw > *akwr > *akur*. Final *r* may then have spread to the singular forms by analogy.

In Manat only the singular forms are reflexes of this PSOG paradigm. Final *kw has become *k*, and otherwise these forms are straightforward. 1SG has remained unchanged, while 2SG has added *ami-* and 3SG *ba-*, both on analogy with the subject pronouns (*am* and *bɨ*, respectively).

In Sirva the normal reflex of *kw is *hu*. The velar fricative *h* has been irregularly elided in most possessive pronouns, although it occasionally surfaces in the 3SG and 2PL forms.

Otherwise the reflexes show regular sound changes, including the assimilation of *ɨ > *u* in the presence of an upcoming *u that is seen in the 3SG and 3PL (§2.4.1.3). Interestingly, the paradigm has undergone a semantic innovation to become the paradigm of object pronouns. How this happened is unclear, although a similar process took place in Gants.

In the Aisi languages things are less clear. The formative element in the 3SG, 2PL, 3PL, and the Magɨ 1PL is *-ku*, a normal reflex of PSOG *-kw. But the *-ka* found in the 1SG and 2SG forms is difficult to account for, and I see two possibilities. First, it may simply be an irregular development, possibly a case of perseverative assimilation triggered by the *a in the first syllable. Alternatively, it may be a reflex of a different set of possessive pronouns. Recall that Anamuxra has two possessive words: *-xwu*, which is cognate with PSOG *-kw, and *-ka*. It is possible that the Aisi 1SG and 2SG possessive pronouns are actually cognate with the latter possessive word. This hypothesis is not without its problems, though. Importantly, the expected reflex of PSOG word-final *-ka would be Aisi †*-kɨ* (§2.4.2.4). This means that both scenarios involve positing unexpected phonological developments: the former *-akw > *-aka*, the latter *-ka > *-ka*. I thus see no internal reason to prefer one over the other. The former scenario, though, has the virtue of allowing us to reconstruct a simpler set of PSOG possessive pronouns, and for this reason I prefer it.

A few other developments with the Aisi forms merit discussion. The 2PL and 3PL pronouns have added final *-ŋ*, which is probably a reflex of the accusative enclitic *=ŋ. The Mabɨŋ 1PL form *andu* is difficult to account for, and remains unexplained for now.

The Kursav forms are fairly straightforward reflexes of the PSOG pronouns. The only difficulty is the nasals that are found in the plural pronouns; these are also found in the subject pronouns, and possible explanations for them are discussed in §4.2.1.

The Gants possessive pronouns are similarly straightforward. They exhibit the regular syllable-final change of *r > *i* (§2.4.6.4), followed by somewhat irregular changes of *kw > *uk* in the plural forms and *kw > *k* in the singulars. The Gants reflexes, like the Sirva reflexes, have become object pronouns. However, unlike in Sirva, they are still sometimes used to indicate possession (33). This construction is not well understood synchronically, but from a diachronic perspective it appears to be a relic of the possessive function of these pronouns in PSOG.

Gants
(33) *Kɨneb* **yak** *kra aya ga-paŋ-dek wa-da* ...
house **1SG.OBJ** TOP come perceive-FUT-3PL say-SS
'"They'll come look at my house," she said, and ...'

Finally we must address the issue of third person variation between *nɨ forms and *nu forms. In the 3SG we have clear reflexes of *nɨ forms in Mand, Manat, and Aisi Mabɨŋ; in the 3PL clear reflexes of *nɨ are found in Mand, Mabɨŋ, and Gants. For these reasons the *nɨ forms must be reconstructed for both 3SG and 3PL. The other reflexes are all ambiguous; they could be reflexes of *nu forms, or of *nɨ forms that underwent regular harmony of *ɨ > *u* before *u (§2.4.1.3). Additionally, Anamuxra exhibits only *n-* and *nr-*, never *nu-* or *nur-*. This means that all forms can be accounted for by the reconstructions of *nɨkw '3SG.POSS' and *nɨrkw '3PL.POSS,' and reconstructions of †nukw and †nurkw would be superfluous.

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4.2.5. Emphatic Pronouns

I reconstruct a set of emphatic pronouns that were formed with an element *-mpa or *-mpi. Some of these pronouns replaced the simple subject pronouns in Mand, Nend, Manat, and Apalɨ, but they have retained their original meaning in the other languages. The forms are given in Table 7. The question marks in the Magɨ column indicate a lack of relevant data; Magɨ probably has 2SG, 2PL, and 3PL emphatic pronouns, but the forms were not recorded during fieldwork.

Table 7. Emphatic pronouns

| | Mand | Nend | Manat | Apalɨ | Mum |
	SBJ	SBJ	SBJ	SBJ	EMPH
1SG	api	[nzɨ]	[zɨ]	[viaŋ]	yabi
2SG	abɨ	am	am	nama	nabi
3SG	pɨ	mbɨ	bɨ	nɨbu, nubu	nu(ŋ)abi
1PL	[arhw]	[ar]	[ar]	[alaŋ]	arhabi
2PL	abɨ	am	am	namɨlaŋ	narhabi
3PL	pɨ	mbɨ	bɨ	nɨbɨlaŋ, nubɨlaŋ	nuhurabi

Table 7, continued.

| | Sirva | Magɨ | Mabɨŋ | Kursav | Gants | PSOG |
	EMPH	EMPH	EMPH	EMPH	EMPH	
1SG		yabɨ	yabɨ	yaba	yaba	*ia-mpi
2SG		?	nabɨ	naba	naba	*na-mpa
3SG	bibi	nɨbi	nɨbi	nɨba	nɨba	*nɨ-mpa
1PL		arɨb	ambɨ	anɨba	aiba	*ar-mpa
2PL		?	narɨb	nanɨba	naiba	*nar-mpa
3PL		?	nɨrɨb	ninɨba	niba	*nɨr-mpa

The first thing to notice is that the emphatic suffix is reconstructed as *-mpi in the 1SG but as *-mpa for every other pronoun. This is primarily because of the Mand witness. The Mand 1SG *api* forms a perfect correspondence set with the Mum 1SG *yabi*, showing all the expected sound correspondences and making the reconstruction of a 1SG PSOG form *iampi

secure. But the other Mand forms all reflect final *a (except for the 1PL, which is not descended from the emphatic paradigm), as do the reflexes in every language except for Mum and Sirva. The most plausible explanation is that the variation in Mand is archaic, that final *i was generalized in Proto-North Central Sogeram (PNCS), and that final *a, being the more common ending, was generalized in every other language.

The developments in Mand, Nend, Manat, and Apalɨ have been complicated and somewhat irregular, masking the etymological origin of these pronouns to some extent. The first development was the loss of *r before *m in the plural forms. It is difficult to tell if this was a regular change because of the scarcity of *rC clusters in PSOG, but it seems to have also happened to the object (§4.2.2) and possessive (§4.2.4) pronouns. This had the effect of merging the second and third person pronouns, although the distinction was subsequently recovered in Apalɨ via the addition of the plural pronominal formative *–laŋ* (< *-ra). After the loss of *r, the second person pronoun irregularly lost *p, yielding the form *nama. This development can only be explained as irregular phonological reduction in a high-frequency item. Following that, Mand, Nend, and Manat underwent word-initial consonant loss (§2.2.1.1), yielding the new forms *ama '2' and *mpa '3.' These forms are inherited into Mand with regular sound changes, including word-final loss of *a (§2.2.2.4). Final *a was also lost in Nend and Manat, but here it was irregular. I believe this change was precipitated by contact with Ramu languages which border Mand, Nend, and Manat to the west. These languages commonly contain an intonation-unit-final enclitic *=a* that adds emphasis to what is being said (William Foley p.c.). This enclitic is found, for example, in

Chini [afi], a Ramu language that borders Nend and Manat to the north (Joseph Brooks p.c.).

This enclitic has been borrowed into Mand, Nend, and Manat. Its function in Manat is not well understood, but it appears to mark non-final intonation units, linking them to what comes next (34). In this function, it often appears to mark salient participants—that is, it also conveys a certain degree of emphasis. A more precise understanding of its meaning will have to await further research on Mand discourse.

Mand
(34) *Akac*   *kur*   **ka-g=a,**   *uhra~hɨr*   *vivi*   *cɨ-rd.*
intestine   3PL.POSS   **FD-NOM=LNK**   grow~NMPT   pain   be-FPST
'Their guts would swell up and hurt.'

In Nend, the enclitic *=a* has several functions, and Harris (n.d.) gives it three separate glosses: vocative, interrogative, and conjunction. Of these, only the vocative is discussed in his grammar sketch, where he points out that it is "used only with proper names and kinship terms" (Harris 1990: 98), as in (35). The other two functions also appear to add some sort of emphasis to certain utterances, namely non-final ones (36) and interrogative ones (37). But these functions are not well understood.

Nend
(35) **Caw=a,**   *ke-n*   *w-in*   *ha-n*   *avɨzay-v.*
brother.i.l=VOC   FD-ACC   see-1SG.IPST   MD-ACC   throw.towards-2SG.IMP
'Brother-in-law, throw the ones I see there here.'   (Harris 1990: 98)

Nend
(36) *O-e-m*   *mɨra*   **ikŋɨ-z=a**   *ntɨ*   *na-ma-r.*
go-SS-CONT   pig   **shoot-3SG.DS=LNK**   blood   eat-HPST-3SG
'He went and shot a pig and it drank the blood.'   (Harris n.d.)

Nend

(37) Miŋir   mbirama~m   k-an-j   yaŋ   mba-n   uti=a?
    mother   show~NMLZ   talk-HPST.HAB-3SG   mother   ND-ACC   what=Q
    'He would show (his) mother and say, "Mother, what is this?"'   (Harris n.d.)

In Manat, the enclitic serves a similar function. It often intensifies statements, as in (38), or questions, as in (39). It also serves a linking function, as in (40).

Manat

(38) Manat=a   amiŋ=a,   ŋar-in   ai-s=a,   ara-ma-g.
    no=INT   mother.1.POSS=INT   speak-2SG.DS   come-3SG.IMP=INT   say-pst-3SG.FAR
    '"No way Mom! Tell it to come back!" he said.'

Manat

(39) Upas   ini-n   ñi-bak=a?
    banana   ND-ACC   who-POSS=INT
    'Whose is this banana?'

Manat

(40) Akai   ñiŋ-ura-s~ñiŋuras=a,   rum   ini-b   ini-ba   da-ma-g.
    okay   stay-PL-3.DS~SIM=INT   man   ND-NOM   ND-LOC   walk-PST-3SG.FAR
    'While they were there, this man was wandering around here.'

It seems that when this enclitic was borrowed from the Ramu languages, the pronouns *ama '2' and *mpa '3' were reanalyzed as *am=a and *mp=a, with the intensifying enclitic. This proposal is rendered more likely by the fact that pronouns are often used in emphatic or constrastive contexts in Sogeram languages because subject agreement and switch reference usually render them unnecessary. And indeed, pronouns can still often be found with the enclitic, as in (41) and (42).

Mand

(41) Pater   lukautim   ji-rd   ka-g   p=a,   pi   ac,   sag   ŋañ=id   Kiop=ir
    priest   care.for   stay-FPST   FD-NOM   3=LNK   3   FOC   again   hand=OBL   Kiop=ACC

    Tabram=ir   ai-w   ar.
    Tambram=ACC   come-2SG.IMP   QUOT
    'The one who looked after the priests, he, he himself gestured again with his hands for Kiop and Tambram to come.'

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Manat

(42) **B=a,**   *mɨs=ɨk*   *varva-rh-ur-id*   *nɨd.*
     3.NOM=INT   sweetness=ACC   bear-HAB-PL-3.PRS   2/3DU
     'They are sweet (lit. 'bear sweetness'), those two.'

After reanalysis as *am=a and *mp=a had taken place, the underlying forms were reanalyzed as *am and *mpɨ, which then underwent regular sound changes to become the modern Nend and Manat pronouns (although the Nend third person pronoun *mbɨ* does reflect irregular voicing).

This analysis has the benefit of explaining the form of the Manat second person object pronouns, *nɨ* '2SG.OBJ' and *nar* '2PL.OBJ.' They appear at first to be irregular reflexes of the PSOG object paradigm, but if we accept the clitic reanalysis hypothesis proposed here, they can be better accounted for as regular reflexes of the PSOG subject pronouns *na '2SG' and *nara '2PL.' Like the emphatic pronouns, they lost final *a, but otherwise they are both completely regular reflexes. Likewise the Nend and Manat 1PL subject pronoun *ar*, from PSOG *ara, can be explained by positing that it also underwent this process.

This analysis has a further benefit: it explains the regular loss of final *a in Nend and Manat verb suffixes. Neither of these languages normally lost word-final *a, but neither one possesses a single modern verb suffix that ends in *a*, either.[16] This could be plausibly accounted for as a fluke of the sort of irregular reduction that often affects bound morphology. But it is much more compellingly treated as a result of the process of borrowing and reanalysis proposed here. Thus PSOG *-na '2SG.IPST' became *-n=a, yielding

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[16] Technically some suffixes that are never the last suffix on a verb, such as Manat *–ura* 'PL,' do end in *a.*

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Nend –*n* '2SG.IPST'; and PSOG *-ɨt-na '-IRR-2SG' and *-ɨt-ra '-IRR-2PL' became *-ɨt-n=a and *-ɨt-r=a, then *-ɨtn and *-ɨtr, and finally, via irregular but expectable consonant cluster reduction, -*in* '2SG.DS' and -*ir* '2PL.DS.'

This story, in which a set of PSOG emphatic pronouns became normal subject pronouns in four languages and then were changed in some of those languages by a complicated process of contact and analogy, thus has a good deal of explanatory power. It accounts for the innovation of a new set of pronouns in Mand, Nend, Manat, and Apalɨ; it explains the regular loss of final *a in Nend and Manat pronouns and verb suffixes *and* the fact that this sound change did not affect other parts of speech; and it explains the form of the Manat second person object pronouns. The reconstruction thus seems secure, and it remains only to account for the innovations in the languages where the emphatic function persists.

In Mum the 1SG emphatic suffix *-mpi has been generalized to all pronouns. This appears to have happened at the PNCS stage, as vestiges of the process are inherited into Sirva. In Sirva the emphatic pronouns are formed with an enclitic =*vibi*, which is plainly related to Mum -*bi* although it is unclear how the *vi* element was added. Additionally, the Sirva 3SG.EMPH pronoun is the irregular form *bibi*, apparently descended from the innovative Sirva third person pronoun plus –*bi* 'EMPH.'

In the East Sogeram (ES) languages, the pronouns remain largely unchanged, although they do reflect each language's unique innovations to the subject pronouns. The Gants forms reflect syllable-final *r vocalization (§2.4.6.4), which makes it clear that the plural forms did not contain an epenthetic *ɨ between the pronominal root and the clitic.

The function of the emphatic pronouns is difficult to reconstruct because it is not particularly well understood in any of the ES languages where it survives. They certainly conveyed some sort of individuation or contrastiveness, as they do today, but it is not yet possible to be more specific. It is also possible that they could function as subjects but not as objects; in Aisi they must be accompanied by an accusative postposition to function as an object, and in Gants they have only been recorded in subject position. They may also have combined with a following possessive pronouns to mark an emphatic possessor, as this function is found in Aisi and Kursav.

4.2.6. Interrogative Pronoun

The PSOG interrogative pronoun is difficult to reconstruct. Three languages in the west, Mand, Nend, and Manat, reflect *uña 'who,' while the rest reflect *ni. (For comparison, Pawley reconstructs the Proto-Trans New Guinea form *wani 'who'; Pawley 2005: 87.) The relevant forms are given in Table 8.

Table 8. Forms for 'who'

Mand	Nend	Manat	Apalɨ	Mum	Sirva	Magɨ	Mabɨŋ	Kursav	Gants
uja	uñɨ	uñɨ	ani	nin	ninɨ	niŋe	ninɨ	ne	nene

The form *uña is reflected with minimal changes in Mand, Nend, and Manat. Mand reflects it with only one sound change, nasal fortition (§2.2.2.5), which is expected. Nend and Manat lost final *a, which was a common change to their pronouns, as described above. Otherwise, these three languages retain *uña with minimal change.

The other languages all reflect *ni. This form has then been reduplicated in Mum, Sirva, Mabɨŋ, and Gants. In the former three it also underwent word-final *i-loss (§2.3.4.4,

§2.4.2.1) to yield *nin* or *ninɨ*. In Kursav and Gants it also underwent regular lowering of *ɨ > *e* (§2.4.1.4). Only the Apalɨ and Magɨ forms are unusual reflexes, Apalɨ for adding initial *a and Magɨ for adding final *ŋe*.

Ideally, the question of whether to reconstruct *uña or *ni could be resolved by reference to languages outside Sogeram, but the Josephstaal languages are little help. Moresada has *ukwar* (Capell 1951: 145), Anamuxra *nan* (Ingram 2001), Ikundun *nʌn*, Osum *ɣoye*, and Wadaginam *munur-* (Z'graggen 1980*a*: 54), none of which appear cognate.

Another possibility is relating *uña and *ni to each other via two irregular sound changes. The first is loss of word-initial *u. The second is *ñ > *n with concomitant raising of *a > *ɨ; similar changes happened regularly in Apalɨ (§2.3.3.1), Proto-Aisi (PAɪs; §2.4.2.6), and Kursav (§2.4.5.3). For now, it remains unclear what the best analysis is, and a more complete reconstruction will have to await further research.

4.2.7. Topic Enclitic

PSᴏɢ may have had a special topic form *=mpɨr, but this is not certain. The reconstruction is based primarily on reflexes in Sirva and Gants, although data from Nend and Manat also factor into the discussion. The reflexes are the Sirva third person pronouns (*be* '3sɢ' and *bira* '3ᴘʟ') and the Gants topic pronoun *bɨr*. An additional related Sirva form is the 3sɢ emphatic pronoun *bibi*. While these reflexes are all pronouns, *=mpɨr may not have been, as I argue below.

The Sirva forms all seem to trace their origin to a Pre-Sirva pronoun *bi. The 3ᴘʟ *bira* was then formed by adding the plural pronominal formative *-ra, on analogy with the

other plural pronouns *ara* '1PL' and *nara* '2PL.' The emphatic pronoun *bibi* was formed by adding the emphatic suffix *-bi, which is still found as *–bi* in Mum. The 3SG *be* then underwent irregular lowering of *i > *e*. The Gants form, on the other hand, has undergone no innovation aside from the regular change *mp > *b* (§2.4.1.1).

If these pronouns are cognate, it would require positing that word-final *r became *i in Sirva. This is a plausible change, as it took place in Aisi Magɨ (§2.4.3.1) as well as most Gants forms (§2.4.6.4). Moreover, Sirva lost word-final *r (§2.3.4.3) as well as *i (§2.3.4.4). These changes did not normally affect monosyllables, but they might have caused unusual developments to high-frequency lexemes. The phonological connection is thus at least plausible.

The function of this form is difficult to reconstruct due to the paucity of reflexes. But it likely had a function similar to its function today in Gants, where it refers to topical referents about whom something noteworthy is being said. It can occur alone, as in (43), in which case the referent must be understood from context, or following a pronoun, as in (44), in which case the referent is made clear by the pronoun.

Gants
(43) *Tama-da* **bɨr,** *mɨga-m-aik*
put-SS TOP sleep-FPST-3PL
'They put (the food down) and slept.'

Gants
(44) *Ya ai-k-enɨŋ, ya* **bɨr,** *aba tama-naŋ*
1SG come-DS.SEQ-1SG 1SG TOP speak put-2SG.IPST
'I came and you threw me out.'

One of the peculiar features of the Sirva third person pronouns is that they are frequently used as determiners to mark subject noun phrases, as in (45) and (46). Their use

as determiners even extends to the subordinating function that Sirva determiners have (47). This determiner function is reminiscent of the Gants two-pronoun construction illustrated in (44), and suggests that *=mpɨr may actually have functioned as a determiner in PSₒG.

Sirva
(45) *Sue udukɨb **be,** nɨrɨŋ tarma=ñ, sigudɨ-s-a.*
so road **3SG** 3PL.POSS eye=LI disappear-FPST-3SG
'Then the road disappeared from their eyes.'

Sirva
(46) *Iru mubu **bira** pi kaha-b-ɨi ...*
salt fly **3PL** come gather-PL-3.DS
'Salt flies came and gathered and ...'

Sirva
(47) *Oke [uva pɨgrɨ g-ri-n] **be** nɨ-ma mar.*
okay SPEC custom see-TPST-1SG **3SG** ND-ADVZ like
'Okay, another custom I see is like this.'

Reconstructing a determiner function to *=mpɨr also allows us to explain innovative nominative morphology in Nend and Manat. Nend has a nominative enclitic that is *=mb* after a nasal consonant and *=v* elsewhere (Harris 1990: 92). This clitic attaches to the end of the noun phrase. It appears to only occur on noun phrases with human referents, which means that usually it attaches to kin terms or proper names (48), although sometimes it attaches to a noun phrase with a common noun head (49).

Nend
(48) ***Dani=mb** emga ha-n akwuh-e hɨray-em-ɨr.*
Danny=NOM another MD-ACC go.up-SS bring-YPST-3SG
'Danny climbed another and brought (some).' (Harris n.d.)

Nend
(49) *Ha-n   ha-n   **yupɨr   nɨmbɨr=ɨv**   ka-mgi-nj.*
     MD-ACC   MD-ACC   **skin   white=NOM**   talk-PL-3.HAB
     'That is what the white skin(ned people) say.'   (Harris n.d.)

This form also attaches as a suffix to demonstrative roots to form nominative demonstratives. These forms generally mark non-human noun phrases (50). Note that the suffix is *–mb* even though there is no preceding nasal consonant, suggesting that the *mb* allomorph is older than the *v* allomorph, since *mb* probably would not have been innovated in this context.

Nend
(50) *Nd-e-mɨ-ŋ   **ntɨ   ha-mb**   okaraw-emi-r.*
     walk-SS-INDF-1SG.DS   **blood   MD-NOM**   clot-YPST-3SG
     'I walked and the blood clotted.'   (Harris 1990: 120)

In Manat the nominative suffix *–b* only marks proper names and kin terms (51). It also attaches to demonstratives to create subject-marking forms (52).

Manat
(51) ***Nɨ-mɨn-ɨb***   *mɨkɨñ=ɨk   mɨŋa-n   aku-ma-g.*
     3.POSS-mother-NOM   fishing.net=ACC   get-2/3.SS   go.up-PST-3SG.FAR
     'His mother got a fishing net and went up(river).'

Manat
(52) *O   **adar   ka-b**   akunaih-id   ara-ŋin.*
     oh   **spirit   MD-NOM**   bring-3SG.IPST   say-1SG.RPST
     'I said, "Oh, the spirit brought him."'

These Nend and Manat morphemes do not appear cognate with enclitics or demonstrative suffixes in any other Sogeram languages, and are most plausibly accounted for as reflexes of the proposed topic form *=mpɨr* with irregular loss of final *r*. These functions are consistent with the determiner-like function in Sirva and the two-pronoun construction in Gants. If we consider these forms cognate then the non-pronominal

reflexes of *=mpɨr outnumber the pronominal reflexes and we must consider the possibility that *=mpɨr was not a pronoun but rather a topic enclitic which degrammaticalized in Sirva and Gants. Another reason to consider that *=mpɨr was not a pronoun is the fact that it is never found with any of the enclitics that commonly occurred on PSOG pronouns, such as *=ŋ 'ACC' or *=nt 'OBL.' Reconstructing the determiner function and not the pronominal function also explains the fact that *=mpɨr begins with an *mp cluster, which was probably not allowed word-initially in PSOG. (No word-initial nasal–stop sequences are reconstructed for PSOG.) If *=mpɨr was a topic-marking enclitic to the noun phrase, the *mp cluster would not have been phonologically problematic. After prenasalized stops were created in Sirva and Gants, and eventually allowed to occur word-initially (proably through borrowed vocabulary), the degrammaticalization envisioned here would not have been very remarkable. Vestiges of this process are seen in the fact that Sirva *be* and especially Gants *bɨr* still tend to group intonationally with the material to their left, not to their right as most pronouns do.

So we reconstruct an enclitic *=mpɨr which attached to noun phrases (probably primarily ones with human referents) and possibly to demonstratives. It marked topical participants in the discourse. In Nend and Manat it lost *r, became voiced, and developed nominative meaning. In Sirva *r became *i and the form debonded from the preceding noun phrase. Other determiners in Sirva could refer to discourse participants on their own, and *bi developed this ability too, eventually grammaticalizing into a third person pronoun. Then the 3PL form *bira* was formed on analogy with the other plural pronouns. In Gants the same debonding happened that took place in Sirva. Gants *bɨr* also developed the

ability to refer on its own, becoming a pronoun. But it never narrowed its reference to a single person–number category, instead retaining its original topic-marking function.

This scenario is plausible, but it requires a good deal of inference to link three disparate morphemes from three Sogeram branches. It manages to account for several peculiarities about the forms in question, though, notably the determiner function of the Sirva pronouns and the intonational properties of Gants *bɨr.* I acknowledge the difficulties, though, especially in reconciling phonological differences between the forms. For now, then, I consider the reconstruction of *=mpɨr 'TOP' an intriguing one, even a likely one, but not one that is yet fully assured.

Furthermore, there is the issue of the potential etymological relationship of PSOG *=mpɨr 'TOP' to the emphatic pronominal suffix *-mpi/*-mpa (§4.2.5). These reconstructed forms are similar both phonologically and semantically, and occurred in complementary distribution: *-mpi/*-mpa occurred only on pronouns, while *=mpɨr never did. It is possible that one or another of these reconstructions is incorrect phonologically, and that these forms were actually one and the same in PSOG. It is also possible that they were distinct forms at the PSOG stage, but that they shared an etymological heritage; or that they only coincidentally resemble one another. This topic will have to await further research.

4.3. Demonstratives

PSOG demonstratives consisted of a root that distinguished deictic distance. This root could either stand on its own, or take a suffix (or enclitic) that marked the role of the demonstrative in the clause. It may also have been possible to reduplicate the root. The

roots are fairly straightforward to reconstruct, but reconstructing the suffixes is much more difficult. Demonstratives in many Sogeram languages can take a large variety of suffixes: for example, Mand and Nend distinguish eleven demonstrative forms, Manat thirteen, Apalɨ fourteen, and Aisi ten. There has probably been a good deal of turnover and innovation, especially among the lower-frequency suffixes, so that now it is difficult to reconstruct more than four or five suffixes with confidence. It is also worth noting that the demonstrative system is quite different in Gants, and we should ask ourselves if this system might not be archaic.

Gants primarily makes do with a single definite demonstrative *ko*, which appears to be a reflex of the PSₒG middle demonstrative *ka. Gants also has a specific form *koimo* and an indefinite form *kɨrmo*, both of which appear to be made with reflexes of the PSₒG specific marker *mu. Finally, Gants has two deictic demonstratives, *adɨko* 'this' and *kadɨko* 'that.' There is no marking of case roles or information structure status, which are the categories most commonly marked by demonstratives in other Sogeram languages. There is no system of deictic roots that combine with suffixes; the Gants system is not morphologically productive at all.

It is tempting to see such a different demonstrative system and frame the question of reconstruction as an either/or enterprise: either a Gants-like system changed into the system found in the other Sogeram languages, or the reverse happened. But the truth is probably more subtle. Recall that two of the demonstrative suffixes that I discuss below have already been reconstructed as enclitics on the noun phrase: *=ŋ 'ACC' and *=nt 'OBL.' A third, *=ñ 'LOCATIVE/INSTRUMENTAL,' was also probably an enclitic. Furthermore, unaffixed

demonstratives are reconstructed to PSᴏɢ. These facts suggest a PSᴏɢ system wherein demonstrative roots were free-standing forms that came at the end of the noun phrase and could host a noun-phrase-final enclitic. In Gants the free-standing form of the middle demonstrative became the definite article *ko*, while most other demonstrative forms fell out of use. In the other languages, the enclitics fused onto the root and became suffixes, giving us the systems we find today.

This reconstruction raises the question of how to reconstruct those suffixes for which we only find reflexes on demonstrative roots. Should they be reconstructed as enclitics, like *=ŋ and the others, that could attach to the end of noun phrases? Or should they be reconstructed as suffixes that only attached to demonstrative roots? I prefer the latter analysis as it seems more conservative, but the question is not yet resolved.

In the following section I reconstruct the demonstrative roots, and then discuss their unaffixed use (§4.3.2) and the reduplication construction (§4.3.3). I then discuss their interaction with the accusative and oblique enclitics *=ŋ and *=nt (§4.3.4). Finally, I discuss several other affixes that occurred on demonstratives: a topic/object suffix (§4.3.5), two locative suffixes (§4.3.6 and §4.3.7), and a focus suffix (§4.3.8).

4.3.1. Demonstrative Roots

PSᴏɢ demonstrative roots distinguished three distances: near, mid, and far. There was also a fourth root that took the same suffixes and was used to form question words. The roots are given in Table 9. Mand has lost the three-way distinction, retaining only the near and mid forms; Nend has innovated new near, far, and interrogative forms; the Mum mid form

varies between *ka-* and *ha-*, but it is unclear what conditions this variation; the Aisi mid forms are from Magɨ (*ka-*) and Mabɨŋ (*ga-*); and the Aisi interrogative form is from Mabɨŋ, as little is known about Magɨ question formation.

Table 9. Demonstrative roots

	Mand	Nend	Manat	Apalɨ	Mum	Sirva	Aisi	Kursav	PSOG
ND	na-	[mba-]	inɨ-	na-	nɨ-	nɨ-	na-	i-	*inɨ-
MD	ka-	ha-	ka-	ha-	ka-, ha-	ka-	ka-, ga-	ka-	*ka-
FD		[ke-]	itu-	ada-	da-	ada-	ara-	do-	*antu-
QD		[nzɨ-]	ba-	aba-	pa-	aba-	nɨba-	ba-	*ampa-

A few things can be observed from this table. The first is that the middle demonstrative form *ka- has been remarkably stable throughout the history of the family. The middle serves as the unmarked deictic form in every daughter language, and *ka- was probably one of the highest-frequency morphemes in PSOG, which goes some way in explaining its remarkable stability.

We can also observe that the other three forms were often reshaped on analogy with *ka. This analogy sometimes took the form of loss of the initial vowel, and other times change of the second vowel to *a*. So for example *inɨ- 'ND' lost *i in Apalɨ, Mum, Sirva, and Aisi, and changed *ɨ > *a* in Mand, Apalɨ, and Aisi. Similarly, *antu- lost *a in Mum and Kursav, and changed *u > *a* in Apalɨ, Mum, Sirva, and Aisi. And finally, *ampa- lost initial *a in Manat, Mum, and Kursav. In each of these cases, the archaic form is still well-distributed throughout the family. Given that analogic change motivated by *ka explains the innovative forms, while the reverse changes would be difficult to explain, these reconstructions are reasonably secure.

The near demonstrative *ini̵- is retained completely only in Manat. And the initial vowel is only found in one other language, Kursav, where the rest of the PSₒɢ demonstrative has been lost. So the reconstruction of *ini̵- is not as secure as we might like, but it is still more plausible than a reconstruction without the initial vowel. If we reconstructed †ni̵-, we would have to posit two innovations of initial *i*, which, although not impossible, would be unlikely. But if we reconstruct *ini̵-, we have to posit two innovations in which *i was lost—one to explain the Mand form and another to explain Apali̵, the NCS languages, and Aisi. As discussed above, these changes can be easily explained as analogical change based on the middle demonstrative *ka, so the reconstruction of the initial vowel in *ini̵- is preferable.

The reasoning for the second vowel of the near demonstrative, for both vowels of the far demonstrative *antu-, and the first vowel of the interrogative demonstrative *ampa-, is the same. In each case there are two reflexes, one of which can be explained as having been created on analogy with *ka-, the other of which cannot. In each case the reconstruction is thus fairly secure. The distribution of reflexes for each of these correspondence sets leads to a more secure reconstruction than the initial *i of *ini̵-, discussed above, so I do not individually discuss the reconstruction of each vowel.

Several innovations can be pointed out. Nend has reshaped the set of deictic roots quite drastically, leaving only the middle form unchanged. The near form may be derived from the interrogative form, although that would involve a peculiar semantic innovation. Nend demonstratives each come in two varieties: basic and expanded, the latter being used for "contrastive or specifying" functions (Harris 1990: 103). The expanded form of the near

demonstrative is *mba-na-*; the second element may be a reflex of the PSᴏɢ near demonstrative. The Nend far and interrogative forms are innovative, and I have no hypothesis as to their etymology.

In Manat, the far form is unusual in two respects. It has changed its initial vowel to *i*, presumably on analogy with the near form. And it has changed PCS *d > t*. It is interesting to note the voicing pattern for the mid form in Nend and Manat. In Nend, where medial *k sometimes lenites to *h* (§2.2.3.1), *k lenited. But in Manat, where initial *k sometimes lenites but medial *k does not (§2.3.1.5), *k remains unvoiced. This suggests that these demonstratives behaved, phonologically at least, more like bound forms than free forms.

The only difficulties in Mum are the variability in the middle form and the devoicing of *b > *p* in the interrogative form. I have no explanation for the latter.

The Aisi interrogative has added an initial *nɨ* which is of uncertain origin. It does not appear to have changed the meaning of the root, and the fact that it still takes demonstrative suffixes to form question words suggests it is descended from *ampa.

Kursav changed the near form considerably, retaining only the initial vowel and removing the second syllable.

4.3.2. Bare Roots

Most languages allow the usage of bare demonstrative roots, without suffixes. Often it is a limited set of demonstratives that can be employed this way, although the middle demonstrative is always included in the set. The functions of these bare demonstratives

frequently differ somewhat from the functions of suffixed demonstratives, as I discuss below. The relevant forms are given in Table 10.

Table 10. Bare demonstratives

	Mand	Manat	Apalɨ	Mum	Sirva	Aisi	Kursav	Gants	PSOG
ND			na	nɨ	nu		i(ka)		*in?
MD	kɨ?	ka?	ha	ka, ha	ka	ga	ka	ko	*ka
FD				da	ada		do		*antu

The Mand and Manat forms are not well understood synchronically so I defer discussing them to the end of this section, where the parallels between their properties and the properties of the other forms will be easier to recognize.

Wade (1989: 131–3) refers to the Apalɨ forms as topic demonstratives and describes several functions that they perform. They can be used in topic position, either as a determiner for another noun (53) or on their own (54). Their topic-marking function extends to marking the subjects of nonverbal predicates (55). And it can also include the marking of non-nominal elements, such as the adverb *havɨ* in (56). In the topic-marking function, *na* is often used cataphorically to introduce what is about to be said, while *ha* is used anaphorically to recapitulate what was just mentioned.

Apalɨ
(53) *Saba **ha,*** *ua na-vɨla cɨhu ala ve-vɨhe-m-i.*
pig **MD.TOP** go eat-SS again FOC come-do.quickly-HPST-3SG
'As for that pig, it went and ate and again came back quickly.'   (Wade 1989: 131)

Apalɨ
(54) ***Na,*** *viaŋ vaŋ mɨŋ-in kua u-i.*
ND.TOP 1SG string.bag hold-1SG.IPST uncertainty say-3SG.IPST
'"As for this, I think I am holding a string bag," he said.'   (Wade 1989: 132)

Apalɨ

(55) *... lali ibi **ha** sɨviaŋ.*
      tree name **MD.TOP** tree.sp
      '... (it's) tree's name was *sɨviaŋ*.'   (Wade 1989: 132)

Apalɨ

(56) *Havɨ **ha** hɨma u-m-i.*
      for.no.reason **MD.TOP** no say-HPST-3SG
      '"If it was for no reason, then no (I wouldn't have done it)," he said.'
                                                                     (Wade 1989: 132)

Like other demonstratives, *ha* can be used to subordinate clauses (57). But unlike other demonstratives, it can also be used to topicalize medial clauses (58). *Na* does not serve either of these functions.

Apalɨ

(57) *Avɨli sɨ-naŋ **ha** viaŋ avi mugua sɨ-b-eŋ u-i.*
      water wash-2SG.IPST **MD.TOP** 1SG also go.down wash-FUT-1SG say-3SG.IPST
      '"Since you have already bathed, I also will go down and bathe," she said.'
                                                                     (Wade 1989: 133)

Apalɨ

(58) *Nubu agalɨ-ci **ha** ataŋ hɨnia igahɨlɨ-la-lu.*
      3SG call.out-3SG.DS **MD.TOP** far stay hear-HAB-1PL
      'When he calls out, we are staying at a distance and habitually hear.'
                                                                     (Wade 1989: 133)

In Mum all three demonstrative roots can occur without suffixes. Near *nɨ* and far *da* are realized as such, while the middle demonstrative varies between *ka* and *ha*; it is unclear whether this variation affects the meaning. These forms can mark nouns in topic position (59), as well as other topical items like *kɨvsuŋ* 'morning' in (60). They also appear to be able to subordinate clauses (61) and topicalize medial clauses (62).

Mum

(59) *Kɨbɨ **ha** yahu-ta Usahri=ŋ naga Paharɨ=ŋ tara-h-u ...*
      response **MD** go.up-SS Usahri=OBJ with Paharɨ=OBJ shoot-DS-3PL
      'For this revenge they went up and shot Usahri and Paharɨ ...'   (Sweeney n.d.)

(60)   Mum

   Kɨvsuŋ   ***da***   *u-ta*   *ga-h-i*   *saba*   ***ha***   *yaha-ta ...*
   morning   FD   go-SS   look-DS-3SG   pig   MD   come.up-SS
   'That morning he went and he looked and the pigs came up ...'   (Sweeney n.d.)

(61)   Mum

   U-m-i   ***ha,*** *mita-ta*   *suwinda ...*
   go-HPST-3SG   MD   leave-SS   again
   'He went, leaving again ...'   (Sweeney n.d.)

(62)   Mum

   Ña-ta *mɨtu-ta*   ***da,*** *abɨhañ,*   *karha-m-i.*
   eat-SS   finish-SS   FD   enough   sleep-HPST-3SG
   'He ate, and finished eating, alright, he lay down.'   (Sweeney n.d.)

The Sirva bare demonstratives *nu*, *ka*, and *ada* have similar functions. They mark items in topic position (63), including the subjects of nonverbal predicates (64). They can also subordinate clauses (65), although they do not appear to topicalize medial clauses. Finally, they have a clause-initial function that seems to give focus to the upcoming predicate (66). This function appears to be related to the Apalɨ clause-initial function exemplified in (54).

(63)   Sirva

   Na *uhusiv* ***ka,***   *be*   *kava* *nɨrɨŋ*   *wari.*
   and   village   MD.TOP   3SG   bird   3PL.POSS   village
   'And the village, it was the birds' village.'

(64)   Sirva

   Kura ***ada***   *zere*   *mana.*
   man   FD.TOP   good   no
   'That man isn't good.'   Elicited

(65)   Sirva

   U-rubɨ-s-a   ***ka,***   *kine* *k-i*   *hasa* *kɨzɨdɨ-s-a.*
   go-PL-FPST-3   MD.TOP   near   MD-SET FOC   evening-FPST-3SG
   'They went, and very soon (lit. 'in a near place') it was evening.'

(66)   Sirva

   Ei, ***ka***   *amge*   *dua* *be* *pi~bi*   *ad-i-Ø.*
   hey   MD.TOP   woman   bad   3SG   come~NMLZ   do-TPST-3SG
   'Hey, it's the bad woman coming doing (that).'

The data I have for Aisi Magɨ are insufficient to draw firm conclusions, so I focus on Aisi Mabɨŋ here. The only cognate form is the topic marker *ga*, which is related to the middle demonstratives; the near and far roots cannot be used without suffixes. *Ga* marks topic fronted constituents (67), including the subjects of nonverbal predicates (68). It can also appear at the beginning of a clause to focus the main predicate (69). And it can subordinate final clauses (70) and topicalize medial clauses (71).

Aisi Mabɨŋ
(67) *Mo* **ga** *mandɨ* *ga-niŋ,* *uk-ɨs-iŋ.*
SPEC **TOP** COMPL MD-LOC cut-FPST-1SG
'One, I told a while ago.'

Aisi Mabɨŋ
(68) *Yama* *yaka* **ga,** *Banam=iŋ* *gɨsiŋ.*
mother.1.POSS 1SG.POSS **TOP** Banam=LOC from
'My mother is from Banam.'

Aisi Mabɨŋ
(69) *Iskat-ɨber* *ma,* **ga** *n-ɨber.*
leave-3SG.FUT NEG **TOP** eat-3SG.FUT
'He won't refuse (anything), he'll eat.'

Aisi Mabɨŋ
(70) *Ya* *gi* *ika* *yaka* *kɨn-i* *akɨ* **ga,** *ga-rib*
1SG FOC father.1.POSS 1SG.POSS stay-3SG.IPST maybe **TOP** MD-ADJZ

kr-ɨbɨŋ.
walk-1SG.CTRF
'If *my* father were alive, I'd walk around like that (too).'

Aisi Mabɨŋ
(71) *Ga-rib* *ar-i* *anɨgunuŋ* *mɨndam-i* **ga,** *kwi* *way-am.*
MD-ADJZ do-SS 1PL.OBJ think-SS **TOP** back come-2SG.IMP
'So when you remember us, come back.'

As mentioned, Magɨ is poorly understood and the cognate morphemes cannot be confidently described. But it appears that the topicalizing morpheme *ga* is also found here,

as in (72), where it topicalizes *Mande* 'Monday.' The clause-initial function may be served by a related morpheme *ka*, also illustrated in (72), although this morpheme is very infrequent and is hardly understood at all. Recall, though, that the Mabɨŋ middle root *ga-* is an irregular reflex of PSOG *ka in that the *k voiced to *g*. This irregular voicing did not affect Magɨ bound forms (the bound demonstrative root is still *ka-*), but it may have affected the unbound root in some contexts. But this topic requires further research.

Aisi Magɨ
(72) | *Mande* | *ga* | *s-iŋ,* | *ka* | *yɨ* | *nu=ra* | *sab* | *tam-byaŋ* | *s-iŋ.* |
| Monday | TOP? | say-1SG.IPST | ? | 1SG | 3SG=COM | work | put-1SG.FUT | say-1SG.IPST |

'"Monday," I said. "Then I'll work with him," I said.'

In Kursav the middle and far demonstratives can be used without affixes. The near root *i-* must be affixed with the topic suffix *–ka*, but when it is it appears to function very similarly to the unaffixed *ka* and *do*. It may be, then, that the unaffixed near demonstrative is simply not allowed due to a minimal word requirement or some similar length-related prohibition. The middle and far bare forms appear to function simply as unmarked demonstratives (73), marking deictic distance but not any particular information-structure status, such as topic.

Kursav
(73) | *Agɨdem* | *do* | *ruk-uana?* |
| good | FD | see-2SG.NFUT |

'Do you see that good one?'

The Gants definite article *ko* appears to be cognate with unaffixed middle forms in other languages, although the rounding of *a to *o* remains unexplained. This form can mark noun phrases as definite (74), can refer to definite referents on its own (75), and can nominalize clauses (76).

Gants

(74) *Kura* **ko,** *miŋa gon tama-m-ek.*
man **DEF** get trap put-FPST-3SG
'The man set a trap.'

Gants

(75) **Ko** *pe maŋ.*
DEF pig no
'That's not a pig.'

Gants

(76) *Ped miŋi-da yɨg adɨ-m-ek* **ko,** *kada cɨ-m-ek*
paint take-SS festival do-FPST-3SG **DEF** thus stay-FPST-3SG
'The paint he taken and decorated himself with was right there.'

Gants also has a medial clause topicalizer *ga*, which follows a medial clause to render it topical in the discourse (77). There is also a form *ka* which is rare but which appears to be some kind of variant of *ga* (78).

Gants

(77) *Miñ wisɨka-da adi-k-e* **ga,** *kura erkara-da …*
vine untie-SS do-DS.SEQ-3SG **TOP** man turn-SS
'When she untied the rope, it turned into a man and …'

Gants

(78) *Miŋa-da aŋa u-re-re* **ka,** *kura koimo, pe ko urod koipoi miŋa-da …*
get-SS go go-DS.SIM-3SG **TOP** man SPEC pig DEF path there get-SS
'When he took them, another man got a pig along the path and …'

I now return to Mand and Manat, which have apparently cognate forms that are poorly understood due to their low frequency. The Mand form *kɨ* is a regular phonological reflex of *ka, but it appears only twice in my corpus, shown in (79) and (80). These uses both resemble the clause-initial function found in Apalɨ, Sirva, and Aisi.

Mand

(79) *Ida ka-n=ahw, ai-rd ka-n=ahw, misenare,* **kɨ** *naintintetiwan.*
sun FD-ACC=FOC come-FPST FD-ACC=FOC missionary **?** 1931
'The day they came, the missionaries, it was 1931.'

Mand
(80) *Kɨ   mad   ar,   ka-p   watɨm ar.*
       ?   no   QUOT   FD-LOC after   QUOT
      '"No," she said, "He's behind (us)."'

The Manat form *ka* is more frequent than Mand *kɨ*, but still not well understood. It usually appears at the beginning of a clause and renders some understood referent topical, such as a picture that the speaker is holding in (81). More rarely it occurs with an overt noun, as in (82).

Manat
(81) *Ka   yaba   ka-n   ñ-id.*
      MD.TOP water MD-ACC   eat-3SG.IPST
      'This one, he's drinking beer (lit. 'water').'

Manat
(82) *Pri   ka,   ŋara-rh-ura-m-id,   arum hava   ka-b.   Ayaga=k*
      dog   **MD.TOP** speak-HAB-PL-PST-3.HIS big   group MD-NOM   sago=ACC

      ig-ɨmɨr.
      give-2PL.PROH
      'As for dogs, the elders say, "Don't give them sago."'

The forms discussed above have many functions in common. To facilitate comparison, I summarize these in Table 11. Kursav is not included in the table because while its bare demonstratives are formally related to these forms, their functions have become so broad that comparison would not be meaningful. The functions referred to in the table are as follows: marking noun phrases in topic position, whether of verbal or nonverbal predicates; a bare demonstrative occurring clause initially without any accompanying noun phrase; subordinating a final clause; and topicalizing a medial clause.

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Table 11. Bare demonstrative functions

	Mand	Manat	Apalɨ	Mum	Sirva	Aisi	Gants	PSOG
topic position		x	x	x	x	x	x?	x
clause-initial	x	x	x		x	x		x
subordinating			x	x	x	x	x	x
medial clause			x	x		x	x	x

It is unclear whether the Gants definite article function should be considered cognate with the topic position function in other languages. Certainly it represents a plausible path of innovation; since topical discourse participants are almost always definite, the change from topic-marking in PSOG to definite-marking in Gants could easily have happened. But as mentioned, the *o* in Gants *ko* casts some doubt on this etymology.

But even if the link between Gants *ko* and other reflexes of *ka is rejected, the distribution of reflexes in Table 11 allows for the reconstruction of two functions for PSOG *ka. The first is a topic-marking demonstrative function. On this analysis, the first two functions in Table 11 are understood as essentially the same function. The "topic position" label is given to reflexes that occur with an overt noun phrase, and the "clause-initial" label is given to reflexes that occur without one. This requires positing that the clause-initial function of *ka was initially always referential, as in (83), and that non-referential uses, like (84), arose later.

Apalɨ
(83) *Na,* *viaŋ* *vaŋ* *mɨŋ-in* *kua* *u-i.*
ND.TOP 1SG string.bag hold-1SG.IPST uncertainty say-3SG.IPST
'"As for this, I think I am holding a string bag," he said.' (Wade 1989: 132)

Sirva
(84) *Ei,* *ka* *amge* *dua* *be* *pi~bi* *ad-i-Ø.*
hey **MD.TOP** woman bad 3SG come~NMLZ do-TPST-3SG
'Hey, it's the bad woman coming doing (that).'

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Reconstructing the subordinating function follows naturally from the reconstruction of a demonstrative function, as demonstratives were used to subordinate clauses in PSOG (see §6).

The second function to reconstruct is the medial-clause topicalizing function. This function is well-distributed throughout the family, occurring from Gants to Mum and Apalɨ, so it can be reconstructed even though no other demonstrative serves such a function in any Sogeram language.

We must also decide how to reconstruct the demonstratives phonologically. The mid form *ka is simple, as there are plenty of reflexes. The far demonstrative *antu can also be reconstructed confidently; the extant reflexes support it widely enough, and comparison with the bound form *antu- confirms the reconstruction. But the near form is difficult to reconstruct. Apalɨ, Mum, and Sirva all lack the initial vowel, and Kursav does not retain a clear reflex of the unaffixed near demonstrative. I reason that the bound form *inɨ- probably corresponded to a bare form *in, but this reconstruction is not directly supported by the modern reflexes, so it remains somewhat speculative.

The last issue to resolve is what roots to reconstruct for what functions. Certainly *ka must be reconstructed for both reconstructed functions, since it serves every surviving function in every daughter language. But reflexes of the near and far demonstratives do not show up as consistently. For the medial clause topicalizing function, only reflexes of *ka are used in Apalɨ, Aisi, and Gants; Mum is the only language in which other demonstratives can serve this function. This suggests that Mum is innovative in this respect, and this function should only be reconstructed for the middle demonstrative *ka.

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Near and far demonstratives are more widely distributed in the topicalizing function. The far demonstrative is found in Mum and Kursav, so it can be reconstructed to PSᴏɢ. Unaffixed near demonstratives, however, are not found unambiguously in Kursav, but only in Apalɨ and Mum. (Sirva *nu* may be a reflex of the demonstrative *in or of the 3sɢ subject pronoun *nu.) This means that the topicalizing function cannot be directly reconstructed for the near demonstrative *in. Rather, because we reconstruct a bare demonstrative construction in which *ka and *antu were used, we can reason that *in was probably also used in this construction. But such a reconstruction is less secure, so bare *in is only tentatively reconstructed.

4.3.3. Contrastive Root Reduplication

PSᴏɢ may have had a reduplicated bare root form, although the evidence for this reconstruction is not wholly conclusive. The relevant forms are presented in Table 12, although I conclude below that the Sirva topic form *kaga* is not cognate with the rest.

Table 12. Reduplicated demonstratives

	Nend	Apalɨ	Sirva 'ᴘʀᴀɢ'	Sirva 'ᴛᴏᴘ'	Kursav	PSᴏɢ
ɴᴅ	*mba-na-*	*na-na*	*n-udu*		*i-ka(-)*	*in~in
ᴍᴅ	*ha-na-*	*ha-na*	*k-udu*	*[kaga]*	*ka-ka(-)*	*ka~ka
ꜰᴅ	*ke-ha-*	*ada-na*	*ad-udu*		*do-ka(-)*	*antu~ntu

Both Nend and Kursav possess expanded demonstrative roots that can be used in certain pragmatic circumstances. In Nend these forms must be followed by one of the regular demonstrative suffixes, although the expanded demonstratives do not take the full range of demonstrative suffixes, only a subset. In Apalɨ the expanded demonstratives must stand on their own. The Sirva ᴘʀᴀɢ forms can either stand on their own or take one of two

enclitics, *=ŋ* 'POSS' and *=ñ* 'LOC/INS.' The Sirva topic form *kaga* must stand on its own. And in Kursav the expanded demonstrative roots can either stand on their own or take one of the usual demonstrative suffixes.

The meaning of the Nend expanded demonstrative roots is centered around contrast. They function to "distinguish the referent from a larger group" or "clarify the identity of the referent" (Harris 1990: 104–5), as in (85) and (86).

Nend
(85) *Ay-enta*   ***ke-ha-n***   *mbɨkɨr*   *mah.*
      tree-design   **FD-CTR-ACC**   3PL.POSS   NEG
      'Those carvings are not theirs.'   (Harris 1990: 105)

Nend
(86) *Ke-n*   *w-in*   *ha-n*   *avɨ-z-ay-v,*   *ntɨ*   ***ke-ha-n.***
      FD-ACC   see-1SG.IPST   MD-ACC   throw-3SG.DS-come-2SG.IMP   red   **FD-CTR-ACC**
      'Throw those that I see there, that is, the red (ones).'   (Harris 1990: 104)

The Apalɨ forms are called "contrastive topic markers" by Wade, who describes them as being composed of the deictic roots "plus [the] near deictic functioning as the contrastive topic marker" (Wade 1989: 133). As the label implies, they serve to mark contrast. Her examples all involve the near deictic form *nana*, as in (87), suggesting that it may be the most common of the three.

Apalɨ
(87) *Na*   *na-dɨ.*   ***Na-na***   *ia-dɨ.*
      ND.TOP   2SG.OBL   **ND-CTR**   1SG-OBL
      'This one is yours. This (other) one is mine.'   (Wade 1989: 134)

The Sirva forms with *–udu* 'PRAG' have proven difficult to analyze semantically. They indicate that their referent is pragmatically salient in some way, but a simple label like

'topic' or 'focus' is problematic because *–udu* can mark both core arguments of a single clause (88).

> Sirva
>
> (88) *Kwahe, yava mirada **n-udu,** uhu **n-udu** tam-ra …*
> before father.1.POSS big **ND-PRAG** ground **ND-PRAG** put-SS
> 'Before, God (lit. 'our big Father') created the earth and …'

As mentioned above, demonstratives in *–udu* can host the possessive enclitic *=ŋ* (89) and the locative/instrumental enclitic *=ñ* (90).

> Sirva
>
> (89) *Uhu timu n-umu, amge **n-udu=ŋ** uhu va-bɨ-s-a.*
> ground side ND-LOC woman **ND-PRAG=POSS** ground say-PL-FPST-3
> '"On this side of the land, (it's) the woman's land," they said.'

> Sirva
>
> (90) *Bira pɨgrɨ ka-ŋa **k-udu=ñ** ma ki-rava-b-ri.*
> 3PL custom MD-EXST **MD-PRAG=LI** NEG stay-HAB-PL-3
> 'They didn't live by such customs.'

The Sirva topic form *kaga* only marks subordinate clauses, as in (91). It usually signals that something important is about to happen, and marks a division between what came before (in the subordinate clause) and what happens next.

> Sirva
>
> (91) *Arɨ=ñ kɨmam-daŋ v-ra ga-bɨ-s-a **ka-ga,** wara.*
> what=LI sleep-1DU.IRR say-SS see-PL-FPST-3 **MD-TOP** house
> 'They said, "What will we sleep in?" and looked, and (there was) a house.'

The Kursav expanded demonstratives add a suffix *–ka*. They can either stand on their own, as in (92), or take the other demonstrative suffixes, as in (93). Forms with *–ka* seem to perform a special contrastive topicalizing function. For example, (92) was uttered in a conversation about pictures of several troublemakers. *Kaka* here serves to contrast the

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virtuous subject of this clause (a policeman) with the miscreants being discussed beforehand.

Kursav
(92) *Kura* **ka-ka** *agɨdem nitɨbu d-e.*
man **MD-TOP** good custom do-3SG.NFUT
'That man is behaving well.'

Kursav
(93) **I-ka-n** *skur idua d-e.*
ND-TOP-LOC school bad do-3SG.NFUT
'The school here is bad.'

We can see, then, that the functions of the Nend, Apalɨ, and Kursav forms discussed here, and of the Sirva *–udu* forms, are quite similar. The function of Sirva *kaga*, however, does not seem to match the others. This consideration, combined with the unexpected prenasalization on the *g*, leads me to conclude that this form is not cognate with the other forms.

But it remains to be demonstrated that the four remaining forms are cognate with each other. Certainly they have a wide distribution through the Sogeram family, so that reconstruction to PSOG would be assured if they were. And, as mentioned, they match each other well semantically. But they do not match each other particularly well phonologically.

In spite of the phonological difficulties, though, I consider it likely that the explanation for the semantic similarities lies in a reduplicated demonstrative root that existed in PSOG. It is noteworthy that, even though the contrastive suffixes in Table 12 are not all cognate, they do all take the shape of a demonstrative root. (Nend innovated a new near demonstrative root *mba-*, but the near expanded demonstrative retains the old PWS form *na*.) This suggests that repeating bare demonstratives was a PSOG strategy for

communicating contrastive focus. The variety of focus markers found today can be explained as the outcome of different processes of analogical leveling. The near form gave the suffix *–na* in Apalɨ, the far form gave Sirva *–udu*, and the mid form gave Kursav *–ka*. Nend remains difficult to explain, but it does appear to have reflexes of both near and mid demonstratives in this construction.

Another feature that can tentatively be reconstructed is that this form could either occur on its own (as reflected in Apalɨ, Sirva, and Kursav) or could occur with the usual demonstrative suffixes (as reflected in Nend, Sirva, and Kursav).

So the outlines of this form can be reconstructed. But many details remain elusive. The exact form that the near demonstrative took when it was reduplicated cannot be directly reconstructed due to the amount of analogical change that has taken place. But *in~in, or *in~inɨ- when inflected, is probably the most likely shape. The middle form *ka~ka is more secure, given the Nend far reflex *ke-ha-* and the Kursav mid reflex *ka-ka*. But even this correspondence is not perfect, as the first Nend vowel is not expected to raise to *e*. And the far form must be reconstructed as *antu~ntu based solely on the Sirva witness *ad-udu*, so the reconstruction of PSᴏɢ reduplicated demonstrative roots remains tentative.

4.3.4. Object and Oblique

The object enclitic *=ŋ and the oblique enclitic *=nt were reconstructed in §4.2.2 and §4.2.3 above. In those sections I focused on the reflexes of these enclitics that mark pronouns and noun phrases; here I focus on the reflexes that occur on demonstratives. There are not many of these—in fact, there would not be enough to securely reconstruct these

demonstrative forms if the enclitics had not already been reconstructed in other environments. This situation raises a methodological question. Given that *=ŋ and *=nt are securely reconstructed, but only a few reflexes survive on demonstratives, should the demonstrative-marking function be reconstructed, or only the other functions? Reconstructing the demonstrative function entails positing that these demonstrative forms fell out of use in most languages. Not reconstructing the demonstrative function entails positing that it was innovated in the languages where it is found. Both scenarios are plausible. Reconstructing the demonstrative function creates a more symmetrical PSOG system, in which all case-marking enclitics had roughly the same distribution. Not reconstructing the demonstrative function creates an asymmetrical system for PSOG, but that very asymmetry explains the innovations that would have had to happen in the languages where these enclitics are found on demonstratives. I lean towards the view that the demonstrative-marking function should be reconstructed to PSOG for *=nt but not for *=ŋ, but recognize that the evidence could be interpreted otherwise.

The oblique enclitic *=nt is found on demonstratives in Mand and Nend, and on a Manat postposition that used to be a demonstrative. In Mand its primary functions appear to be the marking of instrumental (94) and locative (95) obliques.

Mand
(94) *Agem* **ka-d**   *imi-rd.*
     knife   **FD-OBL**   shoot-FPST
     'He stabbed it with a knife.'   Elicited

Mand
(95) *Abɨ* **na-d**   *ac,*   *akaj-u*   *ar.*
     2   **ND-OBL** FOC   wait-2SG.IMP   QUOT
     '"You wait here," she said.'

For Nend, Harris (1990: 107) only says that the oblique demonstrative form "is used in oblique noun phrases," and gives two examples, one possessive (96) and the other marking origin (97).

Nend

(96) Mor   **ha-nd**   ensa   Mpahat.
      crocodile MD-OBL   name   Mpahat
      'The crocodile's name was Mpahat.'   (Harris 1990: 107)

Nend

(97) Wɨram   ay-ampɨra   **mba-na-nd=ɨv**   ntɨŋ   ŋa-ndara-mg-i.
      man   tree-place   ND-CTR-OBL=NOM   work   get-FUT-PL-3
      'The men from this village will work.'   (Harris 1990: 107)

In Manat the postposition *kad* marks benefactive case (98). This form appears to be quite plainly derived from PCS *ka-d 'MD-OBL,' but the corresponding near and far forms have fallen out of use, and *kad* is no longer found without a preceding noun phrase. An interesting fact about *kad* is that it is in complementary distribution with another benefactive postposition *mad. Kad* marks noun phrases headed by common nouns, while *mad* marks other noun phrases. This may be a vestige of the distribution of the oblique enclitic. Recall that the accusative enclitic *=ŋ is reconstructed as occurring on its own on proper and inalienably possessed nouns, but requiring a demonstrative in order to mark common nouns. It may be that *=nt had a similar distribution, which is why *kad* is only found marking common nouns in Manat today.

Manat

(98) Mɨna   **kad**   ruku-ñɨ-rat-ur-id.
      pig   BEN   see-stay-HAB-PL-3SG.IPST
      'They watch for pigs.'

Unlike *=nt, which is found in three languages, the object enclitic *=ŋ is only found on demonstratives in Aisi Mabɨŋ. The Aisi nominative demonstrative suffix is –*ku*, and the accusative is -*kuŋ*. (The *ku* element may be descended from a focus marker; see §4.3.8.) Aside from this, there are no demonstrative forms that have a reflex of *=ŋ.

As mentioned above, the support for reconstructing either *=nt or *=ŋ with a demonstrative function is ambiguous. I tentatively reconstruct a demonstrative function for *=nt because such a function is reflected in three languages and because its absence in the other languages can be explained by one or two innovations. I tentatively do not reconstruct a demonstrative function for *=ŋ because that function is only found in one language, and accounting for its absence in the other languages would require around four innovations. The decision not to reconstruct a demonstrative function for *=ŋ has one significant virtue: it results in a plausible complementary distribution between *=ŋ and demonstratives with the the topic/object suffix *-n (§4.3.5). The former would have marked proper names and inalienably possessed nouns, while the latter would have marked common nouns.

4.3.5. Topic/Object

The demonstrative suffix *-n marked topics and objects. It seems that topic position in PSOG was a separate structural position in a sentence that preceded the subject and that was marked with its own case. This comports with Donohue's (2005: 213) claim that Papuan languages frequently have "pragmatic constraints on the realization of arguments with, in many cases, overt morphological consequences for the sentence." A key assumption in this

discussion is that nonverbal predicates in Sogeram languages often have a topic–comment structure, not subject–predicate structure. What would be the subject in a subject–predicate language is structurally a topic in Sogeram languages, and is morphologically marked as such.

Reflexes of *-n are found in Mand, Nend, Manat, Apalɨ, and Aisi Mabɨŋ. In Mand, it marks objects (99) and the subjects of nonverbal predicates (100). It may also mark fronted topics as in (101), but there are no clear examples of this construction in which the fronted topic is not also the object.

Mand
(99) *Kuram-iñ   na-g,   iwañ   **ka-n**   am   kw-e   aterɨ-rd.*
     man-DIM   ND-NOM footprint **FD-ACC**   just   see-SS   leave-FPST
     'The boy just saw the footprints and left.'

Mand
(100) ***Na-n***   *ikɨsopɨh.*
      ND-ACC   head
      'This is a head.'

Mand
(101) *Asam   far   **ka-n,**   dɨh=i   k-ɨp   ac   ab-eu-rd.*
      breadfruit skin **FD-ACC**   DU=COM   FD-EXST   FOC   put-PL-3.FPST
      'The breadfruit skin, the two of them put it there.'

In Nend this form usually marks objects (102), locations (103), or the subject of nonverbal predicates (104).

Nend
(102) *Apa   **ha-n**   wa-rɨŋ,   mamta.*
      bird   **MD-ACC**   see-1PL.DS   dead
      'We saw the bird and it was dead.'   (Harris 1990: 106)

Nend
(103) *Nzɨ* **mba-n** *ŋkañi-ndar-in*
1SG ND-ACC sit-FUT-1SG
'I will sit here.' (Harris 1990: 106)

Nend
(104) *Yaŋ,* **mba-n** *utɨ?*
mother ND-ACC what
'Mother, what is this?' (Harris 1990: 106)

Two of the Nend object pronouns, *yan* '1SG.OBJ' and *nan* '2SG.OBJ,' appear to contain reflexes of *-n. While these pronouns usually occur as objects, they can also occur as subjects of nonverbal predicates (105). Harris's translation of (106) suggests they may also function to mark fronted topics for verbal clauses as well.

Nend
(105) **Yan** *Pasɨŋkap=ɨnd.*
1SG.OBJ Pasɨŋkap=OBL
'I am from Pasinkap.' (Harris n.d.)

Nend
(106) **Yan** *aŋkwɨ=v* *aha-z* *mac* *et-ay-em-en.*
1SG.OBJ anger=NOM happen-3SG.DS finish depart-come-YPST-1SG
'It made me angry so I came. (As for me, anger happened so then I left and came.)'
(Harris 1990: 93)

The Manat suffix *–n* also marks objects and topics. The object-marking function is seen with *kan* in (107), while the topic-marking function is seen with *inɨn*, which refers to a picture that the speaker is holding. Demonstratives with *–n* can also mark the subjects of nonverbal predicates (108) and some locative arguments in intransitive clauses (109). Note that *abim itun* in (109) is right-dislocated from the preceding clause; it is not the object of *rukusa*.

Manat

(107) ***Inɨ-n***   *añɨŋuta*   *kai*   *ka-b*   *pas*   *vaga*   ***ka-n***   *vuk-ur-id.*
     ND-ACC   three   LOC   MD-NOM   banana   leaf   **MD-ACC**   write-PL-3.IPST
     '(In) this one, three men are writing a letter.'

Manat

(108) *Vɨhɨr*   ***inɨ-n***   *ñi-bak?*
     bamboo   **ND-ACC**   who-POSS
     'Whose bamboo is this?'

Manat

(109) *As*   *mɨgu-n=a,*   *abim*   ***itu-n,***   *ruku-s=a ...*
     so   go.down-2/3.SS=INT   boundary   **FD-ACC**   see-3SG.DS=INT
     'So he went down to the edge and looked and ...'

In Apalɨ the cognate suffix *–n* is called the 'location of item' form and glossed 'ILOC' by Wade (1989: 129). This form marks locations (110) but seems to only mark objects when it is either in topic position or right-dislocated (111). It occurs frequently in topic position, either as the subject of a nonverbal clause (112) or as a topic-fronted item in a verbal clause (113).

Apalɨ

(110) *Akoba*   *akoba*   ***na-n***   *hɨni-d-i.*
     whatever   whatever   **ND-ILOC**   stay-CONT-3SG
     'The things are in this (box).'   (Wade 1989: 130)

Apalɨ

(111) *Lɨ-ci*   *nu-dɨ*   *hɨvɨ*   *hugɨl-avɨ-m-i,*   *sabaŋ*   ***ha-n.***
     do-3SG.DS   3SG-OBL   LI   cook-PL-HPST-3   pig   **MD-ILOC**
     'He did it and they cooked it at his (place) (or 'in his (pot)'), that pig that is.'
                                                        (Wade 1989: 130)

Apalɨ

(112) ***Na-n***   *sɨbɨlɨ*   *u-i.*
     ND-ILOC   bad   say-3SG.IPST
     '"This one here is bad," he said.'   (Wade 1989: 129)

Apalɨ

(113) **Ha-n**   *analɨ* *abɨ-naŋ*   *u-i.*
     MD-ILOC   lie   talk-2SG.IPST say-3SG.IPST
     '"As for that, you lied," he said.'   (Wade 1989: 130)

The final language with a reflex of *-n is Aisi Mabɨŋ, where the topic-marking demonstrative suffix is *–oŋ.* This form marks topic-fronted constituents (114) as well as objects (115). It does not mark the subjects of nonverbal predicates, as that function is performed by the nominative suffix *–ku* (116).

Aisi Mabɨŋ

(114) *Kubro*   **g-oŋ**   *sab*   *i-ba.*
     canoe   MD-TOP   work   get-NMLZ
     'They work on canoes (lit. 'the canoes, they work').'

Aisi Mabɨŋ

(115) *Ga-niŋ*   *kr-i*   *kr-i*   *kyaŋɨ*   **g-oŋ**   *iw-eŋ.*
     MD-LOC   walk-SS   walk-SS   fish   MD-TOP   hit-1SG.IPST
     'I walked around there and shot fish.'

Aisi Mabɨŋ

(116) *Yambar*   **ga-ku,**   *dɨbɨr*   *yambar.*
     story   MD-NOM   cucumber   story
     'This story is the cucumber story.'

The Aisi suffix *–oŋ* is somewhat problematic because of the vowel *o*, which is not an expected reflex. But Aisi *ŋ* is a common reflex of word-final *n, and the functions of *–oŋ* closely match the functions of *–n* in the other languages presented. I therefore consider the suffix cognate, and posit that *a raised to *o* irregularly in this form, perhaps in anticipation of the velar stop closure of the upcoming *ŋ.*

The demonstrative suffix *-n is thus reconstructed, but the question remains whether it should also be reconstructed as a clitic. The forms that raise this question are the Nend object pronouns *yan* '1SG.OBJ' and *nan* '2SG.OBJ.' These forms suggest that *-n may have

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attached, if not to all noun phrases, at least to pronouns. But there would be several problems with such a reconstruction. First, there is no evidence that *-n attached to noun phrases, so it could only be reconstructed as a pronominal suffix. But another set of object pronouns has been reconstructed (§4.2.2), rendering the reconstruction of object pronouns in *-n superfluous and unlikely. Second, there is no evidence for such a set of object pronouns in any other language. And third, even Nend does not have a full paradigm. It seems more likely that Nend *yan* and *nan* were innovated on analogy with the demonstrative forms. So we reconstruct a demonstrative suffix *-n which marked objects and fronted topics.

4.3.6. Locative 1

PSOG may have had two locative demonstrative forms, which I discuss in this section and the following one. Here I present evidence for the more secure reconstruction: a locative enclitic which had two allomorphs, *=ñ and *=i, and which I refer to it by its *=ñ allomorph. The reflexes are presented in Table 13. The first line contains any reflexes that function as demonstrative suffixes and the second line contains reflexes that are enclitics to the noun phrase. The third line contains two apparent reflexes that have become postpositions. Before discussing the reconstruction, I first discuss the reflexes found in each language. In several languages a reflex has instrumental meaning in addition to locative meaning. I note this where it occurs, and discuss at the end of the section whether this enclitic should be reconstructed with instrumental meaning.

Table 13. Locative enclitic

	Manat	Apalɨ	Mum	Sirva	Magɨ	Mabɨŋ	Kursav	PSOG
Demonstrative	-i	-eŋ, -niŋ	-ñ	-i	-niŋ	-niŋ	-n	
Enclitic			=ñ, =i	=ñ	=iŋ	=iŋ, =eŋ	=(n)i	*=ñ/=i
Postposition	kai					katiŋ		

The Manat demonstrative suffix *–i* only has locative meaning. In this function it competes with another locative suffix *–ba*; the difference between the two is not well understood. Interestingly, *-i* does not elide the preceding vowel of the demonstrative, as we would normally expect of a vowel. This is suggestive of its consonantal origin as *ñ. The middle form of the demonstrative is *ka-i* 'MD-LOC,' and this form has grammaticalized into a postposition *kai* that can express instrumental meaning (117) in addition to the expected locative meaning.

> Manat
> (117) *Akei amid **kai** avɨh-itɨŋ   ar-ura-ma-g.*
> okay axe   **LOC** chop-1SG.IMP say-PL-PST-3.FAR
> 'Okay, they wanted to cut him with an axe.'

An additional Manat form that may be a reflex of *=ñ is the temporal demonstrative suffix *-ñɨŋar*, which is primarily used for question words (118). This form may be composed of *=ñ plus a reflex of *iŋar 'sun, day.'

> Manat
> (118) *A-vɨ   rudi-b, **ba-ñɨŋar**   kai ai-tɨh-ur-id=a?*
> 1.POSS-uncle   PL-NOM   **QD-TEMP**   LOC come-FFUT-PL-3=INT
> 'When will my uncles come?'

In Apalɨ the demonstrative suffix *-eŋ* refers to definite locations (Wade 1989: 128), as in (119). It has no instrumental meaning. Apalɨ word-final *eŋ* is a regular reflex of final *añ, suggesting that Apalɨ changed the final vowels of the near and far demonstrative roots to

*a before merging *ñ and *n (§2.3.3.1). The dialect variant *–niŋ* is somewhat rare and is probably related to the identical Aisi form.

Apalɨ

(119) *Sabaŋ ha   na-vɨla cɨhu   ala   ve-vɨhe-m-i,   simin   pɨŋ*
      pig   MD.TOP   eat-SS again FOC   come-do.quickly-HPST-3SG **tree.sp base**

n-eŋ.
ND-LOC

'As for that pig, he ate and again came back quickly, to the base of the *simin* tree here that is.'   (Wade 1989: 128)

Mum possesses a demonstrative suffix *–ñ* and a noun phrase enclitic that can be realized as *=ñ* or *=i*. No written grammar exists for Mum, so it is difficult to describe the functions of these morphemes, or what conditions the allomorphy in the enclitic. But an examination of the texts in Sweeney (n.d.) suggests that both forms have both locative and instrumental meaning, and that the enclitic is only *=ñ* after *a*, and is most frequently realized as *=i* after consonants and *u.* Examples below show the demonstrative with locative (120) and instrumental meaning (121), and the enclitic with locative (122) and instrumental (123) meaning.

Mum

(120) *Am   Godfried ahuvug yad   da-ñ   kuyu   nɨmata   tama-h-i …*
      yesterday Godfried **radio   1SG.POSS**   FD-LI   talk   this.kind   put-DS-3SG
      'Yesterday Godfried put this talk on my radio …'   (Sweeney n.d.)

Mum

(121) *Muvata   tɨmu   tama-da-rɨŋ,   ñaña   ha-ñ.*
      sometimes party   put-HAB-1PL   **food**   MD-LI
      'Sometimes we have a party, with this food that is.'   (Sweeney n.d.)

Mum

(122) **Puhu=i**   *ma-u-m-i.*
      village=LI   NEG-go-HPST-3SG
      'He did not go to his village.'   (Sweeney n.d.)

Mum

(123) *Yaŋ   kiu   sukɨr=i   aba-mara.*
      1SG.OBJ talk   vernacular=LI   tell-2PL.IMP
      'You people must talk to me in the vernacular.'   (Sweeney n.d.)

The Sirva suffix *–i* only has locative meaning. As with the Manat suffix, it contrasts in this function with another suffix, and the difference in meaning between the two is not well understood. Unlike Manat, Sirva *–i* does elide the preceding vowel of the demonstrative root. The Sirva enclitic *=ñ*, realized as *=ɨñ* after a consonant, has both locative and instrumental meaning.

The two Aisi languages have quite similar forms. The demonstrative suffix *–niŋ* is probably related to the identical Apalɨ suffix, and like the Apalɨ form it only has locative meaning. While *–iŋ* is a fairly regular reflex of final *Vñ, the origin of the siffix-initial *n* is unclear. The enclitic, *=iŋ*, also only expresses locative meaning. In Mabɨŋ this enclitic is realized as *=eŋ* when attaching to *u*, *o*, or *ɨ*. While neither the suffix nor the enclitic denotes instrumental meaning, both Aisi languages have a postposition *katiŋ* that marks locatives as well as instrumentals. While the origin of the *kat-* part of this postposition is obscure, the *–iŋ* may be the locative enclitic.

In Kursav the demonstrative suffix *–n* and the enclitic *=(n)i* both only have locative meaning. The enclitic is *=ni* after vowels and *=i* after consonants.

These forms show enough formal and semantic similarity that they can be confidently reconstructed. But we must resolve a few formal, distributional, and semantic questions before the reconstruction is complete. I begin with the formal question. Since allomorphs *=ñ and *=i can both be reconstructed, how did they pattern? The only languages in which

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this pattern of allomorphy can still be seen are Mum and Kursav, and both paint a similar picture. Reflexes of the nasal consonant are found after vowels—in the Mum case, only *a*—while reflexes of the vowel are found after consonants. Because these are two disparate witnesses, this variation can be reconstructed. The PSᴏɢ locative enclitic was realized as *=ñ after vowels and *=i after consonants.

Recall, though, that the near deictic root was *in when unaffixed but *inɨ- when affixed. It would therefore be plausible for the near form to take either allomorph. Reflexes of the vocalic allomorph *=i are found in Manat (*in-i*) and Sirva (*n-i*), while reflexes of the nasal allomorph *=ñ are found in Apalɨ (*n-eŋ*), Mum (*nɨ-ñ*), and Kursav (*i-n*). The nasal allomorph should be reconstructed for three reasons. First, Manat and Sirva have generalized the *=i allomorph to all contexts, so their witnesses cannot be relied on as archaic. Second, Mum is the language that has best preserved the variation between *=ñ and *=i, and its reflex clearly supports a reconstruction of *=ñ. And third, the distribution of *=ñ reflexes is superior to that of *=i reflexes, which are only found in two CS languages. We thus reconstruct the near form as *inɨ=ñ.

Reconstructing the distributional properties of this enclitic is fairly straightforward, since both the demonstrative and enclitic functions are widespread throughout the family. There is no reason to suspect that both functions did not coexist in PSᴏɢ. So we reconstruct an enclitic that attached to noun phrases as well as to demonstratives.

Finally, we must resolve the semantic question: what did this form mean? Locative meaning is found for every reflex, so it must be reconstructed. A combination of locative and instrumental meanings is found in at least one reflex in Manat, Mum, Sirva, and Aisi.

Although this is wide enough distribution to warrant reconstruction to PSOG, I do not believe it should be reconstructed. This is because the conflation of locative and instrumental meanings is an areal phenomenon; for example, an unrelated locative/instrumental enclitic =ŋ is found in Nend (Harris 1990: 94). For this reason I consider it likely that the instrumental meaning spread via contact, rather than being inherited from PSOG. This also explains its marginal place in Manat and Aisi, where it is found in only a single postposition.

4.3.7. Locative 2

While the evidence for the locative enclitic *=ñ is quite strong, the evidence for a second locative form is much weaker. The potential reflexes are given in Table 14.

Table 14. Reflexes of Locative 2

Mand	Manat	Mum	PSOG
-p	-ba	-bu	*-mpV

In all three languages the given form is a locative demonstrative suffix; none of these forms serve as enclitics to the noun phrase. Mand *-p* only attaches to the *ka-* root (124); the near root *na-* takes a different locative suffix *-k*.

Mand
(124) *Uram*   *kr=an*   ***ka-p***   *aba-rd.*
       house   3SG.POSS=very   **FD-LOC**   put-FPST
       'He put it in his own house.'

The Manat (125) and Mum (126) forms appear to be simple locatives. In both languages these forms coexist with reflexes of *=ñ, but in neither is it understood how exactly the two locative forms differ in meaning.

Manat

(125) *Asik   Soheram   **ka-ba**   vu-n ...*
     again   Sogeram   MD-LOC   go-2/3.SS
     'They went back to the Sogeram (River) and ...'

Mum

(126) *Pa-ta   apar   **ni-bu**   kad   ñaŋura-ta   yahu-m-u.*
     come-SS   mountain   ND-LOC   true   look.around-SS   go.up-HPST-3PL
     'They came right to the mountain over there and looked around and went up.'
                                                                    (Sweeney n.d.)

The Mand and Manat forms suggest a reconstruction of *-mpa (although the normal Mand reflex of *-mpa would be [†]-*pɨ*), while Mum suggests a reconstruction of *-mpu. One potentially cognate form comes from Moresada. Capell (1951: 146) gives the forms *uwaramba*, which he glosses 'village-in,' and *uwaːr* 'village.' These forms suggest a locative suffix *-amba*, but this cannot be interpreted as conclusive evidence given our present understanding of Moresada. Since, then, there is not yet enough data to reconcile these forms, for now I reconstruct the locative demonstrative suffix *-mpV with an unspecified vowel.

4.3.8. Focus

There is some evidence for reconstructing a focus-marking demonstrative suffix *-kw, and also some evidence that this form might have actually been an enclitic *=kw that could mark focus on various kinds of constituents. But the evidence in both cases, especially the latter, is rather slim. The case rests primarily on two reflexes, the Mand focus suffix –*hw* and the Aisi nominative suffix –*ku*, presented in Table 15.

Table 15. Focus suffix

Mand	Magɨ	Mabɨŋ	Mabɨŋ	PSOG
FOC	NOM	NOM	ACC	
-hw	*-ku*	*-ku*	*-kuŋ*	*-kw

The Mand focus suffix is not well understood, but it appears to indicate that its referent is noteworthy and focused in some way (127). This suffix closely resembles the Mand focus enclitic *=ahw*, which seems to have similar meaning. Example (128) is a quote from someone trying to convince people that eating breadfruit with the skin is best, and *=ahw* here marks contrastive focus. The distributional properties of this enclitic are not well understood, but it frequently marks pronouns.

Mand
(127) *Arhw* *kw-e* *arhw* *ŋɨrsɨc*   *ak-ebi.*   **Ka-hw** *mɨz* *ukam!*
     1PL   see-SS 1PL earthquake chop-MPST **FD-FOC** body white
     'We looked and we were shocked (lit. 'chopped an earthquake'). That's a white man!'

Mand
(128) ***Api=ahw*** *far* *na-n*   *atad* *j-in*   *ar.*
     1SG=FOC skin ND-ACC INS   eat-1SG.IPST QUOT
     '"*I'm* eating it with the skin," he said.'

The Aisi suffix *-ku* marks nominative case in both Aisi languages, as in (129).

Aisi Mabɨŋ
(129) *Na* *naŋ* ***ga-ku***   *apɨr* *itɨ*   *kr-i*   *kr-i ...*
     and son **MD-NOM** dog get.SS walk-SS walk-SS
     'And this boy got his dog and walked and walked and ...'

The formal similarity between this suffix and the Mand focus suffix is apparent, but the semantic connection is more tenuous. Matters are helped somewhat by the presence of the Mabɨŋ accusative suffix *-kuŋ* (130), which appears to be composed of the nominative suffix *-ku* plus a reflex of the accusative enclitic *=ŋ* (§4.2.2). This form is innovative, and it seems

more likely for it to have developed from a form that did not have incompatible core argument meaning than from a form with nominative meaning. So although it would certainly be possible for *=ŋ to have been added to a nominative form, it is perhaps more plausible to suppose that it was added to –*ku* when –*ku* had non-nominative meaning, and that –*ku* developed nominative meaning afterwards.

Aisi Mabɨŋ
(130) **Na-kuŋ** itɨ we na-niŋ tam-o.
ND-ACC get.SS come.SS ND-LOC put-2SG.IMP
'Take this and come put it here.'

This hypothesis is supported by the fact that –*ku* indeed does serve non-nominative functions. In (131) it marks a topic-fronted constituent, albeit one that is coreferent with the subject of the clause, *nu* '3SG.' And in (132) it marks a noun phrase, *kuru Kris aba* 'the man they call Chris,' which is embedded in a postpositional phrase that modifies the head noun *ki* 'speech.' Interestingly, the referent Chris is being focused here. The speaker visited Chris's village and was asked by a resident why he had come, and this was his answer.

Aisi Mabɨŋ
(131) *Gwandam mo* **ga-ku,** *nu waŋɨ aŋ amug tam-is-i.*
old.man SPEC MD-NOM 3SG bag water under put-FPST-3SG
'An old man, he was putting a bag in the river (to fish).'

Aisi Mabɨŋ
(132) *Kuru Kris aba* **ga-ku** *ginɨŋ ki ir-i kɨtɨŋ ...*
man Chris QUOT MD-NOM GEN speech perceive-SS and
'I heard the talk about a man they call Chris and ...'

So although Mand –*hw* 'FOC' and Aisi –*ku* 'NOM' no longer have the same meaning, there is evidence that Aisi –*ku* used to have non-nominative meaning. The semantic innovation from marking focus to marking nominative case is a plausible one, so I consider these

forms cognate and reconstruct a suffix *-kw that occurred on PSOG demonstratives and marked focus.

We must also consider whether this *-kw also functioned as an enclitic that marked focus on other constituents as well. The evidence for this reconstruction strikes me as insufficient. The Mand focus enclitic *=ahw* supports such a reconstruction, and the addition of *a* to the beginning of the enclitic could be the result of reanalysis after the loss of word-final *a from many words (§2.2.2.4). The Nend focus enclitic *=h*, which "serves to elevate the prominence of [non-subject arguments], marking them … as being in focus" (Harris 1990: 100), also supports this reconstruction (133).

Nend

(133) *Ar* **Ompand=ɨh** *onca* *ŋg-am-e* *hɨr-ay-rɨŋ,* *eŋka zɨŋ-sɨnd.*
1PL **Ompand=FOC** inside descend-put-SS carry-come-1PL.IPST sago leaf-CHAR
'We put Ompand in the middle and brought (him), along with the sago leaves.'
(Harris 1990: 101)

But this evidence is restricted to the WS branch, and as such is insufficient for reconstruction farther back than PWS. Moreover, it is not the case that the other Sogeram languages lack focus markers. Morphological marking of focus is common in the family, but none of the other focus markers appear to be reflexes of a putative PSOG enclitic †=kw.

Chapter 5

Grammatical Constructions

In this chapter I present reconstructions of several grammatical constructions in PSₒɢ. The kinds of constructions treated here vary widely. I begin by reconstructing word class constructions for adjectives and adverbs (§5.1) and then reconstruct the order of certain elements within the noun phrase (§5.2). In §5.3 I discuss some clause-level syntactic constructions, and in §5.4 I discuss clause combining constructions.

5.1. Word Classes

In previous chapters I have reconstructed nominal and verbal morphology, and as a result several word classes can already be established on morphological grounds. PSₒɢ had verbs and nouns, the latter of which contained a subclass of inalienably possessed nouns. It also had pronouns and demonstratives, and in the sections below I argue that PSₒɢ also had separate classes of adjectives and adverbs. Interestingly, no postpositions can yet be reconstructed for PSₒɢ, although every daughter language has at least a few.

5.1.1. Adjectives

Adjectives can be analyzed as a word class distinct from nouns in every language except Kursav, and as distinct from adverbs in every language but Sirva. They also occupy their own position in the noun phrase in every language except Kursav. All of this suggests that they formed a separate word class in PSₒɢ.

Fifteen adjectives can be reconstructed to PSOG. These forms expressed the meanings 'good' (two reconstructed forms), 'bad,' 'long,' 'small,' 'new,' 'ripe,' 'unripe,' 'true,' 'crooked,' 'male,' 'wet,' 'black,' 'white,' and 'yellow.' Two of these forms also functioned, with slightly different meanings, as nouns, which raises the question of whether these forms should be treated as single lexemes or not at the PSOG stage. The form *ñiŋi 'small' also meant 'child,' and *mɨntɨ 'ripe' also meant 'blood.' Another adjective, *kanta 'true,' also functioned as an adverb meaning 'very.' Two more adjective-like forms, *mu 'SPECIFIC' and *pam 'one,' are discussed below.

It seems that not all adjectival meanings—that is, meanings denoting properties rather than entities or events—were expressed with adjectives. At least one adjectival verb can be reconstructed: *mɨta 'be full.' And the form that meant 'red,' *iaŋkum, was apparently not an adjective but only a noun, with a primary meaning of 'blood.'

Two adjective-like words remain puzzling: the specific particle *mu and the numeral *pam 'one.' PSOG *mu indicated that the referent was identifiable to the speaker but not to the hearer. Like adjectives, it followed the noun which it modified, as can be seen in (1)–(4) below.

Manat
(1) *Akei urum **mu=k** pravu-ram-ura-ma-g, nɨ-ra=k.*
okay man **SPEC=ACC** hide-put-PL-PST-3.FAR 3.POSS-ss.young.sib=ACC
'Okay, they hid one man, the younger brother.'

Mum
(2) *Sia **mu** miŋarvu-ta miŋarvu-ta ...*
arrow **another** break-ss break-ss
Other arrows he broke and broke and ...   (Sweeney n.d.)

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Aisi Magɨ
(3) *Naŋgari, yɨ asad* **mu** *uku-byaŋ.*
now 1SG story **SPEC** tell-1SG.FUT
'Now I'm going to tell a story.'

Gants
(4) *Tai mañ* **mo** *miŋ-eniŋ.*
tree seed **some** get-1SG.IPST
'I took some fruit.' Elicited

But reflexes of *mu differ in subtle respects from other adjectives in some modern languages. For example, in Aisi Mabɨŋ, both adjectives and *mo* 'SPEC' follow the noun, but when they co-occur with a pronominal possessor, adjectives precede it while *mo* follows it. Similar observations in other languages cast doubt on the grammatical status of *mu. For now, it is enough to group it with the adjectives but observe that it may not have behaved in the same way as more prototypical members of that class.

The same is true of *pam 'one.' It appears to function as an adjective in some languages, such as Mand, where it follows nouns to modify them (5).

Mand
(5) *Igard urɨm ka-p, bor-iñ* **vam** *im-i pi-r.*
noon middle FD-LOC pig-DIM **one** shoot-SS take-3SG.FPST
'At midday he shot a little pig and took it.'

This analysis is complicated, though, by languages where numerals behave more like nouns, like Manat, or like a separate class of quantifiers, like Aisi. Furthermore, in some languages, like Aisi, reflexes of *pam function as adverbs meaning 'only' (127).

Aisi Mabɨŋ
(6) *Ameki ga-ku gyou* **pa** *n-ɨba.*
lastborn MD-NOM snake.sp **only** eat-PTCP
'The lastborn used to just eat *gyou* snakes.'

It is likely that *pam was an adjective like *mu in that it probably behaved somewhat differently from more prototypical adjectives. It also seems that it was like *kanta 'true' in that it also had an adverbial function. The two functions are retained together in Apalɨ, as shown in (7) and (8), and Kursav, as shown in (9) and (10), and on the strength of these witnesses the variation in functions can be reconstructed.

Apalɨ
(7) *Mugu*   *iak-ɨlu,*   *hɨbɨ* *hadi* ***pam.***
     move.down.go move.up-1PL   trail big   **one**
     'We went down and went up, on the one big trail.'   (Wade n.d.)

Apalɨ
(8) *Hɨdɨlɨ* ***pam*** *vala-lu.*
     root   **only**   leave-1PL.IPST
     'We left only the root.'   (Wade 1989: 148)

Kursav
(9) *Kavre* *ka* ***pa*** *in-e.*
     there   MD   **one**   stay-3SG.NFUT
     'One is over there.'   Elicited

Kursav
(10) *Nɨn-ɨba*   *nuku* *vuruva* *bin* ***pa*** *in-o.*
     3PL-EMPH   POSS village   LOC   **only** stay-3PL.NFUT
     'They only stayed in their own village.'

It is also unclear how other numerals behaved, since they cannot be reconstructed. Most of the Sogeram languages only have numerals 'one' through 'three,' and only 'one' can be securely reconstructed.

5.1.2. Adverbs

Eighteen adverbs can be reconstructed to PSOG. As with adverbs in most languages, these forms possess a variety of meanings and perform a variety of grammatical functions, and a

more fine-grained analysis may conclude that they constitute more than one part of speech. The largest group, semantically, is the temporal adverbs. These include words referring to times of day ('daytime,' 'morning,' and 'afternoon'), deictic terms centered on the present day ('yesterday,' 'tomorrow,' 'the day before yesterday,' 'two days away,' and 'three days away') and one other form ('later'). Adverbs of degree include two words meaning 'very' and one meaning 'completely.' The locative adverb 'near' and the modal 'maybe' can be reconstructed, as can four other adverbs: 'together,' 'just,' and two related words for 'only.'

Two adverbs also belonged to other parts of speech: *iŋar 'day(time),' which was also a noun meaning 'sun,' and *kanta 'very,' which was also an adjective meaning 'true.' Note also that not all potentially adverbial meanings were expressed with adverbs. The word for 'night' was *kɨvɨr, which was a noun.

Given that these adverbs can all be reconstructed, it is safe to also reconstruct the word class of adverbs to PSOG, although no single diagnostic can be proposed to define them. To illustrate this reconstruction with one of the more securely reconstructed forms, examples (11)–(14) show reflexes of *sɨkan 'completely' (which could also be reduplicated as *sɨkansɨkan) functioning adverbially to modify the predicate.

Apalɨ
(11) *Huligalɨ-mɨdɨ*   *ua-vɨla* **sɨkan**   *la*   *mɨhiŋ*   *lam-avɨ-la-lɨ.*
turn.back.towards-3SG.PROH say-SS **completely** do   date   put-PL-HAB-3.FPST
'Saying, "It should not reject us," they do it completely and put a date.'

(Wade n.d.)

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Sirva

(12) *Wa-ra, wa-ra **sɨhazɨha** ma u-rubɨ-s-a.*
go-SS go-SS **completely** NEG go-PL-FPST-3
'They went, but they didn't go all the way.'

Aisi Mabɨŋ

(13) *Nuŋ itok-i **sɨkaŋ** korɨm gunu amug suku, itok-s-i.*
3SG.OBJ take.in-SS **totally** tree.sp dry under very take.in-FPST-3SG
'It took him in, it took him all the way into the dry *korɨm* tree.'

Kursav

(14) *Nan gapɨra, sarigi na, **sɨkasɨka** so iv mo-kura-i v-oko ...*
2PL all line.up do.SS **completely** feces house go-2PL.IMP-INT say-3PL.DS
'"All of you, line up and go all the way to the toilet," they said, and ...'

5.2. The Noun Phrase

In this section I attempt to reconstruct the order of three items with respect to the head noun of the noun phrase: the attributive noun, the adjective, and the possessor. Unfortunately, it is not possible at the moment to reconstruct their order with respect to one another, or with respect to other elements in the noun phrase. The reconstructions below, such as they are, are already quite tentative because they push the boundaries of the methodology I proposed in §1.2.4. In reconstructing the noun phrase we are primarily reconstructing word order, and there is usually little phonological material specified in such constructions. I address the particular problems facing the reconstruction of attributive nouns, adjectives, and possessors below, but with less success than elsewhere.

A fourth item, the demonstrative, can be reconstructed more securely. Demonstratives occur at the end of the noun phrase in every Sogeram language, and there is no reason to suspect that this was otherwise in PSOG.

5.2.1. Attributive Noun

In every Sogeram language, a head noun can be modified by an attributive noun that precedes it in the noun phrase. A few examples of this construction are given in (15)–(17).

Nend
(15) *O-e   wa-z   **mira** iñɨ   ohɨr-on mb-ah.*
     go-SS see-3SG.DS **pig** track big-INT ND-EXST
     'He went and looked and there were many pig tracks.'   (Harris 1990: 134)

Sirva
(16) ***Sɨbia**   kina beau   mɨ-ra ...*
     stone   axe DEF.ACC get-SS
     'They took the stone axe and ...'

Kursav
(17) ***Tor**   iv   bin   rubram-e.*
     court house LOC sit-3SG.NFUT
     'He's sitting in a courthouse.'

The universal attestation of the [N$_{ATTRIB}$ N$_{HEAD}$] construction suggests that reconstruction to PSOG would be justified. But because this construction is wholly schematic, we must be aware of the possibility that it has spread via contact and was not inherited from PSOG. The construction specifies no phonological material, so confirming cognacy by checking for cognate phonemes is not possible. Finding cognate nouns in either position of the construction is also insufficient, since if the construction were borrowed into a language, it would presumably be possible to place any noun, native or borrowed, in either position.

Thus we can only tentatively conclude that the [N$_{ATTRIB}$ N$_{HEAD}$] construction existed in PSOG. This is still the most likely reconstruction because it is attested in every daughter language, but the absence of cognate phonological material with which to test cognacy casts some doubt on it.

One process of grammaticalization that has taken place in Mand also supports this reconstruction. The Mand diminutive suffix *-iñ* is descended from PSOG **ña* 'son,' showing regular loss of word-final **a* (§2.2.2.4) and non-fortition of the word-final nasal (§2.2.2.5). This suffix apparently grammaticalized from a construction in which **ña* occurred in head position of a noun phrase, modified by an attributive noun as in the Sirva example in (18). This construction underwent the semantic bleaching that is typical of grammaticalization and **ña* stopped meaning 'son,' coming instead to contribute diminutive semantics to the noun phrase (19).

Sirva
(18) *Ka-ma   ad-ɨi,   nɨ-rima   be,   **saba ña**   mɨ-ra   mir-a ...*
MD-ADVZ   do-3SG.DS   3.POSS-sister   3SG   **pig   child**   get-SS   leave-SS
'He did that, and his sister got a baby pig and ...'

Mand
(19) *Mac   van   hɨr,   **bor-iñ**   ka-n   atɨhw-e   p-i ...*
enough   father.3.POSS   3SG.POSS   **pig-DIM**   FD-ACC   take.out-SS   take-SS
'Okay, his father took the piglet out and ...'

While the existence of this suffix does not assure us that the head noun **ña* in PSOG was preceded by its attributive noun, it does mean that this was the order in Pre-Mand. Thus we have established that the [N$_{ATTRIB}$ N$_{HEAD}$] construction occurred some distance into the past in Pre-Mand, which slightly increases the likelihood that the reconstruction also existed in PSOG.

5.2.2. Possessor

Reconstructing the order of the possessor and the possessed noun is very difficult, and it is most likely the case that most PSOG possessors could either precede or follow their heads.

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In this discussion I will treat nominal and pronominal possessors differently, and attempt to reconstruct a possessive construction for each.

Nominal possessors were marked with the oblique enclitic *=nt (§4.2.3). This construction is found in Mand (20), Nend (21), Apalɨ (22), and Mum (23).

Mand
(20) *Beten* *ñɨ~ñ* *werai-rɨ-n,* **Gau** *Ohra=d* *ya*
pray stay~NMPT go.and.come-FPST-1SG **father.1/2.POSS** big=OBL speech

ka-n.
FD-ACC
'I went around praying, God's (lit. 'the Big Father's') word.'

Nend
(21) **Rapael=nd** *anɨŋ* *war* *ohɨra*
Rapael=OBL banana garden big
'Rapael's big banana garden' (Harris 1990: 133)

Apalɨ
(22) **sudɨ** **dɨ** *ɨŋam* *mɨka*
ghost **OBL** dog tooth
'ghost's dog tooth' (Wade 1989: 76)

Mum
(23) *Yi* **Avibrɨ** **du** *kru* *va-m-i.*
1SG **Avimbrɨ** **POSS** man say-HPST-3SG
'"I am Avimbrɨ's son," he said.' (Sweeney n.d.)

In each of these languages an oblique-marked nominal possessor precedes the possessed noun, suggesting that this is the order that occurred in PSOG as well. This is not entirely clear, though, since non-possessive oblique modifiers sometimes occur after the head noun, as in (24). For the moment, then, the order of nominal possessors with respect to the possessed can only tentatively be reconstructed as Poss–N.

Mand
(24) *bor*   *ata=d*
     pig   **forest=OBL**
     'a wild pig'

The issue of pronominal possession poses similar difficulties. Recall from §4.2.4 that the possessive pronouns were formed with the suffix *-kw. Reflexes of these pronouns are found in Mand, Manat, Sirva (where they have become object pronouns), Aisi, Kursav, and Gants (where they have also become object pronouns). The Sirva reflexes cannot help us, since they no longer occur in a possessive construction; the Gants reflexes, although they are now object pronouns, are still sometimes used to mark possession. For these reflexes of the possessive pronouns in *-kw, then, the attested orders of possessor and possessed are given in Table 1.

Table 1. Order of possessive pronoun reflexes and head nouns

Mand	Manat	Magɨ	Mabɨŋ	Kursav	Gants
N-Poss	Poss-N	N-Poss	N-Poss, Poss-N	N-Poss, Poss-N	N-Poss

As this table and the examples below show, Mand has noun–possessor order (25) while Manat has the reverse (26). Aisi Magɨ also has noun–possessor order (27), but Aisi Mabɨŋ exhibits variation between noun–possessor (28) and possessor–noun (29) orders. Kursav exhibits the same variation, as shown in (30) and (31). Finally, when the Gants object pronouns are used possessively, they follow the head noun (32).

Mand
(25) *Akac*   **arhud**   *vivi*   *c-id*   *ar.*
     intestine   **1PL.POSS**   pain   be-IPST   QUOT
     '"Our stomachs hurt," she said.'

Manat

(26) **Yak**   *vana=k*   *ka-b=avan.*
    1SG.POSS   speech=ACC   MD-NOM=very
    'My story is just like that.'

Aisi Magɨ

(27) *Asad*   **yaka**   *ka-nd*   *pa.*
    story   **1SG.POSS**   MD-EXST   only
    'That's my story.'

Aisi Mabɨŋ

(28) *Katam*   **nɨku**   *pas*   *am-egi*   *na ...*
    head   **3SG.POSS**   closed   do-3SG.DS   and
    'His head was stuck and ...'

Aisi Mabɨŋ

(29) **Yaka**   *ib*   *tuar-am.*   **Naka**   *lain*   *ir-ɨberuŋ.*
    1SG.POSS   name   say-2SG.IMP   **2SG.POSS**   group   perceive-3PL.FUT
    '(You can) say my name. Your people will hear it.'

Kursav

(30) *Kursav*   *guro*   **yaku**   *Makari*   *pakwit*   *ma.*
    Kursav   speech   **1SG.POSS**   Makari   one   NEG
    'My Kursav language isn't (the language of) only Makari (clan).'

Kursav

(31) **Anuku**   *guro*   *ka-ka*   *kumo-mis*   *d-e.*
    1PL.POSS   speech   MD-TOP   die-DESID   do-3SG.NFUT
    'Our language is about to die.'

Gants

(32) *pi*   **yak**   *ko*
    village   **1SG.OBJ**   DEF
    'my village'

Two observations can be made about this data. One is that both orders are widely distributed throughout the family. The other is that N-Poss order is somewhat more common than Poss-N order; only one language, Manat, exhibits Poss-N order exclusively. Based on this distribution, it is safest to reconstruct the variation to PSOG. We can also speculate that N-Poss order was less marked than Poss-N order, although positing a

function for the putatively marked Poss-N order is difficult at our present state of knowledge.

5.2.3. Adjective

Adjectives consistently follow the head noun in every Sogeram language but Kursav, and Kursav exhibits approximately equal variation between noun–adjective (N–Adj) order and Adj–N order. Some languages, such as Sirva, possess a handful of aberrant adjectives that precede the head. The primary order exhibited in each language is shown in Table 2.

Table 2. Word order of adjectives and nouns

Mand	Nend	Manat	Apalɨ	Mum	Sirva	Magɨ	Mabɨŋ	Kursav	Gants
N–Adj	N–Adj	N–Adj	N–Adj	N–Adj	N–Adj	N–Adj	N–Adj	N–Adj, Adj–N	N–Adj

Based on the overwhelming attestation of N–Adj word order—Table 2 shows a correspondence of near identity between all daughter languages—this order can be fairly securely reconstructed to PSoɢ. But, as with the order of attributive nouns and head nouns, *[N Adj] is a wholly schematic construction so we must be aware of the possibility of syntactic borrowing. In this case the behavior of individual adjectives is more relevant because adjectives are a smaller, more closed word class in the Sogeram languages. Thus, if we find adjectives occurring after nouns in diverse Sogeram languages we can say, due to the nature of the word class, that we have evidence for reconstructing adjectival constructions with phonological material. This is, I acknowledge, pushing the boundaries of the method I have proposed, but it does add some small support to the reconstruction of an *[N Adj] construction. And reconstructions involving specific adjectives, it turns out, are not too difficult to make. In (33) and (34), for example, I show reflexes of *intua 'bad' in

Sirva and Kursav. These examples allow us to reconstruct a construction *[N intua] 'bad N'

to PSOG.

Sirva
(33) *Pɨgrɨ* **dua** *beau* *mɨŋa-mir-idagra.*
    custom **bad** DEF.ACC get-leave-1PL.IRR
    'We'll abandon the bad customs.'

Kursav
(34) *Ya* *kura* **idua** *wati.*
    1SG man **bad** just
    'I'm a bad man.'   Elicited

Similarly, the Nend (35) and Aisi (36) reflexes of *impɨnt 'good' allow us to reconstruct a

construction *[N impɨnt] 'good N' (but note the semantic innovation in Aisi).

Nend
(35) *Hav-e* *mac* *ya* **imbɨr** *eŋgwa-mgɨ-ma-r* *ndɨn-ɨh* *akwɨ* *mba-n.*
    do.thus-SS enough talk **good** give-PL-HPST-3 3SG.OBJ-FOC snake ND-ACC
    'So then they gave good talk to the snake.'   (Harris n.d.)

Aisi Mabɨŋ
(36) *Anɨ* *kumu* **imbɨr** *mabɨŋ.*
    1PL stomach **bad** no
    'We don't have bad dispositions (lit. 'stomachs').'

Examples (37) and (38) allow the same kind of reconstruction to be done for *arum

'good,' while (39) and (40) allow it for *uŋkam 'white.'

Mand
(37) *Urak* **arom** *w-in.*
    hunt **good** go-1SG.IPST
    'I went on a good hunt.'   Elicited

Mum
(38) *Yahu-ta,* *yahu-ta* *yahu-ta* *kuku* **aru** *tug* *ha-ŋ* *ga-h-u ...*
    go.up-SS go.up-SS go.up-SS water **big** deep MD-OBJ look-DS-3PL
    'They were going up and they saw this big deep water, and ...'   (Sweeney n.d.)

Mand

(39) *Mac,   kuram uhra, kuram **ukam** na-g   gyahi-c ...*
enough   man   big   man   **white**   ND-NOM   get.up-DS
'Alright, the big man, this white man got up and ...'

Sirva

(40) *Saba ña   **wagara**   va-sɨ-n.*
pig   child   **white**   say-FPST-1SG
'I asked for (lit. 'said') a white piglet.'

Finally, even the form *ñɨŋi, which had the adjectival meaning 'small' as well as the nominal meaning 'child,' can be reconstructed in this construction. Based on the reflexes in (41) and (42), we can reconstruct the construction *[N ñɨŋi] 'small N' and say that when *ñɨŋi modified its head in PSOG, it followed it.

Manat

(41) *Vu-n   var   siva-n=a,   as vad   **ñiŋi=k,**   mɨgra-n ...*
go-2/3.SS indeed mow-2/3.SS=INT so tree **little=ACC** cut-2/3.SS
'He went and cut the grass, and cut the little trees, and ...'

Gants

(42) *No-kɨn   **ñiŋe**   ko   aba-m-ek.*
3.POSS-sister **small** DEF   speak-FPST-3SG
'Her younger sister spoke.'

Since we can reconstruct several constructions of the type *[N intua] 'bad N,' *[N arum] 'good N,' and *[N uŋkam] 'white N,' we can posit a general adjectival construction *[N Adj] 'N with the property Adj.' This reconstruction was already strongly suggested by the preponderance of N–Adj word order in modern Sogeram languages, and examining individual lexemes helps guard the reconstruction somewhat against syntactic borrowing. If PSOG did not have N–Adj word order, but N–Adj order rather spread via language contact, this would have several implications. First of all, syntactic borrowing does not usually proceed via the direct borrowing of abstract constructions like [N Adj] (although see Ross

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2007). Rather, it often accompanies lexical borrowing; words are borrowed along with the donor language grammar they occur in (as with the borrowing of Spanish conjunctions into Huastec Maya and Nahuatl; see Thomason & Kaufman 1988: 80). Thus if a language with [Adj N] order borrows an adjective from a [N Adj] language, it might borrow it with [N Adj] word order. If enough such adjectives are borrowed, [N Adj] word order may become the default.

Another possibility is a substrate effect. If a community that speaks Language A, which has [N Adj] order, shifts to Language B, which is [Adj N], the new Language B speakers may speak it with their heritage [N Adj] word order.

Importantly, in both scenarios it would be possible that there would be residue of the older [Adj N] word order. In the first scenario, native adjectives would only be likely to undergo analogical change to the borrowed [N Adj] order if [N Adj] was significantly more frequent than [Adj N]. And even if this took place, we could expect high-frequency adjectives to resist the analogical change for some time, if not indefinitely. In the second scenario, shifting Language A speakers might also learn the "correct" [Adj N] order for the most high-frequency adjectives in Language B. Moreover, the native Language B community would also remain, and it would only possess [Adj N] order, at least at first. In order for it to disappear, the social dynamic between the communities would have to shift drastically and Language B would have to start borrowing from Language A.

So in both plausible borrowing scenarios we might expect high-frequency adjectives to retain [Adj N] order while other adjectives shift to [N Adj] order. But the specific lexical constructions we reconstructed above contain some of the most semantically basic

adjectives, with meanings like 'good,' 'bad,' and 'small.' Basic words tend to be high-frequency words, so by reconstructing constructions like *[N arum] 'good N' and *[N intua] 'bad N' we have, to some extent, inoculated ourselves against the possibility of positing to PSOG what was actually a later development that spread via syntactic borrowing. We cannot, of course, be certain that the reconstructed *[N Adj] construction did in fact exist in PSOG, but unfortunately the comparative method is not designed to produce certainty. We can, however, say that the scenario implied by the *[N Adj] reconstruction is a good deal simpler, and therefore more plausible, than any alternatives.

5.3. Clause Structure

In this section I examine a few topics relating to the structure of the clause in PSOG. I focus on the negation of verbal clauses (§5.3.1), the formation of interrogative clauses (§5.3.2), and the structure of nonverbal predicates (§5.3.3).

As regards the basic word order of the clause, we can say this. All the Sogeram languages are SOV, as are all the known languages surrounding the Sogeram languages for many miles in every direction. Furthermore, all known Madang languages are SOV, and so are the vast majority of other languages belonging to the hypothesized Trans New Guinea family, however its membership is formulated. Given all this, I feel safe in breaking from my stated methodological process and reconstructing SOV word order to PSOG even though the word order construction [S O V] does not specify any phonological material. I recognize the methodological inconsistency, but feel that the overwhelming attestation of SOV word order in Sogeram and its relatives warrants an exception.

As for other arguments, Sogeram languages place most oblique arguments after the object. But in this case there is enough variation for pragmatic reasons that reconstruction of any particular word order is probably not warranted.

5.3.1. Negation

Verbal negation was accomplished with the negative particle *ma. Reflexes of this particle are found in every Sogeram language, as Table 3 shows.

Table 3. Negators

Mand	Nend	Manat	Apalɨ	Mum	Sirva	Magɨ	Mabɨŋ	Kursav	Gants	PSᴏɢ
mɨ=...-m	*mɨ-...-m*	*ma ...-ɨp*	*ma (...-maŋ)*	*ma-*	*ma*	*ma*	*ma*	*ma*	*ma*	**ma*

Mand and Nend are unique in employing reflexes of *ma on both sides of the verb. Manat combines *ma* with the contrastive verb suffix *-ɨp*. The other languages all simply use *ma*, although they still exhibit some variation. In Mum it has become a prefix; in Sirva, Magɨ, and Gants it comes before the verb; and in Mabɨŋ and Kursav it (usually) comes after it.

In the West Sogeram (WS) languages we find reflexes of *ma on both sides of the verb. In Mand the first element is a proclitic that attaches to the first element of the verb adjunct construction (see Donohue 2005: 202). This can be seen with the Tok Pisin loanword *kamap* 'appear,' which functions as an adjunct, in (43). In Nend, by contrast, the negative construction is a true circumfix, being formed by "prefixing and suffixing" the negative morpheme to the verb (Harris 1990: 122).

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Mand
(43) *Api   yar   na-g   mɨ=kamap   jɨ-m.*
    1SG 1SG.OBJ ND-NOM NEG=appear stay-NEG
    'This (i.e., my beard) hadn't appeared on me (yet).'

Manat is similar in that verbs are negated with two morphemes. The first is the particle *ma*, which precedes the verb but is not phonologically bound to it. The second is the contrastive suffix *-ip*, which follows all other verb suffixes (44).

Manat
(44) *Vana=k   ma   vupar-itɨha-nad-ip.*
    speech=ACC NEG push-FFUT-2SG-CTR
    'You won't be disobedient (lit. 'push speech').'

In Apalɨ the negative marker is considered a separate word (Wade p.c.), although it sometimes undergoes phonological merging with an upcoming *i*. For example, the when negating *iga-* 'see,' as in (45), the *a* in *ma* and the vowel from the verb are often merged to *e*. Thus *ma igin* here can be pronounced *megin*.

Apalɨ
(45) *Eke   viaŋ   ma   ig-in   ua-vɨ-la-lɨ.*
    COR 1SG.NOM NEG see-1SG.IPST say-PL-HAB-3.FPST
    '"No, I have not seen," they habitually say.'   (Wade n.d.)

Apalɨ is also interesting because a negative suffix *–maŋ* can also optionally occur at the end of the verb, in lieu of any TAM or agreement suffixes (46). Because Apalɨ occasionally adds final *ŋ* to words that did not have it in PSOG, this form may be a reflex of *ma, but that is not certain. This construction is less common than the alternative (Wade 1989: 171).

Apalɨ
(46) *Viaŋ   lamɨgaŋ hɨvɨ ma   igɨ-maŋ.*
    1SG.NOM eye   LI   NEG see-NEG
    'I didn't see it with (my) eyes.'   (Wade 1989: 159)

Sweeney (n.d.) glosses the Mum negative morpheme as a prefix. This choice may be due to the process of epenthetic *ŋ*-insertion that he describes in his paper on Mum phonology (Sweeney 1994: 27). This epenthesis occurs when *ma-* is prefixed to an *a*-initial root like *aba-* 'tell' (47).

Mum
(47) *Nuŋad   pɨhu-yɨ   **maŋ**-aba-m-i.*
3SG.POSS   place-LOC   **NEG**-tell-HPST-3SG
'He did not tell his village.'   (Sweeney n.d.)

In Sirva only the negative particle *ma* is used in negation, and it is placed to the left of the verb.

The Aisi languages are an interesting case because they put the negative particle *ma* in different places: in Magɨ it precedes the verb (48) while in Mabɨŋ it follows it (49).

Aisi Magɨ
(48) *Nu   **ma**   ye-i,   yɨ   nɨdɨŋ   **ma**   ir-iŋ.*
3SG   **NEG**   come-3SG.IPST   1SG   3SG.OBJ   **NEG**   perceive-1SG.IPST
'He didn't come, and I didn't see him.'   Elicited

Aisi Mabɨŋ
(49) *Yaŋ   ab-oŋ   **ma.***
1SG.OBJ   talk-3PL.IPST   **NEG**
'They didn't tell me.'

It seems that the best explanation for this variation between closely related languages is to posit a recent innovation in Mabɨŋ. There is no evidence for postverbal *ma* in Magɨ, and there is evidence, from medial verb negation, that Mabɨŋ used to have preverbal *ma.* Medial verbs are rarely negated, especially in texts, but when they are *ma* comes before the verb it negates, as in (50). Note that in this example, *sab* 'work' is a noun and *ma* is negating *itɨ* 'get and.'

Aisi Mabɨŋ

(50) *Nu   sab   **ma** itɨ   kitɨŋ, nu   sɨkɨbyaŋ   n-ɨber   **ma.***
3SG   work   **NEG** get.SS   and   3SG   food   eat-3SG.FUT   **NEG**
'(If) s/he doesn't work (lit. 'get work'), s/he won't eat.'   Elicited

In Kursav, as in Mabɨŋ, the negative particle *ma* follows the verb (51), while in Gants, as

in Sirva, it precedes it (52).

Kursav

(51) *Nɨn   rɨpa-da   dai-d-o   **ma.***
3PL   fear-SS   walk-HAB-3PL   **NEG**
'They were afraid and they wouldn't go (anywhere).'

Gants

(52) *Nagi   koimo   **ma** cɨ-paŋ-dɨk.*
basket   SPEC   **NEG** stay-FUT-3SG
'One basket won't be there.'

The reconstruction of the PSₒG verbal negator *ma is thus quite secure both

phonologically and semantically. But the reconstruction of the negative verb construction

is somewhat more difficult, as reflexes of *ma are found on either side of the verb in

modern languages. To review, the negative morpheme is found bracketing the verb in

Mand, Nend, and optionally in Apalɨ. It is found on the left in Manat, Apalɨ, Mum, Sirva,

Magɨ, Gants, and in Mabɨŋ medial clauses. And it is found on the right in Mabɨŋ final clauses

and in Kursav.

Given this distribution, we clearly must reconstruct a *[ma V] construction, in which

*ma preceded the verb. This order is found in every Sogeram language except Kursav. It is

also found in many other Madang languages, for example with the Usan negator *me*

(Reesink 1987: 275), the Waskia negator *me* (Ross & Paol 1978: 14), the Mauwake negator *me*

(Berghäll 2006), the Kalam negator *ma=* (Pawley & Bulmer 2011: 50), and the Anamuxra negator *ma* (Ingram 2001).

The question remains, however, of what to do with the Sogeram reflexes that occur to the right of the verb. These are numerous enough—occurring in Mand, Nend, Apalɨ, Mabɨŋ, and Kursav—that we must at least consider reconstructing such a construction to PSOG. However, the reflexes are not uniform. In Mabɨŋ and Kursav the reflex of *ma occurs after an inflected verb (53). But in Mand, Nend, and Apalɨ, it occurs in place of any verbal inflection (54). And the Apalɨ suffix *–maŋ* may not even be cognate in the first place with the *-m* suffix found in Mand and Nend.

Aisi Mabɨŋ
(53) *Sɨkɨbeŋ   panda   n-er-iŋ   ma.*
     food   alone   eat-HAB-1SG   NEG
     'I don't eat alone.'

Nend
(54) *Am   ndɨn   unsa   m-eŋkwana-m.*
     2   3SG.OBJ   yam   NEG-give.food-NEG
     'You did not give him food.'   (Harris 1990: 122)

This means that we really have at least two constructions on our hands: the western type, [*ma* V-*ma*], and the eastern type, [V-INFL *ma*]. One can try to relate the two constructions to each other in this way: the western type may be descended from the negation of uninflected serial verbs, the eastern type from the negation of inflected final verbs. But this is unlikely, as the Apalɨ negative suffix does not attach to a reflex of the uninflected verb stem. Rather, it often triggers reduction of the preceding vowel to *ɨ*, as with *aba-* 'talk' in (55).

Apalɨ

(55) *Lɨ-ci   ciaŋ **ma**   abɨ-**maŋ**.*
     do-3SG.DS talk **NEG** talk-**NEG**
     'He did it and she did not talk.'   (Wade n.d.)

It seems, then, that these two constructions are not related to each other—at least not closely. Given that, we cannot reconstruct postverbal *ma to PSOG because no individual construction has a wide enough distribution on its own. The fact that postverbal *ma is found in every branch of the family, though, still calls for an explanation. The most likely account is that this is the outcome of parallel innovation. We know that negators often undergo cyclic renewal, with new negative constructions arising from erstwhile emphatic negative constructions (van der Auwera 2009). Postverbal *ma* thus probably originated as an emphatic variant of preverbal *ma. The patchy distribution of different kinds of postverbal *ma* throughout the family suggests several independent innovations, although of course it is also possible that *ma could be used postverbally at the PSOG stage. But the syntactic facts and subgrouping distribution suggest separate innovations in PWS, Apalɨ (which may actually have been the same innovation as PWS if Apalɨ *-maŋ* is in fact descended from *ma), Mabɨŋ, and Kursav.

5.3.2. Interrogatives

Interrogative clauses can be divided into polar questions and content questions, which I discuss here in turn. Polar questions were formed with the interrogative enclitic *=mpi. This word, along with its question-marking function, can be reconstructed based on reflexes in Sirva (56), Magɨ (57), Mabɨŋ (58), and Kursav (59). Another reflex that is probably cognate is Gants *be* 'which.'

Sirva

(56) *Nu   kura   suku=ñ   tagu-rama-bɨ-s-a*   ***bi?***
ND.TOP   man   true=LI   step-put-PL-FPST-3   Q
'Did they come from real men?'

Aisi Magɨ

(57) *Narɨ   amur   ya-berar*   ***bi?***   Elicited
2PL   one.day.away   come-2PL.FUT   Q
'Will you guys come tomorrow?'

Aisi Mabɨŋ

(58) *Na   sab   si   way-aŋ*   ***be?***
2SG   work   BEN   come-2SG.IPST   Q
'Did you come for work?'

Kursav

(59) *Na-ra   soro   mo-marau*   ***be***   *v-e.*
2SG.POSS-k.o.sibling   COM   go-2PL.UFUT   Q   say-3SG.NFUT
'"Will you and your younger brother go?" he asked.'

The phonological properties of this form are difficult to reconstruct. While the reconstruction of the initial *mp is not in doubt, it is somewhat curious, since nasal–stop clusters did not occur word-initially in PSOG. For this reason it is likely that *=mpi was an enclitic that attached to the last element in the clause. This analysis would require positing that after *mp became *b in Proto-Central Sogeram and Proto-East Sogeram (PES), the question particle *=bi debonded from its host and became an independent word, as it currently is in these languages (60). This is not implausible, though; word-initial voiced stops now occur in all of these languages—presumably after being borrowed in—and once initial *b was allowed, it was much easier for *=bi to detach from its host.

Kursav

(60) *Gwada   mi   rama-ra   map,   ka-ka   sarua   v-uar*   ***be?***   ***Be?***
slowly   thought   put-2PL.NFUT   like   MD-TOP   work   get-1PL.NFUT   Q   Q
'Are we doing the work like you guys thought it out? Huh?'

Content questions were formed using specific question words. The word for 'who' cannot be securely reconstructed—some languages reflect *uña while other reflect *ni (§4.2.6)—but two other question words can. These are the noun *atɨ 'what' and the demonstrative *ampa=ñ [QD=LOC] 'where.' This form was composed of the interrogative demonstrative root *ampa, which took regular demonstrative suffixes to form question words. Reflexes of *ampa=ñ are found in Manat (61), Apalɨ (62), Sirva (63), Aisi (64), and Kursav (65), although it should be noted that the Aisi form *niba-niŋ* in (64) is somewhat problematic.

Manat

(61) Hɨm-ɨn **ba-i** añɨg-itɨh-in=a?
die-2SG.DS **QD-SET** dig-FFUT-1SG=INT
'(When) you die, where will I bury you?'

Apalɨ

(62) Ia-dɨ iamɨgali **ab-eŋ** ua-v-i ua-m-i.
1SG-OBL woman **QD-LOC** go-PL-3.IPST say-HPST-3SG
'"Where did my wives go?" he said.' (Wade 1989: 153)

Sirva

(63) Na **ab-i** ki-ri-na?
2SG **QD-SET** stay-TPST-2SG
'Where are you?' Elicited

Aisi Mabɨŋ

(64) Dɨbɨr ga-ku **nɨba-nɨŋ** w-i kɨn-i?
cucumber MD-NOM **QD-LOC** go-SS stay-3SG.IPST
'Where did that cucumber go?'

Kursav

(65) Anam **ba-n** n-o?
water **QD-LOC** eat-3PL.NFUT
'Where are they drinking beer (lit. 'water')?'

Unfortunately, while the root *ampa can be securely reconstructed based on reflexes across the family, the only specific question word built on *ampa that can be reconstructed

is *ampa=ñ 'where.' Presumably *ampa could combine with other suffixes and enclitics, as it can in every language where it is retained. It is likely that it could also occur in an unaffixed form. But no single function, aside from locative *ampa=ñ, is distributed widely enough throughout the family to warrant reconstruction. This is also true when we include Anamuxra in the analysis; the interrogative root there is *ab-*, but none of the suffixes it takes can be plausibly related to any Sogeram suffixes.

As regards the grammar of content questions, both *atɨ 'what' and *ampa=ñ 'where' occur *in situ* in the clause in every daughter language. This is true of all Sogeram question words; they do not occur in any special focused position, but rather in the position that is appropriate to their part of speech and their role in the clause. This property can therefore be reconstructed for *atɨ and *ampa=ñ.

5.3.3. Nonverbal Predicates

No Sogeram language has a copula, so we can safely say that PSog also lacked one. Nonverbal predicates were formed by simple juxtaposition. When the subject occurred with a demonstrative, that demonstrative took the topic/object suffix *-n (§4.3.5). This means that the subjects of nonverbal predicates actually occupied the topic position of the clause, not the subject position. Reflexes of *-n marking the subjects of nonverbal predicates are found in Mand (66), Nend (67), Manat (68), and Apalɨ (112). In Aisi a nominative demonstrative suffix has been innovated and is normally used for the subjects of nonverbal predicates. But the reflex of *-n, the topic suffix *-oŋ*, is also occasionally used, particularly when the subject of a nonverbal predicate is a subordinate clause (70).

Mand

(66) Aca **na-n** uja aca ar.
woman ND-ACC who woman QUOT
'"What woman is this (lit. 'This woman is what woman')?" he said.'

Nend

(67) Anta **ha-n** mbɨkɨr.
jungle MD-ACC 3S.OBL
'That jungle is his.' (Harris n.d.)

Manat

(68) **Inɨ-n** mav.
ND-ACC loincloth
'This is a loincloth.'

Apalɨ

(69) **Na-n** sɨbɨlɨ u-i.
ND-ILOC bad say-3SG.IPST
'"This one here is bad," he said.' (Wade 1989: 129)

Aisi Mabɨŋ

(70) Ya ika=ra kr-ɨbɨŋ **g-oŋ** urunda.
1SG father.1.POSS=COM walk-1SG.CTRF MD-TOP good
'If I walked around with my father, it'd be good.' Elicited

As the examples above illustrate, the objects of nonverbal predicates were not normally marked for case. It seems that at least nouns, adjectives, and possessive pronouns could serve as nonverbal predicates. The examples above also illustrate that the predicates themselves were not marked for TAM. Occasionally, though, it would be desirable to specify verbal categories such as tense or switch reference. In these situations, speakers could use the verb *kiña 'stay' to carry verbal morphology. Reflexes of this construction can be found in Mand (71), Manat (72), Sirva (73), Aisi (74), and Kursav (75). (Note that in Sirva, this construction is only found when nonverbal predicates function as medial clauses.)

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Mand

(71) *Mac   abɨ   dɨh   mɨrɨmɨŋ   jɨ-n.*
enough 2   COMPL old.person **stay-2SG.IPST**
'That's it, you're an old person now.'

Manat

(72) *Na   vana   ini-gɨm=ɨk   mɨŋatam-itɨha-nad=ɨk,   a,   nɨ   urum   ibɨd*
and speech ND-ADJZ=ACC hear-FFUT-2SG=ACC   ah   2SG.ACC man   good

ñ-itɨha-nad=a.
stay-FFUT-2SG=INT
'And if you'll listen to this kind of talk, oh, you'll be a good man.'

Sirva

(73) *Nɨŋ   uhuvar   be   mur   kɨ-i,   o,   mi   tama-s-a.*
3SG.POSS door   3SG   open   **stay-3SG.DS**   oh   thought   put-FPST-3SG
'His door was open and he thought, "Oh."'

Aisi Mabɨŋ

(74) *Ya   mandɨ   ga-nɨŋ   animɨni   kɨn-ɨkɨŋ,   ika   yama*
1SG   COMPL   MD-LOC   small   **stay-1SG.DS**   father.1.POSS mother.1.POSS

yaka   yaŋ   ab-er-uŋ.
1SG.POSS 1SG.OBJ talk-HAB-3PL
'Long ago when I was small, my parents used to talk to me.'

Kursav

(75) *Ka-ka   gapɨra pakwit na   i-ka   pakwit nuai   in-e.*
MD-TOP   all   one   and ND-TOP   one   different **stay-3SG.NFUT**
'All those are one (kind) and this one is different.'

It is possible that the verb *anta 'do' could carry verbal morphology in nonverbal predicates. This construction is only found in Sirva (76) and Kursav (77), but that distribution is wide enough to warrant reconstruction. In both languages the sense of this verb is inceptive as opposed to stative, so those semantics are also reconstructible: *anta 'do' meant 'become' while *kɨña 'stay' meant 'be.'

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Sirva

(76) *Wa-ra~ra~ra~ra~ra*   *ña* *be* *mɨrada* **ad-a,** *kazɨr-a ...*
go-SS~CONT~CONT~CONT~CONT child 3SG big **do-ss** crawl-SS
'That will continue and continue and the child will become big and crawl and ...'

Kursav

(77) *Tar nisikɨr nuaya **d-e.***
tree fruit ripe **do-3SG.NFUT**
'The fruit is ripe now.'   Elicited

The negation of nonverbal predicates is accomplished in the same way in every daughter language: a negative word is placed at the end of the predicate. This construction can therefore be reconstructed to PSOG, provided that the negative morpheme can be reconstructed. This task proves difficult, though. In order to begin we must be more precise about our subject matter, for in fact there are at least three ways nonverbal clauses are negated in Sogeram languages. The first is composed of a subject, a nonverbal predicate, and a negative word, as in (78); in this construction the predicate is negated.

Nend

(78) *Oram ha-n **imbɨr mah.***
house MD-ACC **good none**
'The house is not good.'   (Harris 1990: 113)

The second construction is composed of a subject and a negative word (79). In this construction the negative word *is* the nonverbal predicate, and it has an existential interpretation: the subject is asserted not to exist. This construction is often used with a preceding topic to assert that the topic does not have any of the subject (80).

Kursav

(79) *Guro **kwe.***
speech **none**
'There's nothing to say (lit. 'there's no speech').'

Mand
(80) *Arhw mɨros **mah.***
1PL food **none**
'We don't have food (lit. 'As for us, there is no food').'

The last construction is composed of a negative word by itself. In this construction the negative word replaces an entire clause, thus functioning as a nonverbal clause on its own. This construction is used to negate the expected result of a preceding clause (81) or when one of a set of options is negated (82).

Manat
(81) *Mɨŋa-n=a, ŋagar-ura-s **manat.***
get-2/3.SS=INT shake-PL-3.DS **no**
'They took him and shook him, but no (i.e., he was dead).'

Aisi Mabɨŋ
(82) *Kwar=iŋ ab kram-beruŋ be **mabɨŋ?***
garden=LOC fire burn-3PL.FUT Q **no**
'Will they make a fire in the garden or not?'

Throughout the family, two primary negative words can be found. Both begin with *ma*, one following it with a velar consonant and the other with an alveolar one. I refer to them as the K-negative and the T-negative, respectively. Unfortunately, in neither case are the expected phonological correspondences found, so reconstruction is difficult for both words. The correspondence sets are given in Table 4; Aisi Mabɨŋ is not included because its single negative word, *mabɨŋ*, does not appear to be descended from either the K-negative or the T-negative.

Table 4. Negative words

	Mand	Nend	Manat	Apalɨ	Mum	Sirva	Magɨ	Kursav	Gants	PSOG
K-negative	*mah*	*mah*	*makat*	*hɨma*	*manga*		*magɨ*	*kwe*	*maŋ*	*maka
T-negative	*mad*	*nend*	*manat*			*mana*				*manat

The reconstructions offered in this table are very tentative, particularly *maka. Both forms are obviously related to the verbal negator *ma (§5.3.1), but it is unclear how since the material that follows *ma does not appear obviously verbal. In the case of the K-negative the velar element may be related to the verb *kɨña 'stay,' but there is little evidence for this. If it were related to *kɨña the reconstruction would probably have to be changed to *makɨ or even *ma kɨña, with two words. The latter possibility could potentially explain the Apalɨ form *hɨma*, which has apparently undergone metathesis.

When we evaluate the correspondences of the K-negative, we see several problems. The WS languages have lost final *a (although recall from §4.2.5 that this process was regular for commonly stressed word classes) and voiced *k irregularly. Manat has added final *t, presumably on analogy with the T-negative. Apalɨ has metathesized. Mum has added non-homorganic alveolar nasal. Magɨ shows regular final *a > ɨ, but has irregularly voiced *k > *g* (which is [ɣ] word-medially). Kursav is probably not cognate, and Gants has irregularly nasalized *k > ŋ.

Turning to the T-negative, Mand has lost the second *a and merged the nasal *n and the stop *t into a prenasalized stop *d*. Nend may have lost the initial syllable, raised *a > *e*, and nasalized *t > *nd*, or it may not be cognate. Manat is unchanged, and Sirva lost final *t. Based on the Mand, Manat, and Sirva reflexes, this is a more secure reconstruction than the K-negative.

Now that we have tentatively reconstructed these negative words, we can ask which of the three nonverbal negation functions each one fulfilled. In answering this question, though, we are presented with a difficulty. Although both the K-negative and the T-

negative are well-distributed through the family, and can therefore be reconstructed, the variation between them is only retained in three contiguous languages in the west: Mand, Nend, and Manat. In every other language one of the two negative words has taken over all functions. This means that we are on methodologically shaky ground. Whatever function we find for a negative word in the three western languages, we can also find in languages in the east, and can therefore reconstruct. But the fact that we find that function in the east is trivial, because any language which exhibits a given function for a given word exhibits *all* functions for that word. This means that eastern witnesses cannot offer data that bears meaningfully on the question, How were nonverbal negation functions divided up between the K-negative and the T-negative? We are thus restricted to the three languages in the west, and our reconstructions do not therefore have a broad enough attestation to be secure. Nevertheless, I present those reconstructions here, for what they are worth.

The pro-clausal negation function is fulfilled by the T-negative in all three languages. This can be seen when negating the expected result of a previous clause, as in (83)–(85), and when negating an alternative, as in (86)–(88). Note that in (83) and (85) a reflex of *kɨ̃a 'stay' is hosting verbal morphology, as discussed above. Note also that in the function that negates the expected result of a previous clause, the previous clause bears different-subject morphology in all three languages. This is also true in the rest of the family, so the use of different-subject morphology in this construction probably dates to PSₒɢ.

Mand

(83) *Ku-c*   **mad**   **ji-c**   *api*   *sag*   *uram=in*   *ai-ri-n.*
see-DS   **no**   **stay-DS**   1SG   again   house=LOC   come-FPST-1SG
'I looked and no (i.e., it wasn't there), and I came back home.'

Nend

(84) *Ŋg-am-e*   *Raphael*   *oreŋgi-ŋ*   *oreŋgi-ŋ*   *oreŋgi-ŋ,*   **nend.**
descend-put-SS   Raphael   call-1SG.DS   call-1SG.DS   call-1SG.DS   **no**
'I put (it there) and called and called and called Raphael, but no.'

                                                      (Harris 1990: 113)

Manat

(85) *O*   *tri-s*   **manat**   *ñi-ma-g.*
oh   pull-3SG.DS   **no**   stay-PST-3SG.FAR
'Oh, they pulled but they couldn't (pull it down).'

Mand

(86) *Borbed*   *na-n*   *abi*   *ja-ŋara-n*   *oh*   **mad**   *ar.*
possum   ND-ACC   2   eat-FUT-2SG   Q   **no**   QUOT
'"Will you eat this possum or not?" she asked.'

Nend

(87) *Mbi*   *marivay*   *eka-ndara-mg-i=oh*   **nend=oh?**
3   dance   slice-FUT-PL-3=Q   **no**=Q
'Are they going to dance or not?'   (Harris 1990: 113)

Manat

(88) *Mina*   *ka-b*   *prihar-itrak-id*   *o*   **manat**   *akad*   *ara-rat-ur-id.*
pig   MD-NOM   flee-IFUT-3SG   or   **no**   maybe   say-HAB-PL-3
'"Will a pig run out or not?" they say.'

The negative existential function is performed by the K-negative in Mand (89), Nend

(90), and Manat (91), suggesting that it was also performed by the K-negative in PSOG.

Mand

(89) *Pai*   *ota*   **mah.**
fire   branch   **none**
'There's no firewood.'

Nend

(90) *Nzi*   *cokay*   **mah.**
1SG   tobacco   **none**
'I don't have any tobacco.'   (Harris 1990: 113)

Manat
(91) *Nɨ   map   asi   **makat.***
     2SG.ACC head knowledge **none**
     'You don't have any head knowledge (i.e., you're dumb).'

When it comes to the negation of nonverbal predicates, though, Mand, Nend, and Manat diverge. In Mand (92) and Nend (93) this is done by the K-negative; in Manat it is the T-negative (94).

Mand
(92) *Ya   adu   **ohra mah,** k-ɨp   ac.*
     speech 1SG.POSS **big   none** FD-EXST FOC
     'My talk isn't big, it's just like that.'

Nend
(93) *Oram   ha-n   **imbɨr mah.***
     house MD-ACC **good   none**
     'The house is not good.'   (Harris 1990: 113)

Manat
(94) *Maŋa=k   **arumad   manat**   tak=a.*
     ground=ACC **big.PRED no**   only=INT
     'There just isn't much land (lit. 'the ground just isn't big').'

When the three witnesses in the west disagree and we have no meaningful witnesses in the east, reconstruction is all but impossible. Nevertheless, I very tentatively reconstruct the K-negative for this function, because of some speculation involving Aisi Mabɨŋ and Kursav. These two languages have dedicated nonverbal negators for the two functions described above. But for the negation of nonverbal predicates, both languages employ the verbal negator *ma*, as illustrated in (95) and (96).

Aisi Mabɨŋ
(95) *Ya   **mokɨm kuru ma.***
     1SG **greed   man** NEG
     'I'm not a greedy man.'

Kursav

(96) *Ya* **kura** **agidem** **ma.**
1SG man good NEG
'I'm not a good man.'

Recall that the Gants nonverbal negator is *maŋ* (97), which may be descended from the K-negative. Recall also that Aisi and Kursav commonly lost word-final nasals (§2.4.1.2). If the negator *maŋ* dates to PES, Aisi and Kursav *ma* may actually be reflexes of the PES nonverbal negator *maŋ, not the verbal negator *ma. And *maŋ was itself a reflex of the PSOG K-negative *maka. This scenario has the virtue of accounting for the fact that the verbal negator is negating nonverbal predicates in Aisi and Kursav, which is unexpected, and the fact that it occurs after the predicate, which is also unexpected. But it remains quite a speculative explanation, and it is probably better to say that we do not know how nonverbal predicates were negated in PSOG.

Gants

(97) *Ko* **pe** **maŋ.**
DEF pig no
'That's not a pig.'

5.4. Clause Combining

Two primary complex constructions can be reconstructed for PSOG. The first of these is switch reference, which is widespread in Trans New Guinea languages (Roberts 1997, Foley 2000) and which is securely reconstructed to PSOG by the fact that the associated morphology can be reconstructed. The other construction is a kind of subordination in which a clause, or clause chain, was subordinated by a following demonstrative and functioned as a noun phrase in a matrix clause. These reconstructions are presented in the

next two sections. Following that I discuss quoted speech (§5.4.3), which can also be considered complex.

5.4.1. Switch Reference

A switch reference system can be securely reconstructed to PSOG by virtue of the fact that switch reference morphology can be reconstructed. In §3.4.2 and §3.3.10 I argue for the reconstruction of a realis and an irrealis paradigm of different-subject suffixes, and in §3.4.1 I argue for the reconstruction of two same-subject suffixes. The different-subject paradigms are presented in Table 5 and Table 6. The same-subject suffixes were *-i 'same-subject sequential,' which indicated that the action of the marked verb and the following verb were sequential, and *-ta 'same-subject delayed,' which indicated that an interval of time elapsed between the event of the marked verb and the event of the following verb.

Table 5. PSOG different-subject irrealis

	SG	PL
first person	*-ɨt-ɨŋ	*-ɨt-rɨŋ
second person	*-ɨt-na	*-ɨt-ra
third person	*-ɨt-i	

Table 6. PSOG different-subject realis

	SG	PL
first person	*-ɨk-in	*-ɨka-rɨŋ
second person	*-ɨka-na	*-ɨka-ra
third person	*-ɨk-i	

Switch reference marking works the same way in every Sogeram language, and we can therefore infer that it was the same in PSOG. Clause chains were formed consisting of medial clauses—that is, clauses headed by verbs bearing medial switch reference suffixes—

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and these chains ended in a final clause, one with a verb that was marked for TAM. The TAM information from the final clause had scope over the whole chain.

Switch reference marking functioned as follows. The suffix on each medial verb indicated whether the subject of that verb was the same as, or different from, the subject of the verb of the following clause. When the subject of the following verb was the same, the same-subject suffix did not mark person information. Same-subject marking did, however, distinguish between chains of events that were close together temporally (with the sequential marker *-i) and chains of events that were broken up by longer periods of time (with the delayed marker *-ta). When the subject of the following verb was different, the switch-reference marker indexed the person and number of its own subject. It also indicated the realis status of the clause chain it was in; chains that ended in a realis TAM category used the realis switch-reference suffixes, while chains that ended in an irrealis TAM category used the irrealis set. It is not possible to reconstruct exactly which TAM categories were considered realis or irrealis for this purpose in PS0G, but it is likely that the immediate past, the other past tenses, and the habitual aspect were realis, while the imperative, prohibitive, counterfactual, and irrealis moods were irrealis. How the future tense was treated is unknown. In addition, different-subject markers distinguished sequential events, which were unmarked, from simultaneous events, which were marked by reduplicating the verb with the different-subject marker.

These conclusions about the PS0G switch reference system can be reached via simple morphological reconstruction. In other words, all that is necessary is to reconstruct the different pieces of switch reference morphology and their meanings. More abstract

questions are more difficult to answer. Two questions that are commonly asked about Papuan switch reference systems are, How do they handle situations of partial subject overlap? And, what exactly does the system track? The first question cannot yet be answered for PSOG, as I have not conducted targeted elicitation on this question and the data available from texts is insufficient.

The second question is more answerable, but the answer is unfortunately rather vague. Papuan switch reference systems vary considerably in terms of what they track. Some track a very syntactically defined category of subject; others track more semantic notions like agent or discourse-oriented notions like topic. This range of variation can be conceived of as a continuum, with wholly syntactic systems on one end and wholly pragmatic systems on the other. (This is something of an oversimplification, since in reality there is more than one dimension of variation among switch reference systems.) All that can be said about PSOG is that it probably existed closer to the syntactic end of that continuum. The grammatical subject plays a prominent role in the switch reference system of every Sogeram language, and it is possible to find examples in every language where the system tracks the subject even when subject, topic, and agent diverge. But every language also allows exceptions, including the most exclusively subject-tracking language, Manat. Unfortunately, these exceptions are not consistent. For example, topic plays an important role in Aisi switch reference, while in Sirva the notion of control is more relevant. For this reason the exceptions cannot be reconstructed to PSOG, and we must content ourselves with the vague conclusion that PSOG was probably a relatively strict, but not completely strict, subject-tracking language.

5.4.2. Clause Chain Nominalization

The Sogeram languages possess a subordination construction in which a clause, or clause chain, is nominalized by placing a demonstrative or some other piece of nominal morphology after it. This subordinate clause chain then functions as a noun phrase in the matrix clause. While the details of this construction vary somewhat from language to language, the general properties just outlined are found throughout the family. In this section I argue that such a subordination construction should be reconstructed for PSOG.

The basics of the construction are easy to reconstruct. For example, if we take the topic/object demonstrative suffix *-n that was reconstructed in §4.3.5, we find a construction of the type [S DEM-*n*]ₙₚ.ₐᴄᴄ in Mand (98), Nend (99), Manat (100), and Aisi (101).

Mand
(98) *[P=ahw   p-id   ]   na-n,   p=ahw   uci   pi-ŋarid?*
     3=FOC   write-IPST   ND-ACC   3=FOC   what   take-FUT
     'What's he going to do with what he wrote?'

Nend
(99) *[Awaz   ŋg-amɨ~ndam-in   ]   ha-n   kɨr-in.*
     betelnut   descend-put~TPST-1SG   MD-ACC   look.for-1SG.IPST
     'I am looking for the betelnut I put (here).'   (Harris 1990: 148)

Manat
(100) *[Ŋar-in   ]   ka-n   miŋatama-nad   ag?*
      speak-1SG.IPST   MD-ACC   hear-2SG.IPST   FOC
      'Did you hear what I said?'

Aisi Mabɨŋ
(101) *[Ya   itɨ   w-ir-iŋ   ]   g-oŋ,   maket   tam-er-iŋ   ma.*
      1SG   get.SS   come-HAB-1SG   MD-TOP   market   put-HAB-1SG   NEG
      'I bring them, but I don't put them in the market (i.e., sell them).'

Similarly, demonstratives with the locative enclitic *=ñ (§4.3.6) are found in this construction in Apalɨ (102), Mum (103), Sirva (104), and Kursav (105). Additionally, the Aisi

locative demonstrative suffix *-niŋ*, which may be composed of topic/object *-n plus the locative enclitic *=ñ, can also occur in this construction (106). (Note that *-n was a suffix, as it only occurred on demonstratives, but *=ñ was an enclitic that attached to noun phrases—either to the demonstrative at the end, or to something else if the noun phrase lacked a demonstrative. But only the *DEM=ñ combination functioned as a subordinator, not *=ñ by itself.)

Apalɨ

(102) *Viaŋ*   *[haca mav-av-i] n-eŋ   ala ve-iem-in.*
1SG.NOM   hole   dig-PL-3.IPST ND-LOC FOC come-TPST-1SG
'It was here where they dug a hole that I came.'   (Wade 1989: 21)

Mum

(103) *Yahu-m-i   da-ñ [pina   mu   kaha-m-i   ] da-ñ.*
go.up-HPST-3SG FD-LI platform another fasten-HPST-3SG FD-LI
He went up over there to where he had fastened the platform.

Sirva

(104) *[Nɨ-mɨ   kɨ-s-a   ] k-i   tama-s-a.*
3.POSS-mother stay-FPST-3SG MD-SET put-FPST-3SG
'He put it where his mother was.'

Kursav

(105) *[Nan vuruva in-uara   ] i-ka-n,   ya   ramɨra-da ve-md-ua.*
2PL   village stay-2PL.NFUT ND-TOP-LOC 1SG   return-SS come-FUT-1SG
'I'll come back to the village you guys live in.'   Elicited

Aisi Magɨ

(106) *Naŋgari, yɨ asad   mu uku-byaŋ, [mandɨ yabɨ   kɨ-t-eŋ   ] ka-niŋ.*
now   1SG story SPEC tell-1SG.FUT before 1SG.EMPH stay-HAB-1SG MD-LOC
'Now, I'll tell a story, about where I used to live.'

Finally, reflexes of the unaffixed middle demonstrative *ka (§4.3.2) also appear in this construction in Apalɨ (107), Sirva (108), Aisi (70), Kursav (110), and Gants (76). It seems that the Mum bare middle demonstrative can also fulfill this function, although (112) is not perfectly understood.

Apalɨ

(107) [Na   nubu   magɨ mugu-la-lɨ   ] ha   lamakɨŋ haca hɨvɨ
ND.TOP   3SG.NOM   egg   move.down.go-HAB-3SG.FPST   MD.TOP   palm.sp   hole LI

mugu-la-lɨ.
move.down.go-HAB-3SG.FPST
'Now, as for when (or 'Now given that') he habitually lays eggs, he habitually lays
eggs in the hole of the *lamakɨŋ* palm.'   (Wade 1989: 22)

Sirva

(108) [U-rubɨ-s-a] ka,   kine k-i   hasa kɨzɨdɨ-s-a.
go-PL-FPST-3   MD.TOP   near MD-SET   FOC   evening-FPST-3SG
'They went, and very soon (lit. 'in a near place') it was evening.'

Aisi Mabɨŋ

(109) [Ya gi   ika   yaka   kɨn-i   akɨ] ga, ga-rib
1SG   FOC   father.1.POSS   1SG.POSS   stay-3SG.IPST   maybe   TOP   MD-ADJZ

kr-ɨbɨŋ.
walk-1SG.CTRF
'If *my* father were alive, I'd walk around like that (too).'

Kursav

(110) [Rainim d-ua   ] ka   ruk-uana?
line.up   do-1SG.NFUT   MD   see-2SG.NFUT
'Do you see the ones I've lined up?'

Gants

(111) [Ped   miŋi-da yɨg   adɨ-m-ek] ko,   kada cɨ-m-ek
paint   take-SS   festival   do-FPST-3SG   DEF   thus   stay-FPST-3SG
'The paint he taken and decorated himself with was right there.'

Mum

(112) [Nu mubu   sih   miŋa-h-u~hu   yɨvuraha-ta
3SG   tanget.leaf   design   take-DS-3PL~SIM   arrive-SS

nagwinagwi-tɨ-m-i   ] ka va-ta-tɨ-h-u   miŋamiŋarama-ta ...
motion.with.head-do-HPST-3SG   MD   say-SS-do-DS-3PL   follow-SS
'They thought back to when they were working with the tanget leaves and the
men motioned to them. They were following this line of talk and ...' (Sweeney n.d.)

Based on these examples, we can reconstruct three subordination constructions: *[S

DEM-n], which, being marked with the topic/object suffix *-n, functioned as a noun phrase

in topic or object position; *[S DEM=ñ], which functioned as a locative noun phrase; and *[S ka]_{NP}, which functioned as a topic-fronted noun phrase. All of these constructions, like their modern reflexes, referred to some aspect of the subordinate clause. This could be a participant in the action of the clause, the setting of the clause, or the event of the clause. The referent was determined pragmatically; it was not marked in any way. Based on these reconstructions, we can generalize a broader construction: *[S DEM-CASE], which referred to some aspect of S and which functioned as a noun phrase of the appropriate case in the matrix clause.

A natural question to ask about this reconstructed construction is how productive it was. Could any demonstrative category function as a subordinator? Could case enclitics subordinate clauses without demonstrative roots? In attempting to answer these questions we run into methodological issues. To illustrate, consider the case of the focus demonstrative suffix *-kw. This form has reflexes in Mand and Aisi. In Mand, it does not function as a subordinator (at least not in my data; I have not conducted elicitation on this question). In Aisi it does, as (113) shows.

Aisi Mabɨŋ
(113) *[Na   tam-aŋ   ]   ga-ku   mugram-e.*
2SG   put-2SG.IPST   MD-NOM   fit-3SG.IPST
'What you put on fits.'

The data can be interpreted in two ways: either *-kw could subordinate in PS_{OG}, and this function has been lost in Mand; or *-kw did not subordinate in PS_{OG}, and this function was innovated in Aisi. Either scenario is plausible, so based on our current data we cannot propose a reconstruction.

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We are faced with a similar situation when we attempt to decide whether case enclitics could subordinate clauses on their own, without demonstratives. The accusative enclitic *=ŋ and the oblique enclitic *=nt both occurred on pronouns and some noun phrases, so it is reasonable to suppose they may have also functioned as subordinators. And there is evidence for this in Manat and Gants. In both of these languages, several PSOG verbal paradigms are found with an additional consonant at the end. In Manat, this consonant is *d*, while in Gants it is often *ŋ*. Examples (114) and (115) illustrate how these consonants have accreted onto the PSOG 2SG immediate past suffix *-na.

Manat

(114) *Mɨna=k=a,*   **ruku-nad**   *ag?*
      pig=ACC=INT   **see-2SG.IPST**   FOC
      "Have you seen any pigs?"

Gants

(115) *Tworp   okrok   stret   ai-nɨŋ   ko   ga-naŋ?*
      twelve   o'clock   exactly   come-1SG.IPST   DEF   **perceive-2SG.IPST**
      'Did you see that I came right at noon?'

There is no trace of oblique meaning in Manat *–nad*, nor any trace of accusative meaning in Gants *–naŋ*. Yet these consonants must have come from somewhere, and a likely explanation is that they come from an old subordinating construction that has undergone insubordination and lost its matrix clause (per Evans 2007). On the other hand, there is no trace of such a construction in any other Sogeram language, even where the enclitics survive. That is, the enclitic *=ŋ* cannot subordinate clauses in Mum or Aisi, and the enclitic *=d* cannot subordinate clauses in Mand or Apalɨ. We are thus faced with the same problem as with *-kw. Either *=nt and *=ŋ could not subordinate clauses in PSOG and we are seeing an increase in productivity in Manat and Gants, or they could subordinate and we

are seeing a loss of productivity in the other Sogeram languages. As before, there is no clear way to decide which scenario is the more plausible. In this case, though, we can invoke the "majority rules" principle. Reflexes of *=nt and *=ŋ are found with (vestiges of) subordinating functions in only one language each, while they are found without those functions in multiple languages. It is therefore preferable to say that these enclitics could not function on their own as subordinators, but rather that these functions developed later in Manat and Gants, and then those constructions underwent insubordination.

We can thus reconstruct the subordination construction *[S DEM=CASE]$_{NP}$ (in which case was sometimes marked by a demonstrative suffix and sometimes by a case enclitic) which referred to some aspect of S and which functioned as a noun phrase in a matrix clause. We can also reconstruct at least three demonstratives that could instantiate the construction. It remains beyond our capacity, though, to demarcate precisely the construction's productivity—what demonstratives and other nominal morphology it could contain—but its general properties remain secure nevertheless.

5.4.3. Quoted Speech

Quoted speech does not contain special morphological marking in any Sogeram language to distinguish the quotation from the surrounding material. Rather, the quotation is usually marked on the edges. The beginning of a quotation is marked by a pre-quote verb, like the Manat verb *ŋara-* in (116). The end of a quotation is marked either by a post-quote verb like Sirva *va-* in (117), or a quotative particle like Aisi *kwe* in (118).

Manat

(116) *Nɨ-mɨn-ɨb* **ŋara-ma-g.** *Mɨna=k=a,* *ruku-nad* *ag?*
3.POSS-mother-NOM **speak-PST-3SG.FAR** pig=ACC=INT see-2SG.IPST FOC
'His mother spoke. "Have you seen any pigs?"'

Sirva

(117) *Aku-dagra* ***v-ɨɨ,*** *aku-dagra* ***va-bɨ-s-a.***
sleep-1PL.IRR **say-3SG.DS** sleep-1PL.IRR **say-PL-FPST-3**
'"Let's sleep," she said, and they said, "Let's sleep."'

Aisi Mabɨŋ

(118) *Ga-rib* *ar-i* *ga,* *nɨ-sɨm* *ab-e.* *Mai* ***kwe.***
MD-ADJZ do-SS TOP 3.POSS-brother talk-3SG.IPST friend **QUOT**
'It was like that, and the older brother said, "Friend," he said.'

Neither the pre-quote verb nor the post-quote material is required if it is clear that the quotation is a quotation, but both are common. The typical pattern is to begin a quotation with a single pre-quote verb and then to tag each quoted intonational unit with a post-quote marker, but stylistic variation is common.

Both a pre-quote verb and a post-quote verb can be reconstructed. The pre-quote verb was *ampa 'speak,' and the post-quote verb was *ua- 'say,' which may have been a special sense of *ua 'go'; this polysemy is reminiscent of the way English *go* is colloquially used as a verb of speech. Reflexes of the two verbs in these functions can be seen in Apalɨ (119), Sirva (120), Kursav (121), and Gants (122).

Apalɨ

(119) *Lɨ-ci* ***ab-in.*** *Ia-dɨ* *iamɨgali* *sivɨ* *ahila* *ve-d-ɨ*
do-3SG.DS **talk-1SG.IPST** 1SG-OBL woman after on.own come-3SG.FUT

u-in.
say-1SG.IPST
'He did it and I talked. "My wife will come afterwords on her own," I said.'

<div align="right">(Wade n.d.)</div>

Sirva
(120) G-ra   **aba-s-a.**   *Mina*   **va-s-a.**
      see-SS **talk-FPST-3SG**   wait   **say-FPST-3SG**
      'He saw (that) and spoke. "Wait!" he said.'

Kursav
(121) **Ab-e,**   *ve-da*   *ya*   *sarim*   *d-it-Ø*   *ma*   **v-e.**
      speak-3SG.NFUT   come-SS   1SG   sell   do-IRR-1SG   NEG   **say-3SG.NFUT**
      'He talks. "I'll come and I won't sell them," he says.'

Gants
(122) *Jisas*   **aba-m-ek,**   *ya*   *ai-paŋ-niŋ*   **wa-m-ek**
      Jesus   **speak-FPST-3SG**   1SG   come-FUT-1SG   **say-FPST-3SG**
      'Jesus said, "I'll come."'

The grammatical machinery of quotation is also used in many Sogeram languages in what I call a desiderative construction. In these constructions, the desires or intentions of an agent are expressed as a quote in which those desires are stated in the first person. Each language uses a particular TAM category for this construction: for example, Mand uses the future (123), Sirva the irrealis (124), and Kursav the imperative (125).

Mand
(123) *Mad*   *ya*   *ka-n*   **pi-ŋarid**   **ar-ebi.**
      Mand   speech   FD-ACC   **take-FUT**   **say-MPST**
      'I wanted to learn (lit. 'I said, "I will take"') the Mand language.'

Sirva
(124) *Itu*   *wi-ra,*   *yakɨv-ra*   **u-dagra**   **va-bɨ-s-a**   *ka-ga*   *mana.*
      tobacco   smoke-SS   get.up-SS   **go-1PL.IRR** **say-PL-FPST-3**   MD-TOP   no
      'He smoked a cigarette, and they wanted to get up and go (lit. 'said, "let's get up and go"'), but alas.'

Kursav
(125) *Sake*   *bin*   **inɨ-n**   *va-da*   *v-e.*
      three   LOC   **stay-1SG.IMP**   say-SS   come-3SG.NFUT
      'She wanted to be in (grade) three (lit. 'said, "Let me be in three"') and she came.'

The desiderative construction is instructive because even though it is widespread throughout the family, it *cannot* be reconstructed to PSOG. The examples above are from

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Mand, Sirva, and Kursav—three languages that come from different branches of the family and that have not been in significant contact with one another. Normally anything with this kind of attestation would be a very secure reconstruction, so an incautious linguist might posit the PS$_{OG}$ construction $^{\dagger}[[V\text{-}INFL_{1,IRR}]\ ua\text{-}INFL]$. That is, a verb inflected for a first person irrealis verb category was followed by an inflected post-quote *ua 'say.' The meaning of this construction could be expressed as "the subject of *ua intends to perform the action of the other verb."

But in this case the morphology, crucially, is not cognate. In the examples above, Mand uses the future to mark the quoted verb, Sirva uses the irrealis, and Kursav the imperative. And this is what we find throughout the family; every language uses a different verb category to mark the quoted material that expresses the desires or intentions of the agent. The categories are all semantically irrealis—future, imperative, irrealis, etc.—but this is quite natural given the semantic properties of the construction. Even when two languages use the same category, as for example with Mand and Aisi, which both use the future, the relevant suffixes are not cognate.

This, then, is exactly the sort of situation we would expect to find in cases of widespread syntactic borrowing. Many languages possess essentially the same construction, but they all fill it with different morphology. In this case the locus of difference is the suffix slot on the first verb. And because this morphology is not cognate, there is no convincing evidence that this construction occurred in PS$_{OG}$. It seems apparent that this construction was borrowed from language to language and that each borrowing

language copied the donor language pattern but did so with its own morphology. Thus we simply cannot say whether the original construction occurred in PSOG or was created later.

Chapter 6

Lexical Reconstructions

In this chapter I present the 316 lexical forms that I have reconstructed for Proto-Sogeram

(PSᴏɢ). Each entry is organized as follows:

*[reconstructed form] *[word class]* '[meaning]'
    WS Mɴᴅ   *[reflex]*
          Nᴇɴ   *[reflex]* (S)
    CS Mɴᴛ   *[reflex]*
          Aᴘᴀ   *[reflex]* (C), *[reflex]* (K)
          Mᴜᴍ *[reflex]*
          Sɪʀ   *[reflex]* '[innovative meaning]'
    ES   Aᴍɢ *[reflex]*
          Aᴍʙ *[reflex]*
          Kᴜʀ   *[reflex]* (PAɪs)
          Gᴀᴊ   *[reflex]*
    [Comments].

The language abbreviations are: Mɴᴅ – Mand, Nᴇɴ – Nend, Mɴᴛ – Manat, Aᴘᴀ – Apalɨ,

Mᴜᴍ – Mum, Sɪʀ – Sirva, Aᴍɢ – Aisi Magɨ, Aᴍʙ – Aisi Mabɨŋ, Kᴜʀ – Kursav, and Gᴀᴊ – Gants.

Where a language lacks a reflex, that language is omitted. For two languages, Nend and

Apalɨ, dialect differences are occasionally relevant: Northern (N) and Southern (S) for

Nend, and Akɨ (K) and Acɨ (C) for Apalɨ. Most of the reflexes given come from the Northern

and Akɨ dialects, respectively, so reflexes from those dialects are not marked. When a

reflex from the other dialect is given, that fact is indicated next to the form, as with Nend

above. When reflexes from both dialects are given, both are marked, as with Apalɨ.

Semantic innovations are indicated next to a given reflex, as illustrated with Sirva.

Semantic retentions are not indicated. Suspected loanwords are indicated by giving the donor language in parentheses next to the reflex: in the example above, the Kursav reflex is marked as a suspected loan from Proto-Aisi (PAɪs).

Due to the nature of the sound changes the Sogeram languages have undergone, it is occasionally possible to reconstruct a final nasal consonant but not its place of articulation. This is indicated by reconstructing a capital *N: *sampaN 'pig.' The word class can be reconstructed for most, but not all, PSoɢ roots. When it can, it is given next to the form, using the following abbreviations: *adj.* adjective; *adv.* adverb; *n.* noun; *n.inal.* inalienably possessed noun; *phrs.* phrase; *svc.* serial verb construction; *v.* verb; *vac.* verb adjunct construction. Some PSoɢ verbs exhibited variation between an uninflected form and an inflected form, such as the verb for 'open,' which was *intua when uninflected and *intu- when inflected. In such cases I present the uninflected root first and the inflected root after a comma: *intua, intu-. Many verbs, such as *miŋka 'come down,' did not exhibit this variation and took the same shape whether inflected or not. These are presented with no hyphen on the right edge.

Unexpected phonological developments are mentioned in the comments. For space reasons, I do not explicitly state that they are unexpected; the presence of a comment such as "Mum changed *ŋ > *n" indicates that this development is unexpected. Naturally, the reconstructions are not of uniform quality or reliability, but in general I have not attempted to provide my own evaluation of the reliability of each entry. Occasionally I do indicate that a form is particularly problematic, but in the main I allow readers to form their own judgments. The comments may also provide cross-references to other PSoɢ

forms that are related, either semantically or formally, to other Madang words that appear to be cognate, or to Proto-Trans New Guinea reconstructions. The sources for these cross-references are Ingram (2001, 2003) for Anamuxra, MacDonald (1990, 2013) for Tauya, Pawley (p.c.) and Pawley & Bulmer (2011) for Kalam, Pawley (1995, 2005, 2006*b*, 2012) for Proto-Trans New Guinea, and Reesink (1987) for Usan. I have made no attempt to make these cross-references systematic or exhaustive in any way.

When a reflex contains some non-cognate material, that material is placed in parentheses. For example, *ak(imin)* would indicate that *ak* is a reflex of the posited proto-form, but *imin* is not. When I can speculate as to the etymology of the non-cognate material, I do so in the comments; e.g., "Sirva compounded with *si* 'place.'" The non-cognate material may be a synchronic form in that language, or it may be a reconstructed PSOG proto-form.

In order to be considered a minimally reliable PSOG reconstruction, I have required that a given etymon have reflexes in two of the three primary branches. In applying this criterion, I have also excluded pairs of languages that are known to have been in contact. So for example, if a cognate set contains only reflexes in Nend and Manat, I do not reconstruct it to PSOG because of the likelihood that the form is a later innovation that was borrowed from one language into the other. The following pairs were excluded for this reason: Mand and Manat; Nend and Manat; Apalɨ and either Aisi language; and Sirva and either Aisi language. This procedure still leaves some forms which may not date to PSOG, such as *mimpɨŋ 'ironwood tree,' which only has reflexes in Nend (*impɨŋ*) and Apalɨ (*mibɨŋ*). But in applying these criteria, I hope that I have excluded most of the post-PSOG

borrowings from the cognate sets, and that the list will prove useful for future comparativists who attempt to delve deeper into the prehistory of Madang and Trans New Guinea. Only one form is included solely based on one Soɢ witness and one external witness: *iau 'fish.'

I have included a few lexicalized expressions that can be reconstructed to PSoɢ. These include serial verb constructions (such as *ipa miŋka 'appear'), adjunct–verb constructions (*vɨr kama 'to dawn'), and one pair of an adjectival form and a noun (*mu kɨm 'a certain thing'). This employs the approach to lexicography modeled by, among others, Pawley & Bulmer (2011), which considers certain multi-word units lexemes in their own right. The reasoning that if these multi-word units were lexemes in the PSoɢ speech community, then they were passed from generation to generation in the usual way and can therefore be reconstructed, follows naturally from this position (albeit with the caveat that forces such as analogy may interact differently with complex lexemes than with simplex ones).

I have excluded grammatical morphemes from the list, as they are presented more systematically in the PSoɢ grammar sketch. The distinction between grammatical morphemes and lexical ones is, of course, fuzzy, and I have had to draw the line somewhat arbitrarily.

Finally, inalienably possessed nouns present unique challenges to reconstruction, and often require more discussion. For this reason I only give their phonological form in this section, and discuss them more fully in §1.1 below. Some inalienably possessed nouns had multiple suppletive roots, such as 'same-sex younger sibling,' which was *ñama for first person and *-ra for second and third person possessors. In such cases both roots are given

in the list below, unless they are so similar that they would occur next to each other (like first person *mintaŋ and non-first person *-minta 'cross cousin'). An English–PS_OG finderlist is provided in §6.3.

6.1. Proto–Sogeram Lexemes

*aia *v.* 'come.IMP'
   WS MND *aya*
   CS MNT *aya*
        APA   *aia*
        SIR   *aya*
   ES GAJ *aya, ai-* 'come'
This was an irregular suppletive root for the imperative of 'come.' It may also have been the uninflected form. See **vai-* 'come.'

*akar *n.* 'chin'
   WS NEN *kar* 'face'
   ES AMG *akar*
        AMB *akar* 'beard'
        GAJ   *akar*

*akɨru *n.* 'sugar (*Saccharum officinarum*)'
   CS APA *ahɨlu*
   ES KUR *akuru*

*aku *n.* 'sleep'
   CS MNT *ak(ɨmɨn)* 'dream (n.)'
        MUM *akw*
        SIR   *au*; cf. *aku-* 'sleep (v.)'
   ES KUR *aku(sa)-* 'sleep (v.)'
Sirva lost **h*. See **ampɨta* 'sleep.'

*akwasa *n.* 'betelnut (*Areca catechu*)'
   WS MND *ahwas*
        NEN *awaz* (N), *ahwas* (S)
   CS MNT *ahusa*
Mand voiced **kw* > *hw*.

*akwra *v.* 'carry away'
   WS MND *ahwro-* 'take away'
   CS MNT *akɨru-* 'carry on shoulder'
        APA   *ahɨla-* 'gather'
   ES GAJ *akro* 'carry'
Apalɨ changed verb class and is semantically divergent.

*aman *n.* 'breast'
   WS MND *aman*
   CS APA *amaŋ*
        MUM *ama*
        SIR   *ama*
   ES AMG *amɨ*
        AMB *amɨ*
        KUR *amɨna* (Tauya)
        GAJ   *aman*
The expected Kursav reflex is †*ama* or †*aman;* the attested form may be borrowed from Tauya *amena.*

*amir *adv.* 'yesterday'
   WS MND *abɨr* 'one day away'
        NEN *mɨr* 'one day away'
   CS MNT *amɨ(ñ)*
        APA   *amɨli* 'one day away'
        MUM *am*
        SIR   *amɨn*
Manat added locative **=ñ*. Sirva added final *n.* See **amur* 'tomorrow.'

*ampa *v.* 'speak'
   CS APA *aba-*

MUM   *aba-, ba-*
SIR   *aba-*
ES   AMG   *ab-, aba* 'QUOT'
AMB   *ab-, aba* 'QUOT'
KUR   *aba*
GAJ   *aba*

The Aisi quotative particles descend from uninflected serialized forms.

*ampiŋ *n.* 'wing'
WS   MND   *apɨh*
NEN   *mpiŋ*
CS   MNT   *(v)ab*
APA   *abiŋ*
MUM   *abɨ*
SIR   *abɨ*
ES   AMG   *ambiŋ*
AMB   *ambiŋ*

PAIS retained prenasalization in *mb.

*ampita *n.* 'sleep'
WS   NEN   *ampita* 'sleep dust'
ES   AMG   *ambɨt* (ajt)

Aisi kept prenasalization in *mb*. See *aku 'sleep.'

*ampra *n.* 'place, area'
WS   MND   *apɨr* 'flatland'
NEN   *ampɨra*
CS   MNT   *abra*
APA   *abɨla*
SIR   *(s)abrɨ*
ES   AMG   *ambra(kɨm)* 'village'
AMB   *ambɨr* 'bed, area'
KUR   *abre* 'below'

Sirva compounded with *si* 'place' and changed final *a > ɨ. Kursav raised final *a > e, possibly due to locative *=ñ. See *kaiampra 'village' and *si 'place.'

*amur *adv.* 'tomorrow'
CS   MNT   *abr(us)*

MUM   *amu*
SIR   *amu, amu(s)*
ES   AMG   *amur*
AMB   *amor*
KUR   *amar* 'yesterday,' *amar(te)* 'tomorrow'
GAJ   *amor* 'one day away'
See *amɨr 'yesterday.'

*anta, anti- *v.* 'do'
WS   MND   *(ipañ) at-* 'spit'
CS   MNT   *adɨ-* 'process (sago)'
MUM   *adɨ-*
SIR   *adɨ-*
ES   AMG   *ada, ar-*
AMB   *ar-*
KUR   *du, dɨ-*
GAJ   *ada, adɨ-*

Mand combined with *ipañ* 'water.' Aisi Magi lenited *d > r in the inflected form. Kursav lost initial *a and changed the verb class of the uninflected form.

*añir *adv.* 'two days away'
WS   MND   *ajɨr*
NEN   *ñɨr*
CS   MNT   *añɨr(i)* 'day after tomorrow'
SIR   *añir*
ES   AMG   *anir*
AMB   *anir* 'day after tomorrow'
GAJ   *añɨr*

Manat added locative *=ñ. Sirva fronted *ɨ > i.

*añikwriñ *adv.* 'day before yesterday'
CS   MNT   *añɨhrin*
APA   *anihuliŋ*
MUM   *aikuriŋ*
ES   AMB   *aniriŋ*

This set is problematic in many ways, but suggestive of a form derived from

*añɨr 'two days away' that referred specifically to the past.

*aŋam *n.* 'collared brush-turkey (*Talegalla jobiensis*)'
WS SIR aŋam
ES GAJ aŋaŋ
Gants changed final *m > ŋ.

*aŋku *n.* 'throat'
WS MND aku(tɨr)
CS APA agu(nɨgɨ)
    SIR ugu(pap)
ES AMG ug(am)
    AMB ug(am)
    KUR agu
    GAJ og
Sirva and PAIS changed initial *a > u. Gants is problematic.

*aŋkwa *v.* 'cry out'
WS NEN aŋkwa- 'call out'
CS SIR agwa- 'yell (involuntarily)'
This referred to more involuntary yelling (e.g., in pain or laughter) than *ura 'call out.'

*apapara *n.* 'butterfly'
WS MND apɨpar
CS APA afafaŋ
    MUM apapura
    SIR apapara
ES AMG apapar
    AMB apapara
    KUR apapɨre
    GAJ aporor
The onomatopoetic nature of this word makes reconstruction difficult.

*apar *n.* 'mountain'
WS MND apar
    NEN apar
CS MNT apar

MUM apar

*arɨka *n.* 'middle'
WS NEN arɨha
CS APA alɨhaŋ
    SIR arha
ES AMG akɨr
    AMB akɨr
    KUR arɨk
Apalɨ added final ŋ. Aisi metathesized *rk. Kursav lost final *a.

*ariN 'laugh'
WS NEN ariŋ (S)
ES KUR arɨm
The final nasals are difficult to reconcile.

*arum *adj.* 'good'
WS MND arom
CS MNT arum 'big, old'
    MUM aru 'big'
ES AMB uruŋ
Mand lowered *u > o. Aisi changed initial *a > u.

*asɨŋ *n.* 'leaf'
WS MND asɨh
    NEN zɨŋ (N)
CS APA asɨŋ
Nend voiced *s > z. See *vaŋka 'leaf.'

*ataŋ 'far'
WS MND (ur)ataŋ
    NEN taŋ(opɨr)
CS APA ataŋ
ES AMG ataŋ

*atɨ *n.* 'what'
WS MND ucɨ
    NEN utɨ
CS APA atɨ, akɨ, acɨ
    SIR arɨ

ES AMG *ai*
    AMB *ai* (Magɨ)
    KUR *atɨ*

PWS changed *a > u, possibly on analogy with PWS *uña 'who.' The Mand and Apalɨ consonants are difficult.

*av *n.* 'fire'
    WS NEN *ahu* (S)
    CS APA *avɨŋ*
        MUM *awu* 'tree'
        SIR *au*
    ES AMG *ab*
        AMB *ab*
        KUR *av*
        GAJ *au(r)*

Nend added *h*. Apalɨ added *ɨŋ*.

*i *v.* 'HOLD, CARRY'
    WS MND *(kahi)zɨ-* 'carry on head'
        NEN *i-* 'bathe'
    CS MNT *yɨ-* 'carry on head'
        SIR *i-, ya-* 'distribute, hit'
    ES AMG *y-* 'do'
        AMB *i-* 'get'
        KUR *i(ta)-* 'hold'
        GAJ *(mɨŋ)ia* 'take'

Kursav added *-ta 'SS.' Gants compounded with *mɨŋa 'get.'

*iaka *v.* 'come up'
    WS MND *akai-*
        NEN *akay-*
    CS MNT *aka-*
        APA *iaha-*
        MUM *yaha-*
        SIR *yaha(vi-)*
    ES AMG *yak-*
        AMB *yak-*
        GAJ *(a)yaka*

WS added final *i on analogy with *ai- 'come.' Sirva compounded with *pi-

'come.' Gants added initial *a* by compounding with *aya* 'come,' followed by reduction.

*iaku, iakw- *v.* 'go up'
    WS MND *ako-, akw-*
        NEN *akwɨ-*
    CS MNT *aku-*
        APA *iahua-*
        MUM *yahu-*
        SIR *yak(ɨva)-*
    ES AMG *ikw-*
        AMB *yok-*
        GAJ *yako, yakw-*

Sirva *-kɨv-* may be an irregular reflex of *kw. See *tai 'go up.'

*iaŋkum *n.* 'blood, red'
    CS APA *niaguŋ* (Mum) 'b., sap'
        MUM *ñagw*
    ES AMG *yaŋgum* 'b.'
        KUR *yagum(ura)* 'r.,' *-gum* 'b.'

Aisi kept prenasalization in *ŋg*. Kursav reanalyzed the first syllable as the possessive prefix *ya-* in 'blood.' See *mɨntɨ 'blood, ripe.'

*iau *n.* 'fish'
    WS MND *zau*

Compare Tauya *yau*.

*ika *v.* 'cut, chop'
    WS MND *ika-*
        NEN *eka-*
    CS APA *iha-*
        SIR *yaha-*
    ES AMG *ik-*
        AMB *ik-*
        KUR *ika*
        GAJ *eka*

*ikakara *n.* 'chicken (*Gallus gallus*)'
    WS MND *ikɨkar*

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CS MNT *akakara*

    APA *akakala*

    MUM *akakara*

ES AMG *kyarɨ*

    AMB *kyarɨ*

PCS changed *i > *a. PAIS removed one *ka syllable and metathesized *ik.

*ikuntɨ *adv.* 'morning'

  WS MND *ikud*

  ES AMG *kundɨ*

    AMB *kondɨ*

Mand changed *ntɨ > d. PAIS lost initial *i and kept prenasalization in *nd.*

*iman *n.* 'louse'

  WS MND *iman*

    NEN *eman* (S)

  CS MNT *ma(g)*

    APA *iman*

    MUM *ñiman*

    SIR *ima*

  ES AMG *imaŋ*

    AMB *imu*

    KUR *ima*

    GAJ *iman*

Aisi Mabiŋ shows *u* for expected *†ɨ.*

*impi *n.* 'name'

  WS MND *ipi(a)*

  CS APA *ibi*

    MUM *ñibi*

    SIR *ib*

  ES AMG *ib*

    AMB *ib*

    KUR *-(n)ibe*

    GAJ *ibe*

Kursav *n-* may have been epenthetically inserted when the form became inalienably possessed. Compare Kalam *yb*, PTNG *ibi.

*impɨnt *adj.* 'good'

  WS NEN *ibɨr*

  CS MNT *ibɨd*

  ES AMB *imbɨr* (PCS?) 'bad'

Aisi kept prenasalization in *mb* and did not lower *i > *†e* before *ɨ.*

*impra *v.* 'act badly, (of food) go bad'

  CS MNT *ibra-* 'do mischief, be happy'

    APA *ibɨl-* 'be hungry'

    MUM *ibra-* 'play'

  ES AMB *imbr-* 'spoil'

    KUR *ibr-* 'stink, rot'

Aisi kept prenasalization in *mb.*

*imu *v.* 'put in pot'

  WS MND *iba-* 'boil'

    NEN *ema-* (S) 'cook'

  CS MNT *imu-* 'cook'

  ES AMG *im-* 'put in'

    AMB *im-* 'put in'

    KUR *imo* 'put in'

WS changed the verb class.

*ina *n.* 'sun'

  WS MND *ida*

  CS MUM *ina*

    SIR *ina*

See **iŋar* 'sun, day.'

*intar, intarɨ- *v.* 'hear, perceive'

  CS MUM *idar-*

    SIR *darɨ-*

  ES AMG *ir-* 'perceive'

    AMB *ir-* 'hear, see'

The expected Aisi reflex is *†irar-,* making this correspondence set uncertain. See **iŋka* 'see, perceive.'

*intua *adj.* 'bad'

  CS SIR *dua*

  ES KUR *idua*

*intua, intu- *v.* 'open'
WS NEN *ediwa-*
CS SIR *idu-*

*iŋar *n.* 'sun,' *adv.* 'day'
WS MND *igar(ɨd)* 'noon'
NEN *gar(ɨd)* 'midday' (Mand)
CS MNT *iŋar* 'sun'
MUM *ñaŋari* 'moon' (Sirva)
SIR *yaŋari* 'sun'
ES AMB *aŋar* 'sunshine'
GAJ *aŋai* 'day'
Nend changed *ŋ > g. Mum changed
initial *i > *ya. Sirva added locative
*=ñ. PES lowered initial *e > a. See
*ina 'sun.'

*iŋka *v.* 'see, perceive'
WS NEN *gɨ-* 'touch'
CS MNT *g(ipu)-* 'peer'
APA *iga-*
MUM *ga-*
SIR *ga-*
ES AMG *ŋgɨ-*
GAJ *ga* 'perceive'
Initial *i was lost in Nend and PES.
Manat compounded with *ipu-* 'go in.'
Aisi retained prenasalization in *ŋg.*
See *intar 'hear, perceive' and *tɨku
'see.' Compare Usan *ig* 'hear.'

*iŋkɨn *n.* 'ground possum'
WS MND *(bor)ikɨn*
NEN *iŋkɨr*
CS MUM *(pr)igɨn*
SIR *igɨn*
Mand compounded with *bor* 'pig.'
Mum compounded with *pɨr* 'ground.'
PNCS did not lose final *n.

*iŋkra *v.* 'split'
WS NEN *ŋkɨra-*
CS SIR *igra-*

Nend lost initial *i.

*iŋkwa, iŋkw- *v.* 'give'
WS MND *ikw-*
NEN *egwa-* (N), *igwa-* (S)
CS MNT *igu-*
APA *igu-*
MUM *gu-*
SIR *gwa-, gu-*
ES AMG *igw-*
AMB *igw-*
KUR *-bu-*
GAJ *go, gw-*
Kursav and Gants lost initial *i.
Kursav also changed *gw > b.

*irɨka *v.* 'cry'
WS MND *irɨka-* 'talk to'
CS MNT *irha-*
APA *ilɨha-*
MUM *irha-*
SIR *irɨha-*
ES AMG *ik-*
AMB *ik-*
KUR *irɨka-*
GAJ *ika-*
Mand is semantically innovative.

*ipa *v.* 'come out, across'
WS MND *ipa(hɨ)-* 'come across'
NEN *(ah)evay-*
CS MNT *ipa-*
APA *iva-* 'move across'
ES GAJ *ipa* 'get up, fly'
Nend added final *y* on analogy with
ay- 'come.' See *ipa mɨŋka 'appear
(at).'

*ipa mɨŋka *svc.* 'appear (at)'
CS MNT *ipamɨga-* 'arrive'
ES GAJ *ipa mɨga* 'get up'
See *ipa 'come out, across' and
*mɨŋka 'come down.'

*ipra *v.* 'hide (intr.)'
    CS   Mɴᴛ   *pra(vu)-* 'h. (ambitr.)'
          Aᴘᴀ   *(si)vɨla-*
          Mᴜᴍ   *(s)ipru-*
          Sɪʀ   *yavru-*
    ES   AMʙ   *ipr-, ipra(m)-* 'h. (tr.)'
          Gᴀᴊ   *epria, epri-*
    Manat compounded with *vu-* 'go.'
Apalɨ changed initial **i > ɨ.* Mum, Sirva, and Gants changed the verb class.

*ipu *v.* 'go in'
    WS Nᴇɴ   *(ah)evo-*
    CS   Mɴᴛ   *ipu-*
          Aᴘᴀ   *ivo-*
    ES   Gᴀᴊ   *ipo*
    Apalɨ lowered final **u > o.*

*ir, iri- *v.* 'turn, spin'
    CS   Mɴᴛ   *(arar)iri-* 'weave'
          Sɪʀ   *iru-* 'spin (twine)'
    ES   Gᴀᴊ   *er(kara)* 'turn, become'
    Sirva changed verb class. See **ir uara* 'exceed.'

*ir uara *vac.* 'exceed'
    CS   Sɪʀ   *irvara-*
    ES   Gᴀᴊ   *erwara*
    See **ir* 'turn.' The meaning of **uara* is unclear.

*iran *n.* 'parrot species'
    CS   Mɴᴛ   *iran* 'red parrot'
    ES   Kᴜʀ   *era* 'green parrot'

*irañ *n.* 'sharpness, edge'
    WS Mɴᴅ   *irañ* 'sharp (adj.)'
          Nᴇɴ   *irañ* (S) 'sharp (adj.)'
    CS   Mᴜᴍ   *(k)ira-* 'peel (v.)'
          Sɪʀ   *(k)ira-* 'peel (v.)'
    ES   AMʙ   *irar* 'edge'

NCS added **k* and may not be cognate. Aisi changed final **ñ > r.*

*isa *v.* 'bite'
    WS Mɴᴅ   *isa(kri)-* 'tear'
    CS   Mᴜᴍ   *sa-*
          Sɪʀ   *isa-*
    ES   AMɢ   *is-*
          AMʙ   *is-*
          Kᴜʀ   *isa-*
    Mand is questionable.

*isaŋ *n.inal.* 'same-sex older sibling'
    WS Mɴᴅ   *asaŋ*
          Nᴇɴ   *azɨŋ* (N)
    CS   Mɴᴛ   *(ta)saŋ*
          Aᴘᴀ   *isaŋ*
    ES   AMɢ   *isaŋ*
          AMʙ   *isam*
    See **-si* 'same-sex older sibling.'

*isi *v.* 'fetch water'
    WS Mɴᴅ   *isi-*
          Nᴇɴ   *icɨ-* (S)
    CS   Mɴᴛ   *isi-*
          Sɪʀ   *sii-*
    ES   AMɢ   *is-*
          AMʙ   *isi-*
    Sirva changed final **i > ii.* Nend and Manat changed the verb class. See **tɨki* 'fill.'

*iui *n.inal.* 'nephew, niece'
    CS   Aᴘᴀ   *iui*
    ES   Gᴀᴊ   *(ne) yue*
    See **-mku* 'nephew, niece.'

*-ivi *n.inal.* 'father's younger brother'
    WS Mɴᴅ   *-ivi*
    CS   Aᴘᴀ   *ivɨ-*
    ES   Gᴀᴊ   *-ipi*

*ivra *v.* 'barter, exchange'
    WS Mɴᴅ   *uvra-* 'barter'

CS MNT *vra-* 'buy'
ES GAJ *epra* 'buy'
Mand changed *i > u. (Or Gants changed *u > *i.)

*ivu *v.* 'hit'
WS MND *iv(eri)-*
CS MNT *iva-*
    APA *ifa-*
    MUM *yɨvu-*
ES AMG *iw-*
    AMB *iw-, yo-*
    KUR *ivo*
    GAJ *yo*
Manat and Apalɨ changed verb class.

*kaiampra *n.* 'village'
WS MND *azapɨr*
    NEN *ayampɨra*
CS APA *haiabɨla*
See *ampra 'place.'

*kaiaŋki *n.* 'sulphur-crested cockatoo (*Cacatua galerita*)'
CS APA *haiaji*
    SIR *kayagi*
ES AMB *kayaŋgi*
    KUR *kayag*
Aisi kept prenasalization in *ŋg.* Kursav lost final *i.

*kaka *v.* 'tie, fasten'
CS APA *haha-*
    MUM *kaha-*
    SIR *kaha-*
ES AMG *kak-*
    AMB *kak-*
    GAJ *kaka* 'bury, encircle'

*kakri *n.* 'axe'
WS NEN *ahɨr* (S)
CS MUM *kahri*
ES GAJ *kakɨr*

Gants lost final *i.

*kamiŋaua *n.* 'millipede'
WS MND *amiŋau*
CS APA *hamiŋauaŋ*
Apalɨ added final *ŋ.*

*kampa *adv.* 'together'
CS APA *haba*
    MUM *kaba*
ES KUR *kaba* 'fight'
Kursav is a verb adjunct that occurs with *ivo-* 'hit.'

*kampan *n.* 'jaw'
WS NEN *aban* (S)
CS MUM *kaba(gina)* 'beard'

*kamu *n.* 'fog, cloud'
CS APA *hamu*
    SIR *kamu(gu)*
ES AMG *kamu*
    AMB *kamo*
    KUR *kamo* 'breath, wind'
    GAJ *kamo(ren)*
See *viŋkau 'mist.'

*kamura *n.* 'betel pepper (*Piper betle*)'
CS MNT *hamura*
    APA *hamulaŋ*
    MUM *kamura*
    SIR *kamura*
ES AMG *kamur*
    AMB *kamor*
Apalɨ added *ŋ.* PAIS lost final *ɨ.*

*kansɨŋ *n.* 'festival decoration'
WS MND *asɨh(ɨd)*
    NEN *ansɨŋ* 'flower'
CS MNT *azɨ*
    APA *hajɨŋ*
    MUM *kaz*

Referred to flowers, etc., with which people decorated themselves at festivals.

*kanta *adj.* 'true,' *adv.* 'very'
CS MUM *kad*
    SIR *hada* 'also'
ES KUR *(nɨ)kada*
Mum lost final *a.

*kantar *n.* 'shadow'
WS NEN *adar*
CS MNT *adar*
    APA *hadalɨ*

*kanti *n.* 'sickness'
CS APA *hadi* (C)
    MUM *kadi*
ES AMG *kar*
    AMB *kar*
    KUR *kada*
See *kanti 'body.'

*kanti *n.* 'body'
CS APA *hadi*
    SIR *kad*
ES GAJ *kade*
Sirva lost final *i. See *kanti 'sick'; these two were probably one word, which was used in an expression like '(my) body does me' to mean 'I'm sick.'

*kañaŋ *n.* 'bone'
CS APA *henaŋ*
ES AMG *kañaŋ*
    KUR *-kana*

*kaŋra *v.* 'run'
WS MND *agra-*
    NEN *aŋra-*
CS MNT *aŋra-*
    APA *haŋɨla-*
ES GAJ *aŋra-* 'go'

Gants lost *k.

*kap *adv.* 'just'
WS MND *av(ɨr)*
CS MNT *av(an)* 'very'
    APA *havɨ* 'j., for no reason'
    SIR *kav*
ES KUR *(u)kap*
    GAJ *kap(i)*
The frequent augmentation of this form is suspicious.

*kapa *n.* 'bird'
WS MND *api(hɨd)*
    NEN *apa*
CS MNT *havagava* 'bird sp.'
    APA *havaŋ*
    MUM *kava*
    SIR *kava*
ES AMG *kapɨ*
    AMB *kapɨ*
    KUR *kapa*
Manat is reduplicated. Apalɨ added final *ŋ*.

*kapra *v.* 'throw'
WS MND *aprɨ-*
CS MNT *apara-*
    APA *havala-*
    MUM *kavara-*
    SIR *kapara-*
ES AMG *kapr-*
    AMB *kapr-*
Mand changed the verb class.

*kapu *v.* 'carry'
CS APA *havu-* 'c. on shoulder' (C)
    MUM *kavu-*
    SIR *kavu-* 'c. on head'
ES AMG *kaw-*
    AMB *kaw-*
    KUR *kapo-*
PAIS changed *p > *w.

*kari *n.* 'betelnut (*Areca catechu*)'

    CS   Mᴜᴍ   *kari*

           Sɪʀ   *kari*

    ES   Aᴍʙ   *kare*

           Kᴜʀ   *karia*

    Kursav added final *a*.

*kariv *n.* 'flying fox'

    CS   Aᴘᴀ   *halav(iŋ)* (C)

           Mᴜᴍ   *karev*

           Sɪʀ   *karev*

    ES   Aᴍɢ   *karib*

           Aᴍʙ   *kareb*

           Kᴜʀ   *karap*

    Apalɨ changed *i > *a* and added *–iŋ*.

*kasam *n.* 'breadfruit (*Artocarpus altilis*)'

    WS Mɴᴅ   *asam*

    CS   Aᴘᴀ   *hasam*

*kasɨñ *n.* 'sand'

    WS Mɴᴅ   *(z)akɨñ*

           Nᴇɴ   *kɨñ* (S)

    CS   Mɴᴛ   *has*

           Aᴘᴀ   *hacɨŋ*

           Mᴜᴍ   *kas*

           Sɪʀ   *kas*

    PWS metathesized *k and *s (or PSᴏɢ
had *sakɨñ and PCS metathesized).
See *mia 'sand.' Compare PTNG
*sa(g,k)asɨŋ.

*kaur *adj.* 'unripe'

    WS Mɴᴅ   *kor*

           Nᴇɴ   *kor* (S)

    CS   Mɴᴛ   *har*

           Sɪʀ   *kor* 'young'

*kaura *n.* 'loincloth'

    CS   Sɪʀ   *kavɨr*

    ES   Kᴜʀ   *kaura*

    Sirva lost final *a.

*-kav *n.inal.* 'mother's brother'

    CS   Mɴᴛ   *-hav*

           Mᴜᴍ   *-hav*

    See *-v 'mother's brother.'

*kia *n.* 'speech'

    WS Mɴᴅ   *ya*

           Nᴇɴ   *ya*

    CS   Mɴᴛ   *ya(dama-)* 'mock'

           Aᴘᴀ   *ciaŋ*

           Sɪʀ   *kya*

    ES   Aᴍɢ   *ki*; cf. *ke* 'song'

           Aᴍʙ   *ki*

           Kᴜʀ   *(ni)kia* 'celebration'

           Gᴀᴊ   *kia*; cf. *kiaŋ* 'noise'

    Manat compounded with *tama 'put.'
Apalɨ added *ŋ*. Compare Anamuxra *xya*
'idea, talk.'

*kikra *v.* 'watch'

    WS Mɴᴅ   *ihra-* (S)

           Nᴇɴ   *ihra-*

    CS   Mᴜᴍ   *kihra-*

    Mand lenited *k to *h*. Compare
Anamuxra *kixr-* 'see.'

*kiman *n.* 'firstborn male'

    CS   Aᴘᴀ   *cime(geŋ)*

           Mᴜᴍ   *kimagima* 'first'

           Sɪʀ   *kima* 'first'

    ES   Aᴍɢ   *kema, kimeŋge*

           Aᴍʙ   *kemaŋ*

           Kᴜʀ   *keman* 'lastborn'

*kimpañ *n.* 'saliva'

    WS Mɴᴅ   *ipañ*

    ES   Aᴍɢ   *kibin*

           Aᴍʙ   *kibiŋ*

*kimri 'cold'

    WS Nᴇɴ   *imɨr* (S)

    CS   Mɴᴛ   *hɨmri*

           Aᴘᴀ   *(vu)mɨli*

MUM *kɨmri*
SIR   *(tɨ)hɨm*
CS centered the first *i > ɨ.

*kina, kinakina *adj.* 'crooked'
CS MNT *hinahina*
     MUM *kinakina*
ES AMG *giŋ(gunda)*
     AMB *geŋ(goŋ)*
     GAJ *kenakena*
Aisi is divergent.

*kinaŋ *n.* 'axe'
WS MND *idaŋ* 'bamboo knife'
CS APA *cinaŋ*
     SIR *kina*
ES AMG *kinɨ*
     AMB *kinɨ*

*kira *n.* 'fight'
WS NEN *era*
ES GAJ *kera*
Gants is a verb adjunct.

*kiuañ *n.* 'footprint'
WS MND *iwañ*
CS MNT *hiva*
     SIR *kiva*

*kɨki *adj.* 'new'
CS APA *hɨhi*
     MUM *kɨhi*
ES AMG *kikɨ*
     AMB *kikɨ*

*kɨmi *n.* 'bow'
CS APA *himi*
     MUM *kɨm*
     SIR *kimi*
ES AMG *kim*
     AMB *kim*
     KUR *kim* (PAIS)

Kursav lost final *e. Compare
Anamuxra *xm-*.

*kɨmpar, kimpari- *v.* 'carry on shoulder'
CS MNT *bari-*
     MUM *kɨbar-*
     SIR *kɨbara-*
ES AMB *kɨbar-*
Sirva changed verb class.

*kɨmparam *n.* 'eel'
WS NEN *baram*
CS MNT *hɨbra(gam)*
     APA *hɨbalam*
     SIR *kɨbra*
ES AMB *kɨbar*
Nend voiced *mp. Manat and Sirva
elided the first *a. Aisi lacks final †ɨ.

*kɨmu *v.* 'die'
WS MND *bɨ-*
     NEN *ma-*
CS MNT *himu-*
     APA *hima-*
     MUM *kɨmu-*
     SIR *kumu-*
ES AMG *kum-*
     AMB *kum-*
     KUR *kumo*
     GAJ *kumo*
Mand, Nend, and Apalɨ changed vowel
class to –*a* (cf. Mand irregular adjunct
form *ma-*) before Mand again changed
to –*ɨ*. Compare PTNG *kumV-*.

*kɨnta *v.* 'walk'
WS MND *ta-*
     NEN *da-*
CS MNT *da-*
     APA *hɨda-*
     MUM *kɨda-*
     SIR *kɨda-*
ES AMG *kr-*

AMB   *kr-*
KUR   *da(ini)-*
GAJ   *kɨda*

Nend voiced *nt. PAɪꜱ deleted *ɨ from expected †*kɨr-*. Kursav is probably not cognate.

*kɨntɨr *n.* 'root'
WS MND *tɨr*
     NEN *ntɨr* (S)
CS APA *hidɨlɨ*
     MUM *kɨdɨ*
ES AMB *kɨrɨr*
     KUR *(nɨ)kɨdɨr*
     GAJ *kɨdɨ*

Compare Anamuxra *xd-*, Kalam *kdl.*

*kɨña, kɨñɨ- *v.* 'stay'
WS MND *jɨ-*
     NEN *ñɨ-*
CS MNT *ñɨ-*
     APA *hɨnia, hɨni-*
     MUM *kɨ-, kɨñ*
     SIR *kɨ-, kɨñ(i)* 'stay.ss'
ES AMG *kɨn-, kɨ(ti)* 'stay.ss'
     AMB *kɨn-, kɨ(ti)* 'stay.ss'
     KUR *in*
     GAJ *ca, cɨ-*

Kursav lost initial *k. Gants merged *k and *ñ into *c.* Compare Anamuxra, Kalam *kn-* 'sleep' and PTNG *kin(i,u) 'sleep.'

*kɨñakuŋ *n.* 'wattled brush-turkey (*Aepypodius arfakianus*)'
CS APA *hɨniahuŋ* (PNCS)
     MUM *kɨñaku*
     SIR *kɨñaku*
ES AMG *kɨŋgyoŋ*
     AMB *kɨŋakuŋ*
     KUR *kwinaku*

Aisi Magɨ is unusual. Kursav added *w.*

*kɨñakw *n.* 'paint tree'
WS MND *joku*
ES GAJ *kɨñak*

Mand changed *a > o and final *kw > ku. Gants changed final *kw > k.

*kɨñam *adv.* 'near'
CS SIR *kine, kina(mana)* 'far'
ES KUR *kinam*
     GAJ *kɨñam*

Sirva changed final *a > e in 'near' and compounded with *mana* 'ɴᴇɢ' in 'far.'

*kɨŋaN *n.* 'kind of arrow'
CS APA *hɨŋaŋ*
     MUM *kina*
     SIR *kɨŋa*
ES AMG *kɨŋɨ*
     AMB *kɨŋɨ*

Mum changed *ŋ > n.

*kɨpa *v.* 'get up'
CS SIR *kɨva-* 'wake'
ES AMG *kɨpɨ*
     AMB *kɨp-*
     KUR *kɨva-*
     GAJ *kɨp* 'up'

Kursav voiced *p > v. Gants is questionable.

*kɨsar *n.* 'spear'
CS APA *hɨsalɨ*
     SIR *kɨsar* 's., stick'
ES AMG *kɨsar*
     KUR *kɨsar*

*kɨvɨr *n.* 'night'
WS MND *vɨ(himd)*
CS MNT *vɨ*
     APA *hɨfɨlɨ*
     MUM *kɨvɨ*
ES KUR *kɨvɨr*

Manat lost final *r. See *kɨvtiti
'afternoon.'

*kɨvtiti *adv.* 'afternoon'
CS   Mum   *kɨvtiti*
ES   Kur   *kiutete*
Kursav changed *v > u. See *kɨvɨr
'night.'

*kra *v.* 'blow'
WS   Mnd   *kr(ezɨ)-* 'start fire'
        Nen   *kr(esɨ)-* (S)
CS   Mnt   *hra-*
        Apa   *(ma)kɨla-* (C), *(ma)hɨla-* (K)
        Mum   *kra-*
ES   Amg   *(ma)kr-*
        Amb   *(u)kr-*
Frequent compounding may have
been motivated by homophony with
*kra 'roast.'

*kra *v.* 'roast'
WS   Mnd   *kra-*
        Nen   *hɨra-* (N), *kra-* (S)
CS   Mnt   *hra-*
        Apa   *hɨla-*
        Mum   *kra-*
ES   Amg   *kr-*
        Amb   *kr-*
        Kur   *kra-*
        Gaj   *kra*
Northern Nend lenited *k. Compare
Anamuxra *xr-*.

*kuar *n.* 'garden'
WS   Mnd   *var*
        Nen   *war*
CS   Mnt   *var*
        Apa   *hualɨ*
        Mum   *kɨva*
        Sir   *kɨva*
ES   Amg   *kwar*
        Amb   *kwar*

Z'graggen has Mand *uarɨ*, suggesting
PWS *w > Mand *v* was recent.

*kui *v.* 'shoot, pierce'
WS   Mnd   *uz-* 'stab, pierce'
        Nen   *uyɨ-* 'stab, pierce'
CS   Apa   *hui-* (C)
ES   Amg   *ki*
        Gaj   *kuya, kwi-*
Gants has merged with *kur 'plant,
shoot.'

*kuimaŋ *n.* 'coconut (*Cocos nucifera*)'
WS   Mnd   *koim*
CS   Mnt   *huma*
        Apa   *himaŋ*
        Mum   *kwima*
        Sir   *kwima*
ES   Gaj   *koimaŋ*
Mand lost final *ŋ. Compare Kalam
koymaŋ.

*kukasa *n.* 'frog'
WS   Mnd   *ukɨs*
        Nen   *ohaz* (N), *ohas* (S)
CS   Mnt   *kwasa*
        Mum   *kukasa*
See *naŋram 'frog.'

*kukɨ *n.* 'sago grub (*Rhynchophorus
ferrugineus*)'
WS   Mnd   *ukɨ* 'caterpillar, slug, grub';
              cf. *awaŋ ukɨ* 'sago grub'
CS   Apa   *huhɨ* (K), *hukɨ* (C)
Mand combined with *awaŋ* 'sago' in
'sago grub.'

*kukra *v.* 'grow, swell'
WS   Mnd   *uhra-*; cf. *uhra* 'big'
        Nen   *ohɨra* (S) 'big'
CS   Mnt   *ukra-*
        Apa   *huhɨla-* 'g., give birth'
        Mum   *kuhra-* 'g., give birth'

ES   AMɢ   *kukr-*
        AMʙ   *kokr-*
        KUR   *kokra-*
        GAJ   *kokra-* 'g., be born'
A meaning associated with birth may
go back to PSOG, as suggested by Apalɨ,
Mum, and Gants.

*kuman *n.* 'arm, hand'
WS   NEN   *oman*
CS   MNT   *ubr(am)*
        APA   *human*
        MUM   *kuma*
        SIR   *kuma*
ES   AMʙ   *komaŋ* 'branch'
        KUR   *-koma*
Manat *–am* may be on analogy with
tadam 'leg.'

*kumpin *n.* 'Victoria crowned pigeon
(*Goura victoria*)'
CS   APA   *hubin*
        SIR   *kubi*
ES   KUR   *kobe*
Kursav lowered *u > *o.*

*kumpɨ *n.* 'path'
CS   APA   *hɨbɨ*
        MUM   *kubɨ*
        SIR   *(udu)kɨb*
ES   AMɢ   *kɨb*
        AMʙ   *kɨb*
        KUR   *kubu*
Apalɨ, Sirva, and PAIs centered *u > *ɨ.*

*kumpra *v.* 'take off, remove'
CS   APA   *hubɨla-*
        MUM   *(ara)hubra-* 'pluck'
        SIR   *kubra-*
ES   GAJ   *(ma)kubra*

*kumpru *v.* 'break (intr.)'
CS   MNT   *kubru-* (PNCS)

ES   AMʙ   *(muŋ)gubr-* 'b. (tr.)'
        KUR   *kobra-*
        GAJ   *kobr-*
Manat did not lenite initial *k > †*h.*
Aisi compounded with *miŋa 'get.'
Kursav changed the verb class.

*-kuna *n.inal.* 'sister of male ego'
WS   MND   *(ai)hun*
CS   MNT   *-kɨna*
ES   GAJ   *-kun*

*kunaŋ *n.* 'plate'
CS   APA   *hunaŋ*
        SIR   *kuna*
ES   GAJ   *kɨnaŋ*
Gants centered *u > *ɨ.*

*kunsa *n.* 'yam (*Dioscorea* sp.)'
WS   MND   *usa* 'taro'
        NEN   *unsa*
CS   MNT   *huza* 'thornless yam'
        APA   *huja*
        MUM   *kuja*

*kuntar *n.* 'centipede'
WS   MND   *utar*
CS   SIR   *kuda(gau)* 'snake sp.'
ES   GAJ   *kodai*

*kuŋka *adj.* 'yellow'
CS   APA   *huga*
        MUM   *kuga*
        SIR   *kuga*
ES   AMʙ   *kogɨ*

*kuŋkiŋ *n.* 'whistle'
CS   APA   *hujiŋ*
        MUM   *kugi*
ES   GAJ   *kojɨŋ*
Gants lowered *u > *o* and changed *gi
> *jɨ.*

*kuŋkɨ *n.* 'knot'
    WS   MND   *ucɨ(rɨ)-* 'tie up'
          NEN   *uŋkɨ(mpa)-* (S) 'fasten'
    CS   MNT   *uzɨ(mɨŋa)-* 'fasten'
          APA   *hugɨ*
Mand and Manat palatalized *k. Mand
compounded with *ra-* 'do.' Manat
compounded with *mɨŋa-* 'get.'

*kuŋkra *v.* 'cook, boil'
    CS   APA   *hugɨla-* 'cook'
          MUM   *kugra-* 'c. in pot'
          SIR   *kwagra-*
    ES   AMG   *kugur-*
          AMB   *kogr-*
          KUR   *kogra-* 'boil'
Aisi Magɨ inserted *u* between *gr.* May
be related to *kra 'roast.'

*kupra *v.* 'jump'
    CS   MNT   *upra(vu)-* 'finish'
          SIR   *kuvra-*
    ES   AMG   *kupra(t)-*
          AMB   *kopra(t)-*; cf. *kopr-* 'run'
          KUR   *kopra-* 'run'
          GAJ   *kopara*
Manat compounded with *vu-* 'go.'
Gants inserted *a* between *pr.*

*kur, kurɨ- *v.* 'plant, shoot'
    WS   NEN   *urɨ-* (S)
    CS   APA   *hulia-, huli-*
          MUM   *kur-*
          SIR   *kuru-*
    ES   GAJ   *kuya, kwi-*
Gants has merged with *kui 'shoot,
pierce.'

*kuram *n.* 'man'
    WS   MND   *kuram*
          NEN   *wɨram* (N), *kuram* (S)
    CS   MNT   *rum*
          APA   *hulaŋ*

          MUM   *kru*
          SIR   *kura*
    ES   AMG   *kurɨ*
          AMB   *kuru*
          KUR   *kura*
          GAJ   *kura*
Mand and Southern Nend retained
initial *k. Manat metathesized initial
*u irregularly, replacing *a. Mum is
irregular. Aisi Mabɨŋ changed final *ɨ
to *u.* Compare Anamuxra *–kura* 'male
classifier' and *wuraN-* 'person.'

*kusai 'first, before'
    CS   APA   *huse*
          MUM   *husa*
          SIR   *kusi* 'after'
    ES   GAJ   *kusai*

*kut *n.* 'back'
    CS   MNT   *(ipa)kut* 'back of house'
          APA   *hulɨ*
          MUM   *kut*
          SIR   *kur*
    ES   AMG   *kud*
          GAJ   *kor* 'spine'
Compare Kalam *kud.*

*kutaŋ *adj.* 'long'
    CS   APA   *hutaŋ*
          MUM   *kuta*
          SIR   *kuta*
    ES   GAJ   *oraŋ*
Apalɨ is archaic. Gants lost initial *k.

*kuyiv *n.* 'bird of paradise'
    WS   MND   *wajeu*
    CS   APA   *huiavi*
          MUM   *kuñiv*
          SIR   *kwiv*
    ES   AMG   *koyeb*
This was phonemically *kuiiv, and the
form has several problems. Mand

changed *u > *wa* and strengthened *y > *ñ before nasal fortition. Apalɨ changed *i > *a* and added final *i*. Mum nasalized *y > *ñ* in a non-nasal environment Aisi lowered *u and *i to *o* and *e*.

*kwaka *v.* 'cut, chop'
WS MND *aka-*
    NEN *aka-*
CS SIR *kwaha-*
ES KUR *kwaka*
    GAJ *aka*
Gants lost initial *kw.

*kwɨmka *n.* 'stomach'
WS MND *pɨ*
    NEN *mpɨ*
CS APA *humɨgaŋ*
ES AMB *kumu*
WS changed final *a > *ɨ*. See *tamkan 'eye.'

*kwɨñaŋ *n.* 'palm cockatoo (*Probosciger aterrimus*)'
WS MND *ukɨñah*
CS MNT *kuña(k)*; cf. *kuña* 'p.c.'s call'
    SIR *kuña(m)*
Mand changed initial *kw > *uk.

*kwɨŋkɨs *n.* 'armpit'
WS NEN *ŋkɨs(ɨmpɨŋ)* (S)
CS MNT *gisɨ*
    APA *huji*
    MUM *kugɨs*
    SIR *kugus*
ES KUR *-kwegɨ*
Nend compounded with *mpɨŋ* 'wing.' Apalɨ changed final *ɨs > *i*. Kursav lost final *s.

*maka *n.* 'tooth'
WS MND *aka(mgam)* 'jaw'

CS MNT *mɨka* 'tusk'
    APA *mɨka*
    MUM *mɨka* 'mouth'
    SIR *mɨka*

ES AMG *makɨ*
    AMB *makɨ*
    KUR *maka*
    GAJ *maka* 'mouth'
CS changed the first *a > *ɨ*.

*maka *adj.* 'male'
CS MNT *mɨka* (Mum)
ES AMG *makɨ*
    KUR *maka* 'husband'
Manat changed initial *a > *ɨ*.

*maka *v.* 'pick (from plant)'
WS NEN *(ŋ)aka-*
ES AMB *mak-*
Nend compounded with *ŋ-* 'get.'

*makam *n.* 'branch'
CS MNT *maka*
    APA *makaŋ*
    MUM *(kuku)maka* 'tributary'
    SIR *maka*
ES GAJ *maka* 'b., log'
Mum compounded with *kuku* 'water.' The form may also have been *maka with addition of *ŋ* in Apalɨ.

*makin *n.* 'sago (*Metroxylon* sp.)'
CS APA *maci*
    MUM *makɨ* 'plate'
ES AMG *makɨ* (Apalɨ)
    GAJ *maken*
Apalɨ lost final *n. Aisi retained final *i.

*manɨŋ *n.* 'banana (*Musa* sp.)'
WS NEN *anɨŋ*
CS APA *man*

MUM *man*
SIR *man*
ES AMG *maŋ*
AMB *maŋ*

*mansɨn *n.* 'bowstring'
WS MND *asɨn*
CS SIR *maz*
GAJ *majɨm*
Gants palatalized *ns > *j* and changed
*n > *m*.

*mantiŋ *n.* 'side (of body)'
WS NEN *antiŋ*
CS MNT *mad* 'back'
APA *madɨŋ* 'rib'
ES AMG *madɨŋ* 'nape,
shoulderblade'
AMB *mar* 'half'
Aisi Mabɨŋ may not be cognate.

*maŋka *n.* 'egg'
WS MND *akɨ*
NEN *aŋkɨ*
CS APA *magɨ*
MUM *mɨga*
SIR *mɨga* (Mum)
Apalɨ changed final *a > ɨ. Compare
Kalam *magi*.

*maŋkra *v.* 'pull'
WS MND *akra-* 'net fish'
CS APA *magɨla-*
ES AMG *magr(i)-*
KUR *magra*
GAJ *(ma)magra*
Aisi compounded with *i-* 'get.'

*mapa *v.* 'dig'
CS APA *mava-*
ES AMG *map-*
GAJ *mapa*

*mapɨn *n.* 'liver'
CS MNT *map* 'head'
APA *mavɨn*
MUM *mav* 'heart, innards'
SIR *mav* 'belly'

ES AMB *mapɨŋ* 'sorrow'
KUR *-map*
GAJ *mapin*
This was (and remains) the
metaphorical seat of emotion, similar
to English *heart*.

*mara *v.* 'call to (an animal)'
WS MND *ari-* 'say'
NEN *ari-* 'say'
CS MNT *ara-* 'say'
APA *mal-*
ES AMB *mar-*
PWS changed the verb class.

*marɨk *n.* 'sorcerer'
WS NEN *marɨh*
CS MNT *marɨk*
MUM *mark*

*maru *v.* 'handle'
CS SIR *maru* 'break'
ES AMG *mar-* 'build'
AMB *mar-* 'make'
GAJ *mar(epa)* 'tear, take off'
Gants compounded with *ipa 'come
out.'

*mata *v.* 'paddle'
CS APA *mata*
ES AMB *mat-*
GAJ *mar(wara)* 'push'
Gants compounded with *wara* 'move.'

*mavra *n.* 'crocodile'
WS NEN *mor*
CS MNT *mavra*

APA   *maviLaŋ*
MUM   *mavra*

Nend kept initial *m. Apalɨ added ŋ.

*mi *n.* 'thought'
CS   APA   *mi* 'soft spot on baby's head'
     SIR   *mi*
ES   AMG   *mi(ndam)-* 'think'
     AMB   *mi(ndam)-* 'think'
     KUR   *mi*
     GAJ   *mi*

Aisi compounded with *tama 'put.'
Kursav and Gants did not lower final
*i > †*e*. See *mi tama 'think.' Compare
Usan *misir* 'thought.'

*mi tama *vac.* 'think'
CS   SIR   *mi tama-*
ES   AMG   *mindam-*
     AMB   *mindam-*
     KUR   *mi rama*
     GAJ   *mi tama*

PAIS nasalized *t > nd. See *mi
'thought' and *tama 'put.'

*mia *n.* 'sand'
CS   APA   *mia(savɨ)* 'sandbar'
ES   AMG   *mi(sab), mi(sakam)*
     GAJ   *(ku)mia*

See *kasɨñ 'sand.'

*mikuŋ *n.* 'brain'
CS   MUM   *miku* 'head'
     SIR   *miku*
ES   AMG   *mekuŋ*
     AMB   *mekoŋ*

PAIS lowered *i > *e. See *mi
'thought.' Compare PTNG *muk.

*mimpɨŋ *n.* 'ironwood tree (*Intsia bijuga*)'
WS   NEN   *impɨŋ*
CS   APA   *mibɨŋ*

*mintaŋ, -minta *n.inal.* 'cross-cousin'
CS   MNT   *-mida*
     APA   *midaŋ*
     MUM   *-mida*
     SIR   *-mida*
ES   AMG   *-mari*

     AMB   *-mari*
     GAJ   *-mdaŋ*

Compare Kalam *–md/-mud.*

*miŋra *v.* 'vomit'
WS   MND   *igra-*
     NEN   *eŋa-* (N), *iŋa-* (S)
CS   APA   *miɲila-*
     MUM   *mihra-*
ES   KUR   *mehra*
     GAJ   *meŋra*

Nend lost *r. Mum and Kursav
changed *ŋ > h.

*mir *n.* 'tongue'
WS   MND   *ir(ɨhwabɨñ)*
CS   MNT   *mir(vab)*
     APA   *mel(ɨvɨh-)* 'lick'
     MUM   *mir*
     SIR   *mir*
ES   AMG   *mi(gin)*

Mand lost initial *m from a
monosyllable. Manat compounded
with *vab* 'wing.' Apalɨ lowered *i > *e.
Compare PTNG *me(l,n)e.

*mira *n.* 'firelight'
WS   NEN   *era* (S)
CS   MNT   *mira* 'light'
     APA   *mila* 'white'
     MUM   *mira* 'flame'
     SIR   *mira* 'flame'
ES   KUR   *(ni)mara*
     GAJ   *meraŋ*

Gants added final ŋ. Compare PTNG
*(m,b)elak.

*mirkwa *n.* 'cordyline (*Cordyline fruticosa*)'
WS NEN   *ekwa(nz)* (S)
CS APA   *milɨhu*
ES AMG   *miku*
      AMB   *meko*
      KUR   *merkwa*
Nend lost *r.

*mita *v.* 'leave'
WS NEN   *et(o)-*; cf. *era-* 'allow'
CS MNT   *ita-*
      MUM   *mita-*
      SIR   *mira-*
ES AMG   *mɨt-*
      AMB   *mɨt-*
      KUR   *mata*
      GAJ   *mera*
Nend compounded with *o-* 'go.' PAIS
centered *i > *ɨ.*

*mɨkum *n.* 'cheek'
WS MND   *kum* 'neck'
CS MNT   *mɨku(g)*; cf. *mɨku(vɨsa)*
           'mouth'
      APA   *mɨhum*
      SIR   *muhu(pa)*
Mand is semantically divergent.
Manat compounded with *vɨsa* 'skin'
for 'mouth.' Compare PTNG *mVkVm.

*mini *adv.* 'later'
CS APA   *mini*
ES AMG   *mini(ŋ)*
      AMB   *mine(g)*
      KUR   *mine(i)* 'a while'
      GAJ   *mine* 'morning'
Kursav and Aisi Magɨ added locative
*=ñ.

*minɨ *n.* 'hair'
WS MND   *dɨ(d)*
CS APA   *minɨ*
      MUM   *mɨn*

      SIR   *mɨn*
ES AMB   *minɨ* 'back of head'
Mand may be reduplicated. PNCS lost
final *ɨ.

*minta *n.* 'sword grass (*Imperata cylindrica*)'
WS MND   *ta*
      NEN   *nta*
CS APA   *mɨda*
ES AMG   *mɨnde*
      KUR   *mɨda*
Aisi changed final *a > *e.*

*minti *n.* 'blood,' *adj.* 'ripe'
WS MND   *tɨ* 'b.'
CS APA   *mɨdɨ*
      MUM   *mɨdɨ* 'r.'
ES AMG   *mɨndɨ* 'r.'
Aisi kept prenasalization in *nd.* See
*iaŋkum 'blood, red.'

*-miŋ *n.inal.* 'mother'
WS MND   *miŋ* 'mother.3.POSS'
      NEN   *miŋ(ir)* 'mother.3.POSS'
CS MNT   *(a)miŋ*
      MUM   *-m*
      SIR   *-m*
ES AMG   *(ya)ma*
      AMB   *(ya)ma*
      GAJ   *-miŋ*
See *-mkam 'mother.'

*miŋa *v.* 'get, hold'
WS MND   *ga-* 'grab'
      NEN   *ŋa-*
CS MNT   *miŋa-*
      APA   *miŋa-*
      MUM   *miŋa-*
      SIR   *miŋa-*
ES AMG   *miŋ-*
      AMB   *miŋ-* 'make'
      GAJ   *miŋa*

*mɨŋka *v.* 'come down'
- WS MND *ka(jɨ)-* 'sit'
-     NEN *ŋka-* 'descend'
- CS MNT *mɨga-*
-     APA *mɨga-*
-     MUM *mɨga-*
-     SIR *mɨga-*
- ES AMG *mɨga, mɨg-*
-     AMB *mɨg-*
-     GAJ *mɨga* 'c. d., sleep'

Mand compounded with *jɨ-* 'stay.'

*mɨŋkɨn *n.* 'penis'
- WS NEN *gɨr* (S)
- CS MNT *mɨgɨn*
-     MUM *mɨg*
- ES AMB *mɨŋɨr*

Nend voiced *ŋk > *g*. Z'graggen has *muŋgun* for Apalɨ, which could reflect expected *mɨgɨn*. Aisi lost *k and rhotacized *n > *r*, although this may be inherited from an alternate PSOG form *mɨŋri; cf. the alternate Mum form *mɨhri*. Compare Kalam *mgn* 'vulva.'

*mɨŋkra *v.* 'cut'
- WS NEN *ŋkɨra-* 'split'
- CS MNT *mɨgra-*
-     APA *mɨgɨl-* 'c. into pieces'
-     SIR *mɨgra-*

*mɨŋku, mɨŋkw- *v.* 'go down'
- WS NEN *ŋkw-*
- CS MNT *mɨgu-*
-     APA *mɨgu-*
-     MUM *mɨgu-*
-     SIR *mugu-*
- ES AMG *mugu*
-     AMB *mug-*
-     KUR *moga-* (PAIS)
-     GAJ *mɨgo*

Aisi Mabɨŋ changed the verb class, losing *w. Kursav changed *ɨ > *o* and changed the verb class.

*mɨraŋ *n.* 'mushroom'
- CS MNT *(hɨ)mra*
-     APA *mɨlaŋ*
- ES AMB *mɨrɨ*
-     GAJ *mɨraŋ*

*mɨrɨm *n.* 'sap'
- WS NEN *rɨm* (S)
- CS MNT *mɨrmɨr*
-     APA *mɨlɨm*
-     MUM *mɨrɨ*
- ES AMG *mɨrɨm* (Apalɨ)
-     AMB *mɨr*
-     KUR *mɨrɨm*
-     GAJ *mɨ*

Manat reduplicated. Aisi Magɨ fronted the second *ɨ > *i* and did not lose the final nasal as Aisi Mabɨŋ did, which suggests borrowing.

*mɨta *v.* 'be full'
- WS MND *t(or)-*
-     NEN *t(or)-* (S)
- CS APA *mɨl-*
- ES AMG *mɨtate* 'full (adj.)'
-     KUR *mɨte* 'full (adj.)'

Both ES forms appear to have the 3SG.IPST suffix *-i.

*mɨti *n.* 'cough'
- CS APA *mɨti*
-     MUM *mɨti*
-     SIR *muti*
- ES KUR *mɨte*
-     GAJ *mɨre*

Sirva changed *ɨ > *u*.

*-mkam *n.inal.* 'mother'
- CS APA *(nu)mɨgaŋ*

MUM   -maka
ES   AMG   -ŋgi
        AMB   -ŋgi
        KUR   -mige
        GAJ   ami
See *-miŋ 'mother.'

*-mku *n.inal.* 'nephew, niece'
WS   MND   (ña)mku
CS   MNT   -muhu
        MUM   -migw
        SIR   -mugu
See *iui 'nephew, niece.'

*-mp *n.inal.* 'daughter-in-law'
CS   MUM   -b(as)
        SIR   -b(as)
ES   KUR   -b(isim)
See *-namp 'daughter-in-law.'

*mu *n.* 'nose'
CS   APA   mu(gaŋ)
        MUM   mu(duhu)
        SIR   mɨ(dɨma)
ES   AMG   mu(ŋgaŋ), mumu(katam)
        AMB   mumu
        KUR   -mo(ta)
        GAJ   mo(demej)
Sirva centered *u > ɨ. Aisi Mabɨŋ
reduplicated. The fact that every
language has augmented the word is
suspicious.

*mu 'SPEC'
WS   MND   b(ɨh)
CS   MNT   mu
        APA   mu 'another'
        MUM   mu 'another'
ES   AMG   mu
        AMB   mo
        GAJ   mo 'some'; cf. (koi)mo 'SPEC,'
                (kɨr)mo 'INDF'
Mand may not be cognate.

*(mu) kɨm *phrs.* '(a certain) thing'
CS   MUM   muhɨm 'another thing'
ES   AMB   mokɨm 'greed'

        GAJ   kɨm(na) 'thing'
This may have been a fixed
expression in PSOG. See *mu 'SPEC.'

*muiam *n.* 'cassowary (*Casuarius
unappendiculatus*)'
WS   MND   uyam
        NEN   oyam
CS   APA   muiaŋ
        MUM   muya
        SIR   muya
ES   AMB   muyaŋ 'c.'s call'

*-muk *n.inal.* 'brother'
WS   MND   -(i)moh
CS   MNT   (a)muh
        APA   (a)mu
        SIR   -muv
ES   AMG   (a)muk
        AMB   -mok
        KUR   -mog
Compare Kalam –mok 'male in-law.'

*mukɨr *n.* 'white hair'
WS   MND   ukɨr
        NEN   ukɨr
CS   Mnt   kur(umɨn)
        APA   muhɨlɨ
ES   AMB   mokɨr 'white (of hair)'
Manat may have compounded with a
reflex of *mɨnɨ 'hair.'

*muku *n.* 'ball, round thing'
CS   MNT   muku 'egg'
        SIR   muku 'bump'
ES   AMB   muku 'ball'

*-mum *n.inal.* 'husband'
WS   MND   mam 'husband.3.POSS'

	NEN	*mam(ɨr)* 'husband.3.POSS'
CS	MNT	*-mam*
	APA	*muŋ(aŋ)*
	MUM	*-muŋ(a)*
	SIR	*-muŋ*
ES	AMG	*-mum*
	AMB	*-mom*
	KUR	*-mo*
	GAJ	*-moŋ*

See *kuram 'man.'

*mumim *n.* 'earthquake'

CS	APA	*mumim*
	SIR	*mimi(nugus)*
ES	GAJ	*mumi*

Sirva changed initial *u > i.

*muŋmi *n.* 'bee'

WS	MND	*muŋbi* 'bee sp.'
ES	AMB	*mome* 'bee, fly'

This PSOG form is unusual.

*mut *n.* 'period of time'

CS	MNT	*mut* 'week'
ES	KUR	*mot* 'day'
	GAJ	*mod* 'during'

PES lowered *u > o. Gants nasalized *t > d.

*-namp *n.inal.* 'daughter-in-law'

WS	MND	*-nab*
CS	MNT	*-nab(u)* 'sister-in-law'
	APA	*nabe*
	MUM	*-nab(as)*
	SIR	*-nab(as)*
ES	AMG	*nabai*
	AMB	*nabe*

See *-mp 'daughter-in-law.'

*naŋkum *n.* 'neck'

WS	MND	*akunahun* 'chin, area under jaw,' *aku(tɨr)* 'throat'

	NEN	*gu(rɨb)* (S)
CS	MNT	*ag(inɨb)* 'nape'
	MUM	*nagw*
	SIR	*nagu* 'n., nape'
ES	AMB	*nagum*
	KUR	*-nagu* 'nape'

Both Mand forms are problematic.

*naŋram *n.* 'frog'

WS	MND	*agram(am)* 'frog sp.'
ES	AMG	*naŋam*
	AMB	*naŋam*

See *kukasa 'frog.'

*naunti *n.* 'woman'

WS	MND	*aca*
	NEN	*antɨ*
CS	MNT	*nadi*
	APA	*nadi* 'daughter'
	MUM	*navudi*
	SIR	*nawad* 'daughter'
ES	AMG	*nur* 'daughter'
	AMB	*nor* 'daughter
	KUR	*navɨda* 'girl, daughter'
	GAJ	*node*

Mand changed final *ɨ > a.

*ña *v.* 'eat'

WS	MND	*ja-*
	NEN	*na-*
CS	MNT	*ña-*
	APA	*na-*
	MUM	*ña-*
	SIR	*ña-*
ES	AMG	*n-*
	AMB	*n-*
	KUR	*ne*
	GAJ	*ña*

See *ñaŋña 'food.'

*ña *n.* 'son'

WS	MND	*ñɨ*

CS   MNT   *ña*
     SIR   *ña*
ES   AMG   *naŋ*
     AMB   *naŋ*
     GAJ   *ne*
This form was not inalienably possessed. PAIS added ŋ. Compare Kalam *ñ.*

*ñama *n.inal.* 'same-sex younger sibling'
WS   MND   *ñam*
     NEN   *nama*
CS   MNT   *ñama(ŋ)*
     APA   *ima*
ES   AMB   *i(rak)*
See *-ra 'same-sex younger sibling.'

*ñaŋkur *n.* 'mosquito'
CS   APA   *iagui* (Mum)
     MUM   *ñaguri*
     SIR   *naguru*
ES   AMG   *nagi*
     AMB   *nagur*
Apalɨ is difficult. Sirva changed *ñ > n and added final u. Aisi Magɨ changed *u > *ɨ before *r vocalization.

*ñaŋña *n.* 'food'
WS   MND   *ñañ*
CS   MNT   *ñaŋña*
     MUM   *ñaña*
An irregular nominalization of *ña 'eat.' Mand and Mum lost *ŋ.

*ñiŋi *adj.* 'small,' *n.* 'child'
CS   MNT   *ñiŋi*
     MUM   *ñiŋi* 'child'
ES   GAJ   *ñiŋe*
Manat fronted *ɨ > i.

*-ñki *n.inal.* 'paternal grandfather'
WS   MND   *-ca(ñ)*
     NEN   *nca*

CS   APA   *(iau)acaŋ* (PAIS)
     MUM   *-ñɨgi*
ES   AMG   *-ky(am)*
     GAJ   *-ñike*
See *-sɨki 'maternal grandfather.'

*-ŋti *n.inal.* 'father'
CS   SIR   *(na)ŋidi*
ES   AMG   *-gi*
     AMB   *-gi*
     GAJ   *-ŋdoi*
See *-van 'father.'

*paka *adv.* 'only'
CS   MNT   *vaca* 'one'
     SIR   *paka* 'empty'
ES   GAJ   *paka* 'only,' *paka(raŋ)* 'one'
Manat changed *k > c. Gants probably added =raŋa 'CHAR' to 'one.' See *pam 'one, only.'

*pam *adj.* 'one,' *adv.* 'only'
WS   MND   *vam* 'one'
     NEN   *pam* 'one'
CS   APA   *pam* (C), *vam* (K)
     MUM   *=va(t)* 'one'
ES   AMG   *pan(da)* 'one'; *pa* 'only'
     AMB   *pan(da)* 'alone'; *pa* 'only'
     KUR   *pa*
Mand lenited *p > v. Akɨ Apalɨ is archaic. PAIS added =ra 'COM.' Kursav lost *m. See *paka 'only.'

*pat *n.* 'center'
WS   NEN   *pa* (S) 'spine, trunk'
CS   MNT   *vat*
     APA   *valɨ* '(dead) body'
     MUM   *pat* 'body'
     SIR   *pat*
ES   AMG   *pad* 'log'
     AMB   *pɨr* 'trunk'
     GAJ   *pai* 'side'
Aisi Mabɨŋ changed *a > ɨ.

*pia, pi- *v.* 'take'
    WS MND *pi-*
    CS   APA *vi-, via-*
    ES   KUR *vu-*
    Kursav changed the verb class and lented *p > *v*.

*-pɨki *n.inal.* 'paternal grandmother'
    WS MND *apɨc*
          NEN *avɨj*
    CS   MUM *api*
    ES   GAJ *apɨke*
    See *-vai 'maternal grandmother.'

*pɨm *n.* 'weight'
    WS MND *ubɨ* 'heavy'
    CS   MNT *him*
          MUM *pɨm* 'heavy'
    ES   AMG *pum*
          AMB *pum*
          GAJ *pum*
    Mand changed initial *ɨ > *u* and added final *ɨ*. Manat changed initial *v > *h*.

*pɨntum *n.* 'stump'
    WS NEN *ntum* (S)
    CS   MUM *pidɨ*
    Mum changed final *u > *ɨ*.

*piŋ *n.* 'buttress root'
    WS MND *pɨh*
          NEN *piŋ*
    CS   APA *pɨŋ*
          SIR *pɨ(gɨ)*
    ES   KUR *(nɨ)p*

*pɨsa *n.* 'skin'
    WS MND *sa* 'rind'
    CS   MNT *vɨsa*
          APA *vɨsaŋ*

*pɨta *adj.* 'wet'
    WS NEN *(yabɨ)ta* (S)
    CS   MNT *vɨta*

          APA *pɨta*
          SIR *pra(v)*
    ES   AMG *pɨtɨ*
          AMB *pɨtɨ*
    Nend compounded with *yab* 'water.'

*pumpiŋ *n.* 'sweat'
    WS MND *upɨh*
    CS   APA *vubɨŋ*
          MUM *pɨbɨ*
          SIR *pubu*

*punsɨŋ *n.* 'bone'
    WS NEN *unsɨŋ*
    CS   MUM *puj*
          SIR *puzu*
    Sirva added final *u*.

*-ra *n.inal.* 'same-sex younger sibling'
    WS MND *(a)rɨ(n)*
          NEN *ra(nɨr)*
    CS   MNT *-ra*
          APA *-la*
          MUM *-ra*
          SIR *-ra(h)*
    ES   AMB *-ra(k)*
          KUR *-ra*
          GAJ *-ra*
    See *ñama 'same-sex younger sibling.'

*=rɨ- *v.* 'be'
    WS MND *ra-* 'do'
          NEN *ra-* 'do'
    CS   MNT *rɨ-* 'do'
          APA *lɨ-* 'do'
          SIR *=rɨ-*
    ES   AMB *=r-*
    PWS changed the verb class. Initial *r, clearly reflected in WS and Aisi, strongly suggests that this form was an enclitic, which in turn suggests that the Sirva and Aisi forms, which cliticize to adjectives, are archaic.

*sakai *n.* 'bamboo'
WS NEN *ahai*
CS APA *sɨhai* (Mum)

ES GAJ *aki*
Apalɨ centered the first *a > ɨ and is archaic. Gants lost initial *s and simplified *ai > i.

*sampan *n.* 'shore'
WS MND *apa(k)*
 NEN *ampa*
CS APA *caba*
ES AMG *sɨbaŋ*
 AMB *sɨban*
 GAJ *aban*
Apalɨ affricated *s > *c*. PAɪs centered the first *a > ɨ. Gants lost initial *s.

*sampaN *n.* 'pig'
CS APA *sabaŋ*
 MUM *saba*
 SIR *saba*
ES AMB *sabɨ*

*saŋkam *n.* 'fight'
CS MNT *agam*
 APA *sagaŋ*
 MUM *saga*
 SIR *saga*
ES AMB *sagɨ*

*sar *n.* 'snake'
CS APA *sa(naguŋ)*
 SIR *sa(nagu)*
ES KUR *sar*
 GAJ *sora*
PCS compounded with the latter element from *unagu 'lizard.' Gants is problematic.

*si *n.* 'place'
WS NEN *s(am)*

CS APA *s(abɨlɨm)* 'p. of activity'
 SIR *si*
ES AMB *s(ɨb)* 'village'
 GAJ *se*
The forms besides Sirva and Gants are questionable. See *ampra 'place.'

*-si *n.inal.* 'same-sex older sibling'
WS MND *-ze(ŋ)*
 NEN *(a)zɨ(ŋ)*
CS MNT *-i*
 APA *-si*
 MUM *-si*
 SIR *-s*
ES AMG *-sɨ(m)*
 AMB *-sɨ(m)*
 KUR *-s*
See *isaŋ 'same-sex older sibling.'

*siar *n.* 'starling (*Aplonis* sp.)'
WS MND *zar(hrɨñ)* 'red-eyed bird'
CS SIR *siar*
ES KUR *siai* (Gants)
Probably referred to both *A. cantoroides* and *A. metallica*. Kursav changed final *r > i.

*sikɨñ *adv.* 'three days away'
WS MND *ikɨj*
CS APA *ciheŋ* (3 d.a.), *cikɨlɨ* (4 d.a.)
ES AMG *sikɨr*
 AMB *sekir* 'day after day after tomorrow'
This set is difficult. Mand changed final *ñ > *j* and PAɪs rhotacized it to *r*.

*simpirɨm *n.* 'navel'
WS MND *ipiriŋ*
CS APA *sibilɨm* (C), *cibilɨm* (K)
 MUM *sɨbirip*
 SIR *sibir*
ES AMG *sibin*
 KUR *sibur*

Mand changed final *m > ŋ. Mum
changed final *m > p. Aisi changed *r
> n. Kursav changed the second *i > u.
Compare Kalam *sblŋ*, PTNG *sibil[VC].

*sɨ *n.* 'smoke'
WS NEN   (*pɨrɨ*)*z*
CS MNT   (*hɨ*)*s*
   APA   (*mɨ*)*sɨ*
   SIR   (*amuhu*)*s*
ES AMG   *sɨ*
   AMB   (*pɨ*)*sɨ*
   GAJ   *su(kum)*
Frequent compounding makes this
form questionable.

*si- *v.* 'do'
WS MND   *sɨ-* 'work'
   NEN   *sɨ-*
CS MUM   *-s* 'YPST,' *-s(ma)* 'FPST'
   SIR   *-s* 'FPST'
ES AMG   *-s* 'FPST'
   AMB   *s-* 'say,' *-s* 'FPST'
   KUR   (*so*)*s-* 'defecate'
The Mum FPST includes the suffix *-ma*
'HPST.' Kursav combined with *so*
'feces.'

*sɨka *n.* 'piece'
CS APA   *sɨha* 'leftovers'
   SIR   *sɨha(v)*
ES AMG   *sɨkɨ*
   AMB   *sɨkɨ* 'p. of wood'
   KUR   (*ni*)*sika*
   GAJ   *sɨka*
Kursav fronted *ɨ > i. See *tɨm 'piece.'

*sɨkan, sɨkansɨkan *adv.* 'completely'
CS APA   *sɨkan, sɨkasɨkan*
   MUM   *sɨha(naga)* 'everyone'
   SIR   *sɨhazɨha*
ES AMB   *sɨkaŋ, sɨkansɨkaŋ*
   KUR   *sɨkasɨka*

GAJ   *sɨkasɨka* 'debris (*n.*)'
Mum compounded with *naga* 'with.'

*-sɨki *n.inal.* 'maternal grandfather'
CS MNT   *-sɨh(at)*
   MUM   *-sɨhi*
   SIR   *-sɨi*
ES AMG   *-siki*
   AMB   *-sɨki*
   KUR   *-sɨke*
See *-ñki 'paternal grandfather.'

*sɨkra *v.* 'break (intr.)'
WS MND   (*esa*)*krɨ-* 'b. down the
           middle,' (*uzi*)*krɨ-* 'b. apart'
CS APA   *sɨhil-* 'b., lay egg'
   MUM   *sɨhra-*
   SIR   *sɨkra-*
PWS changed the verb class.

*sɨku *adv.* 'very'
CS MUM   *sɨkw*
   SIR   *suku*
ES AMG   *suku*
   AMB   *suku*

*sɨmpɨ *n.* 'mouth'
CS APA   *sibɨ(saŋ)* 'lips'
ES AMG   *simbɨ(katam)*
   KUR   *sibɨ(ka)*
Aisi kept prenasalization in *mb* and
compounded with *katam* 'head.'

*sintaŋ *n.* 'fat'
CS APA   *sɨdaŋ*
   MUM   *sɨja*
   SIR   *sɨda*
ES AMG   *sɨraŋ*
   AMB   *sɨrɨ*
Mum palatalized *d > j.

*sintia, sinti- *v.* 'close'
CS APA   *sijia-* 'c., block'
ES AMG   *sid-*

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KUR   *sidi* 'closed (adj.)'

*siŋki *n.* 'pot'
WS   NEN   *ncɨ*
CS   APA   *sɨji*
     MUM   *sɨg*
     SIR   *sigi*
ES   AMB   *sig*
     KUR   *sigi*
Compare Kalam *sgi*.

*sirɨvɨr 'straight'
WS   MND   *irɨvɨr*
     NEN   *irɨvɨr* (Mand)
CS   APA   *sɨlɨvɨ*
     SIR   *sarawara-* 'heal'
ES   KUR   *sururu*
Mand changed initial *sɨ > *i*. Apalɨ lost final *r. Sirva and Kursav are divergent.

*sɨs *n.* 'grass, hair'
WS   MND   *sɨs(an)* 'grass'
CS   MNT   *sɨs* 'grass'
ES   AMG   *sisi* 'hair'
Aisi fronted *ɨ > *i*.

*sɨv *n.* 'family'
WS   MND   *sɨv*
CS   SIR   *(uhu)siv* 'village'
ES   AMB   *sɨb* 'village'
Sirva fronted *ɨ > *i* and compounded with *uhu* 'ground.'

*su *n.* 'feces'
CS   APA   *su*
     MUM   *su*
ES   AMG   *su*
     AMB   *su*
     KUR   *so*
     GAJ   *po*
Gants changed initial *s > *p*.

*sukan *n.* 'reed sp.'
WS   MND   *ukan*
CS   APA   *suhan* (K), *sukan* (C)
Tok Pisin *tiktik*.

*sumɨñ *n.* 'vine'
CS   APA   *sumiŋ*
     SIR   *sumu*
ES   AMG   *simi*
     AMB   *sɨme* (Kursav)
     KUR   *sime*
     GAJ   *miñ*
PES changed initial *u > *ɨ. Gants lost initial *s.

*sunti *n.* 'spirit'
WS   MND   *itɨ*
CS   MNT   *sud*
     APA   *sudɨ*
     MUM   *sud*
Mand changed initial *su > *i*.

*sura *n.* 'forest'
CS   MNT   *ura*
     APA   *suli*
ES   AMG   *suri*
Apalɨ and Aisi Magɨ added locative *=ñ.

*tai *v.* 'go up'
WS   MND   *ai(nag)-* 'jump'
CS   SIR   *tai-* 'go up'
ES   KUR   *rai(wa)-* 'follow'
Kursav compounded with *wa 'go.'
See *iaku 'go up.'

*taka *v.* 'tear'
CS   APA   *laha*
ES   GAJ   *taka* 'remove, open'

*takam *n.* 'vulva'
WS   MND   *akam*
     NEN   *aham* (S)
CS   MNT   *akam*

Mum   *taha*

ES AMB *takɨ*

*takun *n.* 'moon'

  CS APA *lakun*

       MUM *takw*

  ES KUR *taku*

       GAJ *takun*

Apalɨ is archaic. Compare PTNG
*takVn[V].

*takwɨ *n.* 'snake'

  WS NEN *akwɨ*

  CS APA *lahu*

       MUM *tau*

Mum deleted *h.

*tam *n.* 'tail'

  WS MND *tam*

  CS SIR *tam*

  ES KUR *-tam*

*tama *v.* 'put'

  WS MND *aba-*

       NEN *ama-*

  CS MNT *rama-*

       APA *lama-*

       MUM *tama-*

       SIR *tama-*

  ES AMG *tam-*

       AMB *tam-*

       KUR *rama*

       GAJ *tama*

See *taŋkwa tama 'stand.'

*tamkan *n.* 'eye'

  WS NEN *ampɨn*

  CS MNT *amɨga*

       APA *lamɨgaŋ*

       MUM *tamga*

       SIR *tarma*

  ES AMG *tamɨ*

       AMB *tamɨ*

       KUR *-tama*

Nend changed the second *a > ɨ. Sirva
is divergent. See *kwɨmka 'stomach.'

*tampa *n.* 'stone'

  WS NEN *(oman)ampɨ* (S) '(finger)nail'

  CS APA *liba*

       MUM *tɨba*

Nend changed final *a > ɨ and
compounded with *oman* 'arm, hand.'

*tampra *v.* 'distribute'

  CS MNT *rabra-* 'abound'

       APA *labɨla-*

  ES KUR *rabɨra-* 'send'

*tantam *n.* 'leg, foot'

  WS NEN *adam*

  CS MNT *adam*

       MUM *tada*

       SIR *tada*

  ES AMG *taram* 'thigh'

       AMB *taram* 'thigh'

       GAJ *tadam* 'thigh'

*taŋkwa, taŋkw- *v.* 'sharpen'

  WS NEN *aŋkwa-*

  CS MNT *agɨva-* 'scratch' (Nend)

       APA *lagu-*

  ES AMB *tuk-*

Manat changed *gw > gɨv. Aisi raised
*o > *u* and lost *ŋ.

*taŋkwa, taŋkw- *v.* 'step on'

  WS MND *akw-*

       NEN *aŋkwa-*

  CS MNT *ragu-*

       APA *lagu-*

       SIR *tagu-*

  ES AMG *dugwa*

       AMB *tog-*

       KUR *rago*

GAJ   *tago*
Aisi Magɨ is a verb adjunct and is difficult phonologically. See *taŋkwa tama 'stand.'

*taŋkwa tama- *svc.* 'stand'
CS   MNT   *agrama-*
      APA   *lagulama-*
      MUM   *tagurama-*
      SIR   *tagurama-*
ES   KUR   *ragota-*
      GAJ   *tagurama, tagroma*
Kursav deleted the last syllable. See *taŋkwa 'step on' and *tama 'put.'

*tar *n.* 'tree'
WS   NEN   *arɨ* (S)
CS   MNT   *tat* 'wood, fire'
      APA   *lali*
      SIR   *tar*
ES   AMG   *te*
      AMB   *tar*
      KUR   *tar*
      GAJ   *tai*
Nend added final *ɨ*.

*tauka *v.* 'buy'
CS   APA   *tavɨk-* (C), *lava-* (K)
      MUM   *tavha-*
      SIR   *tavɨha-*
ES   AMG   *takw-*
      AMB   *takw-*
PAIS metathesized *u and *k.

*ti *v.* 'become'
CS   MUM   *tɨ-* 'be, do'
      SIR   *tii-*
ES   GAJ   *ti*
Mum changed the verb class. Sirva changed *i > *ii*.

*tintɨ *n.* 'star'
WS   MND   *tɨ(bah)*

NEN   *dɨ(vah)* (S)
CS   APA   *lidɨ*
      MUM   *tid*
      SIR   *kidɨ* (Mum)
ES   AMG   *tindɨ*
      AMB   *tendɨ*
PWS lost the first *i and Nend voiced *nt. Sirva changed *t > *k*. PAIS kept prenasalization in *nd*.

*tɨka *v.* 'peel, detach'
CS   SIR   *tɨha-* 'peel'
ES   AMG   *tɨka(w)-* 'take,' *tɨka(y)-* 'bring'
      AMB   *tɨka(w)-* 'take,' *tɨka(y)-* 'bring'
      GAJ   *tɨko* 'scrape'
Aisi Magɨ compounded with *w-* 'go' and *y-* 'come.' Gants changed verb class.

*tɨki *v.* 'fill'
CS   APA   *lici-* 'fetch water'
      MUM   *tih-* (Sirva)
ES   AMG   *tik-* 'fetch water'
      AMB   *tiki-*
      GAJ   *tɨki-*
Apalɨ and Mum fronted *ɨ > *i*. See *isi 'fetch water.'

*tɨku, tɨkw- *v.* 'look, see'
WS   MND   *kw-*
CS   MNT   *rɨku-*
ES   KUR   *ruko*
See *iŋka 'see, perceive.'

*tɨkwɨ *n.* 'area under'
WS   NEN   *kwɨ*
CS   MNT   *rɨk*
      APA   *lɨhu*
      MUM   *tuhw*
      SIR   *tuhu*
ES   KUR   *tuki*

Manat lost final *u. Mum changed the first *ɨ > u. Kursav added locative *=ñ.

*tɨm *n.* 'piece'
WS	Mɴᴅ	*tɨm*
	Nᴇɴ	*tɨm* (S)
CS	Mɴᴛ	*rɨb*
	Aᴘᴀ	*tɨbɨ* 'short'
	Mᴜᴍ	*tɨm*
	Sɪʀ	*timi* 'stick'
ES	AMɢ	*tum* 'stick'
	AMʙ	*tum* 'stick'
	Kᴜʀ	*tum* 'stick'

Manat and Apalɨ changed final *m > b. Sirva added final *i*. See *sɨka 'piece.'

*tɨmpu *v.* 'tie'
WS	Nᴇɴ	*mpo(rɨ)-*
CS	Mɴᴛ	*rɨbu-*
	Aᴘᴀ	*lɨbu-* (C)
	Mᴜᴍ	*tɨbu-* 'fasten'
	Sɪʀ	*tobu-, tub-*
ES	AMɢ	*tɨb-* 'close'
	AMʙ	*tɨb(ram)-*
	Kᴜʀ	*(ne)rɨbu* 'swallow'
	Gᴀᴊ	*tɨbo*

Nend lowered *u > o. Sirva lowered the first *u > o in some environments. Aisi Mabɨŋ compounded with *tama 'put.' Kursav compounded with *ne* 'eat.'

*tɨŋkɨñ *adj.* 'black'
WS	Mɴᴅ	*kɨñ*
	Nᴇɴ	*ŋkɨñ*
CS	Aᴘᴀ	*lɨgiŋ* 'scraps in pot'
ES	Kᴜʀ	*rigi* 'dirty'
	Gᴀᴊ	*tɨgin*

*tɨpa *v.* 'fear, be afraid'
CS	Mᴜᴍ	*tɨva-* 'run'
ES	Kᴜʀ	*rɨpa*

	Gᴀᴊ	*tɨpa*

*tua, tu- *v.* 'burn (intr.)'
WS	Mɴᴅ	*va-*
	Nᴇɴ	*o(gɨ)-*
CS	Mɴᴛ	*riva-*
	Mᴜᴍ	*tu-* 'be cooked'
	Sɪʀ	*tua-*
ES	AMɢ	*tuw-*
	AMʙ	*tu-*
	Kᴜʀ	*ro*
	Gᴀᴊ	*tua, tu-*

*tutɨm *n.* 'salt'
WS	Mɴᴅ	*utɨm*
	Nᴇɴ	*utɨm* (S)
CS	Mɴᴛ	*utɨm*
	Aᴘᴀ	*lulɨm*

*ua, u- *v.* 'go, say'
WS	Mɴᴅ	*wa-* 'go'
	Nᴇɴ	*w-, o-* 'go'
CS	Mɴᴛ	*vu-* 'go'
	Aᴘᴀ	*u-, ua*
	Mᴜᴍ	*u-* 'go,' *va-* 'say'
	Sɪʀ	*wa-* 'go,' *va-* 'say'
ES	AMɢ	*u-* 'go'
	AMʙ	*u-* 'go'
	Kᴜʀ	*va-* 'say'
	Gᴀᴊ	*wa*

This may have been two words—a motion verb and a post-quote verb—or one. The NCS reflexes suggest the latter, but the polysemy in Apalɨ and Gants suggests the PNCS split could have been conditioned by phonological environment. Manat changed *a > u. Kursav changed *u > v.

*uaka *adv.* 'maybe'
CS	Mɴᴛ	*aka(d)*
	Aᴘᴀ	*uaku* (C), *akua* (K)
	Mᴜᴍ	*vaha*

SIR   *vaha* 'when'
ES KUR *waka*
    GAJ *waka* 'Q'
Apalɨ changed final *a > u in Acɨ and moved *u to the second syllable in Akɨ.

*umai *n.* 'bean'
CS MNT *mai*
    APA *ume*
    MUM *umai*
    SIR *ume*
ES AMG *ume*
    AMB *ume*
    KUR *wamai*

*umpaŋ *n.* 'heart'
CS MUM *uba* 'lung'
    SIR *uba*
ES AMG *umbaŋ*
    AMB *umbaŋ* 'liver, chest'
PAIS kept prenasalization in *mb. Compare PTNG *mapVn.

*uŋkam *adj.* 'white'
WS MND *ukam*
    NEN *okam* (S) (Mand)
CS SIR *waga(ra)*
Nend deleted *ŋ.

*upri *n.* 'dog'
WS NEN *uvi* (N), *ovɨr* (S)
CS MNT *upri*
    MUM *upri*
    SIR *uvri*
ES AMG *api*
    AMB *apɨr*
    KUR *ovɨra*
    GAJ *opre*
PAIS changed initial *u > a. Kursav and Gants lowered initial *u > o.

*ura *v.* 'call out'
WS MND *ura-*
    NEN *ora-* 'crow'
CS MNT *ura-*
    APA *ula-*
    MUM *ura-*
    SIR *warwar* 'yelling'
ES AMG *ur-*
    AMB *ur-*
    KUR *wara*
Sirva is a reduplicated nominalization. See *aŋkwa 'cry out.'

*uram *n.* 'house'
WS MND *uram*
    NEN *oram*
CS MNT *ura* 'forest'
    APA *ulaŋ*
    SIR *wara*
ES AMG *ur*
    AMB *uru*
    GAJ *wara* (Kursav)
The Aisi forms deviate from expected †*urɨ*. Gants diphthongized *u > wa.

*urir *n.* 'parrot species'
WS MND *urir*
CS MNT *urir*
    APA *ulilɨ*
ES AMB *wiwi*
Aisi is problematic.

*uvia *n.* 'morning star'
CS APA *uvia*
    MUM *uvia*
    SIR *uvia*
ES AMG *ube*
    AMB *ubia*
    KUR *uvia*

*-v, -vɨ *n.inal.* 'mother's brother'
CS MNT *-vɨ*
    MUM *-vɨ*

ES Kur -v
    Gaj -pu
See *-kav 'mother's brother.'

*-vai *n.inal.* 'maternal grandmother'
CS Mnt -vay(ag) 'grandfather'
    Apa -ve
ES Amg -be(b)

    Amb -boi
    Kur -vi(s)
See *-pɨki 'paternal grandmother.'

*vai- *v.* 'come'
WS Mnd ai-
    Nen ay-
CS Mnt ai-
    Apa ve-
    Mum pai-
    Sir pi-
ES Amb way-
    Kur ve
    Gaj ai-
Sirva simplified *ai > i. Gants lost *v
on analogy with the suppletive
imperative root *aia 'come.IMP'; that
root may also have been the
uninflected form of 'come.' Compare
PTNG *kidil.

*-van *n.inal.* 'father'
WS Mnd van 'father.3.POSS'
    Nen wan(ɨr) 'father.3.POSS'
CS Mnt -vaŋ, -va
    Apa (ia)vaŋ
    Mum -va
    Sir (ya)va
ES Amg (wa)ba
    Kur awi
See *-ŋti 'father.'

*vaŋan *n.* 'bag'
WS Mnd aŋan

Nen aŋan
CS Apa vaŋaŋ (C)
    Mum paŋa
    Sir paŋa
ES Amg waŋɨ
    Amb waŋɨ
    Kur vaŋa
    Gaj waŋa (Kursav)
Gants changed *v > w and lost final *n.

*vaŋka *n.* 'leaf'
CS Mnt vaga
    Sir paga
ES Kur vaga
See *asɨŋ 'leaf.'

*vim *n.* 'sore'
CS Apa *fim*
    Sir *we*
ES Gaj *poim*
Sirva did not change initial *w > p and
lowered *i > e. Gants added o.

*viŋkau *n.* 'mist'
WS Mnd *iku* 'cloud'
ES Kur *vigau* 'mist'
See *kamu 'fog.'

*vɨka *v.* 'slice, cut'
WS Nen ka-
CS Mnt (i)vɨka-
    Apa vɨh- (K), vika- (C)
    Mum pɨha-
    Sir pɨha-
ES Amg uk- 'tell (a story)'
    Amb uk- 'cut, tell (a story)'
    Gaj pɨka

*vɨkara *v.* 'finish'
WS Mnd kari-
CS Apa fɨhala-

*vɨku *v.* 'burst'
CS Apa vɨku-

MUM *pɨhu-*
SIR *puhu-* 'appear, break out'
ES KUR *vuko* 'slap'
Kursav is semantically divergent.

*vɨr *n.* 'ground, land'
CS APA *fɨli*
MUM *pɨr* 'dry land'
ES AMG *bi*
AMB *ur*
GAJ *(ka)pɨr*
See *vɨr kama 'dawn.'

*vɨr kama *vac.* 'dawn'
WS MND *vr(ah)-*
CS APA *fɨli (miŋalah-)*
SIR *ukama-* (PAIS)
ES AMG *bikame* (adv.)
AMB *urkame* (adv.)
GAJ *pi kam-*
Mand and Apalɨ changed the verb. See
*vɨr 'ground'; the meaning of *kama is
unclear.

*vɨr, vri- *v.* 'scratch'
CS APA *(lɨ)vɨl-*
MUM *pri-*
ES AMB *ur(i)-*
Aisi compounded with *i-* 'get.'

*vumra *v.* 'fly'
CS MUM *pɨmra-*
ES KUR *vumra*

*vVkra *v.* 'look for'
WS NEN *kira-*
CS MNT *kr(iva)-*
MUM *puhra-*
SIR *puhra-*
ES AMG *wakr-*
AMB *wakr-*
GAJ *okra*
The first vowel is difficult to
reconstruct: Nend and Manat reflect
*ɨ, NCS reflects *u, PAIS suggests *a,
and Gants is unclear. Manat
compounded with *iva-* 'hit.'

6.2. Inalienably Possessed Nouns

PSOG inalienably possessed nouns present a unique challenge to reconstruction because of their morphology and the pervasiveness of analogical change. Each individual etymon usually requires more discussion than a typical member of another word class, so I present the reconstructed inalienably possessed nouns here, with discussion about the semantic and morphological changes that have taken place in each form.

Recall that the class of inalienably possessed nouns is primarily composed of kin terms. In fact, all reconstructed inalienably possessed nouns are kin terms, although terms for concepts like 'friend,' 'caretaker,' or 'widow' are inalienably possessed in some modern languages and similar words may have existed in PSOG.

Each kin term distinguished, via a possessive prefix, between first person, second person, and third person possessor. The prefixes were *a- '1.POSS,' *na- '2.POSS,' and *nɨ- '3.POSS,' although the irregular variants *ia- '1.POSS' and *nu- '3.POSS,' which imitated the form of the singular subject pronouns, also existed. Note that the number of the possessor was not indicated by the prefix. A typical root in this regard was *-sɨki 'maternal grandfather, grandchild (through daughter) of male ego,' which could be realized as *a-sɨki 'my/our grandfather,' *na-sɨki 'your grandfather,' or *nɨ-sɨki 'his/her/their grandfather.' (Incidentally, this term and two of the other terms for grandparents end in *ki; the others are *-ñki 'paternal grandfather' and *-pɨki 'paternal grandmother.' This is probably not a coincidence, but the significance of this *ki is still unknown.)

The form of the entries below is as follows. The primary root is given on the left, followed by the reconstructed 1.POSS, 2.POSS, and 3.POSS forms, given with any prefixes. The meaning of the form is given following these on the first line. Subsequent lines contain the cognate words from the various languages, also arranged into 1.POSS, 2.POSS, and 3.POSS columns. Sometimes I only have one form available for a language (usually 1.POSS), in which case the 2.POSS and 3.POSS columns are left blank. But blank columns may also indicate that a language has innovated a new form for a particular meaning. (This means that I do not distinguish notationally between the absence, in my data, of a form for a given meaning, and the presence of non-cognate material to refer to that meaning.) When a single form can be used with any possessor, it repeated in each column. Comments are given below the correspondence sets.

*-ivi	*a-ivi	*na-ivi	*n-ivi	'father's younger brother'
WS MND	*a-ivi*	*a-ivi*	*Ø-ivi*	
CS APA	*ivɨ*			
ES GAJ	*a-ipi*	*na-ipi*	*n-ipi*	'male caretaker'

This term would have referred to some sort of "diminished" father figure—either a father's younger brother, as in Mand, or a male caretaker, as in Gants. Apalɨ lost initial *a and changed final *i > ɨ. Gants did not lower final *i > †*e.*

*-kuna	*a-kuna	*na-kuna	*nɨ-kuna	'sister of male ego'
WS MND	*aihun*	*aihun*	*aihun*	'husband's sister'
CS MNT		*na-kɨna*	*nɨ-kɨna*	
ES GAJ	*a-kun*	*na-kun*	*no-kun*	

Mand added *i, which may be cognate with the Proto-Kainantu prefix *i-, which specified "maleness of ego in affinal linkage" (Kerr 1973: 786), although there is little internal Sogeram data to support that hypothesis; cf. *-muk 'brother of female ego.' Manat changed *u > ɨ. Gants lost final *a.

*-minta	*mintaŋ	*na-minta	*nɨ-minta	'cross-cousin'
CS MNT	*midaŋ*	*na-mida*	*nɨ-mida*	
APA	*midaŋ*			
MUM	*ya-mida*	*na-mida*	*nɨ-mida*	
SIR	*mida*	*na-mida*	*ni-mida*	
ES AMG	*ya-mari*	*na-mari*	*nɨ-mari*	(Mabɨŋ)
AMB	*ya-mari*	*na-mari*	*nɨ-mari*	
GAJ	*ya-mdaŋ*	*na-mdaŋ*	*nɨ-mdaŋ*	

Mum and PES added the prefix *ia- by analogy with the 1SG pronoun. PAIS metathesized the vowels, and Aisi Magɨ changed *d > r, suggesting the form is an Aisi Mabɨŋ loan. Gants lost *i and generalized the final nasal from the 1.POSS form to the other forms.

*-miŋ, *-mkam	*ia-miŋ	*na-miŋ, na-mkam	*ni-miŋ, ni-mkam	'mother, m.'s sister'
WS MND			miŋ	
NEN	yaŋ	yaŋ(ar)	miŋ(ir)	
CS MNT	a-miŋ	na-m	ni-m	
APA	iamiga	iam(ina)	iam(inu), numigaŋ	
MUM	yam, yamaka	nam, namaka	niŋum, niŋumaka	
SIR	yam(da)	nam	nimi	
ES AMG	yama	naŋgi	niŋgi	
AMB	yama	naŋgi	niŋgi	
KUR		namige	nimige	
GAJ	ami	nam(doi), namiŋ	no-m(doi), no-miŋ	

The PSOG final element *-kam is also found in other terms for female kin (e.g. Manat *nadigam* 'daughter'). Nend changed final *miŋ > ŋ in 1.POSS and generalized that root to 2.POSS. Manat and Gants changed the 1.POSS prefix to *a-* by analogy with the predominant pattern. Apali extended the *-mkam root to 1.POSS, with loss of the final nasal. Mum inserted *a* between *mk. PES changed the 2.POSS and 3.POSS root *-mkam > *-mgi by analogy with PES *-gi 'father.' PAIS changed final *i > a in 1.POSS and merged *mg to ŋg in 2.POSS and 3.POSS. Gants changed final *iŋ > i in 1.POSS and added *–doi* to 2.POSS and 3.POSS by analogy with *–ŋdoi* 'father.'

*-mku	*iui	*na-mku	*ni-mku	'nephew, niece'
WS MND	ñamku	ñamku	ñamku	'female ego's brother's child'
CS MNT	a-muhu	na-muhu	ni-muhu	'female ego's brother's child'
APA	iui			'male ego's sister's child'
MUM	ya-migw	na-migw	ni-migw	'male ego's sister's child'
SIR		na-mugu	ni-mugu	'male ego's sister's child'
ES GAJ	(ne) yue			

This term probably referred to the child of any different-sex sibling. Mand changed *n in the 2.POSS form > ñ and generalized that form. Manat and Mum formed 1.POSS forms by

analogy with other forms. Gants *yue* is no longer inalienably possessed, but occurs with *ne* 'child.'

*-muk		*a-muk	*na-muk	*nɨ-muk	'brother of female ego'
WS	Mɴᴅ	a-imoh	a-imoh	Ø-imoh	'wife's brother'
CS	Mɴᴛ	amuh	amuh	amuh	
	Aᴘᴀ	amu		nu-mɨ	
	Sɪʀ	a-muv	na-muv	nɨ-muv	
ES	AMɢ	amuk			
	AMʙ	a-mok	na-mok	nɨ-mok	
	Kᴜʀ	a-mog	na-mog	nu-mog	

This term also referred to parallel cousins. Mand added *i, which may be cognate with the Proto-Kainantu prefix *i-, which specified "maleness of ego in affinal linkage" (Kerr 1973: 786), although there is little internal Sogeram data to support that hypothesis; cf. *-kuna 'sister of male ego.' The Manat 1.ᴘᴏꜱꜱ form was generalized to all persons. Apalɨ lost final *k and changed final *u > ɨ in 3.ᴘᴏꜱꜱ. Sirva changed final PNCS *h > *v*. Kursav changed final *k > *g*.

*-mum		*kuram	*na-mum	*nɨ-mum	'husband'
WS	Mɴᴅ			mam	
	Nᴇɴ			mam(ɨr)	
CS	Mɴᴛ		na-mam	nɨ-mam	
	Aᴘᴀ	muŋ(aŋ)			
	Mᴜᴍ	ya-muŋa	na-muŋa	nɨ-muŋa	
	Sɪʀ	kura	na-muŋ	nu-muŋ	
ES	AMɢ	kur	na-mum	nɨ-mum	
	AMʙ	kuru	na-mom	nɨ-mom	
	Kᴜʀ		na-mo	nu-mo	
	Gᴀᴊ	kura	na-moŋ	nɨ-moŋ	cf. -mam 'brother of female ego'

PWS and Manat changed *u > *a*, although the Gants term for brother of female ego suggests there may have been two PSᴏɢ terms, *-mum and *-mam, which differed somehow. The

1.POSS term is not an inalienable noun but just the word for 'man'; this was replaced by analogy with forms based on the 2.POSS and 3.POSS root in Apalɨ and Mum.

*-namp	*nampai	*na-namp	*nɨ-mp	'daughter-in-law'
WS MND	*a-nab*	*a-nab*	*Ø-nab*	
CS MNT	*nab(u)*	*na-nab(u)*	*nɨ-nab(u)*	'sister-in-law'
APA	*nabe*			
MUM	*inab(as)*	*na-nab(as)*	*nɨ-b(as)*	
SIR	*inab(as)*	*na-nab(as)*	*nɨ-b(as)*	
ES AMG	*nabai*			
AMB	*nabe*			
KUR	*ya-b(isim)*	*na-b(isim)*	*nɨ-b(isim)*	

Mand generalized the pattern in 2.POSS and 3.POSS to 1.POSS. Manat added final *u* and generalized the 2.POSS root to 3.POSS. PNCS added initial *i in 1.POSS and generalized the 2.POSS root to 1.POSS. Kursav generalized the 3.POSS root to 1.POSS and 2.POSS, and added a 1.POSS prefix by analogy with the 1SG pronoun.

*-ñki	*a-ñki	*na-ñki	*nɨ-ñki	'paternal grandfather, grandchild (through son) of male ego'
WS MND	*a-ca(ñ)*	*a-ca(ñ)*	*Ø-ca(ñ)*	
NEN	*nca*			
CS APA	*(iau)acaŋ*			PAIS loan. Cf. *aji* 'grandson.'
MUM	*a-ñɨgi*	*na-ñɨgi*	*nɨ-ñɨgi*	cf. *–igi* 'ancestor'
ES AMG	*a-ky(am)*	*na-ky(am)*	*nɨ-ky(am)*	
GAJ	*a-ñɨke*	*na-ñɨke*	*nɨ-ñɨke*	

This was one of two 'grandfather' terms, the other being *-sɨki. For discussion of the semantic reconstruction and innovations, see that entry. PWS changed final *ɨ > *a. Aisi lost *ñ but palatalized *k > *ky*, and added final *am*; its cognacy is doubtful.

*-pɨki	*a-pɨki	*na-pɨki	*nɨ-pɨki	'paternal grandmother, grandchild (through son) of female ego'
WS MND	a-pɨc	a-pɨc	Ø-pɨc	
NEN	avɨj	avɨjar	pajɨr	
CS MUM	a-pi	na-pi	nɨ-pi	'paternal grandmother'
ES GAJ	a-pɨke	na-pɨke	no-pɨke	

This was one of two 'grandmother' terms, the other being *-vai. It means simply 'grandmother, grandchild of female ego' in every language except Mum, so I reconstruct the paternal meaning from Mum to PSOG and take the other term to have been maternal. Nend voiced *p > v and changed PWS *c > j. Mum lost PNCS *ɨh; this may have been a borrowing from Sirva, where the expected reflex would be †-pɨi.

*-ra	*ñama	*na-ra	*nɨ-ra	'same-sex younger sibling'
WS MND	ñam	a-rɨ(n)	iran	
NEN	nama 'VOC'		ra(nɨr)	
CS MNT	ñama(ŋ)	na-ra	nɨ-ra	
APA	ima		nu-la	
MUM	ya-ra	na-ra	nɨŋu-ra	
SIR		na-ra(h)	nara(h)	
ES AMB	i-ra(k)	na-ra(k)	nɨ-ra(k)	
KUR		na-ra	no-ra	
GAJ	a-ra	na-ra	no-ra	'sister-in-law of male ego'

This term also referred to parallel cousins. It probably also referred to a spouse's same-sex younger sibling, i.e., ego's different-sex in-law (cf. the Gants meaning). The Mand 3.POSS form is difficult. Manat added final ŋ to the 1.POSS form by analogy with tasaŋ 'same-sex older sibling.' Apalɨ and Aisi changed initial *ña > i in 1.POSS by analogy with *isaŋ 'same-sex older sibling.' Mum, Aisi and Gants changed the 1.POSS form by analogy with other forms. Apalɨ, Kursav, and Gants changed the 3.POSS prefix by analogy with the 3SG pronoun.

*-si	*isaŋ	*na-si	*nɨ-si	'same-sex older sibling'
WS MND	a-saŋ	a-zeŋ	Ø-zeŋ	
NEN	azɨŋ	aynar	yanɨr	
CS MNT	tasaŋ	na-i	nɨ-i	
APA	isaŋ		nu-si	
MUM	ya-si	na-si	nɨŋu-si	
SIR		na-s	nɨ-sɨ	
ES AMG	isaŋ	na-sɨ(m)	nɨ-sɨ(m)	(Mabɨŋ)
AMB	isam	na-sɨ(m)	nɨ-sɨ(m)	
KUR		na-s	no-s	

This term also referred to parallel cousins. PWS changed the *i in the 1.POSS form > *a by analogy with the usual prefix *a-. The rest of the WS forms are difficult. Manat changed the *i in the 1.POSS form to a nursery syllable. Apalɨ and Kursav changed the 3.POSS prefix by analogy with the 3SG pronoun. Mum changed the 1.POSS form by analogy with the other forms. Aisi Mabɨŋ changed the final *ŋ in the 1.POSS form > *m* and then added *m* to the other forms by analogy. The Magɨ 2.POSS and 3.POSS forms may thus be borrowed from Mabɨŋ.

*-sɨki	*a-sɨki	*na-sɨki	*nɨ-sɨki	'maternal grandfather, grandchild (through daughter) of male ego'
CS MNT	a-sɨh(at)	na-sɨh(at)	nɨ-sɨh(at)	'grandmother'
MUM	a-sɨhi	na-sɨhi	nɨ-sɨhi	cf. -sɨhat 'maternal grandmother'
SIR	asi 'g-child'	na-sɨi	nɨ-sɨi	'grandparent'
ES AMG			nɨ-siki	Archaic.
AMB	a-siki	na-sɨki	nɨ-siki	
KUR		na-sike	no-sike	

This was one of two 'grandfather' terms, the other being *-ñki. The contrast is only preserved in Mum, where -ñigi refers to the paternal, and -sɨhi the maternal, grandfather. For this reason the same contrast is reconstructed to PSOG. Additional evidence for this semantic reconstruction comes from the Manat innovation of *-sɨki 'maternal grandfather' to -sɨh(at) 'grandmother.' Both words were reciprocal terms for the relationship between

grandparents and grandchildren. The gender of the term used was determined by the gender of the grandparent; this system is preserved in, at least, Mand, Aisi, and Gants. Manat voiced *k > *h*, which may suggest that the added material on the end is *–hat*, not just *–at*. The Sirva 1.poss form for 'grandchild' is irregular. Kursav changed the 3.poss prefix by analogy.

*-v		*a-vɨ	*na-v, na-kav	*nu-v	'mother's brother'
CS	MNT	avɨ	na-hav	nɨ-hav	
	MUM	avav	na-hav, na-vɨ(tak)	niŋu-vɨ(tak)	
ES	KUR	a-v	na-v	no-v	
	GAJ	a-pu	na-pu	nu-pu	

The *-kav root may only go back to PCS, not PSᴏɢ. Manat changed the 3.poss form on analogy with the 2.poss form. Mum reduplicated the 1.poss form. Gants changed final *ɨ > *u* in 1.poss and generalized that form.

*-vai		*a-vai	*na-vai	*nɨ-vai	'maternal grandmother, grandchild (through daughter) of female ego'
CS	MNT	a-vay(ag)	na-vay(ag)	nɨ-vay(ag)	'grandfather'
	APA	a-ve			
ES	AMG	-be(b)			'old woman, mother's older sister'
	AMB	a-boi	na-boi	nɨ-boi	
	KUR	a-vi(s) 'VOC'	na-vi(s)		

This was one of two 'grandmother' terms, the other being *-pɨki. The meaning is reconstructed for external reasons, and as such is less than secure: given that two 'grandmother' terms can be reconstructed, and the other means 'paternal grandmother' in Mum, this one is most likely to have referred to maternal grandmothers even though it

only means 'grandmother, grandchild of female ego' today—if it even means 'grandmother' at all. Aisi Mabɨŋ changed *a > o.

*-van, *-ŋti		*ia-vaŋ	*na-ŋti	*ni-van	'father, father's brother'
WS	MND			van	
	NEN		on(ar)	wan(ɨr)	
CS	MNT	a-vaŋ	na-va	nɨva	
	APA	iavaŋ			
	MUM	yava, yavad(ak)	nava, navad(ak)	nɨŋuva, nɨŋuvad(ak)	
	SIR	yava	naŋidi	nua	
ES	AMG	waba	na-gi	nu-gi	
	AMB		na-gi	no-gi	
	KUR	awi 'VOC'			
	GAJ	yaŋ, yaŋdoi	naŋ, naŋdoi	noŋ, noŋdoi	

The 2.POSS and 3.POSS reconstructions may have been coexisting variants that were each used in both 2.POSS and 3.POSS functions; only in Sirva are the reflexes restricted to 2.POSS and 3.POSS, respectively. PWS, Manat, and Mum generalized the 3.POSS root to 2.POSS. Nend changed PWS *a-wan to on. In Mum the suffix –tak, frequently found on kin terms, is –dak, showing evidence of the root-final *n. PES generalized the 2.POSS root to 3.POSS, and Gants generalized it to 1.POSS as well. PAIS merged *ŋt > *ŋg > g. Aisi Magɨ changed *[j] > w in 1.POSS. Kursav changed 1.POSS final *aŋ > i by analogy with the other forms. Gants inserted o and made the last syllable (-doi) optional (although this may have been the pattern in PSOG).

6.3. English – Proto–Sogeram Finderlist

This list is intended as a reference to help readers find specific PSOG forms. It presents all
the meanings that have been reconstructed for PSOG, the part of speech of the associated
PSOG form, and the PSOG form itself.

act badly *v.* *impra
afternoon *adv.* *kɨvtiti
appear (at) *svc.* *ipa mɨŋka
area *n.* *ampra
area under *n.* *tɨkwɨ
arm *n.* *kuman
armpit *n.* *kwɨŋkɨs
arrow, kind of *n.* *kɨŋaN
axe *n.* *kakri; *kinaŋ
back *n.* *kut
bad *adj.* *intua
bag *n.* *vaŋan
ball *n.* *muku
bamboo *n.* *sakai
banana *n.* *manɨŋ
barter *v.* *ivra
be *v.* *=rɨ-
be afraid *v.* *tɨpa
be full *v.* *mɨta
bean *n.* *umai
become *v.* *ti
bee *n.* *muŋmi
before *kusai
betel pepper *n.* *kamura
betelnut *n.* *akwasa; *kari
bird *n.* *kapa
bird of paradise *n.* *kuyiv
bite *v.* *isa
black *adj.* *tɨŋkɨñ
black cockatoo *n.* *kwɨñaŋ
blood *n.* *iaŋkum; *mɨntɨ
blow *v.* *kra
body *n.* *kanti

boil *v.* *kuŋkra
bone *n.* *kañaŋ; *punsɨŋ
bow *n.* *kɨmi
bowstring *n.* *mansɨn
brain *n.* *mikuŋ
branch *n.* *makam
breadfruit *n.* *kasam
break (intr.) *v.* *kumpru; *sɨkra
breast *n.* *aman
brother *n.inal.* *-muk
brush-turkey, collared *n.* *aŋam
brush-turkey, wattled *n.* *kɨñakuŋ
burn (intr.) *v.* *tua, tu-
burst *v.* *vɨku
butterfly *n.* *apapara
buttress root *n.* *pɨŋ
buy *v.* *tauka
call out *v.* *ura
call to (an animal) *v.* *mara
carry *v.* *i; *kapu
carry away *v.* *akwra
carry on shoulder *v.* *kɨmpar, kɨmparɨ-
cassowary *n.* *muiam
center *n.* *pat
centipede *n.* *kuntar
cheek *n.* *mɨkum
chicken *n.* *ikakara
child *n.* *ñɨŋi
chin *n.* *akar
chop *v.* *ika; *kwaka
close *v.* *sɨntia, sɨnti-
cloud *n.* *kamu
coconut *n.* *kuimaŋ

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cold *kimri
come *v.* *aia, vai-
come down *v.* *miŋka
come out, across *v.* *ipa
come up *v.* *iaka
completely *adv.* *sɨkan, sɨkansɨkan
cook *v.* *kuŋkra
cordyline *n.* *mirkwa
cough *n.* *mɨti
crocodile *n.* *mavra
crooked *adj.* *kina, kinakina
cross-cousin *n.inal* *mintaŋ, -minta
cry *v.* *irɨka
cry out *v.* *aŋkwa
cut *v.* *ika; *kwaka; *mɨŋkra; *vɨka
daughter-in-law *n.inal.* *-mp, -namp
dawn *vac.* *vɨr kama
day *adv.* *iŋar
day before yesterday *adv.* *añɨkwriñ
decoration (festival) *n.* *kansɨŋ
detach *v.* *tɨka
die *v.* *kɨmu
dig *v.* *mapa
distribute *v.* *tampra
do *v.* *anta, antɨ-; *sɨ-
dog *n.* *upri
earthquake *n.* *mumim
eat *v.* *ña
edge *n.* *irañ
eel *n.* *kɨmparam
egg *n.* *maŋka
exceed *vac.* *ir uara
exchange *v.* *ivra
eye *n.* *tamkan
family *n.* *sɨv
far *ataŋ
fasten *v.* *kaka
fat *n.* *sɨntaŋ
father *n.inal.* *-ŋti, -van
father's younger brother *n.inal.* *-ivi
fear *v.* *tɨpa
feces *n.* *su
fetch water *v.* *isi

fight *n.* *kira; *saŋkam
fill *v.* *tɨki
finish *v.* *vɨkara
fire *n.* *av
firelight *n.* *mira
first *kusai
firstborn *n.* *kiman
fish *n.* *iau
fly *v.* *vumra
flying fox *n.* *kariv
fog *n.* *kamu
food *n.* *ñaŋña
foot *n.* *tantam
footprint *n.* *kiuañ
forest *n.* *sura
frog *n.* *kukasa; *naŋram
garden *n.* *kuar
get *v.* *mɨŋa
get up *v.* *kɨpa
give *v.* *iŋkwa, iŋkw-
go *v.* *ua, u-
go bad (of food) *v.* *impra
go down *v.* *mɨŋku, mɨŋkw-
go in *v.* *ipu
go up *v.* *iaku, iakw-; *tai
good *adj.* *arum; *impɨnt
grandfather, maternal *n.inal.* *-sɨki
grandfather, paternal *n.inal.* *-ñki
grandmother, maternal *n.inal.* *-vai
grandmother, paternal *n.inal.* *-pɨki
grass *n.* *sɨs
ground *n.* *vɨr
ground possum *n.* *iŋkɨn
grow *v.* *kukra
hair *n.* *mɨnɨ; *sɨs
hair, white *n.* *mukɨr
hand *n.* *kuman
hear *v.* *intar, intarɨ-
heart *n.* *umpaŋ
hide (intr.) *v.* *ipra
hit *v.* *ivu
handle *v.* *maru
hold *v.* *i; *mɨŋa

house *n.* *uram
husband *n.inal.* *-mum
ironwood tree *n.* *mimpɨŋ
jaw *n.* *kampan
jump *v.* *kupra
just *adv.* *kap
knot *n.* *kuŋkɨ
land *n.* *vɨr
later *adv.* *mɨni
laugh *n.* *arɨN
leaf *n.* *asɨŋ; *vaŋka
leave *v.* *mita
leg *n.* *tantam
liver *n.* *mapɨn
loincloth *n.* *kaura
long *adj.* *kutaŋ
look *v.* *tɨku, tɨkw-
look for *v.* *vVkra
louse *n.* *iman
male *adj.* *maka
man *n.* *kuram
maybe *adv.* *uaka
middle *n.* *arɨka
millipede *n.* *kamɨŋaua
mist *n.* *viŋkau
moon *n.* *takun
morning *adv.* *ikuntɨ
morning star *n.* *uvia
mosquito *n.* *ñaŋkur
mother *n.inal* *-mkam, -mɨŋ
mother's brother *n.inal.* *-kav, -v, -vɨ
mountain *n.* *apar
mouth *n.* *sɨmpɨ
mushroom *n.* mɨraŋ
name *n.* *impi
navel *n.* *simpirɨm
near *adv.* *kɨñam
neck *n.* *naŋkum
nephew *n.inal.* *iui, -mku
new *adj.* *kɨki
niece *n.inal.* *iui, -mku
night *n.* *kɨvɨr
nose *n.* *mu

one *adj.* *pam
only *adv.* *paka; *pam
open *v.* *intua, intu-
paddle *v.* *mata
paint tree *n.* *kɨñakw
parrot species *n.* *iran; *urir
path *n.* *kumpɨ
peel *v.* *tɨka
penis *n.* *mɨŋkɨn
perceive *v.* *intar, intarɨ-; *iŋka
period of time *n.* *mut
pick (from plant) *v.* *maka
piece *n.* *sɨka; *tɨm
pierce *v.* *kui
pig *n.* *sampaN
place *n.* *ampra; *si
plant *v.* *kur, kurɨ-
plate *n.* *kunaŋ
pot *n.* *sɨŋki
pull *v.* *maŋkra
put *v.* *tama
put in pot *v.* *imu
red *n.* *iaŋkum
reed sp. *n.* *sukan
remove *v.* *kumpra
ripe *adj.* *mɨntɨ
roast *v.* *kra
root *n.* *kɨntɨr
run *v.* *kaŋra
sago *n.* *makin
sago grub *n.* *kukɨ
saliva *n.* *kimpañ
salt *n.* *tutɨm
sand *n.* *kasɨñ; *mia
sap *n.* *mɨrɨm
say *v.* *ua, u-
scratch *v.* *vɨr, vrɨ-
see *v.* *iŋka; *tɨku, tɨkw-
sibling, same-sex older *n.inal.* *isaŋ, -si
sibling, same-sex younger *n.inal.* *ñama,
　-ra
sickness *n.* *kanti
side (of body) *n.* *mantɨŋ

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sister (of male ego) *n.inal.* *-kuna
shadow *n.* *kantar
sharpen *v.* *taŋkwa, taŋkw-
sharpness *n.* *irañ
shoot *v.* *kui; *kur, kurɨ-
shore *n.* *sampan
skin *n.* *pɨsa
sleep *n.* *aku; *ampɨta
slice *v.* *vɨka
small *adj.* ñɨŋi
smoke *n.* *sɨ
snake *n.* *sar; *takwɨ
son *n.* *ña
sorcerer *n.* *marɨk
sore *n.* *vim
speak *v.* *ampa
spear *n.* *kɨsar
SPEC *mu
speech *n.* *kia
spin *v.* *ir, irɨ-
spirit *n.* *suntɨ
split *v.* *iŋkra
stand *svc.* *taŋkwa tama
star *n.* *tintɨ
starling *n.* *siar
stay *v.* *kɨña, kɨñɨ-
step on *v.* *taŋkwa, taŋkw-
stomach *n.* *kwɨmka
stone *n.* *tampa
straight *sɨrɨvɨr
stump *n.* *pɨntum
sugar *n.* *akɨru
sulphur-crested cockatoo *n.* *kaiaŋki
sun *n.* *ina; *iŋar
sweat *n.* pumpɨŋ
swell *v.* *kukra
sword grass *n.* *mɨnta
tail *n.* *tam

take *v.* *pia, pi-
take off *v.* *kumpra
tear *v.* *taka
thing (a certain) *phrs.* *(mu) kɨm
think *vac.* *mi tama
thought *n.* *mi
three days away *adv.* *sikɨñ
throat *n.* *aŋku
throw *v.* *kapra
tie *v.* *kaka; *tɨmpu
together *adv.* *kampa
tomorrow *adv.* *amur
tongue *n.* *mir
tooth *n.* *maka
tree *n.* *tar
true *adj.* *kanta
turn *v.* *ir, irɨ-
two days away *adv.* *añɨr
unripe *adj.* *kaur
very *adv.* *kanta; *sɨku
Victoria crowned pigeon *n.* *kumpin
village *n.* *kaiampra
vine *n.* *sumɨñ
vomit *v.* *miŋra
vulva *n.* *takam
walk *v.* *kɨnta
watch *v.* *kikra
weight *n.* *pɨm
wet *adj.* *pɨta
what *n.* *atɨ
whistle *n.* *kuŋkiŋ
white *adj.* *uŋkam
wing *n.* *ampɨŋ
woman *n.* *naunti
yam *n.* *kunsa
yellow *adj.* *kuŋka
yesterday *adv.* *amɨr

Chapter 7

Conclusion

In the preceding chapters I have reconstructed aspects of the phonology, lexicon, verbal and nominal morphology, and grammar of Proto-Sogeram (PSOG). I devised a new methodology for the grammatical reconstruction, which was reasonably successful. In comparative reconstruction the historical linguist is always limited to making only those reconstructions that are allowed by the data. For methodological reasons I reconstructed only those grammatical constructions that included phonological material, and luckily PSOG possessed a number of such constructions that were still recoverable from the synchronic data. The PSOG serial verb system was reconstructed in some detail, as was the system of clause chain nominalization. The reconstructions of verbal negation and the structure of nonverbal clauses were also fairly successful, although some questions remain. And there were some domains in which reconstructions could be proposed, but not with great confidence, notably noun phrase structure and interrogatives.

Thus, while it is not yet possible to reconstruct every detail of PSOG—and it probably never will be—it is still possible, with the ideas I have proposed here, to reconstruct more of it than we previously could. The PSOG data also provide us with an instructive case study of when a construction should *not* be reconstructed to the proto-language even though it is widely attested in the daughter languages: the desiderative construction.

7.1. Proto-Sogeram Grammar Sketch

In this section I present an outline of PSOG grammar, to the extent that it has been reconstructed. This section is intended as a summary and a reference; I offer no arguments for the reconstructions I present here, but rather refer to the sections where argumentation can be found. I also do not distinguish between very secure reconstructions and highly speculative ones.

7.1.1. Phonology (Chapter 2)

PSOG had eleven consonants, which are presented in Table 1. Where the orthographic symbol I use differs from the phonetic symbol, the orthographic symbol is given in <angled brackets> on the right.

Table 1. PSOG consonant inventory

	bilabial	alveolar	palatal	velar	labio-velar
voiceless plosive	*p	*t		*k	*kʷ <kw>
fricative	*β <v>	*s			
nasal	*m	*n	*ɲ <ñ>	*ŋ	
liquid		*r			

One case of allophonic variation can be pointed out. The bilabial fricative *v was voiceless word-initially and voiced elsewhwere:

*v > *[ɸ] / #__

      *[β] / elsewhere

The PSOG vowels are presented in Table 2.

Table 2. PSOG vowel inventory

	front	central	back
high	*i	*ɨ	*u
low		*a	

In addition to these four simple vowels, a syllable nucleus could be composed of either of the diphthongs *ai or *au.

The high vowels *i and *u had consonantal allophones *[j] and *[w] that occurred when these vowels were followed by another vowel in the same syllable:

*/i, u/ >   *[j, w] / .__V

*[i, u] / elsewhere

When *i and *u were followed by an open syllable, an epenthetic *[j] or *[w] was inserted between them and the following vowel. That is, *i.V and *u.V were realized as *[i.jV] and *[u.wV].

The consonants *r and *ŋ, and the vowel *ɨ, did not occur in word-initial position, and it is unclear if *ɨ occurred in word-final position. Every consonant could occur word-finally.

A few kinds of consonant clusters were permitted. One consisted of *p, *k, *kw, or *v plus *r. This type of cluster was allowed word-initially and medially. The other kind of cluster consisted of a nasal and a stop. These were usually homorganic—*mp, *nt, *ŋk, or *ŋkw—but non-homorganic sequences did occur. Homorganic sequences occurred word-medially and finally, while non-homorganic sequences only occurred medially. These two kinds of consonant clusters could combine word-medially, as in *ampra 'place' or *maŋkra 'pull,' although the nasal and stop are homorganic in all such attested clusters.

Word-final consonant clusters were not allowed, but *ai and *au could be followed by consonant codas (as in *kaur 'unripe'). This suggests that these vowel sequences should be analyzed as diphthongs rather than as sequences of two vowels in which the *a served as the nucleus and the high vowel took its consonantal allophone, since the latter analysis would require positing a complex coda in forms like *kaur.

7.1.1.1. Vowel Elision (§3.1.1)

One PSOG morphophonemic process can be described. When a verb ending in a vowel was combined with a vowel-initial suffix, the vowel of the suffix usually elided the vowel of the verb root. This process can be described in some detail, and in fact verbs can be broken into five classes based on their interaction with verb suffixes: *a*-root, *u*-root, *i*-root, *kw*-root, and C-root verbs. The first four ended in the segments *a, *u, *i, and *kw, respectively; C-root verbs ended in any other consonant.

Verb suffixes, on the other hand, began with either *i, *ɨ, *u, or a consonant. No verb suffixes beginning with *a have been reconstructed. This produces twenty possible combinations of a verb class with a suffix-initial segment, and the outcomes for nineteen of these are presented in Table 3. It is not known what resulted from the combination of an *i*-root (like *tɨki 'fill') with a *u-initial suffix (like *-u '2SG.IMP').

Table 3. Verb class behavior

	First segment of suffix			
	*i	*ɨ	*u	*C
a-root	*i	*ɨ	*au	*aC
u-root	*i	*ɨ	*u	*uC
i-root	*i	*i	?	*iC
kw-root	*kwi	*ku	*ku	*kuC
C-root	*Ci	*Cɨ	*Cu	*CɨC

A-roots, *u*-roots, and *i*-roots all underwent vowel elision except in two circumstances. When an *a*-root (like *tama 'put') was combined with a *u-initial suffix (like *-u '2SG.IMP'), both vowels were preserved (*tama-u). And when an *i*-root (like *tɨki 'fill') was combined with a *ɨ-initial suffix (like *-ɨmpa 'IRR.INF'), the root vowel elided the suffix vowel instead of vice versa (*tɨki-mpa).

Kw-roots retained their root-final *kw when followed by an *i-initial suffix, but changed it to a *ku sequence when followed by a suffix that began with *ɨ, *u, or a consonant. And C-roots remained unchanged before vowel-initial suffixes but adde an epenthetic *ɨ before consonant-initial suffixes.

7.1.2. Parts of Speech

PSOG had at least six parts of speech: nouns, verbs, adjectives, adverbs, pronouns, and demonstratives. These are described below.

We know that word classes usually exhibit prototype structures and often have fuzzy boundaries. PSOG was not unusual in this respect, and a few words blurred the line between various word classes. Thus, for example, *kanta was both an adjective meaning 'true' and

an adverb meaning 'very,' and *iŋar was a noun meaning 'sun' and an adverb meaning 'day(time).'

7.1.2.1. Nouns

Nouns could function as the head of a noun phrase, which could function as the subject or object of a clause, or as an oblique argument. They could also modify another noun attributively (§5.2.1). PS<small>OG</small> nouns can be further divided into two subclasses: inalienably possessed nouns and common nouns.

Inalienably possessed nouns were a small, closed class of kin terms (§4.1). They were distinguished by the fact that they were obligatorily inflected to show the person of their possessor. This was usually done with the possessive prefixes *a- '1.POSS,' *na- '2.POSS,' and *nɨ- '3.POSS,' but some nouns had suppletive forms for a given person category, such as *-mku 'nephew, niece,' which had the suppletive 1.POSS form *iui. Inalienably possessed nouns were also distinguished by the fact that they could take the accusative enclitic *=ŋ (§4.2.2), which did not attach to noun phrases headed by common nouns. (This enclitic probably also attached to proper nouns, although no proper nouns can be reconstructed for PS<small>OG</small>.)

Common nouns were simply those nouns that were not inalienably possessed. They had no defining characteristics that distinguished them from inalienably possessed nouns, aside from the fact that they lacked those characteristics that defined inalienably possessed nouns.

7.1.2.2. Verbs (Chapter 3)

Verbs usually functioned as the main predicate of the clause, and could be inflected for subject agreement as well as tense, aspect, mood, and switch reference. As mentioned above, PSOG verbs can be grouped into five classes based on their morphophonological behavior: *a*-roots, *u*-roots, *i*-roots, *kw*-roots, and C-roots (§3.1.1).

Verbs could also remain uninflected in serial verb constructions (§3.2). When in their uninflected form, some verb roots had a different root shape, although most did not. This special uninflected root always involved the addition of an *a to the end of the inflected root (§3.2.1).

7.1.2.3. Adjectives (§5.1.1) and Adverbs (§5.1.2)

Adjectives could modify nouns attributively or serve as predicates on their own (§5.3.3). Both of these functions could also be performed by nouns, but PSOG adjectives can be distinguished from nouns because attributive adjectives followed their head noun (§5.2.3), while attributive nouns preceded it.

A separate class of adverbs also existed. Like adverbs in many languages, PSOG adverbs comprised a fairly heterogeneous set of words which fulfilled a variety of functions. They could modify various constituents of the clause (with meanings like 'only' and 'very') or the clause itself (with meanings ranging from 'tomorrow' to 'completely').

7.1.2.4. Pronouns (§4.2)

Pronouns were a small, closed class of words that distinguished singular and plural as well as first, second, and third person. As shown in Table 4, they came in subject, object, oblique, possessive, and emphatic forms.

Table 4. PSOG pronouns

	Subject	Object	Oblique	Possessive	Emphatic
1SG	*ia	*ia=ŋ	*ia=nt	*ia-kw	*ia-mpi
2SG	*na	*na=ŋ	*na=nt	*na-kw	*na-mpa
3SG	*nɨ, *nu	*nɨ=ŋ, nu=ŋ	*nɨ=nt, nu=nt	*nɨ-kw	*nɨ-mpa
1PL	*ara	*ar=ɨŋ	*ar=nt	*ar-kw	*ar-mpa
2PL	*nara	*nar=ɨŋ	*nar=nt	*nar-kw	*nar-mpa
3PL	*nɨra	*nɨr=ɨŋ	*nɨr=nt	*nɨr-kw	*nɨr-mpa

As this table shows, the non-subject forms were composed of a root and a suffix or enclitic. In the singular forms the pronominal root was identical to the subject root, but in the plural forms the root used differed from the subject root in the deletion of a final *a. Note also that the 3SG often varied between *nu and *nɨ, although in the possessive and emphatic pronouns only *nɨ was used. The significance of this variation is unclear.

The subject pronouns were used as subjects (§4.2.1). The object pronouns were composed of the bound pronominal roots and the accusative enclitic *=ŋ, and functioned as objects (§4.2.2). The oblique pronouns were formed with the oblique enclitic *=nt (§4.2.3). This enclitic usually marked constituents that occurred within a larger noun phrase and modified the head noun. This modification could take various forms, including the marking of possession (§5.2.2). So the oblique pronouns either indicated that their referent was the possessor of the head noun, or was a relevant for the interpretation of the head noun in some way. The possessive pronouns were formed with the suffix *-kw and indicated

possession (§4.2.4); how this possession differed from that expressed by the oblique pronouns is not clear. Finally, the emphatic pronouns were formed with the suffix *-mpa or, in the 1SG, *-mpi (§4.2.5). Emphatic pronouns conveyed a degree of contrastiveness and individuation. They could function as the subject of the clause and possibly also as the object.

7.1.2.5. Demonstratives (§4.3)

Demonstratives in PSOG distinguished three deictic distances: near, mid, and far (§4.3.1). The roots could be used by themselves, in which case they marked a referent that was already topical (§4.3.2). They could also be reduplicated to convey contrast (§4.3.3). Both of these forms—the simple root and the reduplicated root—could then take a number of suffixes and enclitics which marked case or information structure. The forms are presented in Table 5.

Table 5. PSOG demonstratives

	ND	MD	FD	QD
bare	*in	*ka	*antu	
contrastive	*in~in	*ka~ka	*antu~ntu	
topic/object	*inɨ-n	*ka-n	*antu-n	
oblique	*inɨ=nt	*ka=nt	*antu=nt	
locative 1	*inɨ=ñ	*ka=ñ	*antu=ñ	*ampa=ñ
locative 2	*inɨ-mpV	*ka-mpV	*antu-mpV	
focus	*inɨ-kw	*ka-kw	*antu-kw	

Note that there is a fourth demonstrative root in this table, the interrogative demonstrative root *ampa-. This form took the same suffixes as the other demonstrative roots to form question words, although only one such pairing can be directly reconstructed: *ampa=ñ [QD=LOC] 'where' (§5.3.2).

Note also that some of the affixes on demonstratives are suffixes while others are clitics. The clitics are forms that could attach to a noun phrase or a pronoun without a demonstrative there to host them; the suffixes are forms that only attached to demonstratives.

The topic/object forms with the suffix *-n served two functions: they marked accusative case on noun phrases headed by common nouns, and they marked the subjects of nonverbal predicates (§4.3.5). They probably also marked topic-fronted constituents for verbal predicates (§5.3.3).

The oblique forms in *=nt indicated that their referent functioned as an oblique argument of some kind in the clause—the exact semantics are difficult to reconstruct (§4.3.4). They could also mark noun phrases functioning attributively to modify a head noun within a larger noun phrase (§5.2.2).

The two locative forms in *=ñ (§4.3.6) and *-mpV (which ended in either *a or *u; §4.3.7) marked locations. It is not clear how they differed.

The focus forms with the suffix *-kw marked individuation or contrast (§4.3.8).

Finally, the unaffixed middle demonstrative *ka had an additional function that it did not share with the unaffixed near or far demonstratives: it could topicalize a medial clause. In this construction, it followed a medial clause (whether same-subject or different-subject) and indicated that its event was topical or important for the event of the upcoming clause (§4.3.2).

7.1.3. Noun Phrase Structure (§5.2)

Several aspects of the noun phrase can be reconstructed. The order of constituents was as follows:

$$*N_{ATTR} \quad N_{HEAD} \quad ADJ \quad DEM \quad CLITIC$$

That is, the attributive noun (or noun phrase) came first (§5.2.1), followed by the head noun, the adjective (§5.2.3), the demonstrative, and the enclitic. All of these elements, including the head noun, were optional. Possessors could either precede or follow the head noun (§5.2.2). While their order with respect to the attributive noun and the adjective cannot be reconstructed, it is clear that they preceded the demonstrative and enclitic.

7.1.3.1. Enclitics and Demonstratives

There was a good deal of interaction between the demonstrative and the enclitic at the end of the noun phrase. Four noun phrase enclitics can be reconstructed, as shown in Table 6.

Table 6. PSOG noun phrase enclitics

gloss	form	pronoun	demonstrative
ACC	*=ŋ	yes	no
OBL	*=nt	yes	yes
LOC	*=ñ	no	yes
TOP	*=mpɨr	no	no

Each of these enclitics had unique distributional properties. The 'pronoun' column shows whether an enclitic could attach to a pronoun; only *=ŋ 'ACC' and *=nt 'OBL' could. Similarly, the 'demonstrative' column shows that only *=nt 'OBL' and *=ñ 'LOC' attached to demonstratives. As I discuss below, these forms also sometimes behaved differently

depending on whether the noun phrase to which they were attaching was headed by a common or an inalienably possessed noun.

Accusative *=ŋ was used to form the object pronouns (§4.2.2). It could also attach to noun phrases headed by inalienably possessed nouns to mark them with accusative case. But it did not mark common nouns; this function was instead performed by the topic/object demonstratives in *-n (§4.3.5). Consequently, *=ŋ did not occur on demonstratives.

Oblique *=nt formed the oblique pronouns (§4.2.3) as well as the oblique demonstratives (§4.3.4). This enclitic could also attach to a noun phrase headed by any noun, whether common or inalienably possessed.

The locative enclitic *=ñ did not attach to pronouns, but did attach to demonstratives (§4.3.6). It could also attach directly to a noun phrase, although only one headed by a common noun. This enclitic had two allomorphs: it was realized as *=ñ when it attached to a vowel, and as *=i when it attached to a consonant.

Finally, the topic enclitic *=mpɨr attached neither to pronouns nor to demonstratives, but only to noun phrases headed by inalienably possessed nouns (§4.2.7). It either indicated that the head of its noun phrase was topical in the discourse, or it rendered the head topical itself.

It should be noted that none of these enclitics attached to a noun phrase in which a demonstrative was already hosting another suffix. In other words, the occurrence of any of the demonstrative suffixes presented in Table 5 above (*-n 'TOP/ACC,' *=mpV 'LOC,' or *-kw 'FOC') blocked the co-occurrence of any of these enclitics. Contrastive reduplication of the

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root did not function this way, so *ka~ka=ñ 'MD~CTR=LOC,' for example, was well-formed (§4.3.3).

7.1.4. Verb Morphology (Chapter 3)

PSₒɢ had very rich verb morphology, and a great deal can be reconstructed. PSₒɢ made a morphological distinction between medial and final verbs. Final suffixes marked subject agreement and a wide range of TAM categories (§3.3). Medial suffixes marked switch reference and relative tense, but received TAM information from their final verb (§3.4). The sections below present eleven final verb categories, including six tenses, one aspect, and four moods. One of these moods, the irrealis (§3.3.10), could also be used medially. Four other medial categories can be reconstructed: two same-subject suffixes, a different-subject paradigm, and a reduplicative simultaneous suffix. Finally, three verb suffixes can be reconstructed that are not easily classified as medial or final: a nominalizer (§3.5.1), a participle (§3.5.2), and an infinitive (§3.5.3).

Verb morphology generally conformed to the following template (§3.3):

Root   TAM   Agreement

The verb root was followed first by a TAM suffix and then by a subject agreement suffix. For some categories, such as the immediate past and the imperative, there was no TAM suffix; rather, the TAM category was inferable because no other category took those agreement suffixes but no TAM suffix. There were seven different sets of agreement suffixes, presented in Table 7, each of which was used in a subset of the TAM categories.

Table 7. PSOG verb agreement suffixes (§3.3)

Name	1SG	2SG	3SG	1PL	2PL	TAM categories
Set I	*-in	*-na	*-i	*-riŋ	*-ra	Immediate past, historic past, DS realis
Set II	*-n	*-na	*-r, *-i	*-uriŋ	*-ra	Today past, recent past, far past
Set III	*-n	*-na	*-ri	*-riŋ	*-ra	Future
Set IV	*-n	*-na	*-i	*-riŋ	*-ra	Habitual
Set V	*-ŋ	*-na	*-r, *-i	*-riŋ	*-ra	Counterfactual, Irrealis
Set VI	*-ŋ	*-u		*-ɨmɨri	*-mar	Imperative
Set VII	*-ñ	*-na	*-nt	*-riŋ	*-ara	Prohibitive

Note that there was no 3PL agreement suffix (§3.1.3). It is unclear whether PSOG 3PL subjects were marked with the 2PL agreement forms—which had been ambiguous between 2PL and 3PL reference in Pre-PSOG—or with a special plural serial verb construction that used the 3SG suffix.

7.1.4.1. Immediate Past (§3.3.1)

The immediate past tense was formed with the Set I agreement suffixes and no tense suffix, as shown in Table 8. The time reference of this tense included the present moment and also extended a few hours into the past.

Table 8. Immediate past tense suffixes

	SG	PL
first person	*-Ø-in	*-Ø-riŋ
second person	*-Ø–na	*-ŋ–ra
third person	*-Ø-i	

7.1.4.2. Today Past (§3.3.2)

The today past tense was formed with the suffix *-iamɨ and the Set II agreement suffixes, as shown in Table 9. Note that the 3SG suffix was *-i, not *-r. This tense referred to events that

took place on the day of the speech act, but before the time reference of the immediate

past.

Table 9. Today past tense suffixes

	SG	PL
first person	*-iamɨ-n	*-iam-urɨŋ
second person	*-iamɨ-na	*-iamɨ-ra
third person	*-iam-i	

7.1.4.3. Recent Past (§3.3.3)

The recent past tense, shown in Table 10, was formed with the suffix *-ŋkɨ and the Set II

agreement suffixes (with *-r, not *-i, in the 3SG). The time reference of this tense preceded

that of the today past, although it is unclear how far into the past it extended.

Table 10. Recent past tense suffixes

	SG	PL
first person	*-ŋkɨ-n	*-ŋk-urɨŋ
second person	*-ŋkɨ-na	*-ŋkɨ-ra
third person	*-ŋkɨ-r	

7.1.4.4. Far Past (§3.3.3)

The far past was formed with two tense suffixes: *-ma, which is used in the historic past,

and *-ŋkɨ, used in the recent past. These were combined with the Set II agreement suffixes;

the forms are given in Table 11. The time reference of this tense lay between those of the

recent past and the historic past.

Table 11. Far past tense suffixes

	SG	PL
first person	*-ma-ŋkɨ-n	*-ma-ŋk-urɨŋ
second person	*-ma-ŋkɨ-na	*-ma-ŋk-ra
third person	*-ma-ŋkɨ-r	

7.1.4.5. Historic Past (§3.3.4)

Table 12 gives the forms for the historic past, which was formed with the suffix *-ma and the Set I agreement suffixes. This tense referred to everything before the far past, although it is not clear exactly where the boundary between the two was, or how flexible it was.

Table 12. Historic past tense suffixes

	SG	PL
first person	*-m-in	*-ma-rɨŋ
second person	*-ma-na	*-ma-ra
third person	*-m-i	

7.1.4.6. Future (§3.3.5)

The future tense was formed with the suffix *-ɨmpa and the Set III agreement suffixes, as shown in Table 13. Note that in the 1SG the suffix changed to *-ɨmpia. This was the only future tense, and as such referred to all future events.

Table 13. Future tense suffixes

	SG	PL
first person	*-ɨmpia-n	*-ɨmpa-rɨŋ
second person	*-ɨmpa-na	*-ɨmpa-ra
third person	*-ɨmpa-ri	

7.1.4.7. Habitual (§3.3.6)

The habitual aspect, shown in Table 14, was formed with the suffix *-ɨtia and the Set IV agreement suffixes. This verb form signified that an event occurred habitually, but did not appear to combine that aspectual meeting with any tense meaning.

Table 14. Habitual aspect suffixes

	SG	PL
first person	*-ɨtia-n	*-ɨtia-riŋ
second person	*-ɨtia-na	*-ɨtia-ra
third person	*-ɨtia-i	

7.1.4.8. Imperative (§3.3.7)

The imperative mood was formed with only the Set VI agreement suffixes and no TAM suffix. The forms are given in Table 15; note that there are no third person forms. It is unclear whether this is because they did not exist in PSOG or because they simply cannot be reconstructed. The imperative verb forms were used to give positive commands.

Table 15. Imperative mood suffixes

	SG	PL
first person	*-ŋ	*-ɨmɨri
second person	*-u	*-mar
third person		

7.1.4.9. Prohibitive (§3.3.8)

PSOG had a dedicated prohibitive, or negative imperative, paradigm of verb suffixes, shown in Table 16. It was formed with the prohibitive suffix *-ɨmɨ and the Set VII agreement suffixes. It was used to give negative commands.

Table 16. Prohibitive mood suffixes

	SG	PL
first person	*-ɨmɨ-ñ	*-ɨmɨ-rɨŋ
second person	*-ɨmɨ-na	*-ɨm-ara
third person	*-ɨmɨ-nt	

7.1.4.10. Counterfactual (§3.3.9)

The counterfactual paradigm is given in Table 17. It was formed with a suffix *-ɨvɨ (in the first person and 2SG) or *-ɨva (in the 3SG and 2PL) and the Set V agreement suffixes. It was used to refer to hypothetical events or other events that did not happen. In this function it overlapped somewhat with the semantic range of the imperative, prohibitive, and irrealis moods, and it is not clear exactly how semantic space was carved up among these different forms.

Table 17. Counterfactual mood suffixes

	SG	PL
first person	*-ɨvɨ-ŋ	*-ɨvɨ-rɨŋ
second person	*-ɨvɨ-na	*-ɨva-ra
third person	*-ɨva-r	

7.1.4.11. Irrealis (§3.3.10)

The irrealis mood was formed with the suffix *-ɨt and the Set V agreement suffixes, as shown in Table 18. This verb paradigm was unique in that it could function both medially and finally. When functioning finally it had irrealis meaning, but it is unclear how this meaning differed from the meaning of the counterfactual verbs forms. It functioned medially, the irrealis paradigm had different-subject meaning. Importantly, it could only

perform this medial function in irrealis clause chains—that is, clause chains that ended in a semantically irrealis TAM category such as the imperative, future, or counterfactual.

Table 18. Irrealis mood suffixes

	SG	PL
first person	*-ɨt-iŋ	*-ɨt-rɨŋ
second person	*-ɨt-na	*-ɨt-ra
third person	*-ɨt-i	

7.1.4.12. Same–subject (§3.4.1)

PSᴏɢ had two same-subject switch reference suffixes: *-i and *-ta. These distinguished immediately sequential actions from actions that were separated by an interval of time. The suffix *-i indicated that the action of the following verb was immediately sequential, while *-ta indicated that an interval of time elapsed between the marked verb and the following verb.

7.1.4.13. Different–subject Realis (§3.4.2)

The different-subject realis forms are given in Table 19. As mentioned above, in irrealis clause chains PSᴏɢ used the irrealis mood forms as different-subject markers. But in realis chains, these forms were used. They were formed with the suffix *-ɨka and the Set I agreement suffixes.

Table 19. Different-subject realis suffixes

	SG	PL
first person	*-ɨk-in	*-ɨka-rɨŋ
second person	*-ɨka-na	*-ɨka-ra
third person	*-ɨk-i	

7.1.4.14. Different-subject Simultaneous (§3.4.3)

The different subject verb forms, both irrealis and realis, could be reduplicated to indicate that the action of the marked verb and the action of the following verb occurred simultaneously. The reduplicative suffix copied the whole word, and was probably a separate phonological word.

7.1.4.15. Nominalization and Participle (§3.5.1, §3.5.2)

PSOG had a reduplicative nominalizing suffix that derived nouns from verbs. This suffix copied the whole verb root to create nominal forms that could function both as common nouns and as adverbial forms that modified the main predicate. A few verbs formed their nominalizations irregularly, with a suffix *-ŋ instead of by reduplication, but it is not clear which verbs behaved this way.

PSOG had another derivational suffix, the participial *-m which derived adjectives from verbs.

7.1.4.16. Irrealis Infinitive (§3.5.3)

The final verbal category that can be reconstructed for PSOG is the irrealis infinitive. This was formed with the suffix *-ɨmpa—the same suffix that was used to form the future tense—and no agreement suffix. The specific kind of irrealis meaning that this form conveyed, as well as its grammatical function, are difficult to reconstruct.

7.1.5. Clause Structure

Several aspects of PSOG clause structure can be reconstructed. The grammar of verbal and nonverbal clauses was quite different, so I discuss them in separate sections below. In addition, verbal clauses could contain fairly complicated serial verb constructions, so I devote a separate section to them.

7.1.5.1. Verbal Clauses

The order of arguments in PSOG verbal clauses was SOV (§5.3), although the placement of oblique arguments remains somewhat unclear. Polar questions were formed by appending the enclitic *=mpi to the clause. Content questions were formed with dedicated question words that were left *in situ*. Some of these were simple question words, such as *atɨ 'what'; others, like *ampa=ñ [QD=LOC] 'where' were built on the interrogative demonstrative root *ampa, which took the same suffixes and enclitics as other demonstratives but formed question words (§5.3.2).

Verbal clauses were negated by placing the negative particle *ma before the verb. It may have also been possible to place *ma after the verb in an emphatic negation construction, although this is not clear (§5.3.1).

1.3.1.1. Serial Verb Constructions (§3.2)

PSOG verbs could be combined in serial verb constructions (SVCs). These constructions consisted of a number of uninflected verbs followed at the end by a verb that carried all the inflection for the SVC, whether that was medial or final. Many verbs—particularly if they

were not *a*-root verbs—had slightly different stem shapes when they were uninflected serial verbs (§3.2.1). For example, 'go up' was *iakw- when bound but *iaku when free, 'give' was *iŋkw- when bound but *iŋkwa when free, and 'close' was *sɨnti- when bound but *sɨntia when free. Free forms commonly differed from their bound counterparts in the addition of a final *a.

Three distinct types of SVCs can be reconstructed: aspectual (§3.2.2), orientation (§3.2.3), and causative SVCs (§3.2.4). In aspectual SVCs, the final verb of the SVC did not contribute its normal lexical semantics to the SVC, but contributed aspectual semantics instead. At least four verbs occurred in this position. They are presented in Table 20 along with the aspectual meaning that they could contribute to their SVC. Note that one of these, *tɨku 'see,' contributed conative semantics ('try to V') to its SVC, which are not technically aspectual.

Table 20. Aspectual SVCs

Verb	Lexical sense	Aspectual meaning
*kɨnta	walk	habitual
*kɨña	stay	stative
*tɨku	see	conative
*tama	put	completive

Orientation SVCs differed from others in that they allowed other parts of speech to intervene between the serialized verbs. Orientation SVCs consisted of an initial intransitive verb—usually a verb of motion or posture—that oriented the subject of the clause to the rest of the predicate. The other verbs in the SVC were not necessarily intransitive, though,

and if they had objects or other arguments these came between the orientation verb and the other verbs.

Finally, causative SVCs consisted of a two-verb pair in which the first verb described a causative action and the second verb described the result. The subject of the first verb was the subject of the whole clause, but the subject of the second verb was the affected entity. This distinguished causative SVCs from other SVCs, since in other SVCs every verb had the same subject. Two verbs can be reconstructed to the causative position: *mɨŋa 'get' and *iŋkwa 'give,' although the latter may only have occurred in one causative SVC: *iŋkwa ña [give eat] 'feed.' Examples of the kind of causative SVC that *mɨŋa 'get' occurred in include *mɨŋa iaku [get go.up] 'lift,' *mɨŋa kɨmu [get die] 'kill,' and *mɨŋa impra [get go.bad] 'ruin.'

7.1.5.2. Nonverbal Clauses (§5.3.3)

Nonverbal clauses were composed of only a topic and a predicate, as PSᴏɢ did not have a copula. The topic, if it contained a demonstrative, was marked with the topic/object suffix *-n, which also marked accusative arguments in verbal clauses; the predicate did not receive case marking.

Because nonverbal predicates only consisted of the topic and the predicate, they were not normally marked for tense or other verbal categories. However, if tense, switch reference, or some other verbal category was desired, nonverbal predicates could contain the verb *kɨña 'stay' at the end of the predicate. In this construction *kɨña simply meant 'be' and functioned only to carry verbal morphology. Speakers could also use *anta 'do' in this construction to convey a more inceptive meaning of 'become.'

Negation of nonverbal clauses could be accomplished in three ways. In the first, the whole nonverbal predicate was followed by the negative word *maka 'none,' as in (1). This construction simply negated the nonverbal predicate.

(1) *[TOP PRED₋VERBAL maka]ₛ   'TOP is not PRED'

In the second, the topic was directly followed by the negative word *maka 'none,' with no intervening predicate, as in (2). In this construction *maka functioned as the nonverbal predicate and had a negative existential interpretation, signaling that there was none of the topic.

(2) *[TOP maka]ₛ   'There is no TOP'

The last nonverbal negation construction was composed entirely of the negative word *manat 'no.' This word functioned pro-clausally—it took the place of an entire clause—and it negated the expected result of a preceding clause. In this construction the preceding clause was marked with different-subject switch reference morphology, as in (3).

(3) *[[V-DS]ₛ [manat]ₛ]   'V happened but the expected result did not'

Pro-clausal *manat was probably also used when listing alternatives, in sentences with meanings like 'Will they come or not?' The grammar of this construction, however, cannot be reconstructed as accurately.

Like other nonverbal predicates, negative nonverbal predicates could occur with *kɨña 'stay' to carry verbal morphology.

7.1.6. Clause Combining (§5.4)

Three constructions involving multiple clauses can be reconstructed: clause chaining, clause chain nominalization, and quoted speech. These are discussed below.

7.1.6.1. Clause Chaining and Switch Reference (§5.4.1)

PS<small>OG</small> clauses were frequently combined into what are called clause chains. These constructions are widespread among Papuan languages (Roberts 1997, Foley 2000). In PS<small>OG</small> they consisted of one or more medial clauses (clauses in which the verb carried medial morphology) followed by a final clause (one in which the verb carried final morphology). The final clause carried the TAM information that governed the whole chain; the medial clauses were marked only for switch reference and relative tense.

Switch reference marking worked as follows. Each medial verb carried a switch reference suffix that indicated whether its own subject was the same as, or different from, the subject of the following verb. If the suffix was same-subject, it did not mark person or number information; if it was different-subject, it agreed with the person and number of its own subject while signaling an upcoming change of subject.

Switch reference markers also distinguished some relative tense categories—that is, they specified certain facts about the temporal relationship between their clause and the following clause. If the switch reference marking was same-subject, it distinguished between immediately sequential events (indicated with *-i 'SS.SEQ') and events separated by an interval of time (indicated with *-ta 'SS.DELAY'). If the switch reference marking was

different-subject, it distinguished between sequential events (indicated with a normal DS-marked verb) and simultaneous events (indicated by reduplicating the DS-marked verb).

Different-subject medial clauses also made an additional, mood-related distinction. If the final clause of the chain was semantically realis, the realis different-subject suffix *-ɨka was used. If the final clause was irrealis, though, the irrealis suffix *-ɨt was used as a different-subject suffix.

7.1.6.2. Clause Chain Nominalization (§5.4.2)

PSOG possessed a subordination construction in which a clause or clause chain was followed by a demonstrative. This demonstrative subordinated the preceding chain, which functioned as a noun phrase in the matrix clause. The case marking on the demonstrative indicated what role the subordinate chain played in the matrix clause.

The subordinate chain was grammatically identical to a matrix chain; it was not distinguishable from a normal matrix clause chain either morphologically or syntactically. Naturally, because it functioned as a noun phrase, it referred, but its referent was pragmatically inferred rather than syntactically marked. It could refer to one of its arguments (whether core or oblique), to the location where its event took place, or to its event as a whole.

The subordinating demonstrative could take the topic/object suffix *-n or the locative enclitic *=ñ. It could also be the unaffixed middle demonstrative *ka. It is likely that a wider array of case markers could function as subordinators, but this cannot be securely reconstructed.

7.1.6.3. Quoted Speech (§5.4.3)

Quoted speech itself did not receive special grammatical marking, but PS<small>OG</small> did use different verbs before and after quotes, which I refer to as pre-quote and post-quote verbs. The pre-quote verb in PS<small>OG</small> was *ampa 'speak.' When it introduced a quote, it took final morphology and occurred under a separate, final intonational contour. The post quote verb was *ua 'go, say,' and it could take either medial or final morphology as the situation warranted. It occurred under the same intonational contour as the preceding quoted material.

7.2. Texts

In the tradition begun by August Schleicher (1868), I have composed two short texts in PS<small>OG</small>, which are presented below. Like Schleicher's original work, this is done "partly to demonstrate that cohesive sentences … can, albeit with difficulty, be constructed, partly for pleasure" (Schleicher 1868: 206).[17] The first is an adaptation of Schleicher's original fable; the second is a version of an indigenous Papuan story I encountered a number of times during my fieldwork. In both cases the story is followed by commentary on the constructions and lexemes employed in the narrative.

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[17] "Theils um darzuthun, dass, wenn auch mit mühe, zusammenhangende sätze … gebildet werden können, theils animi causa."

7.2.1. Schleicher's Fable

Below is a rendition of Schleicher's Fable, also known as "The Sheep and the Horses." Unfortunately, in spite of my best efforts, I have been unable to reconstruct several key terms, including 'sheep,' 'wool,' 'horse,' and 'wagon.' Indeed, my failure in this regard has been so complete that I have had to significantly revise the story in order to be able to tell it in PSOG. The sheep is now a pig; the horses are dogs. The wool and the wagon are gone, the latter having become an unfortunate cassowary. As a consequence of these lexical replacements, the conversation between the protagonists has also undergone a considerable degree of transformation. Nevertheless, the outline of the story remains the same, and I hope this remains a suitable homage to the practitioners of syntactic reconstruction who have gone before me, and to whom I owe so much.

*Inɨn sampaŋ kia. Sampaŋ mu ua apar kañ taŋkwa tami tɨku miŋkwɨki upri kiña kwri. Kiñi muiam kaka ua kiña kwri. Kaka ua kwrɨki iŋkata pam kan ampi. Nariŋ tɨkwin ka, mapɨn iakw pɨm anti ui. Muiam kan kaka uta uta uta miŋitra naŋti ñiti nariŋ ma iŋkwa ñimpari ui. Punsɨŋ paka iŋkumpari ui. Uki upri kaka ampi. Ara tɨkuriŋ ka, mapɨn pɨm anti ui. Kuram kɨpi ñaŋña mi tami ka, naŋ miŋi ivi vɨki kri ñɨmpari ui. Ua tamɨki sampaŋ kaka tɨpa kaŋri sura miŋkwi.

Inɨ-n	*sampaŋ*	*kia.*	*Sampaŋ*	*mu*	*ua*	*apar*	*ka=ñ*	*taŋkwa*	*tam-i*
ND-ACC	pig	speech	pig	SPEC	go	mountain	MD=LOC	step.on	put-SS.SEQ

tɨku	*miŋkw-ɨk-i*		*upri*	*kiña*	*kwr-i.*	*Kiñ-i*	*muiam*	*kaka*	*ua*	*kiña*
look	go.down-DS-3SG		dog	stay	PL-3.IPST	stay-SS.SEQ	cassowary	tie	go	stay

kwr-i.	*Kaka*	*ua*	*kwr-ɨk-i*	*iŋk-i*		*pam*	*ka-n*	*amp-i.*		*Nar=iŋ*	*tɨku-k-in*
PL-3.IPST	tie	go	PL-DS-3	see-SS.SEQ		one	MD-ACC	speak-3SG.IPST		2PL=ACC	see-DS-1SG

ka,   *mapɨn*   *ia-kw*   *pɨm*   *ant-i*   *u-i.*   *Muiam*   *ka-n*   *kaka*
MD.TOP   liver   1SG-POSS   weight   do-3SG.IPST   say-3SG.IPST   cassowary   MD-ACC   tie

u-ta   *u-ta*   *u-ta*   *mɨŋ-it-ra*   *na-ŋti*   *ñ-ɨt-i*   *nar=ɨŋ*
go-SS.DELAY   go-SS.DELAY   go-SS.DELAY   get-IRR-2PL   2.POSS-father   eat-IRR-3SG   2PL=ACC

ma   *iŋkwa*   *ñ-ɨmpa-ri*   *u-i.*   *Punsɨŋ*   *paka*   *iŋku-mpa-ri*   *u-i.*
NEG   give   eat-FUT-3SG   say-3SG.IPST   bone   only   give-FUT-3SG   say-3SG.IPST

U-k-i   *upri*   *ka~ka*   *amp-i.*   *Ara*   *tiku-ka-rɨŋ*   *ka,*   *mapɨn*   *pɨm*
say-DS-3SG   dog   MD~CTR   speak-3SG.IPST   1PL   see-DS-1PL   MD.TOP   liver   weight

ant-i   *u-i*   *Kuram*   *kɨp-i*   *ñaŋña*   *mi*   *tam-i*   *ka,*
do-3SG.IPST   say-3SG.IPST   man   get.up-SS.SEQ   food   thought   put-SS.DELAY   MD.TOP

na=ŋ   *mɨŋ-i*   *iv-i*   *vɨk-i*   *kr-i*   *ñ-ɨmpa-ri*   *u-i.*   *Ua*
2SG=ACC   get-SS.SEQ   hit-SS.SEQ   cut-SS.SEQ   roast-SS.SEQ   eat-FUT-3SG   say-3SG.IPST   say

tam-ɨk-i   *sampaŋ*   *ka~ka*   *tɨpa*   *kaŋr-i*   *sura*   *mɨŋkw-i.*
put-DS-3SG   pig   MD~CTR   fear   run-SS.SEQ   forest   go.down-3SG.IPST

> 'This is the pig story. A pig went and stood on a mountain and looked down at some dogs. The dogs were chasing a cassowary. The pig watched them and spoke to one. "When I see you it makes me sad (lit. 'my liver is heavy')," it said. "You'll chase and chase the cassowary and catch it, but your owner will eat it and won't give you any," it said. "He'll only give you bones," it said. The dog replied. "When we see you, it makes us sad," it said. "When the man thinks of food (lit. 'puts a food thought'), he'll take you, kill you, cut you up, cook you and eat you," it said. When he had said this, the pig fled down into the forest.'

This story is told using the immediate past tense as a historical present. The place of articulation for the final nasal in *sampaN 'pig' cannot be reconstructed; the velar nasal *ŋ is a guess. The way PSOG handled 3PL subject agreement on verbs is also unknown. I have chosen to use a serial verb construction ending in a hypothetical plural verb *kwra, based a reflex in Manat (see §3.6.5). A word for 'chase' cannot be reconstructed, so I use the serial verb construction *kaka ua 'tie go,' inspired by a Sirva compound verb. An expression for sorrow cannot be reconstructed, so I have invented a verb adjunct construction *pɨm anta

'weight do' that takes the liver as its subject, based on similar expressions in several languages.

7.2.2. How the Ancestors Got Sago

This is, it seems, a fairly widespread story in the Madang region. I encountered it in the villages of Paynamar, Musak, and Panim, while conducting fieldwork on, respectively, Manat, Aisi Mabɨŋ, and Panim. Manat and Aisi Mabɨŋ are Sogeram languages; Panim is a distantly related Madang language of the Croisilles group. Another version of the story, from the Kire-speaking village of Giri, was encountered by Z'graggen (1992: 98–99). As Kire is a Ramu language and is unrelated to the three others, the provenance of this story is uncertain. This presentation should therefore not be interpreted as an assertion that the story was told by speakers of PSOG, although of course it may have been.

The outline of the story is the same in all four cases, though many of the details vary. In general it runs as follows.

> Long ago, our ancestors did not process sago the way we do today. They used to just drill a hole in a sago palm, put a basket underneath it, and edible sago would just fall into the basket. But then someone did something to the sago palm and it closed up. Now getting sago is hard work. We have to cut the tree down, split it open, scrape the pith out, and wash it before we can eat it.

In Giri the one responsible for closing the sago palm was a child who, mistaking the sago flowing out of the tree for a snake, shot it with a toy bow. In Panim it was the flying fox, who watched people getting sago the old way and devised the new way. He convinced

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the other birds[18] of the superiority of his way, and the innovation spread from them to people. And in the Sogeram languages it was a dog. In Manat the dog licked at the flowing sago. In Aisi the master forgot to feed the dog so, after spying on its master, the dog scratched at the sago tree in an attempt to procure food for itself. In both cases the dog's actions shut the sago tree forever.

Because the rendering below is in PSₒɢ, I have chosen to follow the Sogeram examples as closely as possible. Sometimes, where appropriate vocabulary is not available (as with 'drill,' 'basket,' and 'wash'), I have made minor changes.

> *Inɨn makin kia. Kusai, añki arkw makin ma antɨtiara. Sura kañ kap uta, vɨki, vaŋka tamɨkara ñaŋña ka mɨŋkɨtiai. Mɨŋkɨkimɨŋkɨki kuar uta, ampañ ampañ uta, vaitiara. Vaikara mɨta kɨñɨki mɨŋɨtiara. Añki arkumpɨr kan anta kɨntamara. Mɨni kuram mu kɨpi upri mɨŋi makin kant umi. Ikuntɨ ma iŋkwa ñami. Ka anti makin vɨki vaŋka tami kuar umi. Kuar uki, upri kaka kɨñi, ñaŋña mɨŋkami kan kikri makin kan vrɨmi. Vrɨki sikan sɨntimi. Ñaŋña nɨkw ma mɨŋkami. Ka antɨki, kuram ka vai tɨkwɨki manat. Ñaŋña maka kɨñɨki makin kan kwakɨki mɨŋkaki vri ivi ñami. Ka antɨmi ka, iŋar inɨñ armpa iki vri ivi ña kɨntarɨŋ.

Inɨ-n	makin	kia.	Kusai,	a-ñki	ar-kw	makin	ma	ant-ɨtia-ra.
ND-ACC	sago	speech	before	1.POSS-grandfather	1PL-POSS	sago	NEG	do-HAB-2/3PL

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[18] In Panim, as in many folk taxonomies in the area (such as Kalam; cf. Majnep & Bulmer 1977), flying foxes and other bats are grouped taxonomically with birds.

Sura   ka=ñ   kap   u-ta,   vɨk-i,   vaŋka   tam-ɨka-ra   ñaŋña   ka
forest   MD=LOC   just   go-SS.DELAY   cut-SS.SEQ   leaf   put-DS-2/3PL   food   MD.TOP

miŋk-ɨtia-i.   Miŋk-ɨk-i~miŋkɨki   kuar   u-ta,   ampa=ñ   ampa=ñ
come.down-HAB-3SG   come.down-DS-3~SIM   garden   go-SS.DELAY   QD=LOC   QD=LOC

u-ta,   vai-tia-ra.   Vai-ka-ra   mɨta   kiñ-ɨk-i   miŋ-ɨtia-ra.
go-SS.DELAY   come-HAB-2/3PL   come-DS-2/3PL   be.full   stay-DS-3SG   get-HAB-2/3PL

A-ñki   ar-ku=mpɨr   ka-n   anta   kɨnta-ma-ra.   Mɨni   kuram   mu
1.POSS-grandfather   1PL-POSS=TOP   MD-ACC   do   walk-HPST-2/3PL   later   man   SPEC

kɨp-i   upri   miŋ-i   makin   ka=nt   u-m-i.   Ikuntɨ   ma   iŋkwa
get.up-SS.SEQ   dog   get-SS.SEQ   sago   MD=OBL   go-HPST-3SG   morning   NEG   give

ña-m-i.   Ka   ant-i   makin   vɨk-i   vaŋka   tam-i   kuar
eat-HPST-3SG   MD.TOP   do-SS.SEQ   sago   cut-SS.SEQ   leaf   put-SS.SEQ   garden

u-m-i.   Kuar   u-k-i,   upri   ka~ka   kiñ-i,   ñaŋña   miŋka-m-i
go-HPST-3SG   garden   go-DS-3SG   dog   MD~CTR   stay-SS.SEQ   food   come.down-HPST-3SG

ka-n   kikr-i   makin   ka-n   vrɨ-m-i.   Vr-ɨk-i   sɨkan
MD-ACC   watch-SS.SEQ   sago   MD-ACC   scratch-HPST-3SG   scratch-DS-3SG   completely

sɨnti-m-i.   Ñaŋña   nɨ-kw   ma   miŋka-m-i.   Ka   ant-ɨk-i,   kuram
close-HPST-3SG   food   3SG-POSS   NEG   come.down-HPST-3SG   MD.TOP   do-DS-3SG   man

ka   vai   tɨkw-ɨk-i,   manat.   Ñaŋña   maka   kiñ-ɨk-i   makin   ka-n
MD.TOP   come   look-DS-3SG   no   food   none   stay-DS-3SG   sago   MD-ACC

kwak-ɨk-i   miŋka-k-i   vr-i   iv-i   ña-m-i.   Ka
chop-DS-3SG   come.down-DS-3SG   scratch-SS.SEQ   hit-SS.SEQ   eat-HPST-3SG   MD.TOP

antɨ-m-i   ka,   iŋar   ini=ñ   ar-mpa   ik-i   vr-i   iv-i   ña
do-HPST-3SG   MD.TOP   day   ND=LOC   1PL-EMPH   chop-SS.SEQ   scratch-SS.SEQ   hit-SS.SEQ   eat

kɨnta-rɨŋ.
walk-1PL.IPST

'This is the sago story. Before, our ancestors didn't process sago. They used to just go to the forest, cut (a sago palm), put a container (there) and food would fall down. As it fell they'd go to the garden, or go wherever, and come back. When they came back it'd be full and they'd take it. Our ancestors used to do that. (Some time) later, a man took his dog and went (looking) for sago. In the morning he didn't feed (his dog). He went and cut sago, put a container (there) and went to his

garden. But the dog stayed, watched the food coming down, and scratched the sago tree. Then it closed up completely. Its food didn't come down (anymore). Then, the man came back and looked, but alas! There was no food, so he chopped the sago down, scraped it (out), pounded it and ate it. Because of that, now we also cut it, scrape it (out), pound it and eat it.'

This story is told using the historical past. Here I treat the 2PL agreement suffix as a 2/3PL suffix, which may have been how 3PL agreement was marked in PSOG. This decision results in the verb *vai 'come' being combined with the habitual suffix *-ɨtia and the different-subject realis suffix *-ɨka. It is not known how the combination of verb-final *ai and suffix-initial *ɨ was handled, but PSOG *i*-root verbs, when combined with a suffix-initial *ɨ, retained their *i and elided suffix-initial *ɨ. I have assumed that *vai behaved the same way. No verb can be reconstructed for processing sago, so I simply use *anta 'do.' The word for basket also cannot be reconstructed, so I use *vaŋka 'leaf.' The use of question words like *ampañ 'where' for expressions like 'wherever' is widespread in the Sogeram languages, but it has not been directly reconstructed. It is likely that the combination of the 1PL possessive pronoun *arkw with the topic enclitic *=mpɨr would result in the same *kw > *ku change that is seen with *kw*-root verbs, but that is not certain.

Appendix 1

Mand Grammar Sketch

1.1. Introduction

Mand [ate] is a Trans New Guinea language spoken along the banks of the Ramu River in Madang Province, Papua New Guinea. There are perhaps 8 fluent speakers left, all elderly, making the language highly endangered. It is spoken in the village of Atemble, formerly known as Apris, and has consequently been referred to as both Atemble and Atemble-Apris. The village, being the site of one of the earliest inland missions along the Ramu, has a long history of contact with outsiders, especially for this part of Madang. Consequently, the process of language shift to Tok Pisin, which is widespread in the area, appears to be accelerated in Atemble. Contact with two nearby Papuan languages, the closely related Nend [anh] and the unrelated Aren [aki], also appears to have been intensive.

Villagers under the age of 30 appear to be fluent only in Tok Pisin, although they possess varying degrees of passive fluency in Mand. Older villagers show considerable variation in their language ability. Those who have had less education are more likely to speak the language fluently, as schooling has always required extended stays outside the village. But individual family histories also play a large role. The most fluent semi-speaker that I encountered, for example, was born in 1977. His exceptional fluency for his age is probably attributable to the fact that his parents were both native Mand speakers; most

other households consist of a Mand-speaking father, as residence is patrilocal, and either a Nend-speaking or Aren-speaking mother.

1.1.1. Previous Research

The first Mand wordlist was collected by the geologist Evan Stanley in 1921 under the name "Atemble or Apris" (Stanley 1921–22: 84–91). According to the villagers I spoke with, the name Atemble was coined by one of the founders of the Catholic mission there, so Stanley's use of this term suggests that the mission was founded in the first twenty years of the twentieth century. The mission also constructed an airstrip, probably before the early 1930s (Kaspruś 1940: 649). In 1940 Aloys Kaspruś published a description of a stone mortar which was discovered at Atemble, and Z'graggen (1971: 61) also mentions an unpublished wordlist that Kaspruś took down, although I have been unable to locate it.

The next researcher to investigate Mand was John Z'graggen, who collected a wordlist and some basic grammatical data. He made some phonological observations (Z'graggen 1971: 62–3) and noted the lack of number marking on nouns, the presence of tense marking and subject agreement on verbs, and the lack of object agreement on verbs (1971: 64). He gave the population of Atemble as 65 individuals (1975*a*: 30), but remarked that "Atemble village is now disintegrating" (1975*b*: 585). He then published his wordlist in Z'graggen 1980.

Aside from these sources, I am unaware of any other research on Mand. The mission is no longer active, having moved downriver to Annaberg. The airstrip is also defunct, as the airstrip at the nearby government station of Aiome is only a few hours' walk away. In fact,

during my time in the village, there was remarkably little evidence of the village's historical status as one of the first footholds of the colonial presence in inland Madang Province. As a result, it seems, there has been almost no research on the language for several decades.

1.1.2. Data Sources

The data for this study come from two field trips I made to the village of Atemble. The first lasted two weeks from May 31 to June 13, 2012. During this time I collected a wordlist of approximately 300 items, conducted basic grammatical elicitation, and recorded and transcribed a corpus of nearly 33 minutes of connected speech. The second visit lasted from July 7 to July 17, 2014. During this time I conducted several hours of follow-up elicitation and recorded and transcribed 39 more minutes of connected speech, bringing the corpus of transcribed speech to 72 minutes. This is the corpus on which the present analysis is based. I worked primarily with two speakers, John Añɨrhe and Vinansius Gramin, and their speech is heavily represented in the corpus and in the elicited material. Work with other speakers revealed some variation, so it is possible that some of the examples in this sketch would not be acceptable for every speaker.

Wherever possible, I have used examples that occurred in the corpus of natural, connected speech, but it has often been necessary to use elicited examples instead. I have marked elicited examples when they occur.

1.1.3. Typological Outline

Mand is, in many respects, a rather typical Papuan language. Its basic word order is SOV (§1.6), and it has determiners that follow nouns (§1.4.7), postpositions (§1.3.6), and noun-adjective word order (§1.4.4). Possessors precede the head noun if they are nominal (§1.4.1) but follow it if they are pronominal (§1.4.4). Noun morphology is limited to a diminutive suffix (§1.3.2.1) and two suffixes for kin terms (§1.3.2.3): a plural suffix and a possessive prefix that distinguishes first and second person possessors from third person possessors. Demonstratives are a more complex word class, with roots that distinguish two deictic distances (near and far) and suffixes that distinguish eleven different demonstrative functions (§1.3.7).

Verb morphology is extensive, and makes the common Papuan morphological distinction between "medial" and "final" verbs. Final verbs distinguish five tenses, a habitual form, an imperative, a prohibitive, and a counterfactual (§1.5.1). Of potential interest among these is a today past tense that is formed by reduplication (§1.5.1.2). Verbs are also optionally marked for subject agreement: each TAM category possesses an inflectional paradigm, but the 3SG form of the verb can usually be used as a non-agreeing form with any subject. Medial morphology marks switch reference, distinguishing same-subject from different-subject. Interestingly, different-subject verbs do not agree with their own subjects. Medial verbs can also be marked with a desiderative suffix (§1.5.2). The remaining verb morphology consists of two derivational suffixes—one that creates verb adjuncts (§1.5.3.1; see §1.3.1.1 on verb adjuncts) and another that creates nominal

participles (§1.5.3.2)—and a suffix that creates purposive verbal forms (§1.5.3.3). Verbal negation is accomplished via a circumfix, *mɨ=…-m* (§1.6.6).

Syntactic alignment is accusative (§1.6), and syntax in general appears to be quite sensitive to pragmatic factors. Topic fronting is common (§1.6.4), as is right-dislocation (§1.6.5) and focus marking (§1.8.2). Mand also possesses a typical Papuan system of clause chaining and switch reference (§1.7.1) as well as a clause chain nominalization construction (§1.7.2).

1.2. Phonology

The consonant inventory is presented in Table 1 below. (When the orthographic symbol that I use in the rest of this sketch differs from the phonetic symbol, the orthographic symbol is given in <angled brackets> on the right.)

Table 1. Mand consonant inventory

	bilabial	alveolar	post-alveolar	velar	labialized velar
vl. plosive	p	t		k	kʷ <kw>
vl. affricate			ʧ <c>		
vd. prenasalized plosive	mb <b>	nd <d>		ŋg <g>	ŋgʷ <gw>
vd. prenasalized affricate			nʤ <j>		
vl. fricative	ɸ <f>	s			
vd. fricative	β <v>		ʒ <z>	ɣ <h>	ɣʷ <hw>
nasal	m	n	ɲ <ñ>	ŋ	
flap		ɾ <r>			
glide	w		j <y>		

The voiced prenasalized stops, as well as the voiced prenasalized affricate, are not usually prenasalized in word-initial position. Additionally, /z/ is realized as [z] in word-initial position, but [ʒ] elsewhere.

/b d j g gw/ > [b d ʤ g gʷ] / #_

[mb nd nʤ ŋg ŋgʷ] / elsewhere

/z/ > [z] / #_

[ʒ] / elsewhere

The status of /w/ and /y/ as phonemes is unclear, and it may prove best to analyze them as allophones of the vowels /u/ and /i/. For example, when the emphatic enclitic *=an*, glossed 'very,' is attached to the first person possessive pronoun *adu*, the resulting form *adu=an* is produced with two syllables: [a.ndwan].

Finally, it should be noted that /f/ is a very rare phoneme, occurring in only nine of the approximately 1,000 lexical items in my database. Nevertheless, it appears to be distinct from both /p/ and /v/, as the examples below illustrate.

far   'skin'   *pan*   'tree'

var   'garden'   *parɨm*   'bird species'

The vowel inventory is presented in Table 2.

Table 2. Mand vowel inventory

	front	central	back
high	i	ɨ	u
mid	e	(ɐ)	o
low		a	

The vowels exhibit a fair amount of allophony. /a/ is usually pronounced [ɐ], except that word-initially it is lower, after /w/ it is rounder, and following one of the post-alveolar consonants, especially /j/ and /y/, it is often fronted to [ɛ].

/a/ > [a] / #_

[ɔ] / w_

[ɛ] / C_{POST-ALVEOLAR—}

[ɐ] / elsewhere

Matters are made more complicated by the fact that there is evidence that the three non-low allophones of /a/—that is, [ɛ ɐ ɔ]—should be broken off into a separate phoneme. In other words, we might posit a contrast between /a/ and /ɐ/, the latter of which would also have allophones [ɛ] and [ɔ]. The evidence for this comes from three sources. First, there are loanwords in which [a] occurs in an environment where we would expect one of the other allophones. Examples include *wad* 'bag,' which comes from neighboring Aren and is pronounced [wand], not [wɔnd], and *prah-* 'float,' which is pronounced [praɣ], not [prɐɣ] (although it is unknown where this word comes from, so it is possible that it is not a loanword). Second, the first vowel of the future tense suffix *-ŋara* (§1.5.1.5) is pronounced [a], not [ɐ]. This suffix grammaticalized from a combination of the purposive suffix *-ŋ* (§1.5.3.3) and the verb *ara-* 'do, say,' which explains the presence of the word-initial allophone. But it should probably be analyzed as a single morpheme synchronically, meaning that [a] contrasts with [ɐ] in this word-medial context. And finally, the combination, at a clitic boundary, of /ɨ/ with /a/ yields [a], which can then contrast with [ɐ] word-medially. This has been observed with one minimal pair, shown below.

/pan/ → [pɐn]
'tree'

/pɨ/	+	/=an/	→	[pan]
'3'		'very'		'he/she/they themselves'

In spite of all this evidence, though, I have chosen to unite the phones [a ɐ ɛ ɔ] under one orthographic symbol, <a>. I do not consider the phonemic question resolved, although, as I have shown, there is evidence that /ɐ/ should be separated from /a/. But the functional load between these separate phonemes, if that is what they are, is quite small, and speakers did not want to represent them differently when I discussed possible orthographies with them.

The phonemic contrast between the front vowels /i/ ~ /e/, as well as the contrast between the back vowels /u/ ~ /o/, is often neutralized. For example, in the presence of an upcoming /a/, the contrast is not meaningful, and words like *idaŋ* 'bamboo' and *uca* 'inside' can be pronounced with either high or mid vowels. However, the presence of forms like those illustrated below suggests that the contrast is phonemic in at least some environments.

vid	'hot'	*kum*	'neck'
vis	'ground'	*kur*	'their'
vet	'urine'	*gog*	'ripe'

Finally, the phonemic status of /ɨ/ deserves some attention. While it is certainly true that the vowel frequently arises epenthetically and is often predictable, it does not appear to be completely predictable, and should therefore be considered a phoneme. The forms below contain minimal and near-minimal pairs that illustrate the contrastiveness of [ɨ] with other vowels and with the absence of a vowel.

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akɨ	'egg'	*aka*	'feces'
nak	'here'	*iku*	'cloud'

1.2.1. Morphophonemics

There is one salient morphophonemic process that needs to be described: the process of vowel elision. This process takes place at the boundary between verb roots and their suffixes. Verb roots are vowel-final (if they do not end in a labiovelar consonant), and the final vowel is realized in the presence of a consonant-initial suffix, but elided in the presence of a vowel-initial suffix. This is illustrated with the suffixes *–n* '2SG.IPST' and *–in* '1SG.IPST' below.

/wa-/	+	/-n/		→	[wɔn]
'go'		'2SG.IPST'			'you go'
/wa-/	+	/-in/		→	[win]
'go'		'1SG.IPST'			'I go'

1.3. Word Classes

There are seven word classes: verbs, nouns, adjectives (which include numerals), adverbs, pronouns, postpositions, and demonstratives. These are discussed in the sections below.

1.3.1. Verbs

Verbs are those words which act as the predicate of a clause and take verbal morphology, being marked for TAM, switch reference, and sometimes subject agreement. They are a closed class. An example of a switch-reference-marked verb is *pi* in (1), and an example of a

TAM-marked verb is *agrarɨd* in the same example. A verb showing subject agreement is given in (2).

(1)   *Vihimd, api aca   ka-n   **p-i,**   api **agra-rɨd.***
      night   1SG woman FD-ACC **take-SS** 1SG **run.SG-FPST**
      'At night, I took the woman and I ran away.'

(2)   *Manbaz **ika-rɨ-nhw,**   Atiapi.*
      festival **cut-FPST-1PL**   Atiapi
      'We celebrated (lit. 'cut a festival') at Atiapi.'

Verbs can be divided into two classes based on their final segment, which affects their interaction with verb suffixes: vowel-final verbs and labiovelar verbs. Vowel-final verbs undergo the process of elision discussed in §1.2.1 above. Labiovelar verbs end in one of the consonants /kw gw hw/. This consonant will be realized as a labiovelar in the presence of a vowel-initial suffix, as with *ipahw-* 'go across' in (3). In the presence of a consonant-initial suffix, the labiovelar consonant will be realized as a velar consonant followed by /u/ (4). It is unclear whether labiovelar verbs contrast with verbs that end in /ku gu hu/, although it appears that they do, as the verb *ahrakugu-* 'take down' is realized as *ahrakug-* in the presence of the same-subject suffix *-i*.

(3)   **Ipahw-i**   *pi-bi.*
      go.across-SS   take-MPST
      'She went across and got (him).'

(4)   *Aŋañ p-i,   **ipahu-rd.***
      canoe take-SS **go.across-FPST**
      'He took a canoe and went across.'

A few verbs have different stems for singular and plural subjects. The only verbs that have been observed with this alternation are basic posture or motion verbs: 'fall,' 'run,'

'sit,' 'sleep,' and 'walk.' They are presented in Table 3 below; note that most of the plural

stems end in *hrɨ-*. Examples of the forms for 'sleep' are given in (5) and (6).

Table 3. Stem-alternating verbs

English	SG	PL
fall	*kakra-*	*krɨgrahrɨ-*
run	*agra-*	*agrabra-*
sit	*kajɨ-*	*kɨmohrɨ-*
sleep	*udɨhajɨ-*	*udɨhahrɨ-*
walk	*ta-*	*tahrɨ-*

(5) *Bor   uhra   ka-g   **udɨhajɨ-r.***
     pig   big   FD-NOM   **sleep.SG-FPST**
     'A big pig was sleeping.'

(6) *Nuan   ji-c,   arhw,   **udɨhahrɨ-nhw.***
     afternoon   stay-DS   1PL   **sleep.PL-1PL.FPST**
     'It was afternoon, and we slept.'

It may be that the singular forms of these verbs are less marked semantically, since

they will occasionally be used when it seems that the plural form should be. For example,

(7) contains an example of tail-head linkage (§1.8.1) in which the last verb of the first

clause chain, *agrabrɨd* 'they ran,' is recapitulated as the first verb of the second clause

chain. When it is recapitulated, it is in the singular form, as *agrac* 'run and.'

(7) *Ññac   ŋinim   ŋinim,   agrab-rɨd.   **Agra-c**   ac ...*
     children   gather.NMPT   gather.NMPT   run.PL-FPST **run.SG-DS**   FOC
     'They gathered up all the children and ran away. They ran away and ...'

1.3.1.1. Verb Adjuncts

There is also a small subclass of verbs which I call verb adjuncts. These words take no

morphology and occur in conjunction with a verb to form the predicate of their clause. The

form *gahɨr* 'lift, erect,' which occurs with *aka-* 'chop' in (8), is an example. Verb adjuncts can

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be identified by the fact that they occur inside the two verbal negators *mɨ=* and *–m* (§1.6.6), as in (9). Other parts of speech, like the noun *urak* 'hunt,' sometimes resemble verb adjuncts semantically (10), but the fact that they do not occur inside the negative morphemes, as shown in (11) and (12), reveals that they are not adjuncts.

(8)   *Uram*   **gahɨr**   *aka-ŋar-inhw*   *ar.*
      house   **lift**   chop-FUT-1PL   QUOT
      '"We want to build a house," they said.'

(9)   *Api*   *mɨ=***gahɨr**   *aka-m.*
      1SG   NEG=**lift**   chop-NEG
      'I didn't lift it.'   Elicited

(10)   *Api*   **urak**   *wa-ŋari.*
      1SG   **hunt**   go-FUT
      'I'm going to hunt.'   Elicited

(11)   *Api*   **urak**   *mɨ=wa-m.*
      1SG   **hunt**   NEG=go-NEG
      'I didn't hunt.'   Elicited

(12)   **M=urak**   *wa-m.*
      NEG=hunt   go-NEG
      Intended: '(I) didn't hunt.'   Elicited

Tok Pisin verbs are borrowed into Mand as verb adjuncts that take the verb *jɨ-* 'stay,' as with *banisim* 'trap' in (13).

(13)   *Zau*   *ka-n*   **banisim**   *j-id.*
      fish   FD-ACC   **trap**   stay-IPST
      'You trap fish.'

While it seems that some forms—like *gahɨr* 'lift' and Tok Pisin loanwords—should be considered a separate word class because they only occur as verb adjuncts, there is evidence of a broader verb adjunct *construction* that can incorporate other parts of speech in adjunct position. An example of this is given below with the word *awarpi* 'lie, deception,'

which is shown to be a noun in (14), where it is possessed and functions as the subject of a nonverbal predicate. This noun can occur with the verb *ka-* 'talk, do' to mean 'lie (to), deceive.' This construction, however, sometimes occurs with *awarpi* outside the negative morphemes (15) and sometimes inside (16), suggesting either that non-adjuncts can sometimes participate in the verb adjunct construction, or that some items can be both adjuncts and non-adjuncts.

(14) ***Awarpi***   *ahɨr*   *ka-g*   *uhra*   *kɨs.*
     lie   2SG.POSS   FD-NOM   big   bad
     'Your lies are very big.'   Elicited

(15) *Abɨ*   *yar,*   ***awarpi***   *mɨ=ka-ŋara-m*   *ar.*
     2   1SG.OBJ   **lie**   NEG=talk-FUT-NEG   QUOT
     '"You won't deceive me," he said.'

(16) *Api*   *m=**awarpi***   *ka-m.*
     1SG   NEG=**lie**   talk-NEG
     'I didn't lie.'   Elicited

Similarly, the word *urat* is an adjective meaning 'cold,' as shown in (17), where it attributively modifies the head noun *atahw* 'palm species.' But this form can also function as a verb adjunct that occurs with the verb *ka-* 'talk, do' (18).

(17) *Atahw*   ***urat***   *ka-d*   *ac*   *udɨhaj-u.*
     palm.sp   **cold**   FD-OBL   FOC   sleep.SG-2SG.IMP
     'Sleep on the cold *atahw* palm (mat).'   Elicited

(18) *Dar*   *mɨz*   ***urat***   *k-id,*   *yar*   *mɨz*   *m=**urat***   *ka-m.*
     2SG.OBJ   body   **cold**   do-IPST   1SG.OBJ   body   NEG=**cold**   do-NEG
     'You're (lit. 'your body is') cold, (but) I'm not cold.'   Elicited

1.3.2. Nouns

Nouns can serve as the subjects and objects of verbs, and as the objects of postpositional phrases. They take some morphology, and can be divided into three subclasses based on

their morphological patterning: common nouns, proper nouns, and inalienably possessed nouns.

1.3.2.1. Common Nouns

Common nouns are a residual class consisting of those nouns which are neither proper nor inalienably possessed. They take only one suffix, the derivational diminutive suffix-*iñ* (19), and must usually occur with demonstratives if they are to be marked for case (20). However, noun phrases headed by common nouns with human referents can sometimes be marked with the accusative enclitic *=r* (21). Common nouns are an open class in Mand, and Tok Pisin borrowings are fairly common (22).

(19) *Watɨm=an,*   ***acaks-iñ***   *p-inhw.*
      after=very **moon-DIM**   take-1PL.IPST
      'Only later did we get money (lit. 'small moons').'

(20) *Oke* ***akac***   ***na-n***   *uzɨfr-id.*
      okay **intestine**   **ND-ACC**   clean-IPST
      'They gut the fish (lit. 'clean its intestines').'

(21) *Kuram* *ñɨ*   *sad**=ir***   *kw-in.*
      man   son COM**=ACC**   see-1SG.IPST
      'I see a man with his son.'   Elicited

(22) ***Masin***   *uhra* *ka-p*   *aba-ŋarid.*
      machine   big   FD-LOC   put-FUT
      'He'll put it in a big machine.'

1.3.2.2. Proper Nouns

Proper nouns are an open class of words that refer to specific people or places. If they refer to people, they can take the accusative enclitic *=r* (23). If they refer to places, they can serve as the locative argument of a clause without morphological marking (24). Common nouns

must be marked as a locative, either with a locative demonstrative, as in (22) above, or with the postpositional enclitic =*n* (25).

(23) *Api* **Beni=r**   *pi-ri-n.*
      1SG **Benny=ACC** take-FPST-1SG
      'I got Benny (i.e., he was born).'

(24) *A-i*   **Icowah**   *udɨhaj-i ...*
      come-SS **Isowak**   sleep.SG-SS
      'He came and slept in Isowak and ...'

(25) *Ku-c*   *mad* *ji-c*   *api* *sag*   **uram=in**   *ai-ri-n.*
      see-DS   no   stay-DS   1SG again **house=LOC**   come-FPST-1SG
      'I looked and no (i.e., it wasn't there), and I came back home.'

1.3.2.3. Inalienably Possessed Nouns

Inalienably possessed nouns are a small, closed class of nouns, most of which are kin terms. They take the inalienable possessive prefix *a–* when their possessor is first or second person, and take no prefix (or a zero prefix) when their possessor is third person. A few examples are presented in Table 4.

Table 4. Some Mand kin terms

1.POSS	2.POSS	3.POSS	Gloss
apɨc	*apɨc*	*pɨc*	grandmother
amɨñ	*amɨñ*	*mɨñ*	uncle
ŋam	*ŋam*	*mɨŋ*	mother
gau	*gau*	*van*	father
uŋɨm	*uŋɨm*	*mam*	husband
ñam	*arɨn*	*iran*	same-sex, younger sibling
asaŋ	*azen*	*zen*	same-sex, older sibling

While many kin terms show the most productive pattern, such as terms for 'grandmother' and 'uncle' above, many have suppletive forms that distinguish first and second person from third person possessors, such as the terms for 'mother,' 'father,' and

'husband.' Only the two terms for same-sex siblings show three-way suppletion for first, second, and third person possessors.

Inalienably possessed nouns can also be marked for number, which other nouns cannot. The plural suffix *–oja* (sometimes *–oj* or *–ja*) indicates that an inalienably possessed noun is plural. The choice of allomorph appears to be lexically specified, but that is not certain. Examples of plural kin terms include *gau-ja* 'father.1/2.POSS-PL,' *ŋam-oja* 'mother.1/2.POSS-PL,' *miŋ-oj* 'mother.3.POSS-PL,' and *Ø-miñ-oj* '3.POSS-uncle-PL.' At least one form has an irregular plural: *v-oj* 'father.3.POSS-PL' (compare *van* 'father.3.POSS' in Table 4 above).

Although possessors are marked morphologically on inalienably possessed nouns, they usually also occur with free possessive pronouns (26). While this is not a grammatical requirement, during elicitation sessions speakers strongly preferred having the pronouns to having an inalienably possessed noun stand on its own.

(26) *Ipah-i* *w-e* **cen** *hɨr,* *ñac* *hɨr* *kw-e ...*
go.across-SS go-SS **wife.3.POSS** 3SG.POSS **daughter** 3SG.POSS see-SS
'He went across and saw his wife and daughter, and ...'

Inalienably possessed nouns, like proper nouns that refer to people, can be marked with the accusative enclitic *=r* (27).

(27) *Mac* *arhw* *ahwr-i,* **ŋam=ɨr** *iku-c ...*
enough 1PL take.away-SS **mother.1/2.POSS=ACC** give-DS
'Alright, we took (them) and gave them to our mother and ...'

1.3.3. Adjectives and Numerals

Adjectives can be used to modify nouns, in which case they follow them (28), and they can be used to stand in for nouns by themselves (29). They can also be used as predicates (30).

(28) *A-i   kw-ebi,   kuram **uhra** na-n.*
     come-SS see-MPST   man   **big**   ND-ACC
     'They came and saw this big man.'

(29) ***Uhra** ka-p   aba-ŋari.*
     big   FD-LOC   put-FUT
     'He'll put it in a big one.'

(30) *Yo, ya   miŋ,   **uhra** mah.*
     yes speech   true   **big**   none
     'Yes, the language (lit. 'true speech') isn't big.'

Numerals appear to function grammatically as adjectives, following the nouns they modify (31) and occurring on their own (32). There are only two, *vam* 'one' and *utɨmar* 'two,' and further investigation may reveal ways in which their grammar differs from that of other adjectives.

(31) *Aŋan   okoh,   kw-e,   zau   **utɨmar** p-i ...*
     net   rotten   see-SS   fish **two**   take-SS
     'I looked at my rotten net, took two fish, and ...'

(32) ***Utɨmar**   b-rɨd.*
     two   die-FPST
     'Two have died.'

1.3.4. Adverbs

Adverbs are a relatively small, closed class of words that modify the predicate. Many of them have temporal meanings like *ikud* '(in the) morning' (33) or TAM-related meanings like *dɨh* 'COMPLETIVE' (34), but their meanings are quite heterogeneous.

(33) *Api   **ikud**,   gyah-i,   kwrih   irɨv   p-i ...*
     1SG   **morning**   get.up-SS   arrow   bow   take-SS
     'I got up in the morning, got my bow and arrow, and ...'

(34) *Mac   ida   **dɨh**   tupɨr,   va~dɨv-i.*
     enough   sun   **COMP** strong   burn~TPST-3SG
     'Alright, the sun was already burning strong.'

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Some forms, like *tupɨr* 'strong' in (34) above, can be used adverbially or adjectivally, although this does not appear to be the norm.

It is common for adverbs to be modified by the emphatic enclitic *=an*, which I gloss 'very' (35). This enclitic occurs on many other word classes, though, and cannot be used to distinguish adverbs from other word classes.

(35) *Arhw* **dɨhos=an** *gyahɨ~dahi.*
1PL **long.ago=very** get.up~TPST
'We got up long ago.'   Elicited

There appears to be some interaction between certain adverbs and the tense and polarity values of their clauses. That is, a few adverbs, particularly with temporal meaning, have slightly different senses in different tenses or polarities. For example, *watɨm* usually means 'after' (36), but in a negative context it means 'yet' (37) and in an immediate past context it means 'still' (38).

(36) *Ñac* *na-g* **watɨm** *wa-r.*
daughter ND-NOM **after** go-FPST
'The daughter went afterwards.'

(37) *Bor* *ña* *sad* *ka-g* **watɨm** *m=ai-m.*
pig child COM FD-NOM **after** NEG=come-NEG
'The pig with the piglet hadn't come yet.'

(38) *Api* **watɨm** *j-in;* *abɨ* *ac* *dɨh* *ja~dɨja-n.*
1SG **after** stay-1SG.IPST 2 FOC COMP eat~TPST-2SG
'I'm still eating; you've finished eating.'   Elicited

The diversity of functions exhibited by the word class of adverbs is nicely illustrated by the form *am* 'just,' which occurs in the corpus modifying pronouns (39), accusative noun phrases marked with a determiner (40), and locative noun phrases marked with an enclitic (41).

(39) *Jon   mɨ=ku-m,   Isidor mɨ=ku-m,   api **am,** werai-rɨd.*
John   NEG=see-NEG   Isidor NEG=see-NEG   1SG just   go.and.come-FPST
'John didn't see it, Isidor didn't see it, it was me who traveled there.'

(40) *Dɨh=i,   aci   na-n   **am,**   ohe   miŋ   na-n   **am**   j-eu-rd.*
DU=COM   thing   ND-ACC   just   tree.sp   true   ND-ACC   just   eat-PL-3.FPST
'The two of them ate just whatchamacallits, just *ohe* seeds.'

(41) *Inɨmaz-i w-e,   kɨmab=in   **am**   wa-rd.*
turn-SS   go-SS   basket=LOC   just   go-FPST
'They turned (into fish) and just went into the basket.'

1.3.5. Pronouns

Pronouns are a small, closed class that distinguishes subject, object, and possessive forms, which are presented in the tables below. Note that the subject pronouns do not distinguish number in second or third person. Examples from each paradigm are given in (42)–(44) below.

Table 5. Subject pronouns

	SG	PL
1	*api*	*arhw*
2	*abɨ*	
3	*pɨ*	

Table 6. Object pronouns

	SG	PL
1	*yar*	*arhwɨr*
2	*dar*	*adɨhur*
3	*dɨhɨr*	*dɨhur*

Table 7. Possessive pronouns

	SG	PL
1	*adu*	*arhud*
2	*ahɨr*	*akur*
3	*hɨr*	*kur*

(42) *Mac   **abɨ** dɨh   mɨrɨmiŋ   ji-n.*
enough   2   COMP   old.person   stay-2SG.IPST
'Alright, you're an old person now.'

(43) ***Api** abɨr   **dar**   k-emɨ-n.*
1SG   one.day.away   2SG.OBJ   talk-MPST-1SG
'I talked to you yesterday.'

(44) *Ipia   **ahɨr**   ka-n   uja   ipiakw-ebi?*
name   2SG.POSS   FD-ACC   who   call.out-MPST
'Who called out your name?'

Additionally, there is an alternative 3SG.POSS pronoun *krahɨr*, which is less frequent than *hɨr* (45). It is unclear how the two forms differ. *Krahɨr* may be related to *kɨ*, another rare and

apparently pronominal form. *Kɨ* appears only twice in the corpus, both times seeming to

function as the subject of a nonverbal predicate, as in (46).

(45) *Kremens   ñɨ   krahɨr*
    Clemens   son   3SG.POSS
    'Clemens's sons'

(46) *Ida   ka-n=ahw,   ai-rd   ka-n=ahw,   misenare,   **kɨ**   naintintetiwan.*
    sun   FD-ACC=FOC   come-FPST   FD-ACC=FOC   missionary   **3SG?**   1931
    'That day, the day they came, the missionaries, it was 1931.'

There is also a dual pronoun *dɨh.* This form almost always occurs with the comitative

enclitic *=i* (47). It frequently occurs with another noun phrase, also bearing the comitative

enclitic, which specifies one of the two referents, as with *ñac hri* 'her daughter' in (48). The

only example of *dɨh* not occurring with comitative *=i* is in this construction: (49) shows *gawi*

'my father' bearing the comitative enclitic while *dɨh* does not.

(47) *Asam   far   ka-n,   **dɨh**=i   k-ɨp   ac   ab-eu-rd.*
    tree.sp   skin   FD-ACC   **DU**=COM   FD-EXST   FOC   put-PL-3.FPST
    'The two of them piled the *asam* skins there.'

(48) *Mac   **dɨh**=i   ñac   hr=i   gyah-i   ac,   aŋan   p-i ...*
    enough   **DU**=COM   daughter   3SG.POSS=COM   get.up-SS   FOC   bag   take-SS
    'Then she and her daughter got up, got the bag, and ...'

(49) *Api   soz   j-i,   arhw   **dɨh**   gaw=i,   aŋañ   p-i ...*
    1SG   child   stay-SS   1PL   **DU**   father.1/2.POSS=DU   canoe   take-SS
    'When I was a child, my father and I got a canoe and ...'

Dɨh does not specify person information, only number. Examples (48) and (49) above

illustrate *dɨh* being used for third person and first person referents, respectively; (50)

shows a second person referent.

(50) *Abɨ   **dɨh**=i   na-k   kɨmohr-e-n   oh   ar-i.*
    2   **DU**=COM   ND-LOC   sit.PL-PL-2.IPST   Q   say-IPST
    '"Are you two sitting here?" they asked.'

Dɨh almost always functions as the subject of the clause, but it can be an object, as in (51). Here two people are giving two other people breadfruit seeds; the first *dɨh* was understood to refer to the givers, and *dɨhi utɨmar* to the recipients.

(51) *Dɨh=i   ikw-eu-rd,   **dɨh**=i   utɨmar.*
     DU=COM give-PL-3.FPST **DU**=COM two
     'They gave them to the two of them.'

Another dual pronoun, *di* (frequently pronounced *de*), refers only to first person duals (52). It is unclear how *di* differs from *dɨh* with first person reference. The difference does not appear to be related to clusivity, as examples of both forms with inclusive and exclusive meanings can be found. For example, (52) shows inclusive *di* and (53) exclusive *di.*

(52) *A-i   ar,   **de**   wa-r   ar.*
     come-SS QUOT **1DU** go-FPST QUOT
     '"Come on," she said, "Let's go," she said.'

(53) *Abɨ   j-u,   **de**   wa-ŋar-inhw.*
     2   stay-2SG.IMP **1DU** go-FUT-1PL
     'You stay; we'll go.'   Elicited

The dual pronouns are sometimes combined with other pronouns to further specify their reference. This is quite common with *dɨh*, which does not specify person information. In this construction *dɨh=i* follows the other pronoun, as in (49) and (50) above. But *di* '1DU' can also be combined with *arhw* '1PL' in what appears to be the same construction (54). These two pronouns have even been found in the other order (55); it is unclear what the function of either of these combinations of *di* and *arhw* serves.

(54) *Arhw **di**   aŋañ=ɨn   akugu-r-nhw.*
     1PL   **1DU** canoe=LOC descend-FPST-1PL
     'The two of us went down to the canoe.'

(55) **Dɨ**   *arhw* *jɨ-ŋar-inhw*   *ar.*
      1DU 1PL   stay-FUT-1PL   QUOT
      '"The two of us will live (together)," he said.'

1.3.6. Postpositions and Case Enclitics

Postpositions are words that relate their objects either to the predicate or to the head noun of a noun phrase. They are a very small, closed class in Mand. I am aware of three free forms, *atad* 'with,' *dahri* 'like,' and *sad* 'comitative,' and four bound forms, *=r* 'accusative,' *=n* 'locative,' *=d* 'oblique,' and *=i* 'comitative.' These bound forms are similar to postpositions in that they occur at the end of a noun phrase and relate it to the clause, but I do not consider them postpositions in the proper sense.

The postposition *atad* has a range of meaning quite similar to English 'with,' including comitative (56) and instrumental (57) meanings.

(56) *Ikud*   *ac,* *zau* **atad** *je~dɨj-i.*
      morning FOC fish **with** eat~TPST-3SG
      'In the morning he ate it with fish.'

(57) *Abramɨn* **atad,** *kw-inhw.*
      eye   **with** see-1PL.IPST
      'We see with our eyes.'

Similarly, *dahri* 'like' appears to closely match the meaning of its English equivalent (58).

(58) *Pɨkɨm* *hɨr*   *ka-g*   *uhr-e=a,*   *kukwam* **dahri** ...
      guts   3SG.POSS FD-NOM   grow-SS=LNK ball   **like**
      'His belly swelled up like a ball and ...'

The comitative postposition *sad* expresses accompaniment and it appears to differ slightly from the other two in its distribution. It is most commonly found either inside a larger noun phrase, modifying the head noun (59), or functioning as a nonverbal predicate,

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in which case it is understood to express possession (60). However, it can also function as the head of a postpositional phrase that modifies a verbal clause on its own (61).

(59)   *Bor ña **sad** ka-g   watɨm m=ai-m.*
        pig child COM FD-NOM after   NEG=come-NEG
        'The pig with the piglet hadn't come yet.'

(60)   *Jon   ahwas   **sad***
        John betelnut COM
        'John has betelnut.'   Elicited

(61)   *Bor mɨŋai ka-g   ña   **sad** dɨh=i   na-k,   a-i   ac...*
        pig female FD-NOM child COM DU=COM ND-LOC come-SS FOC
        'The sow and her child came here and ...'

It seems that the object of a postpositional phrase can be elided if it is understood from the context, as in (62). In this example, the first few clauses describe the procurement of an instrument, a branch, which in the last clause is used to hit a possum. The identity of the instrument is clear from the context, so *atad* 'with' can be used without an overt postpositional object.

(62)   *Mac   mɨŋ   hir   utɨhɨn   ŋañ ka-n   ivarhw-i p-i,*
        enough mother.3.POSS 3SG.POSS k.o.greens hand FD-ACC break-SS take-SS

        *garhw-i   p-i,   **atad** iveri-rd.*
        break-SS take-SS INS   hit-FPST
        'Then her mother broke off an *utɨhɨn* branch and took it, she broke it and took it and hit it with (the branch).'

The enclitic *=r* (63), realized as *=ɨr* after consonants (64), marks a noun phrase as accusative.

(63)   *Dɨhos   api, kaj-i   gau=**r**   ama-ri-n.*
        long.ago 1SG sit.sg-SS father.1/2.POSS=ACC ask-FPST-1SG
        'Long ago I sat down and asked my father.'

(64) *Vevr-i,   van   hr=ɨr   ihra-rd.*
     hide-SS   father.3.POSS   3SG.POSS=**ACC**   watch-FPST
     'She hid and watched her father.'

The enclitic *=n* (65), realized as *=ɨn* after consonants (66), attaches to the end of the noun phrase and signals that it functions locatively.

(65) *Apɨhɨd   uhra=n   akɨg-ebi.*
     bird   big=**LOC**   come.down-MPST
     'He came down in an airplane (lit. 'big bird').'

(66) *Kɨbɨh=ɨn   ipah-i,   uram   api-rd,   k-ɨp   ac.*
     other.side=**LOC**   come.across-SS   house   build-FPST   FD-EXST   FOC
     'He came across to the other side and built a house right there.'

The oblique enclitic *=d* (*=ɨd* after consonants) functions as a general oblique postposition and fulfills a variety of functions. It serves primarily to mark non-locative oblique arguments, as with its instrumental use in (67). However, it can also mark possessors (68) and, in combination with a locative demonstrative, locations (69).

(67) *Arhw   zau=d   ovra-cɨ-nhw.*
     1PL   fish=**OBL**   barter-HAB-1PL
     'We used to barter with fish.'

(68) *ñac   adu=d   ñɨ*
     daughter   1SG.POSS=**OBL**   son
     'my daughter's son'

(69) *Mokɨr   asɨh=ɨd   ka-p   p-ibi.*
     banana   leaf=**OBL**   FD-LOC   write-MPST
     'He wrote on his paper (lit. 'banana leaf').'

The comitative enclitic *=i* expresses accompaniment. It is unclear how this enclitic differs from the comitative postposition *sad*. It appears that *=i* is preferred with human referents and *sad* with others, although there are exceptions to this tendency. This enclitic is sometimes placed on both entities that accompany one another (70), and sometimes only

on one (71)—but notice that (71) also contains the dual pronoun *dɨh*, which also bears comitative *=i.*

(70) *Mac,   Kiop=i   Tabram=i,   sɨv   kur   ka-n,   uregɨ-c   ac ...*
enough   Kiop=**COM**   Tambram=**COM**   family   3PL.POSS   FD-ACC   call.to-DS   FOC
'Alright, Kiop and Tambram called to their family and ...'

(71) *Tabram   Kiop=i   dɨh=i   kwra-nere,   agr-e ...*
Tambram   Kiop=**COM**   DU=**COM**   FD-ADJZ   run.SG-SS
'Tambram and Kiop did that and ran away and ...'

Sometimes comitative *=i,* rather than marking a referent that accompanies another referent, marks a referent that is *included in* another referent, as below. In this function, sometimes *=i* marks both referents, as in (72), where *zam hri* 'his sister' is included in *dɨhi* 'the two of them,' and sometimes it only marks the latter, as in (73), where *gawi* 'my father' is included in *arhw* 'we.'

(72) *Dɨh=i   Ø-zam   hr=i   a-i ...*
DU=**COM**   3.POSS-sister   3SG.POSS=**COM**   come-SS
'He and his sister came and ...'

(73) *Kra-c   arhw   gaw=i   ka-n   ja-rɨ-nhw.*
cook-DS   1PL   father.1/2.POSS=**COM**   FD-ACC   eat-FPST-1PL
'She'd cook them and Father and I would eat them.'

1.3.7. Demonstratives

Demonstratives are a small, closed word class. They are composed of a root which indicates deictic distance, and a suffix which indicates the function and meaning of the demonstrative. There are two deictic distances: near, indicated by the form *na-,* and far, indicated by *ka-, kr-,* or *kwra-.* The various suffixes that have been found on determiners are presented in Table 8. Note that the locative suffixes are different for the near and far

forms, and that the far form is usually made using the short *ka-*, but that the other roots *kr-*

and *kwra-* are used with the adverbial, verbal, and adjectival suffixes.

Demonstratives can serve as a noun phrase on their own (74), or they can function as

determiners for a noun phrase headed by a noun (75).

(74) ***Ka-p***   *w-e*   *skul*   *j-id.*
     FD-LOC   go-SS school stay-IPST
     'He went and is studying there.'

(75) *Mokɨr*   *asɨh* ***ka-p,***   *pɨ~dɨp-i.*
     banana leaf FD-LOC   write~TPST-3SG
     'He wrote it on the paper (lit. 'banana leaf').'

Table 8. Demonstratives

	ND	FD
nominative	*na-g*	*ka-g*
accusative	*na-n*	*ka-n*
locative	*na-k*	*ka-p*
oblique	*na-d*	*ka-d*
focus	*na-hw*	*ka-hw*
existential	*n-ɨp*	*k-ɨp*
temporal?		*ka-r*
topic	*na-c*	*ka-c*
adverbial	*n-eri*	*kr-eri*
verbal	*na-cɨra-*	*kwra-cɨra-*
adjectival	*na-nere*	*kwra-nere*

1.3.7.1. Nominative

The nominative form of the demonstratives indicates that the demonstrative, or its noun

phrase, functions as the subject of a verbal clause. (Subjects of nonverbal clauses take

accusative case.)

(76) *Kuram* *uhra* ***na-g=a,***   *abrɨn*   *ai-bi.*
     man   big   ND-NOM=LNK one.day.away come-MPST
     'This big man, uh, came yesterday.'

(77) *Bor* **ka-g**   *gyah-i*   *agra-rɨd.*
     pig   **FD-NOM**   get.up-SS   run.SG-FPST
     'The pig got up and ran away.'

1.3.7.2. Accusative

Accusative demonstratives are used for the objects of verbal clauses (78) and postpositional

phrases (79) and for the subjects of nonverbal clauses (80).

(78) *Ipia*   *adu*   **ka-n**   *ipiakw-e …*
     name   1SG.POSS   **FD-ACC**   call.out-SS
     'He called out my name and …'

(79) *Far*   **na-n**   *atad*   *j-o*   *ar.*
     skin   **ND-ACC**   with   eat-2SG.IMP   QUOT
     '"Eat it with the skin," he said.'

(80) **Na-n**   *ikɨsopɨh.*
     ND-ACC   head
     'This is a head.'

1.3.7.3. Locative

The locative demonstratives are unique in that there is a different suffix for the near (81)

and far (82) deictic forms.

(81) *Ñɨ*   *ñac*   *adu,*   **na-k**   *j-id.*
     son   daughter   1SG.POSS   **ND-LOC**   stay-IPST
     'My sons and daughters are here.'

(82) *Krɨp*   *apab*   **ka-p**   *w-e*   *kaj-i …*
     vine   vine.sp   **FD-LOC**   go-SS   sit.SG-SS
     'He went and sat on an *apab* vine and …'

It appears that locative demonstratives can be used for temporal setting, as with *sahɨr*

'later' in (83).

(83) *Sahɨr*   **ka-p**   *abɨ*   *kwra-nere*   *zɨhi*   *aba-ŋara-n*   *ara-rd.*
     after   **FD-LOC**   2   FD-ADJZ   thought   put-FUT-2SG   say-FPST
     '"Later you'll think about this (lit. 'put a thought like that')," he said.'

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There is also a third form *taŋ* 'yonder,' which may be etymologically related to the other demonstratives.[19]

(84)   *Kuram*   **taŋ**=*d*   *ka-g*   *ai-d.*
       man   **yonder**=OBL   FD-NOM   come-IPST
       'A man from far away is coming.'

1.3.7.4. Oblique

The oblique demonstrative is fairly rare, and while its exact functions are not well understood, they all involve marking oblique arguments. These can be instruments (85), near (86) and far (87) locations, or recipients (88)—although the referent of *kad* in this last example is not entirely clear.

(85)   *Edaŋ*   *esa*   *o*   *naip-iñ,*   **ka-d**   *p-i*   *uzɨfr-id.*
       bamboo   piece   or   knife-DIM   **FD-OBL**   take-SS   clean-IPST
       'They take it and clean it with a piece of bamboo or a little knife.'

(86)   *Abɨ*   **na-d**   *ac,*   *akaj-u*   *ar.*
       2   **ND-OBL**   FOC   wait-2SG.IMP   QUOT
       '"You wait right here," she said.'

(87)   **Ka-d**   *ac*   *ihr-o*   *ar.*
       FD-OBL   FOC   watch-2SG.IMP   QUOT
       '"Watch that spot," she said.'

(88)   *Abɨ,*   **ka-d**   *ac*   *ik-u*   *ar=a.*
       2   **FD-OBL**   FOC   give-2SG.IMP   QUOT=LNK
       '"You guys give it to them," he said.'

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[19] Proto-Sogeram had a three-way system of deixis in its demonstrative system, distinguishing near, middle, and far distance. Only the near and middle forms have survived into Mand (as near and far forms), but *taŋ* may be descended from the Proto-Sogeram far deictic root *antu.

1.3.7.5. Focus

The focus demonstratives are rare, and their function is not well understood. However, they seem to indicate that their referent is new, noteworthy, or focused in some sense, as in (89). Note also the similarity in form of the focus suffix *–hw* to the focus enclitic *=ahw* (§1.8.2).

(89) | *Arhw* | *kw-e* | *arhw* | *ŋɨrsɨc* | *ak-ebi.* | ***Ka-hw*** | *mɨz* | *ukam!* |
| 1PL | see-SS | 1PL | earthquake | chop-MPST | **FD-FOC** | body | white |

'We looked and we were shocked (lit. 'chopped an earthquake'). That's a white man!'

1.3.7.6. Existential

The existential demonstratives are generally used for indicating the presence of something in the physical environment of the speaker (90). However, they can also be used adjectivally to mean 'like this' or 'like that' (91).

(90) | *Ka-n* | *ñɨ* | *hɨr* | ***n-ɨp*** | *ac.* |
| FD-ACC | son | 3SG.POSS | **ND-EXST** | FOC |

'That's her son here.'

(91) | *Mac,* | *ya* | *adu* | ***k-ɨp*** | *ac.* |
| enough | speech | 1SG.POSS | **FD-EXST** | FOC |

'Alright, my talk is just like that.'

1.3.7.7. Temporal

The temporal suffix *–r* can only occur on the root *ka-*; the form *nar* is unattested. While the meaning of *kar* is not completely clear, it appears to be related to time (92).

(92) | *Okei* | *ida* | ***ka-r*** | *akaj-id.* |
| okay | sun | **FD-TEMP** | wait-IPST |

'Okay, we wait during the daytime.'

1.3.7.8. Topic

The demonstrative suffix *–c* is only attested a few times in my corpus. While its function is not well understood, it appears to indicate that its referent is topical, as in (93) or (94). It may even be restricted to topic position (§1.6.4), as attempts to elicit clause-medial demonstratives in *–c* were considered ungrammatical (95). This suffix also occurs in what appears to be a non-referential function in narrative transitions (96).

(93) *Awaŋ* **ka-c** *arhw ɡok-i j-emɨ-nhw.*
sago **FD-TOP** 1PL break-SS eat-MPST-1PL
'The sago, we broke it and ate it.'

(94) **Na-c** *arom.*
ND-TOP good
'That's good.'

(95) **Api dar awaŋ* **na-c** *ikw-in.*
1SG 2SG.OBJ sago **ND-TOP** give-1SG.IPST
Intended: 'I gave you this sago.'   Elicited

(96) *De misenare, ai-rd ka-n yar k-o ar.* **Ka-c,** *yar*
day missionary come-FPST FD-ACC 1SG.OBJ talk-2SG.IMP QUOT **FD-TOP** 1SG.OBJ

j-i ka-rd.
stay-SS talk-FPST
'"Tell me about the day the missionaries came," I said. Alright, then he told me.'

1.3.7.9. Adverbial

The suffix *–eri* derives an adverb that means 'in this/that manner' (97). The far deictic form uses the root *kr-* instead of *k-* (98).

(97) *Api hatwara ka-n ib-e,* **n-eri** *kwaɡ-rɨd.*
1SG hot.water FD-ACC boil-SS **ND-ADVZ** hold-FPST
'I boiled hot water, and I held it like this.'

(98) *Mac=a,*   **kr-eri**   *ji-cɨ-nhw.*
enough=LNK **FD-ADVZ**   stay-HAB-1PL
'Alright, we live like that.'

1.3.7.10. Verbal

The verbalizing suffix *-cɨra* forms a verb that means 'do/be like this' (99) or 'do/be like that' (100). As the examples show, these verbs usually occur medially (see §1.5 for the distinction between medial and final verbs), in which case they function much like deictic manner adverbs. But they can also take final morphology, as the elicited example in (101) shows.

(99) **Na-cɨr-e**   *jɨ-rɨd.*
ND-VBLZ-SS   stay-FPST
'He was like this.'

(100) **Kwra-cɨr-e**   *k-id*   *adɨhur.*
FD-VBLZ-SS   talk-IPST   2PL.OBJ
'He talked to you guys like that.'

(101) *Na-cɨra-ŋar-in*
ND-VBLZ-FUT-1SG
'I'm going to do (like) this.'   Elicited

1.3.7.11. Adjectival

The adjectival suffix *–nere* creates an adjective that means 'like this/that' or 'the same as this/that,' as shown in the exchange in (102) and the sequence in (103).

(102) *Abɨr*   *r-ebi.*   *In*   **kwra-nere.**
one.day.away   do-MPST   now **FD-ADJZ**
'Yesterday he did (it).'   'Today too. / Today is the same.'

(103) *Agra-c*   *ac*   *mac,*   *Tabram*   *Kiop=i*   *dɨh=i*   **kwra-nere,**   *agr-e ...*
run.SG-DS FOC   enough Tambram   Kiop=COM   DU=COM   **FD-ADJZ**   run.SG-SS
'They ran away, and Tambram and Kiop also ran away the same way and ...'

1.4. Noun Phrase Structure

Noun phrases are usually headed by nouns, but they do not need to have an overt head. In this section I describe the structure of a noun phrase headed by a noun, which can be outlined as follows:

NP~POSS~   NP~ATTRIB~   N~HEAD~   Adj   Poss   PP~ATTRIB~   Dem

That is, the nominal possessor is followed, in turn, by the attributive noun (or noun phrase), the head noun, the adjective, the pronominal possessor, the attributive postpositional phrase, and finally the demonstrative or case enclitic. This schematic is something of an oversimplification, since no noun phrase has been encountered with all, or even most, positions filled. And some orders are more fixed than others; nominal possessors can occur after the head, for example, and the order of adjectives and pronominal possessors can be reversed. Finally, every position is optional, including that of the head noun; noun phrases can consist, for example, of just an adjective (104), as mentioned above.

(104) ***Uhra***   *ka-p*   *aba-ŋari.*
       big   FD-LOC   put-FUT
       'He'll put it in a big one.'

I describe each of the positions in the noun phrase in the following sections.

1.4.1. Nominal Possessor

The first position in the noun phrase is occupied by the nominal possessor, marked with the oblique enclitic *=d*, as in (105) and (106).

(105) *ñac*   *adu=d*   *ñɨ*
     daughter   1SG.POSS=OBL   son
     'my daughter's son'

(106) *Beten* *ñɨ~ñ*   *werai-rɨ-n,*   **Gau**   **Uhra=d**   *ya*
     pray   stay~NMPT go.and.come-FPST-1SG **father.1/2.POSS** **big=OBL** speech

     ka-n.
     FD-ACC
     'I went around praying, God's (lit. 'the Big Father's') word.'

The nominal possessor can also follow the head noun (107), although this word order was only encountered in elicitation and it is unclear under what conditions it arises.

(107) *Api* *utɨhɨn*   *far*   *aŋan* **Kosmas=ɨd**   *ka-n*   *kw-in.*
     1SG k.o.greens skin bag **Kosmas=OBL** FD-ACC see-1SG.IPST
     'I saw Kosmas's *utɨhɨn* bark bag.'   Elicited

Example (108) suggests that the attributive noun can also function semantically as a possessor; note that *Kamirus* is not marked with the enclitic *=d*, but rather co-occurs with the possessive pronoun *hɨr*.

(108) *Mɨros* *ka-n*   **Kamirus** *ñɨ*   *hɨr*   *je~dɨj-i.*
     food   FD-ACC **Camilus** son 3SG.POSS eat~TPST-3SG
     'The food, Camilus's son ate (it).'

Example (109) may also contain a nominal possessor that is not marked with *=d*, but it is unclear whether *kuram nag ac* 'this man' should be considered a part of the noun phrase headed by *can* 'his wife' or not; it could also be considered a topic-fronted noun phrase (§1.6.4), in which case this example should be translated, "This man, his wife came and spoke."

(109) **Kuram** *na-g*   *ac*   *can*   *hɨr,*   *a-i*   *ka-r.*
     man   ND-NOM FOC wife.3.POSS 3SG.POSS come-SS talk-FPST
     'This man's wife came and spoke.'

1.4.2. Attributive Noun Phrase

The next position in the noun phrase is occupied by the attributive noun phrase. Nominal possessors and attributive nouns do not co-occur in the corpus of natural speech, but elicitation revealed that the order possessor–attributive is allowed (110), while the reverse is ungrammatical (111).

(110) *Api   Kosmas=ɨd   utɨhɨn   far   aŋan   ka-n   kw-in.*
       1SG   Kosmas=OBL k.o.greens skin   bag   FD-ACC   see-1SG.IPST
       'I saw Kosmas's *utɨhɨn* bark bag.'   Elicited

(111) **Api   utɨhɨn   far   Kosmas=ɨd   aŋan   ka-n   kw-in.*
       1SG   k.o.greens skin   Kosmas=OBL   bag   FD-ACC   see-1SG.IPST
       Elicited for 'I saw Kosmas's *utɨhɨn* bark bag.'

The attributive noun phrase can itself contain modifiers, as with the attributive noun phrase *ada mɨŋ* 'real water' in (112), which is composed of the head noun *ada* modified by the adjective *mɨŋ*.

(112) **ada   mɨŋ   *soz***
       water true child
       'a Ramu River boy (lit. 'a child of the real river')'

As is the case with other positions in the noun phrase, the attributive noun position does not require the head noun position to be filled. In other words, attributive nouns can modify an absent or understood head noun, as in (113).

(113) *Ñac   hɨr   ka-g   **be**   ka-p   kar-i   ater-i* …
       daughter 3SG.POSS FD-NOM   **top** FD-LOC   finish-SS leave-SS
       'The daughter finished (the ones) from the top and left and …'

1.4.3. Head Noun

The head noun, as mentioned above, is optional, but when present it can consist of a simple noun, an exocentric pair (114), or a coordinated pair (115).

(114) *Vrah   ci-c,   orait,   ka-c   **bor   iham**   k-i=a ...*
      dawn   be-DS   alright   do-DS   **pig   dog**   talk-SS=LNK
      'It's dawn, alright, and so the women and children talk and ...'

(115) *Ñɨ   ñac   adu,   na-k   j-id.*
      son   daughter   1SG.POSS   ND-LOC   stay-IPST
      'My sons and daughters are here.'

1.4.4. Adjective

Attributive adjectives follow the head noun, which distinguishes them from attributive

nouns. The contrast is nicely illustrated in (116), where the first noun phrase contains an

attributive adjective and the second contains an attributive noun.

(116) *A-i=a,   kar   **kɨs**   pi-r-ɨn.   **Raskol**   kar   ji-r-ɨn.*
      come-SS=LNK   car   **bad**   take-FPST-1SG   **criminal**   car   stay-FPST-1SG
      'I came, and caught a bad car. I was in a criminal car.'

1.4.5. Possessive Pronoun

Possesive pronouns follow the head noun, as in (117).

(117) *Mapɨh   **adu**   vivi   c-id.*
      back   **1SG.POSS**   pain   be-IPST
      'My back hurts.'

The position of possessive pronouns with respect to adjectives appears to be flexible.

Example (118) shows the order adjective–possessor, but a little while later, in the same

text, the reverse order is attested (119). The same variation was also found in elicitation, as

seen in (120) and (121).

(118) *Mokɨr   asɨh   ka-p,   pɨ~dɨp-i,   ya   **mɨŋ   arhud**   ka-n.*
      banana   leaf   FD-LOC   write~TPST-3SG   speech   **true   1PL.POSS**   FD-ACC
      'He wrote it on paper (lit. 'banana leaf'), our language (lit. 'true speech').'

(119) *ya   **arhud   mɨŋ***
      speech   **1PL.POSS   true**
      'our language (lit. 'true speech')'

(120) *Uram* **uhra** **adu** *na-k* *j-id.*
house **big** **1SG.POSS** ND-LOC stay-IPST
'There's my big house.' Elicited

(121) *Uram* **adu** **uhra** *na-k* *j-id.*
house **1SG.POSS** **big** ND-LOC stay-IPST
'There's my big house.' Elicited

1.4.6. Attributive Postpositional Phrase

Postpositional phrases can also follow the head noun, in which case they are interpreted attributively, not as possessors. Examples with the oblique enclitic *=d* are given in (122) and (123). Examples (124) involves comitative *sad* and illustrates that the attributive postpositional phrase follows the attributive adjective (*miŋai* 'female') and precedes the demonstrative determiner (*kag* 'FD-NOM').

(122) *bor* *ata=d*
pig forest=OBL
'a wild pig' Elicited

(123) *Kuram* **taŋ=d** *ka-g* *ai-d.*
man **yonder=OBL** FD-NOM come-IPST
'A man from far away is coming.'

(124) *Kakɨgu* *ku-c,* *bor* *miŋai* **ña** **sad** *ka-g=a,* *dɨh=i* *atɨbar*
downward see-DS pig female **child** **COM** FD-NOM=LNK DU=COM tree.sp

ña *ka-n* *ñañ* *ta-rd.*
seed FD-ACC eat.NMPT walk.SG-FPST
'He looked down, and a sow with a piglet, the two of them were eating *atɨbar* fruit.'

1.4.7. Demonstrative Determiner or Case Enclitic

The last element in the noun phrase is the demonstrative (125), which functions as a determiner when it occurs with a head noun, or the case enclitic (126). Examples above

show that the determiner follows the adjective and possessive pronoun (118), as well as the attributive enclitic phrase (123) and the attributive postpositional phrase (124).

(125) *Pai* ***na-n*** *krez-id.*
fire ND-ACC burn-IPST
'We make a fire.'

(126) *Mɨŋ* *hɨr,* *ñac* *hr=ɨr* *ka-rd.*
mother.3.POSS 3SG.POSS daughter 3SG.POSS=ACC talk-FPST
'The mother spoke to her daughter.'

Case enclitics also come at the end of the noun phrase, following the adjective (127), the possessive pronoun (128), the attributive postpositional phrase (129), and the attributive enclitic phrase (130).

(127) *Mac* *Tabram=i* *Kiop=i* *dɨhɨr,* *ka-rd,* *kuram* *uhra=r.*
enough Tambram=COM Kiop=COM 3SG.OBJ talk-FPST man big=ACC
'Them Tambram and Kiop talked to him, to the big man.'

(128) *Uravi* *hr=in* *ako-rd.*
village 3SG.POSS=LOC go.up-FPST
'They went up to her village.'

(129) *Kuram* *ñɨ* *sad=ɨr* *kw-in.*
man son COM=ACC see-1SG.IPST
'I see a man with his son.' Elicited

(130) *Kuram* *Pasinkap=ɨd=ɨr* *kw-in.*
man Pasinkap=OBL=ACC see-1SG.IPST
'I see a man from Pasinkap.' Elicited

1.4.8. Coordination

There is no required overt marker of noun phrase coordination; consequently, noun phrases are often coordinated by simple juxtaposition. This is usually accompanied by an intonational break (131), but it does not have to be (132). It may also be that some instances of this kind of coordination are better analyzed as compounds.

(131) *Ipah-i*   *w-e*   **cen**   *hɨr,*   *ñac*   *hɨr*   *kw-e …*
go.across-SS   go-SS   **wife.3.POSS**   3SG.POSS   **daughter**   3SG.POSS   see-SS
'He went across and saw his wife and his daughter, and …'

(132) *Ñɨ*   *ñac*   *zau*   *na-n*   *j-e*   *uhra-m*   *g-id.*
son   **daughter**   fish   ND-ACC   eat-SS   grow-AJZT   grab-IPST
'The children eat these fish and get big.'

Noun phrases can also be coordinated by the comitative enclitic *=i* (§1.3.6). This enclitic can appear either on both coordinands (133) or only one (134). It appears that marking coordinands with *=i* may only be an option with subjects, as objects are often marked with the accusative enclitic *=r* (135). However, it is not clear whether the absence of *=i* is grammatically required or not.

(133) *Mac,*   *Tabram=i,*   *Kiop=i*   *dɨh=i*   *a-i …*
enough   Tambram=COM   Kiop=COM   DU=COM   come-SS
'Alright, Tambram and Kiop, the two of them came and …'

(134) *Tabram*   *Kiop=i*   *dɨh=i*   *kwra-nere,*   *agr-e …*
Tambram   Kiop=COM   DU=COM   FD-ADJZ   run.SG-SS
'Tambram and Kiop did that and ran away and …'

(135) *Pɨ*   *ac,*   *sag*   *ŋañ=ɨd*   **Kiop=ɨr**   **Tabram=ɨr**   *ai-w*   *ar.*
3   FOC   again   hand=OBL   **Kiop=ACC**   **Tabram=ACC**   come-2SG.IMP   QUOT
'He signaled again to Kiop and Tambram with his hand, (saying) "Come!"'

Disjunctive ("or") coordination can be accomplished in two ways. The Tok Pisin loanword *o* 'or' can be used to coordinate both noun phrases (136) and clauses (137).

(136) *Idaŋ*   *esa*   *o*   *naip-iñ,*   *ka-d*   *p-i*   *uzifr-id.*
bamboo   piece   **or**   knife-DIM   FD-OBL   take-SS   clean-IPST
'A piece of bamboo or a small knife, they take that and clean (the fish) with it.'

(137) *Api*   *Tude*   *wa-ŋar-in*   *o*   *Tride*   *wa-ŋar-in.*
1SG   Tuesday   go-FUT-1SG   **or**   Wednesday   go-FUT-1SG
'I'll go on Tuesday or I'll go on Wednesday.'   Elicited

For the coordination of clauses, the interrogative particle *oh* can also be used. If both alternatives are listed, *oh* is repeated for each one (138). But if the second alternative is only the negative word *mad* 'no,' *oh* is usually only found on the first coordinand (139), although this is not always the case (140).

(138) *Abɨ   akwerɨ-ŋ=an   **oh** ar,   api   akwerɨ-ŋ=an   **oh** ar.*
       2   go.up-PURP=very   Q   QUOT   1SG   go.up-PURP=very   Q   QUOT
       '"Should you go up," she said, "Or should I go up?"'

(139) *Borbed   na-n   abɨ   ja-ŋara-n   **oh** mad   ar.*
       possum   ND-ACC   2   eat-FUT-2SG   Q   no   QUOT
       '"Will you eat this possum or not?" she asked.'

(140) *Abɨ   ku-n   **oh** mad   **oh** ar.*
       2   see-2SG.IPST   Q   no   Q   QUOT
       '"Did you see it or not?" he asked.'

1.5. Verb Morphology

Mand verb morphology, like that of many Papuan languages, can be divided into "medial" and "final" categories. Verbs bearing final morphology, called final verbs, are fully finite and can stand on their own; medial verbs are dependent on a final verb for their TAM interpretation. I discuss final morphology in the following section, medial morphology in §1.5.1.5, and other morphology in §1.5.2.1.

It should be noted that verb morphology appears to be undergoing drastic change in Mand. The system of subject agreement, robustly attested in every other Sogeram language, is eroding, and 3SG forms are being generalized to function as simple tense markers that do not index subject agreement. Currently, the two systems—the old subject-agreement system and the new generalization of 3SG forms—coexist, and it is unclear what factors condition the choice between these two alternatives. To illustrate the variation, in

(141) the verb ending marks the tense (middle past) and also agrees with the subject (1PL).

But in (142), the verb ending marks the tense (middle past), but it does not agree with the

subject (also 1PL). Rather, the erstwhile 3SG form (-*eb-i* '-MPST-3SG') is being used as a tense-

marking form that does not agree with its subject.

> (141) *Awaŋ   ka-c   arhw   gok-i   **j-emi-nhw.***
>   sago   FD-TOP   1PL   break-SS   **eat-MPST-1PL**
>   'The sago, we broke it and ate it.'

> (142) *Kɨmohr-i,   ya   mɨŋ   na-n   arhw   **k-ebi.***
>   sit.PL-SS   speech   true   ND-ACC   1PL   **talk-MPST**
>   'We sat down and spoke this language (lit. 'true speech').'

The loss of subject-agreement is complete in the different-subject paradigm (§1.5.2.2),

for which only the erstwhile 3SG form –*c* survives. In other paradigms, the two systems

coexist. This makes it difficult to gloss forms that have 3SG subjects, as it is generally

impossible to distinguish between a 3SG suffix that agrees with a 3SG subject, and a 3SG

suffix that is being used as a non-agreeing tense-marking form in the presence of a 3SG

subject. Example (143) illustrates the difficulty. I have glossed the first ambiguous verb as a

subject-agreeing 3SG form, and the second as a non-subject-agreeing form that only marks

tense. In general, I (more or less arbitrarily) gloss these forms in the latter way, as simple

tense-marking forms, although it is possible that future research may uncover a principled

way to decide how to analyze any given 3SG form.

> (143) *Abɨr   ab-eb-i,   in,   aba~dabi.***
>   one.day.away   **put-MPST-3SG**   now   **put~TPST**
>   'Yesterday he put it, today he put it (too).'

1.5.1. Final Morphology

As mentioned above, final morphology indicates TAM information, and this information has scope over preceding medial verbs. Mand distinguishes nine final TAM categories: five tenses (immediate past, today past, middle past, far past, and future), one aspect (habitual), two imperative moods (imperative and prohibitive), and a counterfactual mood. In some TAM categories, the agreement morphology marks both TAM and person information (144); in others, the TAM suffix is discrete from the agreement suffix (145).

(144) *Apɨhɨd   ya,   inɨmaz-u.*
      bird   speech   **turn-2SG.IMP**
      'Translate it into Tok Pisin (lit. 'bird speech').'

(145) *Mac   api   ka-ŋar-in.*
      enough   1SG   **talk-FUT-1SG**
      'Alright, I'll talk.'

The different sets of agreement suffixes are presented in Table 9, along with the TAM categories they occur in. Note that the third person forms sometimes occur with a final *-d;* it is unclear what conditions the presence or absence of this segment, or what it means.

Table 9. Subject agreement sets

	1SG	2SG	3SG	1PL	2PL	3PL	TAM categories
Set I	*–in*	*–n*	*–i(d)*	*–inhw*	*–e-n*	*–e-d*	Immediate past, today past, future
Set II	*–n*	*–n*	*–i*	*–nhw*	*–n*	*–i*	Middle past, habitual
Set III	*–n*	*–n*	*–(d)*	*–nhw*	*–eu-n*	*–eu(-d)*	Far past
Set IV		*–u*		*–r*	*–e-u*		Imperative
Set V		*–mɨn*			*–e-mɨn*		Prohibitive

As this table shows, the 1PL is formed with a unique 1PL suffix while 2PL and 3PL are formed by means of a discrete plural suffix *–e* or *–eu* in combination with the 2SG or 3SG suffix. These suffixes are sometimes separated by the tense suffix (146). After certain verbs

that end in a high vowel, such as *pi-* 'take,' *ai-* 'come,' or *ji-* 'stay,' the /e/ of this suffix is raised to an /i/. When this happens I analyze the /u/ as a /w/, because although /eu/ is a sequence that is attested elsewhere in the language, /iu/ is not. This /w/ then sometimes forms part of a complex coda (147), and sometimes an epenthetic /ɨ/ is inserted to break it up (148).

(146) Ŋam   uja,   avɨr, epas   ka-n   p-i   gas=ɨn   **kɨmohr-eu-r-d.**
       mother.1/2.POSS who just paddle FD-ACC take-SS tail=LOC **sit.PL-PL-FPST-3**
       'All the women, just, took the paddles and sat down in the back (of the canoe).'

(147) *A-i,*   *Utɨkɨsɨd*   **j-iw-rd.**
       come-SS Utɨkɨsɨnd **stay-PL-3.FPST**
       'They came and stayed at Utɨkɨsɨnd.'

(148) *Dɨh=i*   *Ø-zam*   *hr=i*   **ai-wɨ-rd.**
       DU=COM   3.POSS-sister 3SG.POSS=COM **come-PL-3.FPST**
       'He and his sister came.'

The following sections present each TAM category in turn.

1.5.1.1. Immediate Past

The immediate past, as shown in Table 10, is formed with the Set I agreement suffixes with no tense suffix. The immediate past refers to present events (149) and events that occurred up to a few hours before the speech act (150).

Table 10. Immediate past tense suffixes

	SG	PL
first person	*–in*	*–inhw*
second person	*–n*	*–e-n*
third person	*–i(d)*	*–e-d*

(149) *Api*   *na-k*   **j-in,**   *api* *mɨ=b-ɨm.*
       1SG   ND-LOC **stay-1SG.IPST**   1SG NEG=die-NEG
       'I'm right here, I haven't died.'

(150) *Sag   nuan   dɨh   **p-id.***
      again afternoon COMP   **write-IPST**
      'He wrote again in the afternoon.'

(151) *Ida   utɨmar=an   **ab-e-d.***
      sun   two=very   **put-PL-3.IPST**
      'During the day they put two (down).'

1.5.1.2. Today Past

The today past suffixes are shown in Table 11. This tense is formed in a rather complicated way. The tense suffix consists of an initial /d/, followed by reduplicated material from the verb root—indicated by [RED] in the table—as well as an epenthetic /ɨ/ if the reduplicated material begins with a consonant. To this is appended a Set I subject agreement suffix (although it is worth noting that the *–d* which sometimes appears on third person forms never occurs in the today past). In the 2PL and 3PL, the matter is complicated by the insertion of the plural suffix *-e*, which precedes the today past suffix. When the plural suffix is present, the reduplicative portion of the today past suffix copies it, resulting in a today past suffix *~de*. In the 3PL, the expected form *-e~de-i*, which presumably existed in pre-Mand, is instead realized as *-e~de*.

Table 11. Today past tense suffixes

	SG	PL
first person	~d[RED]-in	~d[RED]-inhw
second person	~d[RED]-n	-e~de-n
third person	~d[RED]-i	-e~de

The pattern for the formation of the reduplicated portion of the today past suffix is not completely understood, but it can be summarized as follows (the examples from this discussion are presented in in Table 12). The reduplicant copies the last VCV portion of the

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root. Thus *ka-* 'talk' is copied entirely (with epenthetic insertion of /ɨ/) and *aba-* 'put' is also copied entirely. For *gyahɨ-* 'get up' and *omresɨ-* 'arrange,' only the last VCV sequence—*ahɨ* and *esɨ*, respectively—is copied. When more consonants intervene between the last two vowels, those are copied as well, as in *agra-* 'run,' *arɨbahrɨ-* 'carry,' and *gusrɨ-* 'tear.'

If the root ends in a labiovelar consonant, both the root and the copy undergo the alternation described in §1.3.1: they are realized as /Cʷ/ before a vowel and /Cu/ before a consonant. This means the root will always be realized as /Cu/, since it is followed by the initial /d/ of the tense suffix. The reduplicative copy then alternates between /Cʷ/ and /Cu/ depending on the agreement suffix that is present, as can be seen with *kw-* 'see,' *ikw-* 'give,' and *garhw-* 'break (tr.).'

Finally, if the first vowel of the copy is /ɨ/, this does not satisfy the requirement that a VCV sequence must be copied, and the copy incorporates more leftward material. In other words, a ɨCV sequence is not sufficient, and the copy spreads leftward. If the root does not contain a third syllable, as with *siha-* 'sew,' then the first onset is copied and an epenthetic /ɨ/ is inserted. If the root does contain another syllable to the left, then the copy begins with the nucleus of that syllable, as with *itɨha-* 'collect.' For purposes of this syllabification, the final /Cʷ/ of a labiovelar root counts as a CV sequence, presumably because it is always realized as /Cu/ before the initial /d/ of the tense suffix. So with *akɨgw-* 'descend,' the copy is built off of the root shape *akɨgu-*, yielding the same trisyllabic copy that occurs when the final syllable of the root has an invariant vowel, as with *atɨhwa-* 'take out.'

Table 12. Today past reduplication formation

Syllables	Root shape	Gloss	Root	Copy	Examples
σ	CV	talk	*ka-*	*ka-*	*ka~dɨka-n*
	CCV	sweep	*vra-*	*vra-*	*vra~dɨvr-i*
	Cʷ	see	*ku-*	*kw-*	*ku~dɨku-n, ku~dɨkw-in*
σσ	V.CV	put	*aba-*	*aba*	*aba~daba-n*
	V.Cʷ	give	*iku-*	*ikw-*	*iku~dɨku-n, iku~dɨkw-in*
	CCV.CV	get up	*gyahɨ-*	*ahɨ-*	*gyahɨ~dah-i*
	CVC.CV	tear	*gusrɨ-*	*usrɨ-*	*gusrɨ~dusr-in*
	CV.CCV	run.sg	*agra-*	*agra-*	*agra~dagr-in*
	CVC.Cʷ	break (tr.)	*garhu-*	*arhw-*	*garhu~darhw-in*
	Cɨ.CV	sew	*sɨha-*	*sɨha-*	*sɨha~dɨsɨh-in*
σσσ	VC.CV.CV	arrange	*omresɨ-*	*esɨ-*	*omresɨ~des-in*
	V.Cɨ.CV	collect	*itɨha-*	*itɨha-*	*itɨha~dɨtɨh-in*
	V.Cɨ.Cʷ	descend	*akɨgu-*	*akɨgw-*	*akɨgu~dakɨgw-in*
	V.Cɨ.CʷV	take out	*atɨhwa-*	*atɨhwa-*	*atɨhwa~datɨhw-in*
σσσσ	V.CV.CV.CCV	carry	*arɨbahrɨ-*	*ahrɨ-*	*arɨbahrɨ~dahr-in*

This pattern accounts for the vast majority of the today past forms that I elicited. A few exceptions still exist, but most of these can be accounted for by positing that the verb roots are—or were—compounds. For example, the expected copy for *kajɨ-* 'sit.sg' is *ajɨ-*, yielding *kajɨ~daj-in*, but this is not what occurs. Rather, the /a/ of the root is not copied and an epenthetic /ɨ/ is inserted instead: *kajɨ~dɨj-in*. This is presumably because this root is an old compound involving the verb *jɨ-* 'stay,' as reflected by its irregular nominalizer/participial form *kañiñ*.[20] A handful of other irregular forms like this one can be found.

The time reference of the today past includes past events on the day of the speech act, excluding events of the last few hours, which are referred to with the immediate past. The

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[20] Comparative research suggests the following etymology for *kajɨ-*: it is descended from Proto-Sogeram *mɨŋka* 'come down' and *kiñɨ-* 'stay,' which are reflected together in, for example, Manat *miga-ñɨ-* [come.down-stay] 'sleep.'

temporal boundary of this tense appears relatively firm; speakers were generally not happy with constructed examples that combined the today past with adverbs like *abrɨn* 'one day away' or *ajɨr* 'two days away.'

(152) *Pipia   na-n,   vra-c   **wa~dwi.***
      debris   ND-ACC   sweep-DS   go~TPST
      'She swept this debris away (lit. 'swept it and it went').'

(153) *Sag   a-i   dar   **ku~dɨkw-in.***
      again   come-SS   2SG.OBJ   see~TPST-1SG
      'I came back and saw you.'

1.5.1.3. Middle Past

The middle past forms are presented in Table 13. They consist of the middle past suffix *–emɨ* or *–eb* in conjunction with the Set II agreement suffixes. The 2PL and 3PL forms are homophonous with the 2SG and 3SG forms, presumably because the plural suffix *–e* merged with the /e/ at the beginning of the middle past suffix. But this polysemy is confirmed by the fact that both *–emɨ-n* and *–eb-i* are found on singular roots (like *kajɨ-* 'sit.SG') and plural roots (like *kɨmohrɨ-* 'sit.PL').

Table 13. Middle past tense suffixes

	SG	PL
first person	*–emɨ-n*	*–emɨ-nhw*
second person		*–emɨ-n*
third person		*–eb-i*

The time reference of this tense is situated between the today past and the far past. Thus it refers to events of the day before the speech act, as in (154), which is a discussion of events of the previous day, but also to older events (155). It is unknown how far back the time reference of this tense can extend, and how flexible it is.

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(154) *Api*   *abɨr*   *dar*   **k-emɨ-n.**
       1SG   one.day.away   2SG.OBJ   **talk-MPST-1SG**
       'I talked to you yesterday.'

(155) *Abɨr*   *ab-ebi,*   *ajɨr*   **ab-ebi.**
       one.day.away   put-MPST   two.days.away   **put-MPST**
       'He put it yesterday, he put it the day before.'

(156) *Nuan,*   *arhw*   *j-om*   *k-e,*   *mac*   *arhw*   **kɨmohr-ebi.**
       afternoon   1PL   eat-AJTZ   do-SS   enough   1PL   **sit.PL-MPST**
       'In the afternoon, we ate, and then we sat.'

1.5.1.4. Far Past

The far past forms are presented in Table 14. They are formed with the far past suffix *–r* in conjunction with the Set III agreement suffixes. When *–d* is present in the third person forms, it can be analyzed as a person agreement suffix (157). (The elision of the /u/ in the 3PL appears to be a fast-speech variant.)

Table 14. Far past tense suffixes

	SG	PL
first person	*–rɨ-n*	*–rɨ-nhw*
second person	*–rɨ-n*	*–eu-rɨ-n*
third person	*–r(ɨ-d)*	*–e(u)-r(ɨ-d)*

(157) *Zau*   *na-n*   *kr~ehɨr*   *j-om*   **k-e-r-d.**
       fish   ND-ACC   cook~NMPT   eat-AJTZ   **do-PL-FPST-3**
       'They cooked the fish and ate it.'

(158) *A-i*   *yar*   *urɨm=ɨn*   **aba-r.**
       come-SS   1SG.OBJ   middle=LOC   **put-FPST**
       'They came and put me in the middle.'

Additionally, when the 1PL form follows a root that ends in /rɨ/, such as *akerɨ-* 'come upriver,' the *–r* tense suffix is elided (159).

(159) *Kreri*   *is-i*   **akerɨ-nhw.**
       FD-ADVZ   paddle-SS   **come.upriver-1PL.FPST**
       'We paddled up the river like that.'

1.5.1.5. Future

The future tense is formed with the future suffix *–ŋara* and the Set I agreement suffixes, as shown in Table 15 and exemplified below. This tense refers to any future event.

Table 15. Future tense suffixes

	SG	PL
first person	*–ŋar-in*	*–ŋar-inhw*
second person	*–ŋara-n*	*–ŋar-e-n*
third person	*–ŋar-i(d)*	*–ŋar-e-d*

(160) *Arhw tɨhuz **uzami-ŋari.***
     1PL   yam.sp **take.out-FUT**
     'We'll harvest *tɨhuz* yams.'

(161) *Api ya **ka-ŋar-in.***
     1SG speech **talk-FUT-1SG**
     'I'll tell a story.'

1.5.1.6. Habitual

The attested habitual aspect forms are shown in Table 16. The only form that exists in my corpus is 1PL, as in (162) and (163). In elicitation speakers tended strongly to give the invariant ending *-cɨn* for every person–number combination, but also gave the 2PL and 3PL forms with the plural suffix *–e* that are shown in the table. It appears that the habitual can refer to events with any time reference, but more research is needed to be sure.

Table 16. Habitual aspect suffixes

	SG	PL
first person	*–cɨ-n*	*–cɨ-nhw*
second person	*–cɨ-n*	*-e-cɨ-n*
third person	*–cɨ-n*	*–e-cɨ-n*

(162) *Arhw zau=d **ovra-cɨ-nhw.***
     1PL   fish=OBL **barter-HAB-1PL**
     'We used to barter with fish.'

(163) *Mac=a,*   *kr-eri*   **_jɨ-cɨ-nhw._**
      enough=LNK FD-ADVZ **stay-HAB-1PL**
      'Alright, we live like that.'

1.5.1.7. Imperative

The imperative suffixes are shown in Table 17. It appears that this mood only has 1PL and second person forms; attempts to elicit 1SG and third person forms were unsuccessful. The imperative mood is used to issue directives, as shown in the examples below. It should also be noted that the 2SG suffix has an allomorph *–o* when it is attached to a root that ends in /a/, such as *ka-* 'talk' (164).

Table 17. Imperative mood suffixes

	SG	PL
first person		*–r*
second person	*–u*	*–e-u*
third person		

(164) *Ya*   *adu*   *a-i*   *p-i,*   *w-e*   **_k-o._**
      speech 1SG.POSS come-SS take-SS, go-SS **talk-2SG.IMP**
      'Come listen to me (lit. 'take my speech') and go tell (them).'   Elicited

(165) *Aŋañ=ɨn*   **_akug-e-u_**   *ar-i.*
      canoe=LOC **go.down-PL-2.IMP**   say-IPST
      '"You guys get in the canoe," they said.'

(166) *Arhw*   *var=ɨn*   **_wa-r._**
      1PL   garden=LOC **go-1PL.IMP**
      'Let's go to the garden.'

A few third person optative statements can be found in the corpus, and these are formed with the different-subject suffix *–c* (§1.5.2.2). When functioning as a third person optative, *-c* sometimes occurs with the particle *tɨ*, which is not well understood but which appears to denote that the subject of the clause is able to or ought to perform the action of the clause. For example, in (167), the speaker is addressing a piece of poisonous food that

she is preparing for her husband, but which is not cooking properly. The final clause *tɨ jac* is best understood as a third person imperative or optative statement.

(167) *Avɨr   va-c   **tɨ   ja-c**   ar=a.*
just   burn-DS   **able   eat-DS**   QUOT=LNK
'"Just be cooked (so that) he will eat you," she said.'

This suffix can apparently also be used for third person plural directives, as in (168), where the final clause expresses the speaker's wish that the people who had run away would be enticed by the gift of food to return.

(168) *Kuram   uhra   na-g.   Abɨ,   ka-d   ac   ik-u   ar=a.   Sɨv*
man   big   ND-NOM   2   FD-OBL   FOC   give-2SG.IMP   QUOT=LNK   family

*ahɨr   ka-n,   iku-c   ac,   j-om   k-e-c,   sag   **ai-c**   ar=a.*
2SG.POSS   FD-ACC   give-DS   FOC   eat-AJTZ   do-PL-DS   again   **come-DS**   QUOT=LNK
'This big man (spoke). "Give it to them," he said. "Give it to your family, let them eat it, and let them come back," he said.'

1.5.1.8. Prohibitive

The prohibitive mood, shown in Table 18, is restricted to the second person. It is used to make negative commands (169) and in this function it appears in the same interactional contexts as the imperative mood, as illustrated by the sequence in (170). It also appears to be used in other irrealis contexts, which are not well understood (171).

Table 18. Prohibitive mood suffixes

	SG	PL
first person		
second person	*–mɨn*	*–e-mɨn*
third person		

(169) *Abɨ   **gyah-e-mɨn.***
2   **get.up-PL-2.PROH**
'Don't get up.'   Elicited

(170) *Ohe   miŋ,   ka-n   am   **ja-mɨn**   ar.   Far   na-n   atad*
     tree.sp   true   FD-ACC just **eat-2SG.PROH**   QUOT   skin ND-ACC with

j-o   ar.
eat-2SG.IMP   QUOT
'"Don't just eat the *ohe* meat," he said. "Eat it with the skin," he said.'

(171) *Ipia   adu   ka-n   abɨ   dih   aba~dabi   oh   **arɨ-mɨn?***
     name   1SG.POSS   FD-ACC   2   COMP   put-TPST   Q   **say-2SG.PROH**
     'My name, did you put it (in) yesterday or not?'

The verb *aprɨ-* 'throw' is interesting, because it requires a verb of motion to be chained to it which expresses the motion of the thrown object. When I elicited negative commands with *aprɨ-*, the verb of motion, which normally agrees with the projectile, appeared to agree with the thrower instead, as shown by the examples with singular (172) and plural (173) subjects below. The grammar of this construction requires more research.

(172) *Ka-p   aprɨ-c   **wa-mɨn.***
     FD-LOC   throw-DS   **go-2SG.PROH**
     'Don't throw it there (SG).'   Elicited

(173) *Abɨ   aprɨ-c   **w-e-mɨn.***
     2   throw-DS   **go-PL-2.PROH**
     'Don't throw it away (PL).'   Elicited

1.5.1.9. Counterfactual

The suffix *-mɨr* has been encountered in elicitation but is still very poorly understood. I analyze it as a counterfactual, since it is only found in hypothetical contexts like (174), or contexts that are asserted to be impossible, like (175), which was given for "I'm not able to build a house." This suffix does not usually exhibit subject agreement, but a form *–mɨrhw* was sometimes given for the 1PL (176).

(174) *Api* **mɨ=jɨ-mɨr** *ka-n,* *api* *mɨ=wa-ŋara-m.*
1SG **NEG=stay-CTRF** FD-ACC 1SG NEG=go-FUT-NEG
'If I'm not ready, I won't go.' Elicited

(175) *Api* *uram* *ka-n* *prer-i* **api-mɨr?**
1SG house FD-ACC how-SS **build-CTRF**
'How am I supposed to build a house (i.e., I can't possibly do it)?' Elicited

(176) *Arhw jɨ-mɨrhw* *ka-n,* *dɨh* *wa-mɨrhw.*
1pl stay-1pl.ctrf fd-acc comp go-1pl.ctrf
'If we're ready, we'll go.' Elicited

1.5.2. Medial Morphology

Medial verbs distinguish same-subject and different-subject forms, and can also be marked with a desiderative suffix. They are not marked for relative tense (i.e., sequential, simultaneous, etc.). And as mentioned above, they receive their absolute TAM interpretation from the final verb in their clause chain.

1.5.2.1. Same–Subject

The same-subject medial verb suffix is *–i* (177), or *–e* when attaching to a verb that ends in /a/, such as *wa-* 'go' (178). This suffix generally indicates that the subject of the marked verb is the same as the subject of the following verb, although there are exceptions (see §1.7.1).

(177) *A-i* *Icowah* **udɨhaj-i,** **ater-i,** *mac,* *miŋam ai-bi.*
come-SS Isowak **sleep.SG-SS** **leave-SS** enough good come-MPST
'He came and slept in Isowak, left there, and came here well.'

(178) *Ikud* **w-e** *p-i* *ahrai-bi.*
morning **go-SS** take-SS bring-MPST
'In the morning he went and got it and brought it.'

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1.5.2.2. Different–Subject

The different-subject suffix is *-c*. This suffix indicates that the action of the following verb is performed by a different subject than that of the marked verb, as in (179) and (180). It can also be used when the following verb has a "dummy" subject, as in (181). Verbs marked with the different-subject suffix do not agree with their own subjects, but only indicate that the subject of the next verb is different. The clause chaining system is discussed further in §1.7.1.

(179) *Arhw* **amari-c** *kwra-cir-i* *k-ebi.*
    1PL   **ask-DS**   FD-VBLZ-SS   talk-MPST
    'We asked him and that's what he said.'

(180) *Awaŋ* **aka-c**   **vari-c,**   *arhw* *dih=i*   *awaŋ* *p-i …*
    sago   **chop-DS**   **break-DS**   1PL   DU=DU   sago   take-SS
    'We chop the sago and it breaks, and the two of us take the sago and …'

(181) *A-i*   *Yumpir* **ku-c**   *mad* **ji-c,**   *a-i*   *Pasinkap*   *w-ebi.*
    come-SS Aiome   **see-DS**   no   **stay-DS**   come-SS Pasinkap   go-MPST
    'He came and looked at Aiome, and no (i.e., it wouldn't do), and he came and went to Pasinkap.'

Recall also from §1.5.1.7 that *-c* can be used to make third person imperative or optative statements, as in (182). In this context, there is one example of what may be a 2SG.DS suffix—or at least a vestige of one. In (183) the speaker is addressing his mother and telling her to set food out for him. The last clause of this chain is *jic* 'let it stay,' referring to the food. This is preceded by *aban* 'you put,' which is the 2SG.IPST form of *aba-* 'put,' but which appears to be functioning here as a switch reference suffix. Note, however, that not all 2SG different-subject verbs in this sort of context take *-n*; in (184) the 2SG verb *va-* 'burn

(intr.)' takes the usual different-subject suffix *–c* and the following clause is a third person imperative statement.

(182) *Kuram   na-n   ater-i   wa-c,   tɨ   **bɨ-c**   ar=a.*
      man   ND-ACC leave-SS   go-DS   able   **die-DS**   QUOT=LNK
      '"Let's leave this man and go and let him die," she said.'

(183) *Ŋam   ar=a,   ñañ   adu   ka-n   **aba-n**   ji-c   ar.*
      mother.1/2.POSS   QUOT=LNK   food   1SG.POSS FD-ACC   **put-2SG.IPST**   stay-DS   QUOT
      '"Mom," he said. "Put my food there (lit. 'and let it stay')," he said.'

(184) *Avɨr   **va-c**   tɨ   ja-c   ar=a.*
      just   **burn-DS**   able   eat-DS   QUOT=LNK
      '"Just be cooked (so that) he will eat you," she said.'

Similarly, the purposive suffix *–ŋ* (§1.5.3.3) appears to be used sometimes in 1SG different-subject contexts (185), although it is unclear whether it is necessarily understood to have different-subject meaning.

(185) *W-e   **ku-ŋ=a,**   bor   uhra   ka-g   udɨhajɨ-r.*
      go-SS   **see-PURP=LNK**   pig   big   FD-NOM   sleep.SG-FPST
      'I went and looked, and a big pig was sleeping.'

1.5.2.3. Desiderative

The desiderative medial verb is formed with the suffix *–ŋarɨ*, usually in combination with the same-subject suffix *–i*, as in (186) or (187). However, there are two examples of this suffix occurring in combination with the different-subject suffix, shown in (188) and (189). This suffix is formally and semantically related to the future tense suffix *–ŋara* (§1.5.1.5), and they are probably etymologically related.

(186) *Mad   ka-n   api,   **pi-ŋar-i**   ai-bi.*
      Mand   FD-ACC 1SG   **take-DESID-SS**   come-MPST
      'I came to learn Mand (lit. 'Mand, I wanted to take it and I came').'

(187) *Arhw   dar,   **ku-ŋar-i**   a-inhw   ar.*
      1PL   2SG.OBJ **see-DESID-SS**   come-1PL.IPST   QUOT
      '"We came to see you (lit. 'wanted to see you and we came')," they said.'

(188) *Udɨhajɨ-c,   api   **imi-ŋar-ic,**   bor   ka-g   gyah-i   agra-rɨd.*
      sleep.SG-DS   1SG   **shoot-DESID-DS**   pig   FD-NOM   get.up-SS   run.SG-FPST
      'It was sleeping, and I wanted to (or 'was about to') shoot it, and the pig got up
      and ran away.'

(189) *Uta   bɨh,   vis=id   ka-n,   **ŋiriri-ŋar-ic**   mad.*
      branch   SPEC   ground=OBL   FD-ACC   **shake-DESID-DS**   no
      'She wanted to shake a branch near the ground, but alas.'

1.5.3. Other Morphology

There are three suffixes that attach to verbs and cannot be easily classified as medial or
final: the adjunctivizer *-m*, the reduplicative nominalizer/participle suffix, and the
purposive *-ŋ*. I discuss these forms in the following sections, but as none of them are
robustly attested in my corpus, none are particularly well understood.

1.5.3.1. Adjunctivizer

The suffix *-m* appears to be a derivational suffix that forms verb adjuncts (see §1.3.1.1) out
of verbs. I gloss it 'AJTZ.' It is an infrequent form, so it is not possible to be certain, but verbs
suffixed with *-m* always occur with inflected light verbs—such as *ka-* 'do' (190) or *ga-* 'grab'
(191)—and the construction appears essentially to retain the semantics of the adjunctivized
verb. Of course this raises the question of how forming an adjunct out of a verb and pairing
it with an inflected form differs from simply inflecting a verb, but that question will have
to await further research.

(190) *Arhw   **kre-m**   ka-cɨ-nhw.*
      1PL   **make.so-AJTZ**   do-HAB-1PL
      'That's what we do.'

(191) *Ñɨ ñac zau na-n j-e* **uhra-m** *g-id.*
son daughter fish ND-ACC eat-SS **grow-AJTZ** grab-IPST
'The children eat this fish and grow big.'

The verb *ja-* 'eat' takes a unique suffix *–ohum* (sometimes elided to *-om),* which never occurs on any other verb, and which may be related to the adjunctivizing *–m.* It always occurs with an inflected form of *ka-* 'do' (192).

(192) *Nuan, arhw* **j-om** *k-e …*
afternoon 1PL **eat-AJTZ** do-SS
'In the afternoon, we ate and …'

Finally, the verb *bɨ-* 'die' appears to have an irregular adjunctivized form, *mam* (193).

(193) *Utɨmar* **ma-m** *g-ebi.*
two **die-AJTZ** grab-MPST
'Two died.'

1.5.3.2. Nominalizer/Participle

There is a reduplicative suffix that appears to have two primary functions. The first is to form nominalizations, as in (194) and (195). This function is not as frequent, and only a few examples of it are found in the corpus.

(194) *Pɨ ac w-e=a, ya* **ka~h** *ka-p aba-ŋarid.*
3 FOC go-SS=LNK speech **talk~NMPT** FD-LOC put-FUT
'He'll go, and put it in that recorder (lit. 'speech talker').'

(195) *aŋañ* **parɨ~r**
canoe **punt~NMPT**
'put pole (lit. 'canoe punter')'

The second function is to form adverbial participles (196). Because of the apparently dual function of this nominalizing/participializing suffix, I gloss it 'NMPT.' In the participial function, this form has the same subject as the main verb of the clause and modifies the predicate. Sometimes the semantic relationship between the participial verb and the main

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verb is quite transparent, as each contributes its lexical semantics (197), but other times the participial verb appears to contribute the primary lexical semantics (198). These cases require more investigation.

(196) *Ihra~hɨr*   *ku-ŋari.*
     watch~NMPT   see-FUT
     'Watching, he'll see (it).'

(197) *Mɨŋ*   *hɨr*   *iku-c*   *kra~hɨr*   *ja-c ...*
     mother.3.POSS 3SG.POSS give-DS **cook~NMPT** eat-DS
     'He gave it to his mother and she cooked and ate it and ...'

(198) *A-i*   *ac* *dɨh=i* *atɨbar* *ña* *ka-n,* *dɨh=i* *ñañ*   *tahr-i=a ...*
     come-SS FOC DU=COM tree.sp seed FD-ACC DU=COM **eat.NMPT** walk.PL-SS=LNK
     'They came and the two of them, the two of them ate *atɨbar* fruit.'

Participles are often repeated for effect (199), and it is possible for one clause to contain participles of more than one verb (200).

(199) *Uregɨ-c*   *mac,*   *ma~m*   *ma~m*   *ma~m*   *ma~m,*   *ai-rd.*
     call.to-DS enough **fear~NMPT** **fear~NMPT** **fear~NMPT** **fear~NMPT** come-FPST
     'They$_i$ called to them$_j$, and they$_j$ came very, very fearfully.'

(200) *Dɨh=i*   *kwra-cɨr-e* *ka~h*   *ka~h*   *abɨhovɨ~v* *wa-c=a,*
     DU=COM FD-VBLZ-SS **talk~NMPT** **talk~NMPT** **argue~NMPT** go-DS=LNK

     ñac   *hɨr*   *ka-rd.*
     daughter 3SG.POSS talk-FPST
     'The two of them talked and talked and argued like that, and then the daughter spoke.'

Participles can be intransitive (201) and they can have their own objects (202). It seems they can also share an object with the main verb (203).

(201) *Kr-e*   *ac* *k-ɨp* *ac* *kañɨñ*   *t-e ...*
     make.so-SS FOC FD-EXST FOC **sit.SG.NMPT** walk.SG-SS
     'He did that and stayed there, and ...'

(202) *Miŋ*   *hr=ɨr,*   **awarɨ~r**   *ta-c=a ...*
       mother.3.POSS   3SG.POSS=ACC   **yell~NMPT**   walk.SG-DS=LNK
       'She yelled to her mother and ...'

(203) *Aca*   *adu*   *awaŋ* **kra~hɨr**   *ja-c ...*
       woman   1SG.POSS   sago   **cook~NMPT**   eat-DS
       'My wife cooked and ate sago and ...'

There is one apparent example of a participle having a different subject from its main verb (204), and it is not well understood.

(204) *Mac*   *arhw*   *ahwr-i,*   *ŋam=ir*   *iku-c,*   *ŋam*
       enough   1PL   take.away-SS   mother.1/2.POSS=ACC   give-DS   mother.1/2.POSS

       kra~hɨr   *ja-rɨd.*
       cook-NMPT   eat-FPST
       'Alright we took it, gave it to mother, and, mother cooking it, we ate.'

The phonological rules for creating the suffix are not perfectly understood, but some generalizations can be made. The suffix copies the onset of the last syllable of the root, as shown with the CV forms in Table 19. If the copied consonant is one of /p t k f/ (represented with PV in the table), it is voiced and lenited to a fricative, except /t/ becomes /d/. If the copied consonant is a voiced prenasalized stop (NV in the table), the copy is the corresponding nasal, *and* the stop in the root also becomes that nasal. So for *ja-* 'eat' the copy is the palatal ~ñ, corresponding to /j/, and then /j/ also becomes /ñ/, yielding *ñañ* 'eat.NMPT.' This pattern is not found with every verb, though, as *isɨrɨbɨ-* 'fence off' illustrates.

If the verb is a labiovelar root (Kʷ), an /a/ is inserted between the root and the copy and the /kw/ is lenited to /hw/ in the copy. If the root has a complex onset (CCV), both consonants are copied and an epenthetic /ɨ/ is inserted between them. Note that voiced

prenasalized stops, as with *agra-* 'run.SG,' are not changed in this circumstance. And if the first consonant of a complex onset is one of /p t k f/ (PCV), it is lenited as normal when copied.

Table 19. Nominalizer/participle reduplication formation

Final onset	Gloss	Root	Copy	Example
CV	burn (intr.)	*va-*	*v*	*va~v*
	leave	*ateri-*	*r*	*ateri~r*
PV	cut	*ika-*	*h*	*ika~h*
	pull out	*gepe-*	*v*	*gepe~v*
	walk.SG	*ta-*	*d*	*ta~d*
NV	put	*aba-*	*m*	*amam*
	hold	*kwagɨ-*	*ŋ*	*kwaŋɨŋ*
	fence off	*isɨrɨbɨ-*	*b*	*isɨrɨbɨ~b*
Kʷ	see	*kw-*	*ahw*	*kw~ahw*
	give	*ikw-*	*ahw*	*ikw~ahw*
CCV	sweep	*vra-*	*vɨr*	*vra~vɨr*
	run.SG	*agra-*	*gɨr*	*agra~gɨr*
PCV	cook	*kra*	*hɨr*	*kra~hɨr*
	husk	*fra*	*vɨr*	*fra~vɨr*

1.5.3.3. Purposive

The suffix *–ŋ* creates a purposive verbal form that is not well understood. In some cases it seems to form a purpose adjective that means 'for the purpose of V-ing,' and in this function it, like other adjectives, often occurs with the emphatic enclitic *=an* (205). But *–ŋ* can also be used as the main verb of the clause, in which case it usually expresses the desire (206) or intention (207) of the subject. It is also commonly marked with *=an* in this function (208).

(205) *Api   mɨc   **ja-ŋ=an**   ar-i,   o,   kuram   **iku-ŋ=an**   ar-i.*
1SG   dry   **eat-PURP=very**   say-IPST   or   man   **give-PURP=very**   say-IPST
'(They're) for me to eat dry, or to give to (other) men.'

(206) *Api   dar   watɨm   **wa-ŋ.***
　　　1SG   2SG.OBJ after   **go-PURP**
　　　'I want to follow after you.'　　　　　　　　　　　　　　　　Elicited

(207) *Api   ada=n   **akugu-ŋ**   ar=a.*
　　　1SG   water=LOC   **descend-PURP**   QUOT=LNK
　　　'"I'm going down to the water," he said.'

(208) *Api   urak   **wa-ŋ=an.***
　　　1SG   hunt   **go-PURP=very**
　　　'I'm going to hunt.'　　　　　　　　　　　　　　　　　　　Elicited

Interestingly, this suffix appears to connote 1SG meaning; that is, when used in isolation, it is usually interpreted as having a 1SG subject. In this connection, it is sometimes used in what appears to be a 1SG different-subject function (209), but this construction is not well understood. Moreover, examples with second (210) and third (211) person subjects do exist, suggesting that *-ŋ* only *tends* to have 1SG meaning. This is a topic that requires further investigation.

(209) *Ñañ   ahɨr   na-k   **aba-ŋ**   jɨ-ŋarid   ar.*
　　　food   2SG.POSS   ND-LOC   **put-PURP**   stay-FUT   QUOT
　　　'"I'll put your food and it'll stay here," she said.'

(210) *Abɨ   **akwerɨ-ŋ=an**   oh   ar,   api   **akwerɨ-ŋ=an**   oh   ar.*
　　　2   **go.up-PURP=very**   Q   QUOT   1SG   **go.up-PURP=very**   Q   QUOT
　　　'"Should you go up," she said, "Or should I go up?"'

(211) *Ucɨ   ya   **ka-ŋ**   ac,   miŋ   hr=ɨr.*
　　　what   speech   **talk-PURP**   FOC   mother.3.POSS   3SG.POSS=ACC
　　　'What (lit. 'what speech') was she going to say to her mother?'

Finally, all the examples above have irrealis meaning that is somehow connected to purpose or intent, which appears to be the core meaning of this suffix. But in (212) there does not appear to be any such meaning. Interestingly, in this example *-ŋ* occurs in a subordinate clause, which may be relevant to its interpretation.

(212) [*Ukɨ* **iverɨ-ŋ=an**] *ka-n* *ku-n?*
drum **hit-PURP=very** FD-ACC see-2SG.IPST
'Do you see me beating the drum?'   Elicited

1.6. Clause Structure

This section discusses the structure of the various clause types in Mand, beginning with the basic affirmative verbal declarative clause. Negated clauses are discussed in §1.6.6, interrogatives in §1.6.7, and nonverbal clauses in §1.6.8.

The basic word order is SOV, as illustrated in (213) with pronouns and (214) with noun phrases.

(213) *Api* *dar* *amar-id.*
1SG 2SG.OBJ ask-IPST
'I'm asking you.'

(214) *Kuram-ɨñ* *na-g,* *iwañ* *ka-n* *am* *kw-e* *ateri-rd.*
man-DIM ND-NOM footprint FD-ACC just see-SS leave-FPST
'The boy just saw the footprints and left.'

Other arguments usually follow the subject and the object, yielding the following general clause structure:

(S)   (O)   (Obl)   V

It is rare, however, for one clause to contain many arguments. Rather, they are typically spread out over multiple chained clauses, as in (215). This clause chain describes how a man caught fish with leaves in a particular swamp, but instead of saying "He caught fish in Uparɨd Swamp with *bagar* leaves," the speaker spreads these arguments over three clauses. The first contains the location, the second the instrument, and the third contains

no overt argument, as the fish are already understood from the context and from the lexical semantics of the verb.

(215) *Uparɨd   w-e,   bagar   asɨh ka-n   ivok-i,   isɨrɨb-i,   kɨmab   aba-rɨd.*
Uparɨd   go-SS   palm.sp   leaf   FD-ACC   cut-SS   catch.fish-SS   basket   put-FPST
'He went to Uparɨd, cut *bagar* leaves, caught fish, and put them in a basket.'

Because of the rarity of clauses with multiple arguments, the word order generalizations made below must all be regarded as tentative. Finally, in addition to these positions in the clause, there is evidence of a topic position that occurs at the left edge of the clause (§1.6.4), and it is also common to right-dislocate arguments to post-verbal position (§1.6.5).

1.6.1. Subjects

Subjects in Mand are typically the first core argument of the clause. They trigger switch reference agreement in medial verbs (§1.7.1), as shown in (216), and optionally trigger verb agreement in final verbs (217), although this is not required (218).

(216) *Pipia   na-n,   **vra-c**   wa~dwi.*
debris   ND-ACC   **sweep-DS**   go-TPST
'She swept this debris away (lit. 'swept it and it went').'

(217) *Arhw   umɨr   kɨmohr-i, j-ohum   k-e,   **udɨhahrɨ-nhw.***
1PL   all   sit.PL-SS   eat-AJTZ   do-SS   **sleep.PL-1PL.FPST**
'We all sat down, ate, and slept.'

(218) *Arhw   dɨh=i   Aihɨn   **ai-rɨd.***
1PL   DU=DU   Aihɨn   **come-FPST**
'The two of us came down Aihɨn (creek).'

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Verbs that agree with a dual subject take plural agreement (219), as verb morphology does not distinguish dual from plural. Subjects formed by combining two comitative-marked singular noun phrases can also show plural subject agreement (220).

(219) *Dɨh=i*   **udɨhahr-eu-r,**   *vɨhimd.*
       DU=COM   **sleep.PL-PL-3.FPST**   night
       'The two of them slept, at night.'

(220) *Ø-zen*   *hr=i*   *iran*   *hr=i,*   *dɨh*
       3.POSS-older.sib   3SG.POSS=COM   younger.sib.3.POSS   3SG.POSS=COM   COMP

       kw-eu-r.
       see-PL-3.FPST
       'The older brother and the younger brother saw it.'

Subjects are only casemarked if they have a demonstrative determiner (221) or if they are pronouns (222), although if they are human they can be distinguished from objects by the lack of the accusative enclitic *=r* (see §1.6.2 below).

(221) *Aka*   *wa-c,*   *mac*   ***aka***   ***na-g,***   *zau*   *inɨmazi-rd.*
       feces   go-DS   enough   **feces**   **ND-NOM**   fish   turn-FPST
       'He defecated, and alright, the feces turned into fish.'

(222) ***Api***   *akaji-rɨ-n.*
       1SG   wait-FPST-1SG
       'I waited.'

1.6.2. Objects

Objects are not generally indexed on the verb, although there are two verbs, *ŋinbɨ-* 'gather plural objects' (223) and *ivɨrorɨ-* 'hit plural objects' (224), which specify object number as part of their lexical semantics.

(223) *Soz=a,*   *wai*   *uca*   *ocohocoh*   *kwrih*   *uca,*   ***ŋinb-i***   *ahrakug-i*
       child=LNK   wire   things   things   arrow   things   **gather.PL-SS**   take.down-SS

kr-eri   im-id.
FD-ADVZ   shoot-IPST
'The kids gather the wire and the arrows and everything, take them down and shoot (the fish) like that.'

(224) *Vɨdar   ocohocoh   na-n,   **iviroɾɨ~r**   ŋinɨm   ŋinɨm,   mac,*
eel.sp things   ND-ACC   **hit.PL~NMPT**   gather.PL.NMPT gather.PL.NMPT enough

akwrasɨh asɨh ka-p,   ŋinɨm   viha-rd.
tree.sp   leaf FD-LOC gather.PL.NMPT   tie-FPST
'He hit all the *vɨdar* eels and things, gathered them up, and then gathered *akwrasɨh* leaves and wrapped them in them.'

1.6.2.1. Monotransitive Clauses

In monotransitive clauses, objects can be marked in several ways. If they are human, they take the accusative enclitic *=r* (225); if they are pronouns, they occur as object pronouns (226); and if they are non-human common nouns, they can take an accusative determiner (227), although they do not have to (228).

(225) *Api   **Don=ɨr**   dɨh   kw-emɨ-n.*
1SG   **Don=ACC**   COMP   see-MPST-1SG
'I already saw Don.'   Elicited

(226) *Isidor   w-e   **yar**   ka-r,   ŋam.*
Isidor   go-SS   **1SG.OBJ**   talk-3SG.FPST   mother.1/2.POSS
'Isidor went and told me, "Mother."'

(227) ***Aŋañ   ka-n**   p-i   ahrai-w.*
canoe   FD-ACC   take-SS   bring-2SG.IMP
'Get the canoe and bring it (here).'

(228) *Jon,   **aŋañ**   ahrai-w   ar-ebi.*
John   **canoe**   bring-2SG.IMP   say-MPST
'"John, bring the canoe," he said.'

Sometimes accusative arguments occur with verbs that are usually intransitive. These arguments can be marked with *=r* even if they are non-human. They are not usually understood to be patients, but often have oblique semantic roles, as with the accusative-

marked goal in (229). There is probably a good deal of interaction between individual verbs and nominal cases, but at present more is not known.

(229) *Asam   ña=r   w-eu-r.*
      tree.sp   seed=ACC   go-PL-3.FPST
      'They went (looking) for *asam* seeds.'   Elicited

1.6.2.2. Ditransitive Clauses

In ditransitive clauses, the recipient is marked with accusative case (230) and so is the theme (231), although recall that inanimate arguments are not always case-marked (232). This case-marking pattern remains in clauses with both the recipient and theme present, as in the elicited example in (233), which contains an object pronoun and an accusative demonstrative. The corpus of spontaneous speech contains (234), with two accusative noun phrases, but here the theme is right-dislocated.

(230) *Mac   arhw ahwr-i,   ŋam=ir   iku-c …*
      enough   1PL   take.away-SS   **mother.1/2.POSS=ACC**   give-DS
      'Alright we take it away, give it to mother, and ...'

(231) *Mac   **akɨmd   ka-n**   iku-c …*
      enough   **heap   FD-ACC**   give-DS
      'Then he gave them a heap of it and ...'

(232) *Gyah-i,   arhw   **amɨm**   iku-c,   j-e …*
      get.up-SS   1PL   **food**   give-DS   eat-SS
      'He got up, we gave him food, he ate, and ...'

(233) *Abɨr   p=an   **yar**   pai   ka-n   ikw-ebi.*
      one.day.away   3=very   **1SG.OBJ**   **fire**   FD-ACC   give-MPST
      'Yesterday he gave me fire.'   Elicited

(234) *Ukri   uhra ka-n   iku-rd,   ñañ   hɨr   ka-n.*
      snake   big   FD-ACC   give-FPST   **food**   3SG.POSS   **FD-ACC**
      'He gave his food to the big snake.'

It appears that recipients can also occur with oblique case-marking, as in (235), although the referent of *kad* in this example is not entirely clear.

(235) *Abɨ,* **ka-d**   *ac*   *ik-u*   *ar=a.*
     2   **FD-OBL** FOC give-2SG.IMP QUOT=LNK
    '"You guys give it to them," he said.'

The particle *zɨ* 'help' is poorly understood, but it appears to increase the transitivity of a clause by adding a second object with benefactive semantics. This can be seen in (236), where the normal single argument of *vra-* 'sweep' is right-dislocated. The presence of two objects in the clause is more apparent in the elicited example (237), where *zɨ* follows the beneficiary and precedes the object of the verb *gresɨ-* 'look for.'

(236) *Pac* *a-i*   **yar**   *zɨ*   *vra~dɨvri,*   **na-n.**
     just come-SS **1SG.OBJ** help sweep~TPST **ND-ACC**
     'She just came and helped me sweep this.'

(237) *Api* **dar**   *zɨ*   **zau**   **ka-n**   *gresɨ-ŋar-in*
     1SG **2SG.OBJ** help **fish** **FD-ACC** look.for-FUT-1SG
     'I'll help you look for fish.'   Elicited

1.6.3. Oblique Arguments

The placement of oblique arguments is rather uncertain due to the lack of discourse data, but it appears that arguments marked with both *=n* 'LOC' and *=d* 'OBL' occur after core arguments. The examples below show arguments marked as locative following the subject (238) and the object (239), and also general oblique arguments following the subject (240) and the object (241). (This last example is complicated somewhat by the fact that both instances of *tɨm* may be topicalized; see below.)

(238) *Arhw* *di* **aŋañ=in**   *akugu-r-nhw.*
     1PL   DU   **canoe=LOC** go.down-FPST-1PL
     'The two of us went down to the canoe.'

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(239) *A-i   yar   **urɨm=in**   aba-r.*
     come-SS 1SG.OBJ **middle=LOC**   put-FPST
     'They came and put me in the middle.'

(240) *Arhw   zau=**d**   ovra-cɨ-nhw.*
     1PL   fish=**OBL**   barter-HAB-1PL
     'We used to barter with fish.'

(241) *Tɨm   **atɨhu=d**   imar-id,   tɨm   **tɨhiñ=id**   akr-id.*
     piece **rope=OBL**   string-IPST piece **fishing.net=OBL** fish-IPST
     'You string a piece (i.e., some) with rope, and fish a piece (i.e., some) with the net.'

However, counter-examples are not difficult to come by. In (242), for example, the oblique *nak* 'here' intervenes between the subject and the object.

(242) *Api **na-k,**   dar   akajɨ-ŋar-in   ar.*
     1SG **ND-LOC** 2SG.OBJ wait-FUT-1SG.IPST QUOT
     '"I'll wait for you here," she said.'

1.6.4. Topic Position

There is evidence that Mand is a "topic-prominent" language in the sense of Li & Thompson (1976). It is possible for clauses to contain a fronted constituent which functions as the topic for the following clause or clause chain. This fronted element does not need to be a syntactic argument of the clause, and the position it occurs in, which I call "topic position," can be set off intonationally (243) but does not have to be (244).

(243) ***Akutir,** mɨros ja-c   kwai-d.*
     throat food   eat-DS go.downstream-IPST
     'The throat, we eat food and it goes down (it).'

(244) ***Arhw   dɨh=i**   ukɨr   dɨh   gyah-id.*
     1PL   DU=DU   white.hair COMP   get.up-IPST
     'The two of us, white hair has already appeared.'

However, it appears that items in topic position can also be core arguments, as suggested by the subject (245) and object (246) that are set off intonationally in the

examples below. It is also possible for objects in topic position not to be set off intonationally (247).

(245) **Kuram uhra na-g=a,**   *abrɨn*   *ai-bi.*
     man   big   ND-NOM=LNK one.day.away come-MPST
     'This big man came yesterday.'

(246) **Zau   ka-n,**   *arhw   ja-rɨ-nhw.*
     fish FD-ACC 1PL   eat-FPST-1PL
     'We ate this fish.'

(247) **Borbed   na-n**   *abɨ ja-ŋara-n   oh   mad   ar.*
     possum   ND-ACC   2   eat-FUT-2SG Q   no   QUOT
     '"Will you eat this possum or not?" she asked.'

Items in topic position can also be marked with topic determiners (248). It is unknown how morphological topic marking differs from other morphological marking in topic position.

(248) **Awaŋ ka-c**   *arhw dɨh   iku-c   j-ebi.*
     sago FD-TOP   1PL   COMP give-DS   eat-MPST
     'Sago, we gave him and he ate.'

1.6.5. Right-dislocation

It is also possible for constituents to be right-dislocated from the clause. This position is almost always offset by an intonational break (249), although very rarely it is not (250).

(249) *A-i   kw-ebi,*   **kuram uhra   na-n.**
     come-SS see-MPST **man   big   ND-ACC**
     'They came and saw this big man.'

(250) *Kwra-cɨr-e   k-id*   **adɨhur.**
     FD-VBLZ-SS talk-IPST **2PL.OBJ**
     'He talked to you guys like that.'

In both of the above examples, the right-dislocated item is an object, but it is also possible to right-dislocate subjects (251), locative arguments (252), and adverbs (253).

(251) *Ñac   adu   dɨh   bɨ-rɨd,   **utɨmar=an.***
daughter 1SG.POSS COMP   die-FPST   **two=very**
'My daughters have died, two of them.'

(252) *Ahra-i   kra~hɨr   ja-ŋari,   **uram=ɨn.***
bring-SS   cook~NMPT   eat-FUT   **house=LOC**
'He brought it and, cooking it, ate it, in the house.'

(253) *Kuram-ɨñ   na-g   t-e   ai-r,   **nuan.***
man-DIM   ND-NOM   walk.SG-SS   come-FPST   **afternoon**
'The boy came walking, in the afternoon.'

Right-dislocated elements sometimes add an argument that was not in the original clause, as in (254) and (255), and sometimes expand on an argument already mentioned, as *Aihɨn* expands on *nak* 'here' in (256) or *kuram uhrar* 'the big man' explands on *dɨhɨr* 'him' in (257). Especially when they are expanding on arguments that are already present, right-dislocated constituents can be quite long, as with *ukri uhra abe jɨrd kag* 'the one who had turned into a big snake' in (258). This example also illustrates that the intonational boundary between the clause proper and the right-dislocated material is sometimes a final intonation contour.

(254) *W-e,   manbaz ika-rɨ-nhw,   **Atiapi.***
go-SS   festival   cut-FPST-1PL   **Atiapi**
'We went and celebrated (lit. 'cut a festival') in Atiapi.'

(255) *Utar   uhra ka-n   inɨmazɨ-r, **ñac   na-g.***
centipede   big   FD-ACC   turn-FPST   **daughter**   **ND-NOM**
'The daughter turned into a big centipede.'

(256) *Aŋañ   p-i   na-k   ac   ai-rɨd,   **Aihɨn.***
canoe   take-SS   ND-LOC   FOC   come-FPST   **Aihɨn**
'We got a canoe and came here, to Aihɨn Creek.'

(257) *Mac   Tabram=i   Kiop=i   dɨhɨr,   ka-rd,   **kuram   uhra=r.***
enough   Tambram=COM   Kiop=COM   3SG.OBJ   talk-FPST   **man   big=ACC**
'Them Tambram and Kiop talked to him, to the big man.'

(258) *Aca   ka-g   na-k   mɨ=jɨ-m.*   *Ukri uhra ab-e,   ji-rd   ka-g.*
woman FD-NOM ND-LOC NEG=stay-NEG snake big   put-SS stay-FPST FD-NOM
'The woman wasn't there—the one who had turned into a big snake.'

It is also possible, at least in elicitation, to right-dislocate an entire medial clause. In (259) the clause *kuram kag bɨc* 'the man died and' would normally occur to the left of the final clause, *yar aman aki* 'I'm sorry.'

(259) *Yar   aman   ak-i,   **kuram   ka-g   bɨ-c.***
1SG.OBJ breast chop-IPST **man   FD-NOM   die-DS**
'I'm sorry that that man died (lit. 'That man died and it chops my breast).' Elicited

1.6.6. Negation

This section describes the negation of verbal clauses; the negation of nonverbal clauses is discussed in §1.6.8. Verbal negation is expressed with the negative circumfix *mɨ=...-m,* which attaches to the verb, the latter element taking the place of the agreement suffix, as in (260) and (261). When the verb is complex—that is, if it is composed of a verb adjunct plus a verb—then the circumfix surrounds the verb complex (262). For this reason the first element of the circumfix is analyzed as a proclitic.

(260) *Api   na-k   j-in,   api   **mɨ=bɨ-m.***
1SG   ND-LOC stay-1SG.IPST 1SG   **NEG=die-NEG**
'I'm right here, I haven't died.'

(261) *Api=ahw ikum ikum ikum na-k   **mɨ=ta-m.***
1SG=FOC near near near ND-LOC **NEG=walk.SG-NEG**
'I didn't travel to nearby (places).'

(262) *Api   yar   na-g   **mɨ=kamap   ji-m.***
1SG   1SG.OBJ ND-NOM **NEG=appear   stay-NEG**
'This hadn't appeared on me.'

Although negated verbs do not normally agree with their subjects, the plural suffix *-e* can occur on a negated verb (263).

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(263) *Watɨm=a,*   *plesbalus*   *ka-n,*   **mɨ=gahɨr**   **ak-e-m.**
after=LNK   airstrip   FD-ACC   **NEG=lift**   chop-PL-NEG
'They hadn't built the airstrip yet.'

Negated verbs also often lack tense marking; for example, in (262) above an elderly man is referring to his beard, thus placing the time reference of the utterance several decades before the speech act, but there is no far past tense marking. Negated verbs can be marked for two tenses, though, namely the today past (264) and the future (265). Other tenses cannot be marked.

(264) *Omret*   **mɨ=ja~dɨja-m.**
well   **NEG=eat-TPST-NEG**
'He didn't eat well.'

(265) *Dar*   **m=aterɨ-ŋara-m**   *ar=a.*
2SG.OBJ   **NEG=leave-FUT-NEG**   QUOT=LNK
'"I won't leave you," he said.'

In one example in the corpus, there is a pause between the cliticized part of the negative circumfix and the verb (266). This suggests that either the proclitic is not wholly bound, or the example was a speech error. Examples like (267) can easily be found in which the circumfix is clearly bound to the verb because the whole form is monosyllabic. However, when speakers speak very slowly for transcription, they often separate the *mɨ=* element.

(266) *Api*   *aca*   *umɨr*   **mɨ,**   **udɨhajɨ-m.**
1SG   woman   all   **NEG**   sleep.SG-NEG
'I didn't sleep with the women.'

(267) *Na-k*   **m=ai-m.**
ND-LOC   **NEG=come-NEG**
'They haven't come.'

In one elicitation context, the negative morphemes bracketed the verb and a preceding same-subject verb (268). The grammar of this example is not well understood.

(268) *Mɨ=p-i   agrabra-m.*
     NEG=take-SS   run.PL-NEG
     '(They) didn't take it away.'   Elicited

1.6.7. Interrogatives

Interrogative clauses can be formed in several ways. Polar interrogatives can be formed by appending the interrogative particle *oh* to the end of the clause (269). This particle is also used for questions about alternatives (270).

(269) *Orec   p=ahw   sag   ai-ŋarid   oh?*
     in.that.case 3=FOC   again   come-FUT   Q
     'So then, will he come back again?'

(270) *Mac   abɨ sɨmag, pi-ŋarid   oh,   mad?*
     enough   2   again   take-FUT Q   no
     'Alright, will you take it again or not?'

It appears that polar questions can also be formed with another particle, *de*, which occurs at the beginning of the utterance. This particle only occurs twice in the corpus, though, and is not well understood. One time it appears to turn a verbal predicate into a question, as evidenced by the answer *yo* 'yes' (271). The other time it appears to create an implicit question about a person (272), but the question itself is not stated. The context, however, is that everyone has been getting sick except the father, so the question is fairly clear.

(271) *De   ar,   kwra-cɨr-id   ar.   Yo   ar.*
     Q   QUOT   FD-VBLZ-IPST   QUOT   yes   QUOT
     '"So," she asked, "That's what he does?" "Yes," she answered.'

(272) **De** *gau*   *na-g*   *ar.*
      Q   father.1/2.POSS   ND-NOM   QUOT
      '"What about Dad?" she asked.'

Finally, polar questions can also be unmarked, in which case they typically carry rising intonation (273).

(273) *Ku-n*   *ar?*
      see-2SG.IPST   QUOT
      '"Did you see?" he asked.'

In the right context content questions can also be marked only by rising intonation, as in (274). In this example the first clause, ending in *amard* 'he asked,' is under its own intonation contour and stands on its own as a question; this is how it was understood by consultants. It is, however, also followed by a repetition of essentially the same question, this time involving the question word *ucɨ* 'what.'

(274) *Uravi*   *na-n*   *ipia*   *hɨr*   *ar,*   *ama-rd.*   *Ucɨ*   *uravi*   *ara-rd.*
      village   ND-ACC   name   3SG.POSS   QUOT   ask-FPST   what   village   say-FPST
      '"What's this village's name?" he asked. "What village (is it)?" he asked.'

Content questions are formed with specific question words like *ucɨ* 'what,' *uja* 'who,' *azo* 'where,' and a verbal question word *prer-* that I gloss 'do what.' These words are left *in situ* when forming qustions.

Uja 'who' is illustrated in (275). This word can take the accusative enclitic *=r* (276) and the oblique enclitic *=d* (277), and it can also occupy the attributive noun position of a noun phrase (278).

(275) *Ipia*   *ahɨr*   *ka-n*   **uja**   *ipiakw-ebi?*
      name   2SG.POSS   FD-ACC   **who**   call.out-MPST
      'Who called out your name?'

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(276) *Abɨ* **uja=r** *gresɨ-n* *ar.*
2 **who=ACC** look.for-2SG.IPST QUOT
'"Who are you looking for?" she asked.'

(277) *Uram* *ka-n* **uja=d?**
house FD-ACC **who=OBL**
'Whose house is this (lit. 'this house is whose')?'   Elicited

(278) *I,* *aca* *na-n* **uja** *aca* *ar.*
hey woman ND-ACC **who** woman QUOT
'"Hey, who is this woman (lit. 'this woman is what woman')?" he asked.'

As illustrated by the fronted object in (275), the word order of questions can apparently be manipulated in the normal ways for information structure purposes, as described in §1.6.4 and §1.6.5. This flexibility is also illustrated by the minimal pair in (279) and (280).

(279) **Uja** *dar* *iver-id?*
who 2SG.OBJ hit-IPST
'Who hit you?'   Elicited

(280) *Dar* **uja** *iver-id?*
2SG.OBJ **who** hit-IPST
'Who hit you?'   Elicited

Ucɨ 'what' is used for non-human referents. It can function as an intransitive subject (281), a transitive subject (282), an object (283), a nonverbal predicate (284), and an attributive noun (285).

(281) **Ucɨ** *ka-g* *ikɨvrak-i?*
what FD-NOM make.noise-IPST
'What made (that) noise?'   Elicited

(282) **Ucɨ** *ka-g* *dar* *iver-id?*
what FD-NOM 2SG.OBJ hit-IPST
'What hit you?'   Elicited

(283) *Abɨ* **ucɨ** *pi-n?*
2 **what** take-2SG.IPST
'What are you doing?'   Elicited

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(284) *Ka-n*   ***ucɨ?***
     FD-ACC   **what**
     'What is that?'   Elicited

(285) ***Ucɨ***   *ya*   *ka-ŋ*   *ac,*   *miŋ*   *hr=ɨr.*
     what   speech   talk-PURP   FOC   mother.3.POSS   3SG.POSS=ACC
     'What (lit. 'what speech') was she going to say to her mother?'

When functioning as an object, *ucɨ* sometimes occurs on its own and sometimes occurs

with the accusative enclitic *=r* (286); it is unclear what conditions the variation.

(286) *Abɨ*   ***ucɨ=r***   *gresɨ-n?*
     2   **what=ACC**   look.for-2SG.IPST
     'What are you looking for?'   Elicited

When it is bearing this enclitic, *ucɨ* can be used to mean 'why,' as in (287) and (288).

Another word for 'why,' *ucɨrij*, occurs only once in the corpus but appears to be

etymologically related (289).

(287) *Yai,*   *borbed*   *na-g=ahw,*   ***ucɨ=r***   *mɨ=va-m*   *ara-rd.*
     c'mon   possum   ND-NOM=FOC   **what=ACC**   NEG=burn-NEG   say-FPST
     '"C'mon, why isn't this possum cooking?" she said.'

(288) *Abɨ*   ***ucɨ=r***   *ai-n?*
     2   **what=ACC**   come-2SG.IPST
     'Why did you come?'   Elicited

(289) ***Ucɨrij***   *kre-n*   *ar=a.*
     why   make.so-2SG.IPST   QUOT=LNK
     'Why are you doing that?'

'Why' can also be expressed with a periphrastic construction involving *ucɨ=r* and the

verb *ara-* 'say, do thus' bearing same-subject morphology (see §1.5.2.1 and §1.7.1). This

construction can be literally translated as 'do what and,' but is more properly understood

as meaning 'why' (290). It appears that it can follow the object of the interrogative clause

(291).

(290) *Abɨ*   **uci=r**   ***ar-e***   *kr-eri*   *sɨ-n?*
      2   **what=ACC**   **say-ss**   FD-ADVZ   work-2SG.IPST
      'Why did you do that?'   Elicited

(291) *Abɨ*   *yar*   **uci=r**   ***ar-e***   *iveri-n?*
      2   1SG.OBJ   **what=ACC**   **say-ss**   hit-2SG.IPST
      'Why did you hit me?'   Elicited

The pragmatic structure of the clause chaining system described in §1.7.1 is such that the topic of the question can sometimes be quite far from the question word. For example, in (292) what the speaker wants to know about is the intestinal pain described in the last clause, but *uci* is located four clauses prior. The events of the second through fifth clauses—the man brings fish, the speaker and her mother eat them, and their bellies hurt—are not questioned, but are treated as facts. But it is presupposed, in the first clause, that the man must be doing something to cause the pain.

(292) ***Uci***   *pi-c*   *ac,*   *zau*   *na-n*   *p-i*   *ahrai-c*   *arhw*   *j-om*   *ka-c*   *ac,*
      what   take-DS   FOC   fish   ND-ACC   take-SS   bring-DS   1PL   eat-AJTZ   do-DS   FOC

      akac   *vivi*   *c-id.*
      intestine   pain   be-IPST
      'Why do our bellies hurt when he brings these fish and we eat them (lit. 'What does he do (so that when) he brings these fish and we eat them, our bellies hurt')?'

Pɨnasɨh 'when' is used to ask about times; examples include past (293) and future (294) time reference.

(293) *Abɨ*   **pɨnasɨh**   *gyahɨ~dahɨ-n?*
      2   **when**   get.up~TPST-2SG
      'When did you get up?'   Elicited

(294) ***Pɨnasɨh***   *abɨ*   *ai-ŋara-n?*
      when   2   come-FUT-2SG
      'When will you come?'   Elicited

Azo 'where' is used to ask about locations. It can function as an adverb (295) or a nonverbal predicate (296). It can also take the oblique enclitic *=d* (297).

(295) *Abɨ*   **azo**   *wa-n?*
       2   **where**   go-2SG.IPST
       'Where are you going?'   Elicited

(296) *A-mɨñ*   *ahɨr*   **azo?**
       1/2.POSS-uncle   2SG.POSS   **where**
       'Where is your uncle?'   Elicited

(297) *Kuram*   *na-n*   **azo=d?**
       man   ND-ACC   **where=OBL**
       'Where is that man from?'   Elicited

Another way of asking about locations is the verb *preta-*, which appears to mean 'be where,' although it only occurs in one example in the corpus (298).

(298) **Pret-e**   *ai-bi?*
       be.where-ss   come-MPST
       'Where did he come from (lit. 'Where was he and he came')?'

Another interrogative verb is *pre-* 'do what.' This verb is somewhat unusual in that it appears as *pre-* with some suffixes (299) but *prer-* with others (300), apparently depending on whether the following segment is a consonant or a vowel. This word is also used for asking about quantity (301).

(299) *Arhw*   **pre-ŋar-inhw**   *ar.*
       1PL   **do.what-FUT-1PL**   QUOT
       '"What will we do?" they asked.'

(300) *Arhw*   **prer-i**   *wa-ŋar-inhw?*
       1PL   **do.what-ss**   go-FUT-1PL
       'How will we go?'   Elicited

(301) *Abɨ*   *ñiñac*   **prer-i?**
       2   children   **do.what-IPST**
       'How many children do you have?'   Elicited

1.6.8. Nonverbal Clauses

Mand does not have a copula, and nonverbal clauses are formed by simple juxtaposition. Nonverbal predicates in the corpus include examples in which the predicate is a noun (302), an adjective (303), a possessive pronoun (304), and a postpositional phrase (305).

(302) *Na-n* *dasɨm.*
  ND-ACC **leg**
  'This is a leg.'

(303) *Tɨh* *adu* *uhra.*
  work 1SG.POSS **big**
  'Our work is big.'   Elicited

(304) *Uram* *na-n* *adu.*
  house ND-ACC **1SG.POSS**
  'This house is mine.'   Elicited

(305) *Jon* *aca* *sad.*
  John **woman** COM
  'John has a wife.'   Elicited

Nonverbal predicates can be modified much like other predicates, taking adverbs like *aikɨs* 'very' (306).

(306) *Kuram* *na-g* *osaks* *aikɨs.*
  man ND-NOM long **very**
  'This man is very tall.'   Elicited

When the subject of a nonverbal predicate is a pronoun, it occurs in its subject form (307). When the subject includes a demonstrative, it is usually accusative (308), although it is also possible for it to be nominative (309).

(307) *Api* *osaks.*
  1SG long
  'I'm tall.'   Elicited

(308) **Na-n**   *adu.*
     ND-ACC   1SG.POSS
     'This is mine.'   Elicited

(309) **Na-g**   *adu.*
     ND-NOM   1SG.POSS
     'This is mine.'   Elicited

Nonverbal predicates are usually negated with the negator *mah* (310), although speakers also occasionally use *mad* instead (311). It is unclear whether there is a difference in meaning.

(310) *Ya*   *adu*   ***uhra***   ***mah,***   *k-ɨp*   *ac.*
     speech   1SG.POSS   **big**   **none**   FD-EXST   FOC
     'My talk isn't big, it's just like that.'

(311) *Kuram*   *ka-g*   *arom*   ***mad.***
     man   FD-NOM   good   **no**
     'That man isn't good.'   Elicited

The negator *mah* is used for negative existential predicates (312) as well as negative possessive predicates (313), which appear to be negative existential predicates with the possessor in topic position (see §1.6.4). Thus, example (313) could be literally translated "Us, there is no food."

(312) *Pai*   *uta*   ***mah.***
     fire   branch   **none**
     'There's no firewood.'

(313) *Arhw*   ***mɨros***   ***mah.***
     1PL   **food**   **none**
     'We don't have food.'

Affirmative possessive clauses also exhibit this topic–comment structure. They are composed of a topic and a nonverbal predicate consisting of a postpositional phrase

headed by the comitative postposition *sad* (314). When the topic position is empty, they are interpreted as simple existential statements (315).

(314) *Arhw* **mɨros** **sad.**
      1PL   food   COM
      'We have food.'   Elicited

(315) *Ahwas*   **sad**
      betelnut   COM
      'There is betelnut.'   Elicited

The other negative morpheme, *mad,* can be used to stand in for an entire clause. It usually presents an alternative (316) or negates the expected result of a preceding clause (317). In this function it can also refer to positive events, such as the presence of someone unexpected (318).

(316) *Abɨ* *mɨros,* *ikw-ebi*   *oh* **mad?**
      2   food   give-MPST   Q   **no**
      'Did you give him food or not?'

(317) *Ibañañ* *akot* *na-n*   *gahɨr* *ak-e*   *ku-c,*   **mad.** *Aca,*   *ka-g*   *na-k*
      pot   butt   ND-ACC   lift   chop-SS   see-DS   **no**   woman   FD-NOM   ND-LOC

      mɨ=jɨ-m.
      NEG=stay-NEG
      'He lifted the bottom of the pot and looked, but no. The woman wasn't there.'

(318) *A-i,*   *ku-c*   **mad,** *aca*   *na-g*   *na-k*   *kajɨ-r.*
      come-SS   see-DS   **no**   woman   ND-NOM   ND-LOC   sit.SG-FPST
      'He came and looked, and lo! the woman was there.'

Because there is no copula, nonverbal predicates are not usually marked for TAM. However, they can occur with a form of the verb *jɨ-* 'stay' if verbal morphology is desired. For example, in (319) *jɨ-* occurs with a nominal predicate to carry the immediate past suffix that expresses present meaning. In (320) it occurs with an adjectival predicate and carries

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the same-subject suffix. And in (321) it occurs with *mad,* which negates the expected result

of the previous clause *kuc* 'I looked and,' and carries different-subject morphology.

(319) *Mac*   *abɨ*   **dɨh**   *mɨrɨmɨŋ*   *jɨ-n.*
      enough   2   COMP   old.person   stay-2SG.IPST
      'That's it, you're an old person now.'

(320) *Api*   **dom=an**   *j-i,*   *manbaz   ocohocoh, arhw umɨr ika-rɨ-nhw.*
      1SG   young=very   stay-SS   festival   things   1PL   all   cut-FPST-1PL
      'I was very young, and we all went to a festival (lit. 'cut festival things').'

(321) *Ku-c*   **mad**   *ji-c*   *api   sag   uram=ɨn   ai-rɨ-n.*
      see-DS   no   stay-DS   1SG   again   house=LOC   come-FPST-1SG
      'I looked and no (i.e., it wasn't there), and I came back home.'

1.7. Clause Combining

Clause combining is a large topic, and a full treatment is beyond the scope of this sketch. In

this section, I focus on three constructions: the switch-reference clause chaining system

(§1.7.1), clause chain nominalization (§1.7.2), and quoted speech (§1.7.3).

1.7.1. Clause Chaining and Switch Reference

As mentioned in §1.5 on verb morphology, Mand possesses a system of clause chaining and

switch reference in which "medial" clauses (ones in which the verb has medial

morphology) are chained together and these chains are ended with "final" clauses (ones in

which the verb has final morphology). Final verbs are marked for the full range of TAM

distinctions, and these have scope over any preceding medial clauses; thus the clauses

preceding the imperative clause in (322) are also interpreted as imperatives. Medial verbs

are only marked for switch reference; they do not make any distinctions of mood or

relative tense, and they do not agree with their subjects. The switch reference marking

indicates whether the subject of the following verb is the same (323) or different (324).

(322) *Aba-c   v-e   j-om   k-e-u   ar=a.*
put-DS   burn-SS eat-AJTZ do-PL-2.IMP QUOT=LNK
'"Cook it (lit. 'put it and it burns') and eat it," he said.'

(323) **Is-i**   *aker-eu-r-d.*
paddle-ss come.upriver-PL-FPST-3
'They paddled up the river (lit. 'paddled and came upriver').'

(324) *Nuan   **ji-c,**   arhw,   udɨhahrɨ-nhw.*
afternoon **stay-DS**   1PL   sleep.PL-1PL.FPST
'It was afternoon, and we slept.'

Clause chains can become quite long, particularly when they contain long sequences of

actions performed by the same subject. Example (325), for example, contains eleven

clauses.

(325) *Api ikud,   **gyah-i,**   kwrih irɨv **p-i,**   tais   **w-e,**   aŋañ esa*
1SG morning **get.up-ss**   arrow bow **take-ss** swamp **go-ss** canoe piece

* **p-i,**   aŋan okoh **kw-e,**   zau utɨmar **p-i,**   **a-i**   kɨmab*
take-ss bag   rotten **see-ss** fish two   **take-ss** **come-ss** basket

* **ehr-e,**   **ahra-i**   aŋañ **ab-e,**   api sag   **ai~day-in.***
watch-ss **bring-ss** canoe **put-ss** 1SG   again **come~TPST-1SG**
'I got up in the morning, got my bow and arrow, went to the swamp, got my bad canoe (lit. 'piece of a canoe'), looked at my rotten net, took two fish, came and looked at my basket, came and put the canoe (away), and came back home.'

Nonverbal clauses can be marked for switch reference by placing the verb *ji-* 'stay' at

the end of the clause. In (326), the clause *mad*, which negates the expected result of the

previous clause, is marked with different-subject morphology in this way.

(326) *A-i   Yumpɨr ku-c **mad ji-c,**   a-i   Pasɨnkap w-ebi.*
come-ss Aiome see-DS **no** **stay-DS** come-ss Pasinkap go-MPST
'He came, looked at Aiome, and no (i.e., it wouldn't do), and he went to Pasinkap.'

It should be noted that there is some flexibility to the principle that the TAM category of the final verb has scope over the whole chain. The two clause chains in (327) nicely illustrate this. The first is a straightforward imperative chain. The second chain repeats the command of the first chain, and the first two clauses of that chain (*pi ahraic* 'bring it over and') should be understood as carrying imperative force. But the final clause of that chain describes the speaker's intentions and is marked with future tense.

(327) *P-i   ahrai-w   ar.   P-i   ahrai-c   api ja-ŋar-in   ar.*
      take-SS bring-2SG.IMP QUOT take-SS bring-DS 1SG eat-FUT-1SG   QUOT
      '"Bring it over," he said. "Bring it over and I'll eat it," he said.'

Two common questions that are asked about Papuan switch reference systems are what they track and how they handle situations of subject overlap. Fully addressing these questions would require more data than I have, but I outline what can be surmised below.

Different switch reference systems track different entities—some track a syntactically defined notion of "subject," while others track a pragmatically defined notion of "topic" or a semantically defined notion of "event." Mand is difficult to characterize in these terms. An example like (328) suggests that it tracks subjects because the transition from the topical, agentive subject of the second clause to the non-topical, non-agentive subject in the third clause is marked DS. Furthermore, the two clauses plainly describe the same event.

(328) *Akr-e,   ata   ka-p   kri-c   akw-id.*
      fish-SS   forest FD-LOC   throw-DS   go.up-IPST
      'We fish and throw (the fish) up to the forest (lit. 'we throw them and they go up').'

However, there are numerous examples of SS marking occurring where a strictly subject-tracking system would require DS marking. In (329), the first two clauses are both marked SS, although each of the first three clauses has a different subject. The transition from the second to the third, in particular, is difficult to explain, although describing it in terms of eventhood is probably most felicitous if the sitting and the priest's arrival are construed as having happened at essentially the same time. This analysis accounts for several similar instances of SS marking where DS marking might be expected, as in (330), but has difficulty with the presence of DS marking in examples like (328) above.

(329) Api **a-i,**   di   arhw **kimohr-i,**   pater akeri-c,   di   wa~dw-inhw.
      1SG **come-SS** DU   1PL **sit.PL-SS**   priest come.upriver-DS DU   go-TPST-1PL
      'I came and the two of us sat, and the priest came up, and we went.'

(330) **Gyah-i,**   arhw amɨm iku-c,   j-e ...
      get.up-SS   1PL   food give-DS eat-SS
      'He got up and we gave him food, and he ate and ...'

Another circumstance in which subjecthood is not always tracked is when meteorological events are involved. These events are normally fairly backgrounded in the discourse, so the transition into a meteorological clause is sometimes marked SS, as in (331), although strictly tracking subjecthood would require DS marking.

(331) Dɨh=i   iham hr=i,   **j-e**   ac,   mac=a,   nuan   jɨ-c   ac,
      DU=COM   dog   3SG.POSS=COM   **eat-SS** FOC   enough=LNK   afternoon   stay-DS   FOC

      pɨ,   udɨhajɨ-rd.
      3   sleep.SG-FPST
      'He and his dog at it, and then it was afternoon, and he slept.'

Other examples can be found in which a transition into a subject that lacks prominence is marked SS although the subject differs. In (332) the fish filling the basket are the subject

of the last clause, but the preceding clause, *ihre* 'he watched and' does not index the change of subject from the man to the fish.

> (332) *Gahɨr ak-e   ihr-e,   zau na-g   mɨŋam to-rd.*
>   lift   chop-ss **watch-ss** fish ND-NOM well   be.full-FPST
>   'He lifted it and looked, and the fish were very full.'

In (333) DS marking occurs when there is no change in subject between the clauses. The explanation here is readily apparent, though: the DS marking on *ikuc* 'we gave' is referencing the nominalized form *krehɨr* 'cooking' in the following clause.

> (333) *Mac   arhw ahwr-i,   ŋam=ɨr   iku-c,   ŋam*
>   enough 1PL   take.away-ss mother.1/2.POSS=ACC **give-DS** mother.1/2.POSS
>
> *kra~hɨr   ja-rɨd.*
> cook-NMPT   eat-FPST
> 'Alright we took it, gave it to mother, and, mother cooking it, we ate.'

Sometimes, it seems, two adjacent DS clauses both look forward to the same upcoming clause. In (334) the best explanation seems to be that both *umresɨc* 'arrange' and *ikuc* 'give,' which have *arhw* 'we' as the subject, are indexing their difference from *kard* 'talked,' which has *pɨ* 'he' as the subject.

> (334) *Arhw dɨhɨr   umresɨ-c   ac   iku-c   ac   pɨ arhur   ka-rd.*
>   1PL   3SG.OBJ **arrange-DS** FOC **give-DS** FOC 3   1PL.OBJ talk-FPST
>   'When we arrange it for him and give it to him, he talks to us.'

Example (335) contains another example of DS marking when there is no upcoming change of subject, on *torɨc* 'they were full.' In this case there is no readily available explanation, so this may be a speech error or it may represent an allowable use of *–c* that is not yet understood. A fuller understanding of the subject-tracking properties of the Mand switch reference system will have to await further research.

(335) *Dɨh=i   ñañ   tahr-i=a,   **torɨ-c,**   vis   na-n   ku-c   mad*
DU=COM   eat.NMPT   walk.PL-SS=LNK   **be.full-DS**   ground   ND-ACC   see-DS   no

jɨ-c ...
stay-DS
'They were eating and they were full, and they looked at the ground and no (i.e., there was no more food), and ...'

Conditions of subject overlap do not occur frequently in the corpus and I have not conducted targeted elicitation on this topic. In general, though, it appears that transitions from a first subject to a second subject that contains the first subject are marked SS suffixes. The transition from the 3SG subject of *ahrai* 'bring and' to the 1PL subject of *kɨmohri* 'sit and' in (336) is marked SS. Similarly, (337) and (338) show transitions from 1SG subjects (*ai* 'come and' and *ji* 'stay and,' respectively) to 1PL subjects, both of which are marked SS.

(336) *Mokɨr   asɨh   hɨr   ka-n,   p-i   **ahra-i**   mac,   arhw,   ikud*
banana   leaf   3SG.POSS   FD-ACC   take-SS   **bring-SS**   enough   1PL   morning

kɨmohr-i ...
sit.PL-SS
'He got his book and brought it, and then we sat in the morning and ...'

(337) *Api   **a-i,**   di   arhw   kɨmohr-i,   pater   akeri-c,   di   wa~dw-inhw.*
1SG   **come-SS**   DU   1PL   sit.PL-SS   priest   come.upriver-DS   DU   go-TPST-1PL
'I came and the two of us sat, and the priest came up, and we went.'

(338) *Api   dom=an   **j-i,**   manbaz   ocohocoh,   arhw   umɨr   ika-rɨ-nhw.*
1SG   young=very   **stay-SS**   festival   things   1PL   all   cut-FPST-1PL
'I was very young, and we all went to a festival (lit. 'cut festival things').'

The reverse situation—where the subject of the first clause contains the subject of the second clause—appears to be marked DS, although I have found only one such example in the corpus. The subject of the first *abɨhovic* in (339) was understood by my consultants to refer to both the mother and the daughter, and the transition from that clause to the next clause, in which only the mother is the subject, is marked DS.

(339) **Abɨhovi-c**   ac,   mɨŋ   hɨr   abɨhovi-c,   ñac   hɨr
      argue-DS   FOC   mother.3.POSS 3SG.POSS argue-DS   daughter 3SG.POSS

   abɨhovi-rd.
   argue-FPST
   'They argued, the mother argued and the daughter argued.'

1.7.2. Clause Chain Nominalization

Mand possesses a subordination construction that is rather rare and not well understood.

In it, a clause chain is subordinated by placing a demonstrative after it. In (340), for

example, the clause *arhw kɨd* 'we spoke' is subordinated by the near accusative

demonstrative *nan.* In this construction normally only one clause is subordinated, but it is

possible to subordinate multiple chained clauses, as shown in (341) and (342), so I refer to

this construction as "clause chain nominalization."

(340) *Ya   arhud   na-n   [arhw   k-id   ]   na-n,   p=ahw   uci   pi-ŋarid?*
     speech   1PL.POSS   ND-ACC   1PL   talk-IPST   ND-ACC   3=FOC   what   take-FUT
     'Our speech, what we've said, what's he going to do (with it)?'

(341) *Aca   ka-g   na-k   mɨ=jɨ-m.   [Ukri   uhra   ab-e,   jɨ-rd   ]   ka-g.*
     woman   FD-NOM   ND-LOC   NEG=stay-NEG snake   big   put-SS   stay-FPST   FD-NOM
     'The woman wasn't there—the one who had turned into a big snake.'

(342) *[Urɨm   ka-p   api,   k-e   aterɨ-r-n   ]   ka-n,   sag   api,   ka-ŋar-in.*
     middle   FD-LOC   1SG   talk-SS   leave-FPST-1SG   FD-ACC   again   1SG   talk-FUT-1SG
     'I'll tell the story again that I told and left in the middle.'

These subordinate clause chains are most commonly observed in the clause periphery,

occurring either as topicalizations, as in (343) or (344), or being right-dislocated as in (345)

or (346).

(343) *Mac   [arhw   zamɨn   akw-id]   ka-n,   zamɨn   akw-id.   [Trausɨs*
     enough   1PL   loincloth   wear-IPST   FD-ACC   loincloth   wear-IPST   pants

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ab-id] ka-n,   trausis ab-id.
put-IPST FD-ACC pants   put-IPST
'Alright, if we wear loincloths, we wear loincloths. If you wear pants, you wear pants.'

(344) *[P=ahw p-id   ] na-n,   p=ahw uci   pi-ŋarid?*
3=FOC   write-IPST ND-ACC 3=FOC what   take-FUT
'What's he going to do with what he wrote?'

(345) *Adɨhur amarɨ-c, uci   ka-r   ka~dɨki, [ikud   ka~dɨki] ka-r   ac?*
2PL.OBJ ask-DS   what FD-TEMP talk~TPST morning talk~TPST FD-TEMP FOC
'What did you say when he asked you (lit. 'he asked you guys and you said what then'), when he talked in the morning?'

(346) *Abɨ dɨh   ab-ebi, ipia   adu   ka-n, [pi-bi   ] ka-n?*
2   COMP put-MPST name   1SG.POSS FD-ACC take-MPST FD-ACC
'Did you already put it, my name, the one you got?'

However, subordinate clauses are also found in non-peripheral functions. They can occur as subjects (347), objects (348), locative arguments (349), oblique arguments (350), and subjects of nonverbal predicates (351).

(347) *Mac   [aca   na-g,   ibañañ uca   na-k   jɨ-rd   ] ka-g,   sag*
enough woman ND-NOM   pot   inside ND-LOC stay-FPST FD-NOM again

inɨmazɨ-rd, aca   mɨŋ=an.
turn-FPST   woman   true=very
'Then the woman who had been inside the pot turned back into a real woman.'

(348) *[Ukɨ   iverɨ-ŋ=an   ] ka-n   ku-n?*
drum hit-PURP=very FD-ACC see-2SG.IPST
'Do you see me beating the drum?'   Elicited

(349) *[Ñac   hɨr   j-id   ] ka-p   kakra-c,   iverɨ-rd.*
daughter 3SG.POSS stay-IPST FD-LOC fall.SG-DS hit-FPST
'It fell to where the daughter was, and she hit it.'

(350) *[Kwrih ijɨrɨ~dɨr-in   ] ka-d   imi-ŋara-n.*
arrow sharpen~TPST-1SG FD-OBL shoot-FUT-2SG
'You'll shoot with the spear I whittled for you.'   Elicited

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(351) [*Api werair-id   *] *ka-g   arom.*
     1SG   go.and.come-IPST   FD-NOM   good
     'My traveling is good.'   Elicited

The examples above illustrate that both near (344) and far (351) demonstratives can be used to subordinate clauses, as well as demonstratives with nominative (347), accusative (348), locative (349), oblique (350), and temporal (345) suffixes. These examples also illustrate the variety of semantic interpretations this construction can have: the examples show subordinate clauses referring to their subject (341), their object (350), their physical location (349), their temporal location (345), and their event as a whole (351). Note that when they refer to one of their arguments, these subordinate clauses resemble internally headed relative clauses, but because not every subordinate clause refers to one of its arguments I do not consider this construction a kind of relative clause.

There is probably a good deal of interaction between the matrix clause function of the subordinated clause chain and its semantic interpretation, although at present little is understood. For example, one function of the clause chain nominalization construction, particularly when the nominalized clause is in topic position of the matrix clause, is to signal contrast between the events of the subordinate clause and the matrix clause. In this function, the subordinate clause refers to its event, as in (352). This contrastive reading is particularly apparent when the subordinate clause is also marked with focus (353).

(352) [*Zam   hr=i   ai-w-rd   *] *ka-n,   pɨ aca   mah.*
     sister 3SG.POSS=COM come-PL-3.FPST FD-ACC 3   woman   none
     'He and his sister came, but he didn't have a wife.'

(353) [*Idaŋ   na-g=ahw   dɨh   va-rd   *] *ka-n   ac,   borbed   na-g   ica*
     bamboo   ND-NOM=FOC   COMP   burn-FPST   FD-ACC FOC   possum   ND-NOM   new

jɨ-rd.
stay-FPST
'The bamboo burned up, but the possum was still raw.'

It seems that subordinated clauses are skipped over by the switch reference system. In (354) the SS suffix on the first verb, *kakre* 'fall and,' looks ahead to the final verb *kakrard* 'fell'; the subject of the intervening subordinate clause is different.

(354) *Kakr-e   [ñac   hɨr   ka-p=an,   j-id   ] ka-p   kakra-rd.*
      fall.SG-SS daughter 3SG.POSS FD-LOC=very stay-IPST FD-LOC fall.SG-FPST
      'It dropped and fell right to where the daughter was.'

The information structure properties of this construction would be a fruitful topic for future research. Crosslinguistically, subordinate clauses are usually pragmatically non-asserted, while main clauses are asserted (Cristofaro 2003: 33). Thus, for example, the fact that a tree stump stabbed the addressee's foot is presupposed, not asserted, in (355).

(355) *[Mɨz ahɨr   pan   ikɨsopɨh im-ibi   ] ka-g   arom oh=a   mad?*
      body 2SG.POSS tree head   shoot-MPST FD-NOM good   Q=LNK no
      'Is the skin where a tree stump stabbed you okay or not?'   Elicited

In (356), however, matters are more complicated since the subordinate clause is the question *abɨ azo jɨdɨjɨn* 'where were you?' While one could argue that the subordinate clause is not asserted per se—it is, after all, assumed that the addressee came from *somewhere*—this argument misses the fact that the subordinate clause here determines the illocutionary force of the utterance: the quote in (356) is a question.

(356) *[Abɨ azo   jɨ~dɨjɨ-n   ] ka-g   ai-n   ar.*
      2   where stay~TPST-2SG FD-NOM come-2SG.IPST QUOT
      '"Where did you come from (lit. 'Where were you and you came')?" he asked.'

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1.7.3. Quoted Speech

Quoted speech is handled in two primary ways: It can be marked either with the verb *ara-* 'say' (357) or with the post-quote particle *ar* (358), which frequently bears the linking enclitic *=a* (see §1.8.3), as in (359). Both of these follow the quoted material, and it is unclear how the two strategies differ.

(357) *Yo, Jon   **ar-ebi.***
      yes   John   **say-MPST**
      'Yes, he said "John."'

(358) *Dar   ac   api   gres-in   **ar.***
      2SG.OBJ   FOC   1SG   look.for-1SG.IPST   **QUOT**
      '"It's you I'm looking for," he said.'

(359) *Awaŋ   **ar=a.***
      sago   **QUOT=LNK**
      'Say, "Sago."'

In addition, quotes can be introduced by the verb *ka-* 'talk,' although this is not very common, and one of the two primary strategies is usually also employed (360).

(360) ***Ka-rd,***   *zau   akur   n-ip   na-n   **ar=a.***
      talk-FPST   fish   2PL.POSS   ND-EXST   ND-ACC   **QUOT=LNK**
      'He spoke, "Here are your guys's fish," he said.'

1.7.3.1. The Desiderative Construction

Quotative morphology can be used to form a desiderative construction. As illustrated in (361), this construction takes the form of a quoted future statement, although it is understood to express the desires of its subject, rather than a literal quote.

(361) *Mad   ya   ka-n   pi-ŋarid   ar-ebi.*
      Mand   speech   FD-ACC   take-FUT   say-MPST
      'I wanted to learn (lit. 'I said, "I will take"') the Mand language.'

The desiderative construction can be used to express intention as well as desire (362), in which use it is quite similar to a simple future tense clause.

(362) *Iku-c ai-ŋarid ar-ebi.*
   give-DS come-FUT say-MPST
   'He'll give it back (lit. 'He said, "I'll give it and it will come"').'

There is one example of a desiderative construction formed with a future-marked verb that agrees with its subject (363). Interestingly, the verb is marked for 1SG even though the actual agent is 1PL.

(363) *Arhw irai-ŋar-in ar-ebi.*
   1PL come.up-FUT-1SG say-MPST
   'We'll come up (lit. 'we [each?] said, "I'll come up"').'

1.8. Discourse

While there is insufficient data to provide a detailed discussion of many discourse phenomena, I do discuss the common narrative strategy of tail-head linkage (§1.8.1), the marking of focus (§1.8.2), and the linking enclitic *=a* (§1.8.3) in this section.

1.8.1. Tail–head Linkage

Tail-head linkage is a discourse strategy in narrative genres that is common among Papuan languages (de Vries 2005). In it, the final verb of a clause chain is recapitulated as the first verb of the subsequent clause chain. The recapitulated verb then receives either same-subject (364) or different-subject (365) morphology, as the situation requires.

(364) *Ahra-i aŋañ ab-e, api **sag** **ai~day-in.***
   bring-SS canoe put-SS 1SG **again** **come~TPST-1SG**

> *Sag*   *a-i*   *dar*   *ku~dɨkw-in.*
> **again**   **come-ss**   2SG.OBJ   see~TPST-1SG
> 'I brought them and put the canoe (away), and came back. I came back and saw you.'

(365) *Bor*   *uhra*   *ka-g*   **udɨhajɨ-r.**   **Udɨhajɨ-c,**   *api*   *imi-ŋar-ic,*
       pig   big   FD-NOM   **sleep.SG-FPST**   **sleep.SG-DS**   1SG   shoot-DESID-DS
       'A big pig was sleeping. It was sleeping, and I wanted to shoot it, and ...'

It is possible for other material, such as the right-dislocated locative in (366), to intervene between the final verb and the recapitulation. It is also possible for more than one verb of the first chain to be recapitulated in the second (367). Usually only the last verb, or two-verb sequence, is recapitulated, but it is not uncommon for arguments or other material to be included in the recapitulated material (368).

(366) *Pɨ,*   *aŋañ*   *p-i,*   *na-k*   *ac*   **ipah-rɨd.**   *Imaŋ Aromd.*
       3   canoe   take-ss   ND-LOC   FOC   **come.across-FPST**   Imang Aromd

       Ipah-i   *ac,*   *mac,*   *kɨmab*   *p-i,*   *na-k*   *kwai-rd.*
       come.across-ss   FOC   enough   basket   take-ss   ND-LOC   go.downstream-FPST
       'He got a canoe and came over here. To Imang Aromd. He came over, and alright, he got a basket and went down here.'

(367) *Akr-e,*   *ata*   *ka-p*   **kri-c**   **akw-id.**
       fish-ss   forest   FD-LOC   **throw-DS**   **go.up-IPST**

       Kri-c   *akw-e*   *mac,*   *vomohan*   *kar-i ...*
       throw-DS   **go.up-ss**   enough   all   finish-ss
       'We fish and throw (the fish) up to the forest. We throw them up and alright, we finish them all and ...'

(368) *Avɨr*   *udɨhaj-i*   *mac,*   **pɨkɨm**   **hɨr**   *ka-g*   *uhra-rd.*
       just   sleep.SG-ss   enough   **guts**   **3SG.POSS**   **FD-NOM**   **grow-FPST**

       Pɨkɨm   *hɨr*   *ka-g*   *uhr-e=a,*   *kukwam*   *dahri,*   *miŋam*   *akwer-i ...*
       guts   **3SG.POSS**   **FD-NOM**   **grow-ss=LNK**   ball   like   well   go.up-ss
       'He just slept, and his stomach swelled up. His stomach swelled up, like a ball, and went way up and ...'

The head will sometimes be a more general verb than the tail. In (369) the more general verb of motion *ai-* 'come' recapitulates *irai-* 'come up,' and in (370) the generic verb *kre-* 'make so, act thus' recapitulates *inɨmazɨ-* 'turn.'

(369) *Ada   mɨŋ   na-k   **irai-rd**   ar-i.*
      water   true   ND-LOC   **come.up-FPST**   say-IPST

   A-i   ac   Apris   uram,   gahr-i   pɨ-rd.
   come-SS FOC   Apris   house   hang-SS   tie-FPST
   '"He came up the Ramu River (lit. 'true water')," he said. "He came and put ashore at Apris village."'

(370) *Utar   uhra   ka-n   **inɨmazɨ-r,**   ñac   na-g.*
      centipede   big   FD-ACC   **turn-FPST**   daughter ND-NOM

   Kre-c=a,   kuram-iñ   na-g   ka-r=a.
   make.so-DS=LNK   man-DIM   ND-NOM   talk-FPST=LNK
   'The daughter turned into a centipede. She did that, and the young man spoke.'

Recapitulation almost always takes the form of a medial verb chained to the next clause, but occasionally a different verb form, such as a participle (371), is used instead.

(371) *Agem   hɨr   ka-n   p-i,   irɨv   hɨr   ka-p   kwab-e   **aterɨ-rd.***
      blade 3SG.POSS   FD-ACC   take-SS   bow   3SG.POSS FD-LOC   put.on-SS **leave-FPST**

   Aterɨ~r   ji-c   ac   bor   miŋai   ka-g ...
   leave~NMPT   stay-DS   FOC   pig   female FD-NOM
   'He took his arrow, set it to his bow and left it. He left it and then the sow ...'

1.8.2. Focus Marking

There are two focus markers, the enclitic *=ahw* and the particle *ac*, and it is unclear how they differ. It does seem that *=ahw* is more restricted in its distribution, occurring primarily on pronouns (372) and demonstratives (373), although there is one example of *=ahw* occurring on a temporal adverb (374). This example also illustrates the difficulty in characterizing the semantic contribution of these morphemes, since (374) does not present

a clear case of *=ahw* contributing focus. These forms may rather sometimes convey a different kind of emphasis; this remains a topic for future research.

(372) **Api=ahw**   ikum   ikum   ikum   na-k   mɨ=ta-m.
  1SG=FOC   near   near   near   ND-LOC   NEG=walk.SG-NEG
  'I didn't travel to nearby (places).'

(373) Ida   **ka-n=ahw,**   ai-rd   **ka-n=ahw,**   misenare,   kɨ   naintintetiwan.
  sun   **FD-ACC=FOC**   come-FPST   **FD-ACC=FOC**   missionary   3SG?   1931
  'That day, the day they came, the missionaries, it was 1931.'

(374) Mac,   **in=ahw**   arhw,   umɨr=an   j-inhw.
  enough   **now=FOC**   1PL   all=very   stay-1PL.IPST
  'Alright, now we're all here.'

There appears to be an allomorph of *=ahw* in which the initial vowel is /ɨ/, which can be used in questions, although it was only recorded in one instance (375).

(375) Kuram   na-n   **azo=d=ɨhw?**
  man   ND-ACC   **where=OBL=FOC**
  'Where is that man from?'   Elicited

Ac, on the other hand, is much more frequent. It can mark nouns (376), pronouns (377), demonstratives (378), adverbs (379), same-subject (380) and different-subject (381) medial clauses, and nonverbal clauses (382).

(376) Zau=d   **ac**   ovra-cɨ-nhw.
  fish=OBL   **FOC**   barter-HAB-1PL
  'We barter with fish.'

(377) Dar   **ac**   api   gres-in   ar.
  2SG.OBJ   **FOC**   1SG   look.for-1SG.IPST   QUOT
  '"I'm looking for *you*," he said.'

(378) Bor,   zau,   ka-n   **ac**   j-e   uhra-m   g-id.
  pig   fish   FD-ACC   **FOC**   eat-SS   grow-AJTZ   grab-IPST
  'Pigs, fish, they eat *those* things and get big.'

(379) *Ateri-c,   emtok okei. O,   miŋam **ac**   ar=a.*
　　　leave-DS QUOT okay oh well   FOC   QUOT=LNK
　　　'He left, and said, "Okay. Oh, that's alright."'

(380) *Mac   w-e   udihaj-i   **ac,** simag gyah-i …*
　　　enough go-SS sleep.SG-SS FOC   again get.up-SS
　　　'Alright, he went and slept, and got back up, and …'

(381) *Ida ka-g   uzakre ahrai-c   **ac,**   mac   akug-i   everi-c …*
　　　sun FD-NOM clear   bring-DS FOC   enough go.down-SS hit-DS
　　　'When the sun shines clearly, alright, we go down and hit (them) and …'

(382) *Ya   adu   uhra   mah,   k-ip   **ac.***
　　　speech 1SG.POSS big   none   FD-EXST FOC
　　　'My talk isn't big, it's just like that.'

Note that the focus conveyed by *ac* operates independently of the pragmatic information conveyed by topic fronting (§1.6.4), as illustrated by comparing (377) above with (383).

(383) *Api dar   **ac**   gres-in.*
　　　1SG 2SG.OBJ FOC   look.for-1SG.IPST
　　　'I'm looking for *you*.'   Elicited

Ac is also used in answers to questions (384), which suggests that it may mark new information in the clause, while *=ahw* may mark contrastive focus. But this analysis fails to account for pairs like (385) and (386), in which *=ahw* and *ac* appear to be functioning identically as markers of contrastive focus.

(384) *Ipia   ahir   ka-n   uja   ipiakw-ebi?*
　　　name   2SG.POSS FD-ACC who   call.out-MPST
　　　'Who called out your name?'

　　　*Kuram ukam   na-g   **ac.***
　　　man   white   ND-NOM FOC
　　　'This white man.'

(385) *Far   na-n   atad   j-o   ar.*
　　　skin   ND-ACC with   eat-2SG.IMP QUOT

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Api=ahw	*far*	*na-n*	*atad*	*j-in*		*ar.*
1SG=FOC	skin	ND-ACC	with	eat-1SG.IPST		QUOT

'"Eat it with the skin," he said. "*I'm* eating it with the skin," he said.'

(386)
Aba-c	*v-e*	*j-om*	*k-e-u*	*ar=a.*
put-DS	burn-SS	eat-AJTZ	do-PL-2.IMP	QUOT=LNK

'"Cook it (lit. 'put it and it burns') and eat it," he said.'

Api	**ac**	*dɨh*	*ja~dɨj-in*		*ar.*
1SG	**FOC**	COMP	eat~TPST-1SG		QUOT

'"*I've* already eaten," he said.'

Additionally, *=ahw* and *ac* are sometimes used together (387). And sometimes the enclitic *=an* 'very' will convey, in a manner quite similar to that of *=ahw* or *ac*, emphasis (388) or contrast (389). A fuller treatment of the difference between these focus markers will have to await further research.

(387)
[Idaŋ	**na-g=ahw**	*dɨh*	*va-rd*	*]*	*ka-n*	**ac,**	*borbed*	*na-g*	*ica*
bamboo	**ND-NOM=FOC**	COMP	burn-FPST		FD-ACC	**FOC**	possum	ND-NOM	new

jɨ-rd.
stay-FPST

'The bamboo burned up, but the possum was still raw.'

(388)
Kuram	**na-g=an,**	*ida*	*bɨh*	*ara*	*bɨh,*	*p-i*	*ahrai-c*	*arhw,*	*j-om*
man	**ND-NOM=very**	sun	SPEC	day	SPEC	take-SS	bring-DS	1PL	eat-AJTZ

k-inhw		*ar.*
talk-1PL.IPST		QUOT

'"This man brings it every day and we eat it," they said.'

(389)
Mad	*ar*	*ŋam*		*ar.*	**Api=an**	*akwerɨ-ŋar-in*	*ar.*
no	QUOT	mother.1/2.POSS		QUOT	**1SG=very**	go.up-FUT-1SG	QUOT

'"No, Mom," she said. "*I'll* go up," she said.'

1.8.3. The Linking Enclitic *=a*

The enclitic *=a*, which I gloss as a linker, attaches to the end of an intonation unit. Most often it occurs in non-final contexts to signal that the speaker intends to continue the

utterance, as in (390), where it occurs on a pronoun, (391), where it occurs on an adjective

and a demonstrative, and (392), where it occurs on a medial verb.

(390) Uravi   na-n   ac   **arhw=a,**   gahɨr aka-ŋar-inhw   ar.
village ND-ACC FOC **1PL=LNK**   lift   chop-FUT-1PL   QUOT
'We will build a village here.'

(391) Ida   **vam=a,**   kuram-iñ   **ka-g=a,**   ikud=an   gyah-i ...
sun   **one=LNK**   man-DIM   **FD-NOM=LNK**   morning=very   get.up-SS
'One day, the boy got up early in the morning and ...'

(392) Ibañañ   uhra   ka-n   gahɨr   ak-e   **ku-c=a,**   mad.
pot   big   FD-ACC lift   chop-SS   **see-DS=LNK**   no
'He lifted the big pot and looked, but no.'

This clitic appears to strongly prefer attaching to a consonant, but will occasionally be

found on a vowel (393).

(393) Pɨkɨm   hɨr   ka-g   **uhr-e=a,**   kukwam   dahri ...
guts   3SG.POSS   FD-NOM   **grow-SS=LNK**   ball   like
'His belly swelled up like a ball and ...'

This enclitic is also commonly found on the quotative particle *ar*, which occurs clause-

finally (394). It is also occasionally found in other clause-final contexts, such as on a final

verb (395) or on an interjection (396). These uses of *=a* are not well understood.

(394) Api   dɨh   ja~dɨj-in   **ar=a,**   kɨbɨh   ka-p   **ar=a.**
1SG   COMP   eat~TPST-1SG   **QUOT=LNK**   other.side   FD-LOC   **QUOT=LNK**
'"I already ate," he said. "On the other side," he said.'

(395) Ñɨ   uhra   ka-g   **ka-rd=a.**
son   big   FD-NOM   **talk-FPST=LNK**
'The adult son spoke.'

(396) A-cañ   adu   na-g   kaj-i   ka-rd,   **mad=a.**
1/2.POSS-grandfather   1SG.POSS   ND-NOM   sit.sg-SS   talk-FPST   **no=LNK**
'My grandfather sat down and said, "No."'

Appendix 2

Manat Grammar Sketch

2.1. Introduction

Manat [pmr] is spoken in Madang Province, Papua New Guinea. Z'graggen (1975*a*: 31), in his survey of the languages of Madang Province, recorded 150 speakers in the village of Paynamar, the only Manat-speaking village he listed. This is the population figure still given in the current *Ethnologue* (Lewis et al. 2015). While the ethnic population has increased since then, and there are probably over 300 people living in Paynamar and the other Manat-speaking community of Simbevi today, the language is no longer being transmitted to children. The youngest fluent speakers are in their 30s or 40s, and I estimate the total number of remaining speakers at around 50.

Z'graggen (1971: 61) named the language Paynamar after the village of Paynamar (*Pañamar* in my orthographic transcription). However, speakers today refer to their language by its word for 'no' (a common practice in the area), which is *manat*. I adopt their usage here.

The question, "How many villages is Manat spoken in?" does not have a simple answer. Z'graggen put it that the language was spoken in "Paynamar and a few other small hamlets" (1971: 63), and it is worth expanding on that formulation here. Land is passed down patrilineally through clan lines, and the traditional settlement pattern in this area (indeed, in most of Middle Ramu district east of Paynamar, according to my fieldwork) was

for clan members and their wives to live together in small hamlets on their clan's land. These hamlets were temporary, and communities would relocate after several years to be closer to new garden plots.

During the Australian administration, however, these disparate communities were forcibly rounded up and made to live in larger, more centralized settlements, which facilitated patrols and record-keeping. Speakers of Manat were all located in Paynamar. Then, at some point within the last few generations (I believe, but I am not certain, that this occurred before independence in 1975), a dispute arose between different clans over a man's murder of his wife. The wife's clan (and possibly allied clans) scattered and remained in diaspora in nearby villages for a time. Peace was eventually restored, and sometime after independence, when villagers were no longer required to live in centralized settlements, the members of the diaspora created a new settlement called Simbevi, which was on land that had been considered part of the Australian administration village of Paynamar. The status of Simbevi as a "true" village is thus unclear, even as the concept of a village as a social and geographical entity is disintegrating as people return to pre-Australian settlement patterns.

The actual settlement of Paynamar is no longer inhabited, as all the villagers who lived there have since relocated to the banks of the river they call Vɨni, a tributary of the Sogeram, to gain easier access to the outside world. This new settlement is still called Paynamar by them and by people from the surrounding area, although residents maintain that it is more properly referred to as Vɨni.

2.1.1. Previous Research

The only previous research into Manat was conducted by John Z'graggen. In his Madang classification and typological overview, he tentatively assigned it to a group he called the Wanang Stock (along with Mand, Nend, Apali, and Aisi) and made a few typological remarks. He observed that stops and nasals contrast four points of articulation (bilabial, alveolar, alveopalatal, and velar), that fricatives contrast only three (bilabial, alveolar, and velar), and that voiced stops are prenasalized. He also noted the presence of /ɨ/ and the lack of a concordance class system or number marking on nouns. Finally, he observed that verbs have subject agreement suffixes but lack object agreement morphology (Z'graggen 1971: 61–64).

Z'graggen mentioned Manat again in his contribution to Stephen Wurm's large 1975 volume (Z'graggen 1975*b*: 585), adding the observation that it prefixes possessive pronouns to some kin terms. He then published the results of his survey research in two stages. First, he published the population figures for each village, listing the population of Paynamar at 150 (Z'graggen 1975*a*: 31). Then, he published the Manat wordlist on which he based his lexicostatistical classification, along with some of the typological remarks made in his 1971 work (Z'graggen 1980*a*).

Aside from these wordlists and typological remarks, I am unaware of any other research into Manat. Z'graggen observed that it was "previously unrecorded" (1971: 63), and to my knowledge, the language has never been surveyed by SIL or any other entity.

2.1.2. Data Sources

The data for this study come from four separate field trips totaling four weeks of research. The first was in 2006, when I spent February 6 and 7 with speakers of Manat who came to see me in the Nend-speaking village of Akavanku. During this time, I focused on the elicitation of wordlists and basic verb paradigms.

I visited the area again in 2010 and spent three weeks in Paynamar, from August 8–28. I conducted more detailed grammatical elicitation and recorded, transcribed, and translated slightly over an hour of recorded speech. I returned again in 2012, staying one week from June 15–22. I conducted more elicitation and recorded, transcribed, and translated 27 more minutes of natural speech. In 2014 I was again conducting fieldwork in the area, and met with two consultants for a brief elicitation session in the Nend-speaking village of Pasinkap on July 13.

The corpus of transcribed texts now totals over one hour and 31 minutes, and this is the main source of data for this analysis. Where necessary, I have used elicited examples to support my analysis, but I have used examples from spontaneous speech wherever possible.

2.1.3. Typological Outline

Manat is an SOV language (§2.6.1), and it has determiners that follow nouns (§2.4.1), postpositions (§2.3.5), noun-adjective word order (§2.3.3), and possessors that precede the noun (§2.4.1). It has inalienably possessed kin terms (§2.3.2.3) and a complex determiner

system that indexes three deictic distances as well as a wide range of determiner functions (§2.3.6).

Verb morphology is extensive: verbs can be marked with twelve "final" TAM categories, four "medial" switch-reference categories, two infinitives, and a contrastive suffix, and they can also be nominalized (§2.5). Manat also possesses a small inventory of "quasi-verbs," which express verbal meaning but take no morphology (§2.3.1.3). These have idiosyncratic grammatical properties, but many can optionally occur with the verb *ñɨ-* 'stay' if verbal morphology is desired (§2.7.2). *Ñɨ-* can also optionally be used to add verbal morphology when other non-verbal words are used as predicates (§2.7.1).

The case system is accusative, marking both the single argument of intransitive clauses and the more agentive argument in transitive clauses with the suffix *–b* (§2.6.2). Another case, for which I have chosen the label 'ACCUSATIVE,' fulfills several functions. It marks objects—the single object of transitive clauses and both objects of ditransitive clauses (§2.6.3)—in addition to marking certain oblique arguments in intransitive clauses (§2.6.4.3). It also marks topic-fronted noun phrases (§2.6.5), the first element in nonverbal predicates (§2.7.1), and subject-like noun phrases in certain quasi-verb clauses (§§2.7.2.1, 2.7.2.2).

Manat has a fairly typical Papuan system of clause chaining and switch reference (§2.8.1) and a clause chain nominalization construction that uses determiners to subordinate one clause chain to another (§2.8.2). It also makes frequent use of tail-head linkage in narrative (§2.9.1).

2.2. Phonology

The consonant inventory is presented in Table 1 below. (When the orthographic symbol that I use in the rest of this sketch differs from the phonetic symbol, the orthographic symbol is given in <angled brackets> on the right.)

Table 1. Manat consonant inventory

	bilabial	alveolar	post-alveolar	palatal	velar
voiceless plosive	p	t			k
voiceless affricate			tʃ <c>		
voiced prenasalized plosive	^{m}b <b>	^{n}d <d>			$^\eta$g <g>
voiceless fricative		s			
voiced fricative	β <v>				ɣ <h>
voiced prenasalized fricative		^{n}z <z>			
nasal	m	n		ɲ <ñ>	ŋ
flap		ɾ <r>			
glide	w			j <y>	

The consonants exhibit surprisingly little allophonic variation. The voiceless stops have no fricative or affricate allophones; /c/ and /s/ are essentially invariant; the nasals likewise exhibit no significant allophony; and /r/ is always pronounced as a flap, never as a lateral. The prenasalized phonemes /b d g z/ exhibit one small piece of allophonic variation: when they occur after a non-homorganic nasal (they never occur after homorganic nasals), their own nasalization is sometimes dropped, as illustrated below. Otherwise, they are prenasalized and voiced in all environments.

> /bamda/ → [mbam.da] ~ [mbam.nda]
> 'morning'

The vowel inventory is presented in Table 2.

Table 2. Manat vowel inventory

	front	central	back
high	i	ɨ	u
mid	e		(o)
low		a	

In addition to these vowels, Manat allows only one diphthong, /ai/. The mid front vowel /e/ is rare, and arises frequently as a pronunciation of /ai/. However, it is also a vowel in its own right, and its inclusion in the phonemic inventory is not under dispute. The mid back vowel /o/, however, only exists in occasional Tok Pisin loanwords.

Because the high central vowel /ɨ/ is considered non-phonemic in many Papuan languages (cf. Ingram 2001, Pawley & Bulmer 2011), I present some evidence for a contrast between /ɨ/ and Ø. In the first syllable of each example below, [ɨ] is the nucleus and the consonants /t/ and /r/ surround it. However, [ɨ] occupies a different place in each syllable, which would not be expected if it were a predictable non-phonemic vowel that only arose to break up consonant clusters.

/tɨ-/	+	/-rha/	+	/-in/	→	[tɨr.ɣin]
'do what'		'HAB'		'1SG.PRS'		'what do I do?'
/trɨha-/	+			/-in/	→	[trɨ.ɣin]
'pull'				'1SG.IPST'		'I pulled'
/trɨ-/	+	/-rha/	+	/-in/	→	[trɨr.ɣin]
'pull'		'HAB'		'1SG.PRS'		'I pull'

Similarly, the near-minimal pair below, between *yimɨn* and *imɨr*, illustrates that the phonetic sequence [yɨ] is not underlyingly /i/, but rather that /i/ is realized as [i] and that [yɨ] is composed of two segments, /yɨ/.

| /yɨmɨn/ | | | → | [yɨ.mɨn] |
| 'tree.sp' | | | | |

| /imɨr/ | | | → | [i.mɨr] |
| 'meat' | | | | |

Finally, /ɨ/, like any other vowel, elides a preceding vowel when they come into contact at a morpheme boundary (see §2.2.2).

2.2.1. Phonotactics

Every segment except /e/ and /ɨ/ is allowed in word-initial position, and every segment except /w/, /y/, and possibly /c/ is allowed in word-final position.

Complex onsets are allowed that consist of any plosive (except /d/) plus /r/, a voiced fricative plus /r/, or a velar stop plus /w/. These generalizations account for my entire corpus with only two exceptions: *spiku* 'rope' and *twaya* 'white cockatoo.'

| /brɨdɨm/ | | | → | [mbrɨ.ndɨm] |
| 'beetle' | | | | |

| /gravɨha-/ | + | /-m/ | → | [ŋgra.βɨ.ɣam] |
| 'fasten' | | '2SG.IMP' | | 'fasten (it)!' |

| /pra-/ | + | /-n/ | → | [pran] |
| 'bathe' | | '2/3.SS' | | 'bathe and …' |

| /trɨ-/ | + | /-s/ | → | [trɨs] |
| 'pull' | | '3SG.DS' | | 's/he pulled and …' |

| /krɨs/ | | | → | [krɨs] |
| 'bad' | | | | |

| /hri/ | | | → | [ɣri] |
| 'bone' | | | | |

| /vrɨt/ | → | [βrɨt] |
| 'kind of wild sugar' | | |

| /kwapa/ | → | [kwa.pa] |
| 'side' | | |

| /gwanɨb/ | → | [ŋgwa.nɨmb] |
| 'bird' | | |

Complex codas are quite rare, but they do occur. Two examples in my corpus contain word-final sequences of a homorganic nasal and voiceless plosive: *iriñc* 'k.o.greens,' and *mɨdimɨdint* 'slowly.' Additionally, sequences of a nasal plus a non-homorganic voiced plosive also occur with some imperative verbs when an optional –*d* suffix is added (§2.5.1.11).

| /rɨ/ | + | /-m/ | + | /-d/ | → | [rɨmd] ~ [rɨmnd] ~ [rɨ.mɨnd] |
| 'do' | | '2SG.IMP' | | '?' | | 'put (it)!' |

| /ipa/ | + | /-raŋ/ | + | /-d/ | → | [i.pa.raŋd] ~ [i.pa.raŋnd] ~ [i.pa.ra.ŋɨnd] |
| 'come out' | | '1PL.IMP' | | '?' | | 'let's come out!' |

Manat also appears to have a minimal word requirement which stipulates that each word must contain at least one vowel. The behavior of *p(ɨ)* 'house' below illustrates this: when compounded with the vowel-final word *haka* 'feces,' the /p/ becomes the coda and is usually pronounced without any vocalic release. However, when it stands alone, an epenthetic /ɨ/ is added after the consonant.

| /haka/ | + | /p/ | → | [ɣa.kap] ~ [ɣa.ka.pɨ] |
| 'feces' | | 'house' | | 'toilet' |

| /p/ | → | [pɨ] |
| 'house' | | |

2.2.2. Morphophonemics

There are three primary morphophonemic processes: vowel elision, epenthesis, and root vowel harmony.

2.2.2.1. Vowel Elision

When a verb root or verb suffix that ends in a vowel is followed by a verb suffix that begins with a vowel, the resulting vowel hiatus is disallowed, and is relieved by eliding the first of the two vowels. Thus, when *aku-* 'go up' is combined with *-in* '1SG.IPST,' the final *u* is elided; but when it is combined with *-nad* '2SG.IPST,' the *u* is retained. Similarly, the addition of *-itɨha* 'FFUT' causes the *u* to be elided from *aku-* 'go up,' and the further addition of the person suffixes *-in* '1SG' and *-nad* '2SG' results in the same pattern with the final vowel on *-itɨha*.

/aku/ 'go up'	+	/-in/ '1SG.IPST'			→	[a.kin] 'I went up'
/aku/ 'go up'	+	/-nad/ '2SG.IPST'			→	[a.ku.nand] 'you went up'
/aku/ 'go up'	+	/-itɨha/ 'FFUT'	+	/-in/ '1SG'	→	[a.kɨ.tɨ.ɣin] 'I will go up'
/aku/ 'go up'	+	/-itɨha/ 'FFUT'	+	/-nad/ '2SG'	→	[a.kɨ.tɨ.ɣa.nand] 'you will go up'

There is one exception to this rule. When a monosyllabic verb root, like *vu-* 'go' or *ai-* 'come,' is combined with a suffix that begins with /ɨ/, such as *-itɨha* 'NEAR.FUT,' the elision rule is often disregarded, and the vowel from the verb is retained. If this happens, the

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vowel from the suffix is elided instead. With other vowels, however, elision of the root vowel still occurs.

/vu/	+	/-ɨtɨha/	+	/-in/	→	[βu.tɨ.ɣin] ~ [βɨ.tɨ.ɣin]
'go'		'PFUT'		'1SG'		'I will go'

/ai/	+	/-ɨtɨha/	+	/-in/	→	[ai.tɨ.ɣin]
'come'		'PFUT'		'1SG'		'I will come'

/vu/	+	/-in/			→	[βin]
'go'		'1SG.IPST'				'I went'

2.2.2.2. Epenthesis

When two consonants come together at a morpheme boundary, an epenthetic /ɨ/ will usually be inserted. Sometimes this does not occur if the two consonants are a nasal and a homorganic voiceless plosive, as with *ñamaŋk* below. When the two consonants are a nasal and a homorganic voiced plosive, as with *nɨmab* below, the nasal is elided.

/mam/	+	/=k/			→	[ma.mɨk]
'skirt'		'ACC'				'skirt'

/mat/	+	/=k/			→	[ma.tɨk]
'what'		'ACC'				'what?'

/pañamar/	+	/-d/			→	[pa.ɲa.ma.rɨnd]
'Paynamar'		'from'				'from Paynamar'

/ñamaŋ/	+	/=k/			→	[ɲa.maŋk] ~ [ɲa.ma.ŋɨk]
'brother.1.POSS'		'ACC'				'my brother'

/nɨ-/	+	/mam/	+	/-b/	→	[nɨ.mamb]
'3.POSS'		'husband'		'NOM'		'her husband'

2.2.2.3. Root Vowel Harmony

There are a number of verb roots that end in /u/ and also contain a /ɨ/, such as *hɨmu-* 'die,' *mɨdu-* 'plant, shoot,' and *akɨru-* 'carry on your shoulder.' When the final /u/ in these verbs is elided, the /ɨ/ is realized in its underlying form. However, when the /u/ is retained, the /ɨ/ is usually realized as [u]. This also happens when the final /u/ is elided by another /u/, such as occurs with the plural suffix *–ura.* Additonally, when verbs that have a medial /ɨ/ but that do not end in /u/, like *vɨka-* 'cut, write,' take this suffix, the /ɨ/ also sometimes assimilates to the /u/, although not as regularly.

/hɨmu-/	+	/-id/			→	[ɣɨ.mind]
'die'		'3SG.IPST'				's/he died'

/hɨmu-/	+	/-nad/			→	[ɣu.mu.nand] ~ [ɣɨ.mu.nand]
'die'		'2SG.IPST'				'you died'

/hɨmu-/	+	/-ura/	+	/-id/	→	[ɣu.mu.rind] ~ [ɣɨ.mu.rind]
'die'		'PL'		'3.IPST'		'they died'

/vɨka-/	+	/-ura/	+	/-id/	→	[βɨ.ku.rind] ~ [βu.ku.rind]
'write'		'PL'		'3.IPST'		'they wrote'

2.2.3. Word–initial Vowel Loss

Manat appears to be undergoing a rather widespread loss of word-initial vowels. I do not know what conditions influence whether a word will undergo this vowel loss in a given speech environment. The initial vowel from a form like *upmiraz* can even be elided, resulting in a word-initial pre-stopped nasal.

/akɨmɨn/	→	[a.kɨ.mɨn] ~ [kɨ.mɨn]
'dream (n)'		

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/igu/   +   /-ma/   +   /-g/   →   [i.ŋgu.maŋg] ~ [ŋgu.maŋg]
'give'   'PST'   '3SG.FAR'   's/he gave'

/upmira/   +   /-z/   →   [up.mi.ranz] ~ [pmi.ranz]
'thread (v)'   '1.SS'   'I/we thread and …'

I have not attempted to standardize the transcriptions in my corpus, opting rather to leave each form transcribed with or without the initial vowel, however it was pronounced in the recording. This results in some (potentially frustrating) inconsistency in the examples throughout this sketch, but preserves greater fidelity to the spoken Manat that this analysis is based on.

2.3. Word Classes

Manat has seven word classes: verbs, nominals, adjectives, adverbs, pronouns, postpositions, and determiners.

2.3.1. Verbs

Verbs are those words that can be marked for tense (both relative and absolute), aspect, and mood. They usually function as the main predicate in their clause.

Verbs are a closed class in Manat. When verbs are borrowed into the language, they are borrowed as invariant particles that occur with the verb *ñi-* 'stay' to form a predicate, as in (1) and (2). However, unlike in other Madang languages like Gants (this volume) and Kalam (Pawley & Bulmer 2011: 46), this is not a common strategy for forming complex predicates in Manat; it is only used for loanwords.

(1) *Bɨ* **kot** *ñɨŋ-id* *akad.*
3.NOM **court** stay-3SG.IPST maybe
'He must be standing trial.'

(2) *Senis* *ñɨ-m-d!*
change stay-2SG.IMP-?
'Change (your clothes)!' Elicited

It is useful to divide verbs into three phonological classes, based on their root-final vowels and their interaction with certain suffixes. I label these classes *a*-root, *u*-root, and *e*-root. *A*-root and *u*-root verbs are invariant (discounting the morphophonemic processes described in §2.2.2 above), while *e*-root verbs change their shape in the presence of certain suffixes. In the presence of most suffixes, they end in root-final /ɨ/. In the presence of the basic agreement suffixes (see §2.5) and the plural suffix *–ura*, they end in /ɨha/. (But note that vowel elision still acts on this root shape, and it is often realized as /ɨh/.) And in the presence of the same-subject switch reference suffixes *–n* and *–z*, *e*-root verbs end in /e/.

In addition, there are a handful of irregular verbs that do not fall into any of these patterns, although most resemble *e*-root verbs in that they add root-final *-ha* under certain conditions. The known irregular verbs, along with a few examples of each verb class, are given in Table 3 below.

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Table 3. Verb classes

Class	–ma-g 'PST-3SG.FAR'	–r '1PL.IPST'	–z '1.SS'	English
a-root	*ara-mag*	*ara-r*	*ara-z*	say
	ita-mag	*ita-r*	*ita-z*	leave, not want
u-root	*ruku-mag*	*ruku-r*	*ruku-z*	see
	vu-mag	*vu-r*	*vu-z*	go
e-root	*apɨ-mag*	*apɨha-r*	*ape-z*	close, thatch
	tɨ-mag	*tɨha-r*	*te-z*	do what
Irregular	*rɨ-mag*	*rɨha-r*	*rɨ-z*	do
	yɨ-ŋin (1SG.RPST)	*yɨha-r*	*yɨ-z*	carry
	kankɨ-mag	*kankɨha-r*	*kanke-z*	do that
	ki-mag	*kiha-r*	*ke-z*	do thus
	ai-mag	*aiha-r*	*ai-z*	come
	vrai-mag	*vraiha-r*	*vrai-z*	embrace
	ñɨ-mag	*ñɨŋa-r*	*ñɨ-z*	stay

2.3.1.1. Same–subject–only Verbs

Most verbs can take both medial and final suffixes (§2.5), but there is a small subclass of verb roots, mostly with adverbial meaning, that can only occur with same-subject medial suffixes, such as *tukubrama-* 'well' (3) and *pubu-* 'completely' (4).

(3)   **Tukubrama-n**   *bata-n*   *anaku-m-d=a.*
      well-2/3.SS   sit-2/3.SS   talk-2SG.IMP-?=INT
      'Sit down well and talk.'

(4)   *Am*   **pubu-n,**   *map=ɨk*   *mɨr-ɨn*   *mɨga-s*
      2.NOM   **completely-2/3.SS**   head=ACC   lower-2SG.DS   come.down-3SG.DS

      d-ɨtiha-nad.
      walk-FFUT-2SG
      'You'll lower your heads completely and walk around.'

2.3.1.2. Compound Verbs

Verbs can be formed by compounding. These compounds function as verb stems and behave identically to non-compounded verbs except with regard to reduplication processes—with compound verbs, only the last root is reduplicated (see §2.5.2.3 and

§2.5.3.1). Compound verbs can be broken down into four broad classes: adjunct, symmetrical, directional, and aspectual compounds. A few examples of each class are given in Table 4.

Table 4. Some compound verbs

Class	First verb	Second verb	Compound
Adjunct	*kuku*	*rama-* 'put'	*kukurama-* 'think'
	aga	*mɨgu-* 'go down'	*agamɨgu-* 'encircle'
	aba	*hɨmu-* 'die'	*abahɨmu-* 'perish, die violently'
Symmetrical	*mɨda-* 'plant'	*apara-* 'throw'	*mɨdapara-* 'erect, start'
	aŋra- 'run'	*vata-* 'swim'	*aŋravata-* 'flee'
	igu- 'give'	*ña-* 'eat'	*iguña-* 'feed'
Directional	*akɨru-* 'carry'	*vu-* 'go'	*akuruvu-* 'carry away'
	vu- 'go'	*apara-* 'throw'	*vapara-* 'get out of (somewhere)'
	rama- 'put'	*aku-* 'go up'	*ramaku-* 'put up, arrange'
Aspectual	*rapra-* 'wait for'	*ñi-* 'stay'	*raprañi-* 'wait for statively'
	mɨga- 'come down'	*ñi-* 'stay'	*mɨgañi-* 'sleep'
	ratɨha- 'disperse'	*da-* 'walk'	*ratɨhada-* 'disperse progressively'

Adjunct compounds are so named because they resemble verb adjunct constructions in other Madang languages. They consist of an unanalyzable first portion compounded with a lexical verb. Etymologically, the first portion was presumably a noun, verb adjunct, or another verb, but synchronically these forms are no longer words. However, the second element in an adjunct compound is a synchronic verb, as can be seen from its behavior in reduplication (5).

(5) *kuku-rama~dama*
     think-put~NMLZ
     'thinking'

As the example above illustrates, I gloss the first part of adjunct compounds with the meaning of the compound as a whole.

Symmetrical compounds are compounds of two verb roots that both contribute equally to the semantics of the whole stem. They can be compositional, like *igu-ña-* (give-eat) 'feed,' or more opaque, like *aŋra-vata-* (run-swim) 'flee.'

Directional compounds consist of a first verb root, which contributes the main semantics of the compound, and a second, which contributes directional semantics. Examples include *ram-aku-* (put-go up) 'put up' and *yɨnɨ-vu-* (carry-go) 'carry away.'

Aspectual compounds are similar to directional compounds: the first root contributes the main semantics of the compound, and the second, which comes from a limited set, contributes aspectual meaning. The four known verbs that occur in this position, and the aspects that they convey, are presented in Table 5.

Table 5. Aspectual verbs

Verb	Aspect
rɨku- 'see'	conative ('try to V')
ñɨ- 'stay'	stative
rama- 'put'	completive (or possibly causative)
da- 'walk'	progressive

Like other compounds, aspectual compounds can become lexicalized and acquire non-compositional meaning. So, for example, the compound *mɨga-ñɨ-* (come.down-stay) has acquired the meaning 'sleep.'

2.3.1.3. Quasi–Verbs

There is a small, closed class of words which I term "quasi-verbs." They resemble verbs semantically and function in a clause much like verbs do, but they do not take any morphology. This class of words includes two existential forms (*ragam* and *makat*), three

locative words (*nagid*, *nakad*, and *nagutid*), the motion word *hɨd*, and the negative *manat*. Each one of these has its own idiosyncratic grammatical properties, which are discussed in more detail in the section on nonverbal clauses (§2.7.2).

2.3.2. Nominals

The word class I call 'nominals' includes nouns and numerals. Nouns are discussed here, and I discuss numerals at the end of this section.

Nouns can serve as subjects or objects of verbs, and as objects of postpositional phrases. There are three kinds: common nouns, proper nouns, and inalienably possessed nouns. Common nouns can also be formed from verbs by reduplication (see §2.5.3.3). Common and proper nouns are both open classes, as illustrated by (6) and (7), while inalienably possessed nouns are a closed class.

(6) **Ruben-ɨb**   **bateri=k**   *apɨhut-id,*   **Mak=ɨk.**
Reuben-NOM   battery=ACC   show-3SG.IPST   Mark=ACC
'Reuben showed Mark a battery.'   Elicited

(7) *Añɨga-n*   *gu-rama-n*   *ta-n,*   *asik*   *hɨd*   **Rai Kos**
dig-2/3.SS   give-put-2/3.SS   leave-2/3.SS   again   move   Rai Coast

paku-ma-g.
go.across-PST-3SG.FAR
'He dug and buried (her) and left, and went across again to the Rai Coast.'

Certain grammatical categories are marked differently on different subclasses of nouns. These are outlined in Table 6 below and discussed in the following sections.

Table 6. Grammatical marking on noun subclasses

	Common nouns	Proper nouns	Inalienably possessed nouns
Possession	pronouns	n/a	prefixes, pronouns
NOM	determiner	–b	–b
BEN	*kad*	*mad*	*mad*
CHAR	*kɨd*	–d	n/a

2.3.2.1. Common Nouns

Common nouns are a residual class composed of those nouns that do not fall into either of the other two subclasses. They take no morphology, and are possessed by pronouns (8), marked by nominative determiners (9) and the 'characterized by' postposition *kɨd* (10), and occur with the benefactive postposition *kad* (11). Note also that kin terms, which are usually inalienably possessed, can sometimes be common nouns, like *nadigam* 'daughter' in the last example.

(8) **yak**   *mɨt*
    1SG.POSS   bag
    'my bag'   Elicited

(9) *Nadi*   **ka-b**   *ŋara-ma-g.*
    woman   **MD-NOM**   speak-PST-3SG.FAR
    'The woman spoke.'

(10) *Zɨ*   *Vɨni-d.*   *Pabra*   **kɨd.**
    1SG   Vɨni-CHAR   village   CHAR
    'I'm from Vɨni. From the village.'

(11) *Barad*   *amɨŋuna=k*   *mɨŋa-n,*   *barad*   *nadigam*   **kad.**
    3PL.POSS   stomach=ACC   get-2/3.SS   3PL.POSS   daughter   BEN
    'They worried (lit. 'held their stomachs') about their daughter.'

Finally, common nouns can also be derived from verbs by reduplication, as in (12) and (13).

(12) *O,* **amɨgrama~dama** *ka-b* *akunaih-id* *ara-ŋin.*
oh **arrange~NMLZ** MD-NOM bring-3SG.IPST say-1SG.RPST
'"Oh, God (lit. 'the arranger/creator') brought him," I said.'

(13) *Banɨk* **kuku-rama~dama=k** *abarvɨra-m-d=a* *ara-ma-g.*
3SG.POSS **think-put~NMLZ=ACC** change-2SG.IMP-?=INT say-PST-3SG.FAR
'"Change his thinking," she said.'

These forms are discussed further in §2.5.3.3.

2.3.2.2. Proper Nouns

Proper nouns refer to specific people, places, or other entities. Proper nouns referring to people can be marked by the nominative suffix *–b* (14) and take the benefactive postposition *mad* (15). Proper nouns that are place names are the only words that can be marked with the suffix *–d* 'characterized by' (16).

(14) *Bikman* **Devit-ɨb** *ruku-s* *manat* *ñi-s ...*
big.man **David-NOM** see-3SG.DS no stay-3SG.DS
'Big man David looked and it wasn't there and ...'

(15) *Zɨ* *Jona* **mad** *kuku-ram-in.*
1SG Jonah **BEN** think-put-1SG.IPST
'I'm thinking about Jonah.'   Elicited

(16) *Nɨd* **Sibevivi-d?**
2/3DU **Simbevi-CHAR**
'Are you two from Simbevi?'   Elicited

2.3.2.3. Inalienably Possessed Nouns

Inalienably possessed nouns are a small, closed class of kin terms which are obligatorily marked with possessive prefixes. The possessive prefixes are *a–* '1,' *na–* '2,' and *nɨ–* '3'; they do not mark the number of the possessor. A few examples, with approximate English glosses, are given in Table 7.

Table 7. Some Manat kin terms

1.poss	2.poss	3.poss	Gloss
asɨhat	*nasɨhat*	*nɨsɨhat*	grandmother
avas	*navas*	*nɨvas*	brother-in-law (of female ego)
amɨŋ	*nam*	*nɨm*	mother
añɨŋu	*namam*	*nɨmam*	husband
ñamaŋ	*nara*	*nɨra*	same-sex, younger sibling
nadi	*napɨhɨn*	*vɨkɨn, nɨpɨhɨn*	wife

Most inalienably possessed nouns take these prefixes regularly, like *–sɨhat* 'grandmother' or *–vas* 'brother-in-law.' However, suppletion is also common, particularly in first person forms. When this is the case, the irregular first person form sometimes functions grammatically as an inalienably possessed noun, taking the nominative suffix *–b* (17), and sometimes it functions as a common noun, taking a determiner (18) instead of the nominative suffix (19).

(17)   *Akei*   **amɨŋ-ɨb=a,**   *b=emtak*   *ñɨ-r-m-id.*
      okay   **mother.1.POSS-NOM**=INT   3.NOM=alone   stay-HAB-PST-3SG.HIS
      'Okay my mother, she used to live alone.'

(18)   **Añɨŋu**   **ka-b**   *humur*   *kai*   *mɨga-ñɨ-ma-g.*
      man   **MD-NOM**   middle   LOC   come.down-stay-PST-3SG.FAR
      'The husband slept in the middle'

(19)   **añɨŋu-b*
      man-NOM
      'man'

Inalienably possessed nouns can also be marked for number, which other nouns cannot. There are two ways this can be done: either with the plural suffix *–ati* (2), or with the plural word *rudi*, which then takes the nominative suffix (21). Plural marking is never obligatory, and it is unclear what factors condition the choice between *–ati* and *rudi*

(although *–ati* seems to be preferred with second and third person nouns, while *rudi* is more common on first person nouns).

(20) *Igu-ma-g,*   *nɨ-hav-ati=k.*
give-PST-3SG.FAR   3.POSS-uncle-PL=ACC
'She gave it to his uncles.'

(21) *Mubu ka-n   akripu-rh-ura-m-id,   arɨd   amɨŋ   rudi-b.*
skirt   MD-ACC   wrap-HAB-PL-PST-3.HIS   1PL.POSS   mother.1.POSS   PL-NOM
'Our mothers used to wear skirts.'

As the example above illustrates, although inalienably possessed nouns are marked with a possessive prefix, they can also occur with a free pronominal possessor. If this is the case, the first person form of the inalienably possessed noun must be used, and the person and number of the possessor are specified only by the free pronoun (22).

(22) *Zɨ   amɨnak   ñamaŋ-ib=a!*
1SG   2SG.POSS   brother.1.POSS-NOM=INT
'I'm your younger brother!'

In addition to taking the nominative suffix *–b*, inalienably possessed nouns also occur with the benefactive postposition *mad* instead of *kad* (23).

(23) *Nɨ-hav-ati   mad=a,   wɨya kuku-rama~dama ñɨ-ma-g.*
3.POSS-uncle-PL   BEN=INT   just   think-put~NMLZ   stay-PST-3SG.FAR
'He was just thinking about his uncles.'

2.3.2.4. Numerals

Numerals are a closed word class with three members: *vaca* 'one,' *añɨŋa* 'two,' and *añɨŋuta* 'three.' Their syntax is unique, but most closely resembles that of nouns. It is also heterogeneous; *vaca* 'one' behaves differently from the other two numerals.

Vaca can come before the noun, modifying it in the same position as an attributive noun (24). However, it is more common for it to follow the noun, in which case it occurs with the adverb *tak* 'only, just' (25). This construction can also stand on its own (32).

(24) *vaca husi*
       one   section
       'one section'

(25) *Nadi   mu   ka-b=a,   ihɨr=ɨk   **vaca tak**   miŋa-s   ñitaka-ma-g.*
       woman   SPEC MD-NOM=INT child=ACC **one   only** get-3SG.DS get.up-PST-3SG.FAR
       'A woman had one child.'

(26) *Mɨgra-n   g-ura-s,   o   **vaca tak**   agrama-ñɨ-ma-g.*
       cut-2/3.SS give-PL-3.DS oh   **one   only** stand-stay-PST-3SG.FAR
       'They cut them all up, and oh, just one was left standing.'

Añɨŋa 'two' and *añɨŋuta* 'three' can also come before the noun they modify, but that noun must be followed by the locative/instrumental postposition *kai* (27). However, as with *vaca*, it is more common for them to follow the noun, in which case they occur inside the noun phrase, much like an attributive adjective (28). They can also stand alone (29).

(27) *añɨŋa husi   kai*
       two   section LOC
       'two sections'

(28) *Vu-s=a,   nadi   **añɨŋa kai** inɨ-b   ŋar-ura-ma-g.*
       go-3SG.DS=INT   woman **two   LOC** ND-NOM   speak-PL-PST-3.FAR
       'It went, and these two women spoke.'

(29) ***Añɨŋuta kai** d-ur-id,   yigra kad.*
       three   LOC walk-PL-3.IPST game   BEN
       'The three of them are playing.'

Larger numerals are expressed periphrastically. 'Four' is, literally, 'a two and another two' (30), 'five' is expressed by referring to a hand, and larger numerals are expressed by

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referring to the concept of taking a hand, crossing over to the other hand, and taking a certain number of fingers. The expressions for these numerals are not fixed.

(30) *Mu=k   añɨŋa   kai   mu=k   añɨŋa   kai*   *yara-n*   *bata-n=a,*
     SPEC=ACC **two** LOC   SPEC=ACC **two** LOC   everyone-2/3.SS   sit-2/3.SS=INT

ñ-ura-ma-g.
eat-PL-PST-3.FAR
'The four of them all sat down and ate.'

2.3.3. Adjectives and Adverbs

There is good reason to posit two separate word classes of adjectives and adverbs for Manat, but there are a few words that blur the line. Neither word class takes any morphology, but they occur in different places in the clause and serve different functions.

Adjectives can be used attributively or predicatively. In their attributive use, they occur within the noun phrase, following the head noun and preceding the determiner (31), and they can also be repeated for emphasis (32). In their predicative use, they follow the subject (33). Quantifiers, such as *ñiŋi* 'all' (34) and *mu* 'SPECIFIC, another' (35) function syntactically like attributive adjectives.

(31) *Bɨ   yaba   **kris**   ka-n   ña-n ...*
     3.NOM   water **bad**   MD-ACC   eat-2/3.SS
     'He's drinking beer (lit. 'bad water') and ...'

(32) *Vana=k   **ibɨd**   **ibɨd**   ka-n   miŋ-itiha-nad.*
     speech=ACC   **good**   **good**   MD-ACC   get-FFUT-2SG
     'You'll get very good speech (ie., you'll learn well).'

(33) *Pas   vaga=k   **ibɨd.***
     banana   leaf=ACC **good**
     'The paper (lit. 'banana leaf') is good.'

(34) *O urum **ñɨŋi** ka-b ruku-n ŋar-ura-ma-g.*
oh man **all** MD-NOM see-2/3.SS speak-PL-PST-3.FAR
'Oh, all the men looked and talked.'

(35) *Akei urum **mu**=k pravu-ram-ura-ma-g, nɨ-ra=k.*
okay man **SPEC**=ACC hide-PUT-PL-PST-3.FAR 3.POSS-brother=ACC
'Okay, they hid one man, the younger brother.'

One adjective, *arum* 'big,' is realized as *arum* when used attributively (36), and as *arumad* when used predicatively (37).

(36) *As pri **arum** ini-b agrama-ñɨ~ŋiñ da-n ...*
so dog **big** ND-NOM stand-stay~NMLZ walk-2/3.SS
'So the big dog was standing there and ...'

(37) *Yaga bra=k **arumad.***
sago work=ACC **big.PRED**
'Sago work is hard work.'

Adverbs are placed much more freely. The examples below show the adverb *akai*, which means 'already' or 'currently,' being placed before (38) and after (39) the subject, before (40) and after (41) the object, and even after the verb (42). This last position is rare, but the others are all relatively common; it is possible that the placement of an adverb affects its semantic scope, but this is not certain.

(38) *Ñɨŋ-ura-s~ñɨŋuras=a, **akai** vɨ ka-b aprama-ma-g.*
stay-PL-3.DS~SIM=INT **COMP** night MD-NOM cover.up-PST-3SG.FAR
'As they were staying, night covered them up.'

(39) *Vu-s~vus=a, nadi tu-b **akai** ruku-ma-g.*
go-3SG.DS~SIM=INT woman FD-NOM **COMP** see-PST-3SG.FAR
'As he was going, the woman already saw him.'

(40) ***Akai** ñɨ=k api-ma-g.*
COMP eye=ACC close-PST-3SG.FAR
'He closed his eyes for good (i.e., died).'

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(41) *Rum=ɨk   mu=k   **akai**   mɨŋ-ur-id.*
    man=ACC   SPEC=ACC   **COMP**   get-PL-3.IPST
    'They already got one man.'

(42) *Pɨ=k   apɨh-in   **akai.***
    house=ACC   thatch-1SG.IPST   **COMP**
    'I'm building a house now.'   Elicited

Adverbs can also modify adjectives (43), other adverbs (44), postpositional phrases (45),

and the negative word *manat* (46). The adverbs that fulfill these functions are a more

limited set with meanings like 'only' and 'very.'

(43) *nadi   krɨs   **tak**   ini-b=a*
    woman   bad   **only**   ND-NOM=INT
    'this poor old (lit. 'bad') woman'

(44) *Akei   **yamat   tak**   **avan**   twaya   ka-b   ai-s=a ...*
    okay   **now   only**   **very**   cockatoo   MD-NOM   come-3SG.DS=INT
    'Okay, the white men (lit. 'cockatoos') just came right now and ...'

(45) *Akei   amɨŋ=k   mav   sɨhun   **avan**   mɨŋa-ma-g.*
    okay   mother.1.POSS=ACC   loincloth   COM   **very**   get-PST-3SG.FAR
    'Okay, he got women wearing a *loincloth*.'

(46) *Manat   **avan.***
    no   **very**
    'Definitely not.'

Like adjectives, adverbs can also be repeated for emphasis (47).

(47) *Avagara~gara ini-n   **had   had**   ma   iva-rh-id-ip=i,   ar-ura-ma-g.*
    yell~NMLZ   ND-ACC   **now   now**   NEG   hit-HAB-3SG.PRS-CTR=Q   say-PL-PST-3.FAR
    '"He doesn't just hit the bell (lit. 'yeller') right now," they said.'

Some adverbs, such as *tak* 'only,' can occur within the noun phrase and modify the

noun with essentially the same meaning that they have in their adverbial use (48).

Conversely, some adjectives can be used adverbially, like *ibɨd* in (49), where it means 'able.'

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It is possible that adverbs and adjectives are better analyzed as two subclasses of one word class, but I leave that question unresolved for now.

(48) *Banɨk   ña   **tak**   ka-n   sagra-n   bata-ñɨŋ-id.*
3SG.POSS son **only** MD-ACC   hug-2/3.SS sit-stay-3SG.IPST
'She's holding just her son and sitting there.'

(49) *Upas   ini-n   **ibɨd**   avamkwa-n   igu-nad-ip?*
banana ND-ACC **good**   cut-2/3.SS give-2SG.IPST-CTR
'Can you cut this banana up and give it (to me)?'

2.3.4. Pronouns

Manat pronouns distinguish four cases: nominative, accusative, benefactive, and possessive. The nominative and accusative forms are given in Table 8 and Table 9, respectively. The pronouns exhibit a bewildering pattern of polyfunctionality. The first person pronouns *zɨ* '1SG,' *ar* '1PL,' and *nad* '1DU' are not marked for nominative or accusative case. The second person nominative pronoun *am* is not marked for number, and neither is the third person nominative *bɨ*. *Nɨd* '2/3DU' is not specified for second vs. third person, and is also not specified for nominative or accusative case. Finally, there are no third person accusative pronouns; speakers use determiners instead (§2.3.6).

Table 8. Nominative pronouns

	SG	PL	DU
1	*zɨ*	*ar*	*nad*
2		*am*	*nɨd*
3		*bɨ*	

Table 9. Accusative pronouns

	SG	PL	DU
1	*zɨ*	*ar*	*nad*
2	*nɨ*	*nar*	*nɨd*
3			

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Examples of this polyfunctionality are given below: (50) and (51) show *zɨ* '1SG' used in nominative and accusative function, respectively. The same is true for *ar* '1PL' in (52) and (53) and *nad* '1DU' in (54) and (55).

(50) **Zɨ** yak   pɨ   kai   mɨga-ñ-ɨtak-in.
 1SG 1SG.POSS house LOC come.down-stay-IFUT-1SG.IPST
 'I'm going to sleep in my house.'

(51) **Zɨ** muru-m-d   ara-ma-g.
 1SG wake.up-2SG.IMP-?   say-PST-3SG.FAR
 '"Wake me up," he said.'

(52) As **ar** humɨn   ka-n   ña-ma-gɨr.
 so 1PL k.o.sugar MD-ACC eat-PST-1PL.FAR
 'So we ate *humɨn*.'

(53) Bra nɨm=ɨk   am=avan   igu-ma-grad   **ar.**
 work big=ACC 2.NOM=very give-PST-2PL.FAR 1PL
 'You guys gave us big work.'

(54) Had, **nad** vu-z   mɨga-ñ-ɨtɨha-r,   pɨ   ibɨd kai.
 now 1DU go-1.SS come.down-stay-FFUT-1PL house good LOC
 'Now the two of us will go sleep in a good house.'

(55) Vana=k   **nad** ig-id.
 speech=ACC 1DU give-3SG.IPST
 'S/he talked to us (lit. 'gave us speech').'   Elicited

Below are examples showing *am* '2.NOM' being used with a singular verb (56) and a plural one (57); *bɨ* '3.NOM' being used with a singular verb (58) and a plural one (59); and *nɨd* '2/3DU' being used with a second person verb (60) and a third person one (61).

(56) **Am**   vu-m-d=a!
 2.NOM go-2SG.IMP-?=INT
 'You go!'

(57) **Am**   ruku-rat-rad ag?
 2.NOM see-HAB-2PL   FOC
 "Do you guys see?"

(58) **Bɨ** *wɨya ŋara-rh-id.*
　　 3.NOM just speak-HAB-3SG.PRS
　　 'He just lies.'

(59) *Ita-n* **bɨ** *hɨd ipak-ura-ma-g.*
　　 leave-2/3.SS **3.NOM** go go.across-PL-PST-3.FAR
　　 'They left and went to the other side.'

(60) **Nɨd** *ñitaka-mar=a,* *nadi añɨŋa kai ka-b=a!*
　　 2/3DU get.up-2PL.IMP=INT woman two LOC MD-NOM=INT
　　 'You two get up, you two women!'

(61) **Nɨd** *vana ka-n nak-ur-id.*
　　 2/3DU speech MD-ACC talk-PL-3.IPST
　　 'The two of them are talking.'

There are also two adverbial enclitics which attach to the nominative pronouns: *=avan*

'very,' which serves to focus the pronoun it attaches to (62), and *=emtak* 'alone' (63).

(62) **Am=avan** *bra=k mɨŋ-in akɨb-id=a.*
　　 2.NOM=very work=ACC get-2SG.DS appear-3SG.IPST=INT
　　 'It was you who worked and it appeared.'

(63) *Amɨñ* **z=emtak** *mɨga-ñɨŋ-in=a.*
　　 yesterday **1SG=alone** come.down-stay-1SG.IPST=INT
　　 'Yesterday I slept alone.'

Table 10 presents the benefactive pronouns, which are all formed with the element –

mad.

Table 10. Benefactive pronouns

	SG	PL
1	zamad	aramad
2	namad	narmad
3	nɨmad	nɨrmad

Certain verbs regularly take benefactive arguments, like *kukurama-* 'think about' (64).

With other verbs, benefactive pronouns exhibit more typical benefactive semantics (65).

(64) *Ar **nimad** kuku-rama-r.*
      1PL **3SG.BEN** think-put-1PL.IPST
      'We're thinking about him.'   Elicited

(65) *Bram=ɨk **zamad** miŋa-m-d ara-ma-g=a.*
      arm=ACC **1SG.BEN** get-2SG.IMP-? say-PST-3SG.FAR=INT
      '"Hold her hand for me," she said.'

The possessive pronouns are given in Table 11 below, with examples following. They

precede their head noun.

Table 11. Possessive pronouns

	SG	PL
1	*yak*	*arɨd*
2	*amɨnak*	*amarad*
3	*banɨk*	*barad*

(66) ***Amɨnak** map asi kai ruku-m-d.*
      2SG.POSS head knowledge LOC see-2SG.IMP-?
      'Look into your knowledge.'

(67) ***Banɨk** ña=k sagra-n ...*
      3SG.POSS son=ACC hug-2/3.SS
      'She's hugging her son and ...'

2.3.5. Postpositions

Postpositions are a small closed word class. The known forms are given in Table 12.

Table 12. List of postpositions

Form	Meaning	Occurs with
kai	locative, instrumental	all nouns
kad	benefactive	common nouns
mad	benefactive	proper nouns, kin terms
sɨhun	comitative	common nouns, objects
ris	comitative	proper nouns, kin terms, subjects
kɨd	characterized by	nouns, adverbs
ire	like	all nouns

Postpositions follow noun phrases and relate them to the clause in which they occur, as in (98), (69), and (70). Note that although I gloss the postposition *kai* as 'LOC,' it is also used for instrumental meanings (117).

(68) *Mɨna* **kad** *ruku-ñɨ-rat-ur-id.*
pig   BEN   see-stay-HAB-PL-3SG.IPST
'They watch for pigs.'

(69) *Ihɨr*   *mɨkɨr*   **sɨhun** *iv-id.*
child   infant   COM   hit-3SG.IPST
'He hit (her while she was) holding a baby.'

(70) *Mɨŋa-n*   *var*   *pɨ*   **kai** *rama-ma-g.*
get-2/3.SS   indeed   house   LOC   put-PST-3SG.FAR
'She took him and put him in the house.'

(71) *Akei*   *amid*   **kai** *avɨh-itɨŋ*   *ar-ura-ma-g.*
okay   axe   LOC   chop-1SG.IMP   say-PL-PST-3.FAR
'Okay, they wanted to cut him with an axe.'

The postposition *kɨd* 'characterized by' appears to be unique in that it can also function as a predicate (72) and as a modifier in a noun phrase (73). Note also that in (72) it does not follow a noun phrase but an adverb, suggesting that this word may not be a canonical postposition.

(72) *Yagutɨm=ɨk*   *yamat* **kɨd.**
sago.basket=ACC   now   CHAR
'The sago basket is a recent thing (lit. 'is of now').'

(73) **pɨ**   *kɨd*   *ayaga* *vaga*
house   CHAR   sago   leaf
'sago thatch (lit. 'sago leaves for houses')'   Elicited

As mentioned above, there are two benefactive postpositions: *mad* for proper nouns and inalienably possessed nouns, and *kad* for common nouns. It seems that there is a similar opposition with the comitative postpositions *sɨhun*, which occurs with common

nouns (74), and *ris*, which occurs with proper nouns and inalienably possessed nouns (75).

However, this opposition also appears to be affected by case, as *sihun* can also occur with

proper nouns that are objects (76), and *ris* can occur with human common nouns that are

subjects (77).

(74) *Akɨb-ura-s=a,*   *hɨbɨma*   **sihun,** *azɨ*   **sihun** ...
    appear-PL-3.DS=INT hand.drum COM   decoration COM
    'They showed up, with drums and decorations, and ...'

(75) *Am*   *na-ma-b*   **ris,**   *mat* *vana* *ka-n*   *anaku-rad?*
    2.NOM 2.POSS-husband-NOM COM what speech MD-ACC talk-2PL.IPST
    'What are you and your husband talking about?'

(76) *Matarina=k*   *sihun* *Dokas=ɨk*   *sihun* *yadama-ma-g.*
    Matarina=ACC COM Dorcas=ACC COM   mock-PST-3SG.FAR
    'She mocked Matarina and Dorcas.'

(77) *Nadi*   *ka-b*   **ris**   *agram-ur-id.*
    woman MD-NOM COM stand-PL-3.IPST
    'He's standing with his wife.'

2.3.6. Determiners

Determiners are a small, closed word class. They are composed of a root, which indicates

deictic distance, and a suffix, which indicates the function of the determiner in the clause.

They distinguish three distances: *ini-* 'near,' *ka-* 'middle,' and *itu-* 'far.' There is also an

interrogative determiner *ba-*, which takes determiner suffixes to form question words, and

which I gloss 'QD.'

Table 13. Determiners

	ND	MD	FD	QD
nominative	*inɨ-b*	*ka-b*	*itu-b*	
accusative	*inɨ-n*	*ka-n*	*itu-n*	*ba-n*
benefactive	*inɨ-mad*	*ka-mad*	*itu-mad*	
locative	*inɨ-ba*	*ka-ba*	*itu-ba*	
setting	*in-i*	*ka-i*	*itu-i*	*ba-i*
possessive	*inɨ-bak*	*ka-bak*	*itu-bak*	
possessive	*inɨ-banɨk*	*ka-banɨk*	*itu-banɨk*	
plural possessive		*ka-barad*	*itu-barad*	
adjectival	*inɨ-gɨm*	*ka-nɨgɨm*	*itu-nɨgɨm*	
emphatic adjectival	*ni-nɨgibum*	*ka-nɨgibum*	*itu-nɨgibum*	
temporal		*ka-ñiŋar*		*ba-ñiŋar*
quantity				*ba-ñas*
personal	*inɨ-p*	*ka-nɨp*	*itu-nɨp*	

The determiners come at the end of the noun phrase and indicate its status in the clause. The MD form *ka-* is the most semantically unmarked, and by far the most frequent. The other two roots, *inɨ-* and *itu-*, sometimes undergo the word-initial vowel loss mentioned in §2.2.3 (78).

(78) *Apar*   *kɨd*   *ka-b*   **tu-ba**   *ak-ura-s~akuras …*
     mountain   CHAR   MD-NOM   **FD-LOC**   go.up-PL-3.DS~SIM
     'The mountain people were going up yonder and …'

The example above also shows that determiners can be used independently to function in the clause as a noun phrase.

Additionally, the accusative enclitic *=k* shares several properties of determiners: it never co-occurs with other determiners and it comes at the end of the noun phrase (79).

(79) *Ŋamañ*   *ñiŋi=***k**   *vɨka-n …*
     fish   little=**ACC**   cut-2/3.SS
     'He cut the little fish and …'

The three non-interrogative determiners can also function as subordinators, as illustrated in (80). This construction is discussed further in §2.8.2.

(80) *[Ñaŋña ka-b ñiŋ-id] ka-n, ma ruku-rad-ɨp?*
    food MD-NOM stay-3SG.IPST MD-ACC NEG see-2PL.IPST-CTR
    'Don't you guys see the food that's there?'

I now turn to a discussion of each of the suffixes that determiners take.

2.3.6.1. Nominative –b

The nominative suffix *-b* simply signals that its noun phrase is the subject of the clause (81). When it is followed by the declarative enclitic *=a* (see §2.9.2) it can be difficult to distinguish from the locative suffix *–ba* (82).

(81) *Vu-s=a, nadi añɨŋa kai **inɨ-b** ŋar-ura-ma-g.*
    go-3SG.DS=INT woman two LOC **ND-NOM** speak-PL-PST-3.FAR
    'It went, and these two women spoke.'

(82) *Nadi mu **ka-b=a,** ihɨr=ɨk vaca tak miŋa-s ñitaka-ma-g.*
    woman SPEC **MD-NOM=INT** child=ACC one only get-3SG.DS get.up-PST-3SG.FAR
    'A woman had one child.'

2.3.6.2. Accusative –n

The accusative suffix *-n* indicates that its noun phrase is the object of the clause (83), or fulfills one of the other functions that accusative case fulfills (84). (See §2.1.3 for an overview of the different functions of accusative case.)

(83) *Yadama-s=a, as bɨ humɨn **ka-n** ig-ura-ma-g.*
    mock-3SG.DS=INT so 3.NOM k.o.sugar **MD-ACC** give-PL-PST-3.FAR
    'She mocked (them), so they gave (her) *humɨn*.'

(84) ***Inɨ-n** pɨ.*
    ND-ACC house
    'This is a house.'

For some speakers, the near deictic *inɨ-* is pronounced *ini-* when it is in accusative case (85).

(85) *As   ayaga   **ini-n**   asvata-ma-g.*
     so   sago   **ND-ACC**   lick-PST-3SG.FAR
     'So it licked the sago.'

2.3.6.3. Benefactive –mad

The benefactive suffix *–mad* (cognate with the postposition *mad*) indicates that its noun phrase (or it itself) stands in a benefactive relation to the predicate.

(86) ***Ka-mad***   *pri=k*   *iva-rh-ur-id.*
     MD-BEN   dog=ACC   hit-HAB-PL-3.PRS
     'That's why they hit dogs.'

2.3.6.4. Locative –ba *and Setting –*i

There are two locative suffixes, *–ba* and *–i*, which have quite similar meaning. The exact distinction is not clear, but *–ba* may refer to specific places, perhaps conceived of as bounded wholes—it is the only form used with place names (125)—and *–i* may be used with more generic settings, not conceived of as bounded (88). It is the only form used for questions (89). The fact that the form *ka-i* 'MD-SET' has grammaticalized into the locative/instrumental postposition *kai*, and has acquired many additional functions, complicates the analytical task.

(87) *Asik   Soheram   **ka-ba**   vu-n ...*
     again   Sogeram   **MD-LOC**   go-2/3.SS
     'They went back to the Sogeram (River) and ...'

(88) *Hup   tak   **tu-i**   vu-n,   var   siva-m-d   ara-ma-g.*
     place   only   **FD-SET**   go-2/3.SS   indeed   mow-2SG.IMP-?   say-PST-3SG.FAR
     '"Go clear a place (for a house) over there," she said.'

(89) *Hɨm-ɨn   **ba-i**   añɨg-itɨh-ɨn=a?*
     die-2SG.DS   **QD-SET**   dig-FFUT-1SG=INT
     '(If) you die, where will I bury you?'

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Areally, it appears to be common to make these sorts of locative distinctions in determiners. Harris (1990: 103ff.), in his discussion of a similar determiner system in Nend, describes a generic 'setting' form which contrasts with a more specific 'locative/instrumental' form. And Wade (1989: 124ff.) describes 'definite location' and 'location of object' forms for Apalɨ.

2.3.6.5. Possessive –bak, –banɨk, and –barad

There are three possessive suffixes. One, –*barad*, clearly indicates that the possessor is plural (90). The difference between the other two is less clear, and I suspect that –*bak* is a fast-speech reduced form of –*banɨk*. Both are preferred with singular possessors, as in (91) and (92), but both can also occur with plural possessors, as in (93) and (94). The best analysis seems to be that –*bak* and –*banɨk* are two variants of one possessive suffix, and that this suffix is neutral with regard to the number of the possessor. When speakers wish to mark the possessor as plural, though, they can use –*barad.*

(90) *Azɨ=k   inɨ-n   ram-in   ini-n,   arum   hava   **ka-barad.***
     decoration=ACC   ND-ACC   put-1SG.IPST   ND-ACC   big   group   **MD-POSS.PL**
     'This decoration that I'm wearing here is our ancestors.''

(91) *Inɨ-n   him   **ka-bak**   vana,   him   kɨd   vana.*
     ND-ACC   k.o.grass   **MD-POSS**   speech   k.o.grass   CHAR   speech
     'This is the *him* grass's talk, the talk about *him* grass.'

(92) ***Inɨ-banɨk***   *mɨt=ɨk   inɨ-ba.*
     ND-POSS   bag=ACC   ND-LOC
     'This guy's bag is here.'

(93) *Sud   **ka-bak**   yaba   ka-n   ñ-ur-id.*
     white.person   **MD-POSS**   water   MD-ACC   eat-PL-3.IPST
     'They're drinking white people's water (i.e., beer).'

(94) Sud   **ka-banɨk**   yaba   ka-n   ña-n   kih-ur-id
     white.person **MD-POSS**   water MD-ACC   eat-2/3.SS do.thus-PL-3.IPST

     abiv-ur-id=a.
     fight-PL-3.IPST=INT
     'They're drinking white people's water and fighting.'

2.3.6.6. Adjectival –nɨgɨm and –nɨgibum

The comparative suffix *–nigɨm* creates a word that means 'like that' or 'that kind.' The emphatic form means 'exactly like that' and is transparently formed with the adjective *ibum* 'real, true,' but I gloss it as one morpheme. The suffix *–nigɨm* is derivational; forms with it do not function as determiners, but rather as adjectives. They can either follow a noun as an attributive adjective (95), or stand alone (96), but the fact that they occur with other determiners reveals that they are not determiners themselves. For this reason they are glossed 'ADJZ.' Note that the near forms remove the initial /nɨ/ from the suffix, while the other forms do not (97).

(95) *Na*   *vana*   **ini-gɨm**=ɨk   *miŋatam-itiha-nad=ik,* *a,* *nɨ*   *urum* *ibɨd*
     and   speech **ND-ADJZ**=ACC hear-FFUT-2SG=ACC ah 2SG.ACC man good

     ñ-itiha-nad=a.
     stay-FFUT-2SG=INT
     'And if you'll listen to this kind of talk, oh, you'll be a good man.'

(96) **Ini-gɨm**   *ini-mad*   *ŋara-rh-in.*
     ND-ADJZ   ND-OBL   say-HAB-1SG.PRS
     'I keep telling you about this sort of thing.'

(97) **Ka-nɨgɨm**   *ka-n*   *akuru-da-r-ma-r.*
     MD-ADJZ   MD-ACC   carry-walk-HAB-PST-1PL.HIS
     'We used to carry that sort of thing around.'

When used attributively, it can either precede or follow the noun, as shown in the adjacent lines from one story in (98). It is unclear what the difference in meaning is, if any.

(98) *Hiki*   **ini-gim**=ik,   *ma*   *ruku-rh-id-ip=o,*   *nid*   *kad-ura-ma-g.*
      custom   **ND-ADJZ**=ACC   NEG   see- HAB-3SG.PRS-CTR=Q   2/3DU   talk.so-PL-PST-3.FAR

      Ini-gim   *hiki=k*   *ma*   *ruku-rh-id-ip=o?*
      ND-ADJZ   custom=ACC   NEG   see-HAB-3SG.PRS-CTR=Q
      '"Does he not know about this kind of custom?" they asked. "Does he not know
      about this kind of custom?"'

2.3.6.7. Temporal –ñɨŋar

The temporal suffix *-ñɨŋar* forms temporal words. It occurs twice in my corpus, both times

with the postposition *kai* (118). I also elicited the form *ka-ñɨŋar* 'then, at that time,' but this

suffix cannot be used with either of the other determiner roots.

(99) *A-vɨ*   *rudi-b,*   **ba-ñɨŋar**   *kai* *ai-tɨh-ur-id=a?*
      1.POSS-uncle   PL-NOM   **QD-TEMPORAL**   LOC   come-FFUT-PL-3=INT
      'When will my uncles come?'

2.3.6.8. Quantity –ñas

The quantity suffix *–ñas* appears on the interrogative determiner and forms a word

meaning 'how much' or 'how many.' It is unclear whether it functions as a determiner or

some other word class.

(100) *Zɨ*   *akai,* **ba-ñas**   *mɨŋ-in,*   *pas*   *vaga=k?*
      1SG   COMP   **QD-QUANTITY**   get-1SG.IPST   banana   leaf=ACC
      'How many papers have I already taken?'

2.3.6.9. Personal –nɨp

The personal suffix *-nɨp* creates a noun meaning 'those people' that occurs with

determiners (101). As with the other /n/-initial determiner suffix, with the near deictic the

initial /nɨ/ is elided (102).

(101) *Zɨ*   *Madaŋ*   *da-z*   *ai-z*   *asik*   **ka-nɨp**   *ka-ba*   *ruku-z …*
      1SG   Madang   walk-1.SS   come-1.SS   again   **MD-people**   MD-LOC   see-1.SS
      'I was in Madang and I came and saw them there again and …'

(102) *Am*   *ruku-ñɨ-m-d*   *ara-ma-g.*   **Ni-p**   *ini-n*   *ara-ma-g.*
2.NOM   see-stay-2SG.IMP-?   say-PST-3SG.FAR   **ND-people**   ND-ACC   say-PST-3SG.FAR
'"You watch over them," she said. "Over these people," she said.'

2.4. Noun Phrase Structure

In this section I first present a description of basic noun phrases, defined as noun phrases which are headed by nouns. I then discuss noun phrases which lack head nouns, followed by noun phrase coordination.

2.4.1. Basic Noun Phrases

Basic noun phrases are headed by a noun, and their structure is as follows:

(Poss)   (PP)   (N$_{\text{ATTRIB}}$) N$_{\text{HEAD}}$ (Adj)   (Det)

That is, a possessor comes first, followed by a postpositional phrase, an attributive noun, a head noun, an adjective, and a determiner. Every item is optional except for the head noun, which is only required because of my definition of a 'basic' noun phrase. In the following sections I discuss each position in turn.

2.4.1.1. Possessors

Pronominal possessors precede the head noun (103). Proper noun possessors are followed by a possessive pronoun that marks the possession (104), and inalienable noun possessors can employ the same strategy (105) or they can use a possessive suffix (106). Common noun possessors use a possessive determiner instead (107).

(103) **barad**   *mit*
     3PL.POSS   bag
     'their bag'   Elicited

(104) **Aŋarihɨn**   **banɨk**   *nadi*   *kad,*   *amuna=k*   *miŋa-n ...*
  Aŋarihɨn   3SG.POSS   woman   BEN   stomach=ACC   get-2/3.SS
  'They were sorry (lit. 'held their stomachs') about Aŋarihɨn's wife and ...'

(105) *Arid*   *a-sɨhat*   **barad**   *vana*   *hiki*   *kanke-n*
  1PL.POSS   1.POSS-grandmother   3PL.POSS   speech   custom   thus-2/3.SS

  ñɨŋ-id.
  stay-3SG.IPST
  'Our ancestors' story is like that.'

(106) **Na-van-ɨbak**   *abɨ*   *kai*   *ñ-itɨha-nad=ɨk ...*
  2.POSS-father-POSS   presence   LOC   stay-FFUT-2SG-ACC
  'If you'll stay in your fathers' presence ...'

(107) *Inɨ-n*   *him*   **ka-bak**   *vana,*   *him*   *kɨd*   *vana.*
  ND-ACC   k.o.grass   MD-POSS   speech   k.o.grass   CHAR   speech
  'This is the *him* grass's talk, the talk about *him* grass.'

If the possessed noun is possessed inalienably, the possessor does not occur with a marker of possession (i.e., a possessive pronoun or possessive suffix); this is illustrated with a proper noun in (108) and an inalienably possessed noun in (109).

(108) *Amɨŋ-ɨb=a*   *Dokas-ɨb*   **Deñel**   *vɨkɨn-ɨb=a,*
  mother.1.POSS-NOM=INT   Dorcas-NOM   Daniel   wife.3.POSS-NOM=INT

  yadama-ma-g   *humɨn*   *kad.*
  mock-PST-3SG.FAR   k.o.sugar   BEN
  'Mother Dorcas, Daniel's wife, mocked (someone) for (i.e., in order to get) *humɨn*.'

(109) **Na-hav**   *vɨkɨn-ɨb*   *ba-y=a?*
  2.POSS-uncle   wife.3.POSS-NOM   QD-SET=INT
  'Where's your uncle's wife?'   Elicited

The fact that the possessor comes before the attributive noun is shown by (110) and (111).

(110) **Amɨnak**   *map*   *asi*   *kai*   *ruku-m-d.*
  2SG.POSS   head   knowledge   LOC   see-2SG.IMP-?
  'Look into your knowledge.'

(111) *Na-mɨn-ɨbak*   *adam   rɨk   kai   d-itɨha-nad.*
      2.POSS-mother-POSS   leg   area.below   LOC   walk-FFUT-2SG
      'You'll walk in the area under your mother's leg (i.e., you'll obey her).'

2.4.1.2. Postpositional Phrase

Postpositional phrases can modify the head noun, as illustrated in (112). Like other

constituents in the noun phrase, they can also occur on their own (113). It is unclear what

the relative order of the possessor and the postpositional phrase is within the noun phrase,

since they never co-occur in the corpus, and it is also unclear whether postpositions other

than *kɨd* can occur in this function.

(112) *pɨ   kɨd   ayaga vaga*
      house CHAR   sago   leaf
      'sago thatch (lit. 'sago leaves for houses')'   Elicited

(113) *Apar   kɨd   ka-b   tu-ba   ak-ura-s~akuras …*
      mountain CHAR   MD-NOM   FD-LOC   go.up-PL-3.DS~SIM
      'The ones from the mountain were going up over there and …'

2.4.1.3. Attributive Nouns

Nouns can modify other nouns attributively; in this function they precede their head noun

(114). Proper nouns (115) and inalienably possessed nouns (116) can also occupy this

position, and it appears that the latter take the case suffix of the head noun.

(114) *Ka-ba   aba-hum-ura-ma-g   **tɨga**   abra   ka-ba.*
      MD-LOC   ?-die-PL-PST-3.FAR   **canoe** place   MD-LOC
      'They all perished there, in the canoe place.'

(115) *Akei   ka-ba   ñɨŋ-ura-s~ñɨŋuras=a,   **Yabob**   harama   ka-ba …*
      okay   MD-LOC   stay-PL-3.DS~SIM=INT   **Yabob**   side   MD-LOC
      'Okay, while they were staying there, by the side of Yabob …'

(116) *Avaŋ-ɨb*   *Askay-ɨb   ŋara-s~ŋaras   mɨŋatama-ma-ŋin.*
      father.1.POSS-NOM   Askay-NOM   speak-3SG.DS~SIM hear-PST-1SG.FAR
      'My father Askay would talk and I would listen.'

It is possible for attributive nouns to have nested structure, as in (117), where *win* modifies *visa*, and *win visa* modifies *mɨkɨñ*. However, it does not appear that full noun phrases can occur in this position in the noun phrase.

(117) **Win**   *visa*   *mɨkɨñ*   *ka-n*   *aku-da-rat-rɨ.*
      k.o.tree   **skin**   fishing.net   MD-ACC   carry-walk-HAB-1PL
      'We carry *win* bark fishing nets around.'

The semantics the attributive position sometimes resemble those of the possessive position (118).

(118) *Ar*   *ruku-rha-r*   *ag=a,*   **añɨŋu**   *maza=k=a.*
      1PL   see-HAB-1PL.PRS   FOC=INT   **man**   nose=ACC=INT
      'We see the man's face (lit. 'nose') too.'

2.4.1.4. Head Noun

The head noun follows the attributive noun and precedes the attributive adjective (119). This position in the noun phrase does not allow complex structure; only one noun can occupy it.

(119) *Ŋamañ*   **avat**   *ibɨd*   *kai*   *avan,*   *akuru-vu-z=a,*   *akuña-rat-rɨ.*
      fish   **swamp**   good   LOC   very   carry-go-1.SS=INT   net.fish-HAB-1PL
      'We take it right to a good fish swamp and we fish.'

2.4.1.5. Adjectives

Attributive adjectives follow their head nouns (120), unlike attributive nouns, which precede them. Recall from §2.3.2.4 above that quantifiers also function like attributive adjectives (121), and that adjectives can be repeated for emphasis (122).

(120) *Had*   *ibra*   **nɨm**   *kad*   *da-rha-r.*
      now   work   **big**   BEN   walk-HAB-1PL.PRS
      'Now our work is big (lit. 'we walk for big work').'

(121) *Urum   ñiŋi   ka-n   rapra-ma-g.*
     man   **all**   MD–ACC   wait.for-PST-3SG.FAR
     'He waited for all the men.'

(122) *As   yaba   **kris kris**   inɨ-n   ñ-ur-id.*
     so   water   **bad bad**   ND–ACC   eat-PL-3.IPST
     'So they're drinking this very bad water (i.e., beer).'

It appears that adverbs cannot occur within the noun phrase to modify attributive adjectives (123). Rather they occur outside the noun phrase and their scope is ambiguous (124). Additionally, I have not found any examples in my corpus of more than one attributive adjective in a noun phrase.

(123) **Pɨ   ibɨd   **avan**   kai   ñɨŋ-in.*
     house   good   **very**   LOC   stay-1SG.IPST
     'I'm in a very good house.'

(124) *Pɨ   ibɨd   kai   **avan**   ñɨŋ-in.*
     house   good   LOC   **very**   stay-1SG.IPST
     'I'm in a very good house.' OR 'I'm truly in a good house.'   Elicited

2.4.1.6. Determiners

Determiners occur at the end of the noun phrase and mark its relation to the rest of the clause. As described in §2.3.6 above, this relation can be core (125) or oblique (126). The determiner can also be the accusative enclitic *=k*, which attaches to the last element in the noun phrase (127).

(125) *Sa   rum   **inɨ-b**   mat   kad   ai-n   bata-ñɨŋ-id=a?*
     hey   man   **ND-NOM**   what   BEN   come-2/3.SS   sit-stay-3SG.IPST=INT
     'Hey, what did this man come sit down for?'

(126) *Avat   **inɨ-ba**   apɨh-id   ar-ura-ma-g.*
     swamp   **ND-LOC**   go.downstream-3SG.IPST   say-PL-PST-3.FAR
     '"He went down to the swamp," they said.'

(127) *As   vad   ñiŋi=k,   miɡra-n   ai-n …*
     so   tree   little=**ACC**   cut-2/3.**SS**   come-2/3.**SS**
     'So he cut the little trees and came and …'

2.4.2. Noun Phrases without Head Nouns

It is possible for noun phrases to be formed without a head noun. These noun phrases can be formed with determiners (§2.4.2.1) or pronouns (§2.4.2.2).

2.4.2.1. Determiner Noun Phrases

Determiners can stand in for a noun phrase anaphorically. This is most common with locative determiners, as in (128) and (129), but can also occur with other determiners, as shown in (130) and (131).

(128) ***Ka-ba***   *ñɨ-n*   *tas.*
     MD-LOC   stay-2/3.**SS**   enough
     'They stayed there and that was it.'

(129) *Vupar-ɨn*   *vu-s*   ***tu-i***   *rama-m-d.*
     push-2SG.**DS**   go-3SG.**DS**   **FD-SET**   put-2SG.**IMP**-?
     'Move it over there (lit. 'push it and it goes and put it over there').'

(130) ***Inɨ-b***   *yaba*   *ka-n*   *ña-s~ñas …*
     ND-NOM   water   MD-ACC   eat-3SG.DS~SIM
     'This one's drinking beer ('water') and …'

(131) *Am*   *upas*   ***itu-n***   *igu-m.*
     2.NOM   banana   **FD-ACC**   give-2SG.IMP
     'Give them bananas.'   Elicited

There are also some adjectives that can function nominally, such as *arum* 'big,' which means 'ancestor' when used in this way (132).

(132) *Arɨd=a,*   ***arum***   *ka-b*   *ki-r-m-id.*
     1PL.POSS=INT   **big**   MD-NOM   do.thus-HAB-PST-3SG.HIS
     'Our ancestors used to do that.'

Very rarely, a possessive pronoun will be used without a noun, in which case a generic nominal meaning like 'people,' as in (133), is understood.

(133) *Na   ki-s   **arɨd   ka-b**   asik   Ñavi   pak-ura-ma-g.*
and   do.thus-3SG.DS   **1PL.POSS   MD-NOM**   again   Ñavi   come.across-PL-PST-3.FAR
'And therefore our (people) came back to Ñavi.'

2.4.2.2. Pronominal Noun Phrases

Noun phrases can be headed by pronouns, in which case they have relatively little structure. They have only been found modified by the adverbs *=avan* 'very' (134) and *=emtak* 'alone' (135), both of which cliticize to the pronoun (cf. also §2.3.4 above).

(134) *Bɨ   ŋara-ma-g,   **z=avan**   ara-ma-g=a.*
3.NOM   speak-PST-3SG.FAR   **1SG=very**   say-PST-3SG.FAR=INT
'She said, "It was *me*."'

(135) *Amɨŋ,   amiñ   **z=emtak**   mɨga-ñɨ-ŋɨn.*
mother.1.POSS   yesterday   **1SG=alone**   come.down-stay-1SG.RPST
'Mother, yesterday I slept alone.'

2.4.3. Noun Phrase Coordination

Nouns can be coordinated in one of two ways: by simple juxtaposition, and with the comitative postpositions *sɨhun* and *rɨs*.

Coordination can occur in a variety of ways. Examples (136) and (137), from the same text, both contain two coordinated kin terms which refer to a woman's parents-in-law, and which are an expression for 'ancestors.' In (136), they are separated intonationally, and the first word is not case-marked. In (137), they are not separated intonationally but both are case-marked. In (138), from a different text, the two coordinated items are separated intonationally and only the first is case-marked.

(136) *Arɨd,*   *a-ñɨŋ,*   *a-pas-ɨb=a*
      1PL.POSS   1.POSS-father.i.l   1.POSS-mother.i.l-NOM=INT

      ki-rh-ura-m-id.
      do.thus-HAB-PL-PST-3SG.HIS
      'Our ancestors used to do that.'

(137) *Arɨd=a,*   *a-pas-ɨb*   *a-ñɨŋ-ɨb*
      1PL.POSS=INT   1.POSS-mother.i.l-NOM   1.POSS-father.i.l-NOM

      akuru-da-rh-ura-m-id.
      carry-walk-HAB-PL-PST-3.HIS
      'Our ancestors used to carry (that) around.'

(138) **Avaŋ-ɨb,**   **tasaŋ**   **rudi,**   *kwarɨk=ɨk*   *mɨŋa-n*
      father.1.POSS-NOM   **brother.1.POSS**   PL   bandicoot=ACC   get-2/3.SS

      akune-n ...
      bring-2/3.SS
      'Our fathers and brothers catch bandicoots and bring them and ...'

Nouns can also be coordinated with comitative postpositions (139). As mentioned in §2.3.5 above, the postposition *sɨhun* is used with common nouns, and *rɨs* is used with proper and inalienably possessed nouns. It appears that a noun coordinated with *sɨhun* takes 3SG agreement, presumably as a default; note the singular agreement on *ipakus* in (139) and on *aisa* in (140). However, nouns coordinated with *rɨs* do appear to form part of the subject for purposes of verb agreement. Example (141) was said to one person, and the verb *anakurad* is marked for plural agreement.

(139) *Mav=ɨk*   *mam*   **sɨhun**   *mɨgra-s*   *ipaku-s ...*
      loincloth=ACC   grass.skirt   COM   cut-3SG.DS   go.across-3SG.DS
      'He cut the loincloth and the skirt and they went to the side and ...'

(140) *Pri*   *arum*   **sɨhun**   *ai-s=a,*   *akai*   *pri*   *ka-b*   *ruku-n ...*
      dog   big   COM   come-3SG.DS=INT   okay   dog   MD-NOM   see-2/3.SS
      'He came with a big dog and the big dog saw (her) and ...'

(141) *Am   na-ma-b   **ris,**   mat   vana   ka-n   anaku-rad?*
2.NOM 2.POSS-husband-NOM **COM** what speech MD-ACC talk-2PL.IPST
'What are you and your husband talking about?'

'Or' coordination is expressed with the Tok Pisin loanword *o* (142), which is also used to coordinate clauses in this way, as in (143) and (144).

(142) *Nadigam   **o**   añɨŋi ihɨr   akad?*
daughter **or** boy   child   maybe
'(Is this) a boy or a girl?'

(143) *Am   ai-traka-nad,   **o,**   v-ɨtraka-nad?*
2.NOM come-IFUT-2SG   **or**   go-IFUT-2SG
'Will you come or will you go?'   Elicited

(144) *Mɨna ka-b   prɨhar-ɨtrak-id **o** manat akad   ara-rat-ur-id.*
pig   MD-NOM flee-IFUT-3SG **or** no   maybe say-HAB-PL-3
'"Will a pig run out or not?" they ask.'

2.5. Verb Morphology

Verbs are the most morphologically complicated word class. It is convenient to divide verb morphology into two main types: final morphology and medial morphology. These distinctions describe the function of a verb in the switch-reference and clause chaining system (§2.8.1; see also Roberts 1997). Each verb (aside from the medial-only verbs discussed in §2.3.1.1) can be marked with both kinds of morphology, and verbs marked this way are called final verbs and medial verbs, respectively. In short, final verbs are marked for a wide range of TAM distinctions, as well as person agreement. Medial verbs acquire this TAM information, and to a certain extent the person information, from final verbs, and are themselves only marked for switch-reference and relative tense.

Manat verb morphology can be schematized as follows:

stem   (FUT, HAB)   (PL)   (PST)   AGR   (CTR)

The verb stem comes first. The future tense and habitual aspect suffixes (which do not co-occur) precede the plural suffix. The plural suffix (described below) follows, and the past suffix *-ma* comes next. The agreement suffix is usually the last morpheme, unless the contrastive suffix *-ip* is present.

In the first and second persons, there is a separate subject agreement suffix for singular and for plural. In the third person, however, subject agreement is discontiguous. The singular is marked with a particular suffix, and the plural is marked by the plural suffix *-ura* in conjunction with this suffix. The two far past verbs in (145) illustrate this.

(145) *Ai-ma-g.*   *Aih-ura-ma-g.*
      come-PST-3SG.FAR   come-PL-PST-3.FAR
      'S/he came.'   'They came.'

There are five sets of agreement affixes. Three—the imperative, prohibitive, and different-subject sets—are unique to their TAM category. Another, the past set, is used with three TAM categories that all have past time reference. The last, termed the 'basic' agreement set, is used with every other TAM category.

Table 14. Manat subject agreement suffixes

	1SG	2SG	3SG	1PL	2PL	3PL	TAM categories
Basic	*–in*	*–nad*	*–id*	*–r*	*–rad*	*–ur-id*	immediate past, historic past, immediate future, far future, *-rat* habitual, present habitual, historic past habitual
Past	*–ŋin*	*–ŋinad*	*–g*	*–gir*	*–grad*	*–ura-g*	recent past, far past, recent past habitual
Imperative	*–itiŋ*	*–m*	*–s*	*–raŋ*	*–mar*	*–ura-s*	imperative
Prohibitive		*–imin*	*–inad*		*–imir*	*–inad-ur-id*	prohibitive
DS	*–it*	*–in*	*–s*	*–r*	*–ir*	*–ura-s*	different-subject

Frequently, the choice of a particular agreement set will contribute tense information. So for example, in the absence of a tense suffix, the basic and past agreement suffixes are interpreted as immediate and recent past, respectively (146). But in the presence of the past tense suffix –*ma*, they are interpreted as historic and far past (147).

(146) *Aih-in.*   *Ai-ŋin.*
     come-1SG.IPST   come-1SG.RPST
     'I came (just now).'   'I came (recently).'

(147) *Ai-m-in.*   *Ai-ma-ŋin.*
     come-PST-1SG.HIS   come-PST-1SG.FAR
     'I came (long, long ago).' 'I came (long ago).'

Note also that although dual is distinguished from plural in some pronouns, it is not distinguished in verb agreement; non-singular subjects all take plural verb agreement (148).

(148) *Had,* **nad** *vu-z*   **miga-ñ-itiha-r,**   *pɨ*   *ibɨd* *kai.*
     now   **1DU** go-1.SS **come.down-stay-FFUT-1PL** house good LOC
     'Now, we'll go sleep in a good house.'

I now turn to a discussion of each individual TAM category, beginning with final morphology (§2.5.1) and continuing with medial morphology (§2.5.2) before discussing morphology which cannot be classified as either medial or final (§2.5.3).

2.5.1. Final Morphology

Final morphology distinguishes twelve TAM categories: two future tenses (immediate and far), four past tenses (immediate, recent, far, and historic), four habitual tense-aspects (present, middle past, historic past, and another called the –*rat* habitual), imperative mood, and prohibitive mood.

2.5.1.1. Immediate Future Tense

The immediate future is formed with the suffix *–itraka* (pronounced *-itaka* for some speakers) followed by the basic subject agreement suffixes, as shown in Table 15 and exemplified in (149) and (150) below.

Table 15. Immediate future tense suffixes

	SG	PL
first person	*–itrak-in*	*–itraka-r*
second person	*–itraka-nad*	*–itraka-rad*
third person	*–itrak-id*	*–itrak-ur-id*

(149) *Inɨ-ba* **him-itaka-nad,** *inɨ-n* *maŋa=k* *manat* *ara-ma-g.*
ND-LOC **die-IFUT-2SG** ND-ACC ground=ACC no say-PST-3SG.FAR
'"You'll die here, (but) there's no ground here," he said.'

(150) *Na* *ai-n* **rik-itak-ur-id** *Don=ɨk.*
and come-2/3.SS **see-IFUT-PL-3** Don=ACC
'And they'll come look at Don.'

This suffix can also be used as an infinitive suffix, as described in §2.5.3.1.

2.5.1.2. Far Future Tense

The far future tense is formed with the suffix *–itɨha* and the basic subject agreement suffixes.

Table 16. Far future tense suffixes

	SG	PL
first person	*–itɨh-in*	*–itɨha-r*
second person	*–itɨha-nad*	*–itɨha-rad*
third person	*–itɨh-id*	*–itɨh-ur-id*

(151) *Map=ɨk* *mɨr-in* *mɨga-s* **d-itɨha-nad.**
head=ACC lower-2SG.DS come.down-3SG.DS **walk-FFUT-2SG**
'You'll lower your head and walk around (i.e., walk around humbly).'

(152) *Abrus   himñav kad **v-itiha-rad=a?***
    tomorrow song   BEN go-FFUT-2PL=INT
    'Will you guys go to the festival tomorrow?'

Because both future tense suffixes begin with an element *–it*, it would be possible to split each of them into two suffixes. Under this analysis, *–it* 'FUTURE' would combine with *-raka* 'NEAR' and *–iha* 'FAR' to form the two different future tenses. However, because *–itraka* and *–itiha* are always contiguous (they are never separated, for example, by the plural suffix), I prefer to gloss them as single morphemes for space reasons.

Although the labels 'immediate' and 'far' suggest that the difference between these two future tenses is in their time reference, that is not certain; the exact distinction between the two remains elusive. It does appear, though, that the *–itraka* future is used with events that are thought to be more certain (153) or more imminent (154), while the *–itiha* future is used with events that are more uncertain (155) or distant (156). It is also the preferred tense for future questions (157), although questions with *–itraka* do occur.

(153) ***Miŋatam-itak-ur-id,***   o   Don-ɨb   akai=a,   Vɨni ai-g=a.
    hear-IFUT-PL-3   oh Don-NOM COMP=INT Vɨni come-3SG.RPST=INT
    'They'll hear, "Oh, Don has come to Vɨni."'

(154) *Him   kɨd   vana   ka-n   **ŋarei-trak-in.***
    grass.sp CHAR speech MD-ACC   follow-IFUT-1SG
    'I'll tell the story about *him* grass.'

(155) *Na   vana   ini-gɨm=ɨk   **miŋatam-itiha-nad=ɨk,***   a,   nɨ   urum   ibɨd
    and   speech ND-ADJZ=ACC   hear-FFUT-2SG=ACC   ah   2SG.ACC   man   good

    ñ-itiha-nad=a.
    stay-FFUT-2SG=INT
    'And if you'll listen to this kind of talk, oh, you'll be a good man.'

(156) *Abrus,   tɨp   ka-n   **migr-itih-in**   ara-ma-g.*
    tomorrow   post MD-ACC   cut-FFUT-1SG   say-PST-3SG.FAR
    '"Tomorrow I'll cut the houseposts," he said.'

(157) *A-vɨ*   *rudi-b,*   *ba-ñiŋar*   *kai*   **ai-tɨh-ur-id=a?**
      1.POSS-uncle   PL-NOM   QD-TEMPORAL   LOC   **come-FFUT-PL-3=INT**
      'When will my uncles come?'

2.5.1.3. Immediate Past Tense

The immediate past tense is formed with only the basic agreement suffixes.

Table 17. Immediate past tense suffixes

	SG	PL
first person	*–Ø-in*	*–Ø-r*
second person	*–Ø-nad*	*–Ø-rad*
third person	*–Ø-id*	*–Ø-ur-id*

The temporal range of the immediate past extends from the morning of the day of the speech act (158) up to and including the present moment (159).

(158) *Avaŋ=k*   *akɨmɨn*   *kai*   **rɨk-in**   *ara-ma-g.*
      father.1.POSS=ACC   dream   LOC   **see-1SG.IPST**   say-PST-3SG.FAR
      '"I saw my father in a dream," he said.'

(159) *Mat*   *kad*   **kankiha-rad**   *ar-ura-ma-g.*
      what   BEN   **do.that-2PL.IPST**   say-PL-PST-3SG.FAR
      '"Why are you guys doing that?" they said.'

2.5.1.4. Recent Past Tense

The recent past tense is formed with the past agreement suffixes by themselves. It refers to events from the day before the speech act, like (160), which was said the day after my arrival in the village, to a few years before the speech act, like (81), which was said during my 2010 fieldwork.

Table 18. Recent past tense suffixes

	SG	PL
first person	*–Ø-ŋin*	*–Ø-gɨr*
second person	*–Ø-ŋɨnad*	*–Ø-grad*
third person	*–Ø-g*	*–Ø-ura-g*

(160) *Don-ɨb*   *ai-s=a,*   *zɨ*   **ŋara-ŋin.**
       Don-NOM   come-3SG.DS=INT   1SG   **speak-1SG.RPST**
       'Don came and I spoke.'

(161) *Vana*   *ibɨd*   *ini-n*   *tutausenfaif kai,*   **ara-ŋin.**
       speech   good   ND-ACC   2005   LOC   **say-1SG.RPST**
       'I said these good things in 2005.'

2.5.1.5. Far Past Tense

The far past is formed with the past suffix *-ma* and the past agreement suffixes. The plural suffix *-ura* precedes *-ma*.

Table 19. Far past tense suffixes

	SG	PL
first person	*-ma-ŋin*	*-ma-gɨr*
second person	*-ma-ŋinad*	*-ma-grad*
third person	*-ma-g*	*-ura-ma-g*

The range of this tense extends from a few years ago to historical time. Example (162) illustrates the border between the recent and historical past tenses. It concerns a reciprocal feast that was held for the speaker's clan, which they did not reciprocate quickly. The first sentence describes the first feast, which took place one or two years before the speech act and is described in the far past tense. The second sentence describes the passage of one year between the two feasts, and is also in the far past. The third sentence, in the recent past, describes the reciprocal feast that the speaker's clan gave.

Example (163) is the first line from a legend about the first man, who reportedly lived seven generations before the speaker, and his mother.

(162) *Humɨn=ɨk*   *ña-z=a,*   *as* *ar* *ma* ***igu-ma-gɨr-ip,***   *babad.*
       k.o.sugar=ACC   eat-1.SS=INT   so 1PL NEG **give-PST-1PL.FAR-CTR**   quickly

       Ñɨ-n   *vu-n*   *vu-n*   *virbir ka-b*   *akai* *vaca tak*
       stay-2/3.SS   go-2/3.SS   go-2/3.SS   star   MD-NOM   COMP   one just

ñi-ma-g.   *Akei*   *tutausenten*   *kai*   *amiŋ-ɨb=a*   *asik,*
stay-PST-3SG.FAR   okay   2010   LOC   mother.1.POSS-NOM=INT   again

ŋamañ=ɨk   **igu-g.**
fish=ACC   **give-3SG.RPST**
'We ate *humɨn* and we didn't give (back) quickly. It (i.e., the situation) stayed and went and went and one year (lit. 'star') passed. Okay, in 2010 mother gave back fish.'

(163) *Nadi*   *mu*   *ka-b=a,*   *ihɨr=ɨk*   *vaca*   *tak*   *miŋa-s*   **ñitaka-ma-g.**
       woman   SPEC   MD-NOM=INT   child=ACC   one   just   get-3SG.DS   **get.up-PST-3SG.FAR**
       'A particular woman had one child, and he grew up.'

The time references of the different past tenses are flexible; compare (164) below with (81) above. (Both were said in 2010.) However, while these tenses do not have fixed time reference, they are fixed with regard to one another; that is, if the recent past and far past are used in the same context, as in (162), the recent past is always interpreted as having a more recent time reference than the far past.

(164) *Virbir=ɨk*   *tutauseneit*   *kai*   *ar*   *humɨn=ɨk*   **ña-ma-gɨr.**
       star=ACC   2008   LOC   1PL   k.o.sugar=ACC   **eat-PST-1PL.FAR**
       'In the year 2008 we ate *humɨn*.'

2.5.1.6. Historic Past Tense

The historic past tense is formed with the past suffix *–ma* and the basic agreement suffixes. It is a defective paradigm, occurring only in the first person singular and the third person.

Table 20. Historic past tense suffixes

	SG	PL
first person	*–m-in*	
second person		
third person	*–m-id*	*–ura-m-id*

This tense is very infrequent, but it appears to refer to time that cannot be reckoned, or perhaps that cannot be connected to the present genealogically. It can be used with sober

reflections on the human condition, as in (165). It is also sometimes used in legends, albeit rarely. Example (166) discusses the ancestors of Manat speakers, who lived in an ancient village called Uras. The first sentence is in the far past, and the second, which appears to refer to the same time period, is in the historic past. Although speakers accepted 1SG forms in this tense, it is unclear when such forms might be used.

(165) *Bra*   *sɨhun*   ***ai-m-id,***   *maŋa*   *ka-b.*
       work   COM   **come-PST-3SG.HIS**   ground   MD-NOM
       'The earth came with work.'

(166) *Manat*   *vana*   *inɨ-n*   *hɨd*   ***akun-aih-ura-ma-g.***
       no   speech   ND-ACC   go   **bring-come-PL-PST-3.FAR**

       Uras   *ai-n*   *ka-ba*   ***ñɨŋ-ura-m-id.***
       Uras   come-2/3.SS   MD-LOC   **stay-PL-PST-3.HIS**
       'They brought this Manat language. They came to Uras and stayed there.'

2.5.1.7. –rat *Habitual*

There are four habitual verb forms, three formed with the suffix *–rha*, which are marked for tense and are discussed in the following three sections, and one formed with the suffix *–rat*. The *–rat* habitual is a defective paradigm, existing only in the 2SG and plural forms, as shown in Table 21.

Table 21. *–rat* habitual suffixes

	SG	PL
first person		*–rat-rɨ*
second person	*–rat-nad*	*–rat-rad*
third person		*–rat-ur-id*

Attempts to construct the missing forms with 1SG and 3SG suffixes were rejected as ungrammatical, and attempts to elicit 1SG and 3SG forms were met with present habitual

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forms (see §2.5.1.8 below). This touches on another difficulty with this form: it is unclear

what the difference is between it and the present-tense *–rha* habitual.

The *–rat* habitual has present meaning, and is preferred in texts about procedures or

common events. Example (167) comes from a text about fishing nets, and (168) comes from

a text about a hunting method.

(167) *Akuru-vu-z   ŋamañ=ɨk akuña-z   ai-z,   **ña-rat-rɨ.***
     carry-go-1.ss fish=ACC net.fish-1.ss come-1.ss **eat-HAB-1PL**
     'We take (it) and catch fish in nets and come and eat.'

(168) *Mɨna ka-b   prɨhara-s=a,   o,   mɨna=k   **irɨbɨ-rat-ur-id.***
     pig   MD-NOM flee-3SG.DS=INT oh   pig=ACC   **shoot-HAB-PL-3**
     'If a pig runs out, oh, they shoot the pig.'

However, as (169), from a text about how sago is processed, shows, the present-tense

-rha habitual can also be used for this function.

(169) *Añɨŋu hava   ka-b   vu-n,   vɨha-n   pra-n*
     man   group MD-NOM go-2/3.ss chop-2/3.ss break.up-2/3.ss

     dɨ-rh-ur-id.
     process.sago-HAB-PL-3.PRS
     'The men go and cut it, break it up, and process it.'

One clue about the difference between these two forms comes from another text about

sago. In (170), the speaker describes the specific activities involved in processing sago with

the *–rat* habitual. Then he makes a comment about the general nature of their lives and

their work, and for this he switches to the present-tense *–rha* habitual. It may be, then, that

the present-tense *–rha* habitual has a more gnomic or generic connotation ('this is how

things are'), while the *–rat* habitual is more specific ('this is what we do in certain

situations'). However, counterexamples are not difficult to find, and the exact nature of the distinction between these two verb forms remains a matter for future research.

(170) *Ade-z=a,*   *asik*   *igi=k*   ***ragu-rat-ri,***
process.sago-1.SS=INT   again   palm.bark=ACC   clear-HAB-1PL

igi=k   ***ragu-rat-ri.***   Bra   nɨm   kad,   ***da-rha-r.***
palm.bark=ACC   clear-HAB-1PL   work   big   BEN   walk-HAB-1PL.PRS
'We process (the sago) and clear the bark again. We clear the bark. Our work is hard (lit. 'We walk for big work.').'

2.5.1.8. Present Habitual

The habitual verb forms that contain the suffix *–rha* distinguish three tenses, which I call 'present,' 'middle past,' and 'far past.' (I refer to each of the three *–rha* habituals by their time reference; thus this form is the 'present habitual,' even though the *–rat* habitual described above can also have present time reference.) The present habitual is formed with the habitual suffix *–rha* and the basic agreement suffixes.

Table 22. Present habitual suffixes

	SG	PL
first person	*–rh-in*	*–rha-r*
second person	*–rha-nad*	*–rha-rad*
third person	*–rh-id*	*–rh-ur-id*

As described above, the present habitual is used to describe general states of affairs (171) or specific activities that are currently done habitually (172). These are obviously two parts of a single coherent meaning, and one cannot truly separate them. For example, (173), said by a child about his mother, could be construed as describing a general state of affairs (especially if the child is unaware of how much work goes into providing food for him) or a more dynamic activity which his mother habitually performs.

(171) *Bɨ   arɨd   hiki=k   ma   **ruku-rh-id-ɨp.***
3.NOM 1PL.POSS road=ACC NEG **see-HAB-3SG.PRS-CTR**
'He doesn't know about our custom (lit. 'road').'

(172) *Ŋamañ=ɨk miŋa-z   akuña-z,   kɨdi kai   **rama-rha-r.***
fish=ACC get-1.SS net.fish-1.SS box LOC **put-HAB-1PL.PRS**
'We get fish, catch them with nets, and put them in boxes.'

(173) *Añɨŋa kai bum **sɨ-rh-id,**   ñaŋña vasi=k.*
two LOC real **set.out-HAB-3SG.PRS**   food plate=ACC
'She usually sets out just two plates of food.'

2.5.1.9. Middle Past Habitual

The middle past habitual is formed with the habitual suffix *–rha*, the past tense suffix *–ma*, and the past agreement suffixes. The habitual suffix is realized as *–r* in the presence of *–ma*, but in the 3PL the plural suffix *–ura* intervenes and the habitual suffix is realized as *–rh*. This verb form appears to refer to any past time in the speaker's lifetime.

Table 23. Middle past habitual suffixes

	SG	PL
first person	*–r-ma-ŋin*	*–r-ma-gɨr*
second person	*–r-ma-ŋinad*	*–r-ma-grad*
third person	*–r-ma-g*	*–rh-ura-ma-g*

(174) *Vana=k   var   **vupa-rh-ura-ma-g**   avan.*
speech=ACC indeed **push-HAB-PL-PST-3.MID**   very
'They would really be disobedient (lit. 'push speech').'

(175) *O,   ka-nɨgɨm ka-n   ma   **miŋatama-r-ma-gɨr-ip=a.***
oh MD-ADJZ MD-ACC NEG **hear-HAB-PST-1PL.MID-CTR=INT**
'Oh, we haven't ever heard that sort of thing.'

2.5.1.10. Historic Past Habitual

The historic past habitual is formed with the habitual suffix *–rha* (again realized as *–r* in the presence of *–ma*), the past suffix *–ma*, and the basic agreement suffixes. It refers to events from mythological time, such as what the ancestors' lives were like (176), or what the first

man used to do (177). It may also refer to more recent events from before the speaker's lifetime.

Table 24. Far past habitual suffixes

	SG	PL
first person	*–r-m-in*	*–r-ma-r*
second person	*–r-ma-nad*	*–r-ma-rad*
third person	*–r-m-id*	*–rh-ura-m-id*

(176) *Waid   waid=ɨk,   rum   hava   ka-b=a,   ayaga=k   ma*
old   old=ACC   big   group   MD-NOM=INT   sago=ACC   NEG

adɨ-rh-ura-m-id-ip.
process.sago-HAB-PL-PST-3.HIS-CTR
'Way way before, our ancestors didn't process sago.'

(177) *Hɨbɨma=k   miŋa-n,   azi=k   miŋa-n,   hɨmñav=ɨk   var*
drum=ACC   get-2/3.SS   decoration=ACC   get-2/3.SS   song=ACC   indeed

riva-r-m-id.
sing-HAB-PST-3SG.HIS
'He'd get his drum, get his decorations, and go sing.'

2.5.1.11. Imperative Mood

The imperative mood is formed with its own set of subject agreement suffixes, presented in Table 25. Note that the third person forms are identical to the different subject suffixes (§2.5.2.2). Those forms that end in a nasal sometimes also have an additional *–d.*

Table 25. Imperative suffixes

	SG	PL
first person	*–itiŋ(d)*	*–raŋ(d)*
second person	*–m(d)*	*–mar*
third person	*–s*	*–ura-s*

The second person forms are used to form the kinds of typical imperative commands shown in (178) and (179). The first and third person forms can be used, in conjunction with

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second person different-subject forms, to give similar directives to the interlocutor (180) or interlocutors (181). The third person forms can also be used as third person imperatives (182).

(178) *Vu-n   miŋa-n   ai-n   bata-m   ara-ma-g.*
       go-2/3.SS get-2/3.SS come-2/3.SS **sit-2SG.IMP** say-PST-3SG.FAR
       '"Go get it and come sit down," she said.'

(179) *Hɨbɨma=k   ini-b=a,   mayab=ɨk   ini-b=a,   akuru-vu-mar.*
       drum=ACC   ND-NOM=INT bird.sp=ACC ND-NOM=INT **carry-go-2PL.IMP**
       'This is the drum, these are the feathers, take them.'

(180) *Ei,   as   ŋar-ɨn   ipa-s   ara-ma-g.*
       hey so speak-2SG.DS **come.out-3SG.IMP** say-PST-3SG.FAR
       '"Hey, so tell him to come outside," he said.'

(181) *Ŋar-ɨr   miŋatam-itiŋ.*
       speak-2PL.DS **hear-1SG.IMP**
       'Talk and I'll listen.'

(182) *Gu-m-d.   Ruku-s.*
       give-2SG.IMP-? **see-3SG.IMP**
       'Give (it to him). He should see (it).'

As mentioned above, there is an additional *–d* that sometimes appears on those imperative suffixes that end in a nasal. It is unclear what meaning it contributes, if any.

(183) *Kanke-z=a   ñiŋa-raŋ-d=a.*
       thus-1.SS=INT **stay-1PL.IMP-?=INT**
       'We should be like that.'

(184) *A-vɨ   rudi-b   aih-ura-s,   zɨ   muru-m-d   ara-ma-g.*
       1.POSS-uncle PL-NOM come-PL-3.DS 1SG **wake.up-2SG.IMP-?** say-PST-3SG.FAR
       '"When my uncles come, wake me up," he said.'

Imperative verbs can have overt subjects in any person, including second person (185).

(185) *Nɨd   ñitaka-mar=a,   nadi   añɨŋa kai ka-b=a.*
       2/3DU **get.up-2PL.IMP=INT** woman two LOC MD-NOM=INT
       "You two get up, you two women.'

2.5.1.12. Prohibitive Mood

The prohibitive mood expresses a negative command, and is formed with the prohibitive subject agreement suffixes. There are no first person forms, and the 3PL form appears to be formed by analogy to other 3PL forms that end in *–ur-id* 'PL-3.'

Table 26. Prohibitive suffixes

	SG	PL
first person		
second person	*–imɨn*	*–imɨr*
third person	*–inad*	*–inadurid*

(186) *Pɨtɨvra-n   bat-imɨn=a.*
      squat-2/3.SS   sit-2SG.PROH=INT
      'Don't squat.'

(187) *Ayaga=k   ig-imɨr.*
      sago=ACC   give-2PL.PROH
      'Don't give (them) sago.'

As with the imperative, the subject of a prohibitive can occur in the clause, as with the metonymic example in (188).

(188) *Amuna   har   ka-b   yaba=k   ñ-imɨn.*
      stomach unripe MD-NOM water=ACC eat-2SG.PROH
      'You weak stomach(ed man), don't drink beer.'

2.5.2. Medial Morphology

Medial verbs are marked for switch reference and can be marked with a desiderative suffix, and different-subject verbs can be marked for relative tense. The switch reference marking indicates whether the subject of the switch-reference-marked verb is the same as the subject of the following verb or not (see §2.8.1 for more discussion of switch reference).

The relative tense marking indicates the relationship between the time reference of the switch-reference-marked clause and that of the following clause.

2.5.2.1. Same Subject

The same-subject (SS) suffixes only distinguish first person –z from non-first person –n.

Table 27. Same-subject suffixes

	SG	PL
first person		-z
second person		
third person		-n

These forms do not distinguish number; for example, –z can be used with singular (189) or plural (190) subjects. Similarly, –n can be used with second person (191) or third person (192) subjects.

(189) *Aku-z*   *miga-ñ-itak-in,*   *pi*   *kai*   *ara-ma-g.*
      go.up-1.SS   come.down-stay-IFUT-1SG   house   LOC   say-PST-3SG.FAR
      "I'm going to go up and sleep in the house," he said.

(190) *O,*   *ihir*   *tak*   *ka-ba*   ***ita-z***   *aiha-r*   *ara-ma-g.*
      oh   child   only   MD-LOC   **leave-1.SS**   come-1PL.IPST   say-PST-3SG.FAR
      "Oh, we left the poor child there and came," he said.'

(191) *Upas*   *ini-n*   *ibid*   ***avamkwa-n***   *igu-nad-ip?*
      banana   ND-ACC   good   **cut-2/3.SS**   give-2SG.IPST-CTR
      'Could you cut this banana up and give it (to me)?'

(192) ***Tukubrama-n***   *bata-n*   *ñ-ur-id.*
      well-2/3.SS   **sit-2/3.SS**   eat-PL-3.IPST
      'They're sitting down well and eating.'

The same-subject suffixes are unmarked for relative tense, and can be used for simultaneous actions (193) as well as sequential ones.

(193) **Kanke-n**   *da-rh-ura-m-id.*
      do.thus-2/3.SS   walk-HAB-PL-PST-3.HIS
      'They used to walk (i.e., live) like that.'

2.5.2.2. Different Subject

Different-subject (DS) marking indicates that the subject of the marked verb differs from that of the following verb. DS-marked verbs agree with their own subjects. The forms are given in Table 28; note that the third person forms are the same as the imperative suffixes (§2.5.1.11).

Table 28. Different-subject suffixes

	SG	PL
first person	*-it, -in*	*-r*
second person	*-in*	*-ir*
third person	*-s*	*-ura-s*

(194) **Miga-ñi-s**   *ŋwamka-s,*   *ñiŋ-ura-ma-g.*
      come.down-stay-3SG.DS   sunrise-3SG.DS   stay-PL-PST-3.FAR
      'He slept and it dawned and they were there.'

(195) *Akei*   *miŋa-z*   *avamkwa-z*   **apara-r**   *v-id-ɨp=i?*
      okay   get-1.SS   cut-1.SS   **throw-1PL.DS**   go-3SG.IPST-CTR=Q
      'Okay, can we take it and cut it and throw it away (lit. 'throw it and it goes')?'

The different-subject suffixes are also essentially unmarked for relative tense, and can be used for simultaneous events, as shown in (196). However, if the speaker wishes to highlight the simultaneity of two events, the different-subject simultaneous construction described in the next section can be used.

(196) **Tri-s=a,**   *manat*   *tɨka*   *hɨpa*   *ñi-ma-g.*
      pull-3SG.DS=INT   no   strong   very   stay-PST-3SG.FAR
      'He pulled, and no, it was very strong.'

In the first person singular, there are two DS suffixes, illustrated in (197) and (198). The older suffix *–it* is still used for the imperative, prohibitive, and future tenses, while the

basic agreement suffix *-in* is now used in the simple past tenses (i.e., the immediate, recent, far, and historic past; there is no data for any habitual forms).

(197) *Zɨ*   **tr-ɨt**   *ak-ɨnad.*   ***trɨh-in**   *ak-ɨnad*
      1SG   **pull-1SG.DS**   go.up-3SG.PROH   **pull-1SG.IPST**   go.up-3SG.PROH
      'I shouldn't pull it up.'   Elicited

(198) *Zɨ*   **trɨh-in**   *aku-ma-g.*   ***tr-ɨt**   *aku-ma-g*
      1SG   **pull-1SG.IPST**   go.up-PST-3SG.FAR   **pull-1SG.DS**   go.up-PST-3SG.FAR
      'I pulled it up.'   Elicited

2.5.2.3. Different Subject Simultaneous

The DS simultaneous is formed by reduplicating an entire DS-marked verb, and it indicates that the event of the next verb occurs at the same time as that of the DS-marked verb (199). The reduplicated material behaves phonologically as a separate word.

(199) *Ka-n*   *tivɨgiv.*   *Kanke-n*   **ñɨ-s~ñɨs,**   *miga-ñɨ-rat-rɨ.*
      MD-ACC   dusk   do.thus-2/3.SS   **stay-3SG.DS~SIM**   come.down-stay-HAB-1PL
      'That's dusk. When it does that, we sleep.'

With compound verbs, usually only the last verb root will be reduplicated (200), although sometimes the whole verb is reduplicated (201).

(200) *Ñanɨk-ɨb*   **miga-ñɨ-s~ñɨs=a,**   *akai*   *aih-ura-ma-g,*
      son.3.POSS-NOM   **come.down-stay-3SG.DS~SIM=INT**   COMP   come-PL-PST-3.FAR

      nɨ-hav-ati-b.
      3.POSS-uncle-PL-NOM
      'While her son was sleeping, his uncles came.'

(201) *Nɨd*   *b=emtak,*   **rapra-ñɨŋ-ura-s~raprañɨŋuras=a,**   *akai*   *ŋar*   *ka-b*
      2/3DU   3.NOM=alone   **wait.for-stay-PL-3.DS~SIM=INT**   COMP   sun   MD-NOM

      mɨgu-n   *vɨha=k*   *aku-ma-g.*
      go.down-2/3.SS   ripe=ACC   go.up-PST-3SG.FAR
      'As just the two of them were waiting for them, the sun went down and turned red.'

2.5.2.4. Desiderative

Medial verbs can be marked with the desiderative suffix *–itra*, which indicates that the action of the marked verb was intended, but not necessarily completed. With same-subject suffixes, this suffix often has a purposive interpretation. For example, (202) would be literally translated 'I wanted to go to a different village and I came,' but the translation given in the example is more idiomatic.

(202) *Zɨ   pɨ   mu   kai   **v-itra-z**   aih-in=a.*
     1SG   house   SPEC   LOC   **go-DESID-1.SS**   come-1SG.IPST=INT
     'I came (here) to go to a different village.'

This suffix can occur with the first person SS suffix, as above, as well as the non-first person SS suffix (203) and the DS suffixes (204). Sometimes, the suffix is realized with as *–itara* instead of *–itra*, as in (203) and (205).

(203) *Bɨ   **abiv-tara-n**   agram-ur-id.*
     3.NOM   **fight-DESID-2/3.SS**   stand-PL-3.IPST
     'They're standing up to fight.'

(204) *Zɨ   **iv-itr-in,**   nɨ   iv-in.*
     1SG   **hit-DESID-2SG.DS**   2SG.ACC   hit-1SG.IPST
     'You wanted to hit me, but I hit you.'   Elicited

(205) *Bɨ   **iv-itar-ura-s**   v-id.*
     3.NOM   **hit-DESID-PL-3.DS**   go-3SG.IPST
     'They wanted to hit (him), but he went (away).'   Elicited

2.5.3. Other Morphology

Some verb morphology does not fit neatly into the medial-final distinction drawn above. In this section I discuss infinitives (§2.5.3.1), the contrastive suffix *–ip* (§2.5.3.2), and verb nominalization (§2.5.3.3).

2.5.3.1. Infinitives

Two TAM suffixes can be used by themselves to form infinitives: *–rat* 'habitual' and *–itak* 'future.' Neither is very well understood.

The future infinitive can be used for events that are about to happen, as in (206) and (207), as well as general future statements (208). It frequently coincides with a good deal of pragmatic focus on the predicate, as with the first two examples, but this could be a coincidence, as it is a rather rare construction. It can also be negated (209).

(206) *Amɨnak   pri   ini-b   **hɨy-itak=a***   *ara-ma-g.*
      2SG.POSS   dog   ND-NOM   **bite-FUT.INF=INT**   say-PST-3SG.FAR
      '"Your dog was going to bite me!" she said.'

(207) *Yak   rum   ka-b   **ŋar-tak***   *ara-ma-g.*
      1SG.POSS   man   MD-NOM   **speak-FUT.INF**   say-PST-3SG.FAR
      '"My friend ('man') will get mad ('speak')!" he said.'

(208) *Na,   manat   **ñ-itak,***   *a   manat.*
      and   no   **stay-FUT.INF**   ah   no
      'And if not, then not.'

(209) *Nadi   ka-b   añɨŋu   kad   mɨga   miñu   atɨv-in~atɨvɨn*   *ma*
      woman   MD-NOM   man   BEN   eye   seed   pull.out-2SG.DS~SIM   NEG

      v-itak-ip.
      go-FUT.INF-CTR
      'You women won't stare at men (lit. 'pull your eyes out for men').'

The habitual infinitive can be used for general habitual statements (210). The subject need not always be interpreted as third person (211); I suspect this is also the case for the future infinitive, but that is not certain. Like the future infinitive, the habitual infinitive can presumably also be negated, but again, the data to show this is lacking.

(210) *Agam   ka-b   akɨba-rat.*
      fight   MD-NOM   appear-HAB.INF
      'Fights arise.'   Elicited

(211) *Ka-n   ibɨd   ñ-itɨha-nad.   Em.   Kanke-n   ñɨ-rat.*
      MD-ACC   good   stay-FFUT-2SG   that   do.that-2/3.SS stay-HAB.INF
      'That way you'll live well. That('s it). That's how (you'll) stay.'

2.5.3.2. Contrastive –ɨp

The suffix *–ɨp* indicates contrast and can appear on any verb except for imperative, prohibitive, and medial verbs. It is most common with negated verbs, where it is obligatory (§2.6.7), but it also occurs on its own. On its own, it is common with requests, presumably because a request always contrasts pragmatically with the expected state of affairs (212). It can also be used as a counterfactual, as in (213), which is a son's response to his mother's assertion that she tried to wake him up. It is also common when talking about ability (214).

(212) *Upas   vaga   tak   miŋa-n   ai-n   zamad   ap-rama-nad-ip*
      banana   leaf   only get-2/3.SS   come-2/3.SS   1SG.BEN close-put-2SG.IPST-CTR

      gɨm   kad=o?
      fog   BEN=Q
      'Could you please get a banana leaf for me to cover up from the fog?'

(213) *Zɨ   muru-nad-ip,   ñitak-in-ip   ara-ma-g.*
      1SG wake.up-2SG.IPST-CTR   get.up-1SG.IPST-CTR   say-PST-3SG.FAR
      '"If you had woken me up, I would have gotten up," he said.'

(214) *Akei   miŋa-z   avamkwa-z   apara-r   v-id-ip=i?*
      okay   get-1.SS   cut-1.SS   throw-1PL.DS   go-3SG.IPST-CTR=Q
      'Okay, can we take it and cut it and throw it away (lit. 'throw it and it goes')?'

2.5.3.3. Verb Nominalization

Verbs can be nominalized by reduplication. These nominalizations serve a variety of functions, including adverbial and attributive functions in addition to more canonical

nominal functions. I discuss this construction first in terms of its phonological form, then in terms of its structure, and finally in terms of its function.

The phonological process of reduplication is not well understood, and there appears to be a good deal of idiosyncratic behavior on the part of individual verbs, and also on the part of individual speakers. The basic pattern is that the last root of the verb stem is repeated, as with *vɨka-* 'scratch, write' in (215).

(215) *pas   vaga   **vɨka~vɨka***
       banana leaf   **write~NMLZ**
       'missionaries (lit. 'paper-writers')'

However, sometimes the final vowel of the root will be left out of the reduplicated portion, as with *mɨŋa-* 'get' in (108). However, this is not always the case, and the same verb can be reduplicated with or without its final vowel in different circumstances; see (217).

(216) *Ñaŋña=k   **mɨŋa~mɨŋ**   gu-ñ-ura-ma-g.*
       food=ACC   **get~NMLZ**   give-eat-PL-PST-3.FAR
       'Taking food, they fed them.'

(217) *ŋamañ dɨv=ɨk   **mɨŋa~mɨŋa,**   mɨkuvɨsa kai   rama-s~ramas=a   ipu-g.*
       fish   meat=ACC   **get~NMLZ**   mouth   LOC   put-3SG.DS~SIM=INT go.in-3SG.PST
       'Taking the fish meat, he put it in his mouth and it went in.'

Additionally, some verbs insert a nasal velar consonant in between the root and the reduplicated material. This can be either a /g/, as with *ita-* 'leave, not want' in (218), or a /ŋ/, as with *ña-* 'eat, consume' in (219). Sometimes this consonant replaces the first consonant of the reduplicated material, as with *bata-* 'sit' in (220). It also seems to replace the initial /a/ of *ara-* 'say' in (221). The insertion of /ɨ/ in (219) and (221) appears to be epenthetic. Final consonant clusters of /ŋñ/ and /gr/ do not appear to be allowed, so after

the loss of final /a/ in these reduplicants, it seems that epenthetic /ɨ/ was inserted to break

these clusters up.

(218) Zɨ   nar   **ita~gita**   kad   it-in.
      1SG   2PL.ACC   **leave~NMLZ**   BEN   leave-1SG.IPST
      'I don't want to leave you guys.'   Elicited

(219) Kanke-n   **ña~ŋiñ**   **ña~ŋiñ**   **ña~ŋiñ**   ñɨ-rh-ura-m-id.
      do.that-2/3.SS   **eat~NMLZ**   **eat~NMLZ**   **eat~NMLZ**   stay-HAB-PL-PST-3.HIS
      'Like that they used to stay, eating, eating, eating.'

(220) pɨ   **bata~gata**
      house   **sit~NMLZ**
      'a house for sitting'   Elicited

(221) Kuña   **ara~gɨr**   ipa-ma-g.
      caw   **say~NMLZ**   come.out-PST-3SG.FAR
      'It came out cawing.'

Some verbs that begin with coronal consonants, such as *rama-* 'put' in (222), combine

this nasal element with their initial consonant, yielding /d/.

(222) Maŋa   irɨb=ɨk   **rama~dama**   mɨga-ñ-ɨtaka-nad=a.
      ground   odor=ACC   **put~NMLZ**   come.down-stay-IFUT-2SG.IPST=INT
      'You'll sleep smelling the smell of the ground.'

And finally, sometimes there are simply irregularities that I have been unable to

resolve, such as the /a/ that was apparently copied from the first verb root in (223), or the

/d/ that is inserted into the reduplicated material in (224).

(223) O,   ini-n   **mɨga-ñɨ~ŋañ**   pɨ   ara-ma-g.
      oh   ND-ACC   **come.down-stay~NMLZ**   house   say-PST-3SG.FAR
      '"Oh, this is a house for sleeping," he said.'

(224) Bɨ   **abiva~dɨv**   d-ur-id.
      3.NOM   **fight~NMLZ**   walk-PL-3.IPST
      'They're fighting.'

The structure of this construction is also imperfectly understood. Nominalized verbs can still have objects—as illustrated in (108), (217), and (222) above—as well as oblique arguments, as shown in (225) below.

(225) *Namad* **kuku-rama~dama** *ñi-ŋin=ik=a,*   *akai*   *ai-ŋinad.*
     2SG.BEN   **think-put~NMLZ**   stay-1SG.RPST=ACC=INT   COMP   come-2SG.RPST
     'While I was thinking about you, you came.'

Nominalized verbs can also have subjects, but it is ungrammatical for them to be nominative (226); rather, they occur in accusative case (227).

(226) *Am   **humu~humu**   *kad*   *ŋirɨpm-in*
     2.NOM   **die~NMLZ**   BEN   fear-1SG.IPST

(227) *Nɨ*   **humu~humu**   *kad*   *ŋirɨpm-in.*
     2SG.ACC   **die~NMLZ**   BEN   fear-1SG.IPST
     'I'm afraid that you'll die (lit. 'of your dying').'   Elicited

Finally, as mentioned above, the functions of nominalized verbs can be broadly categorized as adverbial, attributive, and nominal. (The label 'nominalization' may seem infelicitous in view of the fact that two of these three functions are not canonical nominal functions. However, nouns are the only word class in Manat that can function adverbially, attributively, and nominally, so I consider the label appropriate, although I acknowledge that there are significant differences between the behaviors of nominalized verbs and lexical nouns.)

In their adverbial use, they have the same subject as the main verb of their clause and they modify the predicate adverbially (228). (This function is similar to same-subject simultaneous medial verbs in some other Papuan languages.) Frequently, a nominalized verb will be used in conjunction with a light verb that is interpreted aspectually. For

example, in (229), the verb *da-* 'walk' does not denote literal walking, but rather contributes progressive aspect to the predicate. Similarly, *ñi-* 'stay' in (230) contributes durative aspect. Nominalized verbs functioning adverbially can still have objects (229), as well as oblique arguments and adverbs (230).

(228) *Var* **ruku-ñi~ŋiñ** *bra=k* *igu-ma-g.*
      indeed **see-stay~NMLZ** work=ACC give-PST-3SG.FAR
      'Watching over them, he gave them work.'

(229) *Yapɨr* *ka-n* **vara~gira** *da-ma-g.*
      debris MD-ACC **sweep~NMLZ** walk-PST-3SG.FAR
      'She was sweeping up debris.'

(230) *Ai-n=a,* *o,* *nɨ-hav-ati* *mad=a,* *wɨya* **kuku-rama~dama**
      come-2/3.SS=INT oh 3.POSS-uncle-PL BEN=INT just **think-put~NMLZ**

      ñi-ma-g.
      stay-PST-3SG.FAR
      'He came, and oh, he was just thinking about his uncles.'

An adverbial verb can modify another nominalized verb, as in (231), which comes from a text in which the speaker lists several vices that will result from improper behavior. The verb *da-* 'walk,' as in (229) above, contributes progressive aspect.

(231) *wɨya* *wɨya* **añiru-mɨdu~mɨdu** **da~ŋida**
      just just **laugh-shoot~NMLZ** **walk~NMLZ**
      'just laughing for no reason'

Examples like (232) suggest that it may also be the case that adverbial verbs contribute some of their argument structure to the main verb. In this example, *agɨnɨk* 'taro' must be the object of *kɨvkɨv* 'cooking,' because *agramid* 's/he stands' cannot take an object.

(232) *Agɨn=ɨk* *uñi-b* **kɨv~kɨv** *agram-id?*
      taro=ACC who-NOM **cook~NMLZ** stand-3SG.IPST
      'Who's standing there cooking taro?'   Elicited

In the attributive use, a nominalized verb occurs within the noun phrase, modifying the head noun. Recall from §2.4.1 that attributive nouns precede their head, while attributive adjectives follow it; attributive nominalizations are found both preceding (233) and following (234) their head. Sometimes, as in (235), both constructions are found in close sequence.

(233) *Urum   itu-n   **miga-ñɨ~ŋañ**   yapa   avan.*
       man   FD-ACC   **come.down-stay~NMLZ**   source very
       'That man sleeps a lot (lit. 'is truly the source of sleeping, the sleeping-source').'
                                                                             Elicited

(234) *pɨ   arum   **miga-ñɨ~ŋañ***
       house   big   **come.down-stay~NMLZ**
       'a big sleeping house (i.e., a house for sleeping)'

(235) *Ruku-s=a,   hup   viŋa   **miga-ñɨ~ŋañ.***
       see-3SG.DS=INT place platform **come.down-stay~NMLZ**

       *O,   ini-n   **miga-ñɨ~ŋañ**   pɨ   ara-ma-g.*
       oh   ND-ACC **come.down-stay~NMLZ**   house say-PST-3SG.FAR
       'He looked, and (there was) a bed (lit. 'a sleeping platform'). "Oh, this is a house for sleeping," he said.'

Finally, nominalized verbs can function as the head noun of a noun phrase. One pair of examples nicely illustrates the difference between this function and the adverbial function of these nominalizations. In (236), the nominalization is not case-marked and is interpreted adverbially; in this case, the verb *ita-* 'leave, not want' with an adverbial verb is interpreted 'stop V-ing.' In (237), though, the nominalized verb is marked with accusative case, and functions as the object of the clause.

(236) *Akei, **migra~migrɨ**   ita-n ...*
       okay **cut~NMLZ**   leave-2/3.SS
       'Okay, they stopped cutting and ...'

(237) Bɨ   yaba   **pra~pra=k**   it-ur-id.
       3.NOM water **bathe~NMLZ=ACC**   leave-PL-3.IPST
       'They don't want to bathe.'   Elicited

A noun phrase headed by a nominalization can be the subject (238) or object (239) of a clause, or an oblique locative (107) or benefactive (241) argument. They can also be possessed (242) and serve as a predicate nominal (243).

(238) O, **amɨgrama~dama**   ka-b   akunaih-id   ara-ŋin.
       oh **arrange~NMLZ**   MD-NOM bring-3SG.IPST say-1SG.RPST
       '"Oh, God (lit. 'the Arranger') brought (him)," I said.'

(239) **Avagara~gara**   inɨ-n   mat   kad iv~iv   d-id=a?
       yell~NMLZ   ND-ACC what BEN **hit~NMLZ** walk-3SG.IPST=INT
       'What does he keep hitting this bell (lit. 'yeller') for?'

(240) Na bavad   pas   vaga **vika~vika**   kai   v-itɨha-nad=ɨk ...
       and quickly banana leaf **write~NMLZ**   LOC go-FFUT-2SG=ACC
       'And if you go to the mission(aries) quickly ...'

(241) Eʔe, akai rɨk-in,   yaba ka-n   **ña-ŋiñ**   **ña-ŋiñ**   ka-mad=a,
       okay COMP see-1SG.IPST water MD-ACC **eat~NMLZ** **eat~NMLZ** MD-BEN=INT

       abiv-ur-id.
       fight-PL-3.IPST
       'Okay, I see, they're fighting because they're drinking beer.'

(242) A, banɨk   **kuku-rama~dama**   ka-n   abarvɨra-m-d=a   ara-ma-g.
       ah 3SG.POSS **think-put~NMLZ**   MD-ACC change-2SG.IMP-?=INT say-PST-3SG.FAR
       '"Ah, change his thinking," she said.'

(243) Yak   **da~ŋida=k**   ibɨd.
       1SG.POSS **walk~NMLZ=ACC** good
       'My wanderings were good.'   Elicited

I have been unable to discern a pattern in the interpretation of these nominalizations. Sometimes they refer to the agent that performs the action (244); sometimes they refer to the action itself (245); sometimes they refer to the place where the action is performed (40).

(244) *Maŋa* **ruku-ñɨ~ŋiñ** *ka-b*
ground **see-stay~NMLZ** MD-NOM
'the ground-watchers, the people who take care of the land'

(245) **Kuru~kuru=k** *ma ruku-rh-id-ɨp=i,* *ar-ura-ma-g.*
copulate~NMLZ=ACC NEG see-HAB-3SG.PRS=CTR=Q say-PL-PST-3.FAR
'"Does he not know about sex?" they said.'

(246) *Hɨmñav vana* **miŋatama-dama=k** *Aminahu.*
song speech **hear~NMLZ=ACC** Aminahu
'The (place for) hearing about songs is Aminahu.'

Nominalizations that refer to the object of the verb appear to be rare. The only one I am aware of is the word for 'food,' *ñaŋña*, which is formed from the verb *ña-* 'eat, consume,' and which appears to have lexicalized. Note that synchronically, the productive nominalization of *ña-* is *ñaŋɨñ*, shown in (219) above.

2.6. Verbal Clause Structure

In this section I describe the structure of verbal clauses, which are the most common clause type; nonverbal clauses, including clauses with quasi-verbs (see §2.3.1.3), are described in §2.7. The first several sections are concerned with word order and the behavior of different argument types; I then turn to argument fronting and postposing; and in the last two sections I discuss negation and interrogative clauses.

2.6.1. Basic Word Order

The basic order of arguments in the verbal clause is as follows.

(Temp) (S) (T) (R) (Ben) (Loc) V

That is, temporal arguments come first, followed by the subject, the theme, the recipient, the benefactive, the locative, and finally by the verb. Only the verb is required; every argument can be omitted. This schema is based primarily on the ordering found in two-argument clauses, as even these are quite uncommon, and clauses with with more than two arguments in their regular position are vanishingly rare. Rather, speakers prefer to distribute arguments over several clauses, as with *hɨbɨmak* 'drum' and *nadik añɨŋa kai kan* 'the two women' in (247) below. It is also common to postpose arguments, like *nadik añɨŋa kai kan* in this example.

(247) *Hɨbɨma=k   mɨŋa-n=a,   igu-r-ma-g,   nadi=k   añɨŋa kai   ka-n.*
      drum=ACC get-2/3.SS=INT give-HAB-PST-3SG.MID woman=ACC two   LOC   MD-ACC
      'He would take the drum and give it to the two women.'

However, clauses with multiple arguments do occur, and they suggest the order of arguments shown above, although it is possible that a clause with many arguments would exhibit a different order.

2.6.2. Subjects

Subjects precede objects, are marked with nominative case, and trigger person-number agreement in final verbs, as illustrated in (248) and (249). They also trigger person-number agreement in different-subject medial verbs, as well as switch reference agreement in the switch reference system (250).

(248) *Rum añɨŋa kai ka-b   pas   vaga ka-n   vuk-ur-id.*
      man two   LOC MD-NOM banana leaf MD-ACC write-PL-3.IPST
      'Two men are writing a letter.'

(249) *Virbir=ɨk   tutauseneit   kai   ar   humɨn=ɨk   ña-ma-gɨr.*
     star=ACC   2008   LOC   1PL   k.o.sugar=ACC eat-PST-1PL.FAR
     'In the year 2008 we ate *humɨn*.'

(250) *Ruk-ura-s   ŋar   ka-b   ŋavezɨre-s=a,   him=ɨk   hra-rat-ur-id.*
     see-PL-3.DS   sun   MD-NOM   sag-3SG.DS=INT   k.o.grass=ACC   roast-HAB-PL-3
     'They look, and when the sun starts to go down, they burn the *him* grass.'

There are no animacy restrictions on subjects; as (251) illustrates, inanimante objects
and animals are both allowed.

(251) *Vɨhɨr   ka-b,   kubru-n=a,   kuñak   ka-b   busak*
     bamboo   MD-NOM   break-2/3.SS=INT bird.sp   MD-NOM   first

     ipa-ma-g.
     come.out-PST-3SG.FAR
     'The bamboo broke, and a *kuñak* came out first.'

As mentioned in §2.3.5 and §2.4.3 above, noun phrases marked with the comitative
postposition *rɨs* are considered part of the subject for purposes of verb agreement (252);
noun phrases marked with the other comitative postposition, *sɨhun* (sometimes
pronounced *sun*), are not (253).

(252) *Nadi   ka-b   rɨs   agram-ur-id.*
     woman   MD-NOM   COM   stand-PL-3.IPST
     'He's standing with his wife.'

(253) *Urum   inɨ-b   asik   irɨp   sun   ai-ma-g.*
     man   ND-NOM   again   bow   COM   come-PST-3SG.FAR
     'This man came again with his bow.'

Experiencer predicates behave somewhat differently: the experienced force triggers
verb agreement, but the experiencer is marked with nominative case (254).

(254) *Am   riŋa   rɨh-id=e?*
     2.NOM   sloth   do-3SG.IPST=Q
     'Do you not feel like it?' or 'Are you lazy?'   Elicited

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However, it appears that if the experienced force is a physical noun, as opposed to an abstract one, it can be marked with nominative case (255). When this is the case, the experiencer takes accusative case (256).

(255) *Zɨ   ayaga ka-b   mɨs=ɨk   varv-id.*
     1SG sago MD-NOM sweetness=ACC bear-3SG.IPST
    'I like sago (lit. 'sago bears sweetness to me').'   Elicited

(256) *Mat   ñaŋña ka-b=a,   nɨ   mɨs=ɨk   varv-id   ara-ma-g.*
    what food MD-NOM=INT 2SG.ACC sweetness=ACC bear-3SG.IPST say-PST-3SG.FAR
    '"What's your favorite food (lit. 'what food bears sweetness to you')?" she asked.'

2.6.3. Objects

Objects are a complicated topic in Manat, as accusative case performs several functions, only one of which is to mark objects. (Its oblique use is discussed in §2.6.4.3, and its use in nonverbal clauses is discussed in §2.7.) I discuss simple transitive objects first, followed by ditransitive objects.

2.6.3.1. Monotransitive Clauses

Objects of monotransitive verbs are marked with accusative case, either on a determiner (257) or with the enclitic *=k*, which occurs at the end of the noun phrase (258).

(257) ***Upas   inɨ-n   *** *ibɨd   avamkwa-n igu-nad-ɨp?*
    banana ND-ACC   good cut-2/3.SS   give-2SG.IPST-CTR
    'Can you cut this banana and give it (to me)?'

(258) ***Upas=ɨk***   *mudihra-n,   **ŋamañ ñiŋi=k***   *vɨka-n ...*
    banana=ACC   peel-2/3.SS **fish**   **little=ACC**   cut-2/3.SS
    'He peeled the bananas and cut the little fish and ...'

It appears that this enclitic is beginning to become a nominal suffix, and sometimes it will be found on a noun that is not the last word in its noun phrase, in which case accusative case is double-marked (259).

(259) **Bra=k**   *ibɨd* *ibɨd* **ka-n**   *miŋa-rh-ur-id.*
      work=ACC good good **MD-ACC** get-HAB-PL-3.PRS
      'They do very good work.'

This process is creating ambiguity in some constructions. (260) can be interpreted as 'good paper'—if the *=k* is analyzed as being inside the noun phrase, as in (261)—or 'the paper is good,' if *=k* is analyzed as being the last item in the noun phrase *pas vagak*. (See the §2.7.1 on nonverbal predicates for an explanation of this construction.) Example (262), on the other hand, can only be interpreted as 'good paper.'

(260) *pas*   *vaga=k*   *ibɨd*
      banana leaf=ACC good
      'good paper' or 'the paper is good'

(261) *Pas*   *vaga=k*   *ibɨd*   *ka-n*   *ruku-r.*
      banana leaf=ACC good MD-ACC see-1PL.IPST
      'We looked at the good paper.'

(262) *pas*   *vaga* *ibɨd*
      banana leaf good
      'good paper'   Elicited

It appears that the motion verbs *ai-* 'come' and *vu-* 'go,' when they occur with SS suffixes, are becoming non-clausal particles of some sort. They will sometimes intervene between a verb and its object; in (263), *win vɨsak* '*win* bark' is the object of *avapmaz* 'chop and,' but *vuz* 'go and' intervenes.

(263) *Win*   *vɨsa=k*   *vu-z*   *avapma-z* *ura*   *kɨd=ɨk.*
      tree.sp skin=ACC go-1.SS chop-1.SS woods CHAR-ACC
      'We go cut *win* bark, wild *win*.'

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Reciprocal objects are apparently not marked in a special way (264), but I have not investigated reciprocals in depth. Reflexive objects can be marked with *avan* 'very' (265), but they do not have to be (266).

(264) *Nad   vrai-gɨr.*
   1DU   embrace-1PL.RPST
   'We hugged (each other).'   Elicited

(265) *Saraka kai z=avan mɨd-in.*
   flyswatter LOC 1SG=very shoot-1SG.IPST
   'I'm poking myself with a flyswatter.'   Elicited

(266) *Zɨ zɨ rɨk-in.*
   1SG 1SG see-1SG.IPST
   'I saw myself.'   Elicited

2.6.3.2. Ditransitive Clauses

In ditransitive clauses, both objects are marked accusative, and the unmarked word order is for the theme to precede the recipient. This is what occurs, for example, in elicited examples (267).

(267) *Zɨ **upas ka-n nɨ** ig-in.*
   1SG **banana MD-ACC 2SG.ACC** give-1SG.IPST
   'I gave you a banana.'   Elicited

However, in normal speech, it is quite rare for both objects of a ditransitive clause to occur within that clause. More commonly, speakers will postpose one, as in (268), or spread them out between multiple chained clauses, as in (269), or simply leave one (270) or both (271) arguments unstated.

(268) ***Bra nɨm=ɨk*** *am=avan igu-ma-grad* ***ar.***
   work big=ACC 2.NOM=very give-PST-2PL.FAR **1PL**
   'You yourselves gave us a big job.'

(269) **Azɨ=k**　　　　　*agugre-n=a,*　　　*hɨd,* ***nadi*** ***añɨŋa*** ***kai*** ***ini-n***
　　　decoration=ACC　take.out-2/3.SS=INT　go　**woman** **two** **loc** **ND-ACC**

　　　gu-r-m-id.
　　　give-HAB-PST-3SG.HIS
　　　'He would take off his decorations and go give them to the two women.'

(270) *Na* **bra=k** **ibɨd** **kan** *apɨhut-itaka-nad.*
　　　and **work=ACC** **good** **MD-ACC** show-IFUT-2SG
　　　'And you'll show (us) good work.'

(271) *Ig-ɨtrak-in.*
　　　give-IFUT-3SG
　　　'I'll give (you one).'

Nevertheless, ditransitive clauses with both arguments do occasionally occur in natural speech. It still appears that the theme usually precedes the recipient, as in (272), but the reverse order is also found, as in (273).

(272) *Huma=k=a,* **aresa** **ka-n** **apar** **kid** **ka-n** *gu-ma-g.*
　　　coconut=ACC=INT **yellow** **MD-ACC** **mountain** **CHAR** **MD-ACC** give-PST-3SG.FAR
　　　'The coconut, he gave the yellow one to the mountain people.'

(273) *Mat* *ñaŋña ka-b=a,* **nɨ** **mɨs=ik** *varv-id* *ara-ma-g.*
　　　what food **MD-NOM=INT** **2SG.ACC** **sweetness=ACC** bear-3SG.IPST say-PST-3SG.FAR
　　　'"What's your favorite food (lit. 'what food bears sweetness to you')?" she asked.'

2.6.4. Oblique Arguments and Adverbs

Here I discuss benefactive and locative/instrumental arguments, as well as accusative arguments that function as obliques.

2.6.4.1. Benefactive Arguments

Benefactive arguments usually express benefit (274) or reason (275), although some verbs, such as *kukurama-* 'think about,' take benefactive objects (276).

(274) *Bram=ɨk* **zamad** *miŋa-m-d* *ara-ma-g=a.*
arm=ACC **1SG.BEN** get-2SG.IMP-? say-PST-3SG.FAR=INT
'"Hold (his) arms for me," she said.'

(275) ***Ka-mad*** *upri=k,* *iva-rha-r.*
MD-BEN dog=ACC hit-HAB-1PL.PRS
'That's why we hit dogs.'

(276) ***Namad*** *kuku-rama~dama* *ñɨ-ŋin=ɨk=a,* *akai* *ai-ŋinad.*
2SG.BEN think-PUT~NMLZ stay-1SG.RPST=ACC=INT COMP come-2SG.RPST
'I was thinking about you, and you came.'

Benefactive arguments tend to follow objects, as illustrated by (274) above and (277) below, but (275) above illustrates that they can also precede them. Examples (278) and (279) also suggest that they precede locative arguments, although it should be noted that both of these examples are questions, so they may not exhibit basic word order.

(277) *Avagara~gara* *inɨ-n* **mat** **kad** *iv~iv* *d-id=a?*
yell~NMLZ ND-ACC **what** **BEN** hit~NMLZ walk-3SG.IPST=INT
'What does he keep hitting this bell (lit. 'yeller') for?'

(278) ***Mat*** **kad** *inɨ-ba* *ai-n* *humu-nad=a?*
what **BEN** ND-LOC come-2/3.SS die-2SG.IPST=INT
'Why did you come and die here?'

(279) ***Mat*** **kad** *ura* *kai* *da-nad?*
what **BEN** forest LOC walk-2SG.IPST
'What are you walking in the forest for?'   Elicited

2.6.4.2. Temporal, Locative, and Instrumental Arguments

Temporal, locative, and instrumental arguments can all be marked with the postposition *kai*, as illustrated in the examples below.

(280) *Vana* *inɨ-n* *var,* ***tutausenfaif*** **kai** *ti-ŋin.*
speech ND-ACC indeed **2005** **LOC** do-1SG.RPST
'In 2005 I brought up this matter.'

(281) *Vihir* **bara** **kai** *mudu-n* *miŋa-n* *igu* *kai.*
bamboo stick LOC shoot-2/3.SS get-2/3.SS back.of.head LOC
'They stabbed him with a bamboo stick and got him in the back of the head.'

(282) *Ram-ura-s=a,* **haya** **kai** *bata-ñi-ma-g.*
put-PL-3.DS=INT shoulder LOC sit-stay-PST-3SG.FAR
'They put (the child there) and it sat on his shoulders.'

Locative arguments can also be marked with a locative determiner ending in *–ba* (283)

or *–i* (284).

(283) *Avat* **ka-ba** *vu-n* *ri-ma-g=a.*
swamp MD-LOC go-2/3.SS do-PST-3SG.FAR=INT
'He went down to the swamp.'

(284) *Hup* **tak** **tu-i** *vu-n,* *var* *siva-m-d* *ara-ma-g.*
place only FD-SET go-2/3.SS indeed mow-2SG.IMP-? say-PST-3SG.FAR
'"Just go to that place and clear it," she said.'

In general, temporal arguments tend to precede other material in the clause, including

the subject (285). However, as (280) above illustrates, they can also occur elsewhere in the

clause.

(285) *Akei* **tutausenten** **kai** *amiŋ-ib=a* *asik* *ŋamañ=ik* *igu-g.*
okay 2010 LOC mother.1.POSS-NOM=INT again fish=ACC give-3SG.RPST
'Okay, in 2010 mother gave (them) fish back.'

Locative arguments tend to follow subjects (286) and objects (287) when they co-occur.

(286) *Tat* *maka* *ragam* *ka-b* **ka-ba** *agram-id.*
fire branch exist MD-NOM MD-LOC stand-3SG.IPST
'The police man (lit. 'the one who has a stick') is standing there.'

(287) *Na* *hibima=k* **ka-ba** *iva-n* *iva-n* *iva-n …*
and drum=ACC MD-LOC hit-2/3.SS hit-2/3.SS hit-2/3.SS
'And there he hit and hit and hit the drum and …'

Additionally, place names can be used as locative arguments without any additional

morphology; this is nicely illustrated by the parallel sequence in (288).

(288) *Aŋra-vata-n*   *muhrɨt*   *ka-b*   **ini-ba,**   *aih-ura-ma-g=a,*
run-swim-2/3.SS   some   MD-NOM   **ND-LOC**   come-PL-PST-3.FAR=INT

muhrɨt   *ka-b,*   **Akavaŋku**   *ak-ura-ma-g.*
some   MD-NOM   **Akavanku**   go.up-PL-PST-3.FAR
'They ran away and some came here, and some went up to Akavanku.'

It is possible for a clause to have more than one locative argument, as in (289), where the context makes it clear that the locative arguments are functioning as a source and a goal.

(289) *O,*   *hra-n=a,*   *apara-s*   *vu-n*   **abihrɨs**   **yapa**   **itu-ba**
oh   roast-2/3.SS=INT   line.up-3SG.DS   go-2/3.SS   **tree.sp**   **source**   **FD-LOC**

ini-ba   *ñɨ-ma-g.*
ND-LOC   stay-PST-3SG.FAR
'Oh, she cooked them and lined them up and they went (as far as) from the bottom of that *abihrɨs* tree to here.'

2.6.4.3. Accusative Oblique Arguments

The case which I label 'ACCUSATIVE' marks objects in transitive clauses (§2.6.3) and oblique arguments in intransitive clauses, which I discuss in this section. (It is also used in nonverbal clauses; see §2.7.)

In intransitive clauses, an accusative argument will be interpreted as an oblique, as with the temporal *ŋadak* 'in the day' in (290), and with the locative *banɨk adɨhitɨk* 'on his skin' in (291).

(290) *Mɨga-ñɨŋ-ura-s*   *ŋwamkwa-s,*   *ñɨŋ-ura-ma-g,*   **ŋada=k.**
come.down-stay-PL-3.DS   sunrise-3SG.DS   stay-PL-PST-3.FAR   **day=ACC**
'They slept and it dawned and they were there, during the daytime.'

(291) *Hus*   *ñiŋi*   *ka-b*   *atrama-r-m-id,*   **banɨk**   **adɨhit=ɨk.**
sore   little   MD-NOM   be.full-HAB-PST-3SG.HIS   **3SG.POSS**   **skin=ACC**
'There were lots of little sores on his skin.'

These arguments are frequently postposed, but not always (292).

(292) *Ai-n*   **bamda=k**   *ŋara-ma-g,*   *amiŋ.*
      come-2/3.SS **morning=ACC** speak-PST-3SG.FAR mother.1.POSS
      'He came and in the morning he said, "Mother."'

It should also be noted that this function extends to accusative case on determiners

(109).

(293) *As*   *migu-n=a,*   **abim**   *itu-n,*   *ruku-s=a ...*
      so go.down-2/3.SS=INT **boundary** FD-ACC see-3SG.DS=INT
      'So he went down to the edge and looked and ...'

There is one example in my corpus of the accusative enclitic appearing on a proper

noun (294); recall that place names functioning as locatives are usually unmarked.

(294) *Zɨ* **Sibevivi=k**   *ma*   *v-in-ɨp.*
      1SG **Simbevi=ACC**   NEG go-1SG.IPST-CTR
      'I didn't go to Simbevi.'   Elicited

Accusative case can also occur in the same way on adjectives (295).

(295) *Akai*   *ŋar* *ka-b*   *migu-n*   **viha=k**   *aku-ma-g.*
      COMP sun MD-NOM go.down-2/3.SS **ripe=ACC** go.up-PST-3SG.FAR
      'The sun went down and turned red.'

Example (296) suggests that accusative case can serve this function in any clause that

does not have an accusative object. Whether *mav* 'loincloth' is the object of *araratrɨ* 'we say'

is unclear, but it is not marked accusative. It may be that this fact is what allows an oblique

argument, *arɨd vanak* 'in our language,' to be marked with accusative case.

(296) **Arɨd**   *vana=k*   *mav*   *ara-rat-rɨ.*
      1PL.POSS **speech=ACC** loincloth say-HAB-1PL
      'In our language, we say *mav*.'

Finally, recall from example (259) in §2.6.3.1 above, repeated as example (297) here,

that the accusative enclitic *=k* appears to be attaching to nouns and becoming a suffix. This

can also occur in oblique arguments, as shown in (298).

(297) **Bra=k**   *ibɨd*   *ibɨd*   *ka-n*   *miŋa-rh-ur-id.*
     work=ACC   good   good   MD-ACC   get-HAB-PL-3.PRS
     'They do very good work.'

(298) **Virbir=ɨk**   *tutauseneit*   *kai*   *ar*   *humɨn=ɨk*   *ña-ma-gɨr.*
     star=ACC   2008   LOC   1PL   k.o.sugar=ACC   eat-PST-1PL.FAR
     'In the year 2008 we ate *humɨn*.'

2.6.5. Topic Fronting

Items can be fronted in a clause, in which case they receive accusative case-marking and serve as topics for the clause. They do not have to be arguments in the clause; in (107), the speaker, holding up a piece of paper with a picture on it, says *inɨn* 'this one,' referring to the paper, and then describes the picture. However, the fronted item can be co-referential with an argument. In (300), the subject of the clause, *ivuramag inɨb* 'the one they hit,' is fronted twice: first as *ihɨr inɨn* 'the child,' and second as *banɨk ña inɨn* 'her son.'

(299) **Inɨ-n**   *añɨŋuta*   *kai*   *ka-b*   *pas*   *vaga*   *ka-n*   *vuk-ur-id.*
     ND-ACC   three   LOC   MD-NOM   banana   leaf   MD-ACC   write-PL-3.IPST
     'This one, three men are writing a letter.'

(300) **Ihɨr**   *inɨ-n,*   **banɨk**   *ña*   *inɨ-n,*   *iv-ura-ma-g*   *inɨ-b,*   *irip*   *sun*
     child   ND-ACC   3SG.POSS   son   ND-ACC   hit-PL-PST-3.FAR   ND-NOM   bow   COM

     ai-s=a ...
     come-3SG.DS-IND
     'The child, her son, the one they hit came with a bow and ...'

This construction can also serve more generally to mark episode boundaries in narratives. In (301), which comes from a text about a festival that took place during my 2010 fieldwork, the speaker has been describing my arrival in their village, and then turns to discuss something I did during the festival. He marks this change by topicalizing my action (using the clause chain nominalization construction described in §2.8.2).

(301) **Don-ib**   **ki-g**   **ka-n=a,**   ŋamañ=ɨk=a   miŋa-n=a …
     Don-NOM   do.thus-3SG.RPST   MD-ACC=INT   fish=ACC=INT   get-2/3.SS=INT
     'What Don did, he took fish and …'

In the right context, this topicalization use of accusative case can be used in isolation to simply bring something up (302). These topicalized noun phrases are usually accessible in some way—either from previous discourse, or, as in this case, from the physical context.

(302) *Rum ini-n=a?*
     man ND-ACC=INT
     '(What about) this man?'

This isolation use of accusative case has even been found after a nominative subject. Example (303) uses the same clause chain nominalization construction used in (301) above to restate the subject, *rum mu kab* 'one man.' But while as the subject it is marked nominative, when it is restated as *sagran vurid kan* 'the one they took,' it is in accusative case.

(303) *Rum   mu   ka-b,*   **sagra-n**   *v-ur-id*   **ka-n,**   bɨ   kot
     man   SPEC MD-NOM   **hug-2/3.SS**   go-PL-3.IPST   **MD-ACC**   3.NOM court

     ñɨŋ-id   akad.
     stay-3SG.IPST   maybe
     'One man, the one they took, he must be standing trial.'

2.6.6. Postposed Items

Items can also be postposed from a clause. While topic fronting is a construction that has a specific meaning (namely, that what is fronted is topical), postposing items appears to be less meaningful. Rather, it seems that postposition has more to do with clause heaviness and utterance planning. Speakers may postpose items from heavy clauses (i.e., clauses with many arguments), or simply add postposed items after the fact, as afterthoughts.

Almost anything can be postposed, including subjects (304), objects (305), oblique arguments—including benefactives (306) and postpositional phrases with *kai* (307)—adverbs (308), and even medial clauses (309).

(304) *Igu-mar   ara-ma-g,   **ni-min-ib.***
     give-2PL.IMP say-PST-3SG.FAR **3.POSS-mother-NOM**
     '"Give (it to me)," the mother said.'

(305) *Arɨd   arum ka-b=a,   yɨmɨn   kai mɨŋa-rh-ura-m-id   **ayaga=k.***
     1PL.POSS big MD-NOM=INT   k.o.basket LOC get-HAB-PL-PST-3.HIS **sago=ACC**
     'Our ancestors used to get sago with a *yɨmɨn* basket.'

(306) *Barad   amɨŋuna=k   mɨŋa-n,   **barad   nadigam   kad.***
     3PL.POSS stomach=ACC get-2/3.SS **3PL.POSS daughter BEN**
     'They worried (lit. 'held their stomachs') about their daughter.'

(307) *As   urum ire bata-ñi-ma-g,   **tiga,   mat,   vat   kai.***
     so   man   like sit-stay-PST-3SG.FAR **canoe what center   LOC**
     'So it sat down like a man in the, um, middle of the canoe.'

(308) *Na-hav-ati-b=a,   ai-tak-ur-id,   **had** ara-ma-g.*
     2.POSS-uncle-PL-NOM=INT   come-IFUT-PL-3   **now** say-PST-3SG.FAR
     '"Your uncles will come now," she said.'

(309) *Akai   iv-ur-id   avan, **yaba   kris=ik   ña-n.***
     COMP   hit-PL-3.IPST very   **water bad=ACC   eat-2/3.SS**
     'They're hitting him now, having drunk beer (lit. 'bad water').'

In the examples above, items were postposed that had no counterpart in the "regular" clause, which was heavy in most cases. But the postposition construction can also be used to expand on an item that has already been mentioned, as illustrated below with an object (310) and a locative argument (311).

(310) *Asik   **mu   ka-n***   mɨŋa-m-d,   **pas   vaga=k.***
     again **SPEC   MD-ACC** get-2SG.IMP-? **banana   leaf=ACC**
     'Take another one, a piece of paper.'

(311) *Ka-ba*   *aba-hum-ura-ma-g*   ***tɨga***   ***abra***   ***ka-ba.***
        MD-LOC   perish-die-PL-PST-3.FAR **canoe** **place**   MD-LOC
        'They all perished there, in the canoe place.'

Finally, although this is very rare, it is possible for more than one item to be postposed

from a clause. In (312), both the subject and the object are postposed.

(312) *Agɨnɨgu-ma-g,*   ***pri***   ***ka-b***   *ayaga=k.*
        finish-PST-3SG.FAR   **dog**   MD-NOM   sago=ACC
        'The dog finished the sago.'

2.6.7. Negation

Verbs are negated by placing the negative particle *ma* before the verb and attaching the

contrastive suffix *–ip* to the verb. (Negation can also be accomplished with the negative

quasi-verbs *manat* and *makat*; these constructions are discussed in §2.7.2.) Examples in

several TAM categories follow.

(313) *Vana=k*   ***ma***   *vupar-ɨtɨha-nad-**ip**.*
        speech=ACC   **NEG**   push-FFUT-2SG-**CTR**
        'You won't be disobedient (lit. 'push speech').'

(314) *Nɨ*   *ŋar-in*   ***ma***   *ai-n*   *mɨga-ñɨŋa-nad-**ip***
        2SG.ACC   speak-1SG.IPST   **NEG**   come-2/3.SS   come.down-stay-2SG.IPST-**CTR**

        ara-ma-g.
        say-PST-3SG.FAR
        '"I told you but you didn't come sleep (with me)," he said.'

(315) *Mɨr=ɨk*   ***ma***   *ruku-ma-g-**ip**,*   *mɨna=k.*
        meat=ACC   **NEG**   see-PST-3SG.FAR-**CTR**   pig=ACC
        'He didn't see any game, any pigs.'

(316) *Hiki*   *inɨ-gɨm=ɨk,*   ***ma***   *ruku-rh-id-**ip**=o,*   *nɨd*   *kad-ura-ma-g.*
        custom   ND-ADJZ=ACC   **NEG**   see-HAB-3SG.PRS-**CTR**=Q   2/3DU   talk.so-PL-PST-3.FAR
        '"Doesn't he know about this sort of custom?" the two said.'

(317) *Waid*   *waid=ɨk,*   *rum*   *hava*   *ka-b=a,*   *ayaga=k*   ***ma***
        old   old=ACC   big   group   MD-NOM=INT   sago=ACC   **NEG**

*adɨ-rh-ura-m-id-**ip.***
process.sago-HAB-PL-PST-3.HIS-**CTR**
'Way way before, our ancestors didn't process sago.'

Verbs with imperative or prohibitive suffixes cannot be negated, nor can nominalized verbs. Infinitives can, however (318).

(318) *Nadi   ka-b   añɨŋu kad   mɨga mɨñu atɨv-in~atɨvin   **ma**   v-ɨtak-**ip.***
      woman MD-NOM man BEN   eye seed pull.out-2SG.DS~SIM **NEG**   go-FUT.INF-**CTR**
      'You women won't stare at men (lit. 'pull their eyes out for men').'

The interaction between negation and clause chaining is complex, and not fully understood. As examples like (314) above and (319) below show, the two morphemes used in negation can bracket chained clauses, negating them both.

(319) *Zɨ   **ma**   ŋara-s v-in-**ip.***
      1SG **NEG**   speak-3SG.DS go-1SG.IPST-**CTR**
      'He didn't tell me I could go.' or 'He didn't let me go.'   Elicited

However, negation can have scope over medial clauses even if the *ma* is placed in the final clause, as in (320). Comparing (318) above with (321) below, which was said immediately before (318), suggests that there is little difference in meaning.

(320) *Tukubrama-n   **ma**   mɨga-ñɨŋ-id-**ip.***
      well-2/3.SS   **NEG**   come.down-stay-3SG.IPST-**CTR**
      'He isn't sleeping well.'

(321) *Amɨga   mɨñu=k   **ma**   atɨv-in~atɨvin   v-ɨtak-**ip,**   nadi   kad.*
      eye   seed=ACC **NEG** pull.out-2SG.DS~SIM   go-FUT.INF-**CTR**   woman   BEN
      'You won't stare at women (lit. 'pull your eyes out for women').'

However, medial clauses are not necessarily negated by final clause negation, as seen with the same-subject (322) and different-subject (323) clauses below.

(322) *Humɨn=ɨk   ña-z=a,   as   ar   **ma**   igu-ma-gɨr-**ip,***   *babad.*
      k.o.sugar=ACC   eat-1.SS=INT   so   1PL   **NEG** give-PST-1PL.FAR-**CTR**   quickly
      'We ate *humɨn* and we didn't give (back) quickly.'

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(323) *Yaba   ka-b   miga-s,   him=ɨk   **ma**   hr-ɨtraka-r-**ip.**
      water   MD-NOM   come.down-3SG.DS   grass.sp=ACC   **NEG**   roast-IFUT-1PL-**CTR**
      '(If) it rains, we won't burn the *him* grass.'   Elicited

Medial clauses apparently cannot be negated by themselves; the constructed example
in (324), which was supposed to mean 'He didn't tell me but I went,' was rejected and my
consultant suggested the formulation in (325) instead. There is one example, however, of a
medial clause being negated with the conditional particle *rip* 'if' following it (326).

(324) *Zɨ   **ma**   ŋara-s-**ip**   v-in
      1SG   **NEG**   speak-3SG.DS-**CTR**   go-1SG.IPST

(325) Zɨ   **ma**   ŋar-id-**ip**   ag,   wɨya   v-in.
      1SG   **NEG**   speak-3SG.IPST-**CTR**   FOC   just   go-1SG.IPST
      'He didn't tell me; I just went.'   Elicited

(326) Yaba   ka-b   **ma**   miga-s   **rip,**   him=ɨk   hr-ɨtraka-r.
      water   MD-NOM   **NEG**   come.down-3SG.DS   **if**   grass.sp=ACC   roast-IFUT-1PL
      'If it doesn't rain, we'll burn the *him* grass.'   Elicited

2.6.8. Interrogatives

There is no dedicated interrogative particle for asking yes/no questions, as shown in (327)
and (328); rather, they are marked with rising intonation. The interrogative enclitic *=i*
(sometimes *=e*) is sometimes employed at the end of questions (329), as is the similar Tok
Pisin borrowing *=o* (330). The special information structure of questions also means that
they are often marked with the focus particle *ag* (331) or the contrastive suffix *–ip* (332),
and combinations of *ag* or *–ip* with the interrogative enclitics are also possible, as shown in
(333) and (334).

(327) Amɨŋ   ara-ma-g,   a-vɨ   rudi-b   akai   aih-ur-id?
      mother.1.POSS   say-PST-3SG.FAR   1.POSS-uncle   PL-NOM   COMP   come-PL-3.IPST
      '"Mother," he said, "Did my uncles come?"'

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(328) *Na   ini-n=a,   ura=k=a,   kai   pubu-n   aginɨgu-nad?*
     and   ND-ACC=INT   forest=ACC=INT   COMP completely-2/3.SS   finish-2SG.IPST
     'And this, have you totally finished the forest?'

(329) *Z=a,   mɨŋ-in   akɨb-id=i?*
     1SG=INT   get-1SG.IPST   appear-3SG.IPST=Q
     'Did *I* make it appear?'

(330) *A   nɨ   ŋamañ ibum=o?*
     ah   2SG.ACC   fish   real=Q
     'Ah, are you a real fish?'

(331) *Yak   rum   ka-b   aih-id   ag?*
     1SG.POSS   man   MD-NOM   come-3SG.IPST   **FOC**
     'Did my friend (lit. 'man') come?'

(332) *Upas   ini-n   ibɨd   avamkwa-n   igu-nad-ip?*
     banana   ND-ACC   good   cut-2/3.SS   give-2SG.IPST-**CTR**
     'Can you cut this banana up and give it (to me)?'

(333) *Ruku-nad   ag=e   ara-ma-g.*
     see-2SG.IPST   **FOC=Q**   say-PST-3SG.FAR
     '"Have you seen (her)?" he asked.'

(334) *Akei mɨŋa-z   avamkwa-z   apara-r   v-id-ip=i?*
     okay get-1.SS   cut-1.SS   throw-1PL.DS   go-3SG.IPST-**CTR=Q**
     'Okay, can we take it and cut it and throw it away (lit. 'throw it and it goes')?'

Content questions are formed with the noun *mat* 'what,' the pronoun *ñɨ* 'who,' the determiner *ba-* 'which,' and the verb *ite-* 'do what.' Content questions also commonly contain the interrogative, focus, and contrast markers found in yes/no questions, as for example in (335).

(335) **Ba-i**   *añɨga-z   gu-ram-itɨh-in=e   ara-ma-g.*
     QD-SET   dig-1.SS   give-put-FFUT-1SG=Q   say-PST-3SG.FAR
     '"Where will I bury you?" he asked.'

The noun *mat* functions syntactically like a common noun. It can serve as the subject of a clause (336), the object (337), an oblique (338), and an attributive noun (339). When in a

nonverbal clause, it does not take nominative case (340). It can be repeated to indicate a

plurality of questioned items (341).

(336) *Mat   ka-b   mɨg-id?*
      what   MD-NOM   come.down-3SG.IPST
      'What fell down?'   Elicited

(337) *Mat   ka-n   kriva-nad?*
      what   MD-ACC   look.for-2SG.IPST
      'What are you looking for?'   Elicited

(338) *Na   mat   kad   ahave-n   aiha-nad   ara-ma-g.*
      and   **what**   BEN   follow-2/3.SS   come-2SG.IPST   say-PST-3SG.FAR
      '"Now what are you following me for?" he asked.'

(339) *Mat   ñaŋña   ka-b=a,   nɨ   mis=ɨk   varv-id   ara-ma-g.*
      what   food   MD-NOM=INT   2SG.ACC   sweetness=ACC   bear-3SG.IPST   say-PST-3SG.FAR
      '"What's your favorite food (lit. 'what food bears sweetness to you')?" she asked.'

(340) *Ini-n   mat=a?*
      ND-ACC   **what=INT**
      'What is this?'

(341) *Pɨ=k   ruku-nad=ɨk=a,   mat   mat   ka-b   ñɨŋ-id=a?*
      house=ACC   see-2SG.IPST=ACC=INT   **what   what   MD-NOM**   stay-3SG.IPST=INT
      '(In) the house you saw, what all was there?'

Mat is also used as an interjection, as in English, to ask what is happening (342), and as a

filler when speakers cannot think of a word (343).

(342) *Ahe   ara-ma-g.   Nɨ-mɨn-ɨb   ŋara-ma-g   mat=a?*
      hey   say-PST-3SG.FAR   3.POSS-mother-NOM   speak-PST-3SG.FAR   **what=INT**
      'He said, "Hey!" His mother said, "What?"'

(343) *Ayaga   mat=ɨk   ka-b=avan.   Vana=k.*
      sago   **what=ACC**   MD-NOM=very   speech-ACC
      'The whatchamacallit about sago is just like that. The story.'

The interrogative pronoun *ñɨ* (sometimes *uñɨ*) 'who' is used to ask about people; it can

serve as a subject (344) or object (345), and has been observed with the possessive suffixes

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-bak (346) and –banɨk (347). One would expect that it can also occur with the postpositions

mad 'BEN' and rɨs 'COM,' but this has not been investigated.

(344) *Yak*   *ñamaŋ*   *ai-z*   *ram-in=ɨk,*   ***ñɨ-b***   *miŋ-id=a?*
1SG.POSS   brother.1.POSS   come-1.SS   put-1SG.IPST=ACC   **who-NOM**   get-3SG.IPST=INT
'Who took my brother that I came and put here?'

(345) ***Ñɨ=k***   *kriva-nad?*
who=ACC   look.for-2SG.IPST
'Who are you looking for?'   Elicited

(346) *Upas*   *ini-n*   ***ñɨ-bak=a?***
banana   ND-ACC   **who-POSS=INT**
'Whose is this banana?'

(347) *Pɨ*   *ini-n*   ***ñɨ-banɨk?***
house   ND-ACC   **who-POSS**
'Whose is this house?'   Elicited

The interrogative determiner *ba-* is used to form other question words, like 'where' (348), 'when' (349), and 'how much/many' (350). It can also take the accusative suffix *–n*, although this has only been observed in the construction illustrated in (351). This construction also occurs with the other determiners, like *ini-n kɨd* (ND-ACC CHAR) 'the ones from here.'

(348) *Urum*   *ini-b*   ***ba-i***   *ñɨ~ŋɨñ*   *ur-id=a?*
man   ND-NOM   **QD-SET**   stay~NMLZ   call.out-3SG.IPST=INT
'Where is this man staying and calling out?'

(349) *A-vɨ*   *rudi-b,*   ***ba-ñiŋar***   *kai*   *ai-tɨh-ur-id=a?*
1.POSS-uncle   PL-NOM   **QD-TEMPORAL**   LOC   come-FFUT-PL-3=INT
'When will my uncles come?'

(350) *Zɨ*   *akai,*   ***ba-ñas***   *miŋ-in,*   *pas*   *vaga=k?*
1SG   COMP   **QD-QUANTITY**   get-1SG.IPST   banana   leaf=ACC
'How many papers have I already taken?'

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(351) *Rum   arum   inɨ-b   **ba-n**   **kɨd**   ara-ma-g.*
     man   big   ND-NOM   **QD-ACC**   **CHAR**   say-PST-3SG.FAR
     '"Where is this big man from?" he asked.'

Questions can also be formed with the interrogative verb *ite-* 'do what.' Used finally, as in (352) and (353), it means 'do what'; used medially, as in (354) and (355), it usually has the sense of 'how.'

(352) *Ar   it-itɨha-r?*
     1PL   **do.what-FFUT-1PL**
     'What are we going to do?'   Elicited

(353) *Bɨ   itɨh-id?*
     3.NOM   **do.what-3SG.IPST**
     'What is he doing?'   Elicited

(354) ***Te-z***   *v-itɨha-r?*
     do.what-1.SS   go-FFUT-1PL
     'How are we going to go?'   Elicited

(355) *Pɨ=k   ruku-nad   ka-n,   **te-n**   ñiŋ-id,   ara-ma-g.*
     house=ACC   see-2SG.IPST   MD-ACC   **do.what-2/3.SS**   stay-3SG.IPST   say-PST-3SG.FAR
     '"The house you saw, what's it like (lit. 'how does it stay')?" she asked.'

Rhetorical questions are not very common in the texts I have recorded. Whether this is a byproduct of the speech genres and speakers that are represented in my corpus, or a more general feature of Manat, I cannot say. However, one example of a rhetorical question is shown in (356), which comes from a story in which a character experiences a great loss. While this loss is still fresh, his wives tell him that it's time to go, and the narrator makes the following remark about the character's condition.

(356) *Bɨ   te-n=a   ñitaka-n   v-ɨtak?*
     3.NOM   **do.what-2/3.SS=INT**   get.up-2/3.SS   go-FUT.INF
     'How is he supposed to just get up and go?'

The argument structure of *ite-* is not well understood. In (357), the accusative noun phrase appears to function semantically as an instrumental, while in (358) the accusative noun phrase resembles a more canonical object. (However, the fact that it is itself a question word complicates matters.)

(357) *Bram   tak   ka-n   tɨh-id?*
      arm   only   MD-ACC   **do.what-3SG.IPST**
      'What's he doing with his hand?'

(358) *Mat=ɨk   tɨha-ma-g?*
      what=ACC   **do.what-PST-3SG.FAR**
      'What did he do?'   Elicited

When other question words are combined with *ite-*, it is unclear what effect this has on the meaning of a question. For example, both (359) and (360) were given as translations for "Why are you doing that?" but I do not know how (or whether) they differ in meaning. Additionally, (361), a structurally similar line from a text, was translated "What are you guys doing to me?"

(359) *Mat   kad   kiha-nad?*
      what   BEN   do.thus-2SG.IPST
      'Why are you doing that?'   Elicited

(360) *Mat   kad   ka-nɨgɨm   tɨha-nad?*
      what   BEN   MD-ADJZ   **do.what-2SG.IPST**
      'Why are you doing (something like) that?'   Elicited

(361) *Zɨ   mat   kad   tɨha-rad   ar-id.*
      1SG   what   BEN   **do.what-2PL.IPST**   say-3SG.IPST
      '"What are you guys doing to me?" he's asking.'

Ite- is also used as a placeholder verb when speakers cannot think of a verbal word (362) or phrase (363).

(362) *Banɨk*   *amɨŋuna=k*   ***tɨ-m-d=a***   *abarvɨra-m-d=a.*
      3SG.POSS   stomach=ACC   **do.what-2SG.IMP-?=INT**   change-2SG.IMP-?=INT
      'Thingamajig his feeling (lit. 'stomach'), change it.'

(363) *Vana*   *inɨ-n*   *var,*   *tutausenfaif* *kai*   ***tɨ-ŋin,***
      speech   ND-ACC   indeed   2005   LOC   **do.what-1SG.RPST**

      sik   *mɨd-apar-in*   *mugu-g.*
      again   plant-throw-1SG.IPST   go.down-3SG.RPST
      'In 2005 I did what to this speech, I brought it up (lit. 'erected [plant-throw] it and it went down') again.'

2.7. Nonverbal Clause Structure

In this section I first describe the behavior of nonverbal predicates, and then the behavior of clauses with quasi-verb predicates.

2.7.1. Nonverbal Predicates

Manat does not have a copula. Rather, nonverbal predicates are formed by placing the first element in accusative case. The second element is placed in nominative case if it is a proper (364) or inalienably possessed noun (365), and left unmarked if it is a common noun (68).

(364) *Yak*   *adavi=k=a,*   *Mak-ɨb,*   *avaŋ=k*   *Askay-ɨb.*
      1SG.POSS   name=ACC=INT   Mark-NOM   father.1.POSS=ACC   Askay-NOM
      'My name is Mark, my father was Askay.'

(365) *Zɨ*   *amɨnak*   *ñamaŋ-ɨb=a.*
      1SG   2SG.POSS   brother.1.POSS-NOM=INT
      'I'm your younger brother.'

(366) *Inɨ-n*   *mav.*
      ND-ACC   loincloth
      'This is a loincloth.'

Not only nouns can serve as predicates. Predicates can also be formed with adjectives (367); postpositional phrases with *ire* (368) and *kɨd* 'characterized by' (369); and nominal (370) as well as pronominal (371) possessors.

(367) *Rum   inɨ-n   krɨs   avan.*
man   ND-ACC   bad   very
'This man is very bad.'   Elicited

(368) *Zɨ   pɨ=k   apɨh-in=ɨk   nɨ   ire   avan.*
1SG   house=ACC   thatch-1SG.IPST=ACC   2SG.ACC   like   very
'The house I built is just like you (i.e., like yours).'   Elicited

(369) *Yagutɨm=ɨk   yamat   kɨd.   Ka-n   hɨdah   barad.*
basket=ACC   now   CHAR   MD-ACC   Ramu.people   3PL.POSS
'The *yagutɨm* basket is a new thing. It's the Ramu people's.'

(370) *Azɨ=k   inɨ-n   ram-in   inɨ-n,   arum   hava   ka-barad.*
decoration=ACC   ND-ACC   put-1SG.IPST   ND-ACC   big   group   MD-POSS.PL
'These decorations that I'm wearing are the ancestors."

(371) *Pɨ=k   inɨ-n   yak.*
house=ACC   ND-ACC   1SG.POSS
'This house is mine.'   Elicited

As some of the examples above, such as (367) and (368), illustrate, nonverbal predicates can be modified by adverbs. Example (372), an exchange between two people looking at a picture, also illustrates this.

(372) *Inɨ-n   nadi   akad.*
ND-ACC   woman   maybe
'This might be a woman.'

Nadi   avan=a.
woman   very=INT
'(It's) definitely a woman.'

Nonverbal predicates can be negated with *manat* 'no' (94), which can also be used as the entire predicate, as in (374). In this example the subject is *marɨkɨk* 'sorcerer' and the nonverbal predicate might be more literally translated 'the sorcerer isn't.'

(373) *Maŋa=k   arumad   manat   tak=a.*
      ground=ACC   big.PRED   no   only=INT
      'There just isn't much land (lit. 'the ground just isn't big').'

(374) *A,   marɨk=ɨk   manat=a   ara-ma-g.*
      ah   sorcerer=ACC   no=INT   say-PST-3SG.FAR
      '"Ah, it's not a sorcerer," she said.'

The first element in a nonverbal predicate does not have to be a noun; for example, there is an example in the corpus of a possessive pronoun in this position (375).

(375) *Arɨd=ɨk   mɨkɨñ   ibum.*
      1PL.POSS=ACC   fishing.net   real
      'Ours are real fishing nets.'

Recall from §2.6.3.1 above that the accusative enclitic *=k* is attaching to nouns, and can sometimes be seen inside the noun phrase. This can also happen with nonverbal predicates (376).

(376) *Bra=k,   arɨd=ɨk,   arumad.*
      work=ACC   1PL.POSS=ACC   big.PRED
      'Our work is big.'

Finally, nonverbal predicates are usually unmarked for tense, and can be understood to have any time reference. However, if speakers wish to specify a tense, they can do so with the verb *ñɨ-* 'stay,' which agrees with the first element in the predicate. In (72), the verb *ñɨtɨhanad* 'you will stay' agrees with *nɨ*—but note that the pronoun is the accusative form, indicating that *ñɨtɨhanad* is only adding tense to the predicate *nɨ urum ibɨd* 'you're a good man.' In (378), the verb *ñɨmag* contributes tense to the nonverbal predicate that equates the

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nominalized clause *vanak vuparhar* 'we're disobedient' with the adjective *arumad*. Note that the first element is nominative, not accusative; I am unsure why that is. However, the fact that the adjective *arumad* appears in its special predicate form suggests that this is in fact a nonverbal predicate.

(377) Na   vana   ini-gim=ɨk   miŋatam-itɨha-nad=ɨk,   a,   nɨ   urum ibɨd
and   speech   ND-ADJZ=ACC   hear-FFUT-2SG=ACC   ah   2SG.ACC   man   good

ñ-ɨtɨha-nad=a.
stay-FFUT-2SG=INT
'And if you'll listen to this kind of talk, oh, you'll be a good man.'

(378) O   vana=k   vupa-rha-r   ka-b   arumad   ñi-ma-g.
oh   speech=ACC   push-HAB-1PL.PRS   MD-NOM   big.PRED   stay-PST-3SG.FAR
'Oh, our habit of being disobedient (lit. 'pushing speech') was big.'

2.7.2. Quasi–verb Predicates

In this section I discuss the structure of clauses formed with *ragam* and *makat* (§2.7.2.1), locational *nagid*, *nakad*, and *nagutid* (§2.7.2.2), motion *hɨd* (§2.7.2.3), and negative *manat* (§2.7.2.4).

2.7.2.1. Existential ragam and makat

There are two existential quasi-verbs, *ragam* (379) and *makat* (380), which I gloss 'exist' and 'none,' respectively.

(379) Maŋa   **ragam.**
ground   **exist**
'There's land.'   Elicited

(380) Maŋa   **makat.**
ground   **none**
'There isn't land.'   Elicited

Both of these can be used with an accusative noun phrase to express the possessor in statements about having, as in (381) and (382), and not having (91).

(381) *Nadi=k   ihɨr   ragam.*
woman=ACC   child   **exist**
'The woman has a child.'

(382) *Nadi   ini-n   bra   ragam, bɨ   bra   ka-n   miŋ-id.*
woman   ND-ACC   work   **exist**   3.NOM   work   MD-ACC   get-3SG.IPST
'This woman's got work, she's working.'

(383) *Nɨ   map   asi   makat.*
2SG.ACC   head   knowledge   **none**
'You don't have any head knowledge (i.e., you're dumb).'

Ragam and *makat* are not TAM-marked, and by themselves they can be interpreted as having any time reference. However, if speakers wish to mark them with a verbal category, be it final (384) or medial (385), they can pair them with the verb *ñɨ-* 'stay.'

(384) *Maŋa   ragam   ñ-ɨtɨha-r.*
ground   **exist**   stay-FFUT-1PL
'We'll have land.'

(385) *Ruku-r   arum   hava   makat   ñɨ-s,   ñitaka-z   Kuhɨn*
see-1PL.DS   big   group   **none**   **stay-3SG.DS**   get.up-1.SS   Kuhɨn

apuhu-ma-gɨr.
go.downstream-PST-1PL.FAR
'We looked and there were no elders, so we got up and went down to Kuhɨn.'

Clauses with *ragam* and *makat* can also have oblique arguments (386) and adverbs (387).

(386) *Bɨ   ini-ba,   hus   ragam   ñɨ-r-m-id.*
3.NOM   ND-LOC   sore   **exist**   stay-HAB-PST-3SG.HIS
'He used to have sores here.'

(387) *Asik   urum   makat   ñɨ-ma-g.*
again   man   **none**   stay-PST-3SG.FAR
'Once again there was nobody there.'

2.7.2.2. Locational nagid, nakad, and nagutid

Three quasi-verbs express physical location: *nagid* 'be.near' (388), *nakad* 'be.mid' (389), and *nagutid* 'be.far' (390).

(388) *Vu-n   ruku-s=a,   mɨna arum ka-b   **nagid**   agrama-ñi-ma-g.*
go-2/3.SS see-3SG.DS=INT pig   big   MD-NOM **be.near** stand-stay-PST-3SG.FAR
'He went and looked, and a big pig was standing right there.'

(389) *B=avan=a,   **nakad**   yarayara-n   rɨva-rh-ur-id.*
3.NOM=very=INT **be.mid** everyone-2/3.SS sing-HAB-PL-3.PRS
'They themselves were all there and sang.'

(390) *O   mɨna=k,   **nagutid.***
oh pig=ACC **be.far**
'Oh, a pig was there.'

As the examples above illustrate, these can either occur with a verb or stand alone. If they occur with a verb, as in (388) and (389), the subject occurs in nominative case, the verb agrees with the subject, and the quasi-verb functions essentially like a locative adverb. If they stand alone, as in (390), the subject is accusative and there is no verb agreement.

2.7.2.3. Motion hɨd

The quasi-verb *hɨd* (cognate with the verb *da-* 'walk'; both are descended from Proto-Sogeram *kɨnta* 'walk') expresses motion. Like the locational quasi-verbs described above, it can function as a predicate by itself (57), or it can occur inside a verbal clause (59). It can also be reduplicated in what is apparently the nominalization construction discussed in §2.5.3.3 (60).

(391) *Ara-n   ta-n   bɨ   hɨd.*
    say-2/3.SS leave-2/3.SS 3.NOM move
    'He said that, left, and went away.'

(392) *Akai hɨd   mɨkɨñ   kai mɨgu-ma-g.*
    okay move fishing.net LOC go.down-PST-3SG.FAR
    'Okay, he went down into the fishing net.'

(393) *Inɨ-ba   hɨd~ɨhɨd   rɨh-id   ar-ura-ma-g.*
    ND-LOC move~NMLZ do-3SG.IPST say-PL-PST-3.FAR
    '"She's wandering around here," they said.'

Because *hɨd* almost always occurs with verbs that already express motion of some sort, it is unclear exactly what meaning it contributes to clauses like (59).

2.7.2.4. Negative manat

The negative word *manat* can also function as a predicate, in which case it serves to negate the expected result of a preceding clause. In this construction the preceding clause is always a medial clause with different-subject marking. For example, in (394), an infant appears lifeless, so the characters shake it and discover that it has in fact died. As with other quasi-verbs, *manat* is unmarked for tense, but can occur with *ñɨ-* 'stay' if final (85) or medial (396) morphology is desired. Example (397) suggests that the verb will agree with the understood subject of the expected result that is being negated.

(394) *Mɨŋa-n=a,   ŋagar-ura-s   **manat.***
    get-2/3.SS=INT shake-PL-3.DS **no**
    'They took him and shook him, and no.'

(395) *O   trɨ-s   **manat ñɨ-ma-g.***
    oh pull-3SG.DS **no   stay-PST-3SG.FAR**
    'They pulled but they couldn't (pull it down).'

(396) *Bɨkman   devit-ɨb   ruku-s   **manat ñɨ-s,**   o   mɨgɨn akapai*
    big.man David-NOM see-3SG.DS **no   stay-3SG.DS** oh penis wrong

kiha-r   *ara-n*   *asik*   *vu-g.*
do.thus-1PL.IPST   say-2/3.SS   again   go-3SG.RPST
'Bigman David looked and there wasn't (anything), so he said, "Oh, shit, we messed up," and went back.'

(397) *Manat=a,*   *mɨr-in~mɨrin*   **manat**   **ñɨŋa-nad**   *ma*   *mɨŋatama-nad-ɨp=a*
       no=INT   wake.up-1SG.DS~SIM   **no**   **stay-2SG.IPST**   NEG   hear-2SG.IPST-CTR=INT

       ara-ma-g.
       say-PST-3SG.FAR
       '"No way, I woke you up but you didn't (wake up), you didn't hear," she said.'

Manat can also be used when speakers coordinate clauses with the Tok Pisin borrowing

o 'or' (88).

(398) *Mɨna*   *ka-b*   *prɨhar-ɨtrak-id*   *o*   **manat**   *akad*   *ara-rat-ur-id.*
       pig   MD-NOM   flee-IFUT-3SG   or   **no**   maybe   say-HAB-PL-3
       '"Will a pig run out or not (lit. 'maybe not')?" they say.'

2.8. Clause Combining

This section focuses on three special clause combining constructions—clause chaining and switch reference (§2.8.1), clause chain nominalization (§2.8.2), and the desiderative construction (§2.8.3)—as well as quoted speech (§2.8.4).

2.8.1. Clause Chaining and Switch Reference

Papuan languages are famous for their systems of clause chaining and switch reference, and Manat possesses a rather typical Papuan system of this type: a clause chain consists of any number of so-called "medial" clauses chained to what is called the "final" clause. The final clause is marked for TAM information, and this TAM marking has scope over all the preceding medial clauses. The final clause is also marked for subject agreement. Each medial clause, in turn, is marked for relative tense—that is, the temporal location of its

event relative to the event in the following clause—and switch reference. The meanings of the various relative tense categories that are marked on medial verbs are discussed in §2.5.2. In the following discussion I use the term "sentence" to refer to any complete clause chain—that is, a final verb preceded by zero or more medial verbs.

The switch reference marking functions as follows: if the clause following the medial clause has the same subject as the medial clause, the medial clause is marked 'SS' (399). The subject of same-subject medial verbs will be disambiguated by a following a final (400) or different-subject medial (401) verb.

(399) *Wɨya* **vu-z** **ruku-z** *aiha-r.*
just **go-1.ss** **look-1.ss** come-1PL
'We just went and looked and came back.' Elicited

(400) *Ke-z* *yara-z* *ñɨŋa-raŋ.*
do.thus-1.ss **everyone-1.ss** stay-1PL.IMP
'We'll do that and we'll all stay together.'

(401) *Tɨga=k* **mɨŋa-n** **ipaka-n** **ai-n** *ruku-s*
canoe=ACC **hold-2/3.ss** **come.across-2/3.ss** **come-2/3.ss** look-3SG.DS

nagid.
be.near
'He$_i$ got a canoe and came across and looked and he$_j$ was there.'

If, however, the clause following the medial clause has a different subject than the medial clause does, then the medial clause is marked 'DS' (402). In this case, the subject of the DS-marked clause will also be indicated on the verb.

(402) *Gra-s* *vu-s=a,* *eʔe* *ara-ma-g.*
put.in-3SG.DS **go-3SG.DS=INT** okay say-PST-3SG.FAR
'She put it in (lit. 'put it in and it went'), and he said, "Okay."'

Occasionally, the clauses in a clause chain will have differing time references, such that they would normally be marked by different tenses. When this happens, the tense on the

final verb is determined by its own time reference. For example, the medial clause in (403) refers to ancestors whose actions are marked with the far past habitual elsewhere in the same text. However, the final clause refers to current activity, and is marked immediate past.

(403) *Ka-n   akai bɨ   hum-ura-s ar   asik   akuru-da-r.*
     MD-ACC   COMP   3.NOM die-PL-3.DS 1PL   again carry-walk-1PL.IPST
     'Them, they all died and now we're carrying (these) around.'

2.8.1.1. Subject Overlap

The question of what constitutes the "same" subject for purposes of switch reference marking has occupied Papuanist linguists for quite some time. There are two main dimensions of the question: first, how are situations of partial subject overlap handled? And second, how do notions like topicality and agency interact with grammatical subjecthood to determine switch reference marking?

In regard to the first question, I have not performed extensive elicitation geared at discovering how partial subject overlap is handled, but there are a few relevant sentences in the corpus. In (2), the subjects of both clauses are 3PL, but the second is a subset of the first. Similarly, in (405), the 3SG subject of the second clause is contained in the 3PL subject of the first two clauses. In both cases, the change is marked SS.

(404) ***Aŋra-vata-n***   *muhrɨt ka-b   inɨ-ba   aih-ura-ma-g=a.*
     run-swim-2/3.SS   some   MD-NOM ND-LOC come-PL-PST-3.FAR=INT
     'They ran away, and some came here.'

(405) *As   kanke-n   ñɨ~ŋɨñ   **dakuru-n***   *asik, bikman*
     so   do.that-2/3.SS stay~NMLZ **walk.around-2/3.SS**   again big.man

Devit-ɨb   ruku-s ...
David-NOM   see-3SG.DS
'So they stayed like that and Bigman David looked again and ...'

No examples of the opposite change, a clause chain in which the subject of one clause is a subset of the subject of the following clause, occur in the corpus. In elicitation, speakers readily accepted both possible markings, shown in (406) and (407).

(406) *Zɨ*   **ñitaka-z**   *v-itraka-r.*
    1SG   **get.up-1.SS**   go-IFUT-1PL
    'When I get up, we'll go.'   Elicited

(407) *Zɨ*   **ñitak-ɨt**   *v-itraka-r.*
    1SG   **get.up-1SG.DS**   go-IFUT-1PL
    'When I get up, we'll go.'   Elicited

2.8.1.2. *"Subjecthood" in Switch Reference*

The second question posed above—how is the notion "subject" defined for purposes of switch reference?—is difficult to answer. In many languages, topicality and other discourse notions play a significant role in determining how switch reference marking is used. In Manat, however, "subject" is defined in a strictly syntactic way in the vast majority of cases. Thus, when expressing the action of a topical human agent on a non-topical, unfocused, non-agentive, inanimate patient, as with a man cutting houseposts in (408), the switch reference system still treats the posts as a subject.

(408) *Mɨgr-ɨt   aku-s   akuru-vu-z,   ram-itih-in   ara-ma-g.*
    cut-1SG.DS   go.up-3SG.DS   carry-go-1.SS   put-FFUT-1SG   say-PST-3SG.FAR
    '"I'll cut (them) up (lit. 'cut them and they'll go up') and carry them and set them (up)," he said.'

In fact, even inanimate forces like anger (409) and meteorological phenomena like sunrises (410) are treated as subjects by the switch reference system.

(409) *Bɨ*   *yaba*   *krɨs*   *ka-n*   *ña-n,*   *ki-s*   *akai*
3.NOM   water   bad   MD-ACC   eat-2/3.SS   do.thus-3SG.DS   COMP

     gɨv   *ka-b*   *aka-s*   *nɨ-pɨhɨn=ɨk*   *akai*   *iv-id.*
     anger   MD-NOM   come.up-3SG.DS   3.POSS-wife=ACC   COMP   hit-3SG.IPST
     'He drank beer and got mad (lit. 'anger came up') and he hit his wife.'

(410) *Mɨga-ñɨ-s*   *ŋwamkwa-s=a,*   *bamda=k,*   *hɨd*   *vu-ma-g.*
     come.down-stay-3SG.DS   dawn-3SG.DS=INT   morning=ACC   move   go-PST-3SG.FAR
     'He slept and it dawned and in the morning he went.'

Out of over twenty examples of meteorological phenomena in my corpus, only one, shown in (411), is not treated as a subject by the switch reference system. When I transcribed this example, I was working with the speaker and his younger brother. It seemed as though they were about to call the formulation ungrammatical, but when I played it again they agreed that it was acceptable. It seemed to amuse them, though, and both clearly preferred *rivas*, with the 3SG.DS suffix –*s*, to the *rivan* which the text contains.

(411) *Rɨva-n=a,*   *ŋamkwa-s=a,*   *azɨ=k*   *rama-n*   *bɨ*   *hɨd.*
     sing-2/3.SS=INT   dawn-3SG.DS=INT   decoration=ACC   put-2/3.SS   3.NOM   move
     'He sang and it dawned and he put his decorations (there) and left.'

I have found one other example of an apparent switch reference mismatch, shown in (412). I did not investigate this sentence further, and cannot say how acceptable it seems to speakers. However, (411) and (412) suggest that notions such as animacy or humanness may influence switch reference marking in some corner cases.

(412) *Vɨhɨr*   *ka-b,*   *kubru-n=a,*   *kuñak*   *ka-b*   *busak*
     bamboo   MD-NOM   break-2/3.SS=INT   bird.sp   MD-NOM   first

     ipa-ma-g.
     come.out-PST-3SG.FAR
     'The bamboo broke, and a *kuñak* came out first.'

Eventhood—whether two clauses are conceived of as expressing the same event or not—does not appear to play a significant role, as examples like (413) suggest. Here *gras vus* means 'insert' and would probably be conceived of as a single event by most speakers. Nevertheless, the transition is marked different subject, and similar transitions are consistently marked different subject in the corpus.

(413) *Gra-s   vu-s=a,   eʔe   ara-ma-g.*
      put.in-3SG.DS   go-3SG.DS=INT   okay   say-PST-3SG.FAR
      'She put it in (lit. 'put it in and it went'), and he said, "Okay."'

2.8.1.3. Counterfactual *rɨp*

The counterfactual particle *rɨp*, glossed 'if,' marks a clause as counterfactual, as in (414) and (415), or conditional, as in (416). It only occurs on medial or nonverbal clauses, and cannot follow a final verbal clause. (Example (414) was said by a mother to her child, which explains the use of the 2.POSS form for 'father' to say that she doesn't have a husband.)

(414) *Zɨ   na-va   ragam **rɨp=a**   ihɨr   mu=k,   varv-in-ɨp*
      1SG   2.POSS-father   exist   **if=INT**   child   SPEC=ACC   birth-1SG.IPST-CTR

      ara-ma-g.
      say-PST-3SG.FAR
      '"If I had a husband, I'd have born another child," she said.'

(415) *Zɨ   ahusa   makat. Zɨ   ahusa   ragam **rɨp,** nɨ   ig-in-ɨp.*
      1SG   betelnut   none   1SG   betelnut   exist   **if**   2SG.ACC   give-1SG.IPST-CTR
      'I don't have any betelnut. If I had betelnut, I'd give you some.'   Elicited

(416) *Yaba   ka-b   ma   mɨga-s   **rɨp,**   him=ɨk   hr-ɨtraka-r.*
      water   MD-NOM   NEG   come.down-3SG.DS   **if**   grass.sp=ACC   roast-IFUT-1PL
      'If it doesn't rain, we'll burn the *him* grass.'   Elicited

2.8.2. Clause Chain Nominalization

Manat possesses a construction in which a clause chain is nominalized by placing a determiner after it, and this nominalized chain then functions as an argument in a matrix clause. While the subordinate clause chain usually consists of just a single final clause, multiple chained clauses can be subordinated so I term this construction 'clause chain nominalization.' Examples of clause chains subordinated with *kab* (417) and *=k* (418) are given below.

(417) *Na*   *[ihɨr=ɨk*   *ipaka-z*   *ram-in*   *]*   *ka-b*   *ba-i*   *v-id*
       and   child=ACC   come.across-1.SS   put-1SG.IPST   MD-NOM   QD-SET   go-3SG.IPST

       ara-ma-g.
       say-PST-3SG.FAR
       '"Where did the boy that I came across and put here go?" he asked.'

(418) *[Pɨ=k*   *give-z*   *t-in]=ɨk=a,*   *akai*   *aguvatɨkar-id*
       house=ACC   mark-1.SS   leave-1SG.IPST=ACC=INT   COMP   appear-3SG.IPST

       ara-ma-g.
       say-PST-3SG.FAR
       '"The houses I marked and left, they've already appeared," he said.'

2.8.2.1. Structure of the Nominalized Clause Chain

The nominalized clause chain appears to be quite unrestricted structurally—essentially any clause chain that can function as a matrix clause chain can function as a nominalized clause chain. If the nominalized chain is verbal, it can be marked for the full range of TAM categories (although I do not have any examples of subordinated imperative or prohibitive clauses, and these may not be allowed). Examples of subordinated clause chains with TAM marking that is different from the matrix clause are given in (419) and (420). Nonverbal

subordinate clauses are also allowed, as illustrated with a *ragam* quasi-verb clause embedded in a verbal clause in (421).

(419) *O*   *[vana=k*   *vupa-rha-r*   *]*   *ka-b*   *arumad*   *ñi-ma-g.*
oh   speech=ACC   push-HAB-1PL.PRS   MD-NOM   big.PRED   stay-PST-3SG.FAR
'Oh, our habit of being disobedient (lit. 'pushing speech') was big.'

(420) *Ka-n*   *arɨd*   *hiki,*   *[arum* *ka-b*   *ki-r-m-id*   *]*   *ka-n*
MD-ACC   1PL.POSS   custom   big   MD-NOM   do.thus-HAB-PST-3SG.HIS   MD-ACC

ŋareih-in.
follow-1SG.IPST
'That's our custom, I follow what the ancestor used to do.'

(421) *[Hus*   *ñiŋi*   *ragam]*   *ini-b=a,*   *ŋara-ma-g.*
sore   little   exist   ND-NOM=INT   speak-PST-3SG.FAR
'The one with little sores spoke.'

It even seems that nominalized clauses can have their own embedded clauses (422).

(422) *[Zɨ*   *[hɨmñav=ik*   *rɨva-rad*   *]*   *ka-n=a,*   *miŋatam-in* *]*   *ka-n*   *ibɨd*
1SG   song=ACC   sing-2PL.IPST   MD-ACC=INT   hear-1SG.IPST   MD-ACC   good

ñɨŋ-id   *avan.*
stay-3SG.IPST   very
'The song that I heard you sing was very good.'   Elicited

2.8.2.2. Functions of Nominalized Clause Chains in Matrix Clauses

Subordinated clause chains can, in principle, be subordinated by any determiner, and can serve any function in the matrix clause. However, in practice, most clauses are subordinated by a nominative determiner, an accusative determiner, or the accusative enclitic *=k*. Clauses subordinated by a nominative determiner function as subjects (423); clauses subordinated in accusative case can fulfill any of the functions of accusative case, including serving as objects (424) and topic-fronted statements (425).

(423) [Inɨ-ba ai-rat-rɨ   ] ka-b,   vad   bara=k   inɨ-ba miŋa-rha-r.
      ND-LOC come-HAB-1PL MD-NOM tree   stick=ACC ND-LOC get-HAB-1PL.PRS
      'We who come here get sticks here.'

(424) [Tat maka   ragam] inɨ-n   ruku-m-d.
      fire branch   exist   ND-ACC   see-2SG.IMP-?
      'Look at this policeman (lit. 'the one who has a stick').'

(425) [Pɨ=k   ruku-nad]=ɨk=a,   mat   mat   ka-b   ñiŋ-id=a?
      house=ACC   see-2SG.IPST=ACC=INT   what   what   MD-NOM stay-3SG.IPST=INT
      '(In) the house you saw, what all was there?'

However, clause chains can also be subordinated by adjectival determiners (426) and
possibly locative determiners (427)—although this last example is difficult because *inɨba*
'here' could also be analyzed as a postposed argument of the first clause. I do not have any
examples of clauses subordinated by benefactive or setting determiners.

(426) [Vana=k,   nak-in   ] ka-nɨgɨm, tukubrama~dam,   naku-m-d.
      speech=ACC   talk-1SG.IPST MD-ADJZ   well~NMLZ   talk-2SG.IMP-?
      'Talk well like I talked.'

(427) [Bɨ   hɨd   apɨha-ma-g   ] inɨ-ba,
      3.NOM move   come.downstream-PST-3SG.FAR   ND-LOC

      apɨha-s~apɨhas=a ...
      come.downstream-3SG.DS~SIM=INT
      'He was coming downstream here where he came downstream and ...'

2.8.2.3. Semantic Interpretation

The interpretation of nominalized clauses appears to be determined primarily by
pragmatics. Sometimes, the clause is interpreted as referring to one of its arguments—e.g.,
the subject in (428) or the different objects in (429) and (430)—in which case it resembles
an internally headed relative clause. Sometimes, nominalized clauses can even be
interpreted as referring to a subset of one of their arguments (431). Sometimes, the

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nominalized clause is interpreted as referring to an argument that has been elided, in which case it resembles a headless relative clause (100).

(428) *Ruku-n   [tɨga=k   añir-ura-ma-g   ] ka-b   ŋar-ura-ma-g.*
see-2/3.SS canoe=ACC sharpen-PL-PST-3SG.FAR MD-NOM speak-PL-PST-3.FAR
'The ones who were hollowing out a canoe looked and spoke.'

(429) *[Yak   ñamaŋ=k   ai-z   ram-in]=ɨk,   ñɨ-b*
1SG.POSS brother.1.POSS=ACC come-1.SS put-1SG.IPST=ACC who-NOM

mɨŋ-id=a?
get-3SG.IPST=INT
'Who took my brother that I came and put here?'

(430) *[Ayaga=k   zɨ   igu-nad]=ɨk   zɨ   akai   ñ-in.*
sago=ACC 1SG give-2SG.IPST=ACC 1SG COMP eat-1SG.IPST
'I already ate the sago you gave me.'   Elicited

(431) *O   [urum=ɨk   añɨŋuta kai aih-ur-id   ] ka-b   akai   prav-id=i.*
oh man=ACC three LOC come-PL-3.IPST MD-NOM COMP finish-3SG.IPST=Q
'Oh, (of) the three men who came, (one) must have disappeared.'

(432) *[Ŋar-in   ] ka-n   mɨŋatama-nad ag?*
speak-1SG.IPST MD-ACC hear-2SG.IPST FOC
'Did you hear what I said?'

Other times, however, nominalized clause chains are interpreted as referring to the entire event that they refer to, not just one participant in that event. This is most common when the embedded chain is serving as a fronted topic (see §2.6.5), as in (433) and (434), but can also occur with clause chains in core argument position, like (435).

(433) *[Namad   kuku-rama~dama   ñɨ-ŋin]=ɨk=a,   akai   ai-ŋinad.*
2SG.BEN think-PUT~NMLZ stay-1SG.RPST=ACC=INT COMP come-2SG.RPST
'(When) I was thinking about you, you came.'

(434) *[Na-van-ɨbak   abɨ   kai ñ-itɨha-nad]=ɨk,   na-mɨn-ɨbak*
2.POSS-father-POSS presence LOC stay-FFUT-2SG=ACC 2.POSS-mother-POSS

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abɨ=k,　　　　vana=k　　　ibɨd　ibɨd　ka-n　　　miŋ-itɨha-nad.
presence=ACC　speech=ACC　good　good　MD-ACC　　get-FFUT-2SG
'If you stay in your father's presence, your mother's presence, you'll get very good speech (i.e., knowledge).'

(435) *O　[vana=k　　　vupa-rha-r　　　]　ka-b　　　arumad　ñi-ma-g.*
oh　speech=ACC　push-HAB-1PL.PRS　MD-NOM　big.PRED　stay-PST-3SG.FAR
'Oh, our habit of being disobedient (lit. 'pushing speech') was big.'

Often, of course, the boundary between different readings can be blurred. The subordinate clause in (436) could be interpreted as referring to the work (he didn't see *the work she was doing*) or to the event (he didn't see *that she was working*). Examples like this illustrate the fact that clause chain nominalization is a single, coherent construction type in Manat, and these divisions into different semantic types are something of a (useful) analytic fiction.

(436) *Na　[nɨ-mɨn-ɨb　　　bra=k　　　da-ma-g　　　]　ini-n,　banɨk　ña*
and　3.POSS-mother-NOM　work=ACC　walk-PST-3SG.FAR　ND-ACC　3SG.POSS　son

ka-b　　　ma　ruku-ma-g-ɨp.
MD-NOM　NEG　see-PST-3SG.FAR-CTR
'And the work the mother was doing, her son didn't see.'

2.8.2.4. Discourse Functions

The discourse functions of nominalized clause chains are a rich topic that would doubtless yield fascinating results if researched in greater detail. I lack the data for such a detailed investigation here, but I do sketch out some of the possibilities.

The fact that these clause chains are nominalized, and the fact that they often have a relative-clause-like interpretation when translated into English, suggests that they would often be used to refer to events, or event participants, which have already been established and which play a role in the ongoing discourse. For example, (437) comes from a text that

describes a group of people scattering and staying in several villages, including Akavanku. Later in the text, the subordinate clause *Akavaŋku ñiŋuramag kab* 'those staying in Akavanku' is used to refer to those people.

(437) *Da-s~das*   *[Akavaŋku ñiŋ-ura-ma-g] ka-b*   *ruk-ura-s*   *kanke-n*
walk-3SG.DS~SIM   Akavanku stay-PL-PST-3.FAR   MD-NOM   see-PL-3.DS   do.that-2/3.SS

ñɨ-s   *eʔe.*
stay-3.DS   okay
'As he was doing that, those staying in Akavanku looked and he was doing that and (they said), "Okay."'

While this function is certainly very common, these clauses are used not only to refer to events and participants that have previously been established in the discourse, but also to advance the discourse. For example, (438) presents several clauses from the same text as (437) above. The subordinate clause in line (b), while referring to the group of people that form the topic of this stretch of discourse, also advances the story by stating that, after going to Madɨgɨm, they stayed there a while. Similarly, the subordinate clause in line (e), while referring to the same group of people, and while repeating the same event (staying in Pever) that is described in lines (c) and (d), expands on that event by making it progressive via the nominalized verb construction described in §2.5.3.3. And finally, the subordinate clause in line (d) most resembles the tail-head linkage construction discussed in §2.9.1 below.

(438) a. *[Ka-ba*   *ñɨ~ŋiñ*   *d-ura-ma-g*   *] ka-b*   *ñitaka-n,*   *vu-n*
MD-LOC   stay~NMLZ   walk-PL-PST-3.FAR   MD-NOM   get.up-2/3.SS   go-2/3.SS

Madɨgɨm.
Madɨgɨm
'The ones staying there got up, and went to Madɨgɨm.'

b. [*Madɨgɨm ñɨŋ-ura-ma-g*] *ka-b,*
Madɨgɨm stay-PL-PST-3.FAR MD-NOM
'They stayed in Madɨgɨm and,'

c. *Madɨgɨm ñitaka-n, ipaka-n asik, Pever ñɨŋ-ura-ma-g.*
Madɨgɨm get.up-2/3.SS come.across-2/3.SS again Pever stay-PL-PST-3.FAR
'they got up from Madɨgɨm and came across and stayed in Pever again.'

d. [*Pever ñɨŋ-ura-ma-g*] *ka-b,*
Pever stay-PL-PST-3.FAR MD-NOM
'They stayed in Pever and,'

e. [*ka-ba ñɨ~ŋiñ da-rh-ura-m-id*] *ka-b da-n da-n ...*
MD-LOC stay~NMLZ walk-HAB-PL-PST-3.HIS MD-NOM walk-2/3.SS walk-2/3.SS
'Staying there they went and went (i.e., stayed and stayed) and ...'

2.8.3. The Desiderative Construction

Manat uses a dedicated complex construction to express the idea 'X wants to do Y' or 'X is about to do Y.' In this construction, which translates literally to, 'X says, "I should do Y,"' the activity Y is marked with the 1SG imperative suffix *–itɨŋ* and the subject X is the subject of the verb *ara-* 'say.' Examples are given in (439) and (440).

(439) *Mɨdapma-n ipa-n, akai, **ur-itɨŋ** ara-s=a ...*
open-2/3.SS come.out-2/3.SS okay, **call.out-1SG.IMP** say-3SG.DS=INT
'He opened (it) and came outside, and okay, he wanted to call out and ...'

(440) *Igu-n ta-n=a, **memt-itɨŋ** ara-s=a ...*
give-2/3.SS leave-2/3.SS=INT **scoot-1SG.IMP** say-3SG.DS=INT
'He gave (it to them) and was done and wanted to go ('scoot') and ...'

It seems that the suffix *–itɨŋ* '1SG.IMP' has become frozen in this construction; in (441), *-itɨŋ* is still used in spite of the fact that the subject is plural and *–raŋ* '1PL.IMP' would be expected.

(441) *Amid kai **avɨh-itɨŋ** ar-ura-ma-g.*
axe LOC **chop-1SG.IMP** say-PL-PST-3.FAR
'They wanted to chop (him) with an axe'

2.8.4. Quoted Speech

Manat has two verbs which introduce quoted material: *ŋara-* 'speak,' which precedes the

quoted material, and *ara-* 'say,' which follows it. Both verbs can be used together under the

same intonation contour, as in (442), although this is not very common.

(442) *Zɨ*   **ŋar-in**   *mɨna*   **ar-in**   *ara-ma-g.*
       1SG   **speak-1SG.IPST**   pig   **say-1SG.IPST**   say-PST-3SG.FAR
       '"I thought it was a pig (lit. 'I said (it's a) pig')," he said.'

More commonly, *ŋara-* will be used to introduce a stretch of dialogue, and then *ara-* will

be used throughout the dialogue to end each quote, as in (443)

(443) a. *Aŋañahɨr*   *añɨr-ura-s~añɨruras=a,*   *aku-n=a,*   **ŋara-ma-g.**
          Aŋañahɨr   sharpen-PL-3.DS~SIM=INT   go.up-2/3.SS=INT   **speak-PST-3SG.FAR**
          'While they were hollowing out (a canoe) at Angañahɨr, he went up and spoke.'

      b. *Oi*   *ara-ma-g.*
         hey   **say-PST-3SG.FAR**
         '"Oi!" he cried out.'

      c. *O*   *ar-ura-ma-g.*
         oh   **say-PL-PST-3.FAR**
         '"Ooh!" they replied.'

However, the post-quote verb *ara-* is not obligatory; speakers sometimes use it and

sometimes leave it understood, as (444) illustrates.

(444) a. *Nɨ-m=ɨk*   *ruku-s*   *nɨ-mɨn-ɨb*   **ŋara-ma-g.**
          3.POSS-mother=ACC   see-3SG.DS   3.POSS-mother-NOM   **speak-PST-3SG.FAR**
          'He looked at his mother and she spoke.'

      b. *Mɨna=k=a,*   *ruku-nad*   *ag?*
         pig=ACC=INT   see-2SG.IPST   FOC
         "Have you seen any pigs?"

      c. *Manat*   **ara-ma-g.**
         no   **say-PST-3SG.FAR**
         "No," he said.

2.9. Discourse

Discourse is an enormous topic, and I do not attempt a comprehensive description here. Rather, I focus on a few select phenomena: tail-head linkage (§2.9.1), the declarative enclitic *=a* (§2.9.2), and the focus particle *ag* (§2.9.3).

2.9.1. Tail–head Linkage

Tail-head linkage is a widespread discourse phenomenon in Papuan languages (cf. de Vries 2005) in which the last clause(s) of a clause chain (the 'tail') are recapitulated as the first clause(s) of the following chain (the 'head'). Example (445) illustrates this with the verb *igu-* 'give.'

(445) a. *Vana=k var **igu-ma-g.***
   speech=ACC indeed **give-PST-3SG.FAR**
   'He talked to him (lit. 'gave him speech').'

  b. ***Igu-n,*   akei miŋa-n ŋatitri-s ...**
   give-2/3.SS okay get-2/3-SS pull-3SG.DS
   'He gave it, okay he took him and pulled him and ...'

Tail-head linkage can also occur with multiple verbs, as with the DS pair *gras vu-* 'put inside' in (446). The next example, (447), shows a tail-head linked SS pair between lines (a) and (b), and a clause recapitulated with the oblique argument *tiga kai* 'in the canoe' between lines (b) and (c).

(446) a. *Vu-n   batɨ-n=a,   hɨd **gra-s**   **vu-ma-g.***
   go-2/3.SS sit-2/3.SS=INT move **put.in-3SG.DS** **go-PST-3SG.FAR**
   'She went and sat down, and put it inside.'

  b. ***Gra-s**   **vu-s=a,**   eʔe ara-ma-g.*
   put.in-3SG.DS **go-3SG.DS=INT** okay say-PST-3SG.FAR
   'She put it inside, and he said, "Okay."'

(447) a. *Vidhug   arum ire   tɨga   kai   **mɨŋahare-n**   vu-ma-g.*
        eel   big   like   canoe LOC **follow-2/3.SS**   go-FAR-3SG.PST
        'He followed the canoe like a big eel.'

      b. ***Mɨŋahare-n**   vu-s=a,   vɨhɨr   bara   kai   mudu-n*
        follow-2/3.SS   **go-3SG.DS=INT**   bamboo stick LOC shoot-2/3.SS

        *mɨŋa-n   igu   kai, mɨŋa-n   **tɨga**   **kai** **ram-ura-ma-g.***
        hold-2/3.SS back.of.head LOC hold-2/3.SS **canoe** **LOC** **put-PL-FAR-3.PST**
        'He followed along and they stabbed him with the bamboo stick and got him in
        the back of the head, and they took him and put him in the canoe.'

      c. ***Tɨga**   **kai** **rama-n**   hɨd akuru-v-ura-ma-g.*
        canoe **LOC** **put-2/3.SS**   go carry-go-PL-FAR-3.PST
        'They put him in the canoe and took him away.'

Occasionally, longer sequences of expected activity will be connected by tail-head

linkage, as with the sequence of getting food, cooking it, and eating it in (448).

    (448) a. *Ñaŋña=k   mɨŋa-n,   imɨr,   yaz,   kune-n,   **kɨv-ura-ma-g.***
        food=ACC   get-2/3.SS   meat greens bring-2/3.SS **cook-PL-PST-3.FAR**
        'They got food—meat and greens—and brought it and cooked it.'

      b. ***Kɨva-n=a,**   ñ-ura-ma-g.*
        cook-2/3.SS=INT   eat-PL-PST-3.FAR
        'They cooked it, and ate it.'

      c. ***Ña-n=a,**   mɨrsi   kai   akai,   ŋara-ma-g.*
        eat-2/3.SS=INT   afternoon LOC COMP speak-PST-3SG.FAR
        'They ate it, and in the afternoon, she spoke.'

2.9.2. The Enclitic *=a*

The enclitic *=a*, which I gloss 'INTENSIFIER/LINKER,' is found on the end of many phrases and

clauses. It occurs at the end of an intonation unit and serves two broad functions. First, it

intensifies statements in dialogue. This is illustrated in (38), in which it attaches to the

negative *manat*, the vocative *amɨŋ*, and the imperative *ais*. It also adds force to questions, as

illustrated in (39).

(449) *Manat=a   amiŋ=a,   ŋar-in   ai-s=a,   ara-ma-g.*
     no=INT   mother.1.POSS=INT   speak-2SG.DS   come-3SG.IMP=INT   say-PST-3SG.FAR
     '"No way Mom! Tell it to come back!" he said.'

(450) *Upas   ini-n   ñi-bak=a?*
     banana   ND-ACC   who-POSS=INT
     'Whose is this banana?'

The second function of *=a* occurs in monologue, in which it serves a more connective function. It occurs at the end of a clause or phrase, adding focus to that constituent and signaling that the utterance is still incomplete. In this function, it has been observed attaching to—among other constituents—subjects (451), objects (452), fronted topics (453), and same-subject (454) as well as different-subject (95) medial verbs.

(451) *Arɨd   arum hava   ka-b=a,   ini-n   aviha-rh-ura-m-id.*
     1PL.POSS   big   group   MD-NOM=INT   ND-ACC   tie-HAB-PL-PST-3.HIS
     'Our ancestors used to wear this.'

(452) *Banɨk   kuku-rama~dama=k   ka-n=a,   abarvɨra-m-d=a.*
     3SG.POSS   think-put~NMLZ=ACC   MD-ACC=INT   change-2SG.IMP-?=INT
     'Change his thinking.'

(453) *Itu-n=a,   ihɨr   ini-b,   amiŋ   ara-ma-g=a.*
     FD-ACC=INT   child   ND-NOM   mother.1.POSS   say-PST-3SG.FAR=INT
     'That one, this boy, said, "Mom!"'

(454) *Ñɨs=ɨk   iva-z   aviha-z=a,   ipra-z=a,   igi=k*
     palm.sheath=ACC   hit-1.SS   chop-1.SS=INT   break.up-1.SS=INT   palm.bark=ACC

     ade-z=a,   ivarida-z=a,   ade-z=a,   asik
     process.sago-1.SS=INT   clear.across-1.SS=INT   process.sago-1.SS=INT   again

     igi=k   ragu-rat-rɨ.
     palm.bark=ACC   clear-HAB-1PL
     'We remove the sheath, cut it, break it up, remove the bark, clear it to the other side, and process it and clear out the bark again.'

(455) *Akai ñiŋ-ura-s~ñiŋuras=a,   rum   ini-b   ini-ba   da-ma-g.*
     okay   stay-PL-3.DS~SIM=INT   man   ND-NOM   ND-LOC   walk-PST-3SG.FAR
     'While they were there, this man was wandering around here.'

In light of the heterogeneity of these functions, I have chosen the (somewhat inelegant) label 'INTENSIFIER/LINKER' for this enclitic.

2.9.3. The Focus Particle *ag*

The particle *ag* adds pragmatic focus to the constituent that it follows. For example, in (456), it is the postpositional phrase *hid kai* 'later'; in (457), the pronoun *bavan* 'he himself'; in (458), the medial clause *nɨ mɨrin* 'I woke you up'; in (459), the final clause *mɨnak rukunad* 'you saw the pig.'

(456) *Am   hid   kai   **ag**   anaku-m-d.*
      2.NOM after LOC **FOC** talk-2SG.IMP-?
      'You talk *later*.'

(457) *Vu-n=a,   ruk-ura-s   b=avan   **ag**   ai-n=a ...*
      go-2/3.SS=INT see-PL-3.DS 3.NOM=very **FOC** come-2/3.SS=INT
      'They went and looked, and he himself came and ...'

(458) *A   nɨ   mɨr-in   **ag=a,**   ma   miŋatama-nad-ɨp.*
      ah 2SG.ACC wake.up-1SG.IPST **FOC=INT** NEG hear-2SG.IPST-CTR
      'Ah, I *did* wake you up, but you didn't hear.'

(459) *Mɨna=k=a,   ruku-nad   **ag?***
      pig=ACC=INT see-2SG.IPST **FOC**
      'Did you see the pig?'

Sometimes *ag* has the sense of 'also,' as in (460).

(460) *Apar   kɨd   ka-b   aku-n   mɨd-ura-ma-g.*
      mountain CHAR MD-NOM go.up-2/3.SS plant-PL-PST-3.FAR

      *Inɨ-n   kɨd   ka-b   mɨd-ura-ma-g   **ag.***
      ND-ACC CHAR MD-NOM plant-PL-PST-3.FAR **FOC**
      'The ones from the mountains went up and planted (theirs). The ones from here planted (theirs), too.'

It is also often used idiomatically in expressions like *had ag* (now FOC) 'that's right!' and the construction illustrated in (461), in which a same-subject medial verb with *ag* is

interpreted as '[Subject] should/will [V] first.' This construction appears to have arisen from clause chains like the one in (462).

(461) *Amɨgrama-z* ***ag.***
    arrange-1.SS FOC
    '(Let me) clean up first.'   Elicited

(462) *Pɨ*   *kai*   *vu-z*   ***ag,***   *asik*   *ai-tak-in.*
    house   LOC   go-1.SS   FOC   again   come-IFUT-1SG
    'I'll go to the house first, then I'll come.'   Elicited

Sirva Grammar Sketch

3.1. Introduction

Sirva [sbq] is a Papuan language spoken in central Madang Province, Papua New Guinea, from the upper Gogol River in the east to the confluence of the Savai and Sogeram Rivers in the west. It is a Trans-New Guinea language, belonging to the Madang branch of Trans-New Guinea and then to the South Adelbert subgroup. Within South Adelbert, it belongs to the Sogeram group. It is spoken in the villages of Kamambu, Kumbuna, Musita, and Sileibi, and its vitality is threatened by Tok Pisin. In Kamambu, the only village I visited, speakers all appear to be at least 30 years old; children and younger adults seem to possess passive fluency at best. I estimate the number of fluent speakers in Kamambu at no more than a few dozen. If one assumes similar situations in the three other villages, as I do, there are probably no more than 250 fluent speakers of Sirva left.

Sirva has previously been referred to as Sileibi, starting with John Z'graggen (1975*a*,*b*) and continuing up to the most recent version of the *Ethnologue* (Lewis et al. 2015). But this is the name of a village, and speakers refer to their own language by the name *Sirva*, a word which does not appear to have any other meaning in the language. I adopt their usage here.

3.1.1. Previous Research

Of the nine Sogeram languages, Sirva was the last to be discovered by linguists. In his first monograph on the languages of Madang, John Z'graggen made no mention of Sirva, although he did mention that Sirva's closest relative, Mum, "might well form a part of a larger family with languages yet to be discovered in a larger unsurveyed area west of [the village of] Katiati" (Z'graggen 1971: 59). Z'graggen's suspicions were eventually confirmed in one regard—Mum was, in fact, related to nearby unsurveyed languages—but it happens that Sirva is located to the east, not the west, of Katiati.[21] He surveyed the Sirva area "from January 1971 to November 1973" (Z'graggen 1980*a*: v) and collected a wordlist, based on which he grouped the language with Mum in his "Sikan" family. In 1975, he listed the four Sirva-speaking villages of Kamambu, Kumbuna, Musita, and Sileibi, with a total population of 259 (Z'graggen 1975*a*: 29). At this time he also described Sirva as "a new entry, additional to those given in" his 1971 monograph (Z'graggen 1975*b*: 584).

In these works, as well as in a wordlist published in 1980*a*, Z'graggen described a few of the phonological, morphological, and grammatical features of Sirva. He mentioned the lack of object agreement on verbs (1975*b*: 584), the presence of inalienably possessed kin terms (1980*a*: x), the presence of verbal tense suffixes (1980*a*: xi), the presence of a negative particle *ma* that precedes the verb (1980*a*: 88), and the presence of the accusative enclitic

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[21] And in fact, there may still be unsurveyed Sogeram languages to the west of Katiati; Joseph Brooks (p.c.) collected a brief wordlist on a lect from this area that his consultant referred to as "Magɨyi," which closely resembles Mum.

=u (ibid.). Aside from these remarks and Z'graggen's wordlist, I am aware of no subsequent research on Sirva.

3.1.2. Data Sources

The research for this sketch was conducted over three trips to Papua New Guinea, the first of which took place in early 2006. On this trip, I traveled to Usino Station, where on February 11 I collected a wordlist of approximately 300 items from Kelly Amansi, a Sirva speaker who was living at the station, away from Sirva country.

The second trip took place in 2011 and 2012. On this trip I arranged to meet Kelly in his home village of Kamambu, where he was staying with his brother Bava to take care of some family business. I stayed two weeks, from March 14–29, 2012. During this time I worked primarily with the two brothers, but also recorded a few texts from other speakers. In total, we recorded, transcribed, and translated about 56 minutes of natural speech, representing a handful of speech genres. This corpus, along with several hours of elicitation, forms the database on which the description is based. Wherever possible, I have used naturally occurring examples in the discussion; sometimes, however, it has been necessary to use elicited examples to illustrate certain phenomena.

The third trip took place in 2014. While I was primarily conducting fieldwork on other languages, I met with Kelly in Madang town on August 20 and 21 for brief elicitation sessions.

3.1.3. Typological Outline

Sirva is a typical Papuan language in many respects, having SOV word order (§3.6), postpositions (§3.3.5), and determiners that follow nouns (§3.4.6). Possessors precede head nouns (§3.4.1) and adjectives follow it (§3.4.3).

Noun morphology is quite limited, especially on common nouns (§3.3.2.1). Inalienably possessed nouns—mostly kin terms—take obligatory possessive prefixes and can be marked for number (§3.3.2.3). Demonstratives distinguish three deictic distances in addition to several functional categories, which appear to be quite sensitive to pragmatic information (§3.3.6).

Verbs are more morphologically complex. Sirva makes the common Papuan distinction between final verbs, which inflect for person-number agreement with the subject and for six different TAM categories (§3.5.1), and medial verbs, which are marked for three different switch reference categories (§3.5.2). Other verbal morphology includes a desiderative suffix (§3.5.3.1), a nominalization suffix formed by reduplication (§3.5.3.2), and a participle for motion verbs (§3.5.3.3). Sirva also allows limited verb serialization (§3.5.3.5).

Syntactic alignment is accusative (§3.6.2), and topicalization (§3.6.4), right-dislocation (§3.6.5), and focus marking (§3.8.3) are common. Clause chaining is frequent (§3.7.1), and a desiderative construction exists which makes use of the syntax of quotation (§3.7.3.1). There is also a clause chain nominalization construction in which a clause (chain) is subordinated to another and functions as a noun (or noun phrase) in the matrix clause (§3.7.2). This construction may be related to the attributive clause chain construction, in which a clause (chain) modifies a head noun attributively (§3.4.5, §3.7.2.3). In connected

speech, speakers make frequent use of the common Papuan discourse strategy of tail-head linkage (§3.8.1).

3.2. Phonology

The consonant inventory is presented in Table 1 below. (When the orthographic symbol that I use in the rest of this sketch differs from the phonetic symbol, the orthographic symbol is given in <angled brackets> on the right.)

Table 1. Sirva consonant inventory

	bilabial	alveolar	palatal	velar
voiceless plosive	p	t		k
voiceless affricate			(tʃ <c>)	
voiced prenasalized plosive	mb <b>	nd <d>		ŋg <g>
voiced prenasalized affricate			(ndʒ <j>)	
voiceless fricative		s		
voiced fricative	β <v>			ɣ <h>
voiced prenasalized fricative		nz <z>		
nasal	m	n	ɲ <ñ>	ŋ
flap		ɾ <r>		
glide	w		j <y>	

The status of the two affricates /c, j/ is unclear. They occur almost exclusively in the presence of /i/ or /y/, and sequences of [ki], [ky], [gi], or [gy] are rare. This suggests that [c, j] and [k, g] occur in complementary distribution. There are also some forms, such as *kya* 'speech' and *sigi* 'pot,' that exhibit free variation between the affricated and non-affricated articulations. All of this suggests that [c, j] should be considered allophones of /k, g/. However, forms like [cagruma] 'anger' and [kaca] 'blood' complicate this analysis. At present, I analyze them as /kyagruma/ and /kakya/, respectively, and I maintain the analysis that [c, j] are allophones of /k, g/. But this question requires more investigation.

The voiceless stops /p t k/ appear to be lenited to /v r h/ under certain circumstances. It is clear, though, that [v r h] should not be considered allophones of /p t k/, as the pairs below illustrate.

<div style="text-align:center">

muku 'bump (n.)' *itu* 'tobacco' *kupa* 'lower leg'

muhu 'wild pandanus tree' *iru* 'salt' *kuvar* 'flatland'

</div>

Nevertheless, when a verb that begins with a voiceless stop occurs as the second root in a compound verb (see §3.3.1.1), the voiceless stop is lenited, as illustrated in (1). A more complete understanding of the factors that condition this lenition will have to await further research.

(1) *kubra-ma-n*   *miŋa-hubra-ma-n*
     remove-YPST-1SG   get-remove-YPST-1SG
     'I removed'   'I removed'

The voiced prenasalized consonants /b d g z/ are not prenasalized in word-initial position.

/b d g z/ > [b d g z] / #__

[mb nd ŋg nz] / elsewhere

The vowel inventory is presented in Table 2.

<div style="text-align:center">

Table 2. Sirva vowel inventory

	front	central	back
high	i	ɨ	u
mid	e		o
low		a	

</div>

In addition to these vowel phonemes, Sirva allows the following diphthongs: /ai, au, iu, ui, ɨi, ɨu/. Of these, /ai, au/ are sometimes realized as [ɛi, ɔu], and /ɨu/ is quite rare and sometimes simplified to [u].

In addition to its behavior in the rising diphthongs, /a/ is commonly raised to [ɛ] after the palatal consonants /y ñ/.

/a/ >   [ɛ] / y, ñ__

        / __i

     [ɔ] / __u

     [a] / elsewhere

The other vowels exhibit relatively little allophonic variation, but it is worth discussing the status of /ɨ/ as a phoneme, as this phone is predictable in some other Madang languages, such as Kalam (Pawley & Bulmer 2011) and Anamuxra (Ingram 2001). The existence of the diphthongs /ɨi, ɨu/ supports the analysis of /ɨ/ as a separate phoneme, as it would be difficult to account for the contrast between these diphthongs and /i, u/ if /ɨ/ had no underlying representation. In addition, the minimal pairs below illustrate the contrast between /ɨ/ and /a, i, u/ as well as Ø.

kadi 'tree species'	*ab-i* [QD-SET] 'where'
kɨdi 'platform'	*abɨ* 'wing'
kusu 'food'	*kid* 'rheum'
kisɨ 'grass species'	*kidɨ* 'knife'

Vowel length is not normally contrastive in Sirva, but there is one situation in which a particular combination of morphemes results in a long /i/. When a verb that ends in /i/,

such as *pi-* 'come' or *i-* 'hit,' is combined with one of two suffixes that begin with /ɨi/, *–ɨin* '1SG.DS' and *–ɨi* '3SG.DS,' the /ɨ/ is elided, yielding a long /i/ (or an /ii/ sequence, depending on how the resultant form is syllabified; this is a question for further research). This long /i/ sometimes contrasts with a short /i/: compare the form *pii* below with *pi* 'come,' the unaffixed, serialized form of the same verb.

/pi-/	+	/-ɨi/	→	[pii]
'come'		'3SG.DS'		's/he came and …'

/i-/	+	/-ɨin/	→	[iin]
'hit'		'1SG.DS'		'I hit and …'

3.2.1. Morphophonemics

In addition to the lenition of voiceless stops described above, there are three morphophonemic processes that I describe here: vowel elision, coronal reduction, and labial merging.

Verb roots end in vowels, but these are elided in the presence of certain vowel-eliding suffixes. Vowel-eliding suffixes can be vowel-initial, like *–u* '2SG.IRR,' but also consonant-initial, like *–ra* 'SS.' In the presence of other suffixes, like *–sɨ* 'FPST,' the verb-final vowel is retained.

/yakɨva-/	+	/-u/			→	[ya.kɨ.βu]
'get up'		'2SG.IRR'				'get up!'

/yakɨva-/	+	/-ra/			→	[ya.kɨ.βra]
'get up'		'SS'				'get up and …'

/yakɨva-/	+	/-sɨ/	+	/-n/	→	[ya.kɨ.βa.sɨn]
'get up'		'FPST'		'1SG'		'I got up'

One suffix, *–im* '3SG.YPST,' is somewhat different in that it only elides the low vowel /a/; in the presence of the high vowels /i/ and /u/, the /ɨ/ from the suffix is lost.

/tama-/	+	/-ɨm/	→	[ta.mɨm]
'put'		'3SG.YPST'		's/he put yesterday'

/mɨgivi-/	+	/-ɨm/	→	[mɨ.ŋgi.βim]
'come down'		'3SG.YPST'		's/he came down yesterday'

/mugu-/	+	/-ɨm/	→	[mu.ŋgum]
'go down'		'3SG.YPST'		's/he went down yesterday'

Coronal reduction occurs with verbs that end in /d/ or /r/ plus a vowel, such as *kɨda-* 'walk' and *puhra-* 'look for.' When these verbs take a vowel-eliding suffix that begins with /r/ (of which there are two: *–ra* 'SS' and *–ri* 'TPST'), the suffix-initial consonant is lost. Thus, /kɨda-ra/ undergoes vowel elision to become the intermediate form /kɨdra/, and then undergoes coronal reduction to become /kɨda/.

/kɨda-/	+	/-ra/			→	[kɨ.nda]
'walk'		'SS'				'walk and ...'

/kɨda-/	+	/-ri/	+	/-n/	→	[kɨ.ndin]
'walk'		'TPST'		'1SG'		'I walked (today)'

/kɨda-/	+	/-sɨ/	+	/-n/	→	[kɨ.nda.sɨn]
'walk'		'FPST'		'1SG'		'I walked (long ago)'

Labial merging takes place at morpheme boundaries where an /m/ or /mV/ at the right edge of the first morpheme combines with a /v/ at the left edge of the second. In these circumstances, the two consonants merge as /b/ (recall that /b/ is prenasalized). With these forms, labial merging is more common in fast speech, and does not usually take place in careful speech.

/bihainim/	+	/va-/	+	/-ra/ →	[bi.hai.ni.mbra] ~ [bi.hai.nim βra]
'follow'		'say, do'		'ss'	'follow and'

/kumu-/	+	/-vana/	→	[ku.mba.na] ~ [ku.mu.βa.na]
'die'		'DESID'		'wanting to die'

3.3. Word Classes

There are six primary word classes: verbs, nouns, pronouns, postpositions, demonstratives, and a word class—consisting of adjectives, adverbs, and quantifiers—which requires more investigation but may prove to consist of more than one class.

3.3.1. Verbs

Verbs are words that can be inflected for subject agreement and TAM information, and they usually function as the main predicate of a clause. They are a closed class; when new verbs are borrowed into the language, they are borrowed as verb adjuncts, which are described in §3.3.1.2 below. Verbs exhibiting subject agreement with medial and final suffixes can be seen in (2) and (3). Not all verb forms are inflected for subject agreement, however; certain verbs of motion can be used in serial verb constructions, as described in §3.5.3.5. (Note that *mir-a* [leave-SS] 'leave and,' in (3) and many similar examples, is not interpreted literally but functions as a linker. This is discussed further in §3.5.2.1.)

(2) *Don, na   amu   wa-hana~na,   ya   kɨ-vanadi-n.*
    Don   2SG   tomorrow   **go-2SG.DS~SIM**   1SG   **stay-FUT-1SG**
    'Don, when you go tomorrow, I'll stay.'

(3) *Sigi be   tu-i,   mɨ-ra   mir-a,   sue,   ara=vibi   skeli-b-ra*
    pot   3SG   **burn-3SG.DS**   **get-SS**   **leave-SS**   SO   1PL=EMPH   **distribute-say-SS**

> *mir-a,*   *ña-ma-r.*
> leave-SS   eat-YPST-1PL
> 'The pot cooked, we took it, and we ourselves distributed the food, and we ate.'

Verbs can also be formed from adjectives via the derivational suffix *–rɨ*, which forms verbs that mean 'be ADJ' (4) or 'become ADJ' (5), and which I gloss simply 'be.'

(4) *Mav* **dua-r-a** *mir-a,* *naguva* *kuta* *hanam* *hasa* *iru-s-a.*
    belly **bad-be-SS** leave-SS string long very FOC spin-FPST-3SG
    'She was sorry (lit. 'her belly was bad'), so she spun a very long string.'

(5) *Nɨŋ* *kum~gum* *beau,* *ivuruha-b-ɨi,* **zere-rɨ-s-a.**
    3SG.POSS die~NMLZ DEF.ACC cure-PL-3.DS **good-be-FPST-3SG**
    'They cured his illness (lit. 'dying'), and he got better.'

There are also a number of irregular verbs. In the today past (described in §3.5.1.2), three verbs shift their root-final vowel to /i/: *kɨ-* 'stay' becomes *ki-*, *ña-* 'eat' becomes *ñi-*, and *una-* 'dig' becomes *uni-*.

In the yesterday past (§3.5.1.3), two verbs lose their root-final vowel: *wa-* 'go' becomes *u-* and *tua-* 'burn (intr.)' becomes *tu-*. Additionally, these verbs, and two others, have an irregular 3SG form in the yesterday past that adds a vowel to the end of the usual suffix *–m*: *wa-* yields *u-mu*, *tua-* yields *tu-mu*, *pi-* 'come' yields *pi-mɨ*, and *i-* 'hit' yields *i-mɨ*.

In the irrealis mood (§3.5.1.5), two verbs have irregular 2SG forms: *wa-* 'go' is *wara*, and *pi-* 'come' is *aya*. In both cases, the 2PL is formed by suffixing the usual 2PL.IRR suffix *–hra* to these forms (§3.5.1.5). A few other verbs, instead of the usual 2SG.IRR suffix *–u*, take the suffix *–ɨha* instead: these are *yaha-* 'chop,' *pɨha-* 'slice,' and *ga-* 'see.' In addition, there is a special imperative form of the verb *gwa-* 'give' that means 'give to me': *agwa*.

Two verbs have irregular same-subject forms (§3.5.2.1). *Miŋa-* 'get' changes its root to *mɨ-* and adds the usual suffix *–ra* to yield *mɨ-ra*; *kɨ-* 'stay' has the suppletive form *kɨñi* 'stay.ss.'

And finally, two verbs take an irregular nominalization suffix (§3.5.3.2): *kɨ-* 'stay' and *aku-* 'sleep' both take *–ŋ* instead of the usual reduplicative suffix.

3.3.1.1. Compound Verbs

There are two primary compounding processes by which verbs can be formed: verb–verb compounding and adjunct–verb compounding. In verb–verb compounding, verb roots are simply combined to form a complex verb stem, which is then inflected as any other verb would be (6).

(6) *Yanav   beau   tubrah-ra   mir-a   kɨsar   beau   **tara-ram-ra**   mir-a ...*
     shield   DEF.ACC   tie-ss   leave-ss spear   DEF.ACC   **stab-put-ss**   leave-ss
     'He tied the shield and stood up the spear and ...'

The semantics and the argument structure properties of these compounds are complex and not well understood, but a few patterns can be described. One common pattern is that the verb *miŋa-* 'get,' when it is the first verb of a compound, will create a transitive compound when combined with an intransitive verb, such as *sɨisɨiri-* 'itch' or *sikra-* 'break (intr.)' in (4).

(7) *Ka-ma   ad-ɨi   beau   **miŋa-sɨisɨir-a**   wa-ra   **miŋa-sɨkr-i-Ø.***
     MD-ADVZ   do-3SG.DS   DEF.ACC   **get-itch-ss**   go-ss   **get-break-TPST-3SG**
     'So she scratched and scratched it (lit. 'scratched it and went') and broke it.'

Another common pattern is that the second verb in a compound contributes aspectual meaning instead of lexical meaning; this is the case with *ki̵-* 'stay' in (8), which contributes durative aspect.

(8) *K-on*   **yavru-ki̵-i,**   *bira* *wa-ra* *puhra-bi̵-s-a*   *puhra-bi̵-s-a ...*
     MD-LOC   **hide-stay-3SG.DS**   3PL   go-SS   look.for-PL-FPST-3   look.for-PL-FPST-3
     'He was hiding there, and they went and looked and looked ...'

Some forms are apparently verbs that had grammatical meaning in compounds and have now lost their lexical sense and only appear in compounds. An example is *vara-*, which signals that the activity of the previous verb was performed upon plural objects (9). Similarly, *ma-*, which acts as a transitivizer, is most commonly found in compounds (10). Whether these forms should still be considered verbs synchronically is a question for future research.

(9) *Ara* *ni̵mari* *nu*   *pev=ubu,*   *wa-ra* *tar* **yaha-var-a**   *mir-a* *kur-e ...*
     1PL   now   ND.TOP   forest=place go-SS   tree **chop-PL.OBJ-SS**   leave-SS plant-SS
     'Nowadays we go to the forest, cut all the trees, plant (gardens), and ...'

(10) *Mi̵-ra*   *wa-ra* *ni̵ŋ*   *wari* *k-i*   **yavru-m-ii,**   *ka-ma*   *ki̵-s-a.*
     get-SS   go-SS   3SG.POSS   house MD-SET **hide-TR-3SG.DS**   MD-ADVZ   stay-FPST-3SG
     'He took him and hid him in his house, and he stayed like that.'

It is possible to combine more than two roots, as in (11), where the transitivizing *ma-* precedes a durative *ki̵-* 'stay.'

(11) *O,*   *uva*   *kura* *mi̵-ra* *pi*   *tam-ra* **yavru-ma-ki̵-ri-Ø**   *va-bi̵-s-a.*
     oh   SPEC   man   get-SS   come put-SS   **hide-TR-stay-TPST-3SG**   say-PL-FPST-3
     "Oh, he's brought a man and put him and hidden him," they said.'

Some of the combinations can become quite long, and it is unclear whether examples like (11) above or (12) below should be considered one word or many. Example (11), for example, was repeated in slow speech for transcription as *yavruma kiri*. Example (12) is

complicated by the presence of the nominalized verb *tobu~tobu* 'tying,' which suggests a possible analysis of a serialized root *ya* 'hit' followed by the adjunct–verb compound *tobu~tobu-rama-* 'tying-put.' However, the semantic composition of (12) is far from transparent, and, owing to the rarity of similar examples in the corpus, a fuller treatment of constructions like this will have to await further research. (But see the discussion of serial verbs in §3.5.3.5 for more discussion of the issue of wordhood.)

(12)   *Tɨva*   *puh-ru*   *mir-a,*   *nɨŋ*   *mav*   *beau*   **ya-tobu~tobu-rama-s-a.**
       go.upriver appear-ss leave-ss 3sg.poss belly DEF.ACC **hit-tie~NMLZ-put-FPST-3SG**
       'He went upriver and arrived, and he was hitting his belly (in hunger).'

Adjunct–verb compounds are composed of a verb adjunct (see below) and a verb. In adjunct–verb compounds, only the second root is a productive verb; the first element is an invariant form that contributes the primary semantics of the compound. Adjunct–verb compounds can be distinguished from the verb adjunct constructions described below primarily on phonological grounds: in compounds, the second root, if it begins with a plosive, will often undergo lenition of the initial consonant, as with *tama-* 'put' in (13).

(13)   *Na-nabrɨ*   *be*   **kasi-ram-ra**   *u-vadi-Ø*   *va-bi-s-a.*
       2.poss-wife   3sg   **go.first-put-ss**   go-FUT-3SG   say-PL-FPST-3
       '"Your wife will go first," they said.'

3.3.1.2. Verb Adjuncts

Verb adjuncts are words that express concepts that are semantically similar to the concepts expressed by verbs, but verb adjuncts take no morphology and always combine with a light verb, which takes the verbal morphology, to form a complex predicate. The semantics of the adjunct determine the semantics of the complex predicate. Examples

include *kriv* 'fear' (14), which takes the verb *tua-* 'burn (intr.),' and *kwama* 'deceive' (15), which takes *tama-* 'put.'

(14) *Uvri   pi-rɨb-ɨi,   uvri   beau   g-ra   mir-a   **kriv**   tu-ra ...*
     dog   come-PL-3.DS   dog   DEF.ACC   see-SS   leave-SS   **fear**   burn-SS
     'The dogs came, and he saw the dogs and was afraid and ...'

(15) *Wa-ra   kine   k-i,   **kwama**   tam-ra   wa-ra ...*
     go-SS   near   MD-SET   **deceive** put-SS   go-SS
     'They went nearby, they pretended to go (away) and ...'

When verbs are borrowed into Sirva, they are borrowed as verb adjuncts that take the verb *va-* 'say' (147). If these loanwords end in /m/ (which they frequently do because of the common Tok Pisin transitive verb suffix *–im*), they sometimes undergo labial merging (see §3.2.1). As mentioned in that section, the application versus non-application of the labial merging process is primarily governed by the speed of speech: in fast speech, labial merging is much more likely to occur. Nevertheless, when labial merging occurs with a borrowed verb adjunct, as with *marasinim* 'cure' in (17), I represent it as an adjunct–verb compound (see above on verb–verb and adjunct–verb compounds).

(16) *Sue   udukɨb   uva   **bihainim**   va-bɨ-s-a.*
     so   road   SPEC   **follow**   say-PL-FPST-3
     'They followed another road.'

(17) *We   beau,   **marasini-ba-vana**   v-ra ...*
     sore   DEF.ACC   **cure-say-DESID**   say-SS
     'He wanted to cure his sores and ...'

The line between verb adjuncts and nouns is sometimes blurred, and remains an area for future research. An example of the potential ambiguity is the form *tudiv* 'rope swing,' which can occur as a noun in examples like (18), where it occurs with a determiner, but which can also function as a predicate with the light verb *va-* 'say,' as in (19).

(18) *Mav asɨkasɨk-r-i-Ø,*   *nu-sur*   *be* **tudiv** **beau**   *mɨgr-a mir-a ...*
belly hot-be-TPST-3SG   3.POSS-brother.i.l   3SG **swing** **DEF.ACC**   cut-SS leave-SS
'He was angry (lit. 'his belly was hot') and the brother-in-law cut the swing and ...'

(19) *Pi~repi*   **tudiv**   *va-s-a.*
come~PTCP   **swing**   say-FPST-3SG
'He came and swung (i.e., played on the swing).'

3.3.2. Nouns

Nouns can serve as the subjects and objects of verbs, and as objects of postpositions. There are three subclasses of noun: common, proper, and inalienably possessed. The first two classes are open, as shown by the forms in (20) and (21).

(20) *N-i*   *kɨñi*   *wa-ra,*   **kar**   *mɨ-ra*   *wa-ra~ra~ra ...*
ND-SET   stay.SS   go-SS   **car**   get-SS   go-SS~CONT~CONT
'I was here and I went, I got a car and I went and went and went and ...'

(21) **Don=u**   *g-ri-n.*
Don=ACC   see-TPST-1SG
'I saw Don.'   Elicited

3.3.2.1. Common Nouns

Common nouns are a residual class composed of those nouns that are neither proper nor inalienably possessed. They do not take any morphology, and can occur without case marking as subject (22) and object (23), although they must have indefinite reference to occur on their own. If they are definite, common noun subjects occur with a resumptive subject pronoun (24) and common noun objects occur with the definite accusative article *beau* (25).

(22) **Kura sebrɨ**   *wa-ra, ku-bana*   *adɨ-b-ri.*
man new   go-SS die-DESID   do-3PL-TPST
'(If) new people (i.e., strangers) go (there), they'll die.'

(23) **Kura** tam-ra mir-a, mɨ-ra tei kɨva=ñ tam-ɨi ka-ma
     man put-SS leave-SS get-SS go.in garden=LI put-3SG.DS MD-ADVZ

kɨ-s-a.
stay-FPST-3SG
'He made (lit. 'put') men, took them, went and put them in a garden, and they
stayed like that.'

(24) **Kura** tɨdɨva **be** asɨk=ɨñ aku-s-a.
     man old.man **3SG** fire=LI sleep-FPST-3SG
     'The old man was sleeping by the fire.'

(25) **Kɨki** timi beau mɨ-ra kapar-i-n va-s-a.
     drum stick DEF.ACC get-SS throw-TPST-1SG say-FPST-3SG
     '"I took the drum stick and threw it," he said.'

Noun phrases headed by common nouns can also take the locative/instrumental

enclitic *=ñ* (26), which does not occur with proper or inalienably possessed nouns.

(26) *Yamda-nin* bira **kɨva=ñ** ma wa~wa kɨda-b-ri.
     mother.1.POSS-PL 3PL **garden=LI** NEG go~NMLZ walk-3PL-TPST
     'The mothers didn't go to the gardens.'

3.3.2.2. Proper Nouns

Proper nouns refer to specific people or places. They differ from common nouns in that

they can occur with the accusative enclitic *=u* (27) and the possessive enclitic *=ŋ* (28).

(27) *Ya* **Keli=u** *tutausensiks=ɨñ* *ga-sɨ-n.*
     1SG **Kelly=ACC** 2006=LI see-FPST-1SG
     'I saw Kelly in 2006.'   Elicited

(28) **Amazikura=ŋ** *as* *kya*
     Amanzikura=POSS spirit speech
     'Amanzikura's legend'

Proper nouns also do not occur with the locative/instrumental enclitic *=ñ*. When used

locatively, they occur either on their own (29) or with one of the locative demonstratives

(30).

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(29) *I-i,   añi   sursur   rada pi   **Irigi**   kam-ri-n.*
     hit-3SG.DS water presence COM come **Iringi** sleep-TPST-1SG
     '(The rain) hit (me), and with the rain I came and slept in Iringi.'

(30) *Wa-ra **Usino**   **od-on**   puhu-s-a.*
     go-SS **Usino**   **FD-LOC**   appear-FPST-3SG
     'He went and appeared in Usino.'

3.3.2.3. Inalienably Possessed Nouns

Inalienably possessed nouns are a small, closed class of nouns, most of which are kin terms.
They take the inalienable possessor prefixes *a-/i-* '1.POSS,' *na-* '2.POSS,' and *ni-/nu-/ni-* '3.POSS.'
Each lexeme specifies which of the 1.POSS and 3.POSS prefixes it takes, and suppletive forms
are common, particularly for 1.POSS forms. A few kin terms, with approximate English
equivalents, are presented in Table 3.

Table 3. Some Sirva kin terms

1.POSS	2.POSS	3.POSS	Gloss
arima	*narima*	*nirima*	sister
inum	*nanum*	*ninum*	son-in-law
tata	*nasii*	*nisii*	grandfather
yaŋ ña	*nahus*	*nuhus*	son
yava	*naŋidi*	*nua*	father

The first two forms, meaning (roughly) 'sister' and 'son-in-law,' illustrate the
predominant pattern. The form for 'grandfather' illustrates the common 1.POSS suppletion,
in which the suppletive kin term contains the 1.POSS information and behaves in other
ways like any kin term. The next form, for 'son,' is somewhat different in that the
"suppletive" 1.POSS form is a common noun, and does not behave as a regular inalienably
possessed noun. This difference in behavior is illustrated in (31) and (32) below: *tata* can

take a plural suffix, but *ña* cannot. Finally, the form for 'father' shows a kin term with a suppletive form for every possessor.

(31) Ya **tata-nin** pita.
1SG **grandfather.1.POSS-PL** many
'I have many grandfathers' Elicited

(32) Ya **ña** pita.
1SG **child** many
'I have many sons.' Elicited

As mentioned above, inalienably possessed nouns can be pluralized. There are several plural suffixes (*–nin, –har, –zar, –gar,* and *–ña*), the choice of which is lexically specified. Two examples are given in (33).

(33) Yaŋ **pava-nin,** **isɨha-gar** bira yau, tiŋi-mir-a ...
1SG.POSS **older.sib.1.POSS-PL** **young.sib.1.POSS-PL** 3PL 1SG.OBJ leave-leave-SS
'My older brothers and younger brothers left me behind and ...'

As this example illustrates, inalienably possessed kin terms can occur with possessive pronouns, although they do not have to (34). Note, however, that possessive pronouns distinguish the person as well as the number of the possessor, while the possessive prefixes only distinguish the person.

(34) **Na-nabrɨ** be kasi-ram-ra u-vadi-Ø va-bɨ-s-a.
2.POSS-wife 3SG go.first-put-SS go-FUT-3SG say-PL-FPST-3
'"Your wife will go first," they said.'

Inalienably possessed nouns, like proper nouns, can take the accusative enclitic *=u* (35) and the possessive enclitic *=ŋ* (10). It also appears that they, like proper nouns, can function as locatives on their own (37), although this example is disfluent and somewhat problematic.

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(35) *Nɨ-rɨma=u*   *ka-ma*   *ab-ri-Ø.*
     3.POSS-sister=ACC   MD-ADVZ   talk-TPST-3SG
     'He talked to his sister like that.'

(36) *Nua=ŋ,*   *kya*   *beau,*   *kapar-a*   *mir-a ...*
     father.3.POSS=POSS   speech   DEF.ACC   throw-SS   leave-SS
     'He threw away (i.e., ignored) his father's speech and ...'

(37) *Sue* **amge**   **na-nabrɨ-har,**   *mɨz-ra*   *kiñi ...*
     SO   **woman**   **2.POSS-wife-PL**   sit-SS   stay.SS
     '(You guys just) sit by your wives and ...'

Finally, it may be that the presence of an inalienably possessed noun in a noun phrase, even when it is not the head of that noun phrase, is enough to license the presence of the enclitics *=u* and *=ŋ*. In (38), the object of *mɨŋamirasa* 'he left (tr.)' is recapitulated after the clause (see §3.6.5 for a discussion of this construction). The head of this phrase is the common noun *kura* 'man,' which is modified attributively by the inalienably possessed noun *nɨhɨba* 'his friend' (see §3.4.2 on the attributive use of nouns). In spite of the fact that this noun phrase is headed by a common noun, though, the accusative enclitic *=u* is present.

(38) *Amus*   *yakɨv-ra*   *mir-a,*   *nuhu*   *mɨŋa-mira-s-a*   *k-udu,*
     tomorrow   get.up-SS   leave-SS   3SG.OBJ   get-leave-FPST-3SG   MD-PRAG

     nɨ-hɨba   *kura=u.*
     3.POSS-friend   man=ACC
     'The next day he$_i$ got up, and he$_i$ left him$_j$, his$_i$ friend$_j$.'

3.3.3. Adjectives, Adverbs, and Quantifiers

It is unclear whether it is preferable to consider adjectives and adverbs separate word classes in Sirva, or subclasses of one larger word class. Most adjectives are only found fulfilling the typical adjectival functions of modifying nouns attributively (39) or serving as

predicates either with (40) or without (41) the verb *kɨ-* 'stay.' Adjectives can also occur on their own, in a noun-less noun phrase (42).

(39) *Pɨgrɨ* **zere** *beau* *mɨŋ-ɨdagra.*
custom **good** DEF.ACC get-1PL.IRR
'We should practice (lit. 'get') the good customs.'

(40) *Ka-ma* *ad-ɨi* *wa-ra irɨmda,* *tudiv* **zere** *ki-ri-Ø* *v-ra,*
MD-ADVZ do-3SG.DS go-SS morning swing **good** stay-TPST-3SG say-SS
'He_i did that and in the morning he_j went and thought (lit. 'said'), "The swing is good," and ...'

(41) *Yava-nin* *tata-nin* *nɨrɨŋ* *pɨgrɨ* *kɨhre* **zere,** *kɨhre*
father.1.POSS-PL grandfather.1.POSS-PL 3PL.POSS custom some **good** some

dua.
bad
'Some of our fathers' and grandfathers' customs are good, some are bad.'

(42) **Wagara** *beau,* *paŋa tɨdɨ=ubu* *sɨhara-s-a.*
white DEF.ACC bag bottom=place put.in-FPST-3SG
'She put the white one in the bottom of the bag.'

Similarly, most adverbs are only found fulfilling typical adverbial functions, such as modifying clauses (43) or adjectives (44). In order to modify a noun attributively, adverbs need to be placed in a postpositional phrase with *buhun* 'characterized by' (45).

(43) **Kwahe** *yava-nin,* *kusu mana mana.*
before father.1.POSS-PL food no no
'Before, our fathers didn't have any food.'

(44) *Naguva* *kuta* **hanam** *hasa iru-ra* *mir-a ...*
string long **very** FOC spin-SS leave-SS
'She spun a long string and ...'

(45) *Beau=ñ* *mɨz-ri-n,* *uhusiv* **kwahe** *buhun=ɨñ.*
DEF.ACC=LI sit-TPST-1SG village **before** CHAR=LI
'I live (lit. 'sit') in it, in the village from before.'

Nevertheless, in spite of these structural differences, there are forms that blur the line between the two categories, such as *suku*, which can serve as a sentential adverb that means 'truly' (46), an adverb that means 'very' and modifies adjectives (47), and also as an attributive adjective that means 'true, real' (48).

(46) *Ka   yaŋ,   uhu=ñ   **suku**   ma   ki-ri-n.*
    MD.TOP 1SG.POSS ground=LI **very** NEG stay-TPST-1SG
    'I'm not really on my own land.'

(47) *Kura ka   kuta **suku** mana.*
    man   MD.TOP   long **very** no
    'That man isn't very tall.'   Elicited

(48) *U-rub-ɨɨ~bɨɨ,   amge   **suku** be   ka-ma   au   ki-ri-Ø.*
    go-PL-3.DS~SIM woman   **true** 3SG   MD-ADVZ sleep stay-TPST-3SG
    'As they went, the real woman was sleeping.'

Additionally, at least one adjective, *kidɨv* 'new,' can appear both before (49) and after (50) its head noun.

(49) *Sue ara **kidɨv** pɨgrɨ   mɨ-ra, beau=ñ,   kɨd-a   kiñi ...*
    so   1PL **new**   custom   get-SS DEF.ACC=LI walk-SS   stay.SS
    'So we adopt new customs, and walk (i.e., live) by them and ...'

(50) *Na-nabrɨ   **kidɨv** ka   hasa mɨ-ra wara   o!*
    2.POSS-wife **new**   MD.TOP   FOC   get-SS go.2SG.IRR oh
    'Oh, just take your new wife and go!'

Quantifiers appear to function syntactically as adjectives, occurring within the noun phrase, following the head noun and modifying it. The forms *kɨhre* 'some' and *kɨvra* 'both' illustrate this in (51) and (52), and also illustrate, in (53) and (54), the fact that quantifiers, like adjectives, can stand on their own. (Note, however, that *kɨvra* has only been observed modifying a pronoun and its grammatical status is therefore somewhat uncertain.)

(51) *Kura* **kɨhre** *bira mɨgivi,* *nuhu* *i-ra* *ta-bana* *v-ra ...*
man **some** 3PL come.down 3SG.OBJ hit-SS put-DESID say-SS
'Some men came down and wanted to kill him and ...'

(52) *Kavana=gra,* *ara* **kɨvra** *ma* *aku-daŋ* *va-bɨ-s-a.*
therefore=LNK 1PL **both** NEG sleep-1DU.IRR say-PL-FPST-3
'"In that case, we shouldn't both sleep," they said.'

(53) *Ña-ra,* **kɨhre,** *tukah-ra mir-a* *gu-rubɨ-s-a.*
eat-SS **some** wrap-SS leave-SS give-PL-FPST-3
'They ate, and they wrapped some up and gave (it to them).'

(54) **Kɨvra** *mɨ-ra* *kɨda-vanadi-r.*
both get-SS walk-FUT-1PL
'We'll both get it and walk around.'

The two numerals, *musuhusa* 'one' (55) and *eraŋa* 'two' (56), also function as adjectives.

(55) **Taunam** **musuhusa=ñ** *aku-vadi-r.*
mosquito.net **one=LI** sleep-FUT-1PL
'We'll sleep under one mosquito net.'

(56) *Ka-ma* *ad-ɨi,* **kura** **eraŋa,** *Bramen* *od-on* *pi-ribɨ-s-a.*
MD-ADVZ do-3SG.DS **man** **two** Brahman FD-LOC come-PL-FPST-3
'He did that, and two men came from Brahman.'

The form *sɨhazɨha* again illustrates the blurred line between adjectives (or quantifiers) and adverbs. It can function as an adjective/quantifier meaning 'all' (57), but also as an adverb meaning 'completely' (58).

(57) *Kɨzɨd-ɨi* *wa-ra,* *kura* **sɨhazɨha** *aku-rubɨ-s-a.*
evening-3SG.DS go-SS man **all** sleep-PL-FPST-3
'It was evening, and all the men slept.'

(58) *Wa-ra* **sɨhazɨha** *ma* *u-rubɨ-s-a.*
go-SS **completely** NEG go-PL-FPST-3
'They went, but they didn't go completely (i.e., all the way).'

The specific quantifier *uva* signals that the marked noun has a specific referent, but that that referent is not known to the hearer. *Uva,* like the adjective *kɨdɨv,* can precede (59) or follow (60) its head, and can also occur on its own (61).

(59) *Wa-ra,* **uva** *uhusiv=ɨñ* *tagu-rama-s-a.*
      go-SS SPEC village=LI step-put-FPST-3SG
      'He went and arrived (lit. 'stood') in a village.'

(60) *Tata* *amgiña* **uva** *miŋa-s-a.*
      grandfather.1.POSS girl SPEC get-FPST-3SG
      'My grandfather married a woman.'

(61) **Uva** *aku-i,* **uva** *kɨdɨv* *kiñi* *ka-ma* *adɨ-daŋ* *va-bɨ-s-a.*
      SPEC sleep-3SG.DS SPEC new stay.SS MD-ADVZ do-1DU.IRR say-PL-FPST-3
      '"One will sleep, the other will stay awake, and we'll do it like that," they said.'

3.3.4. Pronouns

Pronouns are a closed class in Sirva, and they distinguish three forms: subject, object, and possessive. They are presented in Table 4. The relationship of the object and possessive pronouns to the accusative and possessive enclitics *=u* and *=ŋ* is transparent. Examples of the three kinds of pronoun are given in (5)–(64).

Table 4. Sirva pronouns

	Subject	Object	Possessive
1SG	*ya*	*yau*	*yaŋ*
2SG	*na*	*nau*	*naŋ*
3SG	*be*	*nu, nuhu*	*niŋ*
1PL	*ara*	*aru*	*arɨŋ*
2PL	*nara*	*naru, naruhu*	*narɨŋ*
3PL	*bira*	*nuru*	*nirɨŋ*

(62) **Naŋ** *wari* *wa-hana~na,* **ara** *ka-ma* *kɨ-vadi-r.*
      2SG.POSS village go-2SG.DS~SIM 1PL MD-ADVZ stay-FUT-1PL
      'When you go to your home, we'll stay like this.'

(63) **Ya**   kura,   **yau**   ma   i-ra   tam-uhra   va-s-a.
1SG   man   **1SG.OBJ**   NEG   hit-SS   put-2PL.IRR   say-FPST-3SG
'"I'm a man, don't kill me," he said.'

(64) Ka-ma   ad-ɨi   **bira**   g-ra   mir-a,   mi   tama-bɨ-s-a.
MD-ADVZ   do-3SG.DS   **3PL**   see-SS   leave-SS   thought   put-PL-FPST-3
'He did that and they looked, and thought (lit. 'put a thought').'

When pronouns occur as the objects of postpositions, they occur in their object form

(65).

(65) Beau   mi-ra   u-rub-ɨi   kiñi   **nau**   **vana**   kriv   tu-ra   ya   pi...
DEF.ACC   get-SS   go-PL-3.DS   stay.SS   **2SG.OBJ**   **about**   fear   burn-SS   1SG   come
'They took it away and I was afraid of you and I came, and ...'

Pronouns can also be made emphatic with the enclitic *=vibi* (66), which can also be

cliticized to other parts of speech (67). The 3SG emphatic pronoun, however, is irregular

(68). It seems that emphatic possessors are formed with subject pronouns (69).

(66) Mɨ-ra   mir-a,   sue,   **arɨ=vibi**   skeli-b-ra   mir-a,   ña-ma-r.
get-SS   leave-SS   so   **1PL=EMPH**   distribute-say-SS   leave-SS   eat-YPST-1PL
'We took it, and we ourselves distributed the food, and we ate.'

(67) Kavana=gra   wa-ra,   uhu   **arɨha=vibi**   tagu-ram-ra ...
therefore=LNK   go-SS   ground   **middle=EMPH**   step-put-SS
'So, when you go and stand in the exact middle of the land ...'

(68) Kiñi   wa-ra   sue,   kura   **bibi**   yakɨv-ra   kiñi ...
stay.SS   go-SS   so   man   **3SG.EMPH**   get.up-SS   stay.SS
'He was there for a while, and then the man himself got up and ...'

(69) Ka   kɨba   tai~ratai   **bira=vibi**   kuma=ñ   moru-var-ava-b-ri.
MD.TOP   climber   go.up~PTCP   **3PL=EMPH**   arm=LI   break-PL.OBJ-HAB-PL-3
'Climbers would go up and break (branches) with their own hands.'

Finally, there is an interrogative pronoun *ninɨ* 'who' (70), which is discussed more fully

in §3.6.7 on interrogatives.

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(70) *Ninɨ* *pi-ri-Ø?*
      who come-TPST-3SG
      'Who's coming?'   Elicited

3.3.5. Postpositions

Postpositions are a small, closed word class. Only four have been identified in the corpus, although more forms have been encountered that may prove to be postpositions. Postpositions combine with noun phrases to form postpositional phrases, which can modify a predicate obliquely (71), modify a noun inside a noun phrase (72), or serve as a predicate (73).

(71) *Ya* *nau,* **saba** **ña** **wagara** **vana** *ab-ri-n* *v-ri-Ø.*
      1SG 2SG.OBJ **pig** **child** **white** **about** talk-TPST-1SG say-TPST-3SG
      '"I asked you for (lit. 'talked to you about') a white baby pig," he said.'

(72) *Aku-i* *kura* **uhusiv** **k-i** **buhun** *bira* *kɨd-a* *g-ra ...*
      sleep-3SG.DS man **village** **MD-SET** **CHAR** 3PL walk-SS see-SS
      'He slept and the men from that village walked and looked and ...'

(73) *Kura* *ada,* **Amaimon** **buhun.**
      man FD.TOP **Amaimon** **CHAR**
      'That man is from Amaimon.'   Elicited

There are also some examples of postpositions apparently taking non-nominal objects, most commonly adverbs, as in (74) and (75).

(74) *Be* **ka-ma** *mar.*
      3SG **MD-ADVZ** like
      'It's like that.'

(75) *Kɨd-a* *kiñi* *pɨgrɨ* **kwahe** **buhun,** *beau* *miŋa-mir-i-r.*
      walk-SS stay.SS custom **before** **CHAR** DEF.ACC get-leave-TPST-1PL
      'We walk (by those customs) and the customs from before, we abandon those.'

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Finally, the enclitics *=ñ* 'LOCATIVE/INSTRUMENTAL' (76) and *=ŋ* 'POSS' (77) attach to the end of the noun phrase and fulfill similar functions, suggesting that they may have originated as postpositions.

(76) **Udukɨb** **uva=ñ** *u-rubɨ-s-a.*
road SPEC=LI go-PL-FPST-3
'They went on a different road.'

(77) *Wara* *nu* **ninɨ=ŋ?**
house ND.TOP **who=POSS**
'Whose house is this?'   Elicited

3.3.6. Demonstratives

Demonstratives are a closed word class in Sirva. They are composed of a root that indicates deictic distance (*nɨ-* 'near,' *ka-* 'middle,' or *ada-* 'far') and a suffix that signals the function of the demonstrative in the clause. There is also an interrogative demonstrative root *aba-*, which takes the same demonstratives suffixes to form the corresponding question words. The attested demonstratives are presented in Table 5.

Table 5. Demonstratives

	ND	MD	FD	QD
locative	n-umu	k-on	ad-on, od-on	ab-on
setting	n-i	k-i	ad-i	ab-i
topic	nu	ka, ka-ga	ada	
existential	nɨ-ŋa	ka-ŋa	ada-ŋa	
pragmatic	n-udu	k-udu	ad-udu	
adverbial	nɨ-ma	ka-ma	ada-ma	aba-mar
temporal				aba-sɨda

The question words formed by the interrogative root are generally left *in situ*, as illustrated in (78)–(80). Interrogative clauses are discussed more fully in §3.6.7.

(78) *Muzur beau ña-ra mir-a kiñi,* **aba-mar** *u-vadi-na?*
snot DEF.ACC eat-SS leave-SS stay.SS QD-ADVZ go-FUT-2SG
'You nuzzle (lit. 'eat') its snot, and how will you go?'

(79) *Nu kura* **ab-on** *buhun bira pi-ra mɨ-ra kɨda-b-ri?*
ND.TOP man QD-LOC CHAR 3PL come-SS get-SS walk-3PL-TPST
'Men from where came and did this and walked (all around)?'

(80) **Aba-sɨda** *u-vadi-na?*
QD-TEMP go-FUT-2SG
'When will you go?'   Elicited

Demonstratives can generally function either as noun phrases on their own (81), or as determiners in a noun phrase (82). They can also be used to subordinate a clause in the clause chain nominalization construction (83), which is discussed further in §3.7.2.

(81) **K-udu** *ka-ma hasa.*
MD-PRAG MD-ADVZ FOC
'It's just like that.'

(82) *Nu* **amge dua n-udu** *mɨ-ra pi-ri-Ø va-s-a, yau.*
ND.TOP woman bad ND-PRAG get-SS come-TPST-3SG say-FPST-3SG 1SG.OBJ
'"It's this bad woman who brought," he said, "me."'

(83) *Ya, Nagwar krɨbɨ, [uhu sisi-rama-s-a]* **n-udu** *ab-ɨda v-ra ...*
1SG Gogol top ground begin-put-FPST-3SG ND-PRAG talk-1SG.IRR say-SS
'I'd like to talk about the headwaters of the Gogol, about where the earth began.'

There is an additional form that behaves distributionally like other demonstratives. The definite accusative word *beau* can be used with (84) or without (85) a head noun, and also as a subordinator (86).

(84) *Tudiv* **beau,** *mɨgra-ra mira-s-a.*
swing DEF.ACC cut-SS leave-FPST-3SG
'He cut the swing and left it.'

(85) *Kavana, sue ara=vibi hasa,* **beau** *sɨhazɨha mɨŋa-mir-idagra o ...*
therefore so 1PL=EMPH FOC DEF.ACC all get-leave-1PL.IRR or
'Therefore, should we ourselves abandon that completely, or ...'

(86) [Kapar-i-n   ] **beau**   hada mi-ra u-rub-ri   va-s-a.
    throw-TPST-1SG   DEF.ACC   also   get-SS   go-3PL-TPST   say-FPST-3SG
    'They also took away what I threw (at them).'

However, unlike most demonstratives, *beau* can also occur with the locative/instrumental enclitic *=ñ* (87).

(87) *Sue ara kɨdɨv pɨgrɨ   mɨ-ra,* **beau=ñ,**   *kɨd-a   kiñi …*
    so   1PL   new   custom   get-SS   DEF.ACC=LI   walk-SS   stay.SS
    'So we adopt new customs, and walk (i.e., live) by them and …'

3.3.6.1. Locative

The locative suffix is *–umu* for the near deictic root and *–on* for the others. When used with the far deictic root *ada-*, the first vowel is often harmonized to /o/. Locative demonstratives can be used as determiners, specifying the deictic distance of a locative noun phrase (88), or they can be used on their own to mean 'here' or 'there' (89).

(88) **Sibai   od-on**   *kɨd-a   mɨgivi,*   *sue* **Ramu   n-umu,**   *agura-ra,*
    Simbai   FD-LOC   walk-SS   come.down   so   Ramu   ND-LOC   go.downriver-SS
    '(You'll) travel to Simbai, come down, and go down the Ramu here and …'

(89) *Wa-ra* **k-on**   *puhu-i …*
    go-SS   MD-LOC   appear-3SG.DS
    'He went and arrived there and …'

3.3.6.2. Setting

The setting demonstrative suffix *–i* is similar in meaning to the locative suffix. The exact nature of the difference between the two is unclear, but the setting suffix appears to refer to a more generalized setting, rather than a specific location. This is a common areal distinction (see Harris 1990: 103ff. for Nend and Wade 1989: 124ff. for Apalɨ). Like the locative forms, setting forms can be used as determiners with nouns (90), or they can be used on their own (91).

(90) *Amge   suku   niŋ   tuku   k-i   aku-s-a.*
woman   true   3SG.POSS   sleeping.area   MD-SET   sleep-FPST-3SG
'She slept in the real woman's place.'

(91) *Ya   Tride,   n-i   kiñi   yakɨva-sɨ-n.*
1SG   Wednesday   ND-SET   stay.SS   get.up-FPST-1SG
'On Wednesday, I was here and I got up.'

3.3.6.3. Topic

The three unaffixed demonstratives *nu*, *ka*, and *ada* appear to have a rather subtle pragmatic function that is difficult to ascertain. I gloss them 'TOP,' but further research will have to reveal the precise functions they fill. These demonstratives can function as determiners, in which case they appear to topicalize the noun phrase that they occur with (92).

(92) *Yaŋ   maku   ka   miŋa-mir-a,   na-nabr=u   hasa   mɨ-ra   wara*
1SG.POSS   stuff   MD.TOP   get-leave-SS   2.POSS-wife=ACC   FOC   get-SS   go.2SG.IRR

o,   v-ri-Ø.
oh   say-TPST-3SG
'"Leave my stuff, just take your wife and go!" she said.'

In this function, they commonly occur on the subjects of nonverbal predicates, either with (63) or without 0 an intonational boundary following them.

(93) *Na   uhusiv   ka,   be   kava   nɨrɨŋ   wari.*
and   village   MD.TOP   3SG   bird   3PL.POSS   village
'And the village, it was the birds' village.'

(94) *Kura   ada   zere   mana.*
man   FD.TOP   good   no
'That man isn't good.'   Elicited

This topicalizing function can also extend to clauses when these demonstratives are employed in the clause chain nominalization construction (§3.7.2). In this function, the

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demonstratives highlight the action of the preceding clauses and anticipate a resolution, which is usually either realized (65) or frustrated (96).

(95) *U-rubɨ-s-a* **ka,** *kine k-i hasa kɨzɨdɨ-s-a.*
go-PL-FPST-3 **MD.TOP** near MD-SET FOC evening-FPST-3SG
'They went, and very soon (lit. 'in a near place') it was evening.'

(96) *Kiki timi beau miŋ-ida v-ra, kapara-s-a* **ka,** *mana.*
drum stick DEF.ACC get-1SG.IRR say-SS throw-FPST-3SG **MD.TOP** no
'He wanted to get the drum stick, he threw (his hand inside), but no.'

There is also another middle-distance topic demonstrative, *kaga*, which essentially only fulfills this clause-topicalizing function, as in (97) and (98). I suspect that this form arose as a reduplicated form of *ka* 'MD.TOP,' but for the moment I gloss *–ga* as a non-reduplicative suffix.

(97) *Mɨ-ra mɨgivi-ra ga-bɨ-s-a* **ka-ga** *kura be añi pɨɨ~bɨɨ*
get-SS come.down-SS see-PL-FPST-3 **MD-TOP** man 3SG water bathe~NMLZ

kɨ-s-a.
stay-FPST-3SG
'They took them and came down and looked, and the man was bathing.'

(98) *Itu wi-ra, yakɨv-ra u-dagra va-bɨ-s-a* **ka-ga** *mana.*
tobacco smoke-SS get.up-SS go-1PL.IRR say-PL-FPST-3 **MD-TOP** no
'He smoked a cigarette, and they wanted to get up and go (lit. 'said, "let's get up and go"'), but alas.'

Another function of the topic demonstratives is what I call the clause-initial function, illustrated in (99) and (66) below. In this position, topic demonstratives place focus on a predicate; the sense they impart is something akin to "It is the case that...." This function can combine with other functions, as illustrated in (101).

(99) *Aru udukɨb be sigud-ɨɨ,* **nu** *uva udukɨb=iñ*
1PL.OBJ road 3SG disappear-3SG.DS **ND.TOP** SPEC road=LI

pi-ri-r   va-bɨ-s-a.
come-TPST-1PL say-PL-FPST-3
'"The road disappeared on us and we're coming on another road here," they said.'

(100) *Ei, **ka** amge dua be pi~bi ad-i-Ø.*
  hey **MD.TOP** woman bad 3SG come~NMLZ do-TPST-3SG
  'Hey, it's the bad woman coming doing (that).'

(101) *O, **ka** asɨk **ka** yaŋ, va-s-a.*
  oh **MD.TOP** fire **MD.TOP** 1SG.POSS say-FPST-3SG
  '"Oh, that fire is mine," she said.'

Finally, the near and middle topic demonstratives are used in the construction [*nu* N$_i$ *ka* N$_i$], which means "all sorts of N" (102).

(102) ***Nu* saraku ka* saraku ivɨtubu ma miŋa~miŋa kɨda-b-ri.*
  ND.TOP work **MD.TOP** work well NEG get~NMLZ walk-3PL-TPST
  'All sorts of work, they didn't do (lit. 'get') well.'

3.3.6.4. Existential

The existential suffix *-ŋa* usually indicates that the referent of the demonstrative is present in the physical surroundings, or that its existence is being highlighted in the discourse. In (103), for example, a woman is inviting a pair of travelers into her home for the night; in (104), a woman is identifying herself and asserting her existence to her bewitched husband, who does not recognize her; and in (105) the speaker is identifying an object that has been brought to her.

(103) *Wara **nɨ-ŋa** ki-ri-Ø=i   n-i kɨvra kɨmam-dagra va-s-a.*
  house **ND-EXST** stay-TPST-3SG=VOC ND-SET both sleep-1PL.IRR say-FPST-3SG
  '"This house is here, we'll both sleep here," she said.'

(104) *Kiki nua   o, ya kiki nɨ-mɨ   **nɨ-ŋa** e!*
  drum father.3.POSS oh 1SG drum 3.POSS-mother **ND-EXST** hey
  'O father of the drum, I'm the mother of the drum!'

(105) *Nu-muŋ*   *nabɨ*   *mɨ-ra*   *u-rubɨ-s-a*   *k-udu*   ***ka-ŋa***   *mɨ-ra*
      3.POSS-husband   wife.3.POSS   get-SS   go-PL-FPST-3   MD-PRAG   **MD-EXST**   get-SS

      pi-ri-na   *va-s-a.*
      come-TPST-2SG   say-FPST-3SG
      '"What the husband and wife took away, that's what you brought here," she said.'

Existential demonstratives also often occur in conjunction with another demonstrative,

usually a pragmatic or a setting demonstrative. Examples of this are given in (106) and

(107).

(106) *Savɨha*   ***ka-ŋa***   ***k-udu,***   *be*   *uhu*   ***ka-ŋa***   *k-i*   *ki-ri-Ø.*
      tree.sp   **MD-EXST**   **MD-PRAG**   3SG   ground   **MD-EXST**   **MD-SET**   stay-TPST-3SG
      'That *savɨha* tree, it's on that land.'

(107) *Sue*   *nua*   *be*   *yakɨv-ra,*   *kɨva*   ***ka-ŋa***   *k-i*   *tevɨ-s-a.*
      so   father.3.POSS   3SG   get.up-SS   garden   **MD-EXST**   **MD-SET**   evict-FPST-3SG
      'So the Father got up and kicked them out of the garden.'

3.3.6.5. Pragmatic

The suffix *–udu*, which I label simply 'PRAG,' signals that the referent of the demonstrative is

pragmatically salient in some way. A simple label as 'topic' or 'focus' is rendered

problematic by examples such as (88), in which *nudu* marks both the subject and the object.

(108) *Kwahe,*   *yava*   *mɨrada* ***n-udu,***   *uhu*   ***n-udu***   *tam-ra ...*
      before   father.1.POSS   big   **ND-PRAG**   ground   **ND-PRAG**   put-SS
      'Before, God (lit. 'our big Father') created the earth and ...'

However, the function of *–udu* appears to be linked to topicality in some way. It

frequently topicalizes clauses (109) or marks entities that are already topical (110).

(109) *Kusu*   *be*   *kwagra-s-a*   ***k-udu***   *ka*   *be*   *sari*   *sawa*   *kwagra-s-a*
      food   3SG   cook-FPST-3SG   **MD-PRAG**   MD.TOP   3SG   taro   wild   cook-FPST-3SG

      kavana   *mɨŋa~mɨŋa*   *kavara-bɨ-s-a.*
      therefore   get~NMLZ   throw-PL-FPST-3
      'The food she cooked, it was wild taro she cooked so, taking it, they threw it
      (away).'

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(110) *Stori* **n-udu** *be ka-ma mar.*
     story **ND-PRAG** 3SG MD-ADVZ like
     'This story is like that.'

Another unusual feature of this demonstrative suffix is that it, unlike any other

demonstrative suffix, can host the possessive (89) and locative/instrumental (90) enclitics.

(111) *Uhu timu n-umu, amge* **n-udu=ŋ** *uhu va-bɨ-s-a.*
     ground side ND-LOC woman **ND-PRAG=POSS** ground say-PL-FPST-3
     '"On this side of the land, (it's) the woman's land," they said.'

(112) *Bira pɨgrɨ ka-ŋa* **k-udu=ñ** *ma kɨ-rava-b-ri.*
     3PL custom MD-EXST **MD-PRAG=LI** NEG stay-HAB-PL-3
     'They didn't live by such customs.'

A full treatment of this suffix will have to await further research.

3.3.6.6. Adverbial

The adverbial suffix is derivational, forming a deictic manner adverb that means 'like this'

or 'like that.' These adverbs usually modify a clause (113), although, as mentioned in §3.3.5,

they can also be used with a postposition such as *mar* 'like' (114).

(113) *V-ra mir-a,* **ka-ma** *kɨ-rɨbɨ-s-a.*
     say-SS leave-SS **MD-ADVZ** stay-PL-FPST-3
     'They said that, and stayed like that.'

(114) *Oke uva pɨgrɨ g-ri-n be* **nɨ-ma** *mar.*
     okay SPEC custom see-TPST-1SG 3SG **ND-ADVZ** like
     'Okay, another custom I see is like this.'

One of the most common uses of the *–ma* suffix is in the construction *ka-ma adɨ-* [MD-

ADVZ do-], which is frequently used in tail-head linkage (§3.8.1). In this construction, a

preceding clause is recapitulated by the formula *kama adɨ-*, which means 'X did thus and …,'

as in (115), but which is sometimes interpreted more causally as something like 'therefore.'

The verb takes an appropriate medial suffix (see §3.5.2), and the next clause chain continues (see §3.7.1).

(115) a. *Nɨ-rɨma=u*   **ka-ma**   *ab-ri-Ø.*
       3.POSS-sister=ACC   **MD-ADVZ**   talk-TPST-3SG
       'He spoke to his sister like that.'

     b. ***Ka-ma***   ***ad-ii,***   *nɨ-rɨma*   *be*   *yakɨv-ra*   *ab-ri-Ø.*
       MD-ADVZ   **do-3SG.DS**   3.POSS-sister   3SG   get.up-SS   talk-TPST-3SG
       'He did that, and his sister got up and talked.'

3.4. Noun Phrase Structure

Noun phrases usually exhibit the following structure:

     Poss   NP$_{ATTR}$ N$_{HEAD}$ Adj   PP   S$_{ATTR}$ Det

That is, the possessor comes first, followed by the attributive noun phrase, the head noun, the attributive adjective, the postpositional phrase, the attributive clause (or clause chain), and finally the determiner. There are some deviations from this pattern—for example, occasionally a possessor will occur after the head noun—but in general this schema holds. My corpus contains no examples of a noun phrase with both an adjective and a postpositional phrase, so the ordering of those elements is uncertain. In general, no position in the noun phrase is required, including that of the head noun. In the following sections, I describe each position in turn, and, where possible, present examples of those positions occurring with and without a head noun.

3.4.1. Possessor

Possessors in the noun phrase precede the attributive noun. This can be seen with the pronominal possessor in (116) and the nominal possessor in (117).

(116) *O,   nu   **yaŋ**   kava   ña   v-ra   tam-ɨi ...*
      oh   ND.TOP **1SG.POSS**   bird   child   say-SS   put-3SG.DS
      '"Oh, this is my baby bird," she said, and put it and ...'

(117) ***Amazikura=ŋ***   *as   kya*
      Amanzikura=POSS   spirit   speech
      'Amanzikura's legend'

As these examples illustrate, pronominal possession is accomplished by simply placing the possessive pronoun before the possessed noun. Proper noun possessors, like *Amanzikura* in (117) above, receive the possessive enclitic *=ŋ* and are placed before the possessed noun; the same occurs with inalienable noun possessors (118). Common noun possessors, though, are marked with a free possessive pronoun between them and the possessed noun (119); this can even occur when a common noun is used to refer to the addressee, as with *kura* 'man' in (120).

(118) ***Nua=ŋ,***   *kya   beau,   kapar-a   mir-a,*
      father.3.POSS=POSS   speech   DEF.ACC   throw-SS   leave-SS
      'He threw away (i.e., ignored) his father's speech and ...'

(119) ***Amge   suku   nɨŋ***   *tuku   k-i   aku-s-a.*
      woman   true   3SG.POSS   sleeping.area   MD-SET   sleep-FPST-3SG
      'She slept in the real woman's place.'

(120) *Sue   timu   k-on   uhu=bu   be,   **kura   naŋ***   *uhu   va-bɨ-s-a.*
      so   side   MD-LOC   ground=place   3SG   **man   2SG.POSS**   ground   say-PL-FPST-3
      '"So on that side, the land is your land," they said.'

Recall from §3.3.6.5, however, that noun phrases headed by common nouns can be marked with the possessive enclitic *=ŋ* when the pragmatic demonstrative is functioning as a determiner (12).

(121) *Uhu   timu   n-umu,   amge   **n-udu=ŋ**   uhu   va-bɨ-s-a.*
        ground   side   ND-LOC   woman   **ND-PRAG=POSS**   ground   say-PL-FPST-3
        '"On this side of the land, (it's) the woman's land," they said.'

Conversely, inalienable noun and proper noun possessors can be marked with free pronouns if this is desired. This may be because the proper noun is not a personal name, as in (122) and (123), or because the possessor is coordinated, as in (124). Note, however, that the presence of the plural suffixes on the inalienably possessed noun possessors in (124) does not affect the possibility of clicicizing with *=ŋ*, as (125) illustrates.

(122) *Udukɨb   mana=gra   sue   kwera,   wari   wa-sɨ-n,   **Amele**   **niriŋ**   uhusiv*
        road   no=LNK   so   again   village   go-FPST-1SG   **Amele**   **3PL.POSS**   village

        k-on.
        MD-LOC
        'There was no way (home), so I went back to the village, to the Amele (people's) village.'

(123) *Ka   be   **Sirva**   **ariŋ**   kya=ñ   Madaŋ   o,   va-s-a   k-udu …*
        MD.TOP   3SG   **Sirva**   **1PL.POSS**   speech=LI   Madang   oh   say-FPST-3SG   MD-PRAG
        'Since, in the language of us Sirva (speakers), he said, "Madang," …'

(124) ***Yava-nin   tata-nin   niriŋ**   *pɨgrɨ   kɨhre   zere.*
        father.1.POSS-PL   grandfather.1.POSS-PL   3PL.POSS   custom   some   good
        'Some of our fathers' and grandfathers' customs are good.'

(125) ***yaŋ   tata-nin=iŋ**   *kya*
        1SG.POSS   grandfather.1.POSS-PL=POSS   speech
        'my grandfathers' speech'   Elicited

Finally, very rarely a possessive pronoun will follow its head noun. It is unclear what factors condition this variant, but noun phrase-final enclitics, such as the accusative *=u*, attach to the pronoun when it comes at the end of the noun phrase (126).

(126) *Pi~rapi,*   *yakɨv-ra*   **nu-sur**   **nɨrɨŋ=u,**   *i-ra*   *mir-a …*
        come~PTCP   get.up-SS **3.POSS-brother.i.l**   **3PL.POSS**=ACC   hit-SS leave-SS
        'They came and got up and killed their brother-in-law and …'

3.4.2. Attributive Noun

The next position in the noun phrase is the attributive noun, which modifies the head noun, as in (127), where the attributive noun *uhu* 'ground' describes what kind of speech is being discussed, or in (16), where *sibia* 'stone' describes the kind of axe. Head nouns sometimes have very broad meanings that attributive nouns can narrow down, as in (129). Here, *mɨka* 'tooth' modifies *krɨs* 'digit, small object.' The core meaning of this word is 'finger' or 'toe,' but it has come in some contexts to refer to any small object. Here it is being used in this way, and its attributive noun, *mɨka* 'tooth,' describes what kind of small objects are at issue. This is probably the origin of the enclitic *=hub(u)* 'place,' which probably began as a locative head noun in constructions like (130), but which now can attach to other constituents as well (131).

(127) **Uhu**   *kya*   *beau*   *mumr-a,* *ara* *ka-ma*   *tei-vanadi-r,*   *Usino* *od-on.*
        ground speech DEF.ACC finish-SS 1PL MD-ADVZ go.up-FUT-1PL Usino FD-LOC
        'The land meeting (lit. 'ground speech') will finish, and we'll go up that way, to Usino.'

(128) **Sɨbia**   *kina beau*   *mɨ-ra …*
        stone axe DEF.ACC get-SS
        'They took the stone axe and …'

(129) *Kazɨr-a* **mɨka** *krɨs* *yavi-ra* *mir-a ...*
crawl-SS **tooth** digit appear-SS leave-SS
'It crawls and its teeth appear and ...'

(130) *Bira* *agi* *mir-a* *u-rub-ri,* **timu=hub.**
3PL COMPL leave-SS go-3PL-TPST **side=place**
'They left (him) and went, to the other side.'

(131) *Añi* *pɨgar-a* **ad-on=ubu,** *ka-ma* *tavr-u* *kɨ-rɨb-ɨi~bɨi ...*
water cross-SS **FD-LOC=place** MD-ADVZ wait-SS stay-PL-3.DS~SIM
'They crossed the river and over there, as they waited like that ...'

It appears that the attributive noun position can contain a noun phrase, or at least an entity greater than a single noun. Examples (18)–(133), from a sequence in a story about baby pigs, illustrate this possibility. 'Baby pig' in Sirva is expressed as 'pig child,' with the attributive noun *saba* 'pig' modifying the head noun *ña* 'child' (18). This entity can also be modified by an attributive adjective, such as *wagara* 'white' (133). But the attributive adjective can also modify the attributive noun, as illustrated in (134), in which the attributive noun position is occupied by the phrase *saba wagara* 'white pig.'

(132) *Ka-ma* *ad-ii,* *ni-rɨma* *be,* **saba** *ña* *mɨ-ra* *mir-a ...*
MD-ADVZ do-3SG.DS 3.POSS-sister 3SG **pig** child get-SS leave-SS
'He did that, and his sister got a baby pig and ...'

(133) **Saba** *ña* *wagara* *va-sɨ-n.*
pig child white say-FPST-1SG
'I said a white pig child.'

(134) *Yau* **saba** **wagara** *ña* *hasa,* *mɨ-ra* *tɨva* *g-u,*
1SG.OBJ **pig** **white** child FOC get-SS go.upriver give-2SG.IRR

va-s-a.
say-FPST-3SG
'"Get a white-pig child and go up and give it to me," he said.'

3.4.3. Adjective

With only a couple exceptions, discussed in §3.3.3 above, attributive adjectives follow the head noun. This usually allows them to be distinguished from nouns, because attributive nouns precede the head noun. The contrast is illustrated in (135), where the head noun *añi* 'water' is modified by an attributive noun, *uvri* 'dog,' as well as an attributive adjective, *sawa* 'wild.'

(135) *uvri   añi   **sawa***
      dog   water   **wild**
      'dog urine (lit. 'wild dog water')'

3.4.4. Postpositional Phrase

Postpositional phrases that modify the head noun follow it. The only postpositions that have been found in postpositional phrases modifying a head noun are *buhun* 'characterized by,' which occurs in the noun phrase with both adverbial (136) and nominal (137) objects; and *mar* 'like' (139). It is unclear whether postpositional phrases precede or follow post-nominal adjectives, as they do not co-occur in my corpus.

(136) *Uhusiv   **kwahe**   **buhun**   ad-udu=ñ   hasa   ki-ri-r.*
      village   **before**   **CHAR**   FD-PRAG=LI   FOC   stay-TPST-1PL
      'We live in the village from before.'

(137) *kura   **niŋ**   uhusiv   buhun*
      man   **3SG.POSS**   village   CHAR
      'men from his village'

(138) *Ara   uva   kura   **ka-ma**   **mar**   g-ri-r   va-bɨ-s-a.*
      1PL   SPEC   man   **MD-ADVZ**   **like**   see-TPST-1PL   say-PL-FPST-3
      '"We saw such a man (lit. 'a man like this')," they said.'

There are also some examples of noun-less noun phrases with postpositional phrases in them, shown in (139) and (140).

(139) *O,   ka   asɨk ka   yaŋ,   va-s-a.   Yaŋ   **od-on   buhun***
       oh   MD.TOP fire MD.TOP 1SG.POSS say-FPST-3SG   1SG.POSS **FD-LOC   CHAR**

   mɨ-ra   pi-sɨ-n   k-udu.
   get-SS   come-FPST-1SG   MD-PRAG
   "Oh, that firewood is mine," she said. "Mine from over there that I brought."

(140) *Beau   kazugu-i,   sue,   **kise   muku   mar,*** kuma   kugus=iñ*
       DEF.ACC   step.over-3SG.DS   so   **boil   bump   like** arm   armpit=LI

   yavi-ri-Ø.
   come.up-TPST-3SG
   'She stepped over it, and (something) like a boil came up in her armpit.'

While no noun phrases with both a postpositional phrase and an adjective occur in the corpus of natural speech, in elicitation the postpositional phrase follows the adjective. Thus the postpositional phrase *Don mar* 'like Don' follows the adjective *kuta* 'long, tall' in (141), but the reverse order (*Don mar kutu*) is ungrammatical. Interestingly, my consultant also offered the grammatical order *Don kuta mar*, illustrated in (142), in which the postpositional phrase appears to be broken up by the adjective. I prefer to analyzed this as a subordinating construction, though. In it, the nonverbal clause *Don kuta* 'Don is tall' is being subordinated by *mar* (see §3.7.2) to form a postpositional phrase, and this phrase then occurs in its normal modifying position in the noun phrase.

(141) *Kura   kuta   **Don   mar**   beau   g-ri-n.*
       man   long   **Don   like** DEF.ACC   see-TPST-1SG
       'I saw a tall man like Don.'   Elicited

(142) *Kura   **[Don   kuta]   mar**   beau   g-ri-n.*
       man   **Don   long   like** DEF.ACC   see-TPST-1SG
       'I saw a tall man like Don.'   Elicited

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3.4.5. Attributive Clause Chain

Attributive clause chains are fully finite clause chains that modify a head noun attributively. The attributive clause chain construction consists of, in order, the head noun, the attributive chain, and a determiner. The example in (143) is typical: the head noun *udukɨb* 'road' is modified by the clause *bira urubɨsa* 'they went,' which is followed by the pragmatic demonstrative *kudu*.

(143) *Udukɨb*   *[bira*   *u-rubɨ-s-a* *]*   *k-udu*   *sigud-ii ...*
       road   3PL   go-PL-FPST-3   MD-PRAG   disappear-3SG.DS
       'The road they had gone on disappeared and ...'

The place of the final determiner can also be occupied by a postposition, such as *mar* 'like' in (144). It is unclear whether attributive chains can occur without one of these final forms, either a determiner or a postposition. It is also unclear how chains subordinated by the different forms differ.

(144) *Suhusuhu* *[kwahe*   *ki-ri-Ø*   *]*   *mar* *hasa*   *kɨ-s-a.*
       position   before   stay-TPST-3SG   like   FOC   stay-FPST-3SG
       'It was exactly in the position it had been in before'

These attributive chains modify their head nouns in idiosyncratic ways, and the head noun does not always correspond to an argument in the attributive clause which is being "relativized" on.[22] For this reason I prefer the term "attributive" to "relative" as a way to describe these constructions. For example, in (145) the attributive chain is the single clause *siar vaba kɨdir* 'we say starling.' The head noun, *kava* 'bird,' does not appear to correspond to

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[22] This is thus a kind of "generalized noun-modifying clause," or "GNMC," as these kinds of constructions have come to be called (Comrie p.c.). See Matsumoto (1988, 1997).

any grammatical role in this clause; *va-* 'say' is not a two-place predicate like the English verb *call* that is used in the translation.

(145) *Wari   kɨ-i,   kava, [siar   va~ba   kɨd-i-r   ] bira pi-rɨbɨ-s-a.*
village stay-3SG.DS bird starling say~NMLZ walk-TPST-1PL 3PL   come-PL-FPST-3
'He was in the village, and the birds that we call starlings came.'

These constructions can contain multiple chained subordinated clauses, as in (146), although usually they contain only one. This example also illustrates the fact that attributive chains follow attributive adjectives, as the subordinate clauses follow the adjective *zere* 'good.'

(146) *O   pɨgrɨ   zere [yava-nin   kɨd-a,   miŋa~miŋa kɨda-b-ri   ]*
oh   custom good father.1.POSS-PL walk-SS get~NMLZ   walk-3PL-TPST

k-udu,   pɨgrɨ   zere beau   miŋ-idagra.
MD-PRAG custom good DEF.ACC get-1PL.IRR
'Oh, the good customs that our fathers walked in and adopted (lit. 'got'), we should adopt those good customs.'

The fact that attributive clauses follow postpositional phrases is shown by (147).

(147) *O,   ka   asɨk ka   yaŋ,   va-s-a.   Yaŋ   od-on   buhun*
oh   MD.TOP   fire MD.TOP   1SG.POSS say-FPST-3SG 1SG.POSS FD-LOC   CHAR

[mɨ-ra   pi-sɨ-n   ] k-udu.
get-SS   come-FPST-1SG MD-PRAG
'"Oh, that firewood is mine," she said. "Mine from over there that I brought."'

As is the case with most noun phrase constituents, attributive clauses can occur in noun phrases that do not contain a head noun, such as (148), which only contains the adjective *kɨhre* 'some.'

(148) *Kɨhre [ya mi   tam-ri-n   ] k-udu   ab-ri-n.*
some 1SG thought put-TPST-1SG MD-PRAG talk-TPST-1SG
'I'm talking about some (things) that I'm thinking about.'

The grammar of attributive clause chains is discussed in more detail in §3.7.2.3, where I also discuss how the attributive clause chain construction is related to clause chain nominalization.

3.4.6. Determiner

The final position in the noun phrase is that of the determiner. This can be either a morphologically complex demonstrative form (149) or the definite accusative form *beau* (150). Additionally, the third person pronouns *be* (45) and *bira* (46) can function as subject determiners.

(149) *Madaŋ Taun*   ***od-on***   *wa-s-a.*
Madang.Town   **FD-LOC**   go-FPST-3SG
'He went to Madang Town.'

(150) *Ka-ma*   *ad-ɨi,*   *kava sɨrɨn* ***beau***   *mɨ-ra*   *wa-ra …*
MD-ADVZ do-3SG.DS bird egg   **DEF.ACC**   get-SS   go-SS
'It did that, and she took the bird egg and went and …'

(151) *Sue*   *udukɨb* ***be,***   *nɨrɨŋ*   *tarma=ñ,*   *sigudɨ-s-a.*
so   road   **3SG**   3PL.POSS eye=LI   disappear-FPST-3SG
'Then the road disappeared from their eyes.'

(152) *Iru*   *mubu* ***bira***   *pi*   *kaha-b-ɨi …*
salt   fly   **3PL**   come   gather-PL-3.DS
'Salt flies came and gathered and …'

Like other elements in the noun phrase, determiners do not require the presence of a head noun. Examples of a complex demonstrative (153) and *beau* (154) occurring without a head noun are given below.

(153) *Nu*   *yaŋ*   *amge*   *suku* ***od-on***   *mir-a*   *pi-ri-n*   *va-s-a.*
ND.TOP 1SG.POSS woman true   **FD-LOC**   leave-SS come-TPST-1SG say-FPST-3SG
'"I left my real wife over there and came," he said.'

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(154) **Beau**   mɨ-ra   mir-a   kapara-s-a   ka-ga ...
      DEF.ACC   get-SS leave-SS throw-FPST-3SG MD-TOP
      'He got it and threw it and then ...'

3.4.7. Coordination

There is no dedicated coordinating morpheme in Sirva, so noun phrase coordination is usually accomplished by simple juxtaposition. This can be done without an intonational break (155) or with one (156).

(155) *Ka-ma*   *ad-ɨi*   *beau*   *g-ra*   *tei*   **nua**   **nɨ-mɨ=u**
      MD-ADVZ   do-3SG.DS   DEF.ACC   see-SS go.up   **father.3.POSS**   **3.POSS-mother=ACC**

   aba-bɨ-s-a.
   talk-PL-FPST-3
   'He did that, and they saw him and went up and told their father and mother.'

(156) *Kavar-ɨi,*   **tar**   **krɨv,**   **sɨbia**   **beau**   *mɨŋa~mɨŋa,*   *nɨrɨŋ*   *wari*
      throw-3SG.DS **tree** **piece** **stone** DEF.ACC   get~NMLZ   3PL.POSS   village

   u-rubɨ-s-a,   *kov~gov.*
   go-PL-FPST-3   carry~NMLZ
   'He threw them, and they, taking the sticks and stones, went to their village, carrying them.'

The comitative postposition *rada* can also be used to coordinate. In (157), for example, the subject *Amazikura,* being one person, would normally trigger singular subject agreement. But in this example the two noun phrases added with *rada* form part of the subject, which triggers plural agreement on the verb. This does not have to be the case, however; in (158) the postpositional phrase with *rada* functions obliquely, modifying the action of the verb, which is marked for singular subject agreement.

(157) *Kwahe,*   *Amazikura,*   *ni-rɨma*   *rada,*   *nɨŋ*   *mudu*   *rada*   *ad-i*
      before   Amanzikura   3.POSS-sister   COM   3SG.POSS   man.i.l   COM   FD-SET

> *ki-ŋ*   *kɨda-b-ri.*
> stay-NMLZ   walk-3PL-TPST
> 'Before, Amanzikura, his sister, and his brother-in-law lived over there.'

(158) *Kahavar-a*   *wa-ra,*   **warwar**   **rada**   *u-ri-Ø.*
      follow-SS   go-SS   **yelling**   **COM**   go-TPST-3SG
      'She followed and went along with yelling (i.e., yelling all the way).'

The sequence in (159), consisting of a sentence and a correction produced by the same speaker, illustrates another unusual property of *rada*. In the first line, the speaker says that he will go later, and then he corrects that to say that he and his wife (colloquially referred to as his "mother") will go later. But instead of combining the 1SG pronoun *ya* with a *rada* postpositional phrase, he uses the 1PL pronoun *ara*, so that *yamda rada* has the sense of "including my wife" rather than "and my wife."

(159) a. *Ya*   *krɨv*   *ka-ma*   *u-vanadi-n.*
        1SG   after   MD-ADVZ   go-FUT-1SG
        'I'll go later.'

      b. ***Ara yamda***   ***rada*** *krɨv*   *u-vanadi-r.*
        1PL   **mother.1.POSS**   **COM**   after   go-FUT-1PL
        'My wife and I will go later.'

Disjunctive ('or') coordination is expressed with the particle *o*, which is presumably borrowed from Tok Pisin. This particle is often set off intonationally, and it can be repeated, as in (160). It is also used to coordinate clauses (161).

(160) *Saba*   *ña,*   *o*   *magav*   *o,*   *o*   *muya*   *ña*   *o,*   *o*   *tugu*   *ñed*
       pig   child   or   wallaby   or   or   cassowary   child   or   or   animal   small

       ñed   *mɨ-ra*   *pi,*   *ña-ra*   *ki-ŋ*   *kɨda-b-ri.*
       small   get-SS   come   eat-SS   stay-NMLZ   walk-3PL-TPST
       'He would get piglets, or wallabies, or baby cassowaries, or little animals, and bring them and eat them and they lived like that.'

(161) *Mɨz-ra*   *kɨñi,*   *itu*   *wi-ra*   *o,*   *añi*   *pɨi-ra*   *o,*   *kusu*   *ña-ra*   *o,*
       sit-SS   stay.SS   tobacco   smoke-SS   or   water   bathe-SS   or   food   eat-SS   or

> kari   ña-ra   o,   ka-ma   ma   ad-uhra   va-bɨ-s-a.
> betelnut   eat-SS   or   MD-ADVZ   NEG   do-2PL.IRR   say-PL-FPST-3
> '"Don't sit down and smoke a cigarette, or take a bath, or eat something, or chew betelnut, or do (anything) like that," they said.'

3.5. Verb Morphology

Verbs are the most morphologically complex word class, and their morphology can be divided into the usual Papuan categories of medial and final. Medial morphology marks switch reference and sometimes person/number information, while final morphology marks TAM and person/number information. In the following section, I discuss final morphology, followed by medial morphology (§3.5.2) and then other morphology that does not fit neatly into the final–medial distinction (§3.5.3).

3.5.1. Final Morphology

Final morphology marks TAM information, distinguishing six categories, as well as person/number information. Many final paradigms employ the same set of subject agreement suffixes, which I present in Table 6.

Table 6. Basic person/number agreement suffixes

	SG	PL
first person	*–n*	*–r*
second person	*–na*	*-ra*
third person	*–Ø, –a*	*–b–Ø, –b–a*

One quirk of the person/number marking system is the plural morpheme *–b.* Sirva makes use of a common Sogeram number-marking strategy, which is to mark 3PL by means of a discrete plural suffix in combination with the 3SG suffix. This is illustrated in (162) with far past tense forms, which use the 3SG suffix *–a.* However, unlike other Sogeram languages,

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the 3SG suffix in Sirva is more often zero, as illustrated in (163) with today past forms. In cases like this, I choose to analyze the *–b* suffix as '3PL,' instead of positing an additional zero suffix to mark third person, as the *–a* does in (162)b. Such an analysis would, however, also be possible.

(162) a. *tama-s-a*
      put-FPST-3SG
      's/he put (long ago)'

     b. *tama-bɨ-s-a*
      put-PL-FPST-3
      'they put (long ago)'

(163) a. *tam-ri-Ø*
      put-TPST-3SG
      's/he put (today)'

     b. *tama-b-ri*
      put-3PL-TPST
      'they put (today)'

It should also be noted that *–b* 'PL' has two allomorphs, *–rub* and *–rib,* which are selected for by certain lexemes (164).

(164) a. *u-rub-ri*
      go-3PL-TPST
      'they went'

     b. *pi-rɨb-ri*
      come-3PL-TPST
      'they came'

3.5.1.1. Future

The future tense is formed with the future suffix *–vanadi* (which is often shortened to *–vadi*) in combination with the basic agreement suffixes. The 3PL is formed with a shortened tense suffix and the irregular agreement suffix *–bri*. The whole paradigm is presented in Table 7.

Table 7. Future tense suffixes

	SG	PL
first person	*–vanadi–n*	*–vanadi–r*
second person	*–vanadi–na*	*–vanadi–ra*
third person	*–vanadi–Ø*	*–vana-bri*

The future tense simply refers to future events, regardless of the perceived certainty of the event or its temporal distance from the present. Some examples of the full and

shortened suffix are presented below. This suffix can undergo labial merging (see §3.2.1), as illustrated with *tama-* 'put' in (166).

(165) *Nu   yabi   dua-r-vanadi-r   va-bi-s-a.*
     ND.TOP   now   bad-be-FUT-1PL   say-PL-FPST-3
     '"Now we're gonna get it (lit. 'become bad')," they said.'

(166) *Pɨgrɨ   dua=ñ   ki-vadi-na   k-udu,   sue   nau   mi-ra   pi   mama=ñ*
     custom   bad=LI   stay-FUT-2SG   MD-PRAG   so   2SG.OBJ   get-SS   come   light=LI

     ta-banadi-Ø   va-s-a.
     put-FUT-3SG   say-FPST-3SG
     '"(If) you continue in bad habits, then he'll bring you and put you in the light," he said.'

3.5.1.2. Today Past

The today past is formed with the tense suffix *–ri* in combination with the basic agreement suffixes. The paradigm is presented in Table 8.

Table 8. Today past tense suffixes

	SG	PL
first person	–ri–n	–ri–r
second person	–ri–na	–ri–ra
third person	–ri–Ø	–b–ri

This tense refers to present events (167) and past events that occurred on the day of the speech act (168). The boundary between this tense and the yesterday past is nightfall the previous day: sleeping that starts last night and ends this morning is referred to with the today past (169). Finally, the today past is also commonly used as a narrative present tense, especially in traditional stories, as illustrated in (170).

(167) *Kɨhre   ya   mi   tam-ri-n   k-udu   ab-ri-n.*
     some   1SG   thought   put-TPST-1SG   MD-PRAG   talk-TPST-1SG
     'I'm talking about some (things) that I'm thinking about.'

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(168) *Nara   va-sɨ-n,   au   sovɨzov   agi   **g-ri-n.***
      2PL   say-FPST-1SG wood   pile   COMPL **see-TPST-1SG**
      '"You guys," I said, "I found a car (lit. 'wood pile').'"

(169) *Tapo   rada   **kɨmam-ri-r.**   Kɨmam-ra   mir-a   yabi   **pi-ri-n.***
      Tapo   COM   **sleep-TPST-1PL**   sleep-SS   leave-SS now   **come-TPST-1SG**
      'I slept with Tapo. I slept, left, and came today.'

(170) *Nu-sur   be   tudiv   beau   mɨgr-a   mir-a,   **miŋa-mir-i-Ø.***
      3.POSS-brother.i.l   3SG   swing   DEF.ACC cut-SS   leave-SS **get-leave-TPST-3SG**
      'The brother-in-law cut the swing and left it.'

3.5.1.3. Yesterday Past

The yesterday past is formed with the yesterday past suffix *–ma* and the basic agreement suffixes, as shown in Table 9. The 3SG is formed with a different form of *–ma* and no agreement suffix (or a zero suffix), so I analyze it as a portmanteau suffix that marks both TAM and person information. The 3PL is formed with this suffix plus the plural suffix *–b*.

Table 9. Yesterday past tense suffixes

	SG	PL
first person	*–ma–n*	*–ma–r*
second person	*–ma–na*	*–ma–ra*
third person	*–m*	*–bɨ–m*

The 3SG form of the yesterday past is also idiosyncratic in other ways. It is a vowel-eliding suffix, as described in §3.2.1, while none of the other yesterday past forms usually are. This sometimes results in the insertion of an epenthetic /ɨ/: for example, *tama-* 'put' yields *tam-ɨm*. Some verbs, as described in §3.3.1 above, have irregular 3SG yesterday past forms. For example, *i-* 'hit' yields *i-mɨ* and *wa-* 'go' yields *u-mu*.

The yesterday past is used to refer to events from the day prior to the speech act, as in (171) and (172), including sleep that started the day before yesterday.

(171) *Au   savazava, mɨ-ra   mir-a,   amɨn   **pi-ma-r.***
      wood pile   get-SS   leave-SS yesterday **come-YPST-1PL**
      'We got a car (lit. 'wood pile'), and came yesterday.'

(172) *Nu,   amamasi-b-ra,   saba ñed   beau   i-ra   **tama-ma-r**   amɨn.*
      3SG.OBJ make.happy-say-SS pig   small DEF.ACC hit-SS **put-YPST-1PL**   yesterday
      'We celebrated him, we killed a little pig yesterday.'

3.5.1.4. Far Past

The far past tense is formed with the far past suffix *–sɨ* and the basic person agreement

suffixes. As shown in Table 10, the third person forms are formed with *–a*.

Table 10. Far past tense suffixes

	SG	PL
first person	*–sɨ–n*	*–sɨ–r*
second person	*–sɨ–na*	*–sɨ–ra*
third person	*–s–a*	*–bɨ–s–a*

This tense refers to all events earlier than two days before the speech act. This ranges

from events occurring just a few days ago (173) to the dawn of creation (174). As mentioned

in §3.5.1.2, though, speakers can also employ the today past as a narrative tense.

(173) *Yaŋ   ñiñabɨña, hausik=iñ   **kɨ-rɨbɨ-s-a.***
      1SG.POSS child   hospital=LI **stay-PL-FPST-3**
      'My children were in the hospital.'

(174) *Kibe   buhun tam-ra mir-a,   sue, kura   **tama-s-a.***
      above   CHAR   put-SS leave-SS so   man   **put-FPST-3SG**
      'He created (everything) of the skies, and, he created man.'

3.5.1.5. Irrealis

The irrealis mood has its own agreement paradigm, which is presented in Table 11. There is

no 3SG form, but there is a special first person dual form *–ɨdaŋ.*

Table 11. Imperative mood suffixes

	SG	PL	DU
first person	–ɨda	–ɨdagra	–ɨdaŋ
second person	–u	–uhra	
third person		–b-adi	

The primary use of the irrealis paradigm is to make commands, both positive and negative, as in (175) and (176).

(175) *Ya   rada   n-i   kɨmam-ra ka-ma   amu   wa-ra, **puhr-u***
      1SG   COM   ND-SET   sleep-SS   MD-ADVZ   tomorrow   go-SS   **look.for-2SG.IRR**

      va-s-a.
      say-FPST-3SG
      '"Sleep here with me and go look for it tomorrow," he said.'

(176) *Pɨgrɨ   zere   beau   **miŋ-idagra.**   Ma   **kapar-dagra.***
      custom   good   DEF.ACC   **get-1PL.IRR**   NEG   **throw-1PL.IRR**
      'Let's adopt the good customs. Let's not throw them away.'

However, there is also the option of using different-subject forms to make more polite commands, as in (177), where the clause chain is never continued after *kɨhanana*.

(177) *Na   wari   **kɨ-hana~na**   va-s-a.   V-ra   mir-a   wa-s-a.*
      2SG   village   **stay-2SG.DS~SIM**   say-FPST-3SG   say-SS   leave-SS   go-FPST-3SG
      '"You stay in the village," he said. He said that and went away.'

In addition to its imperative use, the irrealis can also be used in the desiderative construction (178), which is discussed further in §3.7.3.1, as well as in certain future scenarios, usually in interrogative clauses like (179) and (91).

(178) *Kiliaim   **v-ɨda**   v-ra   kya,   ka-ma   hasa   ab-ri-n.*
      clarify   **say-1SG.IRR**   say-SS   speech   MD-ADVZ   FOC   talk-TPST-1SG
      'I wanted to clarify (that) so I talked just so.'

(179) *Aba-sɨda   wa-ra   **g-ɨda**   va-s-a.*
      QD-TEMP   go-SS   **see-1SG.IRR**   say-FPST-3SG
      '"When will I go see (that)?" he said.'

(180) *Arɨ=ñ*   **kɨmam-daŋ**   *v-ra*   *ga-bɨ-s-a*   *ka-ga,*   *wara.*
what=LI   **sleep-1DU.IRR**   say-SS   see-PL-FPST-3   MD-TOP   house
'They said, "What will we sleep in?" and looked, and (there was) a house.'

As mentioned in §3.3.1, two verbs have irregular irrealis forms. The 2SG of *pi-* 'come' is *aya*, and that of *wa-* 'go' is *wara* (181). In both cases, the 2PL is formed by attaching the normal 2PL.IRR suffix to this irregular form, as illustrated with *wa-* 'go' in (182).

(181) *Na-nabrɨ*   *kɨdɨv*   *ka*   *hasa*   *mɨ-ra*   **wara**   *o!*
2.POSS-wife   new   MD.TOP   FOC   get-SS   **go.2SG.IRR**   oh
'Oh, just take your new wife and go!'

(182) *Sɨhazɨha*   *ka*   *hasa*   **wara-hra**   *va-bɨ-s-a.*
completely   MD.TOP   FOC   **go-2PL.IRR**   say-PL-FPST-3
'"Just go all they way," they said.'

The third person singular is expressed with the future tense suffixes, as shown by the elicited example in (183), which expresses a fairly prototypical irrealis meaning.

(183) *Wa-ra*   *aba-hana*   **pi-vadi-Ø!**
go-SS   talk-2SG.DS   **come-FUT-3SG**
'Go tell him to come (lit. 'go and talk to him and he (will/should) come')!'

The 3PL form *–b-adi* also appears to be etymologically related to the future suffixes, but it is distinct from the 3PL future form *–vana-bri*, and is used with more hypothetical meaning (184).

(184) *Nu*   *aba-ma*   *ad-i-n?*   *Eraŋa*   *eraŋa*   *hasa*   **aku-rub-adi,**   *va-s-a.*
ND.TOP   QD-ADVZ   do-TPST-1SG   two   two   FOC   **sleep-3PL-IRR**   say-FPST-3SG
'"Now what do I do? (To get) both of them to sleep?" she said.'

3.5.1.6. Habitual

Habitual verb forms can be formed with the suffix *–rava*, which is followed by suffixes from the today past paradigm (§3.5.1.2). However, the habitual forms can refer to present as well as past habitual events, as shown by (185), and so I gloss the today past forms simply as

person-number agreement forms. This verb form is only attested in 3PL (185) and 3SG (186); attempts to elicit other habitual verb forms were met with the auxiliary habitual construction discussed in §3.5.3.2, and it is unclear whether –*rava* can occur in the first or second person.

(185) *Pɨgrɨ   yava-nin   tata-nin   kwahe   ki-rava-b-ri*
custom   father.1.POSS-PL   grandfather.1.POSS-PL   before   **stay-HAB-PL-3**

k-udu,   ara   sɨhazɨha   agi   mɨŋa-mir-i-r.
MD-PRAG   1PL   completely   COMPL   get-leave-TPST-1PL
'The customs our fathers and grandfathers used to live (by), we've left (them) completely.'

(186) *Tev-ɨi   wa-ra, uri   ki-rav-ri.*
evict-3SG.DS   go-SS   outside   **stay-HAB-3SG**
'He_i kicked him_j out, and he_j lived outside.'

3.5.2. Medial Morphology

Medial morphology marks switch reference, distinguishing same-subject from different-subject, and, within the different-subject category, distinguishing sequential from simultaneous events. The switch reference marking indicates whether the subject of the marked verb is co-referential with the subject of the following verb in the chain (see §3.7.1 for a more detailed discussion of the clause chaining system).

3.5.2.1. Same–Subject

The same-subject suffix is –*ra*, although in the presence of some /u/-final verbs it becomes –*ru*. Recall also that the suffix-initial /r/ is subject to coronal reduction (§3.2.1). This suffix indicates that the action of the following verb is performed by the same subject as that of the marked verb. Some examples are given in (187) and (188).

(187) **Wa-ra** **mir-a** *nua=u* **kuvri-ra** **kav-ru** *pi-s-a.*
go-ss leave-ss father.3.POSS=ACC lift-ss carry-ss come-FPST-3SG
'He went and lifted his father and carried him back.'

(188) *Ka-ma* *ad-ɨɨ* **wa-ra** *maku* **tam-ra** **mir-a** **mɨz-ra** **kiñi,**
MD-ADVZ do-3SG.DS go-ss stuff put-ss leave-ss sit-ss stay.ss

k-i *mi* *miŋa-bɨ-s-a.*
MD-SET thought get-PL-FPST-3
'She did that and they went and put their stuff down and sat for a bit, and there they had an idea.'

The same-subject suffix is very frequent, occurring 820 times in my corpus, and some same-subject forms have undergone reanalysis. The same-subject form of the verb *mira-* 'leave' has come to be used as a clause linker, meaning essentially 'and.' For example, in (189), neither instance of *mir-a* 'leave-SS' refers to literal leaving; rather, both are being used as clause linkers.

(189) **Tagu-ram-ra** **mir-a,** *sue* *ara* *ñiñabiña* *zɨv* **tam-ra** **mir-a,** *ara*
step-put-ss leave-ss so 1PL child line.up put-ss leave-ss 1PL

nu *ki-ri-r.*
ND.TOP stay-TPST-1PL
'We stand on that, and we line up (i.e., have lots of) children, and we live here.'

Some common collocations of verbs linked with *–ra* have also lexicalized. The combination of *miŋa-* 'get' (which has the irregular same-subject form *mi-ra* 'get-SS') and *pi-* 'come' or *wa-* 'go' means 'bring' and 'take,' respectively, as illustrated in (190). Additional evidence that this pair has lexicalized is provided by the fact that *pi-u* 'come-2SG.IRR,' as shown in the example below, cannot be used except with *mi-ra*: the verb *pi-* 'come' has an irregular 2SG.IRR form *aya* that must be used in all other contexts.

(190) *Nɨmari* *nu* *hasa* *wa-ra* *puhr-a* **mi-ra** **pi-u** *v-ii ...*
now ND.TOP FOC go-ss look.for-ss get-ss come-2SG.IRR say-3SG.DS
'"Go right now and look for it and bring it back," he said and ...'

Another example that illustrates the high level of integration that verbs with *–ra* can exhibit is (191), where *pɨira* 'wash, bathe (intr.) and' combines with the transitivizing verb root *ma-* to mean 'wash (tr.).' The form *mavadir* is ungrammatical on its own.

(191) *Kɨvra,   mugu   añi   pɨi-ra   ma-vadi-r.*
both   go.down water bathe-SS TR-FUT-1PL
'We'll both go down and wash (the baby) in the water.'

3.5.2.2. Different–Subject Sequential

Different-subject verbs indicate that the subject of the following verb will differ from the subject of the marked verb. They agree with their own subjects via a paradigm of portmanteau agreement suffixes, which is presented in Table 12.

Table 12. Different-subject sequential suffixes

	SG	PL
first person	*–iin*	*–har*
second person	*–hana*	*-hara*
third person	*–ii*	*–b-ii*

The same different-subject suffixes are used regardless of the TAM specification of the final verb, as shown with the realis clause in (192) and the irrealis clause in (193).

(192) *Be   kav   kɨd-a   pi   puza, tɨk=ɨñ   hasa   gu-rub-ii,   puza   tɨk*
3SG   just walk-SS   come   shaft piece=LI   FOC   give-PL-3.DS   shaft piece

beau   miŋa-b-ii,   ñiñabiña bira, mir-a   wa~wa   kɨda-b-ri.
DEF.ACC   get-PL-3.DS   child   3PL   leave-SS go~NMLZ   walk-3PL-TPST
'(The fathers_i) used to just walk over and offer just a spear shaft, and they_j would hold it, the children_j that is, and they_i would leave and go on their way.'

(193) *Tar   kuna   ka   mɨ-ra   pi-hana,   sausau   u-daŋ   v-ri-Ø.*
tree plate MD.TOP   get-SS come-2SG.DS   quickly go-1DU.IRR   say-TPST-3SG
'"Bring a canoe (lit. 'tree plate') and let's go quickly," she said.'

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Different-subject forms can also be used as final irrealis verbs in some contexts (194), although this use is not well understood. It also appears to extend to different-subject simultaneous verbs (195).

(194) *Na   naisa   saba   i-hum-hana.*
      2SG   enough   pig   hit-die-2SG.DS
      'You're able to kill a pig.'   Elicited

(195) *Na   wari   ki-hana~na   va-s-a.   V-ra   mir-a   wa-s-a.*
      2SG   village stay-2SG.DS~SIM   say-FPST-3SG   say-SS   leave-SS   go-FPST-3SG
      '"You stay in the village," he said. He said that and went away.'

3.5.2.3. Different–Subject Simultaneous

The different-subject simultaneous suffixes are formed by reduplicating the last syllable of the different-subject sequential suffixes, as shown in Table 13.

Table 13. Different-subject simultaneous suffixes

	SG	PL
first person	–iin~Ciin	–har~har
second person	–hana~na	–hara~ra
third person	–ii~Cii	–b-ii~bii

The only suffixes in this paradigm that copy phonetic material from the verb root are 1SG and 3SG, and this material can be copied in many ways. Often this phonetic material is unchanged (102), although voiceless stops are lenited, as in (197).

(196) *Pev   w-i~wi   narah   be   hasa   wari   ki-s-a.*
      forest go-3SG.DS~SIM   younger.sib.3.POSS   3SG   FOC   village stay-FPST-3SG
      'While he went to the forest, his younger brother stayed in the village.'

(197) *Wari   ki-i~gii,   k-on   kura   bira   pi~rapi,   uhu   beau*
      house   stay-3SG.DS~SIM   MD-LOC   man   3PL   come~PTCP   door   DEF.ACC

      idu-ra   mir-a ...
      open-SS   leave-SS
      'As he was staying in the house, the men came there and opened the door and ...'

The way these stops are lenited is varied, and there seems to be a great deal of freedom for speakers to reduplicate as they please. No doubt some roots have fixed forms—one would expect high-frequency verbs to exhibit less variation. But in elicitation, my consultant would often reduplicate the same verb differently from utterance to utterance. Thus for *igra-* 'split, tear' he sometimes reduplicated the whole consonant cluster (*igr-ɨɨ~grɨɨ*), but sometimes did not (*igr-ɨɨ~rɨɨ*). For some verbs, voiceless stops were prenasalized (*kai-* 'close' gave *ka-i~gai*) while for others they became voiced fricatives (*pi-* 'come' gave *p-ɨɨ~vɨɨ*). Sometimes my consultant even suggested reduplicating a whole word, not just the last syllable (*kumu-* 'die' gave *kumu-in~gumuin*, although he said that *kumu-in~iin* was better). The factors involved in forming these reduplicative affixes appear to be a complicated topic that will require more research.

Semantically, this form is used when the two events referred to by the marked verb and the following verb overlap temporally. This overlap can occur with events of relatively short duration, as above, or with habitual events that take place over long periods of time (198).

(198) *Nɨ-rima,*   *nu-sur*   *be*   *wa-ra, kɨva*   *saraku* **_miŋa-b-ɨɨ~bɨɨ_**
3.POSS-sister   3.POSS-brother.i.l   3SG   go-SS garden   work   **get-PL-3.DS~SIM**

amusamus, amusamus be   *tudiv*   *saraku mɨ-ra*   *ki-ŋ*   *kɨd-i-Ø.*
always   always   3SG   swing   work   get-SS   stay-NMLZ   walk-TPST-3SG
'His sister and his brother-in-law would always go work in the garden, and he'd always be playing on the swing.'

3.5.3. Other Morphology

There are a number of verb suffixes that cannot easily be classified as either medial or final, and I discuss these here. They include the desiderative suffix, discussed below, and

three reduplicative suffixes: the nominalizer (§3.5.3.2), the participial suffix (§3.5.3.3), and the continuous suffix (§3.5.3.4). I also discuss serialized verbs in §3.5.3.5.

3.5.3.1. Desiderative

The desiderative suffix –*vana* signals that the action of its verb is desired, but not necessarily realized. It usually occurs with another verb following it, the action of which was carried out with the intention of performing the desired action. For example, (199) could also be translated 'his sons went down (to the river) to bathe.' Another example is given in (200).

(199) *Sue   nu-husu-har   bira añi   **pɨɨ-vana**   mugura-bɨ-s-a.*
      so   3.POSS-son-PL   3PL   water **bathe-DESID**   go.down-PL-FPST-3
      'His sons wanted to bathe and they went down (to the river).'

(200) *Sue   od-on,   wara   Danaru   **u-vana**   wa-s-a.*
      so   FD-LOC   house   Danaru   **go-DESID**   go-FPST-3SG
      'He wanted to go over there, to Danaru village, and he went.'

The desiderative suffix can be used with the verb *va-* 'say' in what I call the desiderative construction (201), which is discussed further in §3.7.3.1.

(201) ***U-vana   va-b-ii,***   *yakɨv-ra   aba-bɨ-s-a.*
      go-DESID   say-PL-3.DS   get.up-SS   talk-PL-FPST-3
      'They_i were about to go, and they_j got up and talked.'

The desiderative suffix can also be used on its own, however, simply to express the desires of the subject or topic of the current discourse. In (202), for example, the man says *ya itu wivana* to mean 'I want to smoke a cigarette.'

(202) *Sue   kura   be   ab-ri-Ø,   ya   itu   **wi-vana**   v-ii,*
      so   man   3SG   talk-TPST-3SG   1SG   tobacco **smoke-DESID**   say-3SG.DS

> *nabrɨ   be,   asɨk gwa-s-a.*
> wife.3.POSS 3SG   fire give-FPST-3SG
> 'So the man talked, "I want to smoke a cigarette," he said, and his wife gave him fire.'

Finally, it seems that, in combination with the verb *adɨ-* 'do,' the desiderative suffix has future meaning (203).

> (203) *Kura sebrɨ wa-ra,* **ku-bana**   **adɨ-b-ri.**
>   man new go-SS **die-DESID** **do-3PL-TPST**
>   'If strangers (lit. 'new men') go, they'll die.'

3.5.3.2. Nominalization

Verbs can be nominalized by reduplication. The phonological rules for deriving the reduplicated form from the verb root are not precisely understood, and may in fact be somewhat flexible or lexically governed. For example, the verb *puhra-* 'look for' forms is nominalized as *puhra~buhra*, while the homophonous *puhra-* 'care for' is *puhra~vuhra*. It is also possible that these two meanings are two senses of one lexeme, and the phonological variation is simply free. For example, *tai-* 'go up' has been recorded as both *tei~dei* and *tei~tei*. This possibility—that the reduplication can often be accomplished in more than one way, and speakers are given some latitude—appears to have been confirmed in elicitation. My consultant offered multiple possibilities for reduplicating some words: for *una-* 'dig,' for example, the whole word could be reduplicated (*una~una*), or only the last syllable (*una~na*). It seems that, as with the different-subject simultaneous forms (§3.5.2.3), the factors conditioning the shape of the reduplicant in this affix are complicated, and will require more research. Some observed nominalized forms are presented in Table 14.

Table 14. Nominalization reduplication formation

Root shape	Gloss	Root	Copy	Nominalized form(s)
CV	come	*pi-*	*bi*	*pi~bi*
CV	say	*va-*	*ba*	*va~ba, va~va*
VCV	put	*aba-*	*ba*	*aba~ba*
VCV	do	*adɨ-*	*d*	*adɨ~d*
CVCV	put	*tama-*	*dama*	*tam~dama, tama~dama*
CCVCV	cut	*kwaha-*	*kwaha*	*kwaha~kwaha*
CCVCV	unite	*kwemɨ-*	*gwem*	*kwem~gwem*
CVCVCV	throw	*kapara-*	*vara*	*kapara~vara*
CVCVCV	get up	*yakɨva-*	*va*	*yakɨva~va*

It is worth noting that verb adjuncts, like *bihainim* 'follow' in (204), are not reduplicated, only their corresponding light verb (in this case *va-* 'say').

(204) *Ka-ŋa   k-udu   **bihainim**   va~ba   kɨda-b-ri.*
      MD-EXST   MD-PRAG   **follow**   say-NMLZ   walk-3PL-TPST
      'They follow this (behavior).'

Two verbs, *kɨ-* 'stay' and *aku-* 'sleep,' have irregular nominalized forms that are formed with the suffix *–ŋ*. This suffix has not been attested on any other verb, and usually occurs in the auxiliary construction described below. Examples of *kɨ-*, which takes the root shape *ki-* (205), and *aku-* (115) are given below. It should be noted that in the auxiliary construction, with a following *kɨda-* 'walk,' both of these forms appear quite grammaticalized, and are usually pronounced [kiŋgida-] and [akuŋgida-], with the suffix *–ŋ* and the following /k/ merging into a prenasalized [g], and the following /ɨ/ fronting to [i].

(205) *Wa-ra mɨrada ad-a   bira ka-ma   **ki-ŋ**   kɨda-b-ri.*
      go-SS   big   do-SS   3PL MD-ADVZ   **stay-NMLZ**   walk-3PL-TPST
      'He grew big and they lived like that.'

(206) *Ka-ma   ad-ii,   asɨk=iñ **aku-ŋ**   kɨd-i-Ø.*
      MD-ADVZ   do-3SG.DS   fire=LI   **sleep-NMLZ**   walk-TPST-3SG
      'It would do that, and he would sleep by the fire.'

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The functions of nominalized verbs are somewhat varied. As nouns, they can serve as subjects (113) and objects (208), they can be possessed (209), and they can function as attributive nouns within the noun phrase (210). There is no clear example of a nominalized verb functioning as the object of a postposition in the corpus, but (211) suggests this is possible. The word *warwar* 'yelling' descends etymologically from the Proto-Sogeram verb **ura* 'yell,' and is etymologically a nominalization. Synchronically, though, it is no longer a productive verb, so this example cannot be taken as conclusive evidence.

(207) *Uhu*   **kwem~gwem**   *be*   *yakɨva-vanadi-Ø,*   *n-i.*
       ground   **unite~NMLZ**   3SG   get.up-FUT-3SG   ND-SET
       'The land meeting will happen, here.'

(208) *Ya*   **uhusiv**   **pat=iñ**   **wa~wa**   *beau*   *kriv* *tu-ri-n.*
       1SG   **village**   **center=LI**   **go~NMLZ**   DEF.ACC   fear burn-TPST-1SG
       'I'm afraid of going to town.'   Elicited

(209) *Yaŋ*   **kɨda~da**   *zere.*
       1SG.POSS   **walk~NMLZ**   good
       'My travels (lit. 'walking') were good.'   Elicited

(210) *Na*   *nɨmari*   *nu*   **wari**   **pi~bi**   *mi*   *ma*   *ki-ri-Ø.*
       and   now   ND.TOP   **village**   **come~NMLZ**   thought   NEG   stay-TPST-3SG
       'And right now, (she's) not thinking of coming home (lit. 'the thought of coming to the village doesn't exist').'

(211) *Kahavar-a*   *wa-ra,*   **warwar**   *rada*   *u-ri-Ø.*
       follow-SS   go-SS   **yelling**   COM   go-TPST-3SG
       'She followed and went along with yelling (i.e., yelling all the way).'

Some nominalizations have lexicalized to some extent, such as the nominalization of *kumu-* 'die,' which means 'illness' (212). However, this form can still be used to refer to literal dying (213).

(212) *Nɨriŋ*   **kum~gum**   *g-ra,*   *o,*   *ña*   *mi-ra,*   *ña*   *wari*   *kiñi,*   *ma*
       3PL.POSS   **die~NMLZ**   see-SS   or   child get-SS   child   village   stay.SS   NEG

> *wa~wa*   *kɨda-b-ri.*
> go~NMLZ   walk-3PL-TPST
> '(If) they saw their illness (i.e., started their period), or gave birth, they stayed in the birth house, they didn't go around.'

(213) *Ya*   **kum~gum**   *kriv*   *tu-ri-n.*
       1SG   die~NMLZ   fear   burn-TPST-1SG
       'I'm afraid of dying.'   Elicited

Nominalized verbs can also be used adverbially, to modify clauses. In this use they are understood to have the same subject as the matrix clause.

(214) *Kura*   **ga~ga**   *ikum-ii,*   *yamda*   *be*   *ka-ma*   *mi-ra*
       man   see~NMLZ   laugh-3SG.DS   mother.1.POSS   3SG   MD-ADVZ   get-SS

       pi-vanadi-Ø.
       come-FUT-3SG
       '(If the child is old enough that) seeing men, it laughs, the mother will bring it back.'

(215) *Ivɨ*   *siki*   *beau,*   **miŋa~miŋa**   *kavar-a*   *mir-a*   *kusu*   *k-i*
       grass.sp   root   DEF.ACC   get~NMLZ   throw-SS   leave-SS   food   MD-SET

       kur-ava-b-ri.
       plant-HAB-PL-3
       'Uprooting the *ivɨ* roots, they throw them away, and plant food thre.'

(216) *Kavar-ii,*   *tar*   *kriv,*   *sɨbia*   *beau*   **miŋa~miŋa,**   *niriŋ*   *wari*
       throw-3SG.DS   tree   piece   stone   DEF.ACC   get~NMLZ   3PL.POSS   village

       u-rubɨ-s-a,   **kov~gov.**
       go-PL-FPST-3   carry~NMLZ
       'He threw them, and they, taking the sticks and stones, went to their village, carrying them.'

This adverbial function of nominalized verbs often combines with the verbs *kɨda-* 'walk' and *kɨ-* 'stay,' in which case these verbs function as habitual (217) and continuous (218) auxiliaries, respectively.

(217) *Asɨk*   *mana=gra*   *ina=ñ*   *tam-ra*   *mir-a*   *kusu-ra,*   **ña~ña**   **kɨda-b-ri,**
       fire   no=LNK   sun=LI   put-SS   leave-SS   roast-SS   eat~NMLZ   walk-3PL-TPST

kɨdɨv.
new
'They didn't have fire so they would put it in the sun and cook it and eat it, raw.'

(218) *Wa-ra, Danaru k-i,   uva   añi=ñ,   añi   **pɨɨ~bɨɨ**   **kɨ-s-a.***
     go-SS   Danaru MD-SET   SPEC   water=LI water **bathe~NMLZ**   **stay-FPST-3SG**
'He went, to Danaru, and he was bathing in a river.'

The only examples of negated nominalizations are in these auxiliary constructions, such as (219) and (220).

(219) *Nu   saraku ka   saraku ivɨtubu **ma   miŋa~miŋa**   kɨda-b-ri.*
     ND.TOP   work   MD.TOP   work   well   **NEG get~NMLZ**   walk-3PL-TPST
'They didn't do (lit. 'get') all sorts of work well.'

(220) *Puzu   **ma   wiya-ri~r**   kɨd-i-Ø,   mana.*
     bone   **NEG painful-be-NMLZ**   walk-TPST-3SG   no
'Their bones (i.e., bodies) didn't hurt, no way.'

Nominalized verbs retain some of their capacity for grammatical relations. The examples presented in the discussion above include nominalized verbs with objects in (216) and nominal obliques (208), and an example with an adverb is given in (221). It is unclear whether nominalized verbs can still have subjects, or, if they cannot, whether the notional subject can be expressed by some other grammatical relation.

(221) *Warwar   **ka-ma**   **aba~ba**   pi-ri-Ø.*
     yelling   **MD-ADVZ**   **talk~NMLZ**   come-TPST-3SG
'Yelling, talking like that, she came.'

3.5.3.3. Motion Participle

There exists a verbal form, which I call the motion participle, that is formed by suffixing *-ra* and reduplicating the verb root. It is only formed with verbs of motion. The reduplicated verb root is, phonologically, a separate word, as illustrated by the /aa/ sequence in (222), which is not allowed inside a word boundary. However, the *–ra*-plus-reduplicant complex

functions as a single suffix and forms bearing it behave as a single syntactic word. I therefore represent these participles as one word in the transcription.

(222) Be   od-on   saga   beau   mɨ-ra   **agivi~raagivi,**   yanav beau
      3SG   FD-LOC fight DEF.ACC get-SS **come.downriver~PTCP**   shield DEF.ACC

      tubrah-ra   mir-a ...
      tie-SS   leave-SS
      'He got the fighters from there and came down and tied the spear and ...'

The functions of this participle appear to be quite similar to the adverbial function of nominalized verbs, described in the previous section, although it appears that they can have subjects (223). They seem to modify the action of the predicate adverbially, as in (223) and (224), although their precise function is not well understood, and it is unclear how it differs from the adverbial function of nominalized verbs.

(223) *Ka-ma   ad-a   amge   karasa   be   sue pi~rapi,   amge   suku*
      MD-ADVZ do-SS woman old.woman 3SG so **come~PTCP** woman true

      nɨŋ   tuku   k-i   aku-s-a.
      3SG.POSS sleeping.area MD-SET sleep-FPST-3SG
      'The old woman did that and came back and slept in the real woman's sleeping area.'

(224) *K-on   kura bira pi~rapi,   uhu   beau   idu-ra   mir-a,   tei~ratei,*
      MD-LOC man 3PL **come~PTCP** door DEF.ACC open-SS leave-SS **go.in~PTCP**

      nuhu   kɨsar=ɨñ tar-i-Ø   ka ...
      3SG.OBJ stick=LI stab-TPST-3SG MD.TOP
      'They men came there, opened the door, went in, stabbed him with a spear and ...'

It is also worth mentioning that the participle is usually used in same-subject conditions, that is, when the subject of the following verb is the same as the subject of the participial verb. This may be due to the *–ra* element originating from the same-subject

suffix (§3.5.2.1), but the participle can now be used in different-subject conditions, as illustrated in (225).

(225) *Añi*   *k-i*   *tam-ɨɨ*   **mugra~ramugu,**   *nu-muv*   *be*   *naguva*
     water   MD-SET   put-3SG.DS   **go.down~PTCP**   3.POSS-brother   3SG   string

     k-i   *mi-ra*   *mir-a …*
     MD-SET   get-SS   leave-SS
     'She put it in the water and it went down, and her brother held onto the string and …'

3.5.3.4. Continuous

The continuous suffix is formed by repeating the last syllable of a word, and it signals that the event described by that word continued for a while. It is usually repeated more than once, and has been found on medial verbs (226), serialized verbs, such as *agivi* in (227), and verb adjuncts, such as *vou* in the same example.

(226) **Wa-ra~ra~ra~ra~ra**   *ña*   *be*   *mirada*   *ad-a,*   *kazir-a …*
     go-SS~CONT~CONT~CONT~CONT   child   3SG   big   do-SS   crawl-SS
     'That will continue and continue and the child will become big and crawl and …'

(227) **Agivi~vi~vi**   *ni-rima*   *mɨz-ra*   *ki-s-a*   *k-i*
     come.downriver~CONT~CONT   3.POSS-sister   sit-SS   stay-FPST-3SG   MD-SET

     arkwem   *hubu*   **vou~vou~vou**   *v-ɨɨ …*
     butt   place   **poke~CONT~CONT**   say-3SG.DS
     'It came down and down, and where the sister was sitting, it poked and poked her in the butt and …'

3.5.3.5. Serialized Verbs

It is possible to serialize verbs to some extent. In this construction, unaffixed verb stems occur in the clause to express the action or orientation of the subject. Serialization is most common with motion verbs, and the difference in meaning between the same-subject medial form, the motion participle, and the serialized root is not understood. Nevertheless,

they appear to be distinct constructions, as a single verb can be used in all three, as illustrated with *mɨgivi* 'come down' in (228)–(230).

(228) *Mɨ-ra* **mɨgivi-ra** *ga-bɨ-s-a* *ka-ga* *kura* *be* *añi* *pii~bɨi*
get-SS **come.down-SS** see-PL-FPST-3 MD-TOP man 3SG water bathe~NMLZ

kɨ-s-a.
stay-FPST-3SG
'They took them and came down and looked, and the man was bathing.'

(229) *Be* **mɨgivi~ramɨgivi,** *kum-ru* *mir-a,* *aru* *mɨ-ra* *mama=ñ* *tama-s-a.*
3SG **come.down~PTCP** die-SS leave-SS 1PL.OBJ get-SS light=LI put-FPST-3SG
'He came down, died, and took us and put us in the light.'

(230) *Sibai* *od-on* *kɨd-a* **mɨgivi,** *sue* *Ramu* *n-umu,* *agura-ra ...*
Simbai FD-LOC walk-SS **come.down** so Ramu ND-LOC go.downriver-SS
'(You'll) travel to Simbai, come back, go down the Ramu, and ...'

The most common function of serialized verbs appears to be to express the movement or position of the subject with respect to the next verb, as shown in (231) and (48). However, their functions are not well understood, nor are their structural properties. They appear to always have the same subject as the following verb, but whether they are truly serialized—that is, whether they are part of the same clause as the following verb—remains a topic for future research.

(231) *Ka-ma* *ad-ii* *beau* *g-ra* **tei** *nua* *nɨ-mɨ=u*
MD-ADVZ do-3SG.DS DEF.ACC see-SS **go.up** father.3.POSS 3.POSS-mother=ACC

aba-bɨ-s-a.
talk-PL-FPST-3
'He did that, and they saw it and went up and told their father and mother.'

(232) *Mir-a* **tiva** *od-on* *ki-rav-ri.*
leave-SS **go.upriver** FD-LOC stay-HAB-3SG
'He left and went upriver and lived there.'

The clearest examples of this construction all involve motion verbs. Some examples with other verbs, like *yavru* 'hide' in (49), resemble the examples above but are more problematic because the uninflected verb is adjacent to the inflected verb, and it is possible that the two are compounded (see §3.3.1.1 on verb-verb compounds). However, consultants repeated them as separate words for transcription, and were able to gloss *yavru* on its own. Nevertheless, this topic in the grammar of Sirva remains an area for further investigation.

(233) *Kiki   uhu   k-on   **yavru**   kɨ-i~gɨi,   ni-sɨ   be   pi~rapi*
drum   hole   MD-LOC   **hide**   stay-3SG.DS~SIM   3.POSS-older.sib   3SG   come~PTCP

ga-s-a   ka-ga ...
see-FPST-3SG   MD-TOP
'While he was hiding in the drum hole, his older brother came and looked, and ...'

3.6. Clause Structure

The general outline of the clause is summarized below:

S   R   T   Obl   Loc   V

That is, the subject comes first, followed by the recipient and the theme (or in monotransitive clauses, the single object), then non-locative oblique arguments, then locative obliques (i.e., setting, locative, and locative/instrumental arguments), and finally the verb. This outline is quite uncertain, since clauses with more than one overt argument are quite rare, and there are not enough relevant examples of the various orderings to be sure of this schema. I discuss each position in the clause below, and turn then to discussions of topic position (§3.6.4), right-dislocation (§3.6.5), negation (§3.6.6), interrogative clauses (§3.6.7), and nonverbal clauses (§3.6.8). It should also be noted that

clauses can contain serialized motion verbs in non-final position; this is discussed in §3.5.3.5 above.

3.6.1. Subjects

Subjects are usually the first and most agentive argument in the clause. They trigger person-number agreement in final verbs (234), as well as in different-subject medial verbs (235). They also trigger switch reference agreement in the clause chaining system (236) (see §3.7.1).

(234) *Yamda*   ***ya***   *asɨk*   *tada*   *mɨ-ra*   ***pi-ri-n***   *va-s-a.*
mother.1.POSS   **1SG**   fire   log   get-SS   **come-TPST-1SG**   say-FPST-3SG
'"Mother, I brought a log of firewood," he said.'

(235) *Yakɨv-ra*   ***saga***   ***bira***   ***goŋ***   *va-b-ɨi ...*
get.up-SS   **fight**   **3PL**   **attack**   say-PL-3.DS
'The fighters got up and attacked and ...'

(236) *Ka-ma*   ***kɨ-i~gɨi,***   *sue,*   *añi*   *kuna*   *be*   ***pi-i,***   *ka-ŋa*
MD-ADVZ   **stay-3SG.DS~SIM**   so   water   plate   3SG   **come-3SG.DS**   MD-EXST

k-i,   *kuvrar-a*   *mir-a*   *u-rub-ri.*
MD-SET   jump-SS   leave-SS   go-3PL-TPST
'As (the urine) stayed like that, the canoe came, and they jumped into it and went.'

Sirva is a strictly accusative language, and the agent-like argument of transitive clauses (237) is marked the same, and triggers the same verb agreement, as the single argument in intransitive clauses (238).

(237) ***Ya***   *kavana*   *naruhu*   *k-udu*   *vana*   *ñad*   *hasa*   ***ab-ri-n.***
1SG   therefore   2PL.OBJ   MD-PRAG   about   a.little   FOC   **talk-TPST-1SG**
'Therefore I've told you guys just a little about this.'

(238) *Ya mɨz-ri-n.*
1SG sit-TPST-1SG
'I'm sitting.'

The third person subject pronouns *be* '3SG' and *bira* '3PL' are often used as subject-marking determiners, but this use is not well understood. They are more common on definite subjects, such as those in (239) and (240). But it seems that they can appear on indefinite subjects as well; in (241), salt flies are being mentioned for the first time in the story, and may be indefinite. (However, it is possible that they are activated semantically by the sores in the previous clause, and can therefore be marked as definite.)

(239) *Uhu   kwem~gwem   be   yakɨva-vanadi-Ø, n-i.*
ground   unite~NMLZ   **3SG**   get.up-FUT-3SG   ND-SET
'The land meeting will happen, here.'

(240) *Aku-i   kura   uhusiv   k-i   buhun   bira   kɨd-a   g-ra ...*
sleep-3SG.DS   **man   village**   MD-SET   CHAR   **3PL**   walk-SS   see-SS
'He slept and the men from the village came and looked and ...'

(241) *Sɨraga=ñ, kur   puzu=ñ, mav=ɨñ, we   dua   dua   be   adɨ-rib-ɨi,   mubu,   iru*
side=LI   back   bone=LI   belly=LI   sore   bad   bad   3SG   do-PL-3.DS   fly   **salt**

mubu   bira   pi   kaha-b-ɨi ...
fly   3PL   come   gather-PL-3.DS
'On (his) side, back, and belly, she made really bad sores, and flies, salt flies came and gathered (in them) and ...'

Bira only occurs on plural subjects (242), but it appears that *be* is being generalized as a subject determiner that does not index number; in (242) a common noun subject is marked with *be* but takes plural verb agreement, and in (244) a subject consisting of coordinated kin terms is marked with *be* but takes plural verb agreement.

(242) *Sue   **nu-husu-har**   bira   añi   pii-vana   mugura-bɨ-s-a.*
SO   **3.POSS-son-PL**   **3PL**   water   bathe-DESID   go.down-PL-FPST-3
'So his sons went down to bathe in the water.'

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(243) **Kad   sagwaña   niriŋ   saba,   be** uhu   k-on   tei~dei   kida-b-ri.
      skin   white   3PL.POSS pig   3SG hole   MD-LOC   go.in~NMLZ walk-3PL-TPST
      'White skin(ned people)'s pigs (i.e., cows) go into the cave.'

(244) **Nɨ-rima,   nu-sur   be** wa-ra, kɨva   saraku
      3.POSS-sister   3.POSS-brother.i.l   3SG go-SS garden work

      miŋa-b-ɨi~bɨi   *amusamus ...*
      get-PL-3.DS~SIM   always
      'His sister and his brother-in-law would always go work in the garden and ...'

However, subjects can also be marked by other determiners, including existential (245),

pragmatic (246), and both existential and pragmatic (247).

(245) **Wara   nɨ-ŋa   ki-ri-Ø=i** n-i   kɨvra kɨmam-dagra va-s-a.
      house   ND-EXST   stay-TPST-3SG=VOC   ND-SET   both sleep-1PL.IRR say-FPST-3SG
      '"This house is here, we'll both sleep here," she said.'

(246) **Udukɨb   bira   u-rubɨ-s-a   k-udu** sigud-ɨi,   sue udukɨb uva
      road   3PL   go-PL-FPST-3   MD-PRAG disappear-3SG.DS so road   SPEC

      bihainim   va-bɨ-s-a.
      follow   say-PL-FPST-3
      'The road they had gone on disappeared, so they followed another road.'

(247) **Ña   nɨ-ŋa   n-udu** yaŋ.
      child ND-EXST   ND-PRAG 1SG.POSS
      'This child is mine.'   Elicited

Unlike many Papuan languages, Sirva does not seem to treat subjects of experiencer

predicates in a particularly different way; they occur in the normal subject form and

trigger subject agreement (248). It may be that the verbs in these predicates consist of a

verb and a noun serving as an adjunct (see §3.3.1.2), and that this adjunct nominal is not an

argument and therefore does not trigger subject agreement (see Donohue 2005 for an

argument in favor of this analysis for a number of other Papuan languages). This analysis

would be supported by the fact that these kinds of predicates can still take objects (249),

but a more complete investigation will have to await further research.

(248) *Ya   mav   kwahar-i-n.*
      1SG   belly   cut-TPST-1SG
      'I'm hungry.'   Elicited

(249) *Ya   nau   mav   d-i-n.*
      1SG   2SG.OBJ   belly   do-TPST-1SG
      'I'm sorry about you (i.e., I miss you).'   Elicited

3.6.2. Objects

In this section I discuss the behavior and marking of objects, beginning with the single

object of a monotransitive clause and moving on to ditransitive clauses in §3.6.2.2.

3.6.2.1. Monotransitive Clauses

Objects in monotransitive clauses follow the subject (250), unless they are in topic position

(251), as described in §3.6.4.

(250) *Kɨ-rɨb-ɨɨ~bɨi,*   *amge*   *karasa*   *be*   **kusu**   **beau,**   *kwagr-a mir-a ...*
      stay-PL-3.DS~SIM   woman   old.woman   3SG   **food**   **DEF.ACC**   cook-SS leave-SS
      'As they stayed, the old woman cooked the food and ...'

(251) **Yaŋ**   **kura=u**   *agi,*   *amge*   *karasa*   *be*   *mɨ-ra*   *u-ri-Ø*
      1SG.POSS   **man=ACC**   COMPL   woman   old.woman   3SG   get-SS   go-TPST-3SG

      v-ri-Ø.
      say-TPST-3SG
      '"My husband, the old woman has taken (him) away," she said.'

Objects can be marked with the accusative determiner *beau* (252) and the accusative

enclitic *=u* (253); they can be object pronouns (254), and they can be unmarked (255). Only

proper nouns and kin terms can be marked by *=u* (§3.3.2.2), but it is unclear what

conditions the other marking choices.

(252) *O, nu   yaŋ   udi   beau   agi,   i-ra   tam-ra   ñɨ-rɨb-ri*
  oh ND.TOP **1SG.POSS** **friend.1.POSS** **DEF.ACC** COMPL   hit-SS   put-SS   eat-3PL-TPST

  va-s-a.
  say-FPST-3SG
  '"Oh, they've killed my friend and eaten him," he said.'

(253) *Ka-ma   ad-ɨi,   nu-muŋ=u,   miŋa-imr-i-Ø.*
  MD-ADVZ   do-3SG.DS   **3.POSS-husband=ACC**   get-wake-TPST-3SG
  'It did that, and she woke up her husband.'

(254) ***Nuru***   *aba-sɨ-n,   Ya   agi   pi-ri-n   va-sɨ-n.*
  3PL.OBJ   talk-FPST-1SG   1SG   COMPL   come-TPST-1SG   say-FPST-1SG
  'I talked to them, "I've come," I said.'

(255) *Nɨ-rɨma   be,   saba   ña   mi-ra   mir-a ...*
  3.POSS-sister   3SG   **pig**   **child**   get-SS   leave-SS
  'His sister got piglets, and ...'

Objects can also occur with pragmatic demonstratives (256) and the pragmatic

demonstrative paired with an existential demonstrative (257).

(256) *Kavana=gra,   ara   **kya**   **n-udu**,   o,   **as**   **kya**   **n-udu**   ab-ra ...*
  therefore=LNK 1PL   **speech**   **ND-PRAG**   or   **spirit**   **speech**   **ND-PRAG**   talk-SS
  'Therefore, (when) we say this, or tell this story ...'

(257) *Ara   **pɨgrɨ**   **ka-ŋa**   **k-udu**   agi   mira-sɨ-r.*
  1PL   **custom**   **MD-EXST**   **MD-PRAG**   COMPL   leave-FPST-1PL
  'We've already left (i.e., stopped practicing) that custom.'

3.6.2.2. Ditransitive Clauses

In ditransitive clauses, when both the theme and recipient are present, the recipient

precedes the theme, as in (258) and (259). Examples with the reverse order, like (260), are

interpreted as involving topicalization (see §3.6.4).

(258) *Nu   tugu   kɨhre   tam-ra ...*
  3SG.OBJ   animal   some   put-SS
  'We set out some meat for him and ...'

(259) *Yau   saba wagara ña   hasa, mi-ra tiva   g-u,   va-s-a.*
1SG.OBJ pig   white   child FOC get-SS go.upriver give-2SG.IRR say-FPST-3SG
'"Get a white baby pig and go up and give it to me," he said.'

(260) *Añi   ña-ra, okei kadɨ beau   nuru   gu-i …*
water   eat-SS okay meat DEF.ACC 3PL.OBJ give-3SG.DS
'He drank the (coconut) milk, and okay, the meat, he gave to them, and …'

It seems that both theme and recipient can be marked as objects, although there are no examples in my corpus of theme and recipient co-occurring inside the clause with overt object marking. Nevertheless, the recipient is marked as an object in all three examples above, as well as the fronted theme in (260). Accusative themes are also shown in (261) and (262) below. It seems that themes can also be marked with the locative/instrumental enclitic =*ñ*, though, in which case the meaning of the verb is somewhat altered (263).

(261) *Okei amu,   irɨmda,   **ñabɨña   beau   rada, kiki   timi beau***
okay tomorrow morning **girl   DEF.ACC   COM   drum stick DEF.ACC**

rada,   *gwa-har   mɨ-ra   u-rub-adi   va-bɨ-s-a.*
COM   give-1PL.DS get-SS go-3PL.IRR say-PL-FPST-3
'"Okay, tomorrow, in the morning, we'll give (him) our daughter and the drum stick, and he'll take them and they'll go," they said.'

(262) *Ka-ma   ad-ɨi   **karuve   ari   beau**   ma gu-rubɨ-s-a.*
MD-ADVZ do-3SG.DS **cucumber   what DEF.ACC** NEG give-PL-FPST-3
'He did that and they didn't give (him) the cucumbers and things.'

(263) *Be   kav kɨd-a   pi   **puza,   tɨk=iñ**   hasa gu-rub-ii,   puza   tɨk*
3SG just walk-SS come **shaft   piece=LI** FOC give-PL-3.DS shaft piece

beau   mɨŋa-b-ɨi …
DEF.ACC get-PL-3.DS
'(The fathers) used to just walk over and offer just a spear shaft, and (the children) would hold it, and …'

3.6.3. Oblique Arguments

Oblique arguments follow the object, when both are present. This is illustrated below with a locative oblique (264), a setting oblique (265), a locative/instrumental (266), and a postpositional phrase with *vana* (267).

(264) *Nu*   *yaŋ*   *amge*   *suku* **od-on**   *mir-a*   *pi-ri-n*   *va-s-a.*
       ND.TOP 1SG.POSS woman true **FD-LOC** leave-SS come-TPST-1SG say-FPST-3SG
       '"Oh, I left my real wife over there and came," he said.'

(265) *Nɨ-rɨma*   *be* *ñam* *beau,* **n-i**   *una-ña-ra* *kɨmam-ra ...*
       3.POSS-sister 3SG yam DEF.ACC **ND-SET** dig-eat-SS sleep-SS
       'His sister dug the yam up here, ate it, and slept, and ...'

(266) *Man*   **asɨk=iñ** *kusu-ra* *mir-a,* *pɨkr-a* *kuna=ñ* *tama-b-ɨi,* *ña-s-a.*
       banana **fire=LI** roast-SS leave-SS peel-SS plate=LI put-PL-3.DS eat-FPST-3SG
       'They roasted bananas in the fire, peeled them, put them on a plate, and he ate them.'

(267) *Ya*   *nau*   **saba** **wagara** **ari**   **vana**   *ma* *ab-ri-n*   *v-ri-Ø.*
       1SG 2SG.OBJ **pig** **white** **what** **about** NEG talk-TPST-1SG say-TPST-3SG
       '"I didn't ask you for (lit. 'tell you about') white pigs and whatever," he said.'

Determining the preferred ordering among different oblique arguments is more difficult, as they co-occur less frequently. It seems that benefactive *vana* arguments precede locative/instrumental arguments (268), that comitative arguments precede setting arguments (269), and that adverbial modifiers follow nominal obliques (270), but more than this is not clear.

(268) *Ña-ra,* **nuhu**   **vana**   **pɨkɨ=ñ**   *kuvi-vana* *v-ra,* *ña* *yabi*
       eat-SS **3SG.OBJ** **about** **bamboo=LI** put.in-DESID say-SS child now

       u-rub-ri.
       go-3PL-TPST
       'We ate, and we wanted to put some in bamboo for him, and the kids went.'

(269) **Ya   rada   n-i**   kɨmam-ra ka-ma   amu   wa-ra, puhr-u
     1SG   COM   ND-SET   sleep-SS   MD-ADVZ   tomorrow   go-SS   look.for-2SG.IRR

     va-s-a.
     say-FPST-3SG
     '"Sleep here with me and go look for it tomorrow," he said.'

(270) *Ya*   *kavana*   *naruhu*   **k-udu**   *vana*   *ñad*   *hasa*   *ab-ri-n.*
     1SG   therefore   2PL.OBJ   **MD-PRAG**   about   a.little   FOC   talk-TPST-1SG
     'Therefore I've told you guys just a little about this.'

3.6.4. Topic Position

Topicalization is frequent in Sirva discourse. Topics can be fronted in a clause, and are rendered relevant for the purposes of the clause. The semantic nature of the relevance appears to be determined by the context. The topicalized constituent is almost always an argument of the clause (271), although it does not have to be (272). As these examples show, the topicalized entity is also sometimes set off intonationally, although this too is not required.

(271) *Na*   **uhusiv   ka,**   *be*   *kava*   *nɨrɨŋ*   *wari.*
     and   **village   MD.TOP**   3SG   bird   3PL.POSS   village
     'And the village, it was the birds' village.'

(272) **Kusu   ka**   *nadi,*   *sukuri*   *beau*   *ña-rava-b-ri.*
     food   **MD.TOP**   k.o.yam   k.o.yam   DEF.ACC   eat-HAB-PL-3
     'Food, they used to eat *nadi* and *sukuri* yams.'

The topicalized constituent will normally be a participant in the following events, occurring either in the immediately following clause, as in (271) above, or in a clause soon thereafter (273). As this example shows, when the topicalized item is an argument in the clause core, it does not have to be overtly recapitulated, although it can be (274).

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(273) **Ara** *u-vana*   *v-ɨi,*   *nu*   *mav* *mav* *d-a*...
        1PL   go-DESID say-3SG.DS 3SG.OBJ belly belly do-SS
        'Us, he wanted to go, and we were very sorry for him, and ...'

(274) **Kuñi**   **kawad,** *beau*   *ña-ra* *ki-rava-b-ri.*
        k.o.yam **wild**   DEF.ACC eat-SS stay-HAB-PL-3
        'Wild *kuñi* yams, they used to eat those.'

The case-marking properties of items in topic position, when they correspond to an argument in the clause core, are not well understood. Sometimes items occur in topic position with the appropriate case marking (275), and sometimes they do not (276).

(275) **Yaŋ**   **kura=u**   *agi,*   *amge*   *karasa*   *be*   *mɨ-ra*   *u-ri-Ø*
        1SG.POSS **man=ACC** COMPL woman old.woman 3SG get-SS go-TPST-3SG

        v-ri-Ø.
        say-TPST-3SG
        '"My husband, the old woman has taken (him) away," she said.'

(276) *A,* **ya** *kibɨ*   *be*   *yau,*   *kiki*   *timi* *vana* *ab-ra*   *tev-ɨi*
        ah **1SG** older.sib 3SG 1SG.OBJ drum stick about talk-SS chase-3SG.DS

        pi-ri-n   *va-s-a.*
        come-TPST-1SG   say-FPST-3SG
        '"Ah, me, my older brother talked to me about a drum stick and chased me and I came," he said.'

The examples above primarily show patients occurring in topic position. However, other semantic roles can also occur here, including agents (277), locatives (278), and temporal settings (279). (It is still an open question whether items in topic position can properly be referred to as "subjects," "objects," etc., and so I avoid the language of grammatical relations.)

(277) **Amge**   **suku** **be,** *amge*   *karasa*   *niŋ*   *kad* *miŋa-s-a.*
        woman **true** **3SG** woman old.woman 3SG.POSS skin get-FPST-3SG
        'The real woman, (she) got the old woman's skin.'

(278) *Ka-ŋa*   ***k-udu=ñ,***   *ya*   *ki-ri-n.*
MD-EXST   **MD-PRAG=LI**   1SG   stay-TPST-1SG
'On that (land), I live.'

(279) *Kɨñi,*   ***uva***   ***de=ñ,***   *nɨ-sɨ*   *be*   *pev*   *u-vana*   *v-ra*
stay.SS   **SPEC**   **day=LI**   3.POSS-older.sib   3SG   forest   go-DESID   say-SS

      narah=u   *aba-s-a.*
      younger.sib.3.POSS=ACC   talk-FPST-3SG
      'They lived, and one day, the older brother wanted to go to the forest and talked to the younger brother.'

3.6.5. Right–Dislocation

Items can also be right-dislocated from the clause core, and this is almost always accompanied by an intonational break. Sometimes the intonation on the clause is final, suggesting that the right-dislocated item is being added as an afterthought (280), and sometimes it is non-final, suggesting the right-dislocation was planned (281).

(280) *Yakɨv-ra*   *wa-s-a.*   ***Narah***   ***be.***
get.up-SS   go-FPST-3SG   **younger.sib.3.POSS**   **3SG**
'He got up and went. The younger brother (did).'

(281) *Yamda*   *be*   *ka-ma*   *mɨ-ra*   *pi-vanadi-Ø,*   ***ña***   ***beau.***
mother.1.POSS   3SG   MD-ADVZ   get-SS   come-FUT-3SG   **child**   **DEF.ACC**
'The mother will get (it) and come back, the child.'

The examples above show right-dislocation of a subject and an object; right-dislocation can also take place with locative arguments (282), setting arguments (283), locative/instrumental arguments (284), and adverbs (285).

(282) *Puhr-u*   *wa-ra,*   *ad-on=ub*   *wa-ra,*   ***nua***   ***kɨ-s-a***   ***k-on.***
fly-SS   go-SS   FD-LOC=place   go-SS   **father.3.POSS**   **stay-FPST-3SG**   **MD-LOC**
'He flew and went over there, to where his father was.'

(283) *Uhu*   *kwem~gwem*   *be*   *yakɨva-vanadi-Ø,*   ***n-i.***
ground   unite~NMLZ   3SG   get.up-FUT-3SG   **ND-SET**
'The land meeting will happen, here.'

(284) *Kava   sɨrɨn   mɨgivi-ri-Ø,*   **kuma=ñ.**
　　 bird   egg   come.down-TPST-3SG   **arm=LI**
　　 'A bird egg fell down, into her hand.'

(285) *Kɨd-a   kɨñi   pɨgrɨ   kwahe   buhun,   beau   mɨŋa-mir-i-r.*   **Sɨhazɨha.**
　　 walk-SS stay.SS custom   before   CHAR   DEF.ACC get-leave-TPST-1PL   **completely**
　　 'We walk (by those customs) and the customs from before, we abandon those. Completely.'

Right-dislocation can also be used to elaborate on an argument mentioned in the clause core, as in (286), where *adi* 'over there' is recapitulated as *Tagui adi* 'over in Tangui.'

(286) *Kwahe,   Amazɨkura,   nɨ-rɨma   rada,   nɨŋ   mudu   rada   ad-i*
　　 before   Amanzɨkura   3.POSS-sister   COM   3SG.POSS man.i.l   COM   FD-SET

　　 ki-ŋ   kɨda-b-ri.   ***Tagui   ad-i.***
　　 stay-NMLZ   walk-3PL-TPST   **Tangui   FD-SET.**
　　 'Before, Amanzɨkura, his sister, and his brother-in-law lived over there. In Tangui.'

Arguments have been found right-dislocated outside of quotations and subordinate clauses. In (287), the object is right-dislocated outside of a quotation, following the quotative verb *vasa* 'he said.' In (288) the clause *pui paga ki añi sawa uri* 'he urinated on a *pui* leaf' is subordinated by the demonstrative *kudu*, and the subject of the subordinate clause, *numuŋ be* 'the husband,' occurs to the right of the subordinator.

(287) *Nu   amge   dua   n-udu   mɨ-ra   pi-ri-Ø*   *va-s-a,*   **yau.**
　　 ND.TOP   woman   bad   ND-PRAG get-SS   come-TPST-3SG   say-FPST-3SG   **1SG.OBJ**
　　 '"So this bad woman brought Ø_i here," he said, "me_i."'

(288) *Pui   paga   k-i,   añi   sawa   u-ri-Ø   k-udu   **nu-muŋ***
　　 tree.sp   leaf   MD-SET   water   wild   go-TPST-3SG   MD-PRAG   **3.POSS-husband**

　　 ***be,*   *beau   kazugu-ri-Ø.*
　　 3SG   DEF.ACC step.over-TPST-3SG
　　 'The *pui* leaf that he had urinated on, the husband that is, she stepped over that.'

3.6.6. Negation

Negation is accomplished by placing the negative particle *ma* before the verb, as in (289) and (290). *Ma* also precedes certain verbal operators, such as the noun *mi* 'thought' in (291) and the nominalization *wawa* 'going' in (292), which appear to be functioning as verb adjuncts (see §3.3.1.2).

(289) *Ka-ma   ad-ɨi   karuve   arɨ   beau   ma   gu-rubɨ-s-a.*
       MD-ADVZ do-3SG.DS cucumber what DEF.ACC NEG give-PL-FPST-3
       'He did that and they didn't give (him) the cucumbers and things.'

(290) *Wa-ra, nu   mi   ka   mi   ma   miŋa-hra   va-bɨ-s-a.*
       go-SS ND.TOP thought MD.TOP thought NEG get-2PL.IRR say-PL-FPST-3
       '"When you guys go, don't get all sorts of ideas," they said.'

(291) *Amge   vana   ma mi   tam-rava-b-ri, nogat.*
       woman about NEG thought put-HAB-PL-3 no
       'They didn't think about women, no way.'

(292) *Kura ma wa~wa   kɨda-b-ri.*
       man NEG go~NMLZ walk-3PL-TPST
       'People don't go (there).'

The placement of the negator before the verb adjunct appears to be the unmarked position, but it is possible to place it after the adjunct as well. This is illustrated with the elicited pair in (293) and (294), using the adjunct–verb pair *kriv tua-* [fear burn] 'be afraid.' The unmarked order, in (293), connotes no special emphasis. But the order in (294) implies that the statement is being contrasted with a different proposition.

(293) *Ya   nau   vana   ma kriv tu-ri-n.*
       1SG 2SG.OBJ about NEG fear burn-TPST-1SG
       'I'm not afraid of you.'   Elicited

(294) *Ya   nau   vana   kriv ma tu-ri-n.*
       1SG 2SG.OBJ about fear NEG burn-TPST-1SG
       '(Some people may be, but) I'm not afraid of you.'   Elicited

The negation of medial clauses (see §3.7.1) is poorly understood. They are not negated in the corpus, but in elicitation they can be negated separately from their final clauses. In both (295) and (296), illustrating same-subject and different-subject medial clauses, the final clause is understood to be affirmative. It was unclear whether this interpretation was required, or whether negation can optionally spread rightward or leftward.

(295) *Ma   mɨ-ra*   *wa-sɨ-n.*
      NEG get-SS   go-FPST-1SG
      'I didn't get it and I went.'   Elicited

(296) *Ma   mɨŋ-ɨin*   *wa-s-a.*
      NEG get-1SG.DS   go-FPST-3SG
      'I didn't get it and s/he went.'   Elicited

Negation can also be accomplished with the negative word *mana*, which negates the expected result of a previous clause, which is usually subordinated with the topic demonstrative *kaga* (297). *Mana* can also function as a negative pro-verb, negating an understood repetition of a previous predicate (298).

(297) *Yakɨv-ra*   *u-dagra*   *va-bɨ-s-a*   *ka-ga*   **mana.**
      get.up-SS   go-1PL.IRR   say-PL-FPST-3   MD-TOP   **no**
      'They wanted to get up and go (lit. 'said, "let's get up and go"'), but alas.'

(298) *Arɨŋ*   *ibɨ*   *miŋa-yakɨv-ra*   *kibe*   *tei-ri-r.*   *Kwahe*   **mana.**
      1PL.POSS   name   get-get.up-SS   above   go.up-TPST-1PL   before   **no**
      'We lift our names up (i.e., honor ourselves). Before, no (i.e., it wasn't that way).'

Mana also negates nonverbal predicates, as described in §3.6.8.

3.6.7. Interrogatives

Questions can be formed with one of several strategies. In this section I describe the formation of yes/no questions, questions formed with the question words *arɨ* 'what' and *ninɨ* 'who,' and questions formed with the interrogative demonstrative root *aba-*.

Yes/no questions are formed with the interrogative particle *bi*, which is placed at the end of the sentence (299). If the speaker wishes to ask about a set of alternatives, only the first needs to be marked with *bi* (300).

(299) *Na   kari   rada **bi?***
      2SG betelnut COM   **Q**
      'Do you have (any) betelnut (lit. 'are you with betelnut')?'   Elicited

(300) *Na   pi-vadi-na   **bi,** u-vadi-na?*
      2SG come-FUT-2SG **Q**   go-FUT-2SG
      'Will you come or will you go?'   Elicited

The question word *arɨ* 'what' functions in most respects as a common noun and not as a pronoun, and can serve as the subject (301), object (302), or oblique argument (303) of a clause. (Note that it, like other common nouns, can take the locative/instrumental enclitic *=ñ*.) It can also function as a nonverbal predicate (304). In all of these functions it is left *in situ*.

(301) *Ka   **arɨ**   agwa-ri-Ø?*
      MD.TOP **what** yell-TPST-3SG
      'What's yelling?'   Elicited

(302) ***Arɨ**   puhr-i-na?*
      what look.for-TPST-2SG
      'What are you looking for?'   Elicited

(303) ***Arɨ=ñ**   i-da   v-ra,   kiki   timi   beau   mi-ra   kapar-i-n*
      what=LI hit-1SG.IRR say-SS drum stick DEF.ACC get-SS throw-TPST-1SG

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va-s-a.
say-FPST-3SG
'"I thought, 'What should I hit them with?' and I got the drum stick and threw it,"
he said.'

(304) *Ka   ari?*
MD.TOP   **what**
'What's that?'   Elicited

The concept 'why' is expressed with the medial clause *ari v-ra* [what say-SS] 'what did
you do and,' as shown in (305), or with the postpositional phrase *ari vana* [what about]
'what for,' which does not occur in the corpus.

(305) *Nu   ari   v-ra   mi-ra   pi-ri-na   va-s-a.*
ND.TOP   **what**   say-SS   get-SS   come-TPST-2SG   say-FPST-3SG
'"Why did you bring this here?" she said.'

Ari can also be used as a placeholder when the speaker is searching for a particular
word (306). It can also be used inside the noun phrase, after the head noun, to mean 'Ns
and stuff' or 'Ns and associated things' (307).

(306) *Kisar=iñ   kuh-ra   mir-a,   ivi   ari   beau,   ivi   siki   beau,*
stick=LI   turn-SS leave-SS   grass.sp   **what**   DEF.ACC   grass.sp   root   DEF.ACC

miŋa~miŋa   kavar-a   mir-a   kusu   k-i   kur-ava-b-ri.
get~NMLZ   throw-SS   leave-SS   food   MD-SET   plant-HAB-PL-3
'They turn up (the soil) with a stick, pull up the *ivi* whatchamacallits, the *ivi* roots,
and throw them away and plant food there.'

(307) *Tar   kriv   ari   beau   mi-ra   nuru   i-da=i   va~ba*
tree   piece   **what** DEF.ACC   get-SS   3PL.OBJ   hit-1SG.IRR=VOC   say~NMLZ

kapara-s-a.
throw-FPST-3SG
'He got the sticks and things and, wanting to hit them (lit. 'saying, "I should hit
them"'), he threw (the sticks).'

The interrogative pronoun is *nini* 'who,' and it, like *ari*, is left *in situ* when forming questions. It can function as the subject (308), the object (309), an oblique argument (310), and as a predicate with the possessive enclitic (311).

(308) **Nini**   *pi-ri-Ø?*
     who   come-TPST-3SG
     'Who's coming?'   Elicited

(309) *Na*   **nin=u**   *puhr-i-na?*
     2SG   **who=ACC**   look.for-TPST-2SG
     'Who are you looking for?'   Elicited

(310) *Na*   **nini**   *rada*   *pi-ri-na?*
     2SG   **who**   COM   come-TPST-2SG
     'Who are you coming with?'   Elicited

(311) *Wara*   *nu*   **nini=ŋ?**
     house   ND.TOP **who=POSS**
     'Whose house is this?'   Elicited

Other content question words are formed on the interrogative demonstrative root *aba-*. This morpheme takes the same suffixes as the near, middle, and far demonstrative roots, and forms the corresponding question word. For example, the locative suffix *–on* forms deictic words that mean 'here,' 'there,' and 'yonder,' and with the interrogative demonstrative forms a word that means 'where' (312). Similarly with the setting suffix *–i* (313) and the adverbializing suffix *–mar* (314). The interrogative root also takes a temporal suffix *–sida*, which has not been observed on the other demonstrative roots (315). All of these question words are left *in situ* when asking questions.

(312) *Nu*   *kura* **ab-on** *buhun* *bira* *pi-ra*   *mi-ra* *kida-b-ri?*
     ND.TOP man **QD-LOC** CHAR   3PL   come-SS get-SS walk-3PL-TPST
     'Men from where came and did this and walked (all around)?'

(313) *Nɨ-m*   **ab-i?**
      3.POSS-mother   QD-SET
      'Where is his mother?'   Elicited

(314) *Muzur*   *beau*   *ña-ra*   *mir-a*   *kiñi,*   **aba-mar**   *u-vadi-na?*
      snot   DEF.ACC   eat-SS   leave-SS   stay.SS   QD-ADVZ   go-FUT-2SG
      'You nuzzle (lit. 'eat') its snot, and how will you go?'

(315) **Aba-sɨda**   *wa-ra*   *g-ɨda*   *va-s-a.*
      QD-TEMP   go-SS   see-1SG.IRR   say-FPST-3SG
      '"When will I go see (that)?" he said.'

3.6.8. Nonverbal Clauses

Sirva does not have a copula, so nonverbal predicates are formed by simple juxtaposition. The subject precedes the predicate, and the predicate can consist of a noun phrase (316), a postpositional phrase (317), a possessor (318), and an adjective (319), including a quantifier (320). The negative word *mana* can also serve as a nonverbal predicate, in which case it means 'there are none' and can be repeated for emphasis (321).

(316) *Na*   *uhusiv*   *ka,*   *be*   **kava**   **niriŋ**   **wari.**
      and   village   MD.TOP   3SG   **bird**   **3PL.POSS**   **village**
      'And the village, it was the birds' village.'

(317) *Stori*   *n-udu*   *be*   **ka-ma**   **mar.**
      story   ND-PRAG   3SG   **MD-ADVZ**   **like**
      'This story is like that.'

(318) *O,*   *ka*   *asɨk*   *ka*   **yaŋ,**   *va-s-a.*
      oh   MD.TOP   fire   MD.TOP   **1SG.POSS**   say-FPST-3SG
      '"Oh, that fire is mine," she said.'

(319) *Yava-nin*   *tata-nin*   *niriŋ*   *pigrɨ*   *kɨhre*   **zere,**   *kɨhre*
      father.1.POSS-PL   grandfather.1.POSS-PL   3PL.POSS   custom   some   **good**   some

      dua.
      bad
      'Some of our fathers' and grandfathers' customs are good, some are bad.'

(320) *Pɨgrɨ   bira ki-rava-b-ri   be,   **uva.***
      custom 3PL stay-HAB-PL-3   3SG   **SPEC**
      'The customs they lived (by) were different (lit. 'another').'

(321) *Kwahe uva   uhusiv=iñ,   k-i   kura **mana   mana.***
      before SPEC village=LI   MD-SET   man **no   no**
      'Before, in a particular village, there were no people there at all.'

The examples above illustrate the fact that the subjects of nonverbal predicates can be followed by an intonational boundary, as in (320), but they do not have to be (319). Topic position, as described in §3.6.4, also exists for nonverbal predicates, as illustrated by *uhusiv ka* in (316) and the first *ka* in (318).

The subjects of nonverbal predicates, like other subjects, can optionally be marked with the third person pronouns as determiners. This optionality is illustrated in (322). When the subject is a pronoun, it occurs in its subject form (323).

(322) *Na   **yaŋ**   tata   ibɨ   suku,* *Kas Kagi.* ***Yaŋ***
      and   **1SG.POSS** grandfather.1.POSS   name   true   Kas Kangi **1SG.POSS**

      tata   ibɨ   suku   be,   *Kas Kagi.*
      grandfather.1.POSS   name   true   3SG   Kas Kangi
      'And my grandfather's real name was Kas Kangi. My grandfather's real name was Kas Kangi.'

(323) ***Ya***   *kura,   yau   ma   i-ra   tam-uhra   va-s-a.*
      1SG   man   1SG.OBJ   NEG   hit-SS   put-2PL.IRR   say-FPST-3SG
      '"I'm a man, don't kill me," he said.'

If the nonverbal predicate consists of a word class that allows object marking, this marking seems to be preferred, as shown with an inalienable noun in (324) and a pronoun in (325). However, speakers said they would also accept (324) without the accusative enclitic.

(324) *Ka*   *be*   **naŋidi=u**   *va-s-a.*
      MD.TOP   3SG   **father.2.POSS=ACC**   say-FPST-3SG
      '"That's your father," she said.'

(325) *Nɨ-rɨma*   *be*   *yakɨv-ra* *ab-ri-Ø.*   *Saba* *ña*   **nuhu**   *v-ri-Ø.*
      3.POSS-sister   3SG get.up-SS talk-TPST-3SG pig child **3SG.OBJ** say-TPST-3SG
      'The sister got up and talked. "Here's the piglet (lit. 'piglet is this')," she said.'

Nonverbal predicates are negated by placing the negative word *mana* after the predicate, as shown in (326), in which the speaker is discussing the origin of his clan, and in (327).

(326) *Ara* **kura** **suku=ñ** **mana,** *ara* *uvri=ñ.*
      1PL **man** **true=LI** **no** 1PL dog=LI
      'We're not from real men, we're from dogs.'

(327) *Be*   *niŋ*   *stori* *be* *ka-ma*   *mar* *hasa.* *Be* **kuta** **mana.**
      3SG 3SG.POSS story 3SG MD-ADVZ like FOC 3SG **long** **no**
      'His story is just like that. It's not long.'

Possessive predicates—predicates that would be expressed with the verb *have* in English—can be expressed in a number of ways. One is to make the possessor the subject and to place the possessum in a predicate postpositional phrase with *rada* 'COM,' as in (328).

(328) *Be*   *savɨha* *ka-ŋa*   *k-udu*   **pigɨ**   **rada.**
      3SG tree.sp MD-EXST MD-PRAG **buttress** **COM**
      'This *savɨha* tree has (lit. 'is with') buttress roots.'

Another strategy is to place the possessor in topic position, the possessum in subject position, and to predicate something about the possessum in the clause, such as its abundance (329) or absence (330). The negative word *mana* can be repeated in this construction with the emphatic meaning described above (331). Furthermore, it appears that the possessor can be rendered topical in a clause prior to the possessive clause: in (332), the possessor, *bira* 'they,' is rendered topical in the first clause, and the third clause,

unar mana mana [fence no no], is interpreted as 'they didn't have any fences at all' instead of 'there were no fences at all.'

(329) *Ya   i-num-gar   **pita.***
  1SG   1.POSS-son.i.l-PL   **many**
  'I have many sons-in-law (lit. 'Me, sons-in-law are many').'   Elicited

(330) *Ya   kari   **mana.***
  1SG   betelnut   **no**
  'I don't have any betelnut (lit., 'Me, there is no betelnut').'   Elicited

(331) *Kwahe   yava-nin,   kusu   **mana   mana.***
  before   father.1.POSS-PL   food   **no   no**
  'Before, our fathers didn't have (real) food at all.'

(332) *Bira   ka-ma   ad-a   kiñi,   unar   **mana   mana** ...*
  3PL   MD-ADVZ   do-SS   stay.SS   fence   **no   no**
  'They did that and lived, and they didn't have fences at all ...'

Nonverbal clauses can also occur as medial clauses in a clause chain (see §3.7.1 for a discussion of clause chaining). If they are affirmative clauses, they can occur with either *kɨ-* 'stay' or *adɨ-* 'do' as a host for the medial morphology; it seems that, in these constructions, the former verb has the sense of 'be' (73), while the latter has the sense of 'become' (76).

(333) *Nɨŋ   uhuvar   be   **mur   kɨ-i,**   o,   mi   tama-s-a.*
  3SG.POSS   door   3SG   **open   stay-3SG.DS**   oh   thought   put-FPST-3SG
  'His door was open and he thought, "Oh."'

(334) *Wa-ra~ra~ra~ra~ra   ña   be   **mɨrada   ad-a,**   kazir-a* ...
  go-SS~CONT~CONT~CONT~CONT   child   3SG   **big   do-SS**   crawl-SS
  'That will continue and continue and the child will become big and crawl and ...'

If a negative nonverbal clause is used medially, the negator *mana* is marked with the linking enclitic *=gra*. This form probably originated as a same-subject form (hence the final /ra/), but it does not appear to have any switch reference meaning anymore, and so I gloss

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it simply as a 'linker' (335). This form is also often cliticized to the word *kavana* 'therefore' (336).

(335) *Bira kina kidɨ* **mana=gra,** *sɨbia kina beau mɨ-ra ...*
 3PL axe knife **no=LNK** stone axe DEF.ACC get-SS
 'They didn't have axes or knives, so they took stone axes and ...'

(336) **Kavana=gra,** *ara kɨvra ma aku-daŋ va-bɨ-s-a.*
 therefore=LNK 1PL both NEG sleep-1DU.IRR say-PL-FPST-3
 '"In that case, we shouldn't both sleep," they said.'

Finally, under the right pragmatic conditions, normal verbal clauses can occur without their verb, as shown in (337) and (338).

(337) *Arɨ=ñ kɨmam-daŋ v-ra ga-bɨ-s-a ka-ga,* **wara.**
 what=LI sleep-1DU.IRR say-SS see-PL-FPST-3 MD-TOP **house**
 'They said, "What will we sleep in?" and looked, and (there was) a house.'

(338) *Nɨrɨŋ upu karɨh-ii, aku-rub-ii~bii,* **be hada nɨŋ,**
 3PL.POSS palm.sp set.up-3SG.DS sleep-PL-3.DS~SIM **3SG also** 3SG.POSS

 tuku=b k-on.
 sleeping.area=place MD-LOC
 'She made their bed (lit. '*upu* palm (mat)'), and as they slept, she (slept) too, in her sleeping area.'

3.7. Clause Combining

Clause combining is a large topic, and a full treatment is beyond the scope of this sketch. In this section, I focus on three primary constructions: the switch-reference clause chaining system (§3.7.1), clause chain nominalization (§3.7.2), and quoted speech (§3.7.3), which includes the desiderative construction (§3.7.3.1).

3.7.1. Clause Chaining and Switch Reference

Papuan languages are well known for their clause chaining and switch reference systems, and Sirva is a typical Papuan language in this respect. The morphology involved in the clause chaining system has been described in §3.5.2; here I focus on the interactions between clauses.

When clauses are chained together, each medial (that is, non-final) clause is marked with a switch reference suffix. This suffix indexes the (non-)identity of the subject of the marked clause with the subject of the immediately following clause. Thus, in (339), the first three verbs, *kusura* 'roast and,' *mira* 'leave and' (which is simply being used as a connector; see §3.5.2.1), and *pikra* 'peel and,' are all marked same-subject, because each is followed by a verb that has the same subject. Then the verb *tamabɨi* 'they put and' is marked different-subject, because it is followed by a verb with a different subject than its own: *ñasa* 'he ate.' Note that the different-subject suffix on *tamabɨi* indexes its own subject, and that the far past tense marked on the final verb has scope over the whole chain. Another typical example is given in (340).

(339) *Man   asɨk=iñ kusu-ra mir-a,   pɨkr-a   kuna=ñ   tama-b-ɨi,   ña-s-a.*
banana fire=LI roast-SS leave-SS peel-SS plate=LI put-PL-3.DS eat-FPST-3SG
'They roasted bananas in the fire, peeled them, put them on a plate, and he ate them.'

(340) *Tam-ɨi   ka-ma   kɨ-i   be, tarugur-a kɨ-i   wa-ra, sue,*
put-3SG.DS   MD-ADVZ stay-3SG.DS 3SG watch-3SG stay-3SG.DS go-SS   so

ivuh-ru mir-a   kava ña   puh-ri-Ø.
crack-SS leave-SS bird child break.out-TPST-3SG
'She put it and it stayed like that and she watched it for a while, and after a while it cracked and a baby bird broke out.'

Much work that, in other languages, might be done with dedicated morphology or syntax, in Sirva is done with the clause chaining system combined with pragmatic inference. For example, there is no dedicated causative construction in the language, but causative statements can be made with clause chains like (341) and (342). However, even in examples like these, especially in (341), the causative reading is not required.

(341) *Sue   nu-husu=hu,   ab-ɨi   mɨgivi-s-a.*
      so   3.POSS-son=ACC   talk-3SG.DS   come.down-FPST-3SG
      'So he sent his son down (lit. 'talked to his son and the son came down').'

(342) *Ñam   markaz   va~ba   kɨda-b-ri   beau,   tam-ɨi*
      yam   k.o.yam   say~NMLZ   walk-3PL-TPST   DEF.ACC   put-3SG.DS

      agivi-s-a.
      come.downriver-FPST-3SG
      'The yam they call *markaz*, he sent it downriver (lit. 'put it and it came down').'

Verbs with different time references can be chained together as long as adjacent verbs either refer to simultaneous events or proceed in temporal order. In this case the final verb is marked for its own time reference. For example, the chain in (343) begins with past events from the morning of the speech act (*wara* through *tamahar*) and ends with events projected to take place two days later (*mira uvanadi*), and the final verb bears future tense marking.

(343) *Wa-ra   pɨkɨ   yah-ra   pi-rɨb-ɨi,   pɨkɨ=ñ   kuvi-ra   tama-har*
      go-SS   bamboo   chop-SS   come-PL-3.DS   bamboo=LI   put.in-SS   put-1PL.DS

      ña~ña   kiñi,   añir   ka-ma   sue   aru   mir-a   u-vanadi-Ø.
      eat~NMLZ   stay.SS   two.days.away   MD-ADVZ   so   1PL.OBJ   leave-SS   go-FUT-3SG
      'They went and cut bamboo and came, and we put (the leftovers) in bamboo and he'll eat them and the day after tomorrow he'll leave us and go.'

Example (344) is similar, although in this example the verbs have different modal interpretations. The first verb, *iduhana*, is interpreted as a command, and would be marked

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irrealis if it were a final verb (see §3.5.1.5). The second verb, *mɨgivii*, is interpreted the same way, but there is no 3SG irrealis suffix so it would be marked future. The rest of the verbs (aside from *vabɨsa*, which is outside the chain) are interpreted as future indicative statements, and the final verb *ñavadir* 'we will eat' bears a future tense suffix, not the 1PL irrealis suffix *–ɨdagra.*

(344) *Uhu idu-hana kura ka mɨgivi-i ara i-ra tam-ra*
door open-2SG.DS man MD.TOP come.down-3SG.DS 1PL hit-SS put-SS

ña-vadi-r va-bɨ-s-a.
eat-FUT-1PL say-PL-FPST-3
'"Open the door and let that man come out and we'll kill him and eat him," they said.'

One complicated issue with switch reference systems like this one is how situations of partial subject overlap are handled. For example, in (345), two people are discussing their plan for getting through the night in a dangerous place. The first two clauses describe what each individual will do, and the transition is marked DS. But the subject of the third clause is both people, and the transition from the 3SG subject of *kɨñi* to the 1DU subject of *adɨdaŋ* is marked SS, because the 3SG referent is included in the subject of *adɨdaŋ*.

(345) *Uva aku-i, uva kɨdɨv kɨñi ka-ma adɨ-daŋ va-bɨ-s-a.*
SPEC sleep-3SG.DS SPEC new stay.SS MD-ADVZ do-1DU.IRR say-PL-FPST-3
'"One will sleep, the other will stay awake, and we'll do it like that," they said.'

Similar examples are shown in (346) and (347), but here the transition is marked DS.

(346) *Yakɨv-ii, u-rub-ri.*
get.up-3SG.DS go-3PL-TPST
'He$_i$ got up, and they (i.e., he$_i$ and she$_j$) went.'

(347) *Uhu kinamana=i yakɨva-hana u-daŋ v-ri-Ø.*
ground far=VOC get.up-2SG.DS go-1DU.IRR say-TPST-3SG
'"It's a long way (lit. 'the ground is far'), get up and let's go!" she said.'

In examples like these, where the subject of the second verb includes the subject of the first, both marking strategies are found and it is difficult to make generalizations. However, when the subject of the first verb in a pair includes the subject of the second, there appears to be a preference for SS marking, as in (348).

(348) *Nu-muŋ*   *nabɨ*   *be*   *darɨ-rɨb-ri.*   *Dar-a*   *mir-a,*   *kura*   *be*
3.POSS-husband   wife.3.POSS   3SG   hear-3PL-TPST   hear-SS   leave-SS   man   3SG

       kidɨhar-ɨda   *v-ri-Ø*   *ka-ga,*   *mana.*
       turn-1SG.IRR   say-TPST-3SG   MD-TOP   no
       'The husband and wife heard (it). They heard it, and the husband was going to turn around, but no.'

In fact, there are indications that switch reference marking is also sensitive to topicality and control, in addition to subjecthood, and this fact can explain many cases of subject overlap. For example, in (345) above, both people are equally topical and equally in control of the situation, so SS marking is appropriate. In (346), however, the man is being deceived by the woman and so, although they are equally topical, the different levels of control that they exert over the situation make DS marking appropriate.

An illustration of the effect that control has switch reference marking is presented in (349). In this example, the old woman, a witch, casts a spell that makes her look like the "real" woman, who is asleep, and makes the real woman look like the witch. The witch is clearly in control of the whole situation, so SS marking is used on all the verbs even though the subject of the last clause is *amge suku* 'the real woman,' as indicated by the pronoun *be* '3SG,' which is here used as a subject determiner (see §3.6.1).

(349) *Nɨŋ*   *kad*   *beau,*   *mɨ-ra*   *mir-a,*   *sue,*   *amge*   *suku*   *be,*   *amge*
3SG.POSS   skin   DEF.ACC   get-SS   leave-SS   so   woman   true   3SG   woman

> *karasa   niŋ   kad   miŋa-s-a.*
> old.woman 3SG.POSS skin get-FPST-3SG
> 'She$_i$ took her$_j$ skin, and the real woman$_j$ got the old woman's$_i$ skin.'

Another example is given in (350), in which the younger brother is being pulled, reluctantly, out of a hiding place.

> (350) *Narah=u   kuma=ñ ibra-ra   yavi-s-a.*
> younger.sib.3.POSS=ACC arm=LI pull-SS come.up-FPST-3SG
> 'He pulled his younger brother up by the hand.'

However, the switch reference system is not exclusively sensitive to control, as (351) illustrates. In this example, taken from the same story as (349), the witch burns some magical leaves, which causes her two victims to sleep. The burning of the leaves, the rising of the smoke, and the sleeping of the victims are all events that are intended and effected by the witch, and she is in control of them. In fact, as an earlier passage in the story makes clear, the victims did not want to sleep. Nevertheless, the three grammatical subjects (the witch, the smoke, and the victims) are all tracked by the switch reference system, and the transitions between them are marked DS. A fuller account of the Sirva switch reference system will have to remain a topic for further research.

> (351) *Asɨk=iñ   kus-ii,   amuhus be   yakɨv-ra, tarma=ñ w-i,   eraŋa eraŋa*
> fire=LI   roast-3SG.DS smoke 3SG get.up-SS eye=LI   go-3SG.DS two   two
>
> *hasa aku-rubɨ-s-a.*
> FOC sleep-PL-FPST-3
> 'She roasted (the leaves) in the fire, and the smoke went up and got in their eyes, and both of them slept.'

3.7.2. Clause Chain Nominalization

Sirva possesses a construction in which a fully finite clause, or clause chain, is subordinated by placing a demonstrative or a postposition after it. The subordinate chain functions as a

noun in the matrix clause, and the choice of subordinator depends on the function of the subordinate clause in the matrix clause. For example, in (352) the subordinate clause chain *nirima mizra kisa* 'the sister was sitting' is subordinated by the setting demonstrative *ki* 'there,' indicating that the subordinate clause functions as a setting noun phrase in the matrix clause. This example also illustrates that multiple chained clauses can be subordinated together. While most subordinate chains consist of only a single clause, short chains are not uncommon.

(352) *Agivi~vi~vi*   [*ni-rima   miz-ra   ki-s-a   ] *k-i*   *arkwem*
      come.downriver~CONT~CONT   3.POSS-sister sit-SS   stay-FPST-3SG MD-SET butt

      hubu   vou~vou~vou   v-ii ...
      place   poke~CONT~CONT   say-3SG.DS
      'It came down and down, and where the sister was sitting, it poked and poked her in the butt and ...'

In the following discussion, I first discuss the form of this construction, focusing on the different kinds of subordinating morphology that can be used. Then I discuss the semantic interpretations that are possible for nominalized chains in §3.7.2.2, and the relative clause-like construction, first mentioned in §3.4.5, in §3.7.2.3.

3.7.2.1. Form of Nominalized Clause Chains

A wide variety of determiner forms can subordinate a clause chain. In addition to the example above, with a setting demonstrative, the examples below show clauses subordinated by locative (353), pragmatic (354) affixed topic (355), unaffixed topic (108) existential (357), and adverbial (358) demonstratives. These examples all include middle demonstratives, but near (359) and far (360) demonstratives can also be used. Other

possible subordinators include the definite accusative article (361) and the 3SG pronoun (47), used as a subject determiner.

(353) [Sɨrav   kapara~vara   kɨda-b-ri   ] **k-on**   yavru-s-a.
     trash   throw~NMLZ   walk-3PL-TPST **MD-LOC**   hide-FPST-3SG
     'He hid where they threw away trash.'

(354) [Nu-muŋ   nabrɨ   mɨ-ra   u-rubɨ-s-a] **k-udu**   ka-ŋa   mɨ-ra
     3.POSS-husband wife.3.POSS get-SS   go-PL-FPST-3 **MD-PRAG** MD-EXST   get-SS

     pi-ri-na   va-s-a.
     come-TPST-2SG   say-FPST-3SG
     '"What the husband and wife took, that's what you've brought," she said.'

(355) [Mɨ-ra   mɨgivi-ra   ga-bɨ-s-a   ] **ka-ga**   kura be   añi   pii~bɨi
     get-SS   come.down-SS   see-PL-FPST-3 **MD-TOP**   man   3SG water bathe~NMLZ

     kɨ-s-a.
     stay-FPST-3SG
     'They took them and came down and looked, and the man was bathing.'

(356) [U-rubɨ-s-a] **ka,**   kine k-i   hasa kɨzɨdɨ-s-a.
     go-PL-FPST-3 **MD.TOP**   near MD-SET   FOC   evening-FPST-3SG
     'They went, and very soon (lit. 'in a near place') it was evening.'

(357) [Itu   tam-ri-n   ] **ka-ŋa**   kɨ-ri-Ø.
     tobacco   put-TPST-1SG **MD-EXST**   stay-TPST-3SG
     'The tobacco is where I put it.'   Elicited

(358) [Tama-sɨ-na] **ka-ma**   tama-sɨ-n.
     put-FPST-2SG   **MD-ADVZ**   put-FPST-1SG
     'I put it the same way you put it.'   Elicited

(359) Ya, Nagwar krɨbɨ, [uhu   sisi-rama-s-a   ] **n-udu**   ab-ɨda   v-ra ...
     1SG Gogol   top   ground begin-put-FPST-3SG **ND-PRAG**   talk-1SG.IRR say-SS
     'I'd like to talk about the headwaters of the Gogol, about where the earth began ...'

(360) [Yava-nin,   tata-nin,   kɨ-ribɨ-s-a   ] **ad-i,**   kwahe, ka-ŋa
     father.1.POSS-PL grandfather.1.POSS-PL stay-PL-FPST-3 **FD-SET**   before MD-EXST

     k-udu=ñ   mɨz-ri-n.
     MD-PRAG=LI   sit-TPST-1SG
     'Where my fathers and grandfathers lived, before, I'm living on that (land).'

(361) [Kapar-i-n   ] **beau**   hada mi-ra   u-rub-ri   va-s-a.
throw-TPST-1SG   **DEF.ACC** also get-SS   go-3PL-TPST   say-FPST-3SG
'They also took away what I threw (at them).'

(362) *Oke* [*uva pɨgrɨ   g-ri-n*   ] **be**   *nɨ-ma*   *mar.*
okay SPEC custom see-TPST-1SG   **3SG** ND-ADVZ like
'Okay, another custom I see is like this.'

In addition to determiners, clauses can be subordinated by the postposition *mar* (363), although this example consists of the relative clause-like construction discussed below. A similar example is shown in (364), although here the clause is subordinated by *kudu*, and this subordinate clause is placed in a postpositional phrase with *vana*; *vana* cannot subordinate on its own.

(363) [*Suhusuhu kwahe   ki-ri-Ø   *] **mar**   hasa   kɨ-s-a.
position before stay-TPST-3SG **like**   FOC   stay-FPST-3SG
'It was exactly in the position it had been in before.'

(364) [*Pɨgrɨ   ga~ga   kɨd-i-n   *] **k-udu**   *vana*   ab-ri-n.
custom see~NMLZ walk-TPST-1SG   **MD-PRAG** about   talk-TPST-1SG
'I'm talking about the customs I see.'

3.7.2.2. Semantic Interpretation

The semantic interpretation of clause chain nominalization seems largely governed by pragmatic factors, as the pair of examples in (365) and (366) illustrates. Both are subordinated by *ki* 'there' and function as a locative in the matrix clause. But the first subordinate clause refers to the setting where it took place, while the second subordinate clause refers, not to where it took place ("she stood in the place where he had spoken"), but to a place the subject of the subordinate clause had mentioned.

(365) *Kuvri-ra   kav-ru   pi   pi   pi,   [nɨ-mɨ   ki-s-a   ] k-i*
lift-SS   carry-SS come   come come 3.POSS-mother stay-FPST-3SG MD-SET

tama-s-a.
put-FPST-3SG
'He lifted it and carried it and came and came, and put it where his mother was.'

(366) *[Aba-s-a   ] k-i   tagu-rama-s-a.*
talk-FPST-3SG MD-SET   step-put-FPST-3SG
'She stood in the place he had talked about.'

Sometimes subordinate clauses refer to one of their participants, in which case they resemble headless relative clauses. Examples of subordinate chains that refer to a subject (367) and object (368) are given below.

(367) *[Kura   be   tadᶏgwah tama-s-a   ] k-udu   miŋa-mir-a …*
man   3SG   strap   put-FPST-3SG MD-PRAG   get-leave-SS
'The man who had put on a strap stopped (getting ready) and …'

(368) *Ñi-ri-r   va~ba   kwama   tam~dama, [niriŋ   kusu   tihim   mi-ra*
eat-TPST-1PL   say~NMLZ   deceive   put~NMLZ   3PL.POSS   food   cold   get-SS

pi-ribi-s-a   ] beau,   ñi-ribi-s-a.
come-PL-FPST-3   DEF.ACC   eat-PL-FPST-3
'Pretending to eat (lit. 'saying, "We're eating"') and deceiving (her), they ate their cold food that they had brought.'

Subordinate clause chains also commonly refer simply to the event they express (369).

(369) *[Kwahe   yava-nin   tata-nin   ki-rava-b-ri] k-udu=ñ   ma*
before   father.1.POSS-PL   grandfather.1.POSS-PL   stay-HAB-PL-3   MD-PRAG=LI   NEG

ki-ri-r   nɨmari.
stay-TPST-1PL   now
'We don't live by (the principles exemplified by) how our fathers and grandfathers lived before, now.'

These kinds of subordinate chains—those that refer to the event they express—can be subordinated by the setting demonstrative *ki* 'there' and receive a conditional reading. In this construction, the subordinate clause does not refer to the physical setting where it

takes place, but to the setting or state of affairs that is (or could be) created by the event that it expresses (370).

(370) Sue [kapar-dagra] k-i,   sue ara kura amge,   ma   ki-vanadi-r,   mana.
      so   throw-1PL.IRR   MD-SET so   1PL man   woman NEG stay-FUT-1PL   no
      'So in (the event that) we discard (those customs), we men and women won't survive (lit. 'stay'), no way.'

Because these constructions can refer to the event they express or the location of that event, I do not consider them headless or internally headed relative clauses—although they can also refer to one of their arguments, whether expressed or unexpressed.

3.7.2.3. Attributive Clause Chains

Attributive clause chains were discussed in §3.4.5. This section focuses on the question of how they can be related to clause chain nominalization, or more specifically, whether attributive chains should be considered a subtype of the clause chain nominalization construction. To review, the attributive clause chain construction consists of a head noun, the subordinate chain, and a following demonstrative. In (371) these are, respectively, *kusu* 'food,' *be kwagrasa* 'she cooked,' and *kudu* 'MD-PRAG.'

(371) Kusu [be   kwagra-s-a]   k-udu   ka   be   sari sawa   kwagra-s-a.
      food   3SG cook-FPST-3SG MD-PRAG MD.TOP 3SG taro wild   cook-FPST-3SG
      'The food she cooked, it was wild taro she cooked.'

If clause chain nominalization involves, as I argue, subordinating a clause chain in a matrix clause as a noun phrase, and if clauses contain a topic position, as described in §3.6.4, then it is reasonable to ask whether the head noun in an attributive chain construction is not better analyzed as occupying the topic position of the subordinate clause. Under this analysis, (371) would be re-bracketed as follows:

(372) *[Kusu be kwagra-s-a] k-udu ka be sari sawa kwagra-s-a.*
     food 3SG cook-FPST-3SG MD-PRAG MD.TOP 3SG taro wild cook-FPST-3SG
     'The food she cooked, it was wild taro she cooked.'

The subordinate clause would then be *kusu be kwagrasa* 'food, she cooked (it).' The intonational facts comport with this analysis, as the head noun in the attributive chain constructions is often followed by an intonational boundary similar to that found following topic position (373).

(373) *Timi, kiki tara~dara kɨda-b-ri beau mɨŋa-s-a.*
     stick drum stab~NMLZ walk-3PL-TPST DEF.ACC get-FPST-3SG
     'He took the stick that they hit the drum with.'

One important fact that militates against this analysis, however, is the placement of demonstratives. Nouns in topic position are often followed by demonstratives, as in (374), where *nudu* follows *yava mɨrada*; (375), where *beau* follows *tudiv*; or (376), where *ka* follows *uhusiv*. But head nouns in the attributive chain construction can only be followed by the last of these forms, as shown in (377) (an identical sentence with the near deictic form *nu* was also accepted, suggesting that any topic demonstrative can occur here). Demonstratives in *-udu* and the 3SG and 3PL pronouns in their determiner functions, both of which occur in topic position, cannot follow the head noun in the attributive chain construction. This suggests that the head noun in this construction has partly, but not completely, reanalyzed as heading the noun phrase that contains the subordinate chain.

(374) *Kwahe, yava mɨrada n-udu, uhu n-udu tam-ra ...*
     before father.1.POSS big ND-PRAG ground ND-PRAG put-SS
     'Before, God (lit. 'our big Father') created the earth ...'

(375) *Tudiv beau, mɨgra-ra mira-s-a.*
     swing DEF.ACC cut-SS leave-FPST-3SG
     'He cut the swing and left (a little bit of rope).'

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(376) *Na   uhusiv   ka,   be   kava   niriŋ   wari.*
and village MD.TOP   3SG   bird   3PL.POSS   village
'And the village, it was the birds' village.'

(377) *Timi   **ka**   kiki   tara~dara   kɨda-b-ri   beau   miŋa-s-a.*
stick **MD.TOP**   drum   stab~NMLZ   walk-3PL-TPST   DEF.ACC   get-FPST-3SG
'He took the stick they hit the drum with.'   Elicited

3.7.3. Quoted Speech

Quoted speech is usually introduced with a pre-quote verb that identifies the manner of speaking, and it is ended with the post-quote verb *va-* 'say.' The pre-quote verb is usually *aba-* 'talk,' and if it is followed by a quote, it is marked with final morphology and followed by an intonational boundary (120).

(378) *G-ra   **aba-s-a.**   Mina   **va-s-a.***
see-SS   **talk-FPST-3SG**   wait   **say-FPST-3SG**
'He saw (that) and spoke. "Wait!" he said.'

If the speaker wishes to put multiple utterances into the same chain, the pre-quote verb is omitted (117).

(379) *Aku-dagra   **v-ii,**   aku-dagra   **va-bɨ-s-a.***
sleep-1PL.IRR   **say-3SG.DS**   sleep-1PL.IRR   **say-PL-FPST-3**
'"Let's sleep," she said, and they said, "Let's sleep."'

As noted above, the pre-quote verb encodes the manner of speaking. So, for example, internal dialogue can be marked with *mi tama-* [thought put] 'think' (380). Note that the post-quote verb remains *va-*.

(380) *Be   **mi**   **tam-ri-Ø,**   yaŋ   amge   suku   ab-ri-Ø   v-ra*
3SG   **thought**   **put-TPST-3SG**   1SG.POSS   woman   true   talk-TPST-3SG   say-SS

yakɨv-ri-Ø.
get.up-TPST-3SG
'He thought, "My real wife is speaking," and he got up.'

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If the manner of speech is understood from context, the pre-quote verb can also be omitted from internal dialogue quotations (381). Note in this example that the quoted clause *tudiv zere kiri* 'the swing is good,' as the object of the verb *va-* 'say,' is not tracked by the switch reference system. The last clause in this example also shows that the semantic range of *va-* extends beyond speech, whether external or internal, and includes performance in general.

(381) *Ka-ma*   *ad-ɨi*   *wa-ra* *irɨmda,*   *tudiv*   *zere*   *ki-ri-Ø*   *v-ra,*
MD-ADVZ   do-3SG.DS go-SS morning swing good stay-TPST-3SG say-SS

pi~rapi   *tudiv* *va-s-a.*
come~PTCP   swing say-FPST-3SG
'He did that and in the morning he went and (thought), "The swing is good," and he came and swung (i.e., played on the swing).'

3.7.3.1. The Desiderative Construction

The desiderative construction uses the machinery of quotatives to express the desires of a participant in the discourse. The desired action is expressed with a first person irrealis verb followed by the verb *va-* 'say' with the appropriate morphology, be it medial (382) or final (124). The desired action can also be expressed with a verb marked with the desiderative suffix instead of a first person irrealis suffix (384).

(382) *Ya*   *nariŋ*   *kya*   ***miŋ-ida***   ***v-ra***   *pi-si-n.*
1SG   2PL.POSS speech **get-1SG.IRR**   **say-SS**   come-FPST-1SG
'I came to learn your guys's language (lit. 'I wanted to learn your guys's language and I came').'

(383) *Itu*   *wi-ra,*   *yakɨv-ra*   ***u-dagra***   ***va-bɨ-s-a***   *ka-ga*   *mana.*
tobacco smoke-SS get.up-SS **go-1PL.IRR** **say-PL-FPST-3** MD-TOP no
'He smoked a cigarette, and they wanted to get up and go (lit. 'said, "let's get up and go"'), but alas.'

(384) *Uva   kuma=ñ,   be   kɨva=ñ   **u-vana   v-ra,**   uhu   kai-s-a.*
     SPEC   day=LI   3SG   garden=LI   **go-DESID   say-SS**   door   close-FPST-3SG
     'One day, he wanted to go to the garden, and he closed the door.'

The desiderative meaning of this construction can extend backwards a few clauses. For example, in (385), the "men from there" got up (*yakɨvra*) and went (*urubɨsa*), but they did not kill (*ira tamra*) or eat (*ñavana*)—that is, those verbs are interpreted as irrealis. The scope of desiderative meaning does not appear to be overtly marked, but must be inferred by the listener.

(385) *Sue   kura   k-i   buhun   bira   yakɨv-ra,   nu   **i-ra   tam-ra   ña-vana***
     so   man   MD-SET   CHAR   3PL   get.up-SS   3SG.OBJ   **hit-SS   put-SS   eat-DESID**

     v-ra,*   *u-rubɨ-s-a.
     say-SS   go-PL-FPST-3
     'The men from there got up, and they wanted to kill and eat him, and they went.'

As the desiderative construction involves the conceit, as it were, of the "desirer" speaking to him- or herself, it is perhaps not surprising that one occasionally finds conversation particles in it. The enclitic *=i* 'VOC,' shown in (386), is not well understood, but, in narrative, it only surfaces when characters are speaking to one another (see §3.8.2). This fact probably explains its presence here.

(386) *Tar   krɨv   arɨ   beau   mɨ-ra   nuru   **i-da=i**   va~ba*
     tree   piece   what   DEF.ACC   get-SS   3PL.OBJ   **hit-1SG.IRR=VOC**   say~NMLZ

     kapara-s-a.
     throw-FPST-3SG
     'He got the sticks and things and, wanting to hit them (lit. 'saying, "I should hit them"'), he threw (the sticks).'

The desiderative construction can also be used for prospective action—that is, for referring to action that is "about to" happen (387). It is not clear whether the construction can be used in this way with inanimate subjects.

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(387) *U-vana*   *va-b-ɨi,*   *yakɨv-ra*   *aba-bɨ-s-a.*
       go-DESID   say-PL-3.DS   get.up-SS   talk-PL-FPST-3
       'They$_i$ were about to go, and they$_j$ got up and talked.'

Finally, it should be noted that not all statements that resemble the desiderative construction in form are to be interpreted as instances of it. For example, (388) is identical in form to the desiderative constructions shown above, but a desiderative interpretation would be nonsensical ("they wanted to sleep in what"); rather, it is interpreted as a literal first person irrealis quotation.

(388) *Arɨ=ñ*   **kɨmam-daŋ**   *v-ra*   *ga-bɨ-s-a*   *ka-ga,*   *wara.*
       what=LI   **sleep-1DU.IRR**   say-SS   see-PL-FPST-3   MD-TOP   house
       'They said, "What will we sleep in?" and looked, and (there was) a house.'

3.8. Discourse

Discourse is a large topic, and a complete treatment remains beyond the scope of this sketch. In this section I only discuss three phenomena: tail-head linkage (§3.8.1), the vocative enclitic (§3.8.2), and focus marking (§3.8.3).

3.8.1. Tail–head Linkage

Tail-head linkage is a common discourse phenomenon in Papuan languages (cf. de Vries 2005) in which the last clause or clauses of one clause chain (the 'tail') are recapitulated as the beginning of the next chain (the 'head'). Example (389) contains two examples of tail-head linkage. The tail of the chain in (389)a, *gwasa*, is recapitulated as the head on the next chain, *gui*, in (389)b. This chain then immediately ends with *ñiribɨsa*, which is recapitulated as the head *ñara* in (389)c.

(389) a. *Kwagr-a   mir-a,   kyumr-u   nuru   gwa-s-a.*
cook-SS   leave-SS   distribute-SS   3PL.OBJ   give-FPST-3SG
'She cooked it, distributed it, and gave it to them.'

b. *Gu-i   ñi-ribi-s-a.*
give-3SG.DS   eat-PL-FPST-3
'She gave it to them and they ate.'

c. *Ña-ra   mir-a ...*
eat-SS   leave-SS
'They ate it and ...'

The size of the repeated tail can vary; while the examples above consist of the repetition of a single word, in (390) a much longer string is repeated.

(390) a. *Kura beau,   miŋa-ikr-a   mir-a,   amge   beau   kazug-ra*
man   DEF.ACC   get-remove-3SG   leave-SS   woman   DEF.ACC   step.over-SS

pi   kazug-ra   wa-s-a.
come   step.over-SS   go-FPST-3SG
'She moved the man over, and stepped over the woman one way and stepped over her the other way.'

b. *Kazug-ra   pi   kazug-ra   w-i,   sue   niŋ   kad   beau*
step.over-SS   come   step.over-SS   go-3SG.DS   so   3SG.POSS   skin
DEF.ACC

miŋa-s-a.
get-FPST-3SG
'She stepped over one way and stepped over the other way, and she got her skin.'

The manner of recapitulation can also vary. Note that in (390) above, although many verbs are recapitulated, the object *amge beau* 'the woman' from (390)a is not part of the recapitulated string. In (391), on the other hand, both the subject (*kura eraŋa* 'two men') and a locative noun phrase (*Bramen odon* 'over in Brahman') are recapitulated in the next clause chain. This example also illustrates that the verb recapitulated in the head is not always recapitulated as a medial verb; here it is recapitulated as a participle.

(391) a. *Ka-ma ad-ɨi,* **kura eraŋa, Bramen** *od-on pi-ribi-s-a.*
MD-ADVZ do-3SG.DS **man two Brahman** FD-LOC come-PL-FPST-3
'He did that, and two men came from Brahman.'

b. ***Kura eraŋa Bramen od-on pi~rapi,*** *sue, niŋ kum~gum*
man two Brahman FD-LOC **come~PTCP** SO 3SG.POSS die~NMLZ

beau, ivuruha-bɨ-s-a.
DEF.ACC cure-PL-FPST-3SG
'Two men came from Brahman, and they cured his illness.'

Finally, (392) illustrates the potential to repeat other clausal operators in addition to arguments. Here the focus marker *hasa*, which marks the object *naguva kuta hanam* 'a very long string,' is recapitulated in the head of (392)b.

(392) a. *Mav dua-r-a mir-a,* **naguva kuta hanam hasa** *iru-s-a.*
belly bad-be-SS leave-SS **string long very** FOC **spin-FPST-3SG**
'She was sorry (lit. 'her belly was bad'), so she spun a very long string.'

b. ***Naguva kuta hanam hasa iru-ra*** *mir-a añi k-i tam-ɨi ...*
string long very FOC **spin-SS** leave-SS water MD-SET put-3SG.DS
'She spun a very long string, and she put it in the water, and ...'

By contrast, (393) illustrates the possibility of recapitulating the final clause of a chain as minimally as possible, with the common formula *ka-ma adɨ-* [MD-ADVZ do-] 'do thus.'

(393) a. *Maŋa be pañad-i-Ø.*
mud 3SG be.dry-TPST-3SG
'The mud had dried.'

b. ***Ka-ma ad-ɨi,*** *yakɨv-ra nuru, krɨv, kahavar-a u-ri-Ø.*
MD-ADVZ do-3SG.DS get.up-SS 3PL.OBJ after follow-SS go-TPST-3SG
'It had done that, and she got up and followed after them and went.'

3.8.2. The Vocative Enclitic

The enclitic *=i*, it seems, can be attached to the end of any utterance. I gloss it 'VOCATIVE,' but it does not function to name the hearer. Rather, it appears to create utterances that are addressed to a hearer and raises the interactional salience of those utterances. It is

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common in the context of commands (394), but can be found in other contexts as well

(395). It is not well understood, and will require more research.

(394) *Uhu*   ***kinamana=i***   *yakɨva-hana*   *u-daŋ*   *v-ri-Ø.*
      ground   **far=voc**   get.up-2SG.DS   go-1DU.IRR   say-TPST-3SG
      '"It's a long way (lit. 'the ground is far'), get up and let's go!" she said.'

(395) *Kavana=gra*   *kiñi*   *yava-nin*   *bira*   ***mana=i***   *k-i*   *mɨzu-hu*
      therefore=LNK   stay.SS   father.1.POSS-PL   3PL   **no=voc**   MD-SET   sit-2SG.IRR

      va-b-ɨi ...
      say-PL-3.DS
      'Therefore the fathers stayed and said, "No, you can stay (lit. 'sit') here," and ...'

3.8.3. Focus Marking

The particle *hasa* marks focus on the constituent that it follows. The nature of the focus

that it marks can vary: sometimes it marks new and focused information, as in (396). This

example is the beginning of a story, and serves to introduce the two boys from the second

sentence to the narrative. *Hasa* can also mark contrastive focus, as in (397). This example

comes from later in the story, when the boys (who are brothers) are already known, and

here *hasa* serves to contrast one brother against the other.

(396) *Kwahe*   *uva*   *uhusiv=iñ,*   *k-i*   *kura*   *mana*   *mana.*   ***Ña***   ***eraŋa***   ***hasa***
      before   SPEC   village=LI   MD-SET   man   no   no   **child**   **two**   **FOC**

      ki-rava-b-ri.
      stay-HAB-PL-3
      'Before, in a particular village, there were no people there at all. Just two boys
      lived (there).'

(397) *Pev*   *w-i~wi*   ***narah***   ***be***   ***hasa***   *wari*   *ki-s-a.*
      forest   go-3SG.DS~SIM   **younger.sib.3.POSS**   **3SG**   **FOC**   village   stay-FPST-3SG
      'While he went to the forest, his younger brother stayed in the village.'

The distributional properties of *hasa* are not fully understood, but it has been found

focus-marking a fairly wide variety of constituents. The two examples above show it

marking subjects, and the examples below show *hasa* marking an object (398), a postpositional phrase (399), an oblique noun phrase with the locative/instrumental marker =ñ (47), and a sentential adverb (401). It has not been found marking verbs or clauses.

(398) *Wa-ra* **asɨk tada mɨrada** *beau* **hasa** *kuvri-ra kavu-s-a.*
go-ss **fire log big** DEF.ACC FOC lift-ss carry-FPST-3SG
'He went and lifted the big log of firewood and carried it.'

(399) *Saga* *beau* *vana* *hasa* *mi* *tama~dama* *kɨda-b-ri.*
fight DEF.ACC **about** FOC thought put~NMLZ walk-3PL-TPST
'They just think about fights.'

(400) *Be* *kav* *kɨd-a* *pi* **puza,** **tɨk=ɨñ** **hasa** *gu-rub-ii ...*
3SG just walk-ss come **shaft** **piece**=LI FOC give-PL-3.DS
'(The fathers) used to just walk over and offer just a spear shaft, and ...'

(401) *Ya* *kavana* *naruhu* *k-udu* *vana* **ñad** **hasa** *ab-ri-n.*
1SG therefore 2PL.OBJ MD-PRAG about **a.little** FOC talk-TPST-1SG
'Therefore I've told you guys just a little about this.'

Appendix 4

Aisi Grammar Sketch

4.1. Introduction

Aisi [mmq] is a language spoken in Madang Province, Papua New Guinea, probably by some 400 people. The language has previously been referred to as Musak—first by John Z'graggen (1971: 62), and most recently in the current *Ethnologue* (Lewis et al. 2015)—but that is the name of a village where Aisi is spoken, and even speakers from Musak do not refer to the language by that name. The name is taken from the phrase *ai si* [what BEN], meaning 'what for' or 'why.'

The language appears, from my time in the village, to be on the cusp between vital and moribund. I never heard children speaking Aisi, although most seemed to be passively fluent. Some adults in their 20s were fully fluent speakers, while some adults in their 50s had a very difficult time speaking Aisi and were only comfortable in Tok Pisin. The relevant variable in these cases appeared to be education: people who had left the village during their formative years to go to school tended to be significantly less fluent than those who had grown up exclusively in the village. It seems, then, that the community is clearly shifting to Tok Pisin, but also that this process is not so advanced that it can no longer realistically be reversed.

4.1.1. Previous Research

Previous research on Aisi has been quite limited. Z'graggen (1971: 62) cites an unpublished wordlist collected by Aloys Kaspruś, presumably from the early 1940's, collected in the villages of Musak and Sepu. Z'graggen himself surveyed four villages—Musak, Sepu, Banam, and Kikirai—and observed that Aisi lacks palatal consonants, has a single liquid, lacks prenasalization, has verbal TAM suffixes, lacks verbal object prefixes, and lacks nominal number marking. He also mistakenly recorded the presence of a glottal stop and fricative in the language (1971: 62–64). He then also used the Aisi possessive system to exemplify an areal pattern (1971: 127, although he mistakenly labels the Aisi paradigm as Apalɨ and vice versa).

   In his 1975 record of villages and populations, Z'graggen added the village of Garaligut to the list of Aisi-speaking villages, and recorded a total of 355 speakers of the language (Z'graggen 1975*a*: 31). He also mentioned the language in his contribution to Stephen Wurm's large volume on New Guinea languages (Z'graggen 1975*b*: 585), but did not discuss any new information about it. He then published his Aisi wordlist in 1980*a* and added some grammatical observations to those he made in 1971, including the existence of an accusative enclitic *=ŋ*. Interestingly, he records two alternatives for the 1PL subject pronoun: *arɨ* and *anɨ* (1980*a*: 83). I only encountered *anɨ*, although *arɨ* still exists in the Magɨ variety that Z'graggen apparently did not survey (see the section on dialects below).

4.1.2. Magɨ and Mabɨŋ

Aisi is a speech variety that is composed of two very closely related languages, Magɨ and Mabɨŋ, that some linguists might consider dialects of a single language. Z'graggen never surveyed the village of Wanang, the only village where the Magɨ variety is spoken, and was presumably not aware of it. This sketch treats the two lects together, but that is primarily for reasons of convenience. I conducted very limited fieldwork on Magɨ and know very little about its structure. So I discuss it where I can, but this is primarily a sketch of Aisi Mabɨŋ and all examples are from Mabɨŋ unless otherwise stated.

The two dialects can be referred to by their words for 'no,' which are *magɨ* and *mabɨŋ*. In more common usage, the Mabɨŋ dialect is referred to as Aisi and the Magɨ dialect is referred to as Magɨ, but because *ai si* means 'why' in both languages, it is not suitable as a label to distinguish Mabɨŋ from Magɨ. Consequently, I use Aisi as a cover term for both dialects, and refer to the dialects individually as Magɨ and Mabɨŋ.

4.1.3. Data Sources

I first worked on Aisi in 2006, when I was collecting wordlists for several Sogeram languages. When I was in Madang town, a common acquaintance put me in touch with Charlie Nanum, a speaker of the Mabɨŋ dialect from Musak village, who was in town at the time, and with whom I worked on February 13 and 14. During this time, I collected a few hundred lexical items, as well as some pronominal and verbal paradigms.

I returned to Papua New Guinea again in 2012, intending to conduct fieldwork on Aisi. However, before I began this fieldwork, I traveled on the Sogeram River with my fiancée

and two Pioneer Bible Translators missionaries, and, while staying in the Apali-speaking village of Umsa, which is located to the west of Aisi territory, we heard of a speech variety the villagers referred to as Magɨ. Some women who had married in to Umsa were from Magɨ-speaking backgrounds, and my fiancée and I sat down with one of them on January 9 and collected a short wordlist and some verb paradigms. The language, to my thinking, strongly resembled Aisi, and I resolved that, if possible, I would arrange for a short trip to investigate it.

After that trip, I conducted three weeks of fieldwork in Musak village from January 12 to February 4. During this time I recorded and transcribed over one hour and 18 minutes of connected speech, and this corpus forms the primary corpus on which I have based this description.

I then continued with fieldwork on three other Sogeram languages, after which I traveled to the village of Wanang, which I had since learned was the only village where Magɨ was spoken, for the few days from May 4–9. During this brief visit, I collected a wordlist, conducted elicitation, and recorded and transcribed 8 and a half minutes of connected speech. I also played some recordings that I had made in Musak for the villagers in Wanang, and asked them questions to ascertain their level of comprehension, which was middling.

I continued my fieldwork on the other Sogeram languages, and when I was back in Madang town, about to leave Papua New Guinea, some Aisi speakers from Musak contacted me to let me know they were in town. I visited them on July 3, and during the visit, played them the recordings I had made in Wanang, asking them the same kinds of questions to

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ascertain their level of comprehension, which was low. Finally, on another field trip in 2014, I met with one speaker from Musak in Madang town on July 22, with whom I conducted some brief elicitation.

The data below primarily come from the connected speech that I recorded and transcribed, although sometimes it has been necessary to use elicited material. I have indicated where this has been done.

4.1.4. Typological Outline

Aisi word order is SOV (§4.6), and the language has postpositions (§4.3.6), noun-adjective word order (§4.4.4), determiners that follow nouns (§4.4.7), and possessors that can either precede or follow the noun (§4.4.5).

Phonologically, Aisi is notable for lacking a series of prenasalized stops, and also for lacking a liquid phoneme, although one is being borrowed from Tok Pisin (§4.2).

There is a good deal of verb morphology. The common Papuan distinction between "medial" (§4.5.2) and "final" (§4.5.1) morphology is present, and both medial and final verbs distinguish several verbal categories. In addition, verbs can take a desiderative suffix (§4.5.3.1), a participial suffix (§4.5.3.2), and a nominalizing suffix (§4.5.3.3).

The case system is accusative, with accusative case being marked by demonstratives or the enclitic *=ŋ* (§4.6.2). The demonstrative system is complex, marking several different grammatical and pragmatic categories, including number, grammatical role, and topic (§4.3.8).

Aisi possesses a rather typical Papuan system of clause chaining and switch reference (§4.7.1), as well as a subordination construction by which clause chains can be nominalized (§4.7.2). In narratives, speakers also make frequent use of tail-head linkage (§4.8.1).

4.2. Phonology

The consonant inventory is presented in Table 1 below. (When the orthographic symbol that I use in the rest of this sketch differs from the phonetic symbol, the orthographic symbol is given in <angled brackets> on the right.)

Table 1. Aisi consonant inventory

	bilabial	alveolar	palatal	velar
voiceless plosive	p	t		k
voiced plosive	b	d		g
voiceless fricative		s		
nasal	m	n		ŋ
flap		(ɾ <r>)		
glide	(w)		(j <y>)	

The voiceless obstruents /p t s/ and the nasals /m n ŋ/ exhibit very little allophony in either dialect. The only significant variation is exhibited by /k/, and then only in the Magɨ dialect:

/k/ > [c] / __i

[k] / elsewhere

The voiced stops /b d g/ exhibit the following allomorphy in the Mabɨŋ dialect:

/b d g/ > [b d g] / #__

/ N__

[β ɾ ɣ] / elsewhere

That is, these phonemes are pronounced as stops word-initially and after nasals, but are lenited elsewhere. This allomorphy extends to compounds, as exhibited by the phonetic variation seen in the form /dagad/ 'bone':

/dagad/ → [da.ɣar]
'bone'

/kwi/ + /dagad/ → [kwi.ra.ɣar]
'back' 'bone' 'backbone'

In the Magɨ dialect, this pattern of allomorphy is restricted to /b/ and, for some speakers, occasionally /g/; /d/ exhibits essentially no allomorphy.

The case of the phoneme /r/ is complicated. In the Mabɨŋ dialect, [ɾ] was historically an allophone of /d/, as illustrated above, but it is being borrowed into the dialect via Tok Pisin forms such as *rausim* 'remove,' *riŋ* 'call (on the phone),' and *ripot* 'report.' In the Magɨ dialect, it was a phoneme before contact with Tok Pisin, as shown by the near minimal pair *ara-niŋ* [FD-LOC] 'over there' and *adaniŋ* '1PL.OBJ.' It seems that the Mabɨŋ dialect lenited Proto-Aisi *d to [ɾ] word-medially and word-finally, eliminating the Proto-Aisi contrast between *d and *r, which is preserved in the Magɨ dialect. Because this contrast is preserved in Magɨ, and because it is being borrowed into Mabɨŋ, I write it in the orthography.

The vowel inventory is presented in Table 2.

Table 2. Aisi vowel inventory

	front	central	back
high	i	ɨ	u
mid	e		o
low		a	

Aisi also allows two rising diphthongs: a front diphthong /ai/ and a back diphthong which is /ou/ in the Mabɨŋ dialect and /au/ in the Magɨ dialect (cf. the cognate forms *gyou* and *gyau* 'snake, python').

The glides [w] and [y] may be best considered pre-vocalic allomorphs of /i/ and /u/, as illustrated by the variation below.

/igu-/	+	/-eŋ/		→	[i.ɣweŋ]
'give'		'1SG.IPST'			'I give, I gave'
/igu-/	+	/-byaŋ/		→	[i.ɣu.βyaŋ]
'give'		'1SG.FUT'			'I will give'
/i-/	+	/-iŋ/		→	[yiŋ]
'get'		'1SG.IPST'			'I get, I got'
/i-/	+	/-byaŋ/		→	[i.βyaŋ]
'get'		'1SG.FUT'			'I will get'

However, the behavior of these segments in complex onsets complicates this analysis. As illustrated by the future tense forms above, as well as the first 'give' form, [w] and [y] can be syllabified as the second consonant in a complex onset. This is further illustrated in the forms below (note that [w] only follows velar consonants in complex onsets):

/kiam/				→	[kyam]
'salt'					
/ui-/	+	/-uŋ/		→	[wyuŋ]
'come'		'3PL.IPST'			'they come, came'
/guande/				→	[gwa.nde]
'stone'					
/kuad/				→	[kwar]
'garden'					

In prevocalic sequences of C + /u/ with a non-velar consonant, as mentioned, the /u/ is syllabified as a nucleus. Because this does not happen with velar consonants, though, [u] and [w] remain in complementary distribution.

/due/ → [du.e]
'kunai grass'

/udua/ → [u.ru.a]
'pumpkin'

Finally, there is one form in Magɨ in which a prevocalic sequence of /u/ + /i/ is syllabified as two syllables instead of one. However, because this form is from the lect for which there is less data, it is unclear how to interpret this fact.

/uiaŋ/ → [u.yaŋ] (not [wyaŋ])
'thunder'

Similarly, the Mabɨŋ verb *iw-* 'hit, kill' is problematic, as it is realized as [i.w], not [yw], before *a*.

/iu/ + /-aŋ/ → [i.waŋ] (not [ywaŋ])
'hit' '2SG.IPST' 'you hit'

Given the unclear status of the glides, I have decided to distinguish them orthographically from their corresponding vowels, although I acknowledge that it may be more accurate to treat them as allophones of /u/ and /i/.

Finally, I turn to the phonemic status of /ɨ/, a vowel which is common in Madang languages but which sometimes lacks phonemic status (cf. Ingram 2001, Pawley & Bulmer 2011). Its status in Aisi is, however, not complicated; the minimal pairs shown below distinguish it from /a/, /u/, /i/, and Ø.

akar 'hair'   kibiŋ 'saliva'
akɨr 'middle'   kɨb=iŋ [path=LOC] 'on the path'

mug-eŋ [go.down-1SG.IPST] 'I go down'   am 'bamboo'
mɨg-eŋ [come.down-1SG.IPST] 'I come down'   amɨ 'breast'

4.2.1. Morphophonemics

In this section I describe three relatively straightforward morphophonemic processes:
vowel epenthesis, vowel rounding, and consonant assimilation.

Vowel epenthesis takes place at morpheme boundaries to break up consonant clusters,
and involves the insertion of [ɨ]. Occasionally certain consonant clusters will not undergo
this epenthesis, as illustrated with *tam-* 'put' below, but it is not clear what conditions these
pronunciation alternants.

/n-/	+	/-ber/			→	[nɨ.βer]
'eat'		'3SG.FUT'				's/he will stay'

/tam-/	+	/-s/	+	/-i/	→	[ta.mɨ.si] ~ [tam.si]
'put'		'FPST'		'3SG'		's/he put'

A different kind of epenthesis is realized with verb roots that end in a consonant plus
/r/, such as *sepr-* 'appear.' When these roots are followed by a consonant-initial suffix, the
/r/ becomes vocalic, and is realized phonetically as [ɨr] or [r̩].

/sepr-/	+	/-s/	+	/-i/	→	[se.pɨr.si] ~ [se.pr̩.si]
'appear'		'FPST'		'3SG'		'it appeared'

Finally, an epenthetic [ɨ] will sometimes be rounded to [u] when it follows a stem with a
round vowel, such as the /u/ in *uk-* 'cut,' or the /o/ in *yok-* 'go up.'

/uk-/	+	/-s/	+	/-iŋ/	→	[u.ku.siŋ] ~ [u.kɨ.siŋ]
'cut'		'FPST'		'1SG'		'I cut'

/iok-/	+	/-bɨŋ/			→	[yo.ku.βɨŋ] ~ [yo.kɨ.βɨŋ]
'go up'		'1SG.CTRF'				'I should go up'

Consonant assimilation takes place between some suffixes when they are not separated by epenthetic /ɨ/-insertion. Many verbal suffixes end in /ŋ/, and this consonant will be realized as [n] when followed by a coronal consonant. This process also takes place irregularly with the verb root *kɨn-* 'stay,' which becomes *kɨm-* when followed by a /b/. This is unusual, though; other *n*-final verbs simply insert [ɨ] when followed by /b/.

/kɨn-/	+	/-biaŋ/	+	/=de/	→	[kɨ.mbya.nde]
'stay'		'1SG.FUT'		'PRAG'		'I'll stay here'

4.3. Word Classes

There are eight word classes: verbs, nouns, adjectives, adverbs, pronouns, postpositions, quantifiers, and demonstratives.

4.3.1. Verbs

Verbs are words that can be inflected for subject agreement and TAM, and they usually function as the main predicate of a clause. They are a closed class in Aisi; when verbs are borrowed, they are borrowed as invariant particles that appear with one of the verbs *am-* (1) or *aram-* (2), which both mean 'do' (and are, or were, probably variants of the same verb).

(1) *Atiŋ   amor   mɨg-i   kɨtiŋ* **rekod   am-byaŋ.**
     maybe   tomorrow come.down-SS   and   **record   do-1SG.FUT**
     'Maybe tomorrow I'll come down and record (a story).'

(2) *Nɨrɨ nɨ-mom=ɨŋ*   **sori**   *aram-i   kɨtɨŋ …*
     3PL 3.POSS-husband=ACC **sorry** **do-ss** and
     'They were sorry about their husbands and …'

This construction, which I call a verb adjunct construction, is not common with native

Aisi words—in fact, I am aware of only one (apparently) native verb adjunct, *guŋ* 'thunder'

(3).

(3) *Am* **guŋ**   **am-egi,**   *kwi   ika*   *yama,*   *yaka*   *si*
     rain **thunder** **do-3SG.DS** back father.1.POSS mother.1.POSS 1SG.POSS BEN

     mɨndam-eŋ.
     think-1SG.IPST
     'It thunders, and I think back to my father and mother.'

Verbs can be divided into three morphological categories based on their final segment:

i-root verbs, *u*-root verbs, and C-root verbs (i.e., consonant-final verbs). Verbs can also be

further divided based on which form of the desiderative suffix they take (§4.5.3.1): some

verbs take *–bis*, and some take *–bes*. There does not appear to be any correlation between

the final segment of a verb and the form of the desiderative suffix that it takes. The key

forms for identifying verb class are the 1SG immediate past *–eŋ* (realized as *–iŋ* with *i*-root

verbs), the 3PL immediate past *–oŋ* (*–uŋ* with *i*-root verbs), and any consonant-initial suffix,

such as *–byaŋ* '1SG.FUT.' A few verbs are presented in Table 3 below for illustration.

Table 3. Verb classes

Class	*–eŋ* '1SG.IPST'	*–oŋ* '3PL.IPST'	*–byaŋ* '1SG.FUT'	English
i-root	*tik-iŋ*	*tiky-uŋ*	*tiki-byaŋ*	fill up
	deb-iŋ	*deby-uŋ*	*debi-byaŋ*	meet
u-root	*takw-eŋ*	*tak-oŋ*	*taku-byaŋ*	cut
	igw-eŋ	*ig-oŋ*	*igu-byaŋ*	give
C-root	*tam-eŋ*	*tam-oŋ*	*tam-byaŋ*	put
	ir-eŋ	*ir-oŋ*	*ir-ɨbyaŋ*	see, hear, know

In the Magɨ dialect matters are somewhat different. First of all, there is no allomorphy in the 1SG and 3PL immediate past suffixes: they are invariantly *–iŋ* and *–uŋ*. There are also a number of other morphological differences which are discussed in the section on verb morphology (§4.5).

A second major difference is that verb adjuncts are quite common in Magɨ, both as a strategy for borrowing verbs (4) and as a native construction (5). They can even be separated from their light verbs, as with *ambɨt* 'sleep' in (6).

(4) *Faif kilok   umɨniŋumɨniŋ ga,   Sabat   **klosim** am-ɨs-iŋ.*
     five o'clock   afternoon   TOP   Sabbath   **close**   do-FPST-1SG
     'At five o'clock in the afternoon, I ended the Sabbath.'

(5) *Yɨ   **mabas**   tuk-iŋ.*
     1SG **cough**   tell-1SG.IPST
     'I'm coughing.'   Elicited

(6) ***Ambɨt***   *mandɨ   kɨn-iŋ.*
     sleep   COMPL   stay-1SG.IPST
     'I already slept.'   Elicited

The last, and perhaps most striking, difference between Mabɨŋ and Mabɨ verbs is that in Magɨ, verbs are not bound roots. While verbs are always affixed in Mabɨŋ, in Magɨ they can occur as unaffixed roots in what appear to be serial verb constructions. This is nicely illustrated in (53), where the verb *yakɨte* 'come upstream' is first affixed with the 1SG.DS suffix *-ikiŋ*, and later occurs without affixation in a clause headed by the affixed verb *kapɨrkɨtiŋ* 'throw and.' Unaffixed verbs are sometimes identical to their affixed counterparts, as with *yakɨte*, but sometimes add a final /ɨ/. It is unclear whether this variation is predictable. This is illustrated in (8) and (9), which show the verb *abɨ* 'speak' in its unaffixed form *abɨ* and its affixed form *ab-*.

(7) **Yakɨte-kiŋ,**   *aŋ*   *akrab*   *mɨg-inɨŋ,*   *tewad*   *taku*
       come.upstream-1SG.DS   water   middle   come.down-3SG.DS   leaf   cut

       sibi-kɨtɨŋ **yakɨte,**   *tewad*   *kapɨr-kɨtɨŋ …*
       cover-SS   **come.upstream**   leaf   throw-SS
       'I came up and it rained in the middle (of the road) and I cut a leaf and covered
       (myself) and came up and (it stopped raining and) I threw the leaf away and …'

(8) *U-kɨtɨŋ* **abɨ**   *ir-ɨbyaŋ*   *s-iŋ.*
       go-SS   **speak**   perceive-1SG.FUT   say-1SG.IPST
       '"I'll go speak (to him) and listen," I said.'

(9) *Okei*   *arɨ*   *agrenda,*   *amur*   *ki*   **ab-ar**   *s-iŋ.*
       okay   1PL   two   one.day.away   speech   **speak-1PL.IPST**   say-1SG.IPST
       '"Okay, tomorrow the two of us will talk," I said.'

4.3.1.1. Irregular Verbs

There are a number of verbs that do not inflect regularly. A few verbs, presented in Table 4,

do not take the regular same-subject medial suffix *–i*, forming an irregular same-subject

form instead.

Table 4. Irregular same-subject forms

Verb	same-subject form	English
kɨn-	*kɨtɨ*	stay
n-	*nɨtɨ*	eat
i-	*itɨ*	get
wa-	*we*	come

As discussed in §4.2.1 above, *kɨn-* 'stay' irregularly changes root-final /n/ to /m/ when

followed by a *b*-initial suffix, such as *–ber* '3SG.FUT': *kɨmber* 's/he will stay.' This verb also

changes its root irregularly in the far past tense, where it loses final /n/: *kɨ-s-iŋ* [stay-FPST-

1SG] 'I stayed.'

The verb *iw-* 'hit, kill' is also irregular. With vowel-initial suffixes, it is realized as *iw-*, but with consonant-initial suffixes, it is realized as *yo-*. Thus *iw-eŋ* [hit-1SG.IPST] 'I hit,' but *yo-byaŋ* [hit-1SG.FUT] 'I will hit.'

Finally, the verb *wa-* 'come' is quite irregular. In addition to forming an irregular same-subject form, as described above, it has an irregular immediate past paradigm, shown in Table 5, and its root is realized as *wa-*, *we-*, or *wi-* in various other TAM categories.

Table 5. *wa-* 'come'

	SG	PL
1	*w-iŋ*	*way-aŋ*
2	*way-aŋ*	*way-ar*
3	*w-i*	*wy-uŋ*

4.3.2. Nouns

Nouns can serve as the subjects or objects of verbs and as the objects of postpositional phrases. There are three subclasses of noun: common, proper, and inalienably possessed. The first two subclasses are open, as shown in (10) and (11); inalienably possessed nouns are a closed class.

(10) ***Kar*** *itɨ*   *mugu-s-uŋ.*
      car   get.SS   go.down-FPST-3PL
      'A car got him and went down.'

(11) *Nu* ***Dalas***   ***Tekses***   *gɨnɨŋ.*
      3SG **Dallas**   **Texas**   GEN
      'He's from Dallas, Texas.'

4.3.2.1. Common Nouns

Common nouns are a residual class composed of those nouns that are neither proper nor inalienably possessed. They take no morphology. When a common noun functions as the

object of a clause, accusative case is either not marked (12) or it is marked on a determiner (13), but common nouns cannot occur with the accusative enclitic *=ŋ*. This distinguishes them from proper and inalienably possessed nouns. Furthermore, in order to function as an oblique argument, they must occur with a postposition such as the locative postposition *=iŋ*, which is cliticized to the noun phrase (14).

(12) *Ya* **kuru** *i-r-iŋ.*
1SG **man** get-HAB-1SG
'I get men (i.e., I show hospitality to strangers).'

(13) *G-ib* *ar-i* *ani* **sab** **ga-kuŋ** *iti* *kitiŋ ...*
MD-ADVZ do-SS 1PL **work** MD-ACC get.SS and
'So we did that work and ...'

(14) **Tug=iŋ** *iŋgat-s-i.*
hole=LOC go.in-FPST-3SG
'He went into a hole.'

4.3.2.2. Proper Nouns

Proper nouns refer to specific people or places. They take no morphology, but can occur with the accusative enclitic *=ŋ* when functioning as an object (11) and, when they are place names, can function as oblique arguments without special marking (16).

(15) **Kris=iŋ** *ir-ibyaŋ* *aba* *yoku-s-iŋ.*
Chris=ACC perceive-1SG.FUT QUOT go.up-FPST-1SG
'I went up to see Chris (lit. 'I said, "I'll see Chris," and went up').'

(16) **Amerika** *w-ogi* *na,* *ya* *keb* *ga-rib* *pa* *yok-i ...*
America go-3PL.DS and 1SG just MD-ADJZ only go.up-SS
'They went to America and I just went up like that and ...'

4.3.2.3. Inalienably Possessed Nouns

Inalienably possessed nouns in Mabiŋ are a closed class of less than twenty kin terms. They are morphologically complex, taking obligatory possessive prefixes that mark the person

(but not the number) of the possessor, and exhibiting a considerable amount of morphological variation. Some of this variation is shown in Table 6. The first three examples illustrate that the first person prefix can be *i–*, *ya–*, or *a–*. The first person form is also often suppletive, as the other forms illustrate. The second person forms are consistently formed with the prefix *na–*, and the third person forms are usually formed with the prefix *ni–*, although the last two examples show that this prefix can also vary, being realized as *ne–* or *no–*.

Table 6. Some Aisi kin terms

1.POSS	2.POSS	3.POSS	Gloss
itiŋar	*natiŋar*	*nitiŋar*	brother-in-law
yamari	*namari*	*nimari*	cross-cousin
amok	*namok*	*nimok*	different-sex sibling
isam	*nasɨm*	*nisɨm*	same-sex, older sibling
kuru	*namom*	*nimom*	husband
yokoŋ	*naikoŋ*	*nekoŋ*	mother's brother
ika	*nagi*	*nogi*	father

Inalienably possessed nouns are further distinguished from common nouns by the fact that they can occur with the accusative enclitic *=ŋ* when functioning as an object (18).

(17) *Kapr-egi*   *iŋgat-egi*   *ur=eŋ*   *w-i*   ***ni-nor=iŋ***
      throw-3SG.DS   go.in-3SG.DS house=LOC go-SS **3.POSS-daughter=ACC**

      ir-ɨs-i.
      perceive-FPST-3SG
      'He threw it in and went home and saw his daughter.'

It should be noted that some of the suppletive first person forms of inalienably possessed nouns are actually common nouns. This is true, for example, for the form *kuru*, which is included in Table 6 as the first person form for 'husband,' but which is, grammatically, a common noun meaning 'man.' But other suppletive first person forms

usually behave syntactically like inalienably possessed nouns. For example, (18) shows the suppletive first person possessive form for 'father,' *ika*, occurring with the accusative enclitic *=ŋ*, which does not occur with common nouns.

(18)   *Ya*   *umiŋ*   ***ika***   ***naka=ŋ***   *maŋ*   *igw-eŋ.*
        1SG   yesterday   **father.1.POSS**   **2SG.POSS=ACC**   banana   give-1SG.IPST
        'Yesterday I gave your father a banana.'   Elicited

This example also illustrates another fact about inalienable nouns: they can be possessed by pronouns, in which case the first person form of the noun is combined with the appropriate free possessive pronoun, as above.

Finally, the class of inalienably possessed nouns appears to be eroding in Magɨ, as first person forms replace second and third person forms. I recorded eight Magɨ inalienably possessed nouns that are still morphologically productive, but many of the forms I was given were considered antiquated by my consultants.

4.3.3. Adjectives

Adjectives are words that take no morphology and occur within a noun phrase, following the head noun and modifying it attributively (19). They can also be used predicatively, but this use is not well understood. As predicates they often occur with *kɨn-* 'stay' (20), which suggests that they may be functioning adverbially, but adjectives can also be used predicatively by themselves (21).

(19)   *Pɨnɨ*   ***garaŋ***   *ga-niŋ*   *yok-e.*
        palm.sp   **long**   MD-LOC   go.up-3SG.IPST
        'She went up a tall *pɨnɨ* palm.'

(20)   *Ya*   *mandɨ*   *ga-niŋ*   ***anɨmɨnɨ***   ***kɨn-ɨkiŋ,***   *ika*   *yama*
        1SG   COMPL   MD-LOC   **small**   **stay-1SG.DS**   father.1.POSS   mother.1.POSS

yaka   yaŋ   ab-er-uŋ.
1SG.POSS   1SG.OBJ   talk-HAB-3PL
'Long ago when I was small, my parents used to talk to me.'

(21) *Dɨbɨr   ga-ku   **asig**   suku.*
cucumber   MD-NOM   **strong**   very
'This cucumber was really tough.'

4.3.4. Adverbs

Adverbs are a small, closed class of words that take no morphology. They occur in various positions in the clause, modifying the predicate. Positions where they have been observed include before the subject (22), after the subject (23), before the object (24), and after it (25).

(22) ***Kondɨ***   *nu   sɨkɨbyaŋ   n-ɨs-i   ma.*
morning   3SG   food   eat-FPST-3SG   NEG
'In the morning he didn't eat anything.'

(23) *Kris   nɨbɨ   ni-kabi=ra   **kwi**   **mandɨ**   nirib   niruku=riŋ*
Chris   3SG.EMPH   3SG.POSS-wife=COM   **back**   **COMPL**   3PL.EMPH   3PL.POSS=LOC

u-s-uŋ.
go-FPST-3PL
'Chris himself and his wife already went back to their own (home).'

(24) ***Kepa   suku,***   *naŋ   mɨg-i   ir-eŋ.*
just   very   2SG.OBJ   come.down-SS   perceive-1SG.IPST
'I just came down and I'm looking at you.'

(25) *Ga-rib   ar-egi   na,   ya   naŋ   **kepa**   mɨg-i   ir-ɨba*
MD-ADJZ   do-3SG.DS   and   1SG   2SG.OBJ   **just**   come.down-SS   perceive-PTCP

kɨn-eŋ.
stay-1SG.IPST
'For that reason, I just came down and I'm looking at you.'

Adverbs can also be combined. In (23) above, the adverbs both modify the predicate but have no other relationship to one another; in (24) above, one adverb modifies the other.

In addition to modifying the clause and modifying one another, adverbs can modify adjectives (26), pronouns (27), and negators (28), and can also be repeated for emphasis (29).

(26) *Kumu   andu,   urunda **suku.***
     stomach 1PL.POSS good   **very**
     'Our stomachs are very good (i.e., we're very happy).'

(27) *Ya   naka   **suku.***
     1SG 2SG.POSS **very**
     'I'm all yours.'

(28) *Naŋgari   na   kɨn-aŋ   g-oŋ,   ya   ai   samtiŋ naŋ   igu-byaŋ*
     now   2SG stay-2SG.IPST MD-TOP 1SG what thing   2SG.OBJ give-1SG.FUT

     *ma.   **Mabɨŋ**   **suku.***
     NEG **no**   **very**
     'Now that you're here, I don't have anything to give you. Not at all.'

(29) *Uru   na-kuŋ   nɨba-rib   **suku suku,** mar-oŋ   aba*
     house ND-ACC QD-ADJZ   **very very** make-3PL.IPST QUOT
     '"How on earth did they build this house?" I said.'

4.3.5. Pronouns

Pronouns are a small, closed class in Aisi. The Mabɨŋ and Magɨ sets of pronouns are fairly different, so I have laid them out in Table 7 and Table 8, respectively. Note the different forms for subject pronouns in 1SG, 3SG, and 1PL, the different object paradigms, and the fact that Magɨ has an extra set of benefactive pronouns. (Mabɨŋ combines an object pronoun with the benefactive postposition *si* instead.) The Magɨ emphatic paradigm is only incomplete because I did not elicit a whole paradigm; presumably 2SG, 2PL, and 3PL forms exist.

Table 7. Aisi Mabɨŋ pronouns

	Subject	Object	Possessive	Emphatic
1SG	ya	yaŋ	yaka	yabɨ
2SG	na	naŋ	naka	nabɨ
3SG	nu	nuŋ	nɨku	nɨbɨ
1PL	anɨ	anɨgunuŋ	andu	ambɨ
2PL	narɨ	narɨgunuŋ	narɨkuŋ	narɨb
3PL	nɨrɨ	nɨrɨgunuŋ	nɨrukuŋ	nɨrɨb

Table 8. Aisi Magɨ pronouns

	Subject	Object	Possessive	Benefactive	Emphatic
1SG	yɨ	yadɨŋ	yaka	yasi	yabɨ
2SG	na	nadɨŋ	naka	nasi	
3SG	nɨ	nɨdɨŋ	nuku	nɨsi	nɨbɨ
1PL	arɨ	adanɨŋ	arɨkuŋ	adansi	arɨb
2PL	narɨ	nadanɨŋ	narɨkuŋ	nadansi	
3PL	nɨrɨ	nɨdanɨŋ	nurukuŋ	nɨdansi	

Subject pronouns are primarily used as subjects (30), but can also be used vocatively (31). Object pronouns can function as objects of a clause (32), or as objects of postpositions (33).

(30) **Na**   w-i   kɨtɨ   ipram-o.
     2SG go-SS and   hide-2SG.IMP
     'You go hide (it).'

(31) Ga-ndɨ   pa,   **kuru na,**   ya   ki   mabɨŋ.
     MD-EXST only **man 2SG**   1SG speech no
     'That's it, man, I've got no (more) talk.'

(32) **Nɨrɨgunuŋ**   yow-i   n-ɨs-i.
     3PL.OBJ   hit-SS eat-FPST-3SG
     'She killed and ate them.'

(33) **Naŋ**   krɨŋ mugram-e,   emtok.
     2SG.OBJ LI   fit-3SG.IPST QUOT
     '"It fits you," she said.'

Possessive pronouns usually follow the possessed noun (34), although sometimes they are found preceding it (35). Possessive pronouns can also be used locatively, with a locative

enclitic, to refer to the home of the possessor (36). This construction usually employs the emphatic possessive form.

(34)   *Ika*   ***andu***   *mandɨ*   *kumu-s-i.*
        father.1.POSS   **1PL.POSS**   COMPL   die-FPST-3SG
        'Our father has already died.'

(35)   ***Yaka***   *ki*   *ga-ndɨ*   *pa.*
        1SG.POSS   speech   MD-EXST   only
        'My story is like that.'

(36)   ***Nɨbɨ***   ***niku=rɨŋ***   *w-i*   *kɨtɨŋ, kwi*   *na-niŋ*   *kar*   *kɨtɨ*   *na ...*
        3SG.EMPH   **3SG.POSS=LOC**   go-SS   and   back   ND-LOC   sick   stay.SS   and
        'He went to his own (place) and back here he was sick and ...'

Emphatic pronouns can serve a wide variety of functions. They can function as the subject of the clause without any marking (37), or, with case marking, as the object (38). They can also be combined with a possessive pronoun to form an emphatic possessive pronoun (39). In this construction, the 1PL form has become a single word (40). It seems like this strategy of combining the emphatic pronoun with another pronoun can also be used with object pronouns (41), although it is unclear how this construction differs in meaning from the construction employing an accusastive enclitic exemplified in (38).

(37)   *Okei*   ***nɨbɨ***   *tamɨ=ra,*   *ir-iber*
        okay   **3SG.EMPH**   eye=COM   perceive-3SG.FUT
        'Okay, he himself will see it with his eyes.'

(38)   *Okei*   *Kris*   ***nɨbɨ=nɨŋ***   *ir-is-iŋ*   *ma.*
        okay   Chris   **3SG.EMPH=ACC**   perceive-FPST-1SG   NEG
        'Okay, I didn't see Chris himself.'

(39)   *Anɨ=ra*   *kɨm-bes-i,*   ***nabɨ***   ***naka***   *mindam-be*   *kɨn-i.*
        1PL=COM   stay-DESID-SS   **2SG.EMPH**   **2SG.POSS**   think-NMLZ   stay-3SG.IPST
        '(If) you want to stay with us, that's up to you (lit. 'it's in your own thinking).'

(40) *Itɨ*   *we*   *kɨtɨŋ,*   **_ambandu=rɨŋ_**   *Kwanam*   *Takwar=ɨra*   *n-ɨs-aŋ*
get.SS   come.SS   and   **1PL.POSS.EMPH=LOC**   Kwanam   Takwar=COM   eat-FPST-1PL
'We took it and ate in our own (place), Kwanam Takwarɨra.'

(41) *Ya*   **_nabɨ_**   **_naŋ_**   *pa*   *ir-eŋ.*
1SG   **2SG.EMPH**   **2SG.OBJ**   only   perceive-1SG.IPST
'I saw only you.'   Elicited

It is unclear exactly what kind of emphasis the emphatic pronouns convey, although part of their meaning is certainly contrastive, as illustrated in (42).

(42) *Na*   *ur=eŋ*   *kɨn-o*   *kwe.*   **_Yabɨ_**   *apɨr*   *itɨ*   *u-byan=de.*
2SG   house=LOC   stay-2SG.IMP   QUOT   **1SG.EMPH**   dog   get.SS   go-1SG.FUT=PRAG
'"You stay at home," he said. "I'm going to take the dogs and go."'

4.3.6. Postpositions

Postpositions are a small, closed class of words that occur after noun phrases and relate them to their predicate (43); modify a head noun in a noun phrase (44); or serve as predicates (45). They can also occur with noun phrases headed by pronouns (46).

(43) *Kyaŋɨ*   **_si_**   *w-er-aŋ*
fish   **BEN**   go-HAB-1PL
'We go fishing (lit. 'go for fish').'

(44) *Ya*   *apɨr*   **_ginɨŋ_**   *ki*   *ab-ɨbeŋ.*
1SG   dog   **GEN**   speech   talk-1SG.FUT
'I'm going to tell a story about dogs.'

(45) *Ya,*   *Musak*   **_gisɨŋ_**
1SG   Musak   **from**
'I'm from Musak.'

(46) *Ga-rib*   *ar-i,*   *nuŋ*   **_si,_**   *mindam-ba*   *kr-eŋ.*
MD-ADJZ   do-SS   3SG.OBJ   **BEN**   think-PTCP   walk-1SG.IPST
'So, I think about him.'

Three postpositions, *=ŋ* 'ACC' (47), *=iŋ* 'LOC' (48), and *=ra* 'COM' (49), are cliticized to their noun phrase.

(47) *Ni-ŋgi=ŋ*   *yagr-egi*   *mɨg-e.*
    3.POSS-mother=ACC   stab-3SG.DS   come.down-3SG.IPST
    'He shot his mother and she fell.'

(48) *Am=iŋ*   *im-i*   *n-ɨs-i.*
    bamboo=LOC   put.in-SS   eat-FPST-3SG
    'She put it in bamboo and ate it.'

(49) *Okei, nɨ-sɨm=da*   *nɨ-rak=ra,*   *kɨn-er-uŋ.*
    okay 3.POSS-brother=COM   3.POSS-brother=COM   stay-HAB-3PL
    'Okay, there were two brothers (lit. 'big brother and little brother stayed').'

The locative postposition *=iŋ* exhibits some allomorphy. When it is attached to a word that ends in /o/, like *kubro* 'canoe'; /u/, like *uru* 'house'; or /ɨ/, like *tamɨ* 'eye,' the two vowels become /e/ (50). When it is attached to a possessive pronoun or a word that ends in /e/, like *ware* 'mountain,' it occurs with an epenthetic /r/ (51).

(50) *Simon   gɨniŋ ur=eŋ   sepr-i ...*
    Simon   GEN   house=LOC   appear-SS
    'We arrived at Simon's house and ...'

(51) *Yabɨ   yaka=riŋ   mɨtat-i   wa-s-iŋ.*
    1SG.EMPH 1SG.POSS=LOC leave-SS come-FPST-1SG
    'I left my own (place) and came.'

There are a handful of postpositions with both locative and instrumental meaning (a common conflation in the Sogeram languages), which I gloss 'LI' to distinguish them from purely locative forms (i.e., the enclitic *=iŋ* and the locative demonstratives): *katig, katiŋ, krig,* and *kriŋ.* Examples of *katiŋ* used locatively (52) and instrumentally (53) are given below. These forms all appear to be derived from *katig,* which also occurs as a noun meaning 'top' (54).

(52) *Amor   kondɨ,   konou ar-oŋ   **katiŋ** itɨ   w-am   kwe.*
    tomorrow   morning tree.sp FD-TOP LI   get.SS go-2SG.IMP QUOT
    '"Tomorrow morning, take (her) and go to that *konou* tree," he said.'

(53) *Ya   gan   **katiŋ**   segwar-s-iŋ.*
1SG   gun   LI   shoot-FPST-1SG
'I shot with a gun.'   Elicited

(54) *Nagum   miŋapam-i   ga,   **katig**   kabar=iŋ   togay-i …*
neck   hold-SS   TOP   **top**   shoulder=LOC   climb-SS
'She held his neck and climbed on the top of (his) shoulders and …'

The accusative postposition in Magɨ is not cliticized, but is a free form *niŋ* (55).

(55) *Yɨ   Jon   **niŋ**   ir-iŋ.*
1SG   John   ACC   perceive-1SG.IPST
'I saw John.'   Elicited

Finally, one postposition, the benefactive *si*, can be used to subordinate clauses, as in (56). This construction is discussed further in §4.7.2.

(56) *[Ir-er-uŋ   ma]   **si**   na,   niɨ   kim   denɨ   mimiŋ   mimiŋ*
perceive-HAB-3PL   NEG   **BEN**   and   3PL   bow   toy.arrow   small   small

tip-i   kɨtɨŋ …
cock-SS   and
'Because they didn't know, they cocked their little toy bows and …'

4.3.7. Quantifiers

There is a small class of quantifiers which specify quantity and sometimes definiteness. Their grammar is not very well understood, but they occur in the noun phrase after the possessive pronoun (57) and before the determiner (58). Because this is the only diagnostic I have discovered for determining whether a word is a quantifier, there are several forms which resemble quantifiers semantically but which cannot be said, with certainty, to be quantifiers, such as the distributive plural form *gragra* or *gregre* (59). The numerals *pabra* 'one' and *agrenda* 'two,' however, appear to be quantifiers based on examples like (60) and (61).

(57) *Dɨbɨr   yaka   **mo**   ga-nɨŋ   kɨn-ɨkur.*
cucumber 1SG.POSS SPEC MD-LOC stay-3SG.IMP
'One of my cucumbers will stay here.'

(58) *Gwandam **mo** ga-ku, nu waŋɨ aŋ amug tam-ɨs-i.*
old.man SPEC MD-NOM 3SG bag water under put-FPST-3SG
'An old man, he was putting a bag underwater (i.e., fishing).'

(59) *Konou   **gregre** mam-i,   we   kɨtɨŋ kobeyitɨ ...*
tree.sp DISTR look.for-SS come.SS and cook.SS
'Find all the *konou* trees, come and cook (their leaves) ...'

(60) *Dɨbɨr   yaka   **pabra** na-ku kɨn-i.*
cucumber 1SG.POSS **one** ND-NOM stay-3SG.IPST
'My one cucumber is here.'   Elicited

(61) *Ya dɨbɨr   yaka   **agrenda** g-on=si   mɨndam-i kɨtɨŋ na ...*
1SG cucumber 1SG.POSS **two** MD-TOP=BEN think-SS and and
'I'm thinking about my two cucumbers and ...'

4.3.8. Demonstratives

Demonstratives are a small, closed word class. They are composed of a root which indicates deictic distance, and a suffix which indicates the function and meaning of the demonstrative. There are three deictic roots: *na-* 'near,' *ga-* 'middle' (Magɨ *ka-*), and *ara-* 'far.' There is also an interrogative demonstrative *nɨba-*. The various suffixes that have been found on demonstratives are presented in Table 9. When a Magɨ form has been found that corresponds semantically, it is also given; but note that not all of the Magɨ forms are cognate with the Mabɨŋ forms.

Table 9. Demonstratives

	ND	MD	FD	QD	Magɨ
nominative	na-ku	ga-ku	ara-ku		-ku
accusative	na-kuŋ	ga-kuŋ	ara-kuŋ		-nɨŋ
locative	na-niŋ	ga-niŋ	ara-niŋ	nɨba-niŋ	-niŋ
topic	n-oŋ, n-uŋ	g-oŋ	ar-oŋ		
existential (1)	na-ndɨ	ga-ndɨ	ara-ndɨ	nɨba-ndɨ	-nd
existential (2)	na-gɨ	ga-gɨ	ara-ga		
adjectival	na-rib	ga-rib	ara-rib	nɨba-rib	-ŋga
adverbial	n-ib	g-ib	ar-ib		
paucal	na-kɨŋ	ga-kɨŋ	ara-kɨŋ		
plural	na-kinɨŋ	ga-kinɨŋ	ara-kinɨŋ		

This word class has two primary functions. The forms can occur on their own as demonstratives, or they can occur at the end of a noun phrase as determiners. In the latter use they mark the function or number of the noun phrase in the clause, and they can also be used to subordinate clauses as in (62); this construction is discussed more fully in §4.7.2 below. In this sketch, I generally refer to these forms as "demonstratives," although when they function as determiners I sometimes refer to them as "determiners," by which I do not imply that they are different forms, merely that they are serving a different function.

(62) [Na   tam-aŋ   ] **ga-ku**   mugram-e.
      2SG   put-2SG.IPST   **MD-NOM**   fit-3SG.IPST
      'What you put on fits.'

4.3.8.1. Nominative –ku

The suffix –*ku* forms a nominative demonstrative which signals that its noun phrase functions as the subject of the clause (§4.6.1). These demonstratives usually occur as determiners (63); there are no naturally occurring examples of a form with –*ku* standing on its own in the corpus, although they have been elicited (64).

(63) *Kuru mor **ga-ku,** sab si w-i aba*
man white **MD-NOM** work BEN come-3SG.IPST QUOT
'"The white man came for work," we'll say.'

(64) ***Ara-ku*** *yaŋ yo-s-i.*
FD-NOM 1SG.OBJ hit-FPST-3SG
'That guy hit me.'   Elicited

This form has also been observed in postpositional phrases (65), although other forms,

notably –*oŋ* 'TOP,' also occur in postpositional phrases and it is unclear under what

conditions the nominative form is used.

(65) *Ya, kuru **ga-ku** ginɨŋ ki pa ki pa ir-i na …*
1SG man **MD-NOM** GEN speech only speech only perceive-SS and
'Me, I heard all the talk about this man and …'

4.3.8.2. Accusative –kuŋ

The accusative suffix –*kuŋ* forms demonstratives which function as the object of their

clause. They can either occur on their own (66) or with a noun (67).

(66) ***Ga-kuŋ*** *ika yaka mandɨ ab-e.*
MD-ACC father.1.POSS 1SG.POSS COMPL talk-3SG.IPST
'My husband (lit. 'father') already talked about that.'

(67) *We kɨtɨŋ ga, sɨb **na-kuŋ** taku-s-uŋ.*
come.SS and TOP village **ND-ACC** cut-FPST-3PL
'They came and cleared this area.'

The corresponding Magɨ form is –*nɨŋ*, which does not appear to be cognate (68).

(68) *Ki **ka-nɨŋ** aŋandam-s-ar.*
speech **MD-ACC** hear-FPST-1PL
'We heard that speech.'

The locative suffix forms a demonstrative that means 'here' or 'there.' These forms can either occur on their own (69), or with a noun, which will sometimes be marked with its own locative enclitic (70), and sometimes not (71).

    (69) *Dɨbɨr*   *yaka*   *mo*   **ga-niŋ**   *kɨn-ɨkur.*
           cucumber 1SG.POSS SPEC **MD-LOC** stay-3SG.IMP
           'One of my cucumbers will stay here.'

    (70) *Ware=riŋ*   **ara-niŋ**   *kɨn-er-aŋ.*
           mountain=LOC **FD-LOC** stay-HAB-1PL
           'We used to live on the mountain.'

    (71) *Pɨnɨ*   *garaŋ* **ga-niŋ** *yok-e.*
           palm.sp long   **MD-LOC** go.up-3SG.IPST
           'She went up a tall *pɨnɨ* palm.'

4.3.8.4. Topic –oŋ

The suffix *–oŋ* has a complicated set of functions that are only partially understood. However, it seems that the various functions can be subsumed under the label 'TOPIC.' The most common function is to establish some idea as topical for the purposes of the following discourse; this is most commonly done with the clause nominalization construction discussed in §4.7.2. These nominalized clauses are not normally core arguments in the matrix clause (72).

    (72) *[Na* *way-aŋ*   *]* **g-oŋ,**   *naŋ*   *ir-ɨbis-i*   *mɨg-eŋ.*
           2SG come-2SG.IPST **MD-TOP** 2SG.OBJ perceive-DESID-SS come.down-1SG.IPST
           '(Since) you came, I came down to see you.'

Demonstratives with *–oŋ* can also be used in a similar way with nouns, establishing a noun as topical for the action described in the remainder of the clause. This can occur in

intransitive clauses like (73), or transitive ones like (115), in which the object of the verb *i-*

'get' is the noun *sab* 'work.'

(73) *Ware   kuŋar g-oŋ   yok-i   yok-i   yok-i   yok-i   yok-i …*
mountain big   **MD-TOP** go.up-SS go.up-SS go.up-SS go.up-SS go.up-SS
'This big mountain, I went up and up and up and up and up …'

(74) *Kubro   g-oŋ   sab   i-ba.*
canoe   **MD-TOP** work   get-NMLZ
'They work on canoes (lit. 'the canoes, they work').'

However, demonstratives in *–oŋ* can also function as core arguments of a clause, as

illustrated with a clause that is the subject in (75), and a noun that is the object in (76). It

appears that in order to appear in these positions, the referent of the *–oŋ*-marked

constituent must be topical. It also appears that demonstratives in *–oŋ* cannot function as

transitive subjects (77).

(75) *[Dɨbɨr   yaka   na-nɨŋ tam-eŋ   ] g-oŋ   nɨba-rɨb w-e?*
cucumber 1SG.POSS ND-LOC put-1SG.IPST **MD-TOP** QD-ADJZ go-3SG.IPST
'Where did my cucumber that I put here go?'

(76) *Mondemonde   g-oŋ   yo-s-uŋ.*
lizard.sp   **MD-TOP** hit-FPST-3PL
'They shot the *mondemonde* lizard.'

(77) **Kuru g-oŋ   yaŋ   ir-e.*
man   **MD-TOP** 1SG.OBJ perceive-3SG.IPST
Intended: 'That man saw me.'   Elicited

Finally, demonstratives in *–oŋ* function as obliques in postpositional phrases with the

benefactive postposition *si.* It also appears that the object of this postposition must be

topical, but that is not certain. *Si* does not usually cliticize to its noun phrase, but the pair

goŋ si is apparently frequent enough that cliticization has taken place and the /ŋ/ in *goŋ*

has assimilated to the /s/ in *si.*

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(78) Ya   dibɨr   yaka   agrenda   **g-on=si**   mɨndam-i kɨtiŋ na ...
1SG   cucumber 1SG.POSS two   **MD-TOP=BEN** think-SS and   and
'I'm thinking about my two cucumbers and ...'

It should be noted that the oblique suffix with the near deictic root is sometimes

realized as *noŋ* and sometimes as *nuŋ* (79).

(79) Naŋgari kuru na-ku   w-i   **n-uŋ,**   ani   kumu   andu   urunda
now   man   ND-NOM come-3SG.IPST **ND-TOP** 1PL   stomach 1PL.POSS good

suku   kɨn-i.
very   stay-3SG.IPST
'Now that this man has come here, our stomachs are very good (i.e., we're
happy).'

4.3.8.5. Existential –ndɨ and –gɨ

The suffix *-ndɨ* creates an existential deictic form that is used to refer to something that is

asserted to exist, and is usually visible to both speaker and hearer; a prototypical example

is given in (80). This form is also commonly used to end stories, as in (81). It is often used

predicatively, as in those two examples, but can also be used in a verbal clause, as in (82),

which comes from a story in which the speaker took a long journey, turned, and could see

his own village from the top of a large mountain.

(80) Naka   gesa   **na-ndɨ.**
2SG.POSS mango   **ND-EXST**
'Here's your mango.'

(81) Yaka   ki   **ga-ndɨ**   pa.
1SG.POSS speech **MD-EXST** only
'That's my story.'

(82) O   sɨb   yaka,   **ara-ndɨ** kɨn-i.
oh village 1SG.POSS **FD-EXST** stay-3SG.IPST
'Oh, my village is over there.'

The suffix *–gɨ* is less well understood. It appears to form an existential form that is similar to *–ndɨ*, but its precise function is not known. This is partly because almost all of its occurrences in my corpus are from formulaic story endings like (83), which are very similar to the example with *–ndɨ* in (81) above.

(83) Don,   stori   yaka   **ga-gɨ**   pa.
Don   story   1SG.POSS   **MD-EXST**   only
'Don, that's my story.'

When this suffix is attached to the far deictic root, it is realized as *–ga* (84).

(84) Yaka   **ara-ga,**   maŋ   pɨr   ga-ku,   dogɨr-bes-i   kɨ-s-i.
1SG.POSS   **FD-EXST**   banana trunk MD-NOM   break-DESID-SS stay-FPST-3SG
'Mine over there, the banana trunk is about to break.'

Eliciting these demonstrative forms in core argument position was successful for *–ndɨ* but not for *–gɨ*.

(85) Ya   gesa   **na-ndɨ**   n-ɨbyaŋ.
1SG   mango   **ND-EXST**   eat-1SG.FUT
'I'll eat this mango (that I'm holding).'   Elicited

4.3.8.6. Adjectival –rib and Adverbial –ib

The two forms *–rib* and *–ib* are similar in both form and function, and the difference between them is not well understood. For now, I gloss *–rib* as an adjectivizer and *–ib* as an adverbializer, but these glosses capture only some of their respective functions.

The suffix *–rib* forms an adjective that means 'that kind.' Like other adjectives, it can modify a noun attributively (13) and also be used predicatively (87). As example (13) illustrates, it can also be marked with the accusative case suffix.

(86) Ya   kɨtɨ   kɨtɨ ga,   ya,   ki   **ga-rib=ɨŋ**   aŋandam-s-iŋ.
1SG   stay.SS and TOP 1SG speech **MD-ADJZ=ACC** hear-FPST-1SG
'I was staying, and I heard that kind of talk.'

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(87) *Sab   andu   ga,   **ga-rib.***
     work   1PL.POSS TOP   **MD-ADJZ**
     'Our work is like that.'

However, it can also be used adverbially, in which case it functions as a manner adverb with a meaning centered on physical manner (88) and path (89), although other uses can be found.

(88) *Kya   **na-rib**   yo-beraŋ   aba.*
     song   **ND-ADJZ**   hit-1PL.FUT QUOT
     '"We'll sing the song like this," he said.'

(89) *Japan   niɾɨ   **ga-rib**   u-s-uŋ,   Amerika   **na-rib**   yok-is-uŋ.*
     Japan   3PL   **MD-ADJZ**   go-FPST-3PL America   **ND-ADJZ**   go.up-FPST-3PL
     'The Japanese went that way, the Americans went up this way.'

The suffix *–ib*, which I gloss as an adverbializer, forms a manner adverb that means 'like that.' Its uses are very similar to the adverbial uses of *–rib*, but it was only used adjectivally in elicitation (92).

(90) *Kumob   **n-ib**   ar-egi,   abab   ga-ku   katig kɨn-i   ga-ku ...*
     arm   **ND-ADVZ** do-3SG.DS old.woman   MD-NOM   top   stay-3SG.IPST MD-NOM
     'He did like this with his hand and the old woman was on top and she ...'

(91) *Yok-i   ga,   **n-ib**   ab-e.*
     go.up-SS TOP   **ND-ADVZ** talk-3SG.IPST
     'She went up, and spoke like this.'

(92) *Ki   **g-ib=iŋ**   aŋandam-s-iŋ.*
     speech   **MD-ADVZ=ACC**   hear-FPST-1SG
     'I heard that kind of talk.'   Elicited

The suffixes *–rib* 'ADJZ' and *–ib* 'ADVZ' share another common function. They can both be used with a same-subject marked form of the verb *ar-* 'do' in a construction that literally means 'it was like that and ...' but which usually means something like 'therefore.' Both of

these constructions, *garib ari* (93) and *gib ari* (94), and are quite frequent and relatively fixed.

(93) Sab   w-i   ma.   **Ga-rib**   **ar-i**   anɨ naŋgari ga-rib   pa
      work   come-3SG.IPST   NEG   **MD-ADJZ**   **do-ss** 1PL now   MD-ADJZ   only

      kɨm-ba   kr-aŋ.
      stay-PTCP   walk-1PL.IPST
      'Work didn't come. So now we stay here just like this.'

(94) **G-ib**   **ar-i,**   tamɨ yaka   aŋ   mɨg-ɨba   kr-e.
      MD-ADVZ   **do-ss**   eye 1SG.POSS water   come.down-PTCP   walk-3SG.IPST
      'Therefore, I weep (lit. 'water comes down from my eyes').'

Finally, the corresponding suffix in Magɨ is *–ŋga*, which does not appear to be cognate. It is used at the end of stories (95), much like the Mabɨŋ existential suffixes—and it may in fact be cognate with Mabɨŋ *–gɨ*. But it does not have to be used predicatively (96).

(95) Asad   ka-ku   **ka-ŋga.**
      story   MD-NOM   **MD-ADJZ**
      'The story's like that.'

(96) Na   ai=si   **ka-ŋga**   y-aŋ?
      2SG   what=BEN   **MD-ADJZ**   do-2SG.IPST
      'What are you doing that for?'   Elicited

4.3.8.7. Paucal –kɨŋ and Plural –kɨnɨŋ

There are two demonstrative suffixes that specify number, *–kɨŋ* 'PAUCAL' and *–kɨnɨŋ* 'PLURAL.' The former refers to a few of something—as few as two, as illustrated in (97), and as many as several (98).

(97) Nenaŋ   agrenda **ga-kɨŋ**   ikakai-s-uŋ,   mɨneg.
      children   two   **MD-PAUC**   follow-FPST-3PL   after
      'The two children followed behind.'

(98) *O   ni-sɨm   **na-kɨŋ,**   tendɨ   mary-oŋ.*
 oh   3.POSS-brother **ND-PAUC**   star   become-3PL.IPST
 'Oh, his older brothers became stars.'

The plural suffix *–kɨnɨŋ* refers to a larger quantity than the paucal suffix. Note that used with the noun *nenaŋ* 'children,' the paucal refers to two (97), while the plural refers to many (99). Note also that these suffixes are not marked for case: the plural occurs as a comitative argument (99), a locative argument (100), a subject (101), and an object (102). The paucal suffix is less frequent and the corpus of natural speech does not contain examples of it occurring in object or oblique position, but it was successfully elicited in both functions as shown in (103) and (104).

(99) *Naŋgari   nenaŋ   **na-kɨnɨn=da**   kɨn-eŋ.*
 now   children   **ND-PL=COM**   stay-1SG.IPST
 'Now I live with these children.'

(100) *Uru   **ga-kɨnɨŋ**   w-i,   kwi   wa-s-iŋ.*
 house   **MD-PL**   go-SS   back   come-FPST-1SG
 'I went to all those villages and came back.'   Elicited

(101) *Anɨgunuŋ   kyaŋɨ   urunda   urunda   **ga-kɨnɨŋ**   mandɨ   mɨtat-i   u-s-uŋ.*
 1PL.OBJ   fish   good   good   **MD-PL**   COMPL   leave-SS   go-FPST-3PL
 'All the really good fish have already left us.'

(102) *Ya   apɨr   **ga-kɨnɨŋ,**   itɨ   w-i,   sanɨ   iw-er-iŋ.*
 1SG   dog   **MD-PL**   get.SS   go-SS   pig   hit-HAB-1SG
 'I get the dogs and go kill a pig.'

(103) *Uru   **ara-kɨŋ**   w-i,   kwi   wa-s-iŋ.*
 house   **FD-PAUC**   go-SS   back   come-FPST-1SG
 'I went to those villages and came back.'   Elicited

(104) *Ya   kuru   **na-kɨŋ**   ir-eŋ.*
 1SG   man   **ND-PAUC**   perceive-1SG.IPST
 'I saw these men.'   Elicited

4.4. Noun Phrase Structure

The structure of the noun phrase (NP) can be outlined as follows:

PP   NP$_{\text{ATTR}}$ N$_{\text{HEAD}}$ Adj   Poss   Quant   Det

None of these positions must be filled, including the position of the head noun. However, I begin by discussing noun phrases with head nouns, discussing each of these positions in turn, before turning to other noun phrases in §4.4.8.

4.4.1. Postpositional Phrase

Postpositional phrases precede the head noun, as illustrated in (105) and (106). This construction can also be used to modify a noun with a nominalized verb, as in (107). (Although this form was originally produced with a pause, indicated by the comma, and in elicitation my consultant seemed to prefer the formulation in (108), suggesting perhaps that heavier postpositional phrases are more commonly placed after the head.)

(105) *Ya   naŋgari,   ya   **umandum   giniŋ**   yambar   uku-byaŋ.*
1SG   now   1SG   **giant   GEN**   story   cut-1SG.FUT
'Now I, I'll tell a story about giants.'

(106) *Ga   ani   sab   y-aŋ   g-oŋ   ga,   **dibelopmen   si**   sab   y-aŋ.*
TOP   1PL   work   get-1PL.IPST   MD-TOP   TOP   **development   BEN**   work   get-1PL.IPST
'The work we're doing, we're doing development work.'

(107) ***kyaɲi   i-be   giniŋ*   waɲi**
fish   get-NMLZ   GEN   bag
'a bag for catching fish'

(108) *Waɲi   **kyaɲi   i-be   giniŋ**   na-ndɨ.*
bag   **fish   get-NMLZ   GEN**   ND-EXST
'Here's a bag for catching fish.'   Elicited

Postpositional phrases can also be used for possession, as in (109). This use is discussed further in the section on noun phrase possessors, §4.4.4.

(109) *Naŋ   ga-ku   giniŋ* ib   ga   *Lesly.*
      son   MD-NOM   GEN   name   TOP   Lesly
      'This boy's name is Lesly.'   Elicited

There are no examples in the corpus of natural speech of a noun being modified by both a postpositional phrase and an attributive noun, but in elicitation the attributive noun followed the postpositional phrase (110). This form was also grammatical with the postpositional phrase (*kyaŋɨ ibe giniŋ*) after the head noun (see above), but not with the postpositional phrase following the attributive noun (*konou dɨbɨ*).

(110) *Kyaŋɨ i-be   giniŋ konou   dɨbɨ   waŋɨ na-ndɨ.*
      fish   get-NMLZ   GEN   tree.sp   skin   bag   ND-EXST
      'Here's a *konou* bark bag for catching fish.'   Elicited

There are a few examples where a postpositional phrase follows the head noun and it is unclear whether it is best analyzed as occurring inside the noun phrase or as a constituent of the verb phrase. For example, (111) could be 'I got [a man from here]' or 'I got [a man] from here.' I prefer the latter analysis, because in every clear example of a postpositional phrase occurring inside the noun phrase, the prepositional phrase precedes the noun phrase. However, the question requires further investigation.

(111) *Ya   kuru   **na-niŋ**   **gɨsɨŋ**   i-s-iŋ.*
      1SG   man   **ND-LOC**   **from**   get-FPST-1SG
      'I got a man from here.'

The issue is further complicated by the construction *konɨ giniŋ*, which is a fixed expression meaning 'huge.' It appears to be, at least etymologically, a postpositional phrase, but the word *konɨ* only occurs with *giniŋ*, and the whole construction follows its

head noun, much like an attributive adjective. It may be that it is lexicalizing into an adjective and has been repositioned on analogy with other adjectives, or it may be that posptositional phrases are more freely placed inside the noun phrase than I have posited.

(112) *Sanɨ* **konɨ** **ginɨŋ** *iw-er-iŋ.*
pig **hugeness** GEN hit-HAB-1SG
'I used to kill huge pigs.'

4.4.2. Attributive Noun

Nouns can be modified by noun phrases, and these attributive noun phrases precede their heads (113).

(113) *sagɨ* *kuru*
fight man
'a violent man' Elicited

This allows attributive nouns to be distinguished from attributive adjectives; nouns precede the head, while adjectives follow it (114).

(114) *Bɨni* *suku* **konou** *watab* **kuŋar** *g-oŋ* *mɨŋati-byaŋ* *aba* *itɨ* *kɨtiŋ*
near very **tree.sp** sprout **big** MD-TOP get-1SG.FUT QUOT get.SS and

nogat.
no
'He was about to get the big *konou* sprout (lit. 'he said, "I'm very close to getting the big *konou* sprout"'), but no (he didn't).'

Noun phrases headed by pronouns can also apparently be used in this attributive position (115), although this example may also show apposition.

(115) *Na* *anɨ* *abi* *akar* *arɨ=ra.*
and 1PL woman beard hair=COM
'And we women had facial hair.'

Attributive noun phrases can also contain determiners, which, it seems, must be either a nominative (116) or a topic determiner (117). It is unclear what factors condition the

choice between these two alternatives, but it does not appear to be affected by the case of the matrix noun phrase: note that in (116) the attributive determiner is nominative, even though the noun phrase that contains it is accusative.

(116) *Na* **kuru ga-ku** *nu-kwi=ŋ* *kwi* *kuriŋ* *ur=eŋ* *tam-s-i.*
  and **man MD-NOM** 3.POSS-son=ACC back fasting house=LOC put-FPST-3SG
  'And he put the man's son back in the spirit house (lit. 'fasting house').'

(117) ***Kubro g-oŋ*** *sab* *i-ba,* *ga-rib* *pa,* *nɨrɨ* *ga-rib* *pa,* *kɨm-ba*
  canoe MD-TOP work get-PTCP MD-ADJZ only 3PL MD-ADJZ only stay-PTCP

  kr-oŋ.
  walk-3PL.IPST
  'Doing canoe work, that's how, that's how they live.'

4.4.3. Head Noun

The head noun in a noun phrase is usually a simple noun, as in (118), but it can also be a coordinated pair as in (119). It may also be that some coordinated pairs are better analyzed as compounds.

(118) ***Yama*** *yaka* *ga,* *Banam=iŋ* *gɨsɨŋ.*
  mother.1.POSS 1SG.POSS TOP Banam=LOC from
  'My mother's from Banam.'

(119) *Okei,* *ga-niŋ* *yok-i* **kuru abi** *ab-ɨbeŋ.*
  okay MD-LOC go.up-SS **man woman** talk-1SG.FUT
  'Okay, I'll go up there and talk to the people.'

4.4.4. Adjectives

Adjectives follow their head noun (120) and precede pronominal possessors (121).

(120) *Ya* *kuru* ***kuŋar.***
  1SG man **big**
  'I'm a big man.'

(121) *O, yama* **animini** *yaka, igw-er-iŋ.*
oh mother.1.POSS **small** 1SG.POSS give-HAB-1SG
'Oh, I give to my aunts (lit. 'small mothers').'

However, many (or possibly all) adjectives can be used adverbially, in which case they occur outside the noun phrase. This can be seen in examples like (122), where the adjective *peto* 'short' is being used adverbially and follows the possessive pronoun *yaka*. A similar example is given in (123). Examples like these suggest that Aisi may not have a grammatical distinction between adjectives and adverbs.

(122) *Don ya naŋgari, ki yaka* **peto** *suku ab-ibyaŋ*
Don 1SG now speech 1SG.POSS **short** very talk-1SG.FUT
'Don, now I'm going to tell my story and keep it very short (lit. 'tell it very shortly').'

(123) *Kumu yaka* **imbir** *bakr-e.*
stomach 1SG.POSS **bad** spoil-3SG.IPST
'I get homesick (lit. 'my stomach spoils badly').'

4.4.5. Possessor

As mentioned in §4.3.5 above on pronouns, possessive pronouns can either precede or follow their head noun. Most examples follow their head (28), although some precede it (29), and emphatic pronominal possessors always precede the head noun in natural speech (126), although in elicitation they can follow it (127).

(124) *Katam* **niku** *pas am-egi na ...*
head **3SG.POSS** closed do-3SG.DS and
'His head was stuck and ...'

(125) **Yaka** *ib tuar-am.* **Naka** *lain ir-iberuŋ.*
1SG.POSS name say-2SG.IMP **2SG.POSS** group perceive-3PL.FUT
'(You can) say my name. Your people will hear it.'

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(126) *Na-nɨŋ   sab   i-bes-i,   ga   **nɨbɨ**   **nuku**   laik   pa.*
ND-LOC   work   get-DESID-SS   TOP   **3SG.EMPH**   **3SG.POSS**   desire   only
'(If) he wants to work here, it's all up to him (lit. 'it's only his own desire').'

(127) *Ya   uru   **yabɨ**   **yaka**   mar-eŋ.*
1SG   house   **1SG.EMPH**   **1SG.POSS**   make-1SG.IPST
'I'm building my own house.'   Elicited

When the head noun is possessed by a common noun, and not a pronoun, that possessor can occur in a postpositional phrase with the genitive postposition *ginɨŋ* (128) or in attributive position before the head noun (129). As this last example shows, attributive noun phrase possessors sometimes occur in combination with possessive pronouns.

(128) *Nɨrɨ   **gwandam**   **ginɨŋ**   waɲɨ   katɨŋ   ɨŋgat-oŋ.*
3PL   **old.man**   **GEN**   bag   LI   go.in-3PL.IPST
'They went into the old man's bag.'

(129) ***kuru***   ***ga-ku***   *kibɨ   nɨku*
man   **MD-NOM**   in.law   3SG.POSS
'this man's in-law'

The same is true of possessors that are inalienably possessed kin terms: they can occur in a PP (130) or in attributive position (131).

(130) ***Nɨ-mom***   **ginɨŋ**   sɨb=ɨŋ   kɨn-i   w-am.
3.POSS-husband   **GEN**   village=LOC   stay-3SG.IPST   go-2SG.IMP
'Say, "She's in her husband's village."'

(131) ***Nɨ-sɨm***   *nɨ-kabɨ*   amug   kɨtɨ,   konou   ga-kɨnɨŋ   momb-i ...*
3SG.POSS-brother   3SG.POSS-wife   under   stay.SS   tree.sp   MD-PL   pile.up-SS
'The brother's wife stayed underneath and piled up the *konou* (leaves) and ...'

Finally, the pair in (132) and (133) illustrates the same possibility for proper noun possessors. Consultants were not able to articulate a difference in meaning between these two noun phrases.

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(132) *Ramu*   *giniŋ*   *kinigam-be*
     Ramu   GEN   sit-NMLZ
     'the life (lit. 'sitting') of the Ramu (people)'

(133) *Ramu*   *kinigam-be*   *nirukuŋ*
     Ramu   sit-NMLZ   3PL.POSS
     'the life (lit. 'sitting') of the Ramu (people)'

It is possible that at least some pre-nominal attributive possessors are actually constituents that are in topic position (see §4.6.4), and are not constituents of the noun phrase. The intonation break in examples like (134) suggests this analysis: it is unclear if this example is best translated, "The big *gyou* snake, its head …" or "The big *gyou* snake's head …."

(134) *Gyou*   *kuŋar*   *ga-ku,*   *katam*   *niku*   *n-ib*   *kɨtɨ*   *kɨtɨ* …
     snake.sp   **big**   **MD-NOM**   head   3SG.POSS   ND-ADVZ   stay.SS   and
     'The big *gyou* snake's head was like this and …'

4.4.6. Quantifier

The quantifier follows the possessive pronoun (135) and precedes the determiner (136). Rarely, both a possessive pronoun and a determiner will be present (137).

(135) *Dɨbɨr*   *yaka*   **mo**   *ga-niŋ*   *kɨn-ɨkur.*
     cucumber   1SG.POSS   **SPEC**   MD-LOC   stay-3SG.IMP
     'One of my cucumbers will stay here.'

(136) *Gwandam*   **mo**   *ga-ku,*   *nu*   *waŋɨ*   *aŋ*   *amug*   *tam-ɨs-i.*
     old.man   **SPEC**   MD-NOM   3SG   bag   water   under   put-FPST-3SG
     'An old man, he was putting a bag underwater (i.e., fishing).'

(137) *Ya*   *dɨbɨr*   *yaka*   **agrenda**   *g-on=si*   *mɨndam-i*   *kɨtɨŋ*   *na* …
     1SG   cucumber   1SG.POSS   **two**   MD-TOP=BEN   think-SS   and   and
     'I'm thinking about my two cucumbers and …'

4.4.7. Determiner

The last constituent of the noun phrase is the demonstrative determiner, as shown in (138) and (139).

(138) *Aŋ*   ***ga-ku,***   *kyagori*   *ma.*
     water   MD-NOM   clean   NEG
     'The water isn't clean.'

(139) *Koprat-ɨs-uŋ,*   *abi*   *agrenda* ***ga-kiŋ.***
     jump.over-FPST-3PL   woman   two   MD-PAUC
     'The two women jumped over.'

4.4.8. Other Noun Phrases

In the sections above, I have described prototypical noun phrases with overt head nouns, but there are several kinds of noun phrase that do not behave in this way. In this section I discuss noun phrases with no head noun, ones formed with the noun *bagɨr* 'side,' and relative clauses.

4.4.8.1. Noun Phrases Without a Head Noun

Not all noun phrases have a head noun. While it is most common for noun phrases to contain a head noun, they can consist of just a possessive pronoun (140), a quantifier (141), a demonstrative (142), or a postpositional phrase (143)—although this last example also contains the topic marker *ga*. It is also possible for some of these to be combined without a head noun, as with the quantifier and demonstrative in (144). It is not known which combinatorial possibilities are allowed, and which are ungrammatical.

(140) ***Yaka***   *ara-ga,* *maŋ*   *pɨr*   *ga-ku,*   *dogɨr-bes-i*   *kɨ-s-i.*
     1SG.POSS   FD-EXST   banana   trunk   MD-NOM   break-DESID-SS   stay-FPST-3SG
     'Mine over there, the banana trunk is about to break.'

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(141) *Okei* **mo** *ga-niŋ* *kɨn-ɨkur.*
okay **SPEC** MD-LOC stay-3SG.IMP
'Okay, let one stay here.'

(142) ***Ga-niŋ*** *kar i-s-i.*
MD-LOC car get-FPST-3SG
'A car got him there.'

(143) ***Nɨ-sɨm*** ***giniŋ*** *ga* *mandɨ* *ga-niŋ* *uk-ɨs-iŋ.*
3.POSS-brother **GEN** TOP COMPL MD-LOC cut-FPST-1SG
'I already told the one about the brother a while ago.'

(144) *Mug-i* **mo** **g-oŋ** *iw-i* *kɨtiŋ* *mesɨŋ* *urur* *krig* *kapɨr-s-i.*
go.down-SS **SPEC** **MD-TOP** hit-SS and tree.sp hole LI throw-FPST-3SG
'He went down, shot one, and threw it into a *mesɨŋ* tree hole.'

4.4.8.2. The Noun bagɨr 'side'

The noun *bagɨr* 'side' is unusual in that it follows its determiner, as shown in (145) and

(146). More is not known about the grammar of this word.

(145) *Sepr-i* *kagɨ* **na-niŋ** ***bagɨr*** *ir-is-iŋ* *g-oŋ* ...
appear-SS again **ND-LOC** **side** perceive-FPST-1SG MD-TOP
'I arrived and looked back this way and ...'

(146) *Amerika* **g-oŋ** ***bagɨr*** *wa-s-uŋ.*
America **MD-TOP** **side** come-FPST-3PL
'The Americans came from that side.'

4.4.8.3. Modifying Clauses

It may be that Aisi makes occasional use of clauses that modify a head noun, but they are

infrequent and not well understood. They appear to be an example of what have recently

come to be called generalized noun-modifying clauses (Comrie p.c.). An example is given in

(147).

(147) *[Sɨb* *na-ku* *sepir-s-i* *]* *g-oŋ* *yambar* *n-oŋ* *uk-eŋ.*
village ND-NOM appear-FPST-3SG MD-TOP story ND-TOP cut-1SG.IPST
'I've told this story about how this village appeared.'

In this example, the noun *yambar* 'story' is modified by the subordinate clause *sɨb naku sepɨrsi* 'this village appeared,' which is subordinated by the determiner *goŋ*. I argue in §4.7.2 that clauses subordinated by determiners like *goŋ* are being nominalized, so it is also possible to say that the subordinate clause in this example is functioning as an attributive noun (§4.4.2). However, a more complete analysis would require more research, and so I leave the matter unresolved for now.

4.4.9. Coordination

Coordination of noun phrases is accomplished by simple juxtaposition. It is possible to coordinate head nouns in a single noun phrase, as with *sig kubro* 'pot plate' in (148), and also to coordinate entire noun phrases, as illustrated with the three phrases with *nakɨnɨŋ* 'these' in the same example.

(148) *Mɨneg   na   na-nɨŋ   sig   kubro   na-kɨnɨŋ,   apɨr   yaka   na-kɨnɨŋ,   sanɨ*
      after   2SG   ND-LOC   pot   plate   ND-PL   dog   1SG.POSS   ND-PL   pig

yaka   na-kɨnɨŋ,   tagur-am.
1SG.POSS   ND-PL   care.for-2SG.IMP
'Later, care for the pots and plates, my dogs, and my pigs here.'

Note that in (148) above, the coordinated nouns *sig kubro* are not separated intonationally, while the larger coordinated units are. This may be a pattern, and in examples like (149), the intonation pattern suggests that what is being coordinated is three separate noun phrases: the first two without a demonstrative determiner, and the third consisting of just a demonstrative.

(149) *Yarɨm,   mɨke,   ga-rɨb=ɨŋ   iw-i   kɨtɨŋ,   itɨ   w-ɨr-ɨŋ.*
      wallaby   bandicoot   MD-ADJZ=ACC   hit-SS   and   get.SS   come-HAB-1SG
      'I kill wallabies, bandicoots, and that kind (of animal), and bring them (home).'

4.5. Verb Morphology

In Aisi, as in many other Papuan languages, verb morphology can be divided into final morphology and medial morphology. Verbs bearing final morphology, called final verbs, are fully finite and can stand on their own; medial verbs are dependent on a final verb for their TAM interpretation, and sometimes for certain person information as well. I discuss final and medial morphology in the next two sections, and discuss other morphology, which cannot easily be classed as final or medial, in §4.5.3.

4.5.1. Final Morphology

Final morphology includes three tenses (immediate past, far past, and future), one aspect (habitual), and two moods (imperative and counterfactual).

4.5.1.1. Immediate Past

The immediate past tense suffixes are shown in Table 10.

Table 10. Immediate past tense suffixes

	SG	PL
first person	*–eŋ / –iŋ*	*–aŋ*
second person	*–aŋ*	*–ar*
third person	*–e / –i*	*–oŋ / –uŋ*

The variation between mid and high vowels in the 1SG, 3SG, and 3PL forms is conditioned by verb class, and in Magɨ, only the high variants exist. Additionally, the 1PL form in Magɨ is *–ar*, not *–aŋ*, meaning that it is still homophonous with another form, but that form is the 2PL, not the 2SG.

The immediate past tense is used for events with present time reference (150), as well as events that occurred on the day of the speech act (151) or the day before (152).

(150) *Kɨtɨ,*   *anɨ*   *naŋgari*   *na-ndɨ*   **kɨn-aŋ.**
     stay.SS   1PL   now   ND-EXST   **stay-1PL.IPST**
     'And, now we live here.'

(151) *Nu*   *kondɨ*   **kip-e.**
     3SG   morning   **get.up-3SG.IPST**
     'He got up in the morning.'

(152) *Ya*   *umiŋ*   *ika*   *naka=ŋ*   *maŋ*   **igw-eŋ.**
     1SG   yesterday   father.1.POSS   2SG.POSS=ACC   banana   **give-1SG.IPST**
     'Yesterday I gave your father a banana.'   Elicited

4.5.1.2. Far Past

The far past is formed with the far past suffix *-s* and the high variants of the immediate past agreement suffixes, as shown in Table 11. The Magɨ forms are identical, except that Magɨ uses a different 1PL suffix, as described above.

Table 11. Far past tense suffixes

	SG	PL
first person	*–s-iŋ*	*–s-aŋ*
second person	*–s-aŋ*	*–s-ar*
third person	*–s-i*	*–s-uŋ*

The far past is used for events prior to the day before the speech act; that is, it is used for events prior to the time reference covered by the immediate past. The boundary between these two tenses appears to be rather firm; the two examples in (153), with mismatch between the temporal adverb and the tense, are ungrammatical. Examples of the far past tense in use follow in (154) and (155).

(153) *Aniriŋ   *ir-eŋ.*   *Umiŋ   *ir-is-iŋ.*
     day.before.yesterday   perceive-1SG.IPST   yesterday   perceive-FPST-1SG

(154) *Kondɨ   nu   sɨkɨbyaŋ   **n-ɨs-i**   ma, urua   amaŋ pa   **n-ɨs-i.***
morning 3SG food   **eat-FPST-3SG**   NEG pumpkin seed only **eat-FPST-3SG**
'In the morning he didn't eat (well), he just ate pumpkin seeds.'

(155) *Yabɨ   yaka=rɨŋ   mɨtat-i   **wa-s-iŋ.***
1SG.EMPH   1SG.POSS=LOC   leave-SS   **come-FPST-1SG**
'I left my own (village) and came.'

4.5.1.3. Future

The future tense has its own set of agreement suffixes, several of which are formed with an

element *ber*. The paradigm is shown in Table 12.

Table 12. Future tense suffixes

	SG	PL
first person	–byaŋ	–beraŋ
second person	–beraŋ	–berar
third person	–ber	–beruŋ

The Magɨ forms are identical, except that the 1PL form is *–berar*—that is, it is

homophonous with the 2PL form instead of the 2SG.

This tense is used for all future events, including those on the day of the speech act and

on subsequent days.

(156) *Umɨŋgɨgɨr   akɨ   **yak-ɨberuŋ.***
afternoon   maybe **come.up-3PL.FUT**
'They may come in the afternoon.'

(157) *Ur=eŋ   yok-i,   kwi amor   ga   sɨkaŋsɨkaŋ   **mɨg-ɨbyaŋ.***
house=LOC go.up-SS back tomorrow TOP   totally   **come.down-1SG.FUT**
'I'll go home, and tomorrow I'll come back completely.'

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4.5.1.4. Habitual

The habitual verb forms are formed with the habitual suffix *-er* (*-ir* for *i*-root verbs) in combination with the high variants of the immediate past agreement suffixes, as shown in Table 13.

Table 13. Mabɨŋ habitual suffixes

	SG	PL
first person	*-er-iŋ*	*-er-aŋ*
second person	*-er-aŋ*	*-er-ar*
third person	*-er-i*	*-er-uŋ*

Magɨ has a different habitual paradigm, which is shown in Table 14. The 3PL form is quite variable, having been recorded as *-ityauŋ* as shown in the table, but also as *-iteuŋ* and *-ityoŋ*.

Table 14. Magɨ habitual suffixes

	SG	PL
first person	*-ite-ŋ*	*-ite-r*
second person	*-ity-aŋ*	*-ite-r*
third person	*-ite-i*	*-itya-uŋ*

In both Mabɨŋ and Magɨ, the habitual verb form is used for habitual non-future actions. Elicitation demonstrated that the Mabɨŋ habitual form cannot have future time reference, but for Magɨ I am unsure. The examples below contain Mabɨŋ habituals being used for past (158) and present (159) time reference, and Magɨ habituals used for past (160) and present (161) time reference.

(158) *Mandɨ   ga-niŋ,   ni-ŋgi=ra   nu-kwi=ra   panda   **kin-er-uŋ.***
          COMPL   MD-LOC   3.POSS-mother=COM   3.POSS-son=COM   alone   **stay-HAB-3PL**
     'Long ago, a mother and her son lived alone.'

(159) *Uk-i*   *kɨtɨŋ, takw-i takw-i* **agr-er-iŋ.**
     butcher-ss and cut-ss cut-ss **distribute-HAB-1SG**
     'I butcher it, and cut it all up and distribute it.'

(160) *Mandɨ mandɨ suku, arɨ Kuŋgi* **kɨ-te-r.**
     before before very 1PL Kungi **stay-HAB-1PL.**
     'Long long ago, we lived in Kungi.'

(161) *Maki tais,*   *Ibɨrmiŋ aba* **ab-ɨtya-uŋ**   *ka-niŋ, ka-niŋ mugut kɨtɨŋ*
     sago swamp Ibɨrmiŋ QUOT **speak-HAB-3PL** MD-LOC MD-LOC go.down and
     'To the sago swamp they call Ibɨrmiŋ, we went there and …'

4.5.1.5. Imperative

The imperative suffixes, shown in Table 15, exhibit significant variation. There are no first person forms, and the third person forms are fairly straightforward, but the 2SG and 2PL forms have several variants. In the 2SG, the variation between *–o(k)* and *–i(k)* is conditioned by verb class. I do not know what the difference is between the *–o(k)/–i(k)* suffix and *–am* in the 2SG, or between *–mai(t)* and *–ke(t)* in the 2PL—it is likely that these different suffixes have different meanings, and are not simply synonymous imperative variants, but that difference is not yet clear. It is also unclear what conditions the appearance of the suffix-final plosives in three of the four second person forms. I suspect that these consonants are the result of a word-final fortition process similar to the one that created the English form *nope*, but I have no more than circumstantial evidence to support this intuition.

Table 15. Imperative suffixes

	SG	PL
first person		
second person	*–o(k)/ –i(k), –am*	*–mai(t), –ke(t)*
third person	*–kur*	*–kiruŋ*

The imperative suffixes are used, in the second person, to give commands (162), and in the third person to make optative statements (163). The nature of the switch reference

system, however, means that sometimes this line is blurred. In (164), for example, the first clause is best understood as a first person imperative, while the next two are better understood as optatives. (It is unclear how first person imperatives would usually be formed for final verbs.)

(162) *Na-kuŋ   iti   we   na-niŋ   **tam-o.***
     ND-ACC   get.SS   come.SS   ND-LOC   **put-2SG.IMP**
     'Take this one and put it here.'

(163) *Dɨbɨr   yaka   mo   ga-niŋ   **kin-ɨkur.***
     cucumber   1SG.POSS   SPEC   MD-LOC   **stay-3SG.IMP**
     'One of my cucumbers will stay here.'

(164) *Agi   ki   andu   igu-kuŋ   iti   **u-kiruŋ**   aba.*
     alright   speech   1PL.POSS   give-1PL.DS   get.SS   **go-3PL.IMP**   QUOT
     '"Alright, let's give them our talk and let them take it and go," we say.'

4.5.1.6. Counterfactual

The counterfactual suffixes are presented in Table 16. The only counterfactual suffixes I recorded in Magɨ are the 2SG and 2PL forms, which are *-baŋ* and *-bas*, respectively. The variation in the 1PL might be caused by analogy with other paradigms. It is possible that the form *-bɨr* is, etymologically, the 1PL.CTRF suffix, but the frequent homophony of 1PL forms with 2SG forms is causing an analogical change in the counterfactual paradigm.

Table 16. Counterfactual suffixes

	SG	PL
first person	*-bɨŋ*	*-baŋ / -bɨr*
second person	*-baŋ*	*-basɨrɨ*
third person	*-bar*	*-biruŋ*

The counterfactual suffixes are used for situations that are not real, such as the conditionals in (83) and (166), and the statement of hypothetical capability in (167).

(165) *Ya   gi   ika   yaka   kɨn-i   akɨ   ga,   ga-rib*
1SG   FOC   father.1.POSS   1SG.POSS   stay-3SG.IPST   maybe   TOP   MD-ADJZ

kr-ɨbiŋ.
walk-1SG.CTRF
'If *my* father were alive, I'd walk around like that (too).'

(166) *Nɨrɨ   kare   kɨn-egi,   naŋ   **igu-biruŋ.***
3PL   betelnut   stay-3SG.DS   2SG.OBJ   **give-3PL.CTRF**
'If they had betelnut, they'd give you some.'   Elicited

(167) *Ya   sanɨ   **yo-biŋ.***
1SG   pig   **hit-1SG.CTRF**
'I can kill a pig.'

Counterfactuals are also used, in combination with the pragmatic enclitic *=de*, to form

second (84) and third person (169) prohibitives.

(168) *W-i   kɨtiŋ   gi,   na   **lustiŋtiŋ   am-ban=de.***
go-SS   and   FOC   2SG   **forget   do-2SG.CTRF=PRAG**
'(When) you go, don't forget.'

(169) *Nu   itu   kuŋar   **n-ɨbar=ire.***
3SG   tobacco   big   **eat-3SG.CTRF=PRAG**
'S/he shouldn't smoke very much.'   Elicited

4.5.2. Medial Morphology

Medial verbs are marked for switch reference—that is, they bear morphology that indicates

whether the subject of the medial verb is the same as the subject of the following verb, or

different (see §4.7.1 for more discussion of the switch reference system).

4.5.2.1. Same-subject –i

The same-subject suffix *–i* indicates that the action of the marked verb is performed by the

same subject as the following verb. It does not specify relative tense, although the same-

subject delayed suffix *–ta(ŋa)* can be used to indicate an interval between the action of the

marked verb and the following verb (see below). A sequence of same-subject verbs can be used for a series of sequential actions (170), and this is the most common use; but other uses are possible, as illustrated in (171), where the last verb summarizes those before it.

(170) *Atiŋ*   **mug-i**   **kon-i**   **sopay-i**   *kitiŋ aki,*   *umiŋgigir*   *aki*
     maybe   **go.down-ss**   **plant-ss**   **finish-ss**   and   maybe   afternoon   maybe

     yak-ɨberuŋ.
     come.up-3PL.FUT
     'They might go down, plant, finish, and maybe come back in the afternoon.'

(171) *Ur*   *dugum andu*   *na-niŋ*   **kɨr-i**   *kitiŋ, ges*   **painim**   **am-i**   *kitiŋ,*
     ground   forest   1PL.POSS   ND-LOC   **walk-ss**   and   gas   **look.for**   **do-ss**   and

     ɨr-i   *kitiŋ, sab*   *kuŋar na-niŋ*   **i-s-aŋ.**
     perceive-ss   and   work   big   ND-LOC   **get-FPST-1PL**
     'We walked around our forest here, looked for gas, looked, and did a lot of work here.'

Recall from §4.3.1.1 that some verbs, such as *wa-* 'come' (172) and *i-* 'get' (173), have irregular same-subject forms.

(172) *We*   **miŋat-i**   **miŋat-i**   *kitɨ*   *na,*   *ab-is-uŋ.*
     come.ss   **get-ss**   **get-ss**   and   and   talk-FPST-3PL
     'They came and got it and got it, and they spoke.'

(173) *Okei,*   **kɨbar-i,**   *itɨ*   *w-er-iŋ.*
     okay   **carry-ss**   **get.ss**   come-HAB-1SG
     'Okay, I carry (it) and bring (it home).'

4.5.2.2. Same–subject Delayed –ta(ŋa)

As mentioned above, the suffix *–ta* (sometimes *–taŋa*) indicates that an interval of time intervenes between the action of the marked verb and the action of the following verb (174). This suffix can also be used finally to express that the action of the *–ta*-marked verb

will happen 'first'—that is, before some other expected action takes place (175). It is unclear what conditions the variation between *–ta* and *–taŋa.*

(174) *Na,   mɨneg,   redi   **am-taŋa,***   *sab   i-ber.*
       and   after   ready   **do-SS.DELAY**   work   get-3SG.FUT
       'And later, he'll get ready, and then he'll work.'

(175) *Ab=iŋ   **tam-ita.***
       fire=LOC   **put-SS.DELAY**
       '(I'll) put (it) in the fire first.'

4.5.2.3. Different–subject

Different-subject medial verbs indicate that the subject of the following verb is different from their own. They agree with their own subject, and the agreement paradigm is given in Table 17. Because the Magɨ forms are quite different, sharing only the 1SG form with Mabɨŋ, they are presented in Table 18.

Table 17. Mabɨŋ different-subject suffixes

	SG	PL
first person	*–ɨkiŋ*	*–ɨkuŋ*
second person	*–ɨnda*	*-ogi*
third person	*-egi, –egɨnɨŋ*	*–ogi, –ogɨnɨŋ*

Table 18. Magɨ different-subject suffixes

	SG	PL
first person	*–ɨkiŋ*	*–ɨkar*
second person	*–ɨkaŋ*	*–ɨkar / –ɨsɨr*
third person	*–inɨŋ*	*–inuŋ*

The Mabɨŋ 2PL and 3PL forms are homophonous (and although I never recorded the variant *–ogɨnɨŋ* used for 2PL, I suspect that it is possible). The variants in 3SG and 3PL appear to be dialectal or idiolectal; certain speakers consistently preferred one form over the other. The variation in Magɨ 2PL forms may be due to a realis/irrealis distinction, as two of

the three tokens of *–isɨr* in my corpus appear before imperative final verbs. But more research will need to be done.

As mentioned above, the different-subject suffixes indicate a change of subject; this subject can have the same person and number marking, as with the 3PL examples in (176), as long as it has a different referent. Of course, different subjects can also have different person-number specifications (177).

(176) *Nɨrɨ   agrenda   an=iŋ   **mug-oginiŋ,**   nɨrɨ   agrenda   mɨt-i   **w-oginiŋ,***
     3PL   two   water=LOC   **go.down-3PL.DS**   3PL   two   leave-SS   **go-3PL.DS**

     *yak-i   **ir-oginiŋ**   ga,   mabɨŋ.*
     come.up-SS   **perceive-3PL.DS**   TOP   no
     'The two (children) went down to the water, and the two (mothers) went away, and (the children) came up and looked, and no (the mothers were gone).'

(177) *Na   **we-nda,**   anɨ   agrenda   mɨndam-be   kɨn-aŋ.*
     2SG   **come-2SG.DS**   1PL   two   think-NMLZ   stay-1PL.IPST
     'You came, and we are of two minds.'

4.5.2.4. Different–subject Frustrative

There are two different-subject suffixes, *–eg* '3SG.DS.FRUST' and *–og* '3PL.DS.FRUST,' which indicate that the action of the marked verb was not successfully completed (153). These suffixes are always used with the negative particle *ma* following the verb. They are relatively infrequent, and therefore not well understood, but it seems that the action of the marked verb does not have to be literally frustrated. For example, in (179), what is frustrated is not the act of speaking, but rather the assertion that the speaker is to be pitied; in the next intonation unit, the other characters assert that the speaker deserves his plight.

(178) *Mɨt-i   w-ogɨniŋ,   nɨri   yak-i   **ir-og**   **ma,**   mabɨŋ.*
leave-SS go-3PL.DS   3PL   come.up-SS **perceive-3PL.DS.FRUST**   **NEG**   no
'They_i went away and they_j came up and looked, but no (they_i were gone).'

(179) *Ya   imbɨr=ɨra   pa   aba   **ab-eg**   **ma**   ab-oŋ.*
1SG   bad=COM   only   QUOT   **talk-3SG.DS.FRUST**   **NEG**   talk-3PL.IPST
'"Poor me," he said, but they spoke.'

These suffixes closely resemble the basic different-subject suffixes *–egi* and *–ogi*, and appear to have arisen out of a construction in which a different-subject verb was followed by the negator *ma*. In the third person, this construction has undergone phonological reduction and the different-subject frustrative suffixes are now distinct from the basic different-subject suffixes. But in other persons, the basic different-subject suffix is still used, as with the 1SG example in (180) and the 1PL example in (154).

(180) *We   **ir-ɨkiŋ**   **ma,**   olsem   kuru   asig   kisɨr   na=ra   ki*
come.SS   **perceive-1SG.DS**   **NEG**   thus   man   strong   seed   2SG=COM   speech

ab-ɨs-uŋ   ma.
talk-FPST-3PL   NEG
'I came and looked, but the male elders ('strong seed') weren't talking with you.'

(181) *Ga-nɨŋ   **kɨn-ɨkuŋ**   **ma,**   sɨb   ga-ku   gi,   ino   urunda.*
MD-LOC   **stay-1PL.DS**   **NEG**   village   MD-NOM   FOC   NEG   good
'We wanted to live there, but that village wasn't good.'

4.5.2.5. Different–subject –ri

The suffix *–ri* occurs at the end of some different-subject verbs and has an uncertain meaning. Phonologically, it may be cognate with the Gants different-subject simultaneous suffix *–re*, but it does not appear to have the same meaning in Aisi (182). Because there are not enough examples of it in my corpus to discern its meaning, I leave it glossed '?,' as in (182) and (183) below.

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(182) *Uru* **tuk-egi-ri** *ga, kwi, nɨbɨ nɨku=riŋ u-s-i w-am.*
house **burn-3SG.DS-?** TOP back 3SG.EMPH 3SG.POSS=LOC go-FPST-3SG go-2SG.IMP
'Say, "His house burned, and he went back to his own (place)."'

(183) **Igu-kun-di** *kwi, anɨgunuŋ si itɨ wa-beroŋ aba, ki g-oŋ.*
give-1PL.DS-? back 1PL.OBJ BEN get.SS come-3PL.FUT QUOT speech MD-TOP
'We'll give it, and they'll bring our speech back to us.'

4.5.3. Other Morphology

There are a number of verb suffixes which cannot easily be classified as medial or final. These include the desiderative suffix *–bes/–bis*, the participial suffix *–ba*, and the nominalizer *–be/–bi*.

4.5.3.1. Desiderative –bes/–bis

The suffix *–bes* or *–bis* indicates that the subject desires to perform the action of the verb. The two variants of this suffix are lexically conditioned: some verbs take *–bes*, and some take *–bis*. There does not appear to be any patterning with this selection, nor does there appear to be any relationship with the verb classes discussed in §4.3.1; an *i*-root verb is just as likely to take *–bes* as *–bis*.

This suffix can occur on a same-subject medial verb (184). In this use, it often has a purposive interpretation (185), and sometimes even an inceptive or prospective interpretation (186).

(184) *Abab ga-ku, aŋ* **sori-bis-i,** *dɨgr-i tam-e.*
old.woman MD-NOM water **bathe-DESID-SS** remove-SS put-3SG.IPST
'The old woman wanted to bathe, so she took it off and put it (aside).'

(185) *Naŋ* **ir-ɨbis-i** *mɨg-eŋ.*
2SG.OBJ **perceive-DESID-SS** come.down-1SG.IPST
'I came to see you (lit. 'I wanted to see you and I came').'

(186) *Yaka   ara-ga,   maŋ   pir   ga-ku,   **dogir-bes-i**   kɨ-s-i.*
      1SG.POSS FD-EXST banana trunk MD-NOM **break-DESID-SS** stay-FPST-3SG
      'Mine over there, the banana trunk is about to break.'

However, when speakers wish to use this suffix in non-same-subject conditions—that is, with different-subject morphology or final morphology—the desiderative suffix is affixed to the verb alone, and a form of the verb *ar-* 'do' is used to carry the medial (187) or final (188) morphology.

(187) *Nu   aŋ   **sori-bis**   **ar-egi**   kɨp-i,   w-i,   aŋ   sor-i ...*
      3SG water **bathe-DESID** **do-3SG.DS** get.up-SS go-SS water bathe-SS
      'He wanted to bathe so we got up, went, and bathed, and ...'

(188) *Okei, ya   yambar mo   **uk-ɨbis**   **ar-eŋ.***
      okay 1SG story   SPEC **cut-DESID** **do-1SG.IPST**
      'Okay, I want to tell a story.'

4.5.3.2. Participle –ba

The suffix *–ba,* which I gloss as a participle, serves a few different functions. It can function adverbially to modify the action of the main verb of a clause, as in (189) and (126).

(189) *Am   aŋgoŋ krig, aŋ   irar,   **mat-ɨba**   yak-er-aŋ.*
      bamboo hook LI water edge **paddle-PTCP** come.up-HAB-1PL
      'We come up(river) paddling along the water's edge with a bamboo hook.'

(190) *Ga-rib   **ab-ɨba**   yok-e,   pini   garaŋ g-oŋ.*
      MD-ADJZ **talk-PTCP** go.up-3SG.IPST palm.sp long MD-TOP
      'Saying that, she went up a long *pini* palm.'

In its adverbial function, the *–ba* participle is most frequently used in two constructions which I refer to as the periphrastic habitual and periphrastic stative. These constructions both consist of a *–ba* participle, which contributes the verbal semantics of the construction, followed by another verb with medial or final morphology that contributes aspect. This second verb can be either *kr-* 'walk,' in which case the construction is interpreted

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habitually (191), or *kɨn-* 'stay,' in which case it is interpreted as stative or durative (192).

The line between these two aspectual categories can be blurred, as in (193).

(191) *Kuru   nenaŋ   abi   nokag,   motab   ir-ɨba   kr-eŋ*
      man   children   woman   daughters   some   **perceive-PTCP**   **walk-1SG.IPST**

      g-oŋ,   mindam-ba   kr-eŋ.
      MD-TOP   **think-PTCP**   **walk-1SG.IPST**
      'I look at some of the boys and girls, and I think.'

(192) *Aŋ   sɨgɨ   sɨgɨ   n-ɨba   kɨ-s-i.*
      water   cockroach   cockroach   **eat-PTCP**   stay-FPST-3SG
      'It was eating water cockroaches.'

(193) *Na   ki   yaka   ir-ɨba   kɨn-aŋ   ma   kwe.*
      2SG   speech   1SG.POSS   **perceive-PTCP**   **stay-2SG.IPST**   NEG   QUOT
      '"You never listen to me," he said.'

These constructions are quite grammaticalized, as illustrated by the fact that the verb

kr- 'walk' can occur in the periphrastic habitual construction that it itself heads (194).

While this would literally mean 'walk walkingly,' it is interpreted to mean 'walk habitually.'

(194) *Naŋgari,   kɨb   kr-ɨba   kr-eŋ   ma.*
      now   road   **walk-PTCP**   **walk-1SG.IPST**   NEG
      'Now, I don't walk on the road (anymore; i.e., I don't womanize).'

However, the *–ba* participle does not only function adverbially. It can also be used to

stand on its own, in which case it appears to be used to describe some typical or

characteristic trait of its subject (127). However, this use is relatively infrequent, and

requires more research.

(195) *Ameki   ga-ku   gyou   pa   n-ɨba.*
      lastborn   MD-NOM   snake.sp   only   **eat-PTCP**
      'The lastborn used to just eat *gyou* snakes.'

4.5.3.3. Nominalizer –be/-bi

The suffix *–be* or *–bi* nominalizes a verb. The alternation between the two variants matches the alternation with the desiderative suffixes *–bes* and *–bis*: verbs that take *–bes* 'DESID' also take *–be* 'NMLZ,' and verbs that take *–bis* take *–bi*. Because of this, a nominalized verb, when followed by the benefactive postposition *si*, is phonologically identical to the desiderative suffix followed by the same-subject suffix *-i*. For example, the sequence *ambe si* in (196) is homophonous with *am-bes-i* [do-DESID-SS] 'wanting to do and …'; the two must be distinguished based on context.

(196) *Ki*   *yaka,*   *narɨgunuŋ,*   **stroŋim**   **am-be**   *si,*   *n-ib*   *ab-ɨbyaŋ*
speech   1SG.POSS   2PL.OBJ   **strengthen**   **do-NMLZ**   BEN   ND-ADVZ   talk-1SG.FUT
'I'll give my speech to strengthen you guys like this.'

Nominalized verbs function as common nouns, and can be possessed (197), can occur in postpositional phrases (198), and can function as subjects (199) and objects (200).

(197) **Kɨm-be**   *nɨrukuŋ,*   *ga-rib*   *sab*   *i-r-uŋ*   *g-oŋ,*   *ya*   *ab-eŋ.*
Stay-NMLZ   3PL.POSS   MD-ADJZ   work   get-HAB-3PL   MD-TOP   1SG   talk-1SG.IPST
'I've talked about their lives (lit. 'sitting') and how they work.'

(198) *Ga*   *nɨbɨ*   *nuku*   **mɨndam-be**   *katig*   *kin-i.*
TOP   3SG.EMPH   3SG.POSS   **think-NMLZ**   LI   stay-3SG.IPST
'That's up to him (lit. 'it's in his own thinking').'

(199) **Mɨndam-be**   *ga-ku*   *kuru*   *mo*   *yo-s-i.*
think-NMLZ   MD-NOM   man   SPEC   hit-FPST-3SG
'This thinking killed a man.'   Elicited

(200) *Ya*   *taun*   **u-be**   *tr-eŋ.*
1SG   town   **go-NMLZ**   fear-1SG.IPST
'I'm scared of going to town.'   Elicited

A nominalized verb also retains its capacity for syntactic relations, and can have a subject (201) and an object (202).

(201) *Kuru* **kɨnɨgam-be** *gɨnɨŋ,* *mak* *g-oŋ* *krig* *tam-i* *ga* ...
    man **sit-NMLZ** GEN size MD-TOP LI put-SS TOP
    'They make it the size for a man to sit in (lit. 'they put it at a man's sitting size'),
    and ...'

(202) *kyaŋɨ* **i-be** *gɨnɨŋ,* *waŋɨ*
    fish **get-NMLZ** GEN bag
    'a bag for catching fish'

As all the examples above show, nominalized verbs generally refer to the action that is
performed; no examples have been found of nominalizations referring to the agent or the
undergoer of the action.

Nominalized verbs are also often used to make first person plural commands (203), and
occasionally other first person plural statements (204). These uses of nominalized verbs are
not well understood.

(203) *Anɨ* *agi* *an=ɨŋ* **mugu-bi** *u-s-uŋ.*
    1PL alright water=LOC **go.down-NMLZ** go-FPST-3PL
    '"Alright, let's go down to the water," they said.'

(204) *Anɨ* *nɨba-nɨŋ* **u-be?**
    1PL QD-LOC **go-NMLZ**
    'Where are we going?'   Elicited

4.6. Clause Structure

In this section and the next three sections, I describe what I refer to as the "clause core."
Clause participants can also occur outside the core, either in topic position, which I discuss
in §4.6.4, or in a postposed position, which I discuss in §4.6.5. I then discuss clause negation
(§4.6.6), interrogative clauses (§4.6.7), and nonverbal clauses (§4.6.8).

The typical word order in the verbal clause is SOV, as illustrated in (205) with the
subject *ya* '1SG' and the object *umandum gɨnɨŋ yambar* 'a story about giants.' However,

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arguments are often elided, and it is rather infrequent for a clause to contain more than one argument.

(205) *Ya   naŋgari,   ya   umandum   giniŋ   yambar   uku-byaŋ.*
1SG   now   1SG   giant   GEN   story   cut-1SG.FUT
'Now I, I'll tell a story about giants.'

Nevertheless, even though clauses with many arguments are rare, it is possible to examine those clauses that do have two or three arguments and arrive at the following general clause structure schema:

(S)   (Ben)   (T)   (R)   (Obl)   V   (Neg)

That is, the subject comes first, followed by the benefactive argument, the object (or, in ditransitive clauses, the theme followed by the recipient), any non-benefactive oblique arguments, and finally the verb and the optional negator. Note that no argument is required for a well-formed verbal clause; only the verb is necessary. Note also that this word order is not fixed; it is the predominant pattern that emerges from the data, but counterexamples are not difficult to find. In the following sections, I describe the behavior of these arguments.

Recall also that clause structure in the Magɨ dialect is quite different, owing to the possibility of having multiple verbs in a single clause. These serialized roots can occur in different places in the clause, as illustrated in the first clause in (51), but they are not well understood and I do not discuss them in detail.

(206) *Maban   **mugu,**   ka-niŋ   **kɨtɨ**   kɨtɨ,   ka-niŋ   gwande   sab   mɨŋ-is-iŋ.*
Mawan   **go.down**   MD-LOC   **stay.ss**   stay.SS   MD-LOC   money   work   take-FPST-1SG
'I went down to Mawan and stayed and stayed there, and did paid work there.'

4.6.1. Subjects

Subjects precede objects and trigger person-number agreement in final verbs (207) as well as medial verbs (208). If they are common nouns, they can take a nominative determiner (209). There are no animacy restrictions on subjects, as illustrated by *dɨbɨr* 'cucumber' in (64).

(207) *Taŋar salim am-egi ga,* **nor** *yaka ir-ɨs-i.*
leaf send do-3SG.DS TOP **daughter** 1SG.POSS perceive-FPST-3SG
'He sent a letter, and my daughter read it.'

(208) **Na** *tokples am-da ga, na-niŋ rekodiŋ am-egi ...*
2SG language do-2SG.DS TOP ND-LOC recording do-3SG.DS
'Speak our language and he'll record here and ...'

(209) **Naŋ** *ga-ku,* *urunda suku sepr-egi na ...*
son MD-NOM good very appear-3SG.DS and
'The boy got much better and ...'

(210) **Dɨbɨr** *ga-ku nɨba-niŋ w-i kɨn-i?*
cucumber MD-NOM QD-LOC go-SS stay-3SG.IPST
'Where did that cucumber go?'

In experiencer predicates, the experienced force usually triggers verb agreement, but the order of subject and object is commonly reversed (211). Additionally, although the experiencer can be marked as an object (211), it is not always; witness the lack of an accusative enclitic on the inalienable noun *nukui* in (212), even though the same predicate triggers object marking in (213). It may be that pronominal experiencers are object-marked, while inalienable noun experiencers are not.

(211) *Yaŋ nimɨtɨ maŋgi y-i ma.*
1SG.OBJ hunger small get-3SG.IPST NEG
'I'm very hungry (lit. 'hunger doesn't get me (just) a little bit').'

(212) *Ni-ŋgi*   *nu-kui*   *makɨ*   *y-egi,*   *tum*   *garaŋ*   *y-i*   *g-oŋ …*
3.POSS-mother   3.POSS-son   anger   get-3SG.DS   stick   long   get-3SG.IPST   MD-TOP
'The mother's son got angry, and got a long stick, and …'

(213) *Yaŋ*   *makɨ*   *y-i.*
1SG.OBJ   anger   get-3SG.IPST
'I'm angry.'   Elicited

4.6.2. Objects

In this section I discuss the behavior of objects, beginning with simple transitive clauses and then moving on to ditransitive clauses.

4.6.2.1. Monotransitive Clauses

In monotransitive clauses, objects usually follow the subject and precede the verb, as discussed above. Objects can be case-marked in a variety of ways. If they are common nouns, they can occur with an accusative (214) or a topic determiner (215), or they can be unmarked (216). They can also consist simply of the appropriate demonstrative (217). If they are proper (218) or inalienably possessed (219), they can occur with the accusative enclitic. There is also one example of an inalienably possessed object occurring with a determiner (220).

(214) **Tok Pisin**   **na-kuŋ**   *ambro*   *ab-egi …*
Tok.Pisin   **ND-ACC**   poorly   talk-3SG.DS
'He spoke this Tok Pisin poorly and …'

(215) *Kwi*   **mondɨŋ**   **mondɨŋ**   *sakar*   *sakar*   *mo*   *g-oŋ*   *yo-s-uŋ.*
back   **k.o.stone**   **k.o.stone**   **k.o.stone**   **k.o.stone**   SPEC   MD-TOP   hit-FPST-3PL
'They killed another stone giant *(mondɨŋ mondɨŋ sakar sakar)*.'

(216) *Okei*   *na-niŋ*   **sikɨbeŋ**   *n-er-uŋ*   *ma.*
okay   ND-LOC   **food**   eat-HAB-3PL   NEG
'Okay, here, they don't eat food.'

(217) **Ga-kuŋ** ika   yaka mandɨ ab-e.
   MD-ACC father.1.POSS 1SG.POSS COMPL talk-3SG.IPST
   'My husband (lit. 'father') already talked about that.'

(218) Ya **Sali=ŋ**   debi-bis ar-eŋ.
   1SG **Charlie=ACC** meet-DESID do-1SG.IPST
   'I want to meet Charlie.'   Elicited

(219) Na **kuru ga-ku** **nu-kwi=ŋ** kwi kuriŋ ur=eŋ tam-s-i.
   and **man MD-NOM** **3.POSS-son=ACC** back fasting house=LOC put-FPST-3SG
   'And he put the man's son back in the spirit house (lit. 'fasting house').'

(220) Narɨ **na-sɨm**   **na-kuŋ** itɨ kɨtɨŋ na-niŋ, kɨn-ɨmai.
   2PL **2.POSS-brother** **ND-ACC** get.SS and ND-LOC stay-2PL.IMP
   'You guys take your brother here, and stay here.'

Sometimes the object of a verb will be separated from that verb by another verb, usually a verb of motion. In examples like (221), it appears that *naŋ* 'you,' which is the object of *ireŋ* 'I see,' is occurring a separate clause with the verb *mɨgi* 'come down and.' These structures resemble serial verb conststructions, and should probably be analyzed as complex predicates of some sort. However, their precise structure is not well understood. It is worth noting, though, that they have even been observed with very high-frequency object-verb pairings, such as *sab i-* 'work get,' which means 'to work' (222).

(221) Kepa suku, **naŋ** mɨg-i   ir-eŋ.
   just very **2SG.OBJ** come.down-SS perceive-1SG.IPST
   'I really just came to see you.'

(222) Remsi **sab** we i-s-i.
   Ramsey **work** come.SS get-FPST-3SG
   'Ramsey came and worked (lit. 'got work').'

Reflexive objects area marked with the emphatic pronouns, as in (223), and a repeated emphatic pronoun can be interpreted reciprocally or reflexively (224).

(223) *Ya* **yabɨ** **pa** *naŋ* *igu-s-iŋ.*
1SG **1SG.EMPH** **only** 2SG.OBJ give-FPST-1SG
'I just gave myself to you.'

(224) *Nɨrɨ* **nirɨb** **nirɨb** *ki* *ab-oŋ.*
3PL **3PL.EMPH** **3PL.EMPH** speech talk-3PL.IPST
'They talked to themselves/each other.'   Elicited

It is unclear how reciprocal events are handled. The event described in (225), in which two people discuss a matter with each other, could be construed as reciprocal. The 3PL pronoun, which, semantically, is both agent and undergoer, is in the emphatic form, but whether this is a strategy for handling reciprocal events, or just an emphatic pronoun functioning as subject in a clause with no overt object, is not clear.

(225) *Iran* *kɨn-i* *ga-ku,* **nirɨb** **agrenda** *ki* *ab-i* *ga,* *okei...*
Iran stay-3SG.IPST MD-NOM **3PL.EMPH** **two** speech talk-SS TOP okay
'Staying in Iran, the two of them talked, and, okay ...'

4.6.2.2. Ditransitive Clauses

In ditransitive clauses, when both objects are overtly realized, the tendency is for the theme to precede the recipient, as in (226) and (227). This order can be changed, though, as in (228). In elicitation, when both objects are human, the theme precedes the recipient, as in (229), about a father marrying off his daughter. This sentence cannot be interpreted to mean that Michael was given to Annette. But when the theme is inanimate, the reverse order is preferred even in elicitation (230). Recipients and themes are both marked with accusative case, as illustrated by (229).

(226) *Taun* **gisɨŋ** *sikɨbaŋ,* *anɨgunuŋ* *igu-s-uŋ.*
town from food 1PL.OBJ give-FPST-3PL
'They gave us town food.'

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(227) *Naŋgari   na   kɨn-aŋ   g-oŋ,   ya   ai   samtiŋ   naŋ   igu-byaŋ*
 now   2SG   stay-2SG.IPST   MD-TOP   1SG   what   thing   2SG.OBJ   give-1SG.FUT

ma.
NEG
'Now that you're here, I don't have anything to give you (lit. 'I won't give you what thing').'

(228) *Ya   naŋgari,   ya   naŋ   yambar   mo   uku-byaŋ.*
 1SG   now   1SG   2SG.OBJ   story   SPEC   cut-1SG.FUT
'Now I, I'll tell you a story.'

(229) *Sali   Enet=ɨŋ   Maiker=ɨŋ   igw-e.*
 Charlie   Annette=ACC   Michael=ACC   give-3SG.IPST
'Charlie gave Annette to Michael.'   Elicited

(230) *Ya   umɨŋ   ika   naka=ŋ   maŋ   igw-eŋ.*
 1SG   yesterday   father.1.POSS   2SG.POSS=ACC   banana   give-1SG.IPST
'Yesterday I gave your father a banana.'   Elicited

As with monotransitive verbs, the objects of ditransitive verbs can be separated from them by other verbs. In (231), *maŋ gor* 'banana cluster' could be the object of either *iki* 'chop and' or *igweŋ* 'I gave.' But *nagiŋ* 'your father' is presumably not supposed to be interpreted as the object of *iki* 'chop,' but rather of *igweŋ* 'give.' The argument structure of constructions like this remains a topic for future investigation.

(231) *Ya   na-gi=ŋ   umɨŋ   maŋ   gor   ik-i   igw-eŋ.*
 1SG   2.POSS-father=ACC   yesterday   banana   cluster   chop-SS   give-1SG.IPST
'I cut a cluster of bananas yesterday and gave it to your father.'   Elicited

Finally, in Magɨ, the recipient of a ditransitive verb can be marked with either accusative (232) or benefactive case (233). It is unclear what conditions the choice between these two variants.

(232) *Na   **yadɨŋ**   ig-u!*
 2SG   **1SG.OBJ**   give-2SG.IMP
'Give (it to) me!'   Elicited

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(233) *Yasi*   *ig-u!*
       1SG.BEN   give-2SG.IMP
       'Give (it to) me!'   Elicited

4.6.3. Oblique Arguments and Adverbs

Oblique arguments and adverbs are relatively freely placed, although there do appear to be preferences. For example, temporal adverbs have been observed before the subject (234), after the object (235), and between the subject and object (236).

(234) **Naŋgari**   *anɨ,*   *yama*   *andu=ra*   *panda*   *kin-aŋ.*
       now   1PL   mother.1.POSS   1PL.POSS=COM   alone   stay-1PL.IPST
       'Now we live alone with our mother.'

(235) *Na*   *anɨgunuŋ*   **Fraide**   *iksat-ɨberaŋ.*
       2SG   1PL.OBJ   **Friday**   leave-2SG.FUT
       'You'll leave us on Friday.'   Elicited

(236) *Orait,*   *ga*   *nu,*   **mineg,**   *ki*   *nuku,*   *rekodim*   *am-i*   *kitiŋ*   *ga ...*
       alright   TOP   3SG   **after**   speech   3SG.POSS   record   do-SS   and   TOP
       'Alright, later, he'll record his talk, and ...'

Nevertheless, it appears that temporal adverbials are preferred after both the subject and the object, particularly when they are not pragmatically salient. Below, I discuss the placement of other oblique arguments in a similar way, attempting to draw out patterns while acknowledging that there is a lot of freedom of movement, and also that pragmatic factors play a significant structural role in the Aisi clause that is not well understood.

Benefactive arguments are the only oblique arguments that appear to be placed between subject and object as the default. While the corpus does not contain any clauses with a subject, an object, and a benefactive argument, the typical placement of benefactives with respect to subjects (237) and objects (238) can be seen below, as well as the placement of a benefactive with respect to a locative argument (239).

(237) *Nɨ-mom*   **sab**   **si**   *itɨ*   *w-i*   *kɨtiŋ*   *w-i*   *ga-niŋ.*
3.POSS-husband   **work**   **BEN**   get.SS   go-SS   and   go-SS   MD-LOC
'Her husband took (her) for his job and went there.'

(238) ***Nɨ-kabi***   ***si***   *leta*   *salim*   *am-s-i.*
3.POSS-wife   **BEN**   letter   send   do-FPST-3SG
'He sent a letter to his wife.'

(239) *Naŋ*   *ga-ku*   **ke**   **si**   *ware=rɨŋ,*   *Yom*   *ambɨr*   *yoku-s-i.*
son   MD-NOM   **song**   **BEN**   mountain=LOC   highlands   bed   go.up-FPST-3SG
'This boy went up to the mountains, to the highlands area, for a festival (lit. 'song').'

However, like other arguments, benefactives can be fronted for pragmatic reasons (240).

(240) ***Ai***   ***si***   ***suku,***   *ika*   *yaka*   *kum-is-i?*
what   **BEN**   **very**   father.1.POSS   1SG.POSS   die-FPST-3SG
'Why on earth did my father die?'

Non-benefactive oblique arguments are generally placed after the object, next to the verb. This is true of locative arguments—formed either with a demonstrative (241) or with the locative enclitic (242)—comitative arguments (243), most adverbs (244), and, as mentioned above, temporal arguments.

(241) *Dɨbɨr*   *yaka*   *mo*   ***ga-niŋ***   *kɨn-ɨkur.*
cucumber   1SG.POSS   SPEC   **MD-LOC**   stay-3SG.IMP
'One of my cucumbers will stay here.'

(242) *Anɨ*   *waɲɨ*   ***katam=iŋ***   *isi-r-aŋ*   *ma.*
1PL   bag   **head=LOC**   carry-HAB-1PL   NEG
'We don't carry our bags on our heads.'

(243) *Sab*   ***nu=ra***   *ga-rib*   *i-be.*
work   **3SG=COM**   MD-ADJZ   get-NMLZ
'We'll work with him like that.'

(244) *Okei*   *ya*   *abi*   ***mandɨ***   *y-iŋ*   *si*   *na,*   *naŋgari,*   *kɨb*   *kr-ɨba*
okay   1SG   woman   **COMPL**   get-1SG.IPST   BEN   and   now   road   walk-PTCP

kr-eŋ   *ma.*
walk-1SG.IPST   NEG
'Okay, I'm married now (lit. 'I've already gotten a woman'), so now, I don't walk on the road (anymore; i.e., I don't womanize).'

Additionally, and rather unsurprisingly, the semantics of some verbs shift subtly in the presence of certain oblique arguments. For example, the verb *mɨndam-* 'think' can be used intransitively, transitively, or with a benefactive argument. Intransitively, it means simply 'think'; with an object, it has a more punctual meaning of 'think of, remember' (245); and with a benefactive argument, it has a more durative meaning of 'think about, consider' (246).

(245) *Kyaŋɨ*   **naŋ**   *mɨndam-eŋ*   *g-om=pa,*   *aŋ*   *ga-ku,*   *kyagori*   *ma.*
       fish   **2SG.OBJ**   think-1SG.IPST   MD-TOP=only   water   MD-NOM   clean   NEG
       'About fish, I thought of you, but the water isn't clean.'

(246) *Kapɨ*   *gragra*   *ki*   *ab-ogi,*   *kwi*   **sɨb**   **yaka**   **si**   *mɨndam-ba*
       bird   DISTR   speech   talk-3PL.DS   back   **village**   **1SG.POSS**   **BEN**   think-PTCP

       kr-eŋ.
       walk-1SG.IPST
       'All the birds sing, and I think back to my village.'

Similarly, the verb *ir-* 'see, hear, perceive, know,' in the habitual form usually means 'know.' With an accusative object it refers to knowing a specific person or concept (247), but with a comitative argument it refers to knowing about the existence of something (248).

(247) *Nɨrɨ*   **no-ge=ŋ**   *ir-er-uŋ*   *ma.*
       3PL   **3.POSS-father=ACC**   perceive-HAB-3PL   NEG
       'They didn't know their father.'

(248) *Na*   *nɨrɨ*   **kuru**   **mor=ɨra**   *ir-er-uŋ*   *ma.*
       and   3PL   **man**   **white=COM**   perceive-HAB-3PL   NEG
       'And they didn't know about white men.'

Finally, sometimes intransitive verbs occur with an extra argument (in addition to the subject) that is not case-marked, as with *kɨn-* 'stay' in (249). This construction is not well understood.

(249) *Na   we-nda,   anɨ **agrenda   mɨndam-be**   kɨn-aŋ.*
      2SG   come-2SG.DS   1PL **two   think-NMLZ**   stay-1PL.IPST
      'You came, and we are of two minds.'

4.6.4. Topic Position

There is an additional position in the clause which I call "topic position." This position precedes all others, and is separate from the "core" of the clause, which I have described in the previous three sections and which I outlined in §4.6 above. It is often separated intonationally, as in (250), and the referent of the noun phrase in topic position will also often be recapitulated in the core, as with *nuŋ* in this example. Another example is given in (251), where there is no intonational break but the topicalized noun phrase is recapitulated as *nɨrɨ* in the clause core. In both examples, a known participant in the discourse is being reactivated by occurring in topic position.

(250) *Okei, w-i   w-i   **sikɨbyaŋ   g-oŋ,**   emnau, ya   n-uŋ   n-is-iŋ.*
      okay   go-SS go-SS **food   MD-TOP**   alright 1SG ND-TOP   eat-FPST-1SG
      'Okay, it went on and on, and the food, alright, I ate it.'

(251) *W-ogi,   **nenaŋ   ga-kɨŋ**   nɨrɨ ika   nɨrukuŋ   ir-er-uŋ   ma.*
      go-3PL.DS   **children MD-PAUC** 3PL father.1.POSS 3PL.POSS perceive-HAB-3PL   NEG
      'They went, and the children, they didn't know their father.'

It seems that any argument can be fronted to topic position. Examples above include an object (250) and a subject (251), and examples below show a locative argument (252) and a benefactive argument (253).

(252) **Ware**   **kuŋar**   **g-oŋ**   *yok-i*   *yok-i*   *yok-i*   *yok-i*   *yok-i ...*
      mountain **big**   **MD-TOP** go.up-SS   go.up-SS   go.up-SS   go.up-SS   go.up-SS
      'This big mountain, I went up and up and up and up and up ...'

(253) **Ai**   **si**   **suku,**   *ika*   *yaka*   *kum-ɨs-i?*
      what **BEN** **very**   father.1.POSS   1SG.POSS   die-FPST-3SG
      'Why on earth did my father die?'

Note also that in example (251) above, the topicalized constituent does not receive morphological topic marking, but occurs with a paucal demonstrative. Case-marking in topic position is not fully understood, but it appears that when an item in topic position occurs with a demonstrative, and that item corresponds to a position in the clause core (whether that position in the core is filled or not), the demonstrative will be appropriate to the corresponding role in the clause core. For example, in (254), the topicalized noun phrase *kuru gaku* 'this man' is recapitulated by the pronoun *nu* 's/he' as the subject of the clause, and it is nominative. In (255), the object occurs in topic position and is not recapitulated in the clause core, but still occurs with an accusative demonstrative.

(254) *Na*   **kuru** **ga-ku,**   *nu*   *gwande*   *kuru.*
      and   **man**   **MD-NOM**   3SG   money   man
      'Now this man, he was a money man (i.e., rich).'

(255) **Ga-kuŋ**   *ika*   *yaka*   *mandɨ*   *ab-e.*
      MD-ACC   father.1.POSS   1SG.POSS   COMPL   talk-3SG.IPST
      'My husband (lit. 'father') already talked about that.'

The semantics of topic position are not fully understood, but it seems to set the scene for the upcoming clause—that is, it establishes the topicalized noun phrase as relevant, in some sense, for the event described by the clause core. This means that items in topic position do not always correspond to an argument in the core: for example, in (256), the

1SG pronoun *ya* is topicalized in a sentence which literally translates to 'me, the village is far.'

(256) **Ya,** *sɨb* *kɨtiŋ.*
 1SG village far
 'My village is far.'

When the noun phrase in topic position has a demonstrative but does not correspond to an argument in the clause core, that demonstrative will be the topic demonstrative (257). In this example, from a story about a boy who has fallen ill, the family has been preparing to cure him by fetching water and boiling it, and then the boy is re-topicalized for the events of the actual curing.

(257) *Na,* **naŋ** **g-oŋ** *kɨp-oŋ.* *Maŋ* *be,* *ayo* *be,* *ai* *tar*
 and **child** **MD-TOP** get.up-3PL.IPST banana Q plant.sp Q what tree

 arɨ *yaŋgr-i* *yaŋgr-i ...*
 hair gather-SS gather-SS
 'And, about the boy, they got up—is there banana, is there *ayo*—they gathered and gathered any leaves, and ...'

When the item in topic position does not correspond to any argument in the clause core, whether overt or omitted, its semantic relationship to the clause core is complicated, and it is difficult to make generalizations. It is clear that the item in topic position is "relevant" in some way to the event of the clause, but exactly how remains unclear. (It may also be the case that what I refer to as "topic position" is not a homogeneous category, but that there are multiple similar structures that involve fronted items. This question will have to await further research.) Below are some examples from the corpus. In (258), the item in topic position serves as a physical setting for the event of the clause; in (259), the item in topic position is the person who motivates the events described in the following

two clauses; and in (260), in which a man describes how he distributes meat from a hunt to his family, the item in topic position is a party that oversees the activity of the following clause, and is a beneficiary of the activity of the next clause. (In this last example, the function of the object pronoun *yaŋ* 'me' in the second clause is unclear.)

(258) *G-ib*   *ar-i,*   **tamɨ yaka**   *aŋ*   *mɨg-ɨba*   *kr-e.*
      MD-ADVZ   do-SS   **eye**   **1SG.POSS**   water   come.down-PTCP   walk-3SG.IPST
      'Therefore, I weep (lit. 'my eyes, water comes down').'

(259) ***Nor***   *yaka*   *anɨ*   *skul*   *si*   *w-i*   *Utu*   *kɨn-er-aŋ.*
      daughter   **1SG.POSS**   1PL   school   BEN   go-SS   Utu   stay-HAB-1PL
      'My daughter, we went for (her) schooling and lived in Utu.'

(260) ***Ya***   *nirɨ*   *ga-kuŋ*   *nitɨ*   *kɨtiŋ,*   *yaŋ,*   *kumu*   *nɨrukuŋ*   *urunda*   *suku.*
      1SG   3PL   MD-ACC   eat.SS   and   1SG.OBJ   stomach   3PL.POSS   good   very
      'Me, they'll eat this and they'll be well-disposed to me (lit. 'their stomachs will be good to me').'

The information structure properties of topic position are another fruitful area for further research. Topic position is not only used to re-activate known discourse referents, as in many of the examples above; it can also be used to introduce new referents, as in (261). In this example, two children have just been tricked into falling into a river, and are caught by an old man, a stranger who has not previously been mentioned. This sentence introduces the old man to the story; note the specific quantifier *mo*, indicating that the old man is not known to the listener. It is also possible for items in topic position to receive focus marking, as in (262), where the focus marker *gi* has contrastive force (see §4.8.4).

(261) ***Gwandam***   *mo*   *ga-ku,*   *nu*   *waŋɨ*   *aŋ*   *amug*   *tam-is-i.*
      old.man   SPEC   MD-NOM   3SG   bag   water   under   put-FPST-3SG
      'An old man, he was putting a bag underwater (i.e., fishing).'

(262) *Ni-ŋgi=ŋ*   *gi,*   *umandum* *pa*   *iw-i*   *n-ɨs-i.*
        3.POSS-mother-ACC **FOC** giant   only hit-SS eat-FPST-3SG
        'His mother too, a giant killed and ate her.'

Most of the examples of items in topic position that I have given so far have been lexical nouns; however, one of the most frequent items encountered in topic position is a clause chain nominalized with the topic determiner *goŋ* (see §4.7.2 for a discussion of clause chain nominalization). This clause chain does not usually correspond to any syntactic position in the clause core, but simply "sets the scene" for the purposes of the clause, as with the lengthy sequence that precedes *goŋ* in (263).

(263) *Na-niŋ* *we*   *sɨb=iŋ*   *Musak=iŋ* *yak-i*   *sab*   *y-i*
        ND-LOC come.SS village=LOC Musak=LOC come.up-SS work get-3SG.IPST

        g-oŋ,   *narɨgunuŋ* *teŋkim* *am-eŋ.*
        MD-TOP   2PL.OBJ   thank do-1SG.IPST
        '(Since) he came here and came up to Musak village and is working, I thank you guys.'

Finally, it may be possible for a clause to have more than one item in topic position. In (264), the subject *ya* 'I' appears to be topic fronted, as does the object *kya* 'song,' which is recapitulated in the clause core by the quantifier *mo* 'SPEC.'

(264) *Ya* **naŋgari** *ga* **kya** *ga*   *na-rib*   *mo*   *yo-byaŋ*   *aba.*
        1SG now   **TOP** song **TOP** ND-ADJZ SPEC hit-1SG.FUT QUOT
        '"Now I'm going to sing a song like this," he said.'

4.6.5. Postposed Items

It is also common for constituents of a clause to be postposed, coming after the verb. In this construction, the postposed material is under its own intonation contour, which is generally a falling, final contour. The verb sometimes has a non-final intonation contour, possibly indicating that the postposed item is being planned as the verb is uttered, and

sometimes has a final contour, in which case the postposed item may be added as an afterthought. It seems that any item can be postposed; examples below include a subject (265), an object (266), a place (267), a comitative argument (268), a beneficiary (269), and an adverb (270).

(265) *Koprat-ɨs-uŋ,*   ***abi***   ***agrenda***   ***ga-kiŋ.***
jump.over-FPST-3PL   **woman**   **two**   **MD-PAUC**
'The two women jumped over it.'

(266) *Ika*   *yaka*   *mandɨ*   *ab-e,*   ***andu,***   ***histeri***   ***ga-kuŋ.***
father.1.POSS   1SG.POSS   COMPL   talk-3SG.IPST   **1PL.POSS**   **history**   **MD-ACC**
'My husband (lit. 'father') already told our history.'

(267) *Sopay-i*   *kɨtiŋ,*   *yak-ɨmait,*   ***ur=eŋ.***
finish-SS   and   come.up-2PL.IMP   **house=LOC**
'Finish that and come back home.'

(268) *Ab*   *iti*   *kɨtiŋ*   *am=iŋ*   *im-i*   *tam-is-i,*   ***ibir=ira.***
fire   get.SS   and   bamboo=LOC   put.in-SS   put-FPST-3SG   **ashes=COM**
'She got embers and put them in bamboo with ashes.'

(269) *Ir-i*   *kɨtiŋ*   *ga,*   *nor*   *yaka*   *salim*   *pas*   *aram-s-i,*   ***kuru***
perceive-SS   and   TOP   daughter   1SG.POSS   send   letter   do-FPST-3SG   **man**

g-on=si.
MD-TOP=BEN
'She read it, and my daughter sent a letter to the man.'

(270) *Nenaŋ*   *agrenda*   *ga-kiŋ*   *ikakai-s-uŋ,*   ***mineg.***
children   two   MD-PAUC   follow-FPST-3PL   **after**
'The two children followed behind.'

One example that illustrates that this kind of postposition is commonly used as a repair strategy is given in (271), in which the speaker makes a statement with two postposed arguments (a subject and a comitative oblique), which he then restates with the arguments in their unmarked order.

(271) *Urunda   kɨn-i,*   ***kumu   yaka,   narɨ=ra.***
      good   stay-3SG.IPST   **stomach   1SG.POSS   2PL=COM**
      'I'm grateful to you guys (lit. 'my stomach is good with you guys').'

      Kumu   yaka   narɨ=ra   urunda   kɨn-i.
      stomach   1SG.POSS   2PL=COM   good   stay-3SG.IPST
      'I'm grateful to you guys (lit. 'my stomach is good with you guys').'

Finally, this kind of postposing can also be used to elaborate on an argument that is already contained in the clause, as in (272), in which the postposed locative *Tabubir* elaborates on the locative that is in the clause, *ganiŋ* 'there.'

(272) *Kuru   nɨku   sab   ga-niŋ   i-s-i,*   ***Tabubir.***
      man   3SG.POSS   work   MD-LOC   get-FPST-3SG   **Tabubil**
      'Her husband worked there, in Tabubil.'

4.6.6. Negation

There are two negative morphemes, *ma* and *mabɨŋ*. I discuss *ma* first and turn to *mabɨŋ*, along with its Magɨ counterpart, *magɨ*, at the end of this section.

A final clause can be negated by placing the negator *ma* after the verb. This strategy is employed with all final verbs, as shown with the immediate past (49), future (274), and habitual (53) examples below.

(273) *Yaŋ   ab-oŋ   ma.*
      1SG.OBJ   talk-3PL.IPST   **NEG**
      'They didn't tell me.'

(274) *Kuŋar   pulim   am-byaŋ   ma,   ga   yopa.*
      big   pull   do-1SG.FUT   **NEG**   TOP   enough
      'I won't make it (lit. 'pull it') long, that's enough.'

(275) *Sɨkɨbeŋ   panda   n-er-iŋ   ma.*
      food   alone   eat-HAB-1SG   **NEG**
      'I don't eat alone.'

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It appears that same-subject medial clauses can be negated by placing the negator before the verb, as with the elicited example in (50).

(276) *Nu   sab   **ma** iti   kɨtɨŋ, nu   sikɨbyaŋ   n-ibər   ma.*
      3SG work NEG get.SS and 3SG food   eat-3SG.FUT NEG
      '(If) s/he doesn't work, s/he won't eat.'   Elicited

It seems that different-subject medial verbs cannot be negated. But recall that the negator *ma* can be used with different-subject medial verbs, in which case it does not negate the action of that verb but rather the expected outcome (277). (This different-subject frustrative construction is discussed in §4.5.2.4 above.)

(277) *Apɨr   nuku   iti   mar-i   kɨtɨŋ u-bes   ar-eg   **ma** ...*
      dog 3SG.POSS get.SS call.to-SS and go-DESID do-3SG.DS.FRUST NEG
      'He called his dogs and was about to go, but ...'

When *ma* appears with a final verb, it can also have scope over some of the verbs preceding it, as in (278), in which the appearance of the food, as well as your eating of it, are being negated. It is unclear how far back the scope of negation can extend, and under what circumstances it spreads; in (279), for example, it only negates the final clause.

(278) *Na   keb kiti   ga, sikɨbyaŋ sepr-egi   n-ibəraŋ   **ma** aba*
      2SG just stay.SS TOP food   appear-3SG.DS eat-2SG.FUT NEG QUOT
      '"If you just stay (and don't work), food won't appear for you to eat (lit. 'won't appear and you won't eat')," they would say.'

(279) *Sab   andu   wa-ber   aba   ga-rib   ar-i   tagur-i   kɨn-ɨkuŋ,*
      work 1PL.POSS come-3SG.FUT QUOT MD-ADJZ do-SS wait.for-SS stay-1PL.DS

      *sab   w-i   **ma**.*
      work come-3SG.IPST NEG
      'We thought our work would come (lit. 'We said, "Our work will come,"'), and so we were waiting for it, but the work didn't come.'

The negator *ma* can also be used to negate adverbs, although this use is fairly uncommon and is not well understood. However, in (280) it seems that *ma* is negating *kɨkre* 'well,' and not the verb *yigi* 'he got and ....'

(280) *Kɨkre*   **ma**   *sab*   *y-igi ...*
       well   **NEG**   work   get-3SG.DS
       'He didn't work well and ...' or 'He worked poorly and ...'

Finally, in Magɨ, the same negative morpheme *ma* is used, but in this dialect it precedes, rather than follows, the final verb (48).

(281) *Nu*   **ma**   *ye-i,*   *yɨ*   *nidɨŋ*   **ma**   *ir-iŋ.*
       3SG   **NEG**   come-3SG.IPST   1SG   3SG.OBJ   **NEG**   perceive-1SG.IPST
       'He didn't come, and I didn't see him.'   Elicited

The negative morpheme *mabɨŋ* is used to negate the expected result of a preceding clause (282), to give a negative alternative in a question about alternatives (82), or as the negator in a possessive clause (284), which is discussed further in §4.6.8.1. The Magɨ counterpart is *magɨ*, which appears to have the same functions (285).

(282) *Nu-kui*   *sepr-i*   *ir-egɨnɨŋ,*   ***mabɨŋ.***
       3.POSS-son   appear-SS   perceive-3SG.DS   **no**
       'The son arrived and looked, and no (they weren't there).'

(283) *Kwar=iŋ*   *ab*   *kram-beruŋ*   ***be***   ***mabɨŋ?***
       garden=LOC   fire   burn-3PL.FUT   **Q**   **no**
       'Will they make a fire in the garden or not?'

(284) *Ya*   *moses*   ***mabɨŋ.***
       1SG   thing   **no**
       'I don't have anything.'

(285) *Ka-niŋ*   *yɨ*   *abi*   ***magɨ.***
       MD-LOC   1SG   woman   **no**
       'I didn't have a wife there.'

4.6.7. Interrogatives

Interrogatives are formed in a variety of ways. Yes/no questions are formed by placing the interrogative particle *be* at the end of the clause (58). When the verb is also followed by the negative particle *ma*, the negative particle comes first (287).

(286) *Na   sab   si   way-aŋ   **be?***
    2SG work BEN come-2SG.IPST Q
    'Did you come for work?'

(287) *Naŋ   ab-oŋ   ma   **be?***
    2SG.OBJ talk-3PL.IPST NEG Q
    'Did they not tell you?'   Elicited

This particle can also be used to form questions about alternatives. In this use it follows the first alternative, which is essentially a yes/no question, and after this the next alternative is listed, as in (288) and (289).

(288) *Na   kuru   suku   suku   **be,**   par-e   par-e   kuru   way-aŋ   aba.*
    2SG man very very Q lie-SS lie-SS man come-2SG.IPST QUOT
    '"Are you a true man, or did you lie and come here?" we wonder.'

(289) *Kwar=iŋ   ab   kram-beruŋ   **be**   mabɨŋ?*
    garden=LOC fire burn-3PL.FUT Q no
    'Will they make a fire in the garden or not?'

Content questions are formed in a variety of ways. In what follows, I discuss the interrogative common noun *ai* 'what,' the interrogative pronoun *ninɨ* 'who,' and the interrogative demonstrative *nɨba-*. All of these forms are left *in situ* in question formation.

The question word *ai* 'what' can function as the subject of a clause (290), the object (291), an instrumental argument (292), and a benefactive (293).[23] It can also be used with

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[23] Incidentally, the benefactive pairing *ai si* 'what for, why' is the namesake of the Aisi language.

the comitative enclitic *=ra*, but in this use it does not have the expected meaning 'with what,' but rather means 'how many' (294).

(290) ***Ai***   *mɨg-e?*
     what come.down-3SG.IPST
     'What fell?'   Elicited

(291) *Na*   ***ai***   *ar-aŋ*   *kwe.*
     2SG   **what** do-2SG.IPST   QUOT
     '"What are you doing?" he asked.'

(292) ***Ai***   *kriŋ*   *mug-oŋ?*
     what   LI   go.down-3PL.IPST
     'What did they go with (i.e., what kind of vehicle)?'

(293) ***Ai***   *si*   *yak-aŋ?*
     what BEN   come.up-2SG.IPST
     'What did you come for?' or 'Why did you come?'

(294) ***Ai=ra***   *miŋapam-aŋ?*
     what=COM   hold-2SG.IPST
     'How many are you holding?'   Elicited

Temporal questions can also be formed with *ai*, but in this use *ai* occurs with a form *ab*, which does not appear anywhere else, as well as the noun *gir* 'time' (295). I have chosen to analyze *ab* as a temporal suffix, although its function is not entirely clear.

(295) *Na*   ***ay-ab***   *gir*   *u-beraŋ?*
     2SG   **what-TEMP**   time   go-2SG.FUT
     'When will you go?'   Elicited

The question word *ai* can also be used for negation, as in (296). In this example, it occurs in attributive position in a noun phrase headed by *sanɨ* 'pig' which means 'what pig.' The implied answer to 'what pig did I get?' is 'no pig,' and this is how *ai sanɨ* 'what pig' is interpreted in this context.

(296) *Ya* **ai** *sanɨ* *itɨ* *mɨg-i* *kɨtɨŋ …*
1SG **what** pig get.SS come.down-SS and
'What pig did I get (i.e., I didn't get a pig) and come down and …'

In fact, this pragmatic inference has become so regular that, when *ai* is used in a final clause in this manner, that clause is overtly negated with the negator *ma*, as in (297). The fact that this statement is interpreted as a negative is underscored by the follow-up statement *mabɨŋ suku* 'not at all,' which would be nonsensical if *ai* were being used as an interrogative.

(297) *Naŋgari* *na* *kɨn-aŋ* *g-oŋ,* *ya* **ai** *samtɨŋ* *naŋ* *igu-byaŋ*
now 2SG stay-2SG.IPST MD-TOP 1SG **what** thing 2SG.OBJ give-1SG.FUT

ma. *Mabɨŋ* *suku.*
NEG no very
'Now that you're here, I won't (be able to) give you anything (lit. 'What thing will I (not) give you?'). Not at all.'

Additionally, there is a similar question word, *ayak*, which also appears to mean 'what' (298). It appears to have many of the same functions as *ai*, including occurring with the comitative enclitic *=ra* to mean 'how many' (299). However, *ayak* is less frequent, and is not well understood.

(298) **Ayak** *ar-eŋ*
what do-1SG.IPST
'What am I doing?' Elicited

(299) *Kɨtɨ* *kɨtɨ* *kwar* *na-niŋ* **ayak=ra** *kon-eŋ* *g-oŋ,* *mandɨ*
stay.SS and garden ND-LOC **what=COM** plant-1SG.IPST MD-TOP COMPL

n-eŋ.
eat-1SG.IPST
'I stayed and how(ever) many gardens I've planted here, I've eaten now (i.e., I've lived here many years).'

The interrogative pronoun *ninɨ* (sometimes *nɨnɨ*) 'who' is used to form questions about people. It can serve as the subject of a clause (300), or, with the accusative enclitic, the object (301). It can also be used to ask about possession (302).

(300) **Ninɨ**   bekim   am-ber?
  who   answer   do-3SG.FUT
  'Who will anwer?'

(301) *Na*   **ninɨ=ŋ**   *iw-aŋ?*
  2SG   **who=ACC**   hit-2SG.IPST
  'Who did you hit?'   Elicited

(302) *Na*   **ninɨ**   *nu-kwi*   *emtok.*
  2SG   **who**   3.POSS-son   QUOT
  '"Whose son are you?" he asked.'

The interrogative pronoun is also used as a filler when a speaker is searching for a word (303).

(303) *Anɨ*   *dril*   *sab,*   **nɨnɨ,**   *kɨb*   *wokim*   *am-ba.*
  1PL   drill   work   **who**   road   make   do-PTCP
  'We drilled, uh, made a road.'

Finally, content questions can be formed with what I term interrogative demonstratives. These are built on the interrogative root *nɨba-*, which takes the regular demonstrative suffixes to form question words. While it has only been observed with three of these suffixes, it is possible that it can be combined with more. These three are the locative suffix *–niŋ*, forming a word 'where, whereto' (304); the adjectivizing suffix *–rib*, forming a word 'how' (305); and the existential suffix *–ndɨ*, forming a word 'where' (306).

(304) *Yama*   *Joachim=da*   *ni-kabi=ra*   **nɨba-niŋ**   *w-oŋ?*
  mother.1.POSS   Joachim=COM   3.POSS-wife=COM   **QD-LOC**   go-3PL.IPST
  'Mom, where did Joachim and his wife go?'

(305) *Uru   na-kuŋ   **nɨba-rɨb**   suku suku, mar-oŋ   aba*
     house   ND-ACC   **QD-ADJZ**   very very make-3PL.IPST   QUOT
     '"How on earth did they build this house?" I said.'

(306) *Don   giniŋ   waŋɨ   **nɨba-ndɨ?***
     Don   GEN   bag   **QD-EXST**
     'Where is Don's bag?'   Elicited

Words formed with the interrogative demonstrative are used not only to form questions, but also to mark uncertainty in a clause, as in (307)—but note that the uncertainty particle *akɨ* 'maybe' serves a similar function in this example.

(307) *Nɨrɨ   **nɨba-niŋ**   kwar=iŋ   akɨ   w-oŋ   ga-ku   wi-uŋ   ma.*
     3PL   **QD-LOC**   garden=LOC maybe go-3PL.IPST   MD-NOM   come-3PL.IPST   NEG
     'They must have gone to the garden and they have't come (back yet).'

This uncertainty particle serves several functions, and while it does not form interrogatives *per se*, it does occupy a similar modal space of uncertainty, and often occurs with question words. For those reasons, I discuss it here.

4.6.7.1. Uncertainty Particle akɨ

The primary function of the uncertainty particle *akɨ*, which I gloss 'maybe,' is to signal that the speaker is unsure about some element of a statement. In this function, the uncertainty particle follows whatever element of the statement is uncertain; this can be an argument (308), an adverb (309), or the entire statement (310).

(308) *Na   pary-aŋ   na   pa   **akɨ**   iw-i   n-aŋ   aba.*
     2SG   lie-2SG.IPST   2SG   only **maybe**   hit-SS eat-2SG.IPST   QUOT
     '"You're lying, you yourself must have killed and eaten them," he said.'

(309) *Umiŋgɨgɨr   **akɨ**   yak-ɨberuŋ.*
     afternoon   **maybe**   come.up-3PL.FUT
     'I think they'll come in the afternoon.'

(310) *Nabɨ yaŋ ir-aŋ **akɨ.***
　　2SG.EMPH 1SG.OBJ perceive-2SG.IPST **maybe**
　　'I think you've seen (through) me.'

The uncertainty particle can also combine with question words to form non-referential phrases similar in meaning to English forms in *–ever* such as 'whoever' (311) or 'however' (312).

(311) ***Ninɨ akɨ*** *mɨg-ɨbis-i* *o,* ***ninɨ akɨ,*** *nu=ra sab*
　　who maybe come.down-DESID-SS or **who maybe** 3SG=COM work

　　i-bes-i, orait, narɨ mɨndam-egi yogr-eginiŋ ...
　　get-DESID-SS alright 2PL think-3SG.DS complete-3SG.DS
　　'Whoever wants to come down, whoever wants to work with him, alright, you guys think (about that) and (when the thinking) is done ...'

(312) *Okei, kuru na-ku, nu **nɨba-rib** **akɨ** kr-i, naŋgari anɨ=ra*
　　okay man ND-NOM 3SG **QD-ADJZ** **maybe** walk-SS now 1PL=COM

　　na-ndɨ sepr-e.
　　ND-EXST appear-3SG.IPST
　　'Okay, this man, whatever kind of man he is (lit. 'however he walks'), now he's appeared here with us.'

It appears, though, that these phrases do not necessarily signal that the speaker is unaware of their referent. In (313), for example, the speaker is introducing a story, and is aware of what the younger brother does in the story. How to interpret examples like this is a topic for future research.

(313) *Okei naŋgari ga, nɨ-rak giniŋ ki ab-ɨbyaŋ. Nɨ-rak,*
　　okay now TOP 3.POSS-brother GEN speech talk-1SG.FUT 3.POSS-brother

　　nɨba-rib nɨba-rib akɨ *i-s-i g-oŋ.*
　　QD-ADJZ QD-ADJZ maybe get-FPST-3SG MD-TOP
　　'Okay, now I'll tell the younger brother's story. About whatever the younger brother did (lit. 'however the younger brother got').'

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4.6.8. Nonverbal Clauses

There is no copula in Aisi, and nonverbal clauses are formed by simple juxtaposition (314). If the subject of a nonverbal predicate has a demonstrative, it takes the nominative suffix (116).

(314) *Anɨ   Musak=iŋ   gisɨŋ.*
     1PL   Musak=LOC   from
     'We're from Musak.'

(315) *Yambar   ga-ku,   dɨbɨr   yambar.*
     story   MD-NOM   cucumber   story
     'This story is the cucumber story.'

Nonverbal predicates can be made with postpositional phrases with *gisɨŋ* and nouns, as (314) and (116) above illustrate, and also with adjectives (316), possessors (317), and postpositional phrases with *gɨnɨŋ* (318) and *meb* (319).

(316) *Ki   yaka,   stori   yaka   ga   na-rib.*
     speech   1SG.POSS   story   1SG.POSS   TOP   ND-ADJZ
     'My talk, my story is like this.'

(317) *Ya   naka   suku.*
     1SG   2SG.POSS   very
     'I'm all yours.'

(318) *Uru   na-ku   ninɨ   gɨnɨŋ?*
     house   ND-NOM   who   GEN
     'Whose house is this?'   Elicited

(319) *Kɨr   dɨbɨ   yaka,   kayaŋgi   meb.*
     body   skin   1SG.POSS   bird.sp   like
     'My skin is like a *kayaŋgi* (i.e., white).'   Elicited

Nonverbal predicates can be modified adverbially, as shown with (317) above and (320) below.

(320) *Urunda   n-ɨbe   giniŋ.*
     good   eat-NMLZ   GEN
     '(It's) good for eating.'   Elicited

To negate a nonverbal clause, the negative morpheme is simply placed after the predicate, as in (321), (322), and (95).

(321) *Kɨr   dɨbɨ   naka,   kayaŋgi   meb   ma.*
     body   skin   2SG.POSS   bird.sp   like   NEG
     'Your skin is not like a *kayaŋgi* (i.e., it's not white).'   Elicited

(322) *Umbaŋ   narɨkuŋ   dagar   ma.*
     liver   2PL.POSS   bone   NEG
     'Your livers (i.e., wills) are not strong (lit. 'bones').'

(323) *Ya   mokɨm   kuru   ma.*
     1SG   greed   man   NEG
     'I'm not a greedy man.'

It is quite common for the subject of a nonverbal predicate to be followed by the topic marker *ga*. This particle is usually followed by a pause, as in (324), but not always. When it is not, it sometimes resembles a copula, as in (325), and translations of some of my Tok Pisin elicitation sentences suggest that it is beginning to be used as a copula at times.

(324) *Ika   yaka   giniŋ   ib   ga,   Tamsen.*
     father.1.POSS   1SG.POSS   GEN   name   TOP   Tamsen
     'My father's name was Tamsen.'

(325) *Andu   klen   ga   Ukoi.*
     1PL.POSS   clan   TOP   Ukoi
     'Our clan is Ukoi.'

Nonverbal clauses are unmarked for tense, and it seems that they can have any time reference. If verbal morphology is desired in a nonverbal clause, the verb *kin-* 'stay' can be added to carry this morphology, whether it is medial (74) or final (327).

(326) *Ya   mandɨ   ga-niŋ   animɨnɨ   **kin-ikiŋ,**   ika   yama*
     1SG   COMPL   MD-LOC   small   **stay-1SG.DS**   father.1.POSS   mother.1.POSS

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> *yaka   yaŋ   ab-er-uŋ.*
> 1SG.POSS 1SG.OBJ   talk-HAB-3PL
> 'Long ago when I was small, my parents used to talk to me.'

(327) *Dɨbɨr   ga-ku   asig   **kɨ-s-ɨ.***
      cucumber   MD-NOM   strong **stay-FPST-3SG**
      'That cucumber was tough.'   Elicited

4.6.8.1. Possessive Predicates

Possessive predicates function similarly to other nonverbal predicates, but with slight differences. As (328) illustrates, a positive possessive predicate is simply a nonverbal predicate in which the predicate is a postpositional phrase with the enclitic comitative postposition *=ra*. However, this example is not interpreted as 'I am with a woman,' but rather, 'I have a woman.' Additionally, nonverbal predicates are negated with the negator *mabɨŋ* instead of *ma* (329). Both constructions are nicely illustrated in (330).

(328) *Ya   abi=ra.*
      1SG   woman=COM
      'I have a wife.'   Elicited

(329) *Ya   abi   mabɨŋ.*
      1SG   woman   no
      'I don't have a wife.'   Elicited

(330) *Mandɨ ga-niŋ, kuru akar arɨ mabɨŋ, na anɨ abi   akar arɨ=ra.*
      COMPL MD-LOC man beard hair no   and 1PL woman beard hair=COM
      'Long ago, men didn't have beards, and we women had beards.'

Positive possessive predicates, like other nonverbal predicates, apparently cannot be marked for tense. Negative possessive predicates, however, can optionally occur with the verb *kɨn-* 'stay' if the speaker wishes to have overt tense marking, such as the periphrastic habitual tense in (331) (see §4.5.3.2).

(331) *Kɨtɨ   kɨtɨ   ga,   nɨrɨ ab   mabɨŋ kɨm-ba   kr-oŋ.*
stay.SS stay.SS TOP   3PL   fire no   stay-PTCP walk-3PL.IPST
'They stayed and stayed, and they lived without fire.'

Possessive predicates, like other nonverbal predicates, can be modified adverbially. In (332), the object pronoun *naŋ* 'you' is apparently functioning as some sort of oblique argument, although its precise function is not understood.

(332) *G-ib=si,   anɨ   naŋ   ki   mabɨŋ.*
MD-ADJZ=BEN   1PL   2SG.OBJ   speech   no
'Therefore, we don't have any talk (against) you.'

Finally, there may be a second option for positive possessive predicates, illustrated in (333). In this sentence, the possessor is in topic position (§4.6.4), while the possessed item is the subject of an intransitive clause with *kɨn-* 'stay.'

(333) *Ya   kare   kɨn-egi,   naŋ   igu-bɨŋ.*
1SG   betelnut stay-3SG.DS   2SG.OBJ   give-1SG.CTRF
'If I had betelnut, I'd give you some.'   Elicited

4.7. Clause Combining

Clause combining is a broad topic, and some complex constructions, such as the periphrastic tenses that are formed with participles (§4.5.3.2), verb nominalization (§4.5.3.3), and what may be relative clauses (§4.4.8.3) have already been discussed. In this section, I discuss clause chaining (§4.7.1), clause chain nominalization (§4.7.2), and quoted speech (§4.7.3).

In addition to discussing the clause-combining constructions that Aisi has, it is also worth discussing the clause-combining constructions that Aisi does not have. While it is not possible, with my current data, to make many conclusive statements about what Aisi lacks, it is nevertheless possible to make the observation that many of the constructions

that most languages express with dedicated morphology or complex constructions do not have a dedicated construction in Aisi. A good example is causatives: there is no causative morphology, nor is there a dedicated causative construction. Rather, causation is expressed periphrastically, as in (334), which was given when I attempted to elicit the sentence 'My mother made me give you a banana.' In this example, the causative reading is possible, but not required.

(334) *Yama*   *yaka*   *yaŋ*   *ab-egi*   *naŋ*   *maŋ*   *igw-eŋ.*
mother   1SG.POSS   1SG.OBJ   talk-3SG.DS   2SG.OBJ   banana   give-1SG.IPST
'My mother spoke to me and I gave you a banana.'   Elicited

4.7.1. Clause Chaining and Switch Reference

Medial switch reference morphology was discussed in §4.5.2 above. In this section, I focus on the clause chaining system as a whole.

Papuan languages are well known for their systems of clause-chaining and switch reference. In these systems, a series of "medial" clauses is strung together before a "final" clause. Verbs in medial clauses bear morphology that indicates whether their subject is identical to the subject of the immediately following clause. If it is, a simple same-subject suffix is used (335). If not, a different-subject suffix is used, which agrees with the subject of the verb to which it is attached (336).

(335) *Nɨ-nor=ɨŋ*   ***ir-i,***   *kwi*   *kagɨ*   ***we,***   *kwi*   *mo*
3SG.POSS-daughter=ACC   **perceive-ss**   back   again   **come.ss**   back   SPEC

ir-i,   *iw-i*   *kapr-i,*   *kwi*   *yoku-s-i.*
perceive-ss   **hit-ss**   **throw-ss**   back   **go.up-FPST-3SG**
'He saw his daughter, came back again, saw another one, killed it, threw it (away), and went back up.'

(336) *Animini animini **kin-ikuŋ**, sɨb n-oŋ **tak-ogi** ani **kiti** kɨtiŋ ...*
small   small   **stay-1PL.DS** village ND-TOP **cut-3PL.DS** 1PL **stay.SS** and
'We were very small and they cleared this village, and we lived and ...'

The medial clauses are not specified for absolute TAM information, and receive their TAM interpretation from the final clause. Thus, if the final clause is marked far past, the whole chain is interpreted as being far past (337); if the final clause is future, the whole chain is future (338); if the final clause is imperative, so is the rest of the chain (339); and so on.

(337) *Iw-i itɨ kaw-i ga mɨg-i **n-is-i**.*
hit-SS get.SS carry-SS TOP come.down-SS **eat-FPST-3SG**
'It killed him, took him, carried him (away), and came down and ate him.'

(338) *Ya naŋgari yok-i, atiŋ amor mɨg-i kɨtiŋ rekod **am-byaŋ**.*
1SG now   go.up-SS maybe tomorrow come.down-SS and record **do-1SG.FUT**
'I'll go up today, and maybe tomorrow I'll come down and record.'

(339) *Narɨ kuru nenaŋ, amor mug-i kwar yaka=riŋ, si amaŋ*
2PL   man children tomorrow go.down-SS garden 1SG.POSS=LOC seed seed

*yaka kon-i, sopay-i kɨtiŋ, **yak-imait**, ur=eŋ.*
1SG.POSS plant-SS finish-SS and **come.up-2PL.IMP** house=LOC
'You boys, go down to my garden tomorrow, plant my seeds, finish, and come home.'

Note also the common clause linker *kiti(ŋ)* in the examples above, which is presumably derived from the irregular same-subject verb *kiti* 'stay.SS.' This morpheme, glossed simply 'and,' often follows medial clauses and links them to the following material.

Recall from §4.5.2.3 that the Magɨ different-subject suffixes are different from the Mabiŋ ones. Nevertheless, the Magɨ switch reference system functions in generally the same way, as (340) and (341) show.

(340) *Maki* **ik-iniŋ,** *okei, yɨ, Sabat kɨ-s-iŋ.*
sago **chop-3SG.DS** okay 1SG Sabbath stay-FPST-1SG
'He was cutting sago, and okay, I was having my Sabbath.'

(341) ***Ya-nuŋ*** *ga, arɨ mɨnde kwarɨ tawat kɨtɨŋ, Wanaŋ yakɨte-s-ar.*
come-3PL.DS TOP 1PL grass.sp tail leave and Wanang come.up-FPST-1PL
'They came, and we left the bottom of the *kwarɨ* grass (field) and came to Wanang.'

4.7.1.1. Subject Overlap

One common question about Papuan-style switch reference systems is how they handle situations in which there is partial overlap in subjects between adjacent clauses in a chain. While I have not conducted elicitation on this issue, there are some illuminating examples in the corpus. The general pattern seems to be that same-subject marking is preferred in any situation where there is subject overlap. While the corpus contains exceptions to this tendency, these exceptions are often problematic.

Examples (342) and (343) both contain transitions from a 3SG subject to a 1PL subject that includes the earlier 3SG subject, and both mark the transition with same-subject morphology. In (342), the nature of the subject is not clear from the clause *naniŋ yaki* 'come up and,' but that clause is a recapitulation of the previous final clause *naniŋ yakɨsi* 'he came up' (for further discussion of this recapitulation construction, known as tail-head linkage, see §4.8.1). In (343), the first clause marks a transition from a 3SG subject to a different 3SG subject with different-subject morphology, but the following transition from 3SG to 1PL is marked same-subject, because the subject of *nɨtɨ* 'eat and' is contained in the subject of *yakaŋ* 'we came up.'

(342) *Na-nɨŋ yak-ɨs-i.* *Na-nɨŋ* **yak-i** *kɨtɨŋ, na-nɨŋ kɨn-er-aŋ.*
ND-LOC come.up-FPST-3SG ND-LOC **come.up-SS** and ND-LOC stay-HAB-1PL
'He came here. He came here, and we lived here.'

(343) *Na-kuŋ igw-egi **nɨtɨ** ga, anɨ yak-aŋ.*
ND-ACC give-3SG.DS **eat.ss** TOP 1PL come.up-1PL.IPST
'She gave him (food) and he ate, and we came up.'

The opposite transition, from 1PL to 3SG, is also found in the corpus with same-subject marking. In (344), the subject of the first clause is 1PL, and it is unclear whether it includes the 'he' of the last clause or not. I am the referent of the 3SG pronoun in *nura* 'with him,' and I am also the subject of the last clause, but it is not known whether comitative arguments can function as part of the subject, so it is unclear whether the subject of *itɨ* 'get and' can include me or not. Nevertheless, the transitions to the second and third clauses are both marked same-subject, and although the subject of the second clause is ambiguous, the subject of the third is 3SG.

(344) *Anɨ nu=ra sab **itɨ,** **sopay-i** kɨtɨŋ kwi u-ber.*
1PL 3SG=COM work **get.ss** **finish-ss** and back go-3SG.FUT
'We'll work with him, finish, and he'll go back.'

If it turns out that the subject of *itɨ* above does not include *nura*, then a transition between two clauses with no subject overlap is marked with same-subject morphology in this example. And in fact, such examples do occur in cases where there is shared activity. For example, in (345), the subject of the first clause is a man, the subject of the second is a woman, and the subject of the third is the two of them, and all transitions are marked same-subject. (Note that this example could also be explained as global switch reference, that is, switch reference in which all medial verbs are marked in relation to the final verb. While this analysis occasionally fits the facts, in general it has fairly little explanatory power.)

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(345) *We*   *kɨtɨŋ, kuru g-oŋ   iti,*   *Tabubir   u-s-uŋ.*
      come.ss and man MD-TOP **get.ss** Tabubil go-FPST-3PL
      'He came, she took him (i.e., married him), and they went to Tabubil.'

It seems that under conditions of subject overlap, same-subject marking is strongly
preferred, and possibly required. If it is grammatically required, that requirement could
disambiguate some ambiguous examples, like (346). In the first transition of this example,
from *kɨnɨkuŋ* 'we stayed and' to *takogi* 'they cut and,' there is no subject overlap. In the
second transition, from *takogi* to *kɨtɨ* 'stay and,' it is unclear whether there is subject
overlap; the subject of *kɨtɨ* is the 1PL pronoun *anɨ*, but it may include the 'they' of the
previous clause or it may not. If same-subject marking is required in situations of partial
subject overlap, this transition would be disambiguated. Finally, the last transition, from
kɨtɨ to a 3SG final verb, is another example of a transition between 1PL and 3SG being marked
same-subject.

(346) *Anɨmɨnɨ anɨmɨnɨ **kɨn-ɨkuŋ,**   sɨb   n-oŋ   **tak-ogi**   anɨ   **kɨtɨ**   kɨtɨŋ,*
      small   small   **stay-1PL.DS** village ND-TOP **cut-3PL.DS** 1PL **stay.ss** and

      *anɨ   na-nɨŋ   pa   **kɨtɨ**   kɨtɨ, ika   kumu-s-i*
      1PL   ND-LOC   only **stay.ss** and father.1.POSS die-FPST-3SG
      'We were very little and they cleared this village and we lived here, we lived right
      here, and our father died.'

However, matters do not appear to be as clear-cut as this. Examples where there is
clear subject overlap can be found with different-subject morphology. For example, the
boy from the first clause in (347) is included in the 3PL subject of *kɨnoŋ* 'they stayed,' and
the first clause is marked different-subject. However, this example is not as clear as one
might wish, because, in between the first clause and the clause headed by *kɨnoŋ*, there

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intervenes the fixed expression *gib ari* 'therefore' (followed by the Tok Pisin conjunction *na* 'and'), which may affect switch reference marking.

(347) *Naŋ   ga-ku,   urunda   suku   sepr-egi   na,   g-ib   ar-i   na,   ga-rib*
     son   MD-NOM   good   very   appear-3SG.DS   and   MD-ADVZ   do-SS   and   MD-ADJZ

kɨn-oŋ,   nɨrɨ   ni-ŋgi.
stay-3PL.IPST   3PL   3.POSS-mother
'The boy got much better, and so, they lived like that, them and the wife (lit. 'mother').'

A similar example is given in (348). Here, the transition from first verb, *wenda* 'you come and,' to the second, *waŋ* 'we go' is marked different-subject even though there is subject overlap. But here, the subject of the second verb, *anɨ*, actually precedes the first verb, which is quite unusual. It may be that the pronoun is actually the subject of the first verb—using *anɨ* as a polite pronoun is sometimes done in Aisi—but that is not clear. Further complicating matters is the fact that the agreement on the final verb is ambiguous, as 1PL and 2SG suffixes are homophonous in the immediate past. And finally, the use of the immediate past as a hortative is not attested elsewhere in the corpus, and I do not know how to interpret it here.

(348) *E,   abi   yaka,   anɨ   we-nda   ur=eŋ   w-aŋ.*
     hey   woman   1SG.POSS   1PL   come-2SG.DS   house=LOC   go-1PL.IPST
     'Hey, my wife, come and let's go home.'

4.7.1.2. "Subjecthood" in Switch Reference

Another question that is often asked about Papuan switch reference systems is, what exactly are they tracking? For many languages, especially in the Sogeram family, the answer is that they are, by and large, tracking a grammatically defined notion of subject.

For Aisi, the answer is not as clear. While examples of strict subject-tracking are easy to find, and are in fact the norm, there are also counterexamples.

The examples in (349)–(351) illustrate the subject-tracking norm. The first was elicited, and the next two were constructed by me and translated by my consultants. In each case, the interpretation of the switch reference morphology follows a subject-tracking pattern. In the first, different-subject morphology marks a change in subject; and indeed, different-subject morphology consistently marks a change in subject in the corpus. In both (350) and (351), same-subject morphology is interpreted to mean that there is no change in subject. If same-subject morphology actually meant "same event," we might expect (351) to have the same meaning as (349), possibly with a 3SG subject. The fact that it is not suggests that grammatical subjecthood is still at least a prominent factor among the factors that affect switch reference marking in Aisi.

(349) *Tar*   *ik-ɨkiŋ*   *mɨg-e.*
      tree   chop-1SG.DS   come.down-3SG.IPST
      'I cut a tree down (lit. 'I cut a tree and it fell').'   Elicited

(350) *Tar*   *ik-i*   *kitɨŋ*   *mɨg-eŋ.*
      tree   chop-ss   and   come.down-1SG.IPST
      'I cut a tree and I fell.'   Elicited

(351) *Tar*   *ik-i*   *mɨg-e.*
      tree   chop-ss   come.down-3SG.IPST
      'He cut a tree and he came.'   Elicited

However, the fact that subjecthood is not the only factor is illustrated by examples like (352) and (353). In the first, the subject of *kini* 'it stays' is the food, but the agent causing the events in both clauses is Albert, and so it is possible that the same-subject marking on *tami* 'put and' is reflective of that fact. Similarly, the third clause in (353) has an abstract noun,

makɨ 'anger,' as the subject, and the transition from the 3PL subject in the previous clause is marked with same-subject morphology.

(352) *Albet   sikɨbyaŋ   naka   tam-i   kɨn-i.*
     Albert   food   2SG.POSS   put-SS   stay-3SG.IPST
     'Albert set your food out and it's there.'

(353) *Nɨrɨ   ni-mom=ɨŋ   sori   aram-i kɨtɨŋ, kɨtɨ   na,   makɨ*
     3PL   3SG.POSS-husband=ACC   sorry   do-SS   and   stay.SS   and   anger

     y-egi   nenaŋ   ga-kɨnɨŋ   ab-ɨs-uŋ.
     get-3SG.DS   children   MD-PL   talk-FPST-3PL
     'They were sorry about their husband, and they stayed, and they got angry (lit. 'anger got (them)') and spoke to the kids.'

In fact, the situation in these two examples appears to be the general pattern. If there is a "mismatch" between the switch reference marking and the grammatical subjects of two adjacent clauses, it will be take this form: the transition from the topical, agentive subject of a clause to the non-topical, unagentive subject of the next clause will be marked as same-subject. The transition from a non-topical subject to a topical one is consistently marked with different-subject morphology, as in (354) and (355).

(354) *N-eginɨŋ   ga,   kibɨ   nɨku   makɨ   **y-egi,**   na   kuru   ga-ku*
     eat-3SG.DS   TOP   in.law   3SG.POSS   anger **get-3SG.DS**   and   man   MD-NOM

     nu-kwi=ŋ   kwi   kurɨŋ   ur=eŋ   tam-s-i.
     3SG.POSS-son=ACC   back   fasting   house=LOC   put-FPST-3SG
     'It ate (him$_i$), and his$_i$ in-law$_j$ got mad, and he$_j$ put the man's$_i$ son back in the spirit house (lit. 'fasting house').'

(355) *Umɨŋgɨgɨr   ga,   am   guŋ   **am-egi,**   ika   yama*
     afternoon   TOP   rain   thunder   **do-3SG.DS**   father.1.POSS   mother.1.POSS

     yaka   si   mɨndam-ba   kr-eŋ.
     1SG.POSS   BEN   think-PTCP   walk-1SG.IPST
     'In the afternoon, it thunders, and I think about my parents.'

However, even the tendency to mark the transition from topical to non-topical subjects as same-subject has exceptions, as in (356). A more complete account of switch reference marking in Aisi will have to await further research.

(356) *Iw-egi*   *sɨkansɨkaŋ*   **kum-egɨnɨŋ**   *ga,*   *ga-ndɨ*   *pa.*
      hit-3SG.DS   totally   **die-3SG.DS**   TOP   MD-EXST   only
      'He stabbed her and she died completely, and that's it.'

4.7.2. Clause Chain Nominalization

'Clause chain nominalization' is the term I use to refer to a common Aisi construction in which a clause, or chain of clauses, is nominalized by placing a determiner or postposition after it. A typical example is given in (357).

(357) *[Dɨbɨr*   *yaka*   *na-nɨŋ*   *tam-eŋ*   *]*   *g-oŋ*   *nɨba-rib*   *w-e?*
      cucumber   1SG.POSS   ND-LOC   put-1SG.IPST   MD-TOP   QD-ADJZ   go-3SG.IPST
      'Where did the cucumber that I put here go?'

Nominalized clause chains are fully finite, containing final verbs if they are verbal clauses; medial clauses cannot be nominalized. Clause chain nominalization also occurs in a similar way in Magɨ, as illustrated in (106), but due to the lack of Magɨ data I will not discuss Magɨ clause chain nominalization further.

(358) *Naŋgari, yɨ*   *asad*   *mu*   *uku-byaŋ,*   *[mandɨ yabɨ*   *kɨ-t-eŋ*   *]*   *ka-nɨŋ.*
      now   1SG   story   SPEC   tell-1SG.FUT   before 1SG.EMPH   stay-HAB-1SG   MD-LOC
      'Now, I'll tell a story, about where I used to live.'

In what follows, I first discuss the form of the nominalized clause chains, then the subordinating morphology that is used to nominalize them, as well as their functions in the matrix clause, and finally the semantics of the nominalization construction.

4.7.2.1. Structure of the Nominalized Clause Chain

A nominalized clause chain, as mentioned above, can be any finite chain. The corpus contains examples of every final TAM category except imperatives being nominalized—that is, far past (359), immediate past (360), future (361), habitual (362), and counterfactual (363)—as well as nonverbal clauses (364). Note also that the subordinate clause in example (362) is negated.

(359) *Okei naŋgari ga, ni-rak giniŋ ki ab-ɨbyaŋ. [Nɨ-rak,*
okay now TOP 3.POSS-brother GEN speech talk-1SG.FUT 3.POSS-brother

nɨba-rib nɨba-rib akɨ i-s-i] g-oŋ.
QD-ADJZ QD-ADJZ maybe get-FPST-3SG MD-TOP
'Okay, now I'll tell the younger brother's story. About whatever the younger brother did (lit. 'however the younger brother got').'

(360) *[Okei ya abi mandɨ y-iŋ] si na, naŋgari, kɨb kr-ɨba*
okay 1SG woman COMPL get-1SG.IPST BEN and now road walk-PTCP

kr-eŋ ma.
walk-1SG.IPST NEG
'Since I've got a wife, now, I don't walk on the road (anymore; i.e., I don't womanize).'

(361) *[Na u-beraŋ] g-oŋ, kumu yaka embai gubr-i kɨtiŋ ...*
2SG go-2SG.FUT MD-TOP, stomach 1SG.POSS FUT break-SS and
'When you go, my heart (lit. 'stomach') will break and ...'

(362) *[Ir-er-uŋ ma] si na, nirɨ kim denɨ mɨmiŋ mɨmiŋ tip-i*
perceive-HAB-3PL NEG BEN and 3PL bow toy.arrow small small cock-SS

kɨtiŋ ...
and
'Because they didn't know, they cocked their little toy bows and ...'

(363) *[Kuru imbɨr yaŋ yo-biruŋ] si tr-eŋ.*
man bad 1SG.OBJ hit-3PL.CTRF BEN fear-1SG.IPST
'I'm afraid of criminals killing me.' Elicited

(364) *Moses yaka   na-kɨnɨŋ ga, [naŋgari ya   abi=ra   ] si   abi*
     thing 1SG.POSS ND-PL   TOP now   1SG woman=COM BEN woman

    yaka   tagur-i   kɨm-ber.
    1SG.POSS care.for-SS stay-3SG.FUT
    'All my stuff here, now that I have a wife, my wife will take care of it.'

While the norm is for a subordinate chain to contain only one clause, it is possible for multiple chained clauses to be subordinated together, as in (365).

(365) *[Kr-i   kr-i   na   kwi   pa   ur=eŋ   wa-s-uŋ   ] ga-kɨnɨŋ, ab-am.*
     walk-SS walk-SS and back only house=LOC come-FPST-3PL MD-PL   talk-2SG.IMP
     'Talk about how they wandered around and just came back home.'

4.7.2.2. Subordinators and Matrix Clause Functions

The choice of subordinating morphology signals the role of the nominalized clause in the matrix clause, so I will discuss the morphology together with the grammatical functions of subordinated clauses in matrix clauses. This case-marking function of the subordinators can be seen in (366), the only example in my corpus in which both the subject and the object of a clause are nominalized clauses. This example, which is difficult to render into English, literally means 'the [she's from Banam] married the [my father is from here].'

(366) *[Nu Banam=iŋ   gɨsɨŋ] ga-ku, [ika   yaka   na-nɨŋ gɨsɨŋ] g-oŋ*
     3SG Banam=LOC from   MD-NOM father.1.POSS 1SG.POSS ND-LOC from   MD-TOP

    i-s-i.
    get-FPST-3SG
    'She's from Banam, but she married (lit. 'got') my father from here.'

The most common subordinating morpheme is the topic determiner *goŋ*. Recall from §4.6.4 that subordinated clauses frequently occur in topic position in the clause, essentially setting the scene for the clause core (101). Clauses nominalized with *goŋ* can also function as objects, as with the three subordinate clauses in (368). Finally, the adverb *pa* 'only'

sometimes cliticizes to *goŋ*, yielding the form *gompa*. When this form functions as a

subordinator, it is usually with a contrastive sense, usually translatable as 'but' (369).

(367) *[Ya itɨ   w-ir-iŋ   ]   g-oŋ,   maket   tam-er-iŋ   ma.*
    1SG get.SS come-HAB-1SG MD-TOP market put-HAB-1SG NEG
    'I bring them, but I don't put them in the market (i.e., sell them).'

(368) *Ga   [kuru, nɨrɨ, aŋ   kuŋar kriŋ kɨm-ba   kr-oŋ   ]   g-oŋ,   [Ramu*
    TOP man   3PL   water big   LI   stay-PTCP   walk-3PL.IPST MD-TOP Ramu

    an=iŋ   aŋ   kuŋar kriŋ kɨm-ba   kr-oŋ   ]   g-oŋ,   kɨm-be
    water=LOC water big   LI   stay-PTCP   walk-3PL.IPST MD-TOP stay-NMLZ

    nɨrukuŋ, [ga-rib   sab   i-r-uŋ   ]   g-oŋ,   ya   ab-eŋ.
    3PL.POSS MD-ADJZ work get-HAB-3PL MD-TOP 1SG talk-1SG.IPST
    'So, I've told about the men, how they live on a big river, about how they live on a
    big river, on the Ramu River, about their life, about how they work.'

(369) *[Ya sɨb   iskat-i,   kɨtɨŋ w-eŋ   ]   g-om=pa,   kapɨ gragra ki*
    1SG village leave-SS far   go-1SG.IPST MD-TOP=only bird DISTR   speech

    ab-ogi,   kwi   sɨb   yaka   si   mɨndam-ba   kr-eŋ.
    talk-3PL.DS back village 1SG.POSS BEN think-PTCP   walk-1SG.IPST
    'I left the village and went far away, but all the birds sing, and I think back to my
    village.'

Other determiners can also function as subordinators, such as a nominative determiner

(370), an accusative determiner (371), a locative determiner (372), an adjectival determiner

both with (373) and without (374) an accusative enclitic, and a plural determiner (375).

However, determiners other than the nominative and topic determiners do not

subordinate clauses very frequently, and (371) and (373) are elicited. In each of these

examples, the nominalized clause functions as any other noun phrase would if it were

marked with that particular determiner.

(370) *Sagɨ tɨb-i   na,   [naŋ ga-ku,   kɨp-ɨs-i   ]   ga-ku,   mo   g-oŋ,*
    fight fight-SS and child MD-NOM get.up-FPST-3SG MD-NOM SPEC MD-TOP

yo-s-i.
hit-FPST-3SG
'They fought, and the boy got up and killed one.'

(371) *[Ab-eŋ   ] ga-kuŋ   ir-o!*
talk-1SG.IPST   MD-ACC perceive-2SG.IMP
'Listen to what I'm saying!'   Elicited

(372) *[Gwandam waŋɨ tam-ɨs-i   ] ga-niŋ   iŋgat-oŋ.*
old.man   bag   put-FPST-3SG MD-LOC go.in-3PL.IPST
'They went inside the bag the old man had put (there).'

(373) *[Uru   Amerika mar-ba   kr-oŋ   ] ga-rib=ɨŋ   mar-ɨbyaŋ.*
house   America make-PTCP walk-3PL.IPST MD-ADJZ=ACC make-1SG.FUT
'I'll make a house like the Americans make.'   Elicited

(374) *[Haus   lotu   ara-ku   kɨn-i   ] ara-rib yok-i   ga ...*
house   worship FD-NOM stay-3SG.IPST FD-ADJZ go.up-SS TOP
'Go up along where the church is and ...'

(375) *[Kr-i   kr-i   na   kwi pa   ur=eŋ   wa-s-uŋ   ] ga-kɨniŋ, ab-am.*
walk-SS walk-SS and back only house=LOC come-FPST-3PL MD-PL   talk-2SG.IMP
'Talk about how they wandered around and just came back home.'

While most clauses are nominalized with middle deictic determiners, it is also possible

for clauses to be nominalized with near deictics, as in (376) and (377), and far deictics

(378)—but note again that this last example is elicited.

(376) *[Sɨkɨbeŋ na   n-aŋ   ] n-oŋ,   ya=ra   sepir-s-i.*
food   2SG eat-2SG.IPST ND-TOP 1SG=COM appear-FPST-3SG
'This food you eat, it appeared with me (i.e., because of me).'

(377) *[Naŋgari na kɨn-aŋ   ] na-rib,   urunda ma.*
now   2SG stay-2SG.IPST ND-ADJZ good   NEG
'This way you are now isn't good.'

(378) *Ya [buŋ am-aŋ   ] ara-niŋ kɨn-eŋ.*
1SG meet do-1PL.IPST FD-LOC stay-1SG.IPST
'I'm in the place where we met.'   Elicited

Clause chains can also be nominalized with the benefactive postposition *si*. Chains nominalized with *si* usually describe the reason or motivation for the matrix clause action (379), and can often be translated with 'because' (380). Chains subordinated with *si* can also function as the argument of a verb that normally takes a benefactive argument, as in (381).

(379) *Moses yaka   na-kɨnɨŋ ga, [naŋgari ya   abɨ=ra   ] si   abɨ*
     thing 1SG.POSS ND-PL   TOP now   1SG woman=COM BEN woman

     yaka   tagur-i   kɨm-ber.
     1SG.POSS care.for-SS stay-3SG.FUT
     'All my stuff here, now that I have a wife, my wife will take care of it.'

(380) *[Ir-er-uŋ   ma] si   na, nɨrɨ kɨm denɨ   mɨmɨŋ mɨmɨŋ tɨp-i*
     perceive-HAB-3PL NEG BEN and 3PL   bow toy.arrow small   small   cock-SS

     kɨtɨŋ ...
     and
     'Because they didn't know, they cocked their little toy bows and ...'

(381) *[Kuru imbɨr yaŋ   yo-bɨruŋ   ] si   tr-eŋ.*
     man   bad   1SG.OBJ hit-3PL.CTRF BEN fear-1SG.IPST
     'I'm afraid of criminals killing me.'   Elicited

Finally, clauses can be subordinated by the combination of the topic determiner *goŋ* with the cliticized form of the benefactive postposition *si* (382).

(382) *We   kɨtɨŋ ga, [dɨbɨr   nuku   tam-e   ] g-on=si,   mɨndam-e.*
     come.SS and TOP cucumber 3SG.POSS put-3SG.IPST MD-TOP=BEN think-3SG.IPST
     'He came, and thought about his cucumber that he'd put (away).'

4.7.2.3. Semantic Interpretation of Nominalized Clause Chains

Nominalized clause chains are interpreted in a variety of ways, and it is unclear what governs the choice of interpretation. Many resemble headless (113) or internally headed (384) relative clauses in that the subordinate clause, as a whole, refers to a specific

participant in that clause, whether mentioned, like the children in (384), or unmentioned (113).

(383) [*Na*   *tam-aŋ*   *]*   *ga-ku*   *mugram-e.*
     2SG   put-2SG.IPST   MD-NOM   fit-3SG.IPST
     'What you put on fits.'

(384) [*Nɨrɨ*   *nenaŋ*   *agrenda* *ga-kɨnɨŋ* *mugu-s-uŋ*   *]*   *ga-ku*   *waŋɨ*   *ga-nɨŋ*
     3PL   children   two   MD-PL   go.down-FPST-3PL   MD-NOM   bag   MD-LOC

     iŋgat-is-uŋ.
     go.in-FPST-3PL
     'The two children who fell down went into the bag.'

But nominalized clauses can also refer to the event of the subordinate clause, as in (385) and (386), so I consider a relative clause analysis inadequate.

(385) [*Naŋgari* *kuru*   *na-ku*   *w-i*   *]*   *n-uŋ,*   *anɨ*   *kumu*   *andu*   *urunda*
     now   man   ND-NOM   come-3SG.IPST   ND-TOP   1PL   stomach   1PL.POSS   good

     suku   *kɨn-i.*
     very   stay-3SG.IPST
     'Now that this man has come, our stomachs are very good (i.e., we're very happy).'

(386) [*Kr-i*   *kr-i*   *na*   *kwi*   *pa*   *ur=eŋ*   *wa-s-uŋ*   *]*   *ga-kɨnɨŋ,* *ab-am.*
     walk-SS walk-SS and   back   only   house=LOC   come-FPST-3PL   MD-PL   talk-2SG.IMP
     'Talk about how they wandered around and just came back home.'

Looking at subordination cross-linguistically, it is most common for the subordinate clause to be "(pragmatically) non-asserted, while the main one is (pragmatically) asserted" (Cristofaro 2003: 33). This is also usually the case for typologically similar subordination constructions in other Papuan languages: they "represent given, presupposed information (Haiman 1978), a background to the ongoing discourse" (Foley 1986: 200) or "are taken for granted, set the stage, and are background for the main assertion" (Reesink 2014: 259). While this is often the case for Aisi nominalized clause chains, it is not always the case. Aisi subordinate chains can introduce new referents to the discourse and advance the story, as shown below. The subordinate clause in

example (387) introduces a new character to the story; notice the specific quantifier *mo*. A subordinate clause that advances the story while also introducing new referents is given in (388), and examples that only serve to advance the story are given in (389) and (390). In examples like (390), translation into English is difficult. The translation provided in the example does not capture the subordinate nature of the clause, but translating it as 'the boy who got up killed one' suggests that the fact that the boy got up is already known, which it is not.

(387) *Iw-i   na,   kwi   yak-i   na,   [kuru mo   koku-s-i   ] ga-ku*
      hit-SS   and   back   come.up-SS   and   man   SPEC   flee-FPST-3SG   MD-NOM

     we   ga,   abi   nɨku   itɨ   na ...
     come.SS   TOP   woman   3SG.POSS   get.SS   and
     'He killed it and came back, and a man who had fled came and took his women and ...'

(388) *Iw-egɨniŋ   ga,   [mo   ga-ku   kɨp-is-i   ]   ga-ku,   kibɨ   nɨku*
      hit-3SG.DS   TOP   SPEC   MD-NOM   get.up-FPST-3SG   MD-NOM   in.law   3SG.POSS

     yo-s-i.
     hit-FPST-3SG
     'He killed it, and another one got up and killed his in-law.'

(389) *[Kɨp-is-i   ]   ga-ku,   mam-egɨniŋ   ga,   ni-ŋgi,   ab-is-i.*
      get.up-FPST-3SG   MD-NOM   look.for-3SG.DS   TOP   3.POSS-mother   talk-FPST-3SG
     'He got up and looked for (them), and his mother spoke.'

(390) *Sagɨ   tɨb-i   na,   [naŋ   ga-ku,   kɨp-is-i   ]   ga-ku,   mo   g-oŋ,*
      fight   fight-SS   and   child   MD-NOM   get.up-FPST-3SG   MD-NOM   SPEC   MD-TOP

     yo-s-i.
     hit-FPST-3SG
     'They fought, and the boy got up and killed one.'

4.7.3. Quoted Speech

For quoted speech, Aisi uses a pre-quote, post-quote formula. The pre-quote verb is *ab-* 'talk.' This verb does not take the quoted material as an object, but rather the addressed party (391) or a word that represents what is said, such as *ki* 'speech' (392).

> (391) *Yaŋ*   ***ab-oŋ***   *ma.*
> 1SG.OBJ   **talk-3PL.IPST**   NEG
> 'They didn't tell me.'

> (392) *Ya*   *apɨr*   *giniŋ*   *ki*   ***ab-ɨbeŋ.***
> 1SG   dog   GEN   speech   **talk-1SG.FUT**
> 'I'm going to tell a story about dogs.'

After the quoted material, speakers can choose between two post-quote particles, *kwe* (118) and *aba* (394), and the verb *u-* 'go,' which is sometimes used as a post-quote verb (395). This last option is rather infrequent, and it is unclear what conditions the choice between these different options.

> (393) *Ga-rib*   *ar-i*   *ga,*   *ni-sɨm*   *ab-e.*   *Mai*   ***kwe.***
> MD-ADJZ   do-SS   TOP   3.POSS-brother   talk-3SG.IPST   friend   **QUOT**
> 'It was like that, and the older brother said, "Friend," he said.'

> (394) *Ika*   *yama*   *yaka*   *yaŋ*   *ab-er-uŋ.*   *Na*   *sab*
> father.1.POSS   mother.1.POSS   1SG.POSS   1SG.OBJ   talk-HAB-3PL   2SG   work
>
> *y-am*   ***aba.***
> get-2SG.IMP   **QUOT**
> 'My parents would tell me, "You must work," they'd say.'

> (395) *Na*   *anɨgunuŋ*   *ab-is-uŋ,*   *arama*   ***u-s-uŋ.***
> and   1PL.OBJ   talk-FPST-3PL   nevermind   **go-FPST-3PL**
> 'And they told us, "Nevermind," they said.'

As the examples above illustrate, *ab-* is usually under its own intonation contour, separate from the quoted material. The intonation contour is usually a final one, as in (118)

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and (394), but not always, as in (395). Rarely, a quote will be bracketed by *ab-* and one of the post-quote markers under a single intonation contour (396).

(396) *Galas   gragra muŋgubr-i tam-i ga **ab-e**   yopa   **kwe.***
goggles DISTR break-ss   put-ss TOP **talk-3SG.IPST** enough QUOT
'He broke the goggles everywhere and put them (down) and said, "Enough."'

Once it has been established that quoted speech is being reported, speakers do not usually repeat the verb *ab-*, but simply tag each intonation unit with either *kwe* or *aba*. Sometimes these are even left out, as with the last intonation unit in (397).

(397) *Ga-rib   ar-i   ga,   ni-sim   **ab-e.**   Mai   **kwe.***
MD-ADJZ do-ss TOP 3.POSS-brother **talk-3SG.IPST** friend QUOT

*Arama=re   **kwe.** Na ur=eŋ   kin-o   **kwe.** Yabɨ   apɨr*
nevermind=PRAG QUOT 2SG house=LOC stay-2SG.IMP QUOT 1SG.EMPH dog

itɨ   u-byan=de.
get.ss go-1SG.FUT=PRAG
'It was like that, and the older brother spoke. "Friend," he said. "Forget it," he said. "You stay at home," he said. "I'll take the dogs and go."'

Aba is sometimes used to report internal dialogue and motivation, as illustrated by (398) and (399).

(398) *Sab   andu   wa-ber   **aba**   ga-rib   ar-i   tagur-i   kɨn-ɨkuŋ,***
work 1PL.POSS come-3SG.FUT QUOT MD-ADJZ do-ss wait.for-ss stay-1PL.DS

sab   w-i   ma.
work come-3SG.IPST NEG
'We thought our work would come (lit. 'we said, "Our work will come,"'), and so we were waiting for it, but the work didn't come.'

(399) *Kris=ɨŋ   ir-ɨbyaŋ   **aba**   yoku-s-iŋ.***
Chris=ACC perceive-1SG.FUT QUOT go.up-FPST-1SG
'I went up to see Chris (lit. 'I said, "I'll see Chris," and went up').'

This function of *aba* is not limited to human or animate agents, as illustrated by example (400), which is about a cucumber.

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(400) *Dɨbɨr*   *ga-ku*   *asig*   *suku, asig*   *suku, pirim mandɨ tapɨrb-i,*
cucumber   MD-NOM   strong very strong very rind   COMPL peel-SS

       sɨkaŋ, *imbɨr-byaŋ*   **aba**   *kɨn-i.*
       totally spoil-1SG.FUT   **QUOT** stay-3SG.IPST
       'The cucumber was really tough, really tough, its rind was peeling, it was about to spoil completely (lit. 'it said, "I'll spoil completely"').'

4.8. Discourse

Discourse is, of course, too large a topic to cover satisfactorily in any grammar sketch. For that reason, I focus on only a few phenomena here: tail-head linkage (§4.8.1), the pragmatic enclitic *=da* (§4.8.2), and two markers that operate on both a clausal and a phrasal level: the topic marker *ga* (§4.8.3), and the focus marker *gi* (§4.8.4).

4.8.1. Tail–head Linkage

The construction known as tail-head linkage is widespread among Papuan languages (de Vries 2005). In it, the last clause or clauses of a clause chain are recapitulated as the first clause or clauses of the next chain. In tail-head linkage, usually only one verb is recapitulated, as with the two examples in (401). It is not uncommon, however, for two verbs to be recapitulated (402), and occasionally even more (403).

(401) *Mondemonde*   *g-oŋ*   ***yo-s-uŋ.***   ***Iw-ogi***   ***kumu-s-i.***
lizard.sp   MD-TOP   **hit-FPST-3PL**   **hit-3PL.DS**   **die-FPST-3SG**

       Kum-eginɨŋ, *nɨ-rak=ra*   *nɨ-sɨm=da*   *sepr-i*   *ir-ogɨnɨŋ*   *ga ...*
       die-3SG.DS   3.POSS-sister=COM 3.POSS-sister=COM appear-SS perceive-3PL.DS TOP
       'They shot a *mondemonde.* They shot it and it died. It died, and the two sisters came and looked, and ...'

(402) *Na,* *kwi* ***itɨ***   ***wa-s-i.***   ***Itɨ***   ***we***   *na* *ga-ndɨ*   *pa*
and back **get.SS** **come-FPST-3SG** **get.SS** **come.SS** and MD-EXST only
       'And he brought them back. He brought them back, and that's it.'

(403) *Ya   miŋat-i iti   we   kitiŋ, uk-i   kitiŋ,* **takw-i   takw-i   agr-er-iŋ.**
     1SG get-SS   get.SS   come.SS and   cut-SS and   **cut-SS   cut-SS   distribute-HAB-1SG**

     Takw-i   takw-i   agr-i   *kitiŋ, agr-i*   *kitiŋ nenaŋ   yaka …*
     cut-SS   cut-SS   distribute-SS   and   distribute-SS and   children 1SG.POSS
     'I bring it (home), butcher it, and cut it up and distribute it. I cut it up and
     distribute it, I distribute it and (as for) my children, I …'

It is also common for the recapitulated clauses to be marked with the topic marker *ga*
(404), which is discussed in §4.8.3 below.

(404) *Pini   garaŋ ga-niŋ* **yok-e.**   **Yok-i   ga,** *n-ib   ab-e.*
     palm.sp long   MD-LOC **go.up-3SG.IPST** **go.up-SS TOP** ND-ADVZ talk-3SG.IPST
     'She went up a long *pini* palm. She went up, and spoke like this.'

Sometimes a clause will be recapitulated in a slightly different form, as with the
participle in (405), or the different light verbs accompanying *kar* 'sick' in (406).

(405) *Kubro   krig   pa,   sikibyaŋ* **itam-er-aŋ.**
     canoe   LI   only   food   **transport-HAB-1PL**

     Itam-ba,   *ani   ino   kwar   ware=riŋ*   *kon-er-aŋ.*
     transport-PTCP   1PL   NEG garden mountain=LOC plant-HAB-1PL
     'We only transport our food with canoes. Transporting it, we don't plant our
     gardens in the mountains.'

(406) *Na-niŋ   kiti   kiti,* **kar   i-s-i.**
     ND-LOC stay.SS and   **sick   get-FPST-3SG**

     Kar   kin-egi   *ga,* *kaw-i   u-s-uŋ.*
     sick   stay-3SG.DS   TOP   carry-SS go-FPST-3PL
     'He lived here, and got sick. He was sick, and they carried him away.'

4.8.2. The Pragmatic Enclitic *=de*

The pragmatic enclitic *=de* (or *=re*), which I simply gloss 'PRAG,' has a variety of functions.
One of these is that it attaches to a counterfactual verb to form a prohibitive statement
(407).

(407) *W-i   kɨtɨŋ   gi,   na   lustɨŋtɨŋ   **am-ban=de.***
     go-SS   and   FOC   2SG   forget   **do-2SG.CTRF=PRAG**
     'When you go, don't forget.'

Beyond this, however, its functions are not well understood. It attaches to the end of a statement, and appears to signal that the statement is interactionally salient in some way, but exactly how is not clear. It can be found on verbs (408), nonverbal predicates (409), and interjections (410).

(408) *Keb   kɨtɨ   ga   sɨkɨbyaŋ   **n-ɨberaŋ**   **ma=re.***
     just   stay.SS   TOP   food   **eat-2SG.FUT**   **NEG=PRAG**
     'If you just stay (i.e., if you don't work), you won't eat.'

(409) *Na-nɨŋ   kɨnɨgam-o.   Uru   **na-ndɨ=re**   na-nɨŋ   koben-o.*
     ND-LOC   sit-2SG.IMP   house   **ND-EXST=PRAG**   ND-LOC   cook.and.eat-2SG.IMP
     'Sit here. This is the house, cook and eat here.'

(410) ***Arama=re***   agi   igu-bi   aba.
     nevermind=PRAG   alright   give-NMLZ   QUOT
     '"Nevermind, let's go ahead and give (it to him)," we say.'

Example (411), a narrated conversation between two brothers, contains several examples of this enclitic.

(411) a. *Ga-rib   ar-i   ga,   nɨ-sɨm   ab-e.*   b. *Mai   kwe.*
        MD-ADJZ   do-SS   TOP   3.POSS-brother   talk-3SG.IPST   friend   QUOT
        'It was like that, and the older brother spoke.'   '"Friend," he said.'

    c. ***Arama=re***   kwe.   d. *Na   ur=eŋ   kɨn-o   kwe.*
       nevermind=PRAG   QUOT   2SG   house=LOC   stay-2SG.IMP   QUOT
       '"Forget it," he said.'   '"You stay at home," he said.'

    e. *Yabɨ   apɨr   itɨ   **u-byan=de.***   f. *Okei,   nɨ-rak   ab-e.*
       1SG.EMPH   dog   get.SS   **go-1SG.FUT=PRAG**   okay   3.POSS-brother   talk-3SG.IPST
       '"I'll take the dogs and go."'   'Okay, the younger brother spoke.'

    g. *Isam   ya   **kɨm-byan=de.***   h. *Na   w-o   kwe.*
       brother.1.POSS   1SG   **stay-1SG.FUT=PRAG**   2SG   go-2SG.IMP   QUOT
       '"Brother, I'll stay."'   '"You go," he said.'

4.8.3. Topic Marker *ga*

The topicalizing morpheme *ga* serves a wide variety of functions: it topicalizes noun phrases, medial clauses, and nonverbal clauses; and it has another function which I call its "clause-initial function." When it topicalizes noun phrases, *ga* follows the item it topicalizes (67).

(412) Mo **ga** mandɨ ga-niŋ, uk-ɨs-iŋ. Nɨ-sɨm giniŋ **ga** mandɨ
SPEC **TOP** COMPL MD-LOC cut-FPST-1SG 3.POSS-brother GEN **TOP** COMPL

ga-niŋ uk-ɨs-iŋ.
MD-LOC cut-FPST-1SG
'One, I told a while ago. (The one) about the older brother, I told a while ago.'

Ga is quite frequent with noun phrases in topic position (see §4.6.4), and in fact may be restricted to topic position. Noun phrases topicalized by *ga* are often set off intonationally (413), but not always (414).

(413) G-ib ar-i ga, sɨb andu **ga,** w-i ara-niŋ i-s-aŋ.
MD-ADVZ do-SS TOP village 1PL.POSS **TOP** go-SS FD-LOC get-FPST-1PL
'So, our village, we went and got it (i.e., settled) over there.'

(414) Nɨ-rak **ga** naŋ nuku si sori am-i kitiŋ na ...
3.POSS-sister **TOP** son 3SG.POSS BEN sorry do-SS and and
'The younger sister, she was sorry about her son and ...'

In its noun phrase-marking function, *ga* can also occur with the topic demonstrative *goŋ* (415), although this is not common and it is not clear how, or whether, the topicality that these two words contribute differs. It does seem, though, that this construction is preferred for noun phrases that are given, and that have significant relevance for the discourse.

(415) *Itɨ   kɨtɨŋ, konou   pɨr   g-oŋ   **ga**   yok-e.*
get.ss and tree.sp trunk   MD-TOP   **TOP** go.up-3SG.IPST
'He took her, and went up the *konou* trunk.'

The noun phrase-marking function of *ga* can also occur with the subject of a verbless clause (68). When there is no intonation break after the *ga*-marked noun phrase, *ga* strongly resembles a copula, and may in fact be in the process of being reanalyzed as a copula (417).

(416) *Yama   yaka   **ga,**   Banam=ɨŋ   gɨsɨŋ.*
mother.1.POSS   1SG.POSS   **TOP**   Banam=LOC   from
'My mother is from Banam.'

(417) *Sɨb   yaka   **ga** umbaŋ yaka.*
village 1SG.POSS   **TOP** liver   1SG.POSS
'My village is my heart (lit. 'liver').'

It appears that *ga* can also mark adverbs, as with *naŋgari* 'now' in (418).

(418) *Okei   naŋgari **ga,**   nɨ-rak   gɨnɨŋ ki   ab-ɨbyaŋ.*
okay   now   **TOP** 3.POSS-brother   GEN   speech   talk-1SG.FUT
'Okay now, I'll tell the story about the younger brother.'

These functions of *ga* are rather infrequent, however; its most common function is to topicalize medial clauses. In this function, it follows the medial clause in question, and renders it topical for the purposes of what follows. Typical examples with different-subject (419) and same-subject (71) medial clauses are given below.

(419) *Nɨ-sɨm   kɨb   tɨmbre-ba kɨn-egi   **ga,**   apɨr sepr-oŋ.*
3SG.POSS-brother   road   look-PTCP stay-3SG.DS   **TOP**   dog   appear-3PL.IPST
'The older brother was looking on the road, and the dogs appeared.'

(420) *Ga-rib   ar-i   anɨgunuŋ   mɨndam-i **ga,**   kwi   way-am.*
MD-ADJZ   do-SS   1PL.OBJ   think-SS   **TOP**   back come-2SG.IMP
'So when you remember us, come back.'

Clauses that are topicalized with *ga* often have the sense of an adverbial clause with 'if' (421), 'when' (421), or 'whenever' (421).

(421) Na   keb   kɨtɨ   **ga,**   sikibyaŋ   sepr-egi   n-ɨberaŋ   ma   aba
      2SG   just   stay.SS   **TOP**   food   appear-3SG.DS   eat-2SG.FUT   NEG   QUOT
      '"If you just stay (and don't work), food won't appear for you to eat (lit. 'won't appear and you won't eat')," they would say.'

(422) Wayaŋ   per-egi   **ga,**   moses   wayaŋ   tam-be.
      sun   shine-3SG.DS   **TOP**   thing   sun   put-NMLZ
      'When the sun shines, we'll put the things in the sun (to dry).'   Elicited

(423) Nɨ-sim   ir-eginiŋ   **ga,**   nu   par-e   iti   dugum=iŋ   kapir-ba.
      3SG.POSS-sister   perceive-3SG.DS   **TOP**   3SG   lie-SS   get.SS   forest=LOC   throw-PTCP
      'Whenever the older sister looked, she would deceitfully throw them into the forest.'

A topicalized medial clause can also mark a transition between episodes in a narrative. For example, (424) marks the transition from an episode in which a character exterminates many giants to the following episode, in which he confronts the largest giants.

(424) Iw-i   iw-i,   sopay-i   **ga,**   sagɨ   tɨb-ɨs-uŋ.
      hit-SS   hit-SS   finish-SS   **TOP**   fight   fight-FPST-3PL
      'He killed them and killed them and was done, and they fought.'

Additionally, medial clauses that recapitulate preceding clauses in tail-head linkage (see §4.8.1 above) are frequently marked with *ga* (425).

(425) Ur=eŋ   w-i.   We   **ga,**   garas   gregre   muŋgubr-i...
      house=LOC   come-3SG.IPST   come.SS   **TOP**   goggles   DISTR   break-SS
      'He came home. He came, and broke the goggles everywhere and ...'

Ga can also mark nonverbal clauses as topical in a similar way. The first clause in (426) is the 'if' clause of an if-then sequence. (The other two instances of *ga* in this example are examples of its clause-initial function, which is discussed below.) Example (427) shows a clause interpreted as a when-clause.

(426) *Sos gwande sab akɨ* **ga,** *ga ya na=ra sab i-bɨŋ ma.*
if money work maybe **TOP** TOP 1SG 2SG=COM work get-1SG.CTRF NEG

Ga kuru asig kɨsɨr sab i-biruŋ.
TOP man strong seed work get-3PL.CTRF
'If (it) were paid work, I wouldn't have worked with you. The elders ('strong seed') would have worked.'

(427) *Aŋ metam=da* **ga,** *am aŋgoŋ krig kr-er-aŋ.*
water high=COM **TOP** bamboo hook LI walk-HAB-1PL
'When the tide is high, we travel with a bamboo hook.'

Finally, *ga* occasionally topicalizes a final clause, in which case it always has an 'if' interpretation, as in (70). But note that this construction is not required for an if-then interpretation (429).

(428) *Ya gi ika yaka kɨn-i akɨ* **ga,** *ga-rib*
1SG FOC father.1.POSS 1SG.POSS stay-3SG.IPST maybe **TOP** MD-ADJZ

kr-ɨbɨŋ.
walk-1SG.CTRF
'If *my* father were alive, I'd walk around like that (too).'

(429) *Na sab itɨ, sɨkɨbyaŋ n-ɨberaŋ aba.*
2SG work get.SS food eat-2SG.FUT QUOT
'"(If) you work, you'll eat," they'd say.'

Finally, *ga* has a clause-initial function, in which it occurs at the beginning of an intonation unit, as in (430) and (431).

(430) *Kuŋar pulim am-byaŋ ma,* **ga** *yopa.*
big pull do-1SG.FUT NEG **TOP** enough
'I won't make it (lit. 'pull it') long, that's enough.'

(431) *Naŋ ir-ɨbis-i mig-eŋ,* **ga** *kagɨ yok-ɨbyaŋ.*
2SG.OBJ perceive-DESID-SS come.down-1SG.IPST **TOP** again go.up-1SG.FUT
'I came down to see you, and I'll go up again.'

This function is the most poorly understood of all of the functions of *ga*, but it appears to signal that the following predicate is either expected or is simply so. The force of *ga* in

this position appears to be something like 'it is the case that …,' but understanding its precise meaning will require more research. More examples are given in (432)–(434) below.

(432) *Kum-egi-ri   kɨtɨ, nor   yaka   ga-niŋ   kɨn-i.   **Ga** nu   na-niŋ*
die-3SG.DS-?   and   daughter 1SG.POSS MD-LOC   stay-3SG.IPST TOP 3SG ND-LOC

kepa   wa-ba   kr-e.
just   come-PTCP   walk-3SG.IPST
'He died, and my daughter lives there. She just comes here (to visit; i.e., she doesn't live here).'

(433) *Iskat-ɨber   ma, **ga**   n-ɨber.*
leave-3SG.FUT   NEG TOP   eat-3SG.FUT
'He won't refuse (anything), he'll eat.'

(434) *Na   ya, **ga** ya ki   mabɨŋ.*
and 1SG TOP   1SG speech   no
'And me, I've got nothing to say (lit. 'got no speech').'

Owing to the polyfunctionality of *ga*, when its clause-initial function follows one of its IU-final functions, multiple instances of *ga* can follow one another, as in (435) and (436).

(435) *Ga-kuŋ   ga-kuŋ   stori   am-aŋ   akɨ   **ga, ga** urunda.*
MD-ACC   MD-ACC   story   do-2SG.IPST maybe TOP   TOP   good
'All this that you've talked about, it's good.'

(436) *Anɨ kubro itɨ   an=iŋ   kapr-i   **ga, ga** kubro=ra   pa   kr-er-aŋ.*
1PL canoe get.SS   water=LOC   throw-SS TOP   TOP   canoe=COM   only   walk-HAB-1PL
'We get canoes and toss them in the water, we only travel with canoes.'

4.8.4. Focus Marker *gi*

The particle *gi* marks the constituent that it follows with focus; a typical example is given in (437), where it marks the 1SG pronoun *ya* with contrastive focus.

(437) *Ika=ra   kr-ogi,   ya   mɨndam-ba kr-eŋ.*
father.1.POSS=COM walk-3PL.DS 1SG think-PTCP   walk-1SG.IPST

*Ya **gi** ika   yaka   kɨn-i   akɨ   ga, ga-rib*
1SG FOC   father.1.POSS 1SG.POSS stay-3SG.IPST maybe TOP MD-ADJZ

kr-ɨbɨŋ.
walk-1SG.CTRF
'They walk around with their fathers, and I think. If *my* father were alive, I'd walk around like that (too).'

The precise semantic nature of the focus imparted by *gi* is not known, and will require further investigation into the structure of Aisi discourse. But examples in the corpus show *gi* marking pronous, as above, as well as other noun phrases (438) and medial clauses (439),

(438) *Uru   nɨrukuŋ   tuku-s-i   ga-kɨnɨŋ, ga-kɨnɨŋ gi   ab-am.*
       house   3PL.POSS   burn-FPST-3SG   MD-PL   MD-PL   FOC   talk-2SG.IMP
       'About how their house burned, talk about all *that*.'

(439) *Asig   kɨsɨr   nɨrukuŋ,   ga-rib   akuram-ogi   ir-i   kitɨŋ,   g-ib*
       strong   seed   3PL.POSS   MD-ADJZ   show-3PL.DS   perceive-SS and   MD-ADVZ

       ar-i   gi   pa,   kɨm-ba   kr-oŋ.
       do-SS   FOC   only   stay-PTCP   walk-3PL.IPST
       'Their elders ('strong seed') taught them like that and they learned, and *just because of that*, they live (like that).'

Some noun phrases that are marked with *gi* appear to occur in topic position (440), which raises interesting questions about the interaction of topic and focus, as well as the interaction between morphological and syntactic marking of information structure (see §4.6.4 on topic position). There is even one example of *gi* and the topic marker *ga* co-occurring (441). The structure of this example is unclear—and it may be somewhat disfluent—but it comes from a discussion of various foods, which could explain how manioc could be both topical (by virtue of being a food) and contrastive (by virtue of being a different food from the others that had been discussed).

(440) *Ni-ŋgi=ŋ   gi,   umandum   pa   iw-i   n-ɨs-i.*
       3.POSS-mother=ACC   FOC   giant   only hit-SS   eat-FPST-3SG
       'His mother too, a giant killed and ate her.'

(441) *Kibra* **gi** *ga* *n-e.*
     manioc FOC TOP eat-3SG.IPST
     'He also ate *manioc*.'

Appendix 5

Kursav Grammar Sketch

5.1. Introduction

Kursav [faj] is a small Papuan language spoken in the Usino-Bundi district of Madang Province, Papua New Guinea. It belongs to the Madang subgroup of Trans-New Guinea. Within Madang, it belongs to the South Adelbert branch, then the Sogeram branch, and finally the East Sogeram branch. It is highly endangered, being spoken by only ten people when I conducted fieldwork in 2012 and 2014. At the time of Papua New Guinea's independence from Australia, in 1975, it was spoken in one village, Faita. Villagers informed me that that village has since disbanded due to outbreaks of sorcery some time ago, and people have returned to the pre-Australian settlement pattern in which each clan lives on its own land.

The ten speakers of Kursav belong to seven different clans, which means that opportunities for conversation among them are quite rare, and indeed it seems that the process of language shift away from Kursav had begun before the incursion of Tok Pisin into the area. The remaining speakers of Kursav are all over 50, and according to my observation members of the middle-aged generation are fluent in Gende [gaf], a very distantly related language of the Kainantu-Goroka subgroup of Trans-New Guinea. The territory of Kursav lies in a small area on the southern bank of the upper Ramu River, with Gende territory lying upriver, downriver, and in the mountains above. (On the other bank

of the Ramu lies the distantly-related Madang language of Sop [urw], with which speakers of Kursav also have a good deal of contact, but which has exerted less influence on Kursav.) Many of the wives who had married into the village I stayed in were Gende speakers, and one can imagine that fluency in Gende would have been invaluable for conducting extra-village affairs before the introduction of Tok Pisin.

With the introduction of Tok Pisin, however, a new shift occurred, and the youngest generation is now composed primarily of monolingual Tok Pisin speakers. Thus there are currently three linguistic strata in the former village of Faita: the oldest, for which Kursav is the native language and Gende and Tok Pisin are second languages; the middle stratum, for which Gende is the native language and Tok Pisin is a second language; and the youngest stratum, for which Tok Pisin is the only language. This results in a situation in which Tok Pisin is by far the most commonly heard language, with occasional conversation among adults in Gende, and almost no Kursav.

The name Kursav is the name by which speakers refer to their language, although it is also common for a speaker to refer to the language by the name of that speaker's clan. I am not aware of the etymology of the name Kursav; it does not appear to have any other synchronic meaning. In previous work (Daniels 2010) I referred to the language as "Kulsab," based on a mistaken phonemic analysis. This has been corrected here.

5.1.1. Previous Research

The first research on Kursav was conducted in May 1973 by John Z'graggen (1975*b*: 585) during a survey of the Madang languages of the area. He collected a wordlist and some

basic grammatical information for the language, which he referred to as Faita. Based on this data he classified Kursav as a member of the Brahman subgroup of Madang, a small group of four languages that lingusts have since rejected (Ross 2000, Pawley 2005, 2006*a*). He eventually published his Brahman data with the data for the South Adelbert languages (Z'graggen 1980*a*), with which, coincidentally, Kursav was eventually reclassified.

Even at this early stage, Z'graggen noted that the village of Faita only had a population of 57 (Z'graggen 1975*a*: 32), and he observed the beginnings of the process of language shift that is now reaching its conclusion: "Faita language is presently dying out. When Faita women die, their husbands as a rule replace them by Gende women" (Z'graggen 1980*a*: vi). This is reflected today in the fact that the current *Ethologue* lists Kursav as "shifting" (Lewis et al. 2015), although according to their definitions the situation would be better described by their "moribund" category.

In addition to the wordlist he collected, Z'graggen also recorded the verbal object prefixes, the free pronominal forms, the inalienable possessive prefixes, and the negative particle *ma* (1980*a*: 84–88). Since his work on the language, I am aware of no other research on Kursav.

5.1.2. Data Sources

The data for this study come from my own fieldwork, which was conducted over three trips. I first visited Usino Station from February 11–13, 2006. During this time I was able to work with two elderly Kursav speakers on February 12. They had only spent parts of their

childhoods in Kursav villages, and had spent most of their lives speaking Sop. The data I collected on this trip proved to be quite unreliable.

I returned to Papua New Guinea to conduct further fieldwork on Kursav in 2012. This time, I went to the village myself, staying in the Makari clan hamlet of Karani for 16 days from February 16 to March 2. During this visit, I recorded and transcribed 51 minutes of connected speech, in addition to conducting many hours of elicitation. I visited the Makari hamlet again in 2014, staying from July 28 to August 9. During this visit, I recorded and transcribed another 36 minutes of connected speech, in addition to conducting more elicitation. This is the corpus that the present description is based on. Wherever possible, I have used examples drawn from the corpus of connected speech, although sometimes it has been necessary to use elicited examples, which I note in the text.

5.1.3. Typological Outline

Kursav is in many respects a typical head-final Papuan language. The basic word order of a transitive clause is SOV (§5.6) and it has postpositions (§5.3.5). Noun–adjective order is variable (§5.4.3), although adjectives are probably best analyzed as a subclass of nouns (§5.3.2.4), and demonstratives follow nouns (§5.4.5).

A subclass of nouns, primarily consisting of body parts and kin terms, is inalienably possessed (§5.3.2.3). Other than the inalienable possession prefixes, nouns have relatively little morphology. Verbs, on the other hand, distinguish a number of inflectional categories. Uniquely among the Sogeram languages, they mark object agreement via prefixes on the verb (§5.5.3.4). The typical Papuan distinction between medial and final

verbs can be made, although there is an irrealis inflection (§5.5.1.5) which can be used both medially and finally. Final verbs primarily distinguish future vs. non-future, but habitual, imperative, and uncertain future verb forms also exist (§5.5.1). Medial verbs mark switch reference, distinguishing same-subject from different-subject, and, in different-subject verbs, distinguishing sequential from simultaneous action (§5.5.2). In addition, Kursav possesses an adjectival participle (§5.5.3.1) and a desiderative suffix (§5.5.3.2). It also allows for a certain amount of verb serialization (§5.5.3.5).

Kursav clauses are fairly sensitive to pragmatic notions. Several demonstrative forms allow for a topic suffix to be attached (§5.3.6.1), and there is also a dedicated focus marker (§5.8.2). In the clause, one sees frequent use of the topicalization construction (§5.6.4) as well as right-dislocation (§5.6.5). There is also a construction in which a clause chain is nominalized and functions as a noun in a matrix clause (§5.7.2). Finally, Kursav speakers make frequent use of tail–head linkage, especially in narrative (§5.8.1).

5.2. Phonology

The consonant inventory of Kursav is presented in Table 1. Where the orthographic symbol used in this sketch differs from the phonetic symbol, the orthographic symbol is given in <angled brackets> to the right.

Table 1. Kursav consonant inventory

	bilabial	alveolar	palatal	velar	labial-velar
voiceless plosive	p	t		k	(kw)
voiced prenasalized plosive	mb \<b\>	nd \<d\>		ŋg \<g\>	(ŋgw \<gw\>)
voiceless fricative		s			
voiced fricative	β \<v\>			ɣ \<h\>	
nasal	m	n		ŋ	
flap		ɾ \<r\>			
glide			j \<y\>		w

The consonants /h/ and /ŋ/ are both fairly rare, so I present the near-minimal triplet and the minimal pair below to illustrate their contrastiveness with likely allophones.

suhuv	'forest'	*niŋ*	'sharp'
sukuna	'closed'	*nɨn*	'3PL'
sugo	'hair'		

The voiceless stops, the fricatives /s/ and /h/, the nasals, and the glides all exhibit little allophonic variation. The voiced stops lose their prenasalization when pronounced utterance-initially (or sometimes word-initially).

/b d g/ >   [b d g] / #__

            [mb nd ŋg] / elsewhere

Similarly, /v/ and /r/ have the word-initial allophones [ɸ] and [l], respectively. The latter is also found after /n/.

/v/ >   [ɸ] / #__

        [β] / elsewhere

/r/ >   [l] / #__

            n__

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[ɾ] / elsewhere

It is unclear whether the labial-velars /kw/ and /gw/ should be considered consonants or consonant clusters. Certainly /kw/ is quite frequent, appearing 26 times in my lexicon of approximately 700 items. This far exceeds the frequency of any other consonant cluster: the lexicon contains three tokens of /gw/, four of /kr/, and two of /pr/. Rather, the frequency of /kw/ is comparable to that of other low-frequency phonemes, such as /ŋ/ (17 tokens) and /h/ (16 tokens). But frequency alone is not sufficient to establish that something is a phoneme, and I have found only one piece of phonological evidence that bears on the question, and it too is inconclusive.

The (other) consonant clusters that are allowed as onsets are /s/+/p, k/; /p, k, b, g/+/r/; and /skr/. All of these sometimes occur with an epenthetic [ɨ] between the consonants, and this [ɨ] will then sometimes be rounded to [ʉ] or [u] in the presence of another round vowel, so that a root like s*kra* 'put' can be pronounced as shown below.

/skra/	+	/-o/	→	[skɾo] ~ [sɨ.kɾo] ~ [skɨ.ɾo] ~ [skʉ.ɾo] ~ [sku.ɾo]
'put'		'3PL.NFUT'		'they put'

The sequences [kw] and [gw], however, never occur with epenthetic [ɨ]. It is difficult to interpret this as conclusive evidence in favor of their being phonemes, though, for two reasons. First, an epenthetic [ɨ], were it inserted, would be expected to assimilate to the following [w] in roundness and be very difficult to detect. And second, even if it could be shown that [ɨ] is never inserted, one could simply argue that this is articulatorily natural and not necessarily indicative of any deeper phonemic reality.

The vowel inventory of Kursav is shown in Table 2.

Table 2. Kursav vowel inventory

	front	central	back
high	i	ɨ	u
mid	e		o
low		a	

In addition, Kursav allows the following diphthongs: /au/, /ai/, /ei/, /ou/, and /oi/. Note that all of these diphthongs are rising: adjacent falling vowels are separated by an epenthetic glide, as shown below.

/karia/   →   [ka.ɾi.ja]
'betelnut'   'betelnut'

/idua/   →   [i.ndu.wa]
'bad'   'bad'

The high vowels have voiceless allophones that occur word-finally following voiceless consonants.

/i ɨ u/ >   [i̥ ɨ̥ u̥] /   C$_{[-voice]}$__#

            [i ɨ u] / elsewhere

This allophony is illustrated below with the 2sg possessive pronoun /naku/. In addition, sometimes a voiceless vowel will metathesize with the preceding consonant, as illustrated with /buvusi/ 'tree species' and /pakuti/ 'one.'

/naku/   →   [naku̥]
'your (sg)'   'your (sg)'

/buvusi/   →   [bu.βu.si̥] ~ [bu.βuis]
'tree species'   'tree species'

/pakuti/   →   [pa.ku.ti̥] ~ [pa.kwit]
'one'   'one'

Both processes—vowel devoicing and metathesis—appeared to be more common with my primary consultant than with other speakers.

The distinction between the mid vowels /e, o/ and their high counterparts /i, u/ appears to carry a fairly low functional load. However, they are distinct phonemes, as the minimal pair and near minimal pair below illustrate.

guro 'speech'	*kena* 'seven'
guru 'unite'	*kinam* 'near'

The status of /ɨ/ as a phoneme is somewhat less clear. In other Madang languages, such as Kalam (Pawley & Bulmer 2011) and Anamuxra (Ingram 2001), [ɨ] is a fully predictable, non-contrastive vocoid that is not phonemic. While my corpus does not contain a minimal pair to illustrate the contrast between [ɨ] and Ø, there are two reasons for considering [ɨ] a phoneme in Kursav. The first is its behavior in vowel elision, which is described in §5.2.1 below. The second is its behavior in forms like /gapɨra/ 'all.' As described above, an epenthetic [ɨ] is sometimes inserted into consonant clusters like /pr/. However, this [ɨ] is not always added, and the cluster /pr/ is usually pronounced [pɾ]. However, /gapɨra/ is always pronounced [gapɨra], which suggests that the [ɨ] in this form, and similar forms, is phonemic. Thus we can posit a near-minimal pair between /gapɨra/ and /kopra/ 'jump.'

5.2.1. Morphophonemics

The only morphophonemic process I describe for Kursav is vowel elision. In this process, the final vowel of a verb root is elided in the presence of a vowel-initial suffix, as illustrated with *va* 'say' and *-e* '3SG.NFUT' below.

/va/	+	/-e/			→	[ɸe]
'say'		'3SG.NFUT'				's/he said'

This process also occurs with /ɨ/-initial suffixes, such as *–it* '1SG.IRR,' as illustrated with *kevu* 'throw' below. However, when an /a/-final or /o/-final root is combined with a /ɨ/-initial suffix, as illustrated with *aba* speak and *ruko* 'see,' the /ɨ/ is elided instead of the stem vowel.

/vu/	+	/-ɨt/	+	/-Ø/	→	[ɸɨt]
'get'		'IRR'		'1SG'		'I would get'

/aba/	+	/-ɨt/	+	/-Ø/	→	[a.mbat]
'speak'		'IRR'		'1SG'		'I would speak'

/ruko/	+	/-ɨt/	+	/-a/	→	[lu.ko.ta]
'see'		'IRR'		'2SG'		'you would see'

5.3. Word Classes

There are six primary word classes: verbs, nouns (which include adjectives, quantifiers, and numerals), adverbs, pronouns, postpositions, and demonstratives. I discuss each of these in turn in the sections below.

5.3.1. Verbs

Verbs are words that can inflect for subject and object agreement and are marked for various TAM distinctions. They can be divided into three subclasses based on their morphological behavior, to which can be added the irregular verbs. The relevant dimensions of variation are the behavior of the third person non-future suffixes and the behavior of the non-third person non-future suffixes.

The third person non-future suffixes are, for most verbs, *–e* '3SG.NFUT' and *–o* '3PL.NFUT,' as illustrated with *akunu* 'sleep' in (1). However, some verbs that end in high vowels, such as *kevu* 'throw' (2), take the allomorphs *–i* '3SG.NFUT' and *–u* '3PL.NFUT' instead.

(1) *akun-e*   *akun-o*
    sleep-3SG.NFUT   sleep-3PL.NFUT
    's/he slept'   'they slept'

(2) *kev-i*   *kev-u*
    throw-3SG.NFUT   throw-3PL.NFUT
    's/he threw'   'they threw'

In the non-third person, most verbs insert the element *ua* between the stem and the person marker, as illustrated with *mata* 'leave' (3). However, some verbs that end in /a/ do not insert this element, such as *aba* 'speak' (4). And there is one irregular verb, *ve* 'come,' which inserts the element *ia* instead (5).

(3) *mat-ua*   *mat-uar*
    leave-1SG.NFUT   leave-1PL.NFUT
    'I left'   'we left'

(4) *aba-Ø*   *aba-r*
    speak-1SG.NFUT   speak-1PL.NFUT
    'I spoke'   'we spoke'

(5) *v-ia*   *v-iar*
    come-1SG.NFUT   come-1PL.NFUT
    'I came'   'we came'

Thus, there are four logical possibilities: verbs that take *–e/-o* in the third person and insert *ua* in the non-third person; verbs that take *–e/-o* and do not insert *ua*; verbs that take *–i/-u* and insert *ua*; and verbs that take *–i/-u* and do not insert *ua*. Of these possibilities, the last is not attested, leaving the three verb classes exemplified in Table 3, plus irregular verbs.

Table 3. Verb classes

		third person	
		–e/–o	*–i/–u*
non-third	*–ua*	*mata* 'leave'	*kevu* 'throw'
person	*–Ø*	*aba* 'speak'	not attested

In addition to these primary classes, there are a few irregular verbs. As I have already mentioned, *ve* 'come' has irregular non-third person non-future forms, and also has the irregular 3PL.NFUT form *vi-o*. The related verb *seve* 'bring' has the same irregularities (e.g., the 3PL.NFUT form of *seve* is *sevi-o*).

In 'stay,' *vu* 'get,' and *du* 'do' all have irregular same-subject forms (see §5.5.2.1): *i-da*, *vɨsa-da*, and *na*, respectively.

Du 'do' also has an irregular participial form (see §5.5.3.1), *dɨ-m*.

Ita 'hold' combines irregularly with the 3PL object prefix *nɨn-*, yielding *nin-ta*. *Bu* 'give' takes an irregular 3SG object prefix *u-* (see §5.5.3.4 and §5.6.2).

5.3.1.1. Verb Adjuncts

Verb adjuncts are invariant particles that do not take any morphology. They express prototypically verbal meanings, however, and always occur with a light verb that bears the verbal morphology. Examples include *takura* 'appear' (6), which occurs with *vɨga* 'fall,' and *taidua* 'mess up' (7), which occurs with *du* 'do.'

(6) *Oma* **takura** *vɨg-e*
     new **appear** fall-3SG.NFUT
     'A new (custom) appeared.'

(7) *Iduabe gapɨra* **taidua** *d-o.*
     thing all **mess.up** do-3PL.NFUT
     'They messed everything up.'

Verbs are a closed class in Kursav; when verbs are borrowed, they are borrowed as verb adjuncts that take the verb *du* 'do,' as illustrated with the Tok Pisin borrowing *raikim* 'like' (8).

(8)   *Ya*   *do-ka*   **raikim**   *d-ua.*
       1SG   FD-TOP   **like**   do-1SG.NFUT
       'I like that one.'

Note that nouns and adjectives can often resemble verb adjuncts. For example, the word *mi* 'thought' is clearly a noun in (9), as it is possessed by the pronoun *yaku* and functions as the object of the postposition *bin.* In (10), though, it is the object of *rama* 'put,' and the two function together to mean 'think.' It is possible that most forms that I currently analyze as verb adjuncts may actually be nouns or adjectives.

(9)   *Yaku*   **mi**   *bin*   *ma.*
       1SG.POSS   **thought**   LOC   NEG
       '(It) wasn't my idea (lit. '(It) wasn't in my thoughts').'

(10)   *Ohia*   *ni-tar*   *soro,* **mi**   *rama-da* *m-o.*
       Ogia   3SG.POSS-man.in.law   COM   **thought**   put-SS   go-3PL.NFUT
       'Ogia and his in-law thought and thought (lit. 'thought and went').'

5.3.2. Nouns

Nouns can serve as the subjects or objects of verbs, and as objects of postpositional phrases. They can be divided into four subclasses: common, proper, inalienably possessed, and adjectival.

Common and proper nouns are open classes, as shown by *misin* 'mission' in (11) and *Usino* (the name of a government station) in (12).

(11)   *Ruk-o*   *ma, kad-eke*   **misin**   *kura* *vi-o*   *ka-ka=si ...*
       see-3PL.NFUT   NEG do.thus-3SG.DS   **mission**   man   come-3PL.NFUT   MD-TOP=BEN
       'They didn't know, and so missionaries came and ...'

(12) *An-rapo-da*   **Usino**   *m-e.*
1PL.OBJ-accompany-SS   **Usino**   go-3SG.NFUT
'He took us to Usino.'

5.3.2.1. Common Nouns

Common nouns are a residual class consisting of those nouns that are neither proper, inalienably possessed, nor adjectival. When functioning locatively, they usually occur with the locative postposition *bin* (13), although this is not required for some nouns, such as *vuruva* 'village,' that are often used as locative arguments (14).

(13) **Suar**   *bin*   *aku-da*   *in-e.*
jail   LOC   sleep-SS   stay-3SG.NFUT
'He's sleeping in jail.'

(14) *Kura* **vuruva,**   *nɨga*   *mo-da ...*
man **village**   SPEC   go-SS
'A man would go to a village, and ...'

5.3.2.2. Proper Nouns

Proper nouns refer to specific entities. They can modify other nouns attributively, as *Yani* modifies *gwayam* in (15), and, when they are place names, they function as locative arguments without additional morphology, as illustrated with *Ouran*.

(15) *Awia,*   **Yani**   *gwayam,*   *an-rapo-da,*   **Ouran**   *m-e.*
father.1SG.POSS **Yani**   old.man   1PL.OBJ-accompany-SS   **Garaligut**   go-3SG.NFUT
'My father, old Yani, took us to Garaligut.'

5.3.2.3. Inalienably Possessed Nouns

Inalienably possessed nouns take obligatory possessive prefixes, which indicate the person and number of the possessor. They consist primarily of kin terms and body parts, although a few other forms, like *–kwadim* 'shadow' and *–kwai* 'friend,' are also inalienably possessed. They are a closed class.

The possessive prefixes are presented in Table 4. The 1SG.POSS and 3SG.POSS variants are lexically selected for. *A-* is quite rare, appearing only on a handful of kin terms. The 3SG.POSS variants are more common, and *nu-* is particularly common in the presence of round vowels. The /ɨ/ at the end of the plural prefixes also often rounds to /u/ in the presence of round vowels in the root.

Table 4. Inalienable possessor prefixes

	SG	PL
first person	*ya-, a-*	*anɨ-*
second person	*na-*	*nanɨ-*
third person	*nɨ-, ni-, nu-, no-*	*ninɨ-*

Table 4 presents some examples of inalienably possessed nouns. The first two lines illustrate the predominant pattern. The third line shows the less frequent 1SG.POSS prefix *a-*, and the fourth line illustrates suppletion in the 1SG.POSS category, which occurs with a number of kin terms. The fifth line also illustrates 1SG.POSS suppletion, although in this case the suppletive form is a common noun meaning 'woman.' It also illustrates that when the plural prefixes are combined with an *n*-initial root, the final /ɨ/ is not pronounced and the form is pronounced with a long [n].

Table 5. Some Kursav inalienably possessed nouns

1SG.POSS	2SG.POSS	3SG.POSS	1PL.POSS	2PL.POSS	3PL.POSS	Gloss
yakoma	*nakoma*	*nukoma*	*anɨkoma*	*nanɨkoma*	*nunukoma*	arm, hand
yakwai	*nakwai*	*nukwai*	*anukwai*	*nanukwai*	*nunukwai*	friend
ames	*names*	*nɨmes*	*anɨmes*	*nanɨmes*	*ninɨmes*	aunt
ania	*namɨge*	*nɨmɨge*	*anɨmɨge*	*nanɨmɨge*	*ninɨmɨge*	mother
duv yaku	*nanaba*	*ninaba*	*annaba*	*nannaba*	*ninnaba*	wife

Inalienably possessed nouns can be pluralized by placing the plural word *ŋata* (which is *hata* for some speakers) after the noun. Note that although inalienably possessed nouns

mark the person and number of their possessor, they can still occur with free possessive pronouns that also index this possessor. The plural word is placed after this pronoun, when it is present (16), and before a possessive pronoun that agrees with the head noun (17). Note also that pluralization is not restricted to inalienably possessed nouns, as the second instance of *ŋata* in (16) occurs with a human common noun, *gwayam* 'old man.' Additionally, *ŋata* has been elicited with non-human nouns (18), although it does not occur in such a context in the corpus.

(16)   *Waiba*   *yaku*   **ŋata** *kum-o,*   *gwayam* *yaku,*   **ŋata,**
grandfather.1SG.POSS   1SG.POSS   **PL**   die-3PL.NFUT   old.man   1SG.POSS   **PL**

       gapɨra   *kum-o.*
       all   die-3PL.NFUT
       'My grandfathers have died, my elders have all died.'

(17)   *Makari*   *guro*   *i-ka,*   *ya-sike*   **ŋata**   *nuku.*
Makari   speech   ND-TOP   1SG.POSS-grandfather   **PL**   3SG.POSS
       'This Makari language, it's my ancestors.''

(18)   *Iv*   *naku*   **ŋata**   *in-o*
house   2SG.POSS   **PL**   stay-3PL.NFUT
       'All your houses are there.'   Elicited

In addition, two inalienably possessed nouns, *awia* 'father.1SG.POSS' and *ania* 'mother.1SG.POSS,' have special vocative forms: *awi* 'father.VOC' and *ani* 'mother.VOC,' respectively.

It also seems that the 3SG inalienable possessor prefix can be used as a part-of prefix in some cases. In (19), for example, the semantic relationship between *kidɨr* 'root' and *tar* 'tree' is a part–whole relationship, which appears to be what *ni-* is expressing in this instance.

This usage of *ni-* also extends to some quantifiers, such as *vam* 'much, many' (20), but a fuller understanding will require further research.

(19) *tar   ni-kɨdɨr*
tree   3SG.POSS-root
'tree roots'   Elicited

(20) *Kad-e   ka=si,   ya   guro   **ni-vam**   aba-t-Ø   ma.*
do.thus-3SG.NFUT   MD=BEN   1SG   speech   **3SG.POSS-many**   speak-IRR-1SG   NEG
'Therefore, I won't talk too much.'

5.3.2.4. Adjectives, Quantifiers, and Numerals

Adjectival forms are best analyzed as a subclass of nouns. They most closely resemble common nouns in their syntactic behavior, with only a few differences. Like nouns, they can modify head nouns attributively (21), and they can also head their own noun phrase (or occur in a headless noun phrase), as in (22).

(21) ***Nuaya**   kura   i-ka,   mo-da   tawa   nunuk   taski-md-e.*
white   man   ND-TOP   go-SS   paper   3PL.POSS   make-FUT-3SG
'This white man will go and write their paper.'

(22) *Ivo-ku   **nuaya**   ab-e.*
hit-1SG.DS   **white**   speak-3SG.NFUT
'I hit (it) and the white (man) spoke.'

However, attributive common nouns always precede their head (see §5.4.2), but attributive adjectives may follow it (23). The order of a given noun-adjective pair appears to be lexically specified: all nine examples of *nuaya kura* 'white man' in my corpus appear in the order adjective–noun, while all three examples of *kura agɨdem* 'good man' appear in the reverse order. The factors conditioning these orders are still unknown, although it seems that neither the noun nor the adjective alone is enough to predict the word order.

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(23) *Ya   kura   **agɨdem.***
1SG   man   **good**
'I'm a good man.'   Elicited

Quantifiers behave similarly. They can head noun phrases, as in (24), where the specific quantifier *nɨga* is modified by the attributive noun phrase *anɨkuna nuku guro* 'our Father's speech.' They can also function attributively (25), although in this position, unlike adjectives and common nouns, they show a strong preference for following their head.

(24) *Ka, anɨ-kuna   nuku   guro   **nɨga** vɨsa-da v-e   ma.*
MD   1PL.POSS-father 3SG.POSS speech **SPEC** get-SS   come-3SG.NFUT NEG
'So, he didn't bring one (i.e., a picture) about God's (lit. 'our Father's') speech.'

(25) *Okei kura **nɨga,** kɨva-da   mo-da vuruva **nɨga** bin   ab-eke ...*
okay man   **SPEC** get.up-SS go-SS village **SPEC** LOC   speak-3SG.DS
'Okay, a man would get up and go talk in a village, and ...'

Numerals behave like other quantifiers or adjectives, although they exhibit more variability in their ordering with respect to their head, as shown with *ariga* 'two' in (26) and (27). They can also co-occur with other quantifiers, as shown in (28).

(26) *Ya Wauya, ya duv   **ariga** v-ua.*
1SG Wauya 1SG woman **two**   get-1SG.NFUT
'I'm Wauya, I married two women.'

(27) *Vikura, diri=nis,   **ariga** kura in-o.*
Fikura   mountain=from   **two**   man   stay-3PL.NFUT
'In Fikura, from the mountain, there are two men.'

(28) *Imuruba, duv   **pakwit** nɨga in-e.*
Imuruba   woman **one**   SPEC stay-3SG.NFUT
'In Imuruba, there's just this one woman.'

Uniquely among the Sogeram languages, Kursav has a decimal counting system. Numerals above 10 are formed with a multiplicative pair expressing the number of tens, in which the numeral indicating the number of tens is marked with the multiplicative suffix

-vra. This is followed by a numeral which is added to the multiplicative pair. For example, in (29), *ariga-vra yamesɨm* means 'two tens' or '20,' and *sake* is added to that to mean '23.'

(29) *ariga-vra   yamesɨm   sake*
     two-MULT ten   three
     'twenty-three'   Elicited

The form for 'one' that takes the *–vra* suffix is *pa* instead of *pakwit* (30). This example also illustrates the attributive use of complex numerals. '11' is unique in that the *pakwit*, which is present in (30), is often left out, and the numerals from 12 to 19 are unusual in that the *yamesɨm* 'ten' can be dropped. Thus 13 can be *pa-vra sake* 'one-MULT three.'

(30) *pa-vra   yamesɨm   pakwit   kwaida*
     one-MULT ten   one   chicken
     'eleven chickens'   Elicited

5.3.3. Adverbs

Adverbs are something of a heterogeneous word class, modifying a wide variety of constituents in a wide variety of ways. Sentential adverbs like *koiva* 'now' modify the whole predicate, and can be placed quite freely, as illustrated in (31) and (32).

(31) ***Koiva***   *Makari   nunuk   guro   aba-mis   d-ua*
     now   Makari 3PL.POSS speech speak-DESID do-1SG.NFUT
     'Now I want to speak Makari (clan)'s language.'

(32) *Guro   **koiva   bua**   aba-r.*
     speech   **now   enough**   speak-1PL.NFUT
     'Now we've spoken enough.'

Other adverbs tend to have meanings like 'very' or 'exactly,' and follow the element they modify. Some are restricted to modifying particular kinds of constituents, such as *kɨva* 'exactly,' which modifies human noun phrases and has the individuating and emphasizing function illustrated in (33) and (34).

(33)   *I-ka,*   *nu-mo*   **kɨva**   *ni-naba*   *iv-e.*
        ND-TOP 3SG.POSS-husband **exactly** 3SG.POSS-wife   hit-3SG.NFUT
        '(In) this (picture), the husband himself hit his wife.'

(34)   *Nɨn-ɨba*   **kɨva**   *mot*   *ita-da ...*
        3PL-EMPH **exactly** read hold-SS
        'They themselves will read it and ...'

Other adverbs can modify a wide variety of constituents, such as *pa* 'only,' which can occur after sentential adverbs (35), postpositional phrases (10), nouns (37), and demonstratives (38).

(35)   *Ka-ka*   *bua*   **pa**   *in-e*   *ma.*
        MD-TOP enough **only** stay-3SG.NFUT   NEG
        'That one isn't quite right.'

(36)   *Nɨn-ɨba*   *nuku* *vuruva* *bin* **pa**   *in-o.*
        3PL-EMPH POSS village LOC **only** stay-3PL.NFUT
        'They only stayed in their own village.'

(37)   *I-ka*   *anam*   **pa**   *ne-da ...*
        ND-TOP water **only** eat-SS
        '(In) this one they're just drinking beer (lit. 'water') and ...'

(38)   *Kursav* *guro*   *ka, ka-ka*   **pa**   *aba-da*   *dain-o.*
        Kursav speech MD MD-TOP **only** speak-SS walk-3PL.NFUT
        'The Kursav language, they used to just speak that.'

5.3.4. Pronouns

The Kursav personal pronouns are presented in Table 6.

Table 6. Pronouns

	Free	Possessive	Emphatic	Emphatic possessive
1SG	*ya*	*yaku*	*yaba*	*yaba yaku*
2SG	*na*	*naku*	*naba*	*naba naku*
3SG	*ni, nu*	*nuku*	*nɨba*	*nɨba nuku*
1PL	*an*	*anuku*	*anɨba*	*anɨba nuku*
2PL	*nan*	*nanuku*	*nanɨba*	*nanɨba nuku*
3PL	*nɨn*	*nunuku*	*nɨnɨba*	*nɨnɨba nuku*

Kursav distinguishes two primary pronominal forms, free and possessive. The 3SG free pronoun *nɨ* will occasionally be rendered *nu*, and this pronunciation is accepted by speakers in isolation, although it is much rarer than *nɨ* in connected speech. Examples of free pronouns are given in (39) and (40), and examples of possessive pronouns are given in (41) and (42). Note that possessive pronouns can either precede or follow their head noun. Additionally, especially with the longer plural possessive pronouns, the final /u/ is often elided.

(39)   *Koiva*   **ya**   *aba-da,*   *pepa*   *bin*   *kev-ua*
        now   **1SG**   speak-SS   paper   LOC   throw-1SG.NFUT
        'Now I'm talking, and putting (lit. 'throwing') (my words) onto the paper.'

(40)   **Nɨ**   *nɨga*   *ruko-da*   *aba-md-e.*
        3SG   SPEC   see-SS   speak-FUT-3SG
        'He'll look at one and talk.'

(41)   *Koiva, ninibe*   **yaku**   *nuri*   *m-e.*
        now   name   **1SG.POSS**   inside   go-3SG.NFUT
        'Now, my name is going inside (the recorder).'

(42)   *Kaura*   *ramɨra-da,*   **nunuku**   *tubuna*   *biras*   *ka*   *visa-da.*
        loincloth   tie.on-SS   **3PL.POSS**   ancestor   decoration   MD   get-SS
        'They put on loincloths, and got their ancestor decorations, and ...'

There is also a set of emphatic pronouns that is formed by attaching the suffix *–ba* to the free pronouns, as illustrated in (43). These can then be used to make emphatic possessive pronominal expressions by adding a possessive pronoun after the emphatic pronouns: either the appropriate person-marking form (in the singular) or simply the 3SG form *nuku* (in the plural). The latter possibility is illustrated in (44).

(43)   *Kɨm*   **an-ɨba**   *makono*   *kɨva*   *kɨm*   *aba-md-uar.*
        alright   **1PL-EMPH**   male   exactly   alright   speak-FUT-1PL
        'That's alright, just we men will talk.'

(44) **Nɨn-iba** **nuku** *vuruva bin pa in-o.*
 3PL-EMPH POSS village LOC exactly stay-3PL.NFUT
 'They just stayed in their own village.'

Finally, the emphatic pronouns can in turn be suffixed with *–ima* 'alone' (45).

(45) *Koiva* **ya-ba-ima,** *nuaya kura soro guro aba in-ua.*
 now 1SG-EMPH-alone white man COM speech speak stay-1SG.NFUT
 'Now I alone am talking with the white man.'

5.3.5. Postpositions

Postpositions are a small, closed word class. There are four postpositions in my corpus, plus three enclitics with similar functions and one subordinating morpheme, *kidi.* They are displayed in Table 7.

Table 7. Postpositions and noun phrase enclitics

Form	Meaning	Occurs with
soro	COMITATIVE	noun phrases
bisa	INSTRUMENTAL	noun phrases
bini	LOCATIVE	noun phrases
kwai	'inside'	noun phrases
kidi	LOCATIVE	subordinate clause chains
map	'like'	noun phrases, subordinate clause chains
=(n)i	LOCATIVE	noun phrases
=si	BENEFACTIVE	noun phrases
=(n)is	'from'	noun phrases

Aisde from *kidi*, these postpositions and enclitics all occur at the end of noun phrases and relate them obliquely to the predicate. Examples are given below of comitative *soro* (46), instrumental *bisa* (47), locative *bini* (48)—which is more often pronounced *bin* (49), although it is not clear what conditions this variation—*kwai* 'inside' (50), and *map* 'like' (51).

(46) *Ka-ka* *vɨsa-da ve-da,* *i-ka* **soro** *skra-ku.*
 MD-TOP get-SS come-SS ND-TOP COM put-2SG.IMP
 'Take that one and come put it with this one.'

(47) *Ukap kɨsar* **bisa,** *sagura* **bisa,** *wayake ivi-da ne-da...*
just spear INS arrow INS fish hit-SS eat-SS
'We'd shoot fish just with spears and arrows and eat them and ...'

(48) *Sanav kubut* **bini,** *mo-da rovra-da, in-o.*
stone cave LOC go-SS hide-SS stay-3PL.NFUT
'They'd go to a cave and hide.'

(49) *Nɨn-ɨba nuku vuruva* **bin** *pa in-o.*
3PL-EMPH POSS village LOC only stay-3PL.NFUT
'They just stayed in their own village.'

(50) *Anam* **kwai** *skra-kur, ibr-eke ne kevi-d-uar.*
water **inside** put-1PL.DS stink-3SG.DS eat throw-HAB-1PL
'We put it in water and when it rots we eat it.'

(51) *Koiva, ya kura* **map,** *in-ua.*
now 1SG man **like** stay-1SG.NFUT
'Now I live like a man.'

This last postposition is unique in that it allows not just a noun phrase as its object, but also nominalized clauses (see §5.7.2 for more detailed discussion of clause nominalization), as illustrated in (52).

(52) *[Gwayam gwayam, waiba, d-o]* **map** *aba-mis*
old.man old.man grandfather.1SG.POSS do-3PL.NFUT **like** speak-DESID

d-ua.
do-1SG.NFUT
'I'd like to talk about what the ancestors, the grandfathers, acted like.'

The morpheme *kidi* appears to have the same locative meaning as the locative postposition *bini*, but they occur in complementary distribution: *bini* only occurs with noun phrases, and never subordinates clauses in the way that *map* does, while *kidi* only occurs in this subordinating function (53). This suggests that it probably should not be considered a postposition, but rather a locative subordinator.

(53) *Kad-eke,*   [*ya   ya-ba-ima*   *in-ua*   ] **kidi,** *sarua ka-ka*
do.thus-3SG.DS   1SG   1SG-EMPH-alone   stay-1SG.NFUT   **LOC**   work   MD-TOP

vir-e.
appear-3SG.NFUT
'Therefore, where I was living alone, that work arose.'

The enclitics *=si* 'BENEFACTIVE' (16), *=ni* 'LOCATIVE' (55), and *=nis* 'from' (56) (the latter two of which become *=i* and *=is* after consonants) function much like postpositions in that they come after noun phrases and relate them obliquely to the predicate. The enclitic *=nis*, however, differs in that it can attach to postpositional phrases in addition to noun phrases (57). It is not clear how the locative enclitic *=ni* differs from the locative postposition *bini*.

(54) **Karia=si**   *sanav   u-b-ua.*
betelnut=BEN   money   3SG.OBJ-give-1SG.NFUT
'I gave her money for (i.e., to buy) betelnut.'

(55) *Kopra-da   mo-da* **suhuv=i**   *akun-e*   *waka.*
run-SS   go-SS   **forest=LOC**   sleep-3SG.NFUT   maybe
'Maybe he ran away and went to sleep in the forest.'

(56) *Vikura,* **diri=nis,**   *ariga kura in-o.*
Fikura   **mountain=from**   two   man   stay-3PL.NFUT
'In the Fikura (clan), from the mountain, there are two men.'

(57) *Nɨdɨr,*   *an   om* **bin=is**   *kura ka-ka   bua   pa   kwe.*
strength   1PL   land **LOC=from**   man   MD-TOP   enough   only   none
'Strength-wise, we mortal men (lit. 'men from the ground') aren't enough.'

5.3.6. Demonstratives

Demonstratives are a small, closed word class. They are composed of a root that indicates deictic distance (*i-* 'near,' *ka-* 'mid,' and *do-* 'far'), an optional topic suffix *–ka*, and a suffix that indicates the function of the demonstrative. The attested forms are given in Table 8.

Table 8. Demonstratives

	ND	MD	FD	QD
simple		*ka*	*do*	*ba*
simple topic	*i-ka*	*ka-ka*	*do-ka*	
locative	*(i-n)*	*ka-n*	*do-n*	*ba-n*
topic locative	*i-ka-n*	*ka-ka-n*	*do-ka-n*	*ba-ka-n*
simple existential	*i-ya*	*ka-ya*	*do-ya*	
topic existential	*i-ka-ya*	*ka-ka-ya*	*do-ka-ya*	
adverbial	*i-vav*	*ka-vav, ka-va*	*do-vav, do-vo*	*ba-va*
temporal				*ba-m*

As this table shows, there is also a fourth root, *ba-*, which I call the interrogative root. This root takes the same suffixes as the other demonstratives, but forms question words. So with the locative suffix –*n*, for example, it means 'where,' as in (58). This root is discussed in further detail in §5.6.7.2.

(58)   *Anam*   **ba-n**   *n-o?*
        water   **QD-LOC**   eat-3PL.NFUT
        'Where are they drinking beer (lit. 'water')?'

The middle distance forms are by far the most common, and the least semantically marked. They occur 634 times in my corpus, compared to 343 tokens of near forms and only 68 tokens of far forms.

Demonstratives can occur on their own, as in (59), they can function as determiners in a noun phrase (60), and they can be used as subordinators in the clause nominalization construction (see §5.7.2), as in (61).

(59)   **I-ka**   *nuai*   *in-e.*
        ND-TOP   different   stay-3SG.NFUT
        'This one is different.'

(60)   *Ya*   *nuaya*   *kura*   **i-ka**   *soro,*   *sarua*   *visa-da*   *in-uar.*
        1SG   white   man   **ND-TOP**   COM   work   get-SS   stay-1PL.NFUT
        'This white man and I are working.'

(61) *Ka   na   skra-md-uar **i-ka**   bua   pa   kwe.*
     MD   do.SS   put-FUT-1PL **ND-TOP**   enough   only   none
     '(If) we put them like that here, it won't be enough.'

5.3.6.1. Topic Suffix

The topic suffix *–ka* can attach to most demonstratives, in which case the demonstrative performs a topicalizing function. This is most apparent with the simple, otherwise unaffixed form. To illustrate, in a picture-sorting task, the speakers had been discussing the bad behavior of people in some of the pictures, when someone mentions a policeman who has arrested one of the troublemakers. A speaker then uttered (92), which topicalizes the policeman, whose virtue was then discussed in the following conversation. Contrast this with (63), from much earlier in the same recording. Here, the man marked with the simple form *ka* has been the subject of discussion for a few utterances, and continues to be discussed in the following conversation. No special topicalizing needs to be done to refer to him, and so the simple form *ka* is preferred.

(62) *Kura **ka-ka**   agɨdem nitɨbu   d-e.*
     man   **MD-TOP**   good   custom   do-3SG.NFUT
     'That man is behaving well.'

(63) *I-ka   kim   nu-kuna   ve-da   kura **ka**   it-o.*
     ND-TOP   bow   3SG.POSS-father come-SS   man   **MD** hold-3PL.NFUT
     'In this one, the policemen (lit. 'bow's fathers') are coming and holding that man.'

The topicalizing function of *–ka* can also be seen in the Tok Pisin translations that speakers use to translate recordings. The somewhat analogous left-dislocation construction, which serves a similar topicalizing function in Tok Pisin, is more commonly used to translate *–ka*-marked demonstratives than others. However, there are numerous examples that do not fit neatly into this analysis, and there are probably other factors that

condition the choice of determiner suffix. Notably, the simple and locative near demonstrative forms do not even have a topic distinction, using the topic suffix in all circumstances. And the topicalizing function of –*ka* appears to be less pronounced when it precedes, rather than follows, its nominal head, as (64) illustrates (see §5.4 for a discussion of noun phrase word order).

(64) *Kunɨbar   iv   rip-uar.   **Ka-ka**   sarua   vɨsa-da   in-uar*
     Sunday   house   thatch-1PL.NFUT   **MD-TOP**   work   get-SS   stay-1PL.NFUT

   in-uar   in-uar.
   stay-1PL.NFUT   stay-1PL.NFUT
   'We built a church. We did that work and stayed and stayed and stayed.'

5.3.6.2. Simple Form

The simple form of the demonstrative indicates deictic distance, and, as with most demonstratives, is restricted to definite referents. As mentioned above, there is no simple near demonstrative; the topic form is used for both simple and topic functions.

(65) *Agɨdem   **do**   ruk-uana?*
     good   **FD**   see-2SG.NFUT
     'Do you see that good one?'

(66) *Makari   ya   ya-ba-ima,   guro   **ka**   ita   in-ua.*
     Makari   1SG   1SG-EMPH-alone   speech   **MD**   hold   stay-1SG.NFUT
     'In Makari (clan), I alone am holding (on to) the language.'

5.3.6.3. Locative

The suffix –*n* creates locative demonstratives that mean 'here' or 'there.' As with the simple form, the near root *i-* must occur with the topic suffix (93), although it can occur without the topic suffix in some fixed expressions (68). The other forms can occur either with or without that suffix, although in texts the only forms attested lack it (69).

(67) *I-ka-n*   *skur*   *idua*   *d-e.*
     ND-TOP-LOC   school   bad   do-3SG.NFUT
     'The school here is bad.'

(68) *Kura nin-ivo-da,*   ***i-n***   *kev,*   *ka-n*   *kev,*   ***i-n***   *kev,*   *ka-n*   *kev.*
     man 3PL.OBJ-hit-SS   **ND-LOC**   throw   MD-LOC   throw   **ND-LOC**   throw   MD-LOC   throw
     'They shot people, (shooting) here and there, here and there.'

(69) ***Do-n***   *skra-da*   *be.*
     FD-LOC   put-SS   Q
     'Put it there first.'

5.3.6.4. Existential

The existential suffix *–ya* indicates that the referent is present in the physical environment of the speaker. All 68 tokens of this suffix in my corpus occurred during the picture-sorting task, when speakers were referring to pieces of paper that they were handling. These forms are usually used predicatively, as in (70), but they can also function as clause nominalizers (§5.7.2), in which case the subordinate construction is often found on its own, functioning insubordinately (per Evans 2007) as a presentative construction.

(70) *Ya*   *ruk-ua*   *ka-ka*   ***ka-ya.***
     1SG   see-1SG.NFUT   MD-TOP   **MD-EXST**
     'The one I'm looking at is there.'

(71) *Rubrama-da*   *in-e*   ***i-ka-ya.***
     sit-SS   stay-3SG.NFUT   **ND-TOP-EXST**
     'Here he's sitting down.'

Recall that adjacent falling vowels are separated by epenthetic glides (§5.2), so that the combination of the suffix *–ya* and the near demonstrative root *i-* (72), is phonetically identical to a hypothetical form /ia/: both are pronounced [i.ja].

(72) *Nɨga*   ***i-ya.***
     SPEC   **ND-EXST**
     'Here's one.'

5.3.6.5. Adverbial

The adverbial suffix –*vav*, which can also be rendered –*va* (on *ka-*) or –*vo* (on *do-*) and which forms an adverb that means 'in this/that manner,' is very rare, and was found only in elicitation. The variation in phonological shape that it exhibits is not understood, and may be meaningful.

In natural speech, speakers accomplished a similar function by combining a simple demonstrative with a form of the verb *du* 'do,' as in (73). This combination can also be used with a participial form of 'do' to essentially form an adjective that means 'like this' or 'like that' (74).

(73) *Ka   na   aba   skra-da   in-ua.*
     MD   do.ss   speak   put-SS   stay-1SG.NFUT
     'I spoke thus (lit. 'did that and spoke'), and stayed (there).'

(74) *Kura, ka-ka   dɨ-m   nɨga   v-e.*
     man   MD-TOP   do-PTCP   SPEC   come-3SG.NFUT
     'Such a man (lit. 'a that-doing man') came.'

5.3.6.6. Temporal

The temporal suffix –*m* has only been observed on the interrogative demonstrative, where it forms a word that means 'when' (75). This form also sometimes occurs with a repeated demonstrative root, as in (76); it is unclear how this affects the meaning of the form. (It should also be noted that it may be a repetition of the whole word *bam*, since, given the prenasalization on /b/, this would be phonetically identical to the transcribed form.)

(75) *Ba-m   neite   waka,   guro   kev-it-Ø,   Vikura   gwayam   ariga*
     QD-TEMP   time   maybe   speech   throw-IRR-1SG   Fikura   old.man   two

> *ve-md-o.*
> come-FUT-3PL
> 'Whenever I send word, two Fikura (clan) elders will come.'

(76) *Na*   **ba-ba-m**   *neite*   *vu-md-uara?*
      and   **QD-QD-TEMP**   time   get-FUT-2PL
      'And when will you guys take it (back)?'

5.4. Noun Phrase Structure

Noun phrase structure is somewhat difficult to describe, owing to the relatively free placement of several elements. Possessive pronouns, adjectives, and some determiners can be found on either side of the head noun. However, restricting the description to non-pronominal possessors and the majority of determiners, we can outline the structure of the noun phrase as follows:

$$\text{Poss} \quad \text{N}_{\text{ATTR}} \quad \text{N}_{\text{HEAD}} \quad \text{Det}$$

All elements are optional, including the head noun.

5.4.1. Possessor

Recall that Kursav distinguishes between alienable and inalienable possession. Inalienably possessed nouns bear a prefix indicating the person and number of the possessor, and this prefix is often the only way that possession is marked (77).

(77) *Kura*   *i-ka*   **ni**-*naba*   *vuk-e.*
      man   ND-TOP   **3SG.POSS**-wife   slap-3SG.NFUT
      'This man is slapping his wife.'

The possessor of an inalienably possessed noun can also be emphasized with a preceding emphatic pronoun, as in (6).

(78) *Om magra visa-da, **ya-ba** **ya**-koma bin skra-da ...*
land pull get-SS **1SG-EMPH** **1SG.POSS**-arm LOC put-SS
'I'll get the land back, and put it in my own hands, and ...'

If the possessor of an inalienably possessed noun is overtly expressed, it usually precedes the possessed noun without any special marking, as with the proper noun *Gua* in (79) and the common noun *kim* in (80). Sometimes, though, an overt possessive pronoun is inserted between the possessor and the possessed noun, as in (81), where *nuku* marks *anɨkuna kwanar* 'our big Father' as the possessor.

(79) *Okei **Gua** **nɨ**-mɨda Wauya ab-e ka-ka ...*
okay **Gua** **3SG.POSS**-son Wauya speak-3SG.NFUT MD-TOP
'Okay, what Gua's son Wauya said ...'

(80) *I-ka, **kim** nu-kuna.*
ND-TOP **bow** 3SG.POSS-father
'This is a policeman (lit. 'bow's father').'

(81) *Anɨ-kuna kwanar **nuku** nɨ-sɨbɨka bin.*
1PL.POSS-father big **3SG.POSS** 3SG.POSS-mouth LOC
'(It was accomplished) by God's mouth.'

Possession of common nouns is similar, but this overt possessive pronoun is always present, as in (82). Note that it need not be the 3SG pronoun *nuku* if the possessor is not 3SG, as in (83). Note also that the possessor can be modified, as with the plural word *ŋata* in (82) and the adjective *kwanar* 'big' in (84).

(82) *Makari guro i-ka, **ya-sike** ŋata nuku,*
Makari speech ND-TOP **1SG.POSS-grandfather** PL 3SG.POSS

Ania yaku nuku, guro.
mother.1SG.POSS 1SG.POSS 3SG.POSS speech
'This Makari language, it's my grandparents,' my mother's language.'

(83) ***Nuaya** **nunuk** iduabaya bin, nuri kev-ua.*
white **3PL.POSS** thing LOC inside throw-1SG.NFUT
'Into the white people's thing (i.e., recorder), I've thrown (my speech) in.'

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(84) **Yaku**   *nɨdɨr*   *bin* *ma.* **Anɨ-kuna**   *kwanar* *nuku*   *nɨdɨr*
      1SG.POSS   strength   LOC   NEG   1PL.POSS-father   big   3SG.POSS strength

  bin. **Anɨ-kuna**   *kwanar* *nuku*   *nɨ-sɨbɨka*   *bin.*
  LOC   1PL.POSS-father   big   3SG.POSS 3SG.POSS-mouth   LOC
  '(It) wasn't (accomplished) by my strength. It was by God's (lit. 'our Big Father's')
  strength. By God's mouth.'

Pronominal possessors of common nouns can either precede or follow their head.

While the factors that govern the decision are not completely understood, one factor

appears to be a preference for not having too many modifiers on any one side of the noun.

So when there is an attributive noun before the head noun, such as *Kursav* in (30), the

possessive pronoun follows the head. But when there is a demonstrative after the head, the

possessor precedes it (31).

(85) *Kursav*   *guro*   **yaku**   *Makari*   *pakwit* *ma.*
      Kursav   speech   1SG.POSS   Makari   one   NEG
      'My Kursav language isn't (the language of) only Makari (clan).'

(86) **Anuku**   *guro*   *ka-ka*   *kumo-mis* *d-e.*
      1PL.POSS   speech   MD-TOP   die-DESID   do-3SG.NFUT
      'Our language is about to die.'

Like many other elements in the noun phrase, possessors can occur on their own; a

noun phrase that consists solely of a possessive pronoun is shown in (87).

(87) *Duv*   *naku*   *in-e;*   **yaku**   *ve-md-e.*
      woman   2SG.POSS   stay-3SG.NFUT 1SG.POSS   come-FUT-3SG
      'Your wife is here; mine will come.'   Elicited

5.4.2. Attributive Noun

Nouns can modify other nouns attributively, in which case the attributive noun precedes

the head noun. This can be seen with the different modifiers of *iv* 'house' in (17) and (89).

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(88) **Tor** *iv* *bin* *rubram-e.*
court house LOC sit-3SG.NFUT
'He's sitting in a courthouse.'

(89) *Nan gapɨra, sarigi na, sɨkasɨka* **so** *iv mo-kura=i v-oko …*
2PL all line.up do.SS completely **feces** house go-2PL.IMP-INT say-3PL.DS
'"All of you, line up and go all the way to the toilet," they said, and …'

The attributive noun position allows for a certain amount of complexity, as can be seen from the attributive noun–possessor pair *anou yaku* 'my younger same-sex sibling' in (90) and the adjectival *kriha vum* 'doing joint work' modifying the attributive noun *sarua* 'work' in (91). It is unknown whether a full noun phrase can function attributively, but there are examples of nominalized clauses (see §5.7.2) functioning as attributive nouns, as illustrated in (92). These last two examples can be analyzed as two kinds of Kursav GNMCCs.

(90) *Midim, awia yaku, Yani gwayam,* **anou** *yaku*
before father.1SG.POSS 1SG.POSS Yani old.man **k.o.sibling.1SG.POSS** 1SG.POSS

Poroi soro, an-rapo-da Usino m-e.
Poroi COM 1PL.OBJ-accompany-SS Usino go-3SG.NFUT
'Long ago, my father, old man Yani, took me and my younger brother Poroi to Usino.'

(91) **Kriha** *vu-m* **sarua,** *mot.*
joint.work get-PTCP **work** day
'(It's) community work day.'

(92) **Duv** *ariga v-ua* **ka** *guro aba-Ø.*
woman two get-1SG.NFUT **MD** speech speak-1SG.NFUT
'I told the story of (how) I married two women.'

5.4.3. Adjective

Adjectives function quite similarly to nouns, but differ in that they sometimes precede and sometimes follow their head. As mentioned in §5.3.2.4 above, the order appears to be relatively fixed for each pair, but it is difficult to describe patterns for any particular

adjective or noun. Thus an adjective like *agɨdem* 'good' precedes the noun *nitɨbu* 'custom' both times that they co-occur in my corpus (93), but follows *kura* 'man' all three times that they co-occur (94). One cannot ascribe this order to the other lexeme, either: for example, *kura* is preceded by the adjective *nuaya* 'white' all nine times that they co-occur (95).

(93) *Kura   ka-ka   **agɨdem**   nitɨbu   d-e.*
man   MD-TOP   **good**   custom   do-3SG.NFUT
'That man is behaving well.'

(94) *Ya   kura   **agɨdem.***
1SG   man   **good**
'I'm a good man.'   Elicited

(95) ***Nuaya*** *kura   nɨga,   rabɨra-t-a   ve-da   ya   soro   inu-koro.*
white   man   SPEC   send-IRR-2SG   come-SS   1SG   COM   stay-3SG.IMP
'Send a white man to come stay with me.'

Adjectives appear to prefer following a possessive pronoun, and a single noun phrase can contain more than one, as in (96)—although this requires analyzing the plural word *ŋata* as an adjective, which it may not be.

(96) *Waiba   yaku   **ŋata   sakum**   ka   vi-o.*
grandfather.1SG.POSS   1SG.POSS   **PL   many**   MD   come-3PL.NFUT
'My many grandfathers came.'   Elicited

Adjectives can also occur on their own in a noun phrase (97).

(97) *Ivo-ku   **nuaya**   ab-e.*
hit-1SG.DS   **white**   speak-3SG.NFUT
'I hit (it) and the white (man) spoke.'

5.4.4. Postpositional Phrase

My corpus does not contain any examples of postpositional phrases occurring inside of noun phrases. However, the enclitic *=is* 'from,' which functions in many ways like a postposition, can occur inside a noun phrase, before the head noun, as illustrated in (98).

This enclitic can also co-occur with other postpositions, such as *bini* 'LOCATIVE,' inside a noun phrase (99).

(98) ***suhuv=is***   *kura*
     forest=from   man
     'a man from the forest'   Elicited

(99) *Nɨdɨr,*   *an*   ***om***   ***bin=is***   *kura*   *ka-ka*   *bua*   *pa*   *kwe.*
     strength   1PL   **land**   **LOC=from**   man   MD-TOP   enough   only   none
     'Strength-wise, we mortal men (lit. 'men from the ground') aren't enough.'

5.4.5. Determiner

As mentioned in §5.3.6, demonstratives can function as determiners in the noun phrase, in which case they follow all other noun phrase constituents (100).

(100) *Vuruva*   *nɨga*   ***ka,***   *ab-e.*
      village   SPEC   **MD**   speak-3SG.NFUT
      '(In) a village, he spoke.'

The only exceptions to this are the near and mid topic demonstratives, *ika* (101) and *kaka* (102), which can precede their head noun. It is unclear how this construction differs from the normal post-nominal order, illustrated in (103) and (104). The two orders appear to be about equally frequent in discourse.

(101) *Nɨ*   *mi*   *ram-e*   *map*   ***i-ka***   *sarua*   *v-uar?*
      3SG   thought   put-3SG.NFUT   like   **ND-TOP**   work   get-1PL.NFUT
      'Are we doing the work he was thinking of (lit., 'Like he was thinking, are we doing this work')?'

(102) ***Ka-ka***   *guro*   *ab-oko*   *ya*   *aba-Ø,*   *mm.*
      MD-TOP   speech   speak-3PL.DS   1SG   speak-1SG.NFUT   mm
      'They said that and I said, "Mm."'

(103) *Ve-da*   *piksa*   ***i-ka***   *ruko-ku.*
      come-SS   picture   **ND-TOP**   see-2SG.IMP
      'Come look at this picture.'

(104) *Mo-da,   tar   nimia   **ka-ka**   bin   in-eke ...*
        go-SS   tree   stump   **MD-TOP**   LOC   stay-3SG.DS
        'He goes and stays by that tree stump and ...'

5.4.6. Coordination

In this section I discuss noun phrase coordination, as well as coordination of larger elements. Kursav does not have a dedicated coordinator, meaning that the most common strategy for coordination is simple juxtaposition. This can be accompanied by an intonational break (105), but it does not have to be (106).

(105) ***Awia,***   ***ania,***   *midim,   kɨvɨr   bin   in-uar.*
       father.1SG.POSS   **mother.1SG.POSS**   before   darkness   LOC   stay-1PL.NFUT
       'Our ancestors, before, we used to live in darkness.'

(106) ***Awia***   ***ania***   *gapɨra   kumo   kad-o.*
       father.1SG.POSS   **mother.1SG.POSS**   all   die   do.thus-3PL.NFUT
       'My fathers and mothers have all died.'

Example (105) above shows a coordinated noun phrase in topic position (see §5.6.4), while (106) shows one in subject position (§5.6.1). Example (107) below shows a coordinated noun phrase functioning as an object (§5.6.2).

(107) *Okei   mo-da   **nu-wia**   **nu-koma**   waka   ram-o   i-ya.*
       okay   go-SS   **3SG.POSS-leg**   **3SG.POSS-arm**   tie   make-3PL.NFUT   ND-EXST
       'Okay, here's (the one where) they go tie up his arms and legs.'

It is also possible to coordinate noun phrases using the comitative postposition *soro* (see §5.3.5). In (108), for example, the postpositional phrase *nɨtar soro* 'with his in-law' forms part of the subject, as evidenced by the plural verb agreement on *mo* 'they went.' However, postpositional phrases with *soro* can also function as oblique arguments, as in (109), where the verb agreement remains singular in spite of the presence of the *soro* phrase.

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(108) **Ohia nɨ-tar   soro,** *mi   rama-da   m-o.*
    Ogia 3SG.POSS-man.in.law   COM thought make-SS go-3PL.NFUT
    'Ohia and his in-law thought and thought (lit. 'and went').'

(109) *Nuaya kura nɨga, rabɨra-t-a   ve-da*   **ya soro** *inu-koro.*
    white   man SPEC send-IRR-2SG come-SS **1SG COM** stay-3SG.IMP
    'Send a white man to come stay with me.'

Disjunctive ("or") coordination is accomplished with the interrogative marker *be*, which is discussed in greater detail in §5.6.7.1. This marker can be used to coordinate both noun phrases (110) and clauses (111).

(110) *I-ka*   **be** *i-ka?*
    ND-TOP **Q** ND-TOP
    'This one or this one?'

(111) *Anam ne-da   in-e*   **be,** *itu*   *ne-da*   *in-e?*
    water eat-SS stay-3SG.NFUT **Q**   tobacco eat-SS stay-3SG.NFUT
    'Is he drinking beer (lit. 'water') or smoking tobacco?'

Finally, the Tok Pisin loanword *na* 'and' can be used to coordinate clauses conjunctively (112), and there are some poorly understood sentence-final particles that can be used, apparently, to coordinate clauses. These include *ke* 'and' (113), as well as the contrastive form *kwarako* 'but' (114), which can also be rendered *kwara* (115).

(112) *Ka-ka   gapɨra pakwit* **na**   *i-ka*   *pakwit nuai*   *in-e.*
    MD-TOP all   one   **and** ND-TOP one   different stay-3SG.NFUT
    'Those are all one (kind) and this one is a different (kind).'

(113) *Iv   nami,   bua   in-uara*   **ke,** *anɨ-kuna*   *nuk*   *guro,*
    house inside enough stay-2PL.NFUT **and** 1PL.POSS-father 3SG.POSS speech

    kumo mata-koro   **ke,** *nan ariga ita   inu-kura-i*   *va-da   ab-eke ...*
    die   leave-3SG.IMP **and** 2PL two   hold stay-2PL.IMP-INT say-SS speak-3SG.DS
    'He said, "You guys can stay at home, and our Father's (i.e., God's) talk can't die, so you two preserve it," and he spoke and ...'

(114) *Ka-ka*   *ini-md-e*   **kwarako,**   *iduabaya*   *i-ka*   *vavai*   *tasururu*   *na*
        MD-TOP   stay-FUT-3SG   **but**   thing   ND-TOP   quickly   straight   do.SS

        skra-da   *be.*
        put-SS   Q
        'That one will stay, but let's quickly straighten these things out.'

(115) *I-ka,*   *anam*   *ne*   *skra-da*   *nu-kwai*   *u-bu-n*   *va-da*
        ND-TOP   water   eat   put-SS   3SG.POSS-friend   3SG.OBJ-give-1SG.IMP   say-SS

        d-e   **kwara,**   *nu-kwai*   *mat-ua*   *v-eke ...*
        do-3SG.NFUT   **but**   3SG.POSS-friend   leave-1SG.NFUT   say-3SG.DS
        '(In) this one, he drinks the beer (lit. 'water') up and wants to give his friend (some), but the friend says, "I don't want (lit. 'I leave') it," and ...'

5.5. Verb Morphology

Verbs are the most complex word class, morphologically speaking. As with many Papuan languages, it is useful to divide Kursav verb morphology into "medial" and "final" categories based on the behavior of morphemes in the clause chaining and switch reference system (see §5.7.1). Briefly, verbs marked with final morphology ("final" verbs) are fully finite and can stand on their own, whereas medial verbs receive their TAM information from the final verb of their sentence. In the next section I discuss final morphology, along with the irrealis mood (§5.5.1.5), which can be used both medially and finally. Medial morphology is discussed in §5.5.2, while morphology which is not easily classified as medial or final is discussed in §5.5.3.

5.5.1. Final Morphology

Final morphology consists of the two primary tenses, the future (§5.5.1.2) and the non-future (§5.5.1.1), as well as the habitual aspect (§5.5.1.3) and the imperative (§5.5.1.4) as

well as irrealis (§5.5.1.5) moods. There is also an additional, poorly understood form which I call the uncertain future (§5.5.1.6).

The basic verb template for final verbs is as follows:

<div align="center">root   TAM   Pers</div>

That is, the verb root, followed by a TAM suffix (for many, but not all, TAM categories), followed by the person/number agreement suffixes. A TAM suffix is absent in some non-future forms, in the imperative mood, and in the uncertain future.

5.5.1.1. Non–future

The non-future refers to present realis events and all past realis events, regardless of distance from the present. Recall from §5.3.1 that some verbs insert the element –*ua* into some non-future suffixes, while others do not. The forms for both of these verb classes are presented in Table 9 below; the choice between mid and high vowels in the third person -*ua* verbs is also lexically specified.

Table 9. Non-future tense suffixes

	–*ua*		–Ø	
	SG	PL	SG	PL
first person	–*ua*	–*uar*	–Ø	–*r*
second person	–*uana*	–*uara*	–*na*	–*ra*
third person	–*e/–i*	–*o/–u*	–*e*	–*o*

Examples of the non-future being used to refer to present (116), recent past (117), and far past (118) events are given below.

(116) *Ka-ka   bua   pa   **in-e**   ma.*
      MD-TOP   enough only **stay-3SG.NFUT**   NEG
      'That one isn't right.'

(117) **Kad-e**   ka-ka=si,   koiva,   kinarama,   giroma   **iv-ua.**
do.thus-3SG.NFUT   MD-TOP=BEN   now   morning   k.o.drum   hit-1SG.NFUT
'Therefore, this morning, I hit the *giroma* drum.'

(118) *O,*   *waiba*   *yaku*   *ŋata*   **kum-o.**
oh   grandfather.1SG.POSS   1SG.POSS   PL   die-3PL.NFUT
'My ancestors have died.'

Recall from §5.3.1 that the verb *ve* 'come' and the related verb *seve* 'bring' irregularly insert the element *–ia* instead of *–ua* in the non-future, as illustrated in (17).

(119) *Midim*   *skur*   *bin*   *i-da,*   *mata-da,*   *vuruva=ni*   **v-ia.**
before   school   LOC   stay-SS   leave-SS   village=LOC   come-1SG.NFUT
'Long ago, I was at school but I left and came home.'

5.5.1.2. Future –md

The future tense is used to refer to anticipated future events. The future suffix *–md* is quite plainly derived from the participial suffix *–m* (see §5.5.3.1) plus the verb *du* 'do' inflected in the non-future, but it has diverged somewhat from its etymological source phonologically, so that it is appropriate to consider it a fully grammaticalized tense suffix synchronically. The primary piece of evidence is that *du* itself has an irregular participial form *dɨ-m*, whereas in the future it uses its normal root *du*, as illustrated in (120). This may not appear to be the most convincing piece of evidence in light of the frequent rounding of /ɨ/ to [u] in the presence of round vowels like that found in the 3PL suffix *–o*, but the root is still realized as *du-* in the 3SG, which does not contain another round vowel: *du-md-e* [do-FUT-3SG] 's/he will do.' Moreover, the future tense triggers irrealis marking in medial verbs (see §5.5.1.5), suggesting that it is not synchronically a participle plus *du-* in the non-future.

Table 10 presents the future tense suffixes, while further examples are provided in (121) and (122).

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Table 10. Future tense suffixes

	SG	PL
first person	*–md–ua*	*–md–uar*
second person	*–md–uana*	*–md–uara*
third person	*–md–e*	*–md–o*

(120) *Vuru-m* **du-md-o** *ka-ka* *mot,* *Pabin.*
　　 unite-PTCP **do-FUT-3PL** MD-TOP day Friday
　　 'The day they'll get together is Friday.'

(121) *Nɨ* *nɨga* *ruko-da* **aba-md-e.**
　　 3SG SPEC see-SS **speak-FUT-3SG**
　　 'He'll look at one and talk.'

(122) *An* **kumo-md-uar** *ka,* *Makari* *guro* **kumo-md-e.**
　　 1PL **die-FUT-1PL** MD Makari speech **die-FUT-3SG**
　　 'If/when we die, the Makari (clan's) language will die.'

Note that the future tense is only used for affirmative future statements; negative future statements are made with the irrealis suffixes described in §5.5.1.5.

5.5.1.3. Habitual *–*dɨ

Habitual verbs can be formed in two ways, both of which use the same suffix, *–dɨ*. The first way is to simply attach this suffix, along with the nonpast subject agreement suffixes, to the verb that expresses the habitual action, as in (28). This paradigm is given in Table 11.

Table 11. Habitual suffixes

	SG	PL
first person	*–d–ua*	*–d–uar*
second person	*–d–uana*	*–d–uara*
third person	*–d–e*	*–d–o*

(123) *Nɨn* *rɨpa-da* **dai-d-o** *ma.*
　　 3PL fear-SS **walk-HAB-3PL** NEG
　　 'They were afraid and they didn't walk around (i.e., they stayed at home).'

Perhaps surprisingly, this strategy is far less frequent than the alternative, which is to place the verb that expresses the habitual action in a serial verb construction (§5.5.3.5) in which the last verb is either *du-* 'do' (124) or *kev-* 'throw' (125), and that verb bears the habitual suffix.

(124) *Ya   anam   **ne   du-d-ua**   ma   v-e.*
     1SG   water   **eat   do-HAB -1SG.NFUT**   NEG   say-3SG.NFUT
     '"I don't drink beer (lit. 'water')," he's saying.'

(125) *Mot   gapɨra,   sarua   ka   vu   **kevɨ-d-o.***
     day   all   work   MD   get   **throw-HAB-3PL**
     'Every day, they do the work.'

It is unclear why this strategy seems to be so strongly preferred, or what the difference is between habitual action expressed with *du-* or *kev-*. It seems that this construction is quite grammaticalized, though, as *kev-* can be used with itself to mark habitual throwing (126).

(126) *Kwaka-da,   anam   nuku   uva-da,   kin   bin   **kev   kevɨ-d-o.***
     cut-SS   water   3SG.POSS   blow-SS   sore   LOC   **throw   throw-HAB-3PL**
     'They cut it, blow its juices out and toss them into the sore.'

5.5.1.4. Imperative

The imperative mood is formed with the verb suffixes shown in Table 12. There is no 1PL form.

Table 12. Imperative suffixes

	SG	PL
first person	*–n*	
second person	*–ku*	*–kura*
third person	*–koro*	*–konou*

This mood is most often used to make second person commands, as illustrated in (127), although it can also be used to make third person optative statements (128). The similarity

of these two functions can be seen in (129), where what is pragmatically a second person command is said twice, once with a second person switch reference form (see §5.5.1.5 on the irrealis suffixes) and a third person imperative, and then immediately after that with a simple second person imperative.

(127) *Sarigi*   *du-kura.*
line.up   do-2PL.IMP
'You guys line (them) up.'

(128) *Ya-sike*   *yaku*   *ŋata*   *na,*   *muruvu*   *mata-konou.*
1SG.POSS-grandfather   1SG.POSS   PL   do.ss   buy   leave-3PL.IMP
'My grandchildren shouldn't buy it.'

(129) *Okei,*   *Wauya*   *wara-t-a*   *ve-koro.*   *Wauya*   *wara-ku.*
okay   Wauya   call.out-IRR-2SG   come-3SG.IMP   Wauya   call.out-2SG.IMP
'Okay, tell Wauya to come (lit. 'call Wauya and he should come'). Call Wauya.'

There is an additional suffix which is sometimes found on the 2SG and 2PL imperative forms. On the former it is realized as *–ye* (130), while on the latter it is *–i* (131). This suffix appears to intensify the imperative to which it is attached; for example, the two examples below are a forceful rejection of beer, and a father's solemn charge to his sons. Most second person imperatives in the corpus (46 out of 52) do not have the suffix.

(130) *Nɨ-vam*   *pa*   *u-bu-mis*   *d-eke,*   *nɨga*   *i-ka*
3SG.POSS-many   only   3SG.OBJ-give-DESID   do-3SG.DS   SPEC   ND-TOP

mata-ku-ye   *v-e.*
leave-2SG.IMP-INT   say-3SG.NFUT
'He$_i$ wants to give him$_j$ a lot, but this other one$_j$ says, "Stop it!"'

(131) *Nan*   *ariga*   *ita*   *inu-kura-i*   *va-da*   *ab-eke,*   *Kunɨbar*   *iv*
2PL   two   hold   stay-2PL.IMP-INT   say-ss   speak-3SG.DS   Sunday   house

rip-uar.
thatch-1PL.NFUT
'Saying, "You two preserve (the message)!" he spoke, and we built a church.'

As (128) and (130) above show, negative imperatives (i.e., prohibitives) are made with a serialized verb *mata* 'leave' and the imperative suffixes. Finally, the 1SG imperative suffix is also used in the desiderative construction (132), which is described further in §5.7.3.1.

(132) *Sake   bin   **ini-n**   va-da   v-e.*
     three   LOC   **stay-1SG.IMP**   say-SS   come-3SG.NFUT
     'She wanted to be in (grade) three (lit. 'said, "I should be in grade three"') and came.'

5.5.1.5. Irrealis –ɨt

The irrealis mood, which is unique in that it can be used both medially and finally, is formed with the irrealis suffix *–ɨt* in combination with the person agreement suffixes shown in Table 13.

Table 13. Irrealis suffixes

	SG	PL
first person	*–ɨt-Ø*	*–ɨt-ir*
second person	*–ɨt-a*	*–ɨt-ɨra*
third person	*–ɨt-e*	*–ɨt-o*

In the 3SG and 3PL, when the irrealis suffix *-ɨt* occurs next to a final /a/, the suffix-initial /ɨ/ combines with the /a/ and becomes a mid vowel, which then harmonizes to /e/ in the 3SG, as with the verb *va* 'say' in (133), and to /o/ in the 3PL.

(133) *Koiva   taidua   d-uara   **v-et-e**   ka,   niga   mɨne   rama*
     now   mess.up   do-2PL.NFUT   **say-IRR-3SG.NFUT**   MD   SPEC   time   make

     ruk-uar.
     see-1PL.NFUT
     'Now, if he says, "You guys messed it up," we try to do it another time.'

When used finally, the irrealis usually has a hypothetical or conditional reading, as in (134). It is also often used to make polite commands, in which case it is often found with

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the interrogative particle *be* (see §5.6.7.1), as in (135). And when negated, it can express a

range of meanings, including negative future (136) and negative deontic modality (87).

(134) *Kwe*   ***d-ɨt-e***   *ka,*   *ukap*   *ini-md-e.*
none   **do-IRR-3SG**   MD   just   stay-FUT-3SG
'If not, it'll just stay.'

(135) *Nɨga*   *i-ka*   *opim*   *na*   ***skra-t-a***   *be.*
SPEC   ND-TOP   open   do.SS   **put-IRR-2SG**   Q
'Open this other one and put it (down).'

(136) *Guro*   *ya*   *vam*   ***aba-t-Ø***   ***ma,*** *bua*   *aba-Ø.*
speech   1SG   many   **speak-IRR-1SG**   **NEG**   enough   speak-1SG.NFUT
'I won't speak too much, I've said enough.'

(137) *I-ka*   *skur*   *bin,*   ***in-ɨt-o***   ***ma.***
ND-TOP   school   LOC   **stay-IRR-3PL**   **NEG**
'They can't/shouldn't stay in this school.'

The irrealis is also used as a different-subject medial form (see §5.7.1 for more

discussion of medial morphology and switch reference) in future (155) and imperative (85)

sentences, as well as sentences that have final irrealis morphology (140).

(138) *Ba-m*   *neite*   *waka,*   *guro*   ***kev-ɨt-Ø,***   *Vikura*   *gwayam*   *ariga*
QD-TEMP   time   maybe   speech   **throw-IRR-1SG**   Fikura   old.man   two

ve-md-o.
come-FUT-3PL
'Whenever I send word, two Fikura (clan) elders will come.'

(139) *Nuaya*   *kura*   *nɨga,*   ***rabɨra-t-a***   *ve-da*   *ya*   *soro*   *inu-koro.*
white   man   SPEC   **send-IRR-2SG**   come-SS   1SG   COM   stay-3SG.IMP
'Send a white man to come (lit. 'and he should come') stay with me.'

(140) *Ka*   *na*   ***in-t-e***   *aba*   ***ruko-t-ir.***
MD   do.SS   **stay-IRR-3SG**   speak   **see-IRR-1PL**
'Let it stay like that and let's ask him first.'

It seems that speakers can plan the realis/irrealis nature of utterances fairly far in advance, as evidenced by the irrealis medial form in (141), which precedes its final future verb by three clauses and five intonational units.

(141) *Sure, tawa nunuk* **ve-t-e,** *nin-iba visa-da, nin-iba kiva*
after paper 3PL.POSS **come-IRR-3SG** 3PL-EMPH get-SS 3PL-EMPH exactly

mot ita-da, okei, guro nunuk nin-iba, varevu-md-o.
read hold-SS okay speech 3PL.POSS 3PL-EMPH hear-FUT-3PL
'Later, their book will come, and *they'll* take it, and they themselves will read it, okay, and *they* will understand their language.'

5.5.1.6. Uncertain Future

There is a rare and incomplete paradigm, presented in Table 14, which I refer to as the uncertain future—although later research may reveal a better label.

Table 14. Uncertain future suffixes

	SG	PL
first person		
second person	*–manau*	*–marau*
third person		

The only example of this form in the corpus is shown in (142). Attempts to elicit first and third person forms failed, which suggests that this TAM category only exists in the second person. However, the responses that speakers gave to elicitation attempts, such as the 1SG statement given in (143), shed light on the meaning of this verb form.

(142) *Na-ra soro* **mo-marau** *be v-e.*
2SG.POSS-k.o.sibling COM **go-2PL.UFUT** Q say-3SG.NFUT
'"Will you and your younger brother go?," he asked.'

(143) *Ve-md-ua waka.*
come-FUT-1SG maybe
'I may come.'   Elicited

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5.5.2. Medial Morphology

Medial morphology, as mentioned above, is nonfinite. Medial verbs receive TAM information from the final verb of their sentence, and are marked themselves for switch reference—that is, each medial verb is marked for the (non-)identity of its own subject with that of the following clause. This is discussed further in §5.7.1. The irrealis form, as mentioned in §5.5.1.5 above, can be used as a medial different-subject suffix. In addition, I discuss the same-subject suffix *–da* in the next section, and the (realis) different-subject paradigm in §5.5.2.2.

5.5.2.1. Same–Subject -da

The same-subject suffix is *–da.* This form is used in all realis and irrealis contexts, as illustrated by the non-future (144), habitual (145), future (146), and imperative (147) examples below. This suffix simply indicates that the action of the *–da*-marked verb is performed by the same subject as that of the following verb. The TAM information from the final verb of the chain has scope over the preceding medial verbs.

(144) *Nunuku tubuna biras   ka **visa-da, ramira-da** nɨn-ɨba nuku*
 3PL.POSS ancestor decoration MD **get-ss   tie.on-ss**   3PL-EMPH POSS

 vuruva bini pa   in-o.
 village LOC   only stay-3PL.NFUT
 'They took their ancestor decorations, tied them on, and just stayed in their own village'

(145) *Nɨn **rɨpa-da** dai-d-o   ma.*
 3PL **fear-ss**   walk-HAB-3PL NEG
 'They were afraid and they wouldn't go (anywhere).'

(146) *Nɨ   nɨga **ruko-da** aba-md-e.*
     3SG SPEC **see-ss** speak-FUT-3SG
     'He'll look at one and talk.'

(147) *Ve-ku.   **Ve-da**   piksa   i-ka   ruko-ku.*
     come-2SG.IMP **come-ss** picture ND-TOP see-2SG.IMP
     'Come. Come look at these pictures.'

Some particularly high-frequency verbs with *–da* appear to be either grammaticalizing into adverbial particles, or they can be serialized to some extent. An example is *mo-da* 'go-ss' in (148), which cannot take an object itself, but occurs between the verb *sarim du* [sell do] 'sell' and its object, *aya* 'food.'

(148) *I-ka   duv   ka-ka   aya,   **mo-da**   sarim   d-e.*
     ND-TOP woman MD-TOP food **go-ss** sell   do-3SG.NFUT
     '(In) this one, the woman goes and sells food.'

5.5.2.2. Different–Subject Sequential

The different-subject sequential medial verb is formed with its own paradigm of subject agreement suffixes, which is presented in Table 15.

Table 15. Different-subject sequential suffixes

	SG	PL
first person	*–ku*	*–kuru*
second person	*–kuna*	*–kura*
third person	*–eke/–ike*	*–oko/–uko*

The 3SG and 3PL forms exhibit some allomorphy: when following mid or low vowels, their first vowel is mid (149), but when following a high vowel, their first vowel is high (150).

(149) *Ka-ka   guro   **ab-oko**   ya   aba-Ø,   mm.*
     MD-TOP speech **speak-3PL.DS** 1SG speak-1SG.NFUT mm
     'They said that and I said, "Mm."'

(150) *I-ka*   *anam*   **u-b-ike**   *mat-ua*   *va-da ...*
        ND-TOP water 3SG.OBJ-give-3SG.DS   leave-1SG.NFUT say-SS
        'This one$_i$ is giving him$_j$ water, but he$_j$ doesn't want it (lit. 'says, "I$_j$ leave it"') and
        ...'

This verb form indicates that the subject of the marked verb differs from that of the following verb. In my corpus it only occurs with the non-future, although presumably it would be used in a habitual sentence as well. Examples (151) and (152) illustrate its typical use.

(151) *Giroma*   *iv-ua.*   **Ivo-ku**   *nuaya* *ab-e.*
        k.o.drum hit-1SG.NFUT **hit-1SG.DS**   white speak-3SG.NFUT
        'I struck the *giroma* drum. I struck it and the white (man) spoke.'

(152) *Ni-naba*   **iv-eke,**   *kim* *nu-kuna*   *ve-da*   *ita*   *in-e.*
        3SG.POSS-wife **hit-3SG.DS**   bow 3SG.POSS-father   come-SS hold stay-3SG.NFUT
        'He$_i$ hit his$_i$ wife, and the policeman$_j$ (lit. 'bow's father') comes and holds him$_i$.'

Note that this paradigm typically expresses sequential action, while a different paradigm exists for simultaneous action. However, some of the examples above, such as (150), could be construed as expressing simultaneous action. Moreover, the sequential forms are much more common than the simultaneous forms. It seems that the sequential paradigm is the default paradigm, and it can be used for sequential events or simultaneous events when simultaneity is not highlighted. For this reason, I do not overtly gloss this verb form as sequential.

5.5.2.3. Different–Subject Simultaneous

The different-subject simultaneous paradigm is given in Table 16. These forms are plainly derived via reduplication from the irrealis verb forms (§5.5.1.5), although the process is opaque enough now that they are best analyzed as monomorphemic suffixes.

Table 16. Different-subject simultaneous suffixes

	SG	PL
first person	*–titɨ*	*–titir*
second person	*–tata*	*–titɨra*
third person	*–tete*	*–toto*

The only example of this verb form occurring in my corpus is quite disfluent and not reproducible. But elicitation revealed that this paradigm expresses that the action of the marked verb is still taking place while the action of the following verb is taking place. The elicited minimal pair in (153) and (154) illustrates this by contrasting it with the regular different-subject paradigm. Another example is given in (155).

(153) *Ya*　**ve-ku**　　　　*in-e.*
　　　1SG　**come-1SG.DS**　　stay-3SG.NFUT
　　　'I arrived and (then) he was there.'　　　　　　　　　　　　Elicited

(154) *Ya*　**ve-titɨ**　　　　　*in-e*
　　　1SG　**come-1SG.DS.SIM**　　stay-3SG.NFUT
　　　'I was still coming and he was (already) there.'　　　　　　Elicited

(155) *An*　**aba-titir**　　　　*v-e.*
　　　1PL　**speak-1PL.DS.SIM**　　come-3SG.NFUT
　　　'We were still talking when he came.'　　　　　　　　　　Elicited

5.5.3. Other Morphology

There are a number of verb suffixes that cannot easily be classified as either medial or final, and I discuss these here. They include the adjectival participle *–m*, discussed below, the desiderative suffix *–misi* (§5.5.3.2), the negative nominalizer *–ba* (§5.5.3.3), and the object prefixes (§5.5.3.4). In addition, while serialized verbs are characterized not by their morphology but rather by their lack of it, they are discussed in §5.5.3.5.

5.5.3.1. Adjectival Participle –m

The suffix *–m* functions to derive adjectives from verbs. Recall that adjectives are best considered a subclass of nouns (§5.3.2.4), namely one that is distinguished by its ability to appear in attributive position on either side of the head noun (as opposed to only on the left). Adjectival forms derived with *–m* also exhibit this property: witness the pre-nominal attributive *yatah dɨ-m* 'selling' in (156) and the post-nominal attributive *kaka dɨm* 'doing that' in (119).

(156) **Yatah dɨ-m**   *vuruva bin   som-e.*
      sell   do-PTCP   village LOC   take-3SG.NFUT
      'He's taking (them) to market (lit. 'selling-village').'

(157) *Kura, ka-ka   **dɨ-m**   nɨga v-e.*
      man   MD-TOP **do-PTCP**   SPEC come-3SG.NFUT
      'One such man (lit. 'a that-doing man') came.'

Like other adjectives, they can head noun phrases by themselves, as shown by the subjects of the two nonverbal clauses in (158).

(158) *At   **dɨ-m**   agɨdem, at   **dɨ-m**   idua, ka-ka   nɨ-ba,   ve-da*
      what **do-PTCP** good   what **do-PTCP**   bad   MD-TOP 3SG-EMPH come-SS

      aba-md-e.
      speak-FUT-3SG
      'What sort are good, what sort are bad, about that, he himself will come and talk.'

Examples (119) and (158) above also illustrate the fact that participial verbs retain their capacity for some arguments, as both have objects. The examples below illustrate the capacity of participles to have subjects (159), objects that are marked prefixally on the participle (160), and oblique arguments (120).

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(159) *Ania*   *yaku*   **kumo-m**   *ripa-Ø.*
      mother.1SG.POSS   1SG.POSS   **die-PTCP**   fear-1SG.NFUT
      'I'm afraid of my mother dying.'   Elicited

(160) *duv*   **nin-ivo-m**   *kura*
      woman   **3PL.OBJ-hit-PTCP**   man
      'a man who beats women (lit. 'a woman-hitting man')'   Elicited

(161) *Ya*   *taun*   *bin*   **mo-m**   *ripa-Ø.*
      1SG   town   LOC   **go-PTCP**   fear-1SG.NFUT
      'I'm afraid of going to town.'   Elicited

Finally, it appears that adjectival participles always refer to the action of the verb, never to the agent or the patient. Even *kin raguram* in (120), which appears at first glance to be an agent nominalization, is best analyzed as referring to the event of caring, not to the person who cares, and modifying an understood, but absent, head 'person.' This analysis preserves the most semantic homogeneity with the other occurrences of *–m.* It also also strongly resembles other occurrences of adjectives, such as that shown in (163), which comes from the same context as (120) (namely, a list of noteworthy people who might come to a village).

(162) *Kin*   **ragura-m,**   *v-e.*
      sore   **care.for-PTCP**   come-3SG.NFUT
      'A doctor (lit. 'sore-caring-for (person)') comes.'

(163) *Nuaya*   *v-e.*
      white   come-3SG.NFUT
      'A white (person) comes.'

5.5.3.2. Desiderative –misi

The suffix *–misi* (usually shortened to *–mis*) signals that the action of the marked verb is desired or about to happen. Verbs in *–misi* are most commonly found with a following *du* 'do,' in which case this primary meaning of desire (164) or imminence (165) is highlighted.

(164) *Nɨga   ya   ruk-ua   i-ka   anam   nɨ-vam   pa*
      SPEC   1SG   see-1SG.NFUT   ND-TOP water   3SG.POSS-many   only

     u-bu-mis   *d-e.*
     3SG.OBJ-give-DESID   do-3SG.NFUT
     '(In) this one I'm looking at, he wants to give him a lot of beer (lit. 'water').'

(165) *Anuku   guro   ka-ka   **kumo-mis**   d-e.*
      1PL.POSS   speech   MD-TOP   **die-DESID**   do-3SG.NFUT
      'Our language is about to die.'

However, *–misi* can also occur with other verbs following it, such as *ve* 'come' in (166). In this construction it functions like a sentential adverb, modifying the action of the main verb by expressing the desires of the subject.

(166) *At   i-ka   **an-ivo-misi**   vi-o   va-da...*
      what   ND-TOP   **1PL.OBJ-hit-DESID**   come-3PL.NFUT   say-SS
      '"What things wanted to kill us and came (lit. 'came, wanting to kill us')?" they said and ...'

Finally, verbs in *–misi* can also occur as the only verb in an independent utterance, as in (167), which was said as a directive during a cooperative picture-sorting task. It is unclear exactly how this use of *–misi* functions. Some uses appear somewhat ambiguous, such as (168), in which it is unclear whether the first verb, which bears *–misi*, is best analyzed as an independent verb that is coordinated with the following future tense verb *dɨmde*, or as an adverbial form that modifies *dɨmde*.

(167) *Sure   ka-ka   na   **skra-mis.***
      after   MD-TOP   do.SS   **put-DESID**
      'Let's/we'll put this one after (those) like this.'

(168) *Ba-ba-m   neite   waka   kwe   **dɨ-mis**   kwe   dɨ-md-e.*
      QD-QD-TEMP   time   maybe   none   **do-DESID**   none   do-FUT-3SG
      'And whenever (this work) wants to finish, it will finish.'

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5.5.3.3. Negative Nominalizer –ba

The suffix –*ba* is rare and not well understood, but it appears to function as a nominalizer that creates nouns that refer to not performing the action of the verb. This suffix always occurs with the negative morpheme *ma*, and is also always followed by the verb *du-* 'do' (which suggests that perhaps –*ba* forms verb adjuncts instead of nouns). The only example of this suffix in my corpus is (128), but more examples were elicited, such as (129). This example suggests that –*ba* may also mean that the action *will* be performed; note the 'yet' in the translation. But a fuller understanding of this suffix will have to await further research.

(169) *Bua   pa   ma   **di-ba**   d-eke ...*
      enough   only   NEG   **do-NEG.NMLZ**   do-3SG.DS
      'It wasn't good, so ...'

(170) *An   ma   **na-bu-ba**   d-uar*
      1PL   NEG   **2SG.OBJ-give-NEG.NMLZ**   do-1PL.NFUT
      'We haven't given it to you yet.'   Elicited

5.5.3.4. Object Prefixes

Human objects are marked on some verbs with an object prefix. The form of these prefixes is given in Table 17.

Table 17. Object prefixes

	SG	PL
first person	*ya–*	*an–*
second person	*na–*	*nan–*
third person	*Ø–, u–*	*nɨn–*

The syntactic behavior of verbal object marking is described in greater detail in the section on objects (§5.6.2). Here I focus on the form of object marking. The plural prefixes

insert an epenthetic /ɨ/ between their final consonant and the first consonant of the verb when these would form what is presumably an unacceptable consonant cluster (although I have not conducted enough research into phonotactics to be sure), as in (171), but not when the cluster is permissible (172) or when the verb is vowel-initial. The only vowel-initial verbs that are attested with object prefixes are *ita* 'hold' and *ivo* 'hit,' and these vowels simply form a diphthong with the vowels from the singular prefixes *ya-* and *na-* (173).

(171) *Rɨpa,   mata-kura-i   va-da, aba   **ninɨ-b-uko**   varevɨsa-da ...*
      fear   leave-2PL.IMP-INT   say-ss speak **3PL.OBJ-give-3PL.DS**   hear-ss
      '"Don't be afraid," they_i informed them_j, and they_j listened and ...'

(172) ***An-rapo-da***   *Usino   m-e.*
      1PL.OBJ-accompany-ss   Usino   go-3SG.NFUT
      'He took us to Usino.'

(173) *Ya   kada   **ya-it-e.***
      1SG   disease **1SG.OBJ-hold-3SG.NFUT**
      'I'm sick.'   Elicited

The examples above also illustrate the fact that object prefixes can occur on medial different-subject (171) and same-subject (172) verbs, as well as final verbs (173). The examples below show object prefixes on a desiderative verb (174) and a future verb (175).

(174) *Nɨ-vam   pa   **u-bu-mis**   d-eke ...*
      3SG.POSS-many   only **3SG.OBJ-give-DESID**   do-3SG.DS
      'He wanted to give him a lot, but ...'

(175) *Amarte   mo-da ya-ba   visa-da ve-da,   mohoi **ninɨ-bu-md-ua.***
      tomorrow   go-ss 1SG-EMPH   get-ss   come-ss   boy   **3PL.OBJ-give-FUT-1SG**
      'Tomorrow I'll go and I myself will get it and come (back) and give it to the boys.'

The 3SG prefix is null with most verbs, but *bu* 'give' takes the irregular prefix *u-* (176).

(176) *I-ka   anam   **u-b-ike**   mat-ua   va-da ...*
ND-TOP   water   **3SG.OBJ-give-3SG.DS**   leave-1SG.NFUT   say-SS
'This one_i is giving him_j beer (lit. 'water'), but he_j doesn't want it (lit. 'says, "I_j leave it"') and ...'

It could be argued that these prefixes should be considered proclitics. They do not always attach to the verb, but rather to the first element in the adjunct–verb pair, as illustrated in (177).

(177) *Ya   **nin-totou**   **d-ua.***
1SG   **3PL.OBJ-question**   **do-1SG.NFUT**
'I'm asking them.'   Elicited

5.5.3.5. Serialized Verbs

Kursav allows a limited amount of verb serialization. In this construction, one or more unaffixed verbs precede the final verb of the clause, which bears all of the verbal morphology. This morphology can be medial, as in (178), or final, as in (179). Occasionally a serial verb construction (SVC) will contain more than two verbs, as in (180) or (79), but this is rare. Serialized verbs all have the same subject.

(178) *Om   **magra   visa-da,**   ya-ba   ya-koma   bin   skra-da ...*
land   **pull   get-ss**   1SG-EMPH   1SG.POSS-arm   LOC   put-SS
'(I will) take back the land, and put it into my own hand, and ...'

(179) *Mo-da   tor   bin   **ragota   in-e**   i-ka-ya.*
go-SS   court   LOC   **stand   stay-3SG.NFUT**   ND-TOP-EXST
'He went and he's standing in court here.'

(180) *Nu-koma   **waka   rama   skra-da**   in-e,   do-ya.*
3SG.POSS-arm   **tie   put   put-ss**   stay-3SG.NFUT   FD-EXST
'He tied his hands and is staying, over there.'

(181) *Itu   **kra   ne   kevi-d-o.***
tobacco   **burn   eat   throw-HAB-3PL**
'They used to smoke tobacco.'

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Because the verbs in SVCs are all adjacent, one may wonder whether this construction should be considered compounding instead of serialization. There are two reasons to prefer the serialization analysis. The first is that, very rarely, speakers may pause between the verbs of a serialized sequence, as in (182). The second is that object prefixes occur on the final verb of the series, thus separating the serialized verbs (183).

(182) *R*ɨ*pa,* *mata-kura-i* *va-da ...*
fear leave-2PL.IMP-INT say-SS
'"Don't be afraid," they said, and ...'

(183) *Kad-e* *ka=si,* *at* *va-da* ***aba*** ***u-b-uar?***
do.thus-3SG.NFUT MD=BEN what say-SS **speak** **3SG.OBJ-give-1PL.NFUT**
'Therefore, what do we tell him (lit. 'we say what and address him')?'

The first verb in an SVC can be a complex verb composed of a verb adjunct and its associated light verb (see §5.3.1.1), as with the Tok Pisin borrowing *opim du* 'open' in (184) and the native Kursav form *kaba ivo* 'fight' in (185). There are no examples in the corpus of a verb adjunct occupying the last position of an SVC.

(184) *Maski,* *n*ɨ*ga,* ***opim*** ***du*** *ruko-ku.*
nevermind SPEC **open** **do** see-2SG.IMP
'Nevermind, try to open another one.'

(185) ***Kaba*** ***ivo*** *in-o.*
fight **hit** stay-3PL.NFUT
'They're fighting.'

SVCs normally have quite transparent meaning that is simply composed of the meanings of the serialized verbs, as in (186).

(186) *Kura* *nɨn-ɨba,* *imɨre* *dai-da,* *vuruva vuruva guro* ***aba*** *m-o.*
man 3PL-EMPH path walk-SS village village speech **speak** go-3PL.NFUT
'The men themselves would walk around, talking and going from village to village.'

Certain verbs, however, when they occupy the last position in an SVC, have a more grammatical interpretation. For example, *in* 'stay' is often interpreted aspectually, rather than lexically, in this position, meaning 'continuous' (187) or 'stative' (188).

(187) *Nan   at   guro   **aba**   **in-uara?***
      2PL   what   speech **speak** **stay-2PL.NFUT**
      'What are you guys talking about?'

(188) *Mo-da   tor   bin   **ragota**   **in-e**   i-ka-ya.*
      go-SS   court   LOC   **stand**   **stay-3SG.NFUT**   ND-TOP-EXST
      'He went and he's standing in court here.'

Both *kadu* 'do thus' (189) and *skra* 'put' (190) can be used to mark completive aspect. It is unclear how they differ in this construction.

(189) *Koiva   **kumo**   **kad-oko**   anou   yaku   ŋata   **kumo***
      now   **die**   **do.thus-3PL.DS**   k.o.sibling.1SG.POSS   1SG.POSS   PL   **die**

      kad-oko,   oke   sarua   ka-ka   vɨr-e.*
      do.thus-3PL.DS   okay   work   MD-TOP   appear-3SG.NFUT
      'Now they've died and my younger brothers have died, okay, and this work appeared.'

(190) *Anam   **ne**   **skra-da** …*
      water   **eat**   **put-ss**
      'He drank the beer (lit. 'water') up and …'

Mata 'leave, not want,' with imperative morphology, signals that the action of the previous serialized verb should not be performed (191). This use of *mata* with imperative morphology appears to be a dedicated prohibitive construction.

(191) ***Muruvu***   ***mata-da***   *ukap   vu-konou,   tawa   ka-ka.*
      buy   **leave-ss**   just   get-3PL.IMP   paper   MD-TOP
      'They shouldn't buy it, they should just take the book.'

Ruko 'see' indicates that the action of the previous verb was, or should be, attempted (37).

(192) *Maski,   nɨga, **opim du** ruko-ku.*
nevermind SPEC **open do** see-2SG.IMP
'Nevermind, try to open another one.'

There are also some pairs of verbs that have lexicalized. In some of these pairs, the second verb is one that is frequently used grammatically in second position. For example, *va ruko* [say see], which would normally mean 'try to say,' is used as an SVC of mental perception (193). And *aba ruko* [speak see] 'try to speak' means 'ask' (194). Other lexicalized pairs do not involve verbs functioning grammatically, such as *aba bu* [speak give], which means 'speak to, address, inform' (195).

(193) *Akun-e   va   ruk-ua.*
sleep-3SG.NFUT **say   see**-1SG.NFUT
'I think he's sleeping.'

(194) *Bua   task-uar   be va-da   **aba   ruko**-ku.*
enough arrange-1PL.NFUT Q say-SS **speak   see**-2SG.IMP
'Ask him if we arranged them well (lit. 'Say, "Did we arrange them well," and ask him').'

(195) *Kad-e   ka=si,   at   va-da   **aba   u-b-uar?***
do.thus-3SG.NFUT MD=BEN what say-SS **speak 3SG.OBJ-give**-1PL.NFUT
'Therefore, what do we tell him (lit. 'we say what and address him')?'

The argument structure properties of SVCs are not well understood. As noted above, all serialized verbs have the same subject. But not all serialized verbs will have the same objects and oblique arguments. For example, in (196) the first verb, *aba* 'speak,' has the object *guro* 'speech,' while the second verb, *in* 'stay' is intransitive. Similarly, in (197), the first verb, *rama* 'put,' has the object *mi* 'thought' and the oblique benefactive argument *audesi* 'for a canoe,' while neither of these noun phrases appears to be an argument of the second verb, *ruko* 'see.'

(196) *Tawa   i-ka   ruko-da   guro   **aba   in-uar.***
      paper   ND-TOP   see-SS   speech   **speak**   stay-1PL.NFUT
      'We're looking at these papers and talking.'

(197) *An   aude=si   mi   **rama   ruk-uar.***
      1PL   canoe=BEN   thought   **put**   see-1PL.NFUT
      'We need a canoe.'   Elicited

In both these examples, the first verb has arguments that the second does not. But in (76), for example, the first verb has the object *kaka guro* 'this speech,' but the second has the prefixed object *u-* 'him/her.'

(198) *Va-da   ka-ka   guro,   midim   **aba   u-b-ua.***
      say-SS   MD-TOP   speech   before   **speak**   3SG.OBJ-give-1SG.NFUT
      'I said that and I told him this stuff before.'

So while it is apparent that there is some combinatorial complexity allowed by the serializing construction, it is still unknown what the constraints on this complexity are, and the argument structure properties of Kursav SVCs remain a topic for future research.

Finally, there is one more peculiarity which should be noted. This is the somewhat rare use of bare verb roots as imperatives (199). This could be considered a sister construction to the serializing construction, due to the fact that they are the only two constructions to employ unaffixed verb roots. But a more precise analysis of this construction is not currently possible.

(199) *Nunu-kwadim   tawa   **seve.***
      3PL.POSS-shadow   paper   **bring**
      'Hand me the paper with pictures (lit. 'their shadows').'

5.6. Clause Structure

The general outline of the clause is summarized below:

(Subj)   (Obl)   (Theme)   (Recipient)   V

That is, the subject is the first constituent of the clause, followed by any oblique arguments, followed by any objects (with themes tending to precede recipients), followed finally by the verb complex (which includes any serialized verbs). The only obligatory constituent is the verb. However, it should be noted that this is a generalization based on relatively little data, as finding multiple overt nominal arguments inside the same clause is something of a rarity in Kursav discourse. Rather, it is common to find the participants in a given discourse either omitted, or spread out over multiple clauses. Sometimes this spreading appears to serve no function other than to reduce the "heaviness," in terms of overt arguments, of a clause. For example, the verb *moda* 'go and' in (200), contributes little to the sentence in terms of meaning, but appears rather to separate the oblique arguments *waiva soro* 'with a cassowary' and *tar nimia bin* 'at the base of a tree' into separate clauses. Given this tendency in Kursav discourse, any statements about the unmarked order of nominal arguments will have to be tentative.

(200) *Waiva   soro   mo-da   tar   nimia   bin   akun-e   be?*
       cassowary   COM   go-SS   tree   stump   LOC   sleep-3SG.NFUT   Q
       'Is he there with a cassowary sleeping at the base of a tree?'

In addition to the subject, object, and oblique arguments, which are discussed in the next three sections, Kursav clauses make frequent use of a topicalization construction (§5.6.4) as well as right-dislocation (§5.6.5). After discussing those constructions I turn to negative (§5.6.6) and interrogative (§5.6.7) clauses, and then discuss nonverbal clauses (§5.6.8).

5.6.1. Subjects

The subject precedes the object (if the object is not topicalized; see §5.6.4), as in the examples below. Subjects are also distinguished by triggering agreement in both medial (201) and final (202) verbs. They are not distinguished by any special case marking.

(201) *Kura* *i-ka*   *ni-naba*   *iv-eke ...*
     man   ND-TOP 3SG.POSS-wife hit-3SG.DS
     'This man hit his wife and ...'

(202) *Ya*   *duv*   *ariga*   *v-ua.*
     1SG woman two   get-1SG.NFUT
     'I married (lit. 'got') two women.'

When a subject includes a postpositional phrase with the comitative postposition *soro*, the comitative noun phrase will often be included in the subject, as shown by the agreement on *inuar* 'we stay' in (203). However, noun phrases with *soro* do not have to be included in the subject, as shown by the singular verb agreement in (204).

(203) *Ya* *nuaya* *kura* *i-ka*   *soro,* *sarua* *visa-da* *in-uar.*
     1SG white man ND-TOP COM work get-SS   stay-1PL.NFUT
     'This white man and I are working.'

(204) *Waiva*   *soro* *mo-da* *tar*   *nimia* *bin* *akun-e*   *be?*
     cassowary COM go-SS tree stump LOC sleep-3SG.NFUT Q
     'Is he there with a cassowary sleeping at the base of a tree?'

In experiencer predicates, the experiencer is typically coded as an object, as shown by the object prefixes in (205) and (206), while the experienced force, such as *nugwe* 'hunger' or *kada* 'illness,' is coded as the subject by the verb suffix. However, as seen with the 2SG pronoun *na* in (206), the experiencer may also occur in what at first appears to be subject position. However, as Donohue (2005) has suggested for other Papuan languages, this *na* is probably best analyzed as occurring in topic position (see §5.6.4) rather than subject

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position. Under this analysis, the subject of experiencer predicates is the experienced force, while the experiencer is coded as a (usually topical) object. Note also that each experiencer predicate selects for a particular light verb: the lexical meaning of *ruko* 'see' (205) and *ita* 'hold' (206) is almost completely absent.

(205) **Nugwe**   *ya-ruk-e.*
     hunger   1SG.OBJ-see-3SG.NFUT
     'I am hungry.'

(206) *Na*   **kada**   *na-it-e.*
     2SG   **disease** 2SG.OBJ-hold-3SG.NFUT
     'You are sick.'

The corpus contains one experiencer predicate which allows for some more grammatical complexity, and which supports the analysis of the experienced force as a noun. The form is *surei*, which refers to a lack of desire to perform some action, and which I gloss 'not want.' It takes the light verb *ruko* 'see,' and in (207) it appears to function much like the other experiencer predicates shown above, triggering subject agreement and occurring with an object in topic position.

(207) *Ya*   **surei**   *ya-ruk-e*   *va-Ø.*
     1SG **not.want** 1SG.OBJ-see-3SG.NFUT say-1SG.NFUT
     '"I don't want to," I said.'

In (208), though, it is made more complex by the addition of the adjectival participle *rukom* 'seeing,' which describes the activity that the experiencer does not want to perform. This construction is productive, and can be used with participial forms of other verbs. Finally, recall that participles in *–m* are adjectives (§5.5.3.1), and that attributive adjectives can either precede or follow their head noun (§5.3.2.4). In elicitation, speakers gave the

form in (209), with the order of *surei* and *rukom* reversed, suggesting that *surei* really is a noun being modified by the adjectival form *rukom*.

(208) *Ya   ya-b-uko   ruko-m   surei   ya-ruk-eke,   gwada*
      1SG   1SG.OBJ-give-3PL.DS   **see-PTCP**   **not.want**   1SG.OBJ-see-3SG.DS   slowly

      gwada   visa-da ...
      slowly   get-SS
      'They gave it to me and I didn't want to look at it, (so) I took it very gingerly and ...'

(209) *Nɨn   surei   ruko-m   nɨn-ruk-e.*
      3PL   **not.want**   **see-PTCP**   3PL.OBJ-see-3SG.NFUT
      'They don't want to look at it.'

5.6.2. Objects

Objects, like subjects, are not marked by any special form of case marking on either the noun or the demonstrative. Rather, they are identified by their occurring after the subject when they are not topicalized, and sometimes by object prefixes on the verb. In the following two sections I first describe monotransitive objects, and then discuss ditransitive constructions in §5.6.2.2.

5.6.2.1. Monotransitive Clauses

As mentioned above, single objects usually follow the subject (210), unless they are topicalized (see §5.6.4).

(210) *So   ya   ania   nuk   rubo   visa-da ...*
      so   1SG   **mother.1SG.POSS**   3SG.POSS   **place**   get-SS
      'So I took my mother's place and ...'

When the object is human, it may trigger object agreement on the verb (211). Non-human (212) and even inanimate (213) objects have been elicited with agreement, but they do not trigger agreement in the corpus.

(211) *At*   *i-ka*   **an-ivo-misi**   *vi-o*   *va-da ...*
what   ND-TOP   **1PL.OBJ-hit-DESID**   come-3PL.NFUT   say-SS
'"What things wanted to kill us and came (lit. 'came, wanting to kill us')?" they said and ...'

(212) *Ya*   *sɨka*   **nin-iv-ua.**
1SG   pig   **3PL.OBJ-hit-1SG.NFUT**
'I hit the pigs.'   Elicited

(213) *Ya*   *kuria*   **nin-ita-Ø.**
1SG   coconut   **3PL.OBJ-hold-1SG.NFUT**
'I'm holding coconuts.'   Elicited

The object prefixes appear to be optional. For example, in (214), the first verb, *ita* 'hold,' has an object prefix while the second, *skra* 'put,' does not. But in elicitation based on this sentence, my consultant strongly preferred placing the prefix on *skra-* (215).

(214) *Kim*   *nu-kuna*   *ve-da*   **nin-ta-da**   *mo-da*   **nɨn**   *suar*   *iv*
bow   3SG.POSS-father   come-SS   **3PL.OBJ-hold-SS**   go-SS   **3PL**   jail   house

bin   *skr-e.*
LOC   put-3SG.NFUT
'The policeman (lit. 'bow's father') came and arrested them and went and put them in prison.'

(215) *Ya*   *suar*   *iv*   *bin*   **nin-skra-Ø.**
1SG   jail   house   LOC   **3PL.OBJ-put-1SG.NFUT**
I put them in jail.   Elicited

That the object prefixes are agreement prefixes, and not pronouns in their own right, is suggested by examples like (216) (which is, unfortunately, a little disfluent). In the first sentence, the object *kura* 'man' is 3SG and is therefore not indexed on the verb. But in the second clause the object—again *kura*—is plural, as shown by the plural object prefix on *ita*

'hold' (recall from §5.3.1 that this verb is irregular with a 3PL object prefix). The object is not replaced by the pronominal prefix, however, but only cross-referenced by it. Nevertheless, it should be mentioned that pronouns cannot be used as objects; the object prefixes are the only pronominal object marking that is possible. This suggests that the prefix *nin-* '3PL.OBJ' in (216) could be analyzed as a resumptive pronoun. A resolution to this question will have to await further research.

(216) *I-ka   mo-da   mo-da   **kura**   it-e.   **Kura**   nin-ta-n,*
      ND-TOP   go-SS   go-SS   **man**   hold-3SG.NFUT   **man**   3PL.OBJ-hold-1SG.IMP

   nin-ta-n   va-da   d-e.
   3PL.OBJ-hold-1SG.IMP   say-SS   do-3SG.NFUT
   '(In) this one he goes and goes and arrests him. He wants to, wants to arrest people.'

Emphatic objects support this analysis, as the emphatic pronoun occurs separately from the object prefix (217). (My consultant did accept a version of this sentence without the *nan-* prefix, but never repeated it himself without the prefix.)

(217) *Ya   **nan-ɨba**   nan-ruk-ua.*
      1SG   **2PL-EMPH**   2PL.OBJ-see-1SG.NFUT
      'I saw *you guys*.'   Elicited

5.6.2.2. Ditransitive Clauses

Ditransitive clauses are fairly rare, and the only unambiguously ditransitive clauses in my corpus contain the verb *bu* 'give.' There is often no grammatical distinction between the theme and the recipient, and pragmatic factors often determine placement and interpretation: in (218) the theme precedes the verb, while in (219) it is the recipient. Note that in both cases, though, the object prefix agrees with the recipient. This is expected

because object prefixes are only used for human objects, and recipients, rather than themes, will tend to be human.

(218) *I-ka*   **anam**   *u-b-ike*   *mat-ua*   *va-da ...*
    ND-TOP **water** 3SG.OBJ-give-3SG.DS leave-1SG.NFUT say-SS
    'This one$_i$ is giving him$_j$ water, but he$_j$ doesn't want it (lit. 'says, "I$_j$ leave it"') and ...'

(219) *I-ka,*   *anam*   *ne*   *skra-da* **nu-kwai**   *u-bu-n*   *va-da*
    ND-TOP water eat put-SS **3SG.POSS-friend** 3SG.OBJ-give-1SG.IMP say-SS

    d-e   *kwara ...*
    do-3SG.NFUT   but
    '(In) this one, he finished drinking beer and he wanted to give (some) to his friend (lit. 'he said, "I should give"'), but ...'

The corpus contains no natural clauses with two objects, but in the elicitation context of a parent marrying off children, (220) was given, in which the theme precedes the recipient. Note that the reverse meaning is not possible, and also that with the intended meaning of "I gave Anna to Michael," the sentence *Ya Maikel Ana ubua* would be ungrammatical.

(220) *Ya*   **Ana**   **Maikel**   *u-b-ua.*
    1SG **Anna** **Michael** 3SG.OBJ-give-1SG.NFUT
    'I gave Anna to Michael.' (*I gave Michael to Anna.)   Elicited

Ditransitive objects, like single objects, can be free noun phrases that are then cross-referenced by the object prefix, as with *mohoi* 'boy' in (221).

(221) *Amarte*   *mo-da ya-ba*   *visa-da ve-da,*   **mohoi**   *nɨnɨ-bu-md-ua.*
    tomorrow go-SS 1SG-EMPH get-SS come-SS **boy** 3PL.OBJ-give-FUT-1SG
    'Tomorrow I'll go and I myself will get it and come (back) and give it to the boys.'

The only natural example of an emphatic pronominal object in my corpus is ditransitive, and it is shown in (222).

(222) *Ukap mo-da   taski   skra-da ve-da   **nin-iba**   nini-bu-md-ua   va-da*
just   go-ss   make   put-ss   come-ss **3PL-EMPH** 3PL.OBJ-give-FUT-1SG say-ss

ka-ka   na   ab-e.
MD-TOP   do.ss   speak-3SG.NFUT
'He says, "I'll just go, finish making it, come (back), and give it to them themselves," and he talks like that.'

5.6.3. Oblique Arguments

The unmarked position for oblique arguments appears to be after the subject (223) but before the object (224).

(223) *Ya   pakwit, **iv**   **kubut** **bini** in-ua.*
1SG   one   **house**   **door**   **LOC**   stay-1SG.NFUT
'I alone was by the door of the house.'

(224) ***Karia=si***   *sanav   u-b-ua.*
betelnut=BEN   money   3SG.OBJ-give-1SG.NFUT
'I gave her money for (i.e., to buy) betelnut.'

The preference for pre-object position can be seen with the benefactive oblique in (224) above, as well as with a comitative (225), a locative (226), and instrumental (227) obliques.

(225) *Koiva   ya-ba-ima,   **nuaya kura soro** guro   aba   in-ua.*
now   1SG-EMPH-alone **white man   COM**   speech speak   stay-1SG.NFUT
'Now I alone am talking with the white man.'

(226) *I-ka   **oma** **bin** anam   ne   skra-da ve-da ...*
ND-TOP   **new**   **LOC** water eat   put-ss   come-ss
'Here he drinks beer (lit. 'water') again (lit. 'in a new (time)') and comes and ...'

(227) *Ukap **kisar bisa, sagura bisa,** wayake ivi-da ne-da.*
just   **spear INS   arrow INS**   fish   hit-ss eat-ss
'We'd shoot fish just with spears and arrows and eat them and ...'

However, this positional preference is not absolute, and examples can be found of obliques following the object, as in (228) and (229), as well as before the subject (230). While some of these anomalies could probably be explained with reference to topicalization—

particularly (229) and (230)—it is still the case that the word order properties of oblique arguments are imperfectly understood.

(228) *Kim   nu-kuna   ve-da   nin-ta-da   mo-da   nɨn*   **suar   iv**
      bow   3SG.POSS-father   come-ss   3PL.OBJ-hold-ss   go-ss   3PL   jail   house

     bin   *skr-e.*
     LOC   put-3SG.NFUT
     'The policeman (lit. 'bow's father') came and arrested them and went and put them in prison.'

(229) *Okei   om*   **nɨn-ɨba**   **nunu-koma**   **bin**   *skra-md-ua.*
      okay   land   **3PL-EMPH**   **3PL.POSS-arm**   **LOC**   put-FUT-1SG
      'Okay, I'll put the land into their own hands.'

(230) *Koiva*   **vuruva**   **i-ka**   **bini**   *kura   nɨga   in-o*   *ma.*
      now   **village**   **ND-TOP**   **LOC**   man   SPEC   stay-3PL.NFUT   NEG
      'Now there's nobody in this village.'

5.6.4. Topic Position

Topicalization is quite frequent in Kursav discourse, and can occur with any nominal constituent. When a constituent is topicalized, it is placed at the left edge of the clause, a position I refer to as topic position. Topic position is sometimes set off intonationally from the rest of the clause (231), but often is not (232).

(231) **Ka-ka**   **mot,**   *koiva   ragura-da   in-o.*
      MD-TOP   **day**   now   await-ss   stay-3PL.NFUT
      'That day, now they're waiting for it.'

(232) **Anam**   *nɨ*   *it-e.*
      water   3SG   hold-3SG.NFUT
      'He's holding water.'

In both of the examples above, the object has been fronted to topic position from the clause core. Topic fronting can also happen with subjects (233) and oblique arguments (234), as well as with items that are not constituents of the clause core (235).

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(233) *Ya   ya-ba-ima   in-ua.*
1SG   1SG-EMPH-alone   stay-1SG.NFUT
'I alone am (here).'

(234) *Nuaya   nunuk   iduabaya   bin,   nuri   kev-ua.*
white   **3PL.POSS**   **thing**   **LOC**   inside   throw-1SG.NFUT
'Into the white people's thing (i.e., recorder), I've thrown (my speech) in.'

(235) *I-ka,   anam   ne-da   spak   d-o.*
ND-TOP   water   eat-SS   get.drunk   do-3PL.NFUT
'(In) this one, they're drinking beer (lit. 'water') and getting drunk.'

While topicalization often entails some degree of emphasis, topicalization and the grammatical marking of emphasis do not always overlap, as in (236). In this example, *guro nunuk* 'their language' is the topicalized object of the second clause, while the emphatic subject *niniba* 'they.EMPH' remains in the clause core.

(236) *Nin-iba   kiva   mot   ita-da,   okei,   guro   nunuk   nin-iba,   varevu-md-o.*
3PL-EMPH exactly   read   hold-SS   okay   **speech**   **3PL.POSS**   **3PL-EMPH** hear-FUT-3PL
'They themselves will read it, and okay, they'll understand their language.'

When the item in topic position is not a constituent of the clause core, the semantic relationship that it has to the clause core can take many forms. The topic can be the location where the action of the clause core takes place, as with (235) above, in which the speaker is describing a picture. It can also be a person who perceives the event or state described by the clause or for whom the clause is relevant (237). (In this example, the first *doka* is not a topic, but rather a speech error that is corrected by *ariga doka*.) It can also be a concept that is relevant for the clause core (238), or an entity that is perceived as affecting the clause core (239).

(237) *Ya   do-ka,   ariga   do-ka   agidem   in-e.*
1SG   FD-TOP   two   FD-TOP   good   stay-3SG.NFUT
'(For) me, those, those two are good.'

(238) **Nɨdɨr,**   *an*   *om*   *bin=is*   *kura* *ka-ka*   *bua*   *pa*   *kwe.*
      strength 1PL land LOC=from man MD-TOP enough only none
      'Strength-wise, we mortal men (lit. 'men from the ground') aren't enough.'

(239) **Kapa** *ka*   *atɨ*   *iduabaya* *v-e*   *va-da ...*
      bird MD what thing come-3SG.NFUT say-SS
      '"(Because of) this bird, what thing is coming (i.e., 'what kind of omen is this bird')?" they said and ...'

If the item in topic position is also a constituent in the clause core, it can be recapitulated there, as in (240), where *ika* recapitulates the topic. This recapitulation can also add description of the topic, as with *vam* 'much, many' in (241), which recapitulates *guro* 'speech.'

(240) **An** *ruk-uar*   *ka,* *i-ka*   *agɨdem* *in-e.*
      1PL see-1PL.NFUT MD ND-TOP good stay-3SG.NFUT
      'The one we're looking at$_i$, this one$_i$ is good.'

(241) **Guro** *ya* *vam* *aba-t-Ø*   *ma.*
      speech 1SG many speak-IRR-1SG NEG
      'Speech-wise, I won't say too much.'

Example (240) also illustrates the fact that nominalized clauses (which are discussed in §5.7.2) can, like nouns, function as topics. When they refer to an entity in the nominalized clause, as in (240) above and (242) below, they exhibit semantics that are similar to those described above for nominal topics. In (240) the topic is the subject of the clause, while in (242) it is the location of the action described by the clause core.

(242) **Nɨga** *ya* *ruk-ua*   *i-ka*   *anam* *nɨ-vam*   *pa*
      SPEC 1SG see-1SG.NFUT ND-TOP water 3SG.POSS-many only

      u-bu-mis   *d-e.*
      3SG.OBJ-give-DESID do-3SG.NFUT
      '(In) this other one I'm looking at, he wants to give him lots of beer (lit. 'water').'

When nominalized-clause topics refer to the event of the nominalized clause, though, they often have meanings that are more similar to when-clauses (243) or conditionals (244).

(243) *M-uar*   *ka,*   *agidem*   *in-uar.*
go-1PL.NFUT   MD   good   stay-1PL.NFUT
'(When) we went, we lived well.'

(244) *An*   *kumo-md-uar*   *ka,*   *Makari*   *guro*   *kumo-md-e.*
1PL   die-FUT-1PL   MD   Makari   speech   die-FUT-3SG
'If/when we die, the Makari (clan's) language will die.'

This construction allows for rather heavy topics to be placed in topic position. For example, in (245) some speakers had been performing a picture-sorting task for some time, when they were joined by a new speaker. Explaining the task to him involved the lengthy topic construction seen here.

(245) *So*   *at*   *di-m*   *agidem*   *waka*   *in-e*   *ka-ka*   *na*   *ruko-da ...*
so   what   do-PTCP   good   maybe   stay-3SG.NFUT   MD-TOP   2SG   see-SS
'So, what sort might be good, you look (for those) and ...'

The function of topicalized clauses can also be performed by simple juxtaposition of clauses, as in (246), where the clause *an kumomduar* 'we will die' functions almost exactly like the topic clause in (244). It is not nominalized by a demonstrative, though, but only set apart by the topicalizing intonation contour that optionally distinguishes some nominal topics. The difference between this construction and that with *ka* or *kaka* is not understood.

(246) *Kad-e*   *ka-ka=si,*   *an*   *kumo-md-uar,*   *Kursav*   *guro*   *kumo-md-e.*
do.thus-3SG.NFUT   MD-TOP=BEN   1PL   die-FUT-1PL   Kursav   speech   die-FUT-3SG
'Therefore, (when) we die, the Kursav language will die.'

5.6.5. Right–Dislocation

Another construction in which arguments from the clause core are placed outside the clause is right-dislocation. While not as common as topicalization, it is still a fairly common construction. The functions of the right-dislocation construction are not well understood, but it often seems to elaborate on the information provided in the clause core.

Unlike topicalization, right-dislocation is always accompanied by a clear intonational boundary between the clause proper and the right-dislocated material. A typical example is given in (247) below.

(247) *Muruvu mata-da ukap vu-konou,* **tawa** **ka-ka.**
      buy   leave-SS just get-3PL.IMP **paper** **MD-TOP**
      'They shouldn't buy it, they should just take the book.'

In this example it is the object that is right-dislocated, but it is also possible to right-dislocate subjects (248) and oblique arguments (249).

(248) *Nuai   in-e,*   **tawa**   **i-ka.**
      different stay-3SG.NFUT   **paper** **ND-TOP**
      'It's different, this one.'

(249) *Kura i-ka   ni-naba   vuk-e,*   **nono** **soro.**
      man   ND-TOP 3SG.POSS-wife   slap-3SG.NFUT   **baby** **COM**
      'This man slapped his wife, (as she was holding) a baby.'

In all of the examples above, the right-dislocated phrase occurs instead of the argument in the clause core. However, it is also possible for speakers to use the right-dislocated position to elaborate on an argument in the clause core, as in (250). Here *agidem dim* 'a good one' is postposed from the first clause and clarifies the referent of *niga*.

(250) *Na   niga ruko-md-uana,* **agidem** **di-m,**   *rainim   na* ...
      2SG   SPEC see-FUT-2SG   **good**   **do-PTCP** line.up do.SS
      '(When) you see one, a good one, line it up and ...'

5.6.6. Negation

Negation behaves similarly for verbal and nonverbal clauses. In both cases, the negative particle *ma* is placed after the predicate, as illustrated with the habitual (251) and non-future (252) verbal predicates and the nominal (253) and postpositional (254) nonverbal predicates below.

(251) *Ya   anam   ne-du   d-ua   **ma**   v-e.*
      1SG   water   eat-HAB   do-1SG.NFUT   NEG   say-3SG.NFUT
      '"I don't drink beer (lit. 'water')," he's saying.'

(252) *In-o   ka-ka   mot mɨnei, sarua ka vir-e   **ma**.*
      stay-3PL.NFUT   MD-TOP   day time   work   MD   appear-3SG.NFUT   NEG
      '(During) the time they lived, that work hadn't appeared (yet).'

(253) *Ya   kura   agɨdem   **ma**.*
      1SG   man   good   NEG
      'I'm not a good man.'

(254) *Koiva   skur   ve-da,   yaku   om   bin   in-e   ka-ka,   yaku*
      now   school   come-SS   1SG.POSS   land   LOC   stay-3SG.NFUT   MD-TOP   1SG.POSS

      *mi   bin   **ma**.*
      thought   LOC   NEG
      'Now the school's coming and staying on my land wasn't my idea (lit. 'wasn't in my thinking').'

Recall also from §5.5.1.2 that future verbs cannot be negated, but that this meaning can be expressed with negated irrealis verbs (255).

(255) *I-ka-n,   in-ɨt-o   **ma**.*
      ND-TOP-LOC   stay-IRR-3PL   NEG
      'They shouldn't/won't stay here.'

Only final verbal clauses are negated in the corpus, and it is unclear how (or whether) medial clauses can be negated. When the final clause of a sentence is negated, the negation optionally spreads leftward to the preceding clauses. In (256) and (257) negation spreads,

while in (51) it does not. It is unknown what conditions enable this spread. It may also be the case that different medial verb categories behave differently with respect to the scope of negation, but the corpus is not currently large enough to investigate this.

(256) *Ka,   ani-kuna   nuku   guro   niga   visa-da   v-e   ma.*
MD   1PL.POSS-father   3SG.POSS   speech   SPEC   get-SS   come-3SG.NFUT   NEG
'So, he didn't bring one (i.e., a picture) about God's (lit. 'our Father's') speech.'

(257) *Taski-da   varev-ua   ma   ka=si …*
arrange-SS   hear-1SG.NFUT   NEG   MD=BEN
'I didn't hear well, so …'

(258) *Nɨn   rɨpa-da   dai-d-o   ma.*
3PL   fear-SS   walk-HAB-3PL   NEG
'They were afraid and they wouldn't go (anywhere).'

There is an additional kind of negation which is marked with the negative existential morpheme *kwe*, which I gloss 'none' (259). This morpheme is discussed further in §5.6.8 on nonverbal clauses.

(259) *Guro   kwe.*
speech   **none**
'There's nothing to say (lit. 'there's no speech').'

As mentioned in §5.5.3.5, negative imperatives are formed with an SVC that ends in *mata* 'leave' and that is interpreted as imperative, either by virtue of its own morphology (260) or, if the clause with *mata* is medial, because of the morphology on the final verb (261).

(260) *Rɨpa,   mata-kura-i   va-da …*
fear   leave-2PL.IMP-INT   say-SS
'"Don't be afraid," they said, and …'

(261) *Muruvu   mata-da   ukap   vu-konou,   tawa   ka-ka.*
buy   leave-SS   just   get-3PL.IMP   paper   MD-TOP
'They shouldn't buy it, they should just take it, this book.'

5.6.7. Interrogatives

In this section I discuss the formation of polar interrogatives, as well as other functions of the polar interrogative marker *be*, and then discuss the formation of content interrogatives, as well as other functions of content interrogative morphology.

5.6.7.1. Polar Interrogatives

The formation of polar interrogatives is quite simple: the interrogative marker *be* is simply placed at the end of the clause, as in the quote in (59).

(262) *Na-ra*   *soro* *mo-marau*   ***be*** *v-e.*
     2SG.POSS-k.o.sibling COM go-2PL.UFUT Q   say-3SG.NFUT
     '"Will you and your younger brother go?" he asked.'

This particle can also be uttered on its own as a kind of pro-form to repeat a question. In (60) the speaker asks the question in the first clause. He then does not get a response for 1.6 seconds, so he repeats the force of the question by asking, simply, *Be?*

(263) *Gwada* *mi*   *rama-ra*   *map,* *ka-ka*   *sarua* *v-uar*   ***be?*** ***Be?***
     slowly thought put-2PL.NFUT like MD-TOP work get-1PL.NFUT Q   Q
     'Are we doing the work like you guys thought it out? Huh?'

This particle has a number of other functions, however. Some of them involve combining a prototypical interrogative clause with a following clause that is not overtly marked as interrogative, but that is interpreted differently in the context of the interrogative clause. For example, *be* is used to form questions between alternatives, in which case it usually only marks the first clause (264). Notice how the second clause, although marked as a typical indicative statement, is interpreted as a questioned alternative. *Be* can also be followed by a verb of perception to form meanings that are

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typically expressed by complement clauses in English (265). This example, if translated literally, would mean "Is he sleeping? We don't know."

(264) *Anam ne-da in-e   be, itu   ne-da in-e?*
water eat-SS stay-3SG.NFUT Q   tobacco eat-SS stay-3SG.NFUT
'Is he drinking beer (lit. 'water') or smoking tobacco?'

(265) *Akun-e   be ruk-uar   ma.*
sleep-3SG.NFUT Q   see-1PL.NFUT NEG
'We don't know whether he's sleeping.'

This function of *be* can be combined with a content interrogative, in which case the clause marked with *be* appears to function as a suggested possible answer to the question the speaker is posing (266).

(266) *Ka-ka   anam ne-da in-e   be atɨ   na   in-e?*
MD-TOP water eat-SS stay-3SG.NFUT Q   what do.SS stay-3SG.NFUT
'Is that one drinking beer (lit. 'water'), or what's he doing?'

The function that *be* has to mark interrogatives and alternatives can be extended to mark other kinds of irrealis alternatives, such as hypotheticals. The speaker in (267) is listing hypothetical situations in which a particular drum might be sounded, and each alternative is marked with *be*.

(267) *Kura nɨga v-e   ka-ka,   nuaya kura v-e   be, kim*
man SPEC come-3SG.NFUT MD-TOP white   man come-3SG.NFUT Q   bow

nu-kuna   v-e   be, o, kura kin   ragura-m   kura
3SG.POSS-father come-3SG.NFUT Q   or man sore care.for-PTCP man

vi-o   be, orait,   midim, iduabaya kwe   d-eke   ruko-da …
come-3PL.NFUT Q   alright before thing   none do-3SG.DS see-SS
'(If) a man came—say a white man came, or a policeman (lit. 'bow's father') came, or a doctor (lit. 'a sore-caring-for man') came—alright, before, this thing didn't exist, so …'

Finally, *be* can be used after medial verbs to form a polite command. This has been observed with same-subject verbs (268) and irrealis verbs (which, recall, can function as medial different-subject verbs, as described in §5.5.1.5) (269).

(268) *Do-n   skra-da   be.*
 FD-LOC   put-SS   Q
 'Put it over there.'

(269) *Ka-ka   mata-t-a   be.*
 MD-TOP   leave-IRR-2SG   Q
 'Leave that one (alone).'

5.6.7.2. Content Interrogatives

Content interrogatives are formed with the interrogative noun *atɨ* 'what,' the interrogative pronoun *ne* 'who,' with demonstrative forms built on the interrogative root *ba*, or with the word *agap* 'how many.' The interrogative pronoun *ne* does not occur in the corpus of natural speech, but was elicited in examples like (270), where it is the subject, (271), where it is the object, and (272), where it is a possessor.

(270) ***Ne***   *v-e?*
 who   come-3SG.NFUT
 'Who's coming?'   Elicited

(271) *Na   **ne**   watɨka-na?*
 2SG   **who**   look.for-2SG.NFUT
 'Who are you looking for?'   Elicited

(272) *Vaŋa   **ne**   nuku?*
 bag   **who**   3SG.POSS
 'Whose bag is this?'   Elicited

The word for 'what' is given as *atɨ* in isolation, but is almost always pronounced *at* in natural speech. Grammatically it is a common noun, and as such can be used like other common nouns as a subject (273) or an object (274). It can also occur in attributive position

(275) and as the object of the participial form of *du* 'do' in a common expression that

means, roughly, 'which' (276).

(273) *At   vɨg-e?*
what   fall-3SG.NFUT
'What fell?'   Elicited

(274) *Ka-ka   at   d-e?*
MD-TOP   **what**   do-3SG.NFUT
'What's that one doing?'

(275) *Nan at   guro   aba   in-uara?*
2PL **what** speech   speak   stay-2PL.NFUT
'What are you guys talking about?'

(276) *Kad-e   ka=si,   at   dɨ-m   nabawan?*
do.thus-3SG.NFUT   MD=BEN   **what   do-PTCP**   first
'Therefore, which one is first?'

In fact, combinations of *atɨ* and *du* are common ways of expressing notions that are

conveyed with separate question words in many languages, including 'how,' which is

expressed with the same-subject form of *du* (277), and 'why,' which is expressed with the

realis different-subject form (278).

(277) *Midim ka, at   na   in-o   ka, kwe   d-e.*
before MD **what do.ss** stay-3PL.NFUT MD none   do-3SG.NFUT
'Before, (the custom of) how they lived (lit. 'they did what and stayed') is gone.'

(278) *At   d-eke   m-o?*
what   do-3SG.DS   go-3PL.NFUT
'Why did they go (lit. 'what happened and they went')?'

Atɨ also combines irregularly with the benefactive suffix *=si* as *atis*, meaning 'why' (279).

(279) *Ivo-ku   nuaya ab-e,   ka-ka   atis   iv-uana?*
hit-1SG.DS   white   speak-3SG.NFUT   MD-TOP   **why** hit-2SG.NFUT
'I hit (the drum) and the white man spoke, "Why did you hit that?"'

In many of its functions, *ati* commonly occurs with the word *waka* (sometimes *wa*) following it (280). This word, which signals uncertainty and which I gloss 'maybe' (281), is not well understood.

(280) ***At   waka*** *iduabaya ka-ka, gapɨra kwe.*
     what maybe thing   MD-TOP all   none
     'All these different things are gone.'

(281) *Kopra-da mo-da suhuv=i akun-e*   ***waka.***
     run-SS   go-SS   forest=LOC sleep-3SG.NFUT **maybe**
     'Maybe he ran away and went to sleep in the forest.'

The interrogative demonstrative root, introduced in §5.3.6, takes some of the same suffixes as other demonstrative roots, but forms question words. Thus the locative suffix yields a word meaning 'where' (65), the adverbial suffix a word meaning 'how' (283), and the temporal suffix a word meaning 'when,' although note that this form, *bam*, always occurs with a temporal noun such as *neite* 'time' in (284).

(282) *Anam*   ***ba-n***   *n-o?*
     water   **QD-LOC**   eat-3PL.NFUT
     'Where are they drinking beer (lit. 'water')?'

(283) ***Ba-va***   *na*   *mo-md-uar?*
     QD-ADVZ   do.SS   go-FUT-1PL
     'How will we go?'   Elicited

(284) ***Ba-m***   *neite mo-md-uana?*
     QD-TEMP   time   go-FUT-2SG
     'When will you go?'   Elicited

When this demonstrative is used in its bare form, it is usually interpreted as 'where' (285). Additionally, question demonstratives can be used with *waka* in a construction that signals uncertainty but is not interpreted as a content question (286).

(285) *Kim   nu-kuna   ba?*
bow   3SG.POSS-father   QD
'Where is the policeman (lit. 'bow's father')?'

(286) **Ba-m**   *neite   waka,   guro   kev-it-Ø,   Vikura gwayam ariga*
QD-TEMP   time   maybe   speech   throw-IRR-1SG   Fikura old.man   two

ve-md-o.
come-FUT-3PL
'Whenever I send word, two Fikura (clan) elders will come.'

Finally, it is also possible for the temporal demonstrative to be repeated (287), although it is unclear how this affects the meaning. It is also unclear, given the prenasalization on /b/, whether the whole word *bam* is being repeated, or only the root *ba*.

(287) **Ba-ba-m**   *neite waka   kwe   di-mis   kwe   di-md-e.*
QD-QD-TEMP   time maybe   none   do-DESID   none   do-FUT-3SG
'And whenever (this work) wants to be done, it will be done.'

The word *agap* means 'how many,' and can be used to ask questions (288) or with *waka* to signal uncertainty (289).

(288) *Na   nono   agap?*
2SG   child   **how.many**
'How many children do you have?'   Elicited

(289) *Buk   agap   waka   taski-md-e,   ya   sakum   rama-da   nonavida*
book   **how.many**   maybe   make-FUT-3SG   1SG   many   put-SS   daughter

m-o   kidi   be ...
go-3PL.NFUT   LOC   Q
'However many books he makes, I'll distribute them to wherever my daughters go
...'

5.6.8. Nonverbal Clauses

There is no copula in Kursav, so nonverbal predicates are formed by simple juxtaposition, as shown with the affirmative and negative examples in (96).

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(290) *Ya* **kura kwabu wati.** *Ya* **kura agidem ma.**
1SG **man short just** 1SG **man good** NEG
'I'm just a short man. I'm not a good man.'

In both of these sentences, the predicate is a common noun phrase headed by *kura* 'man.' But nonverbal predicates are also possible with proper nouns (291), adjectives (292), possessive pronouns , possessive noun phrases (294), demonstratives (295), and postpositional phrases (296).

(291) *Ya* **Wauya.**
1SG **Wauya**
'I'm Wauya.'

(292) *Ariga ka* **agidem.**
two MD **good**
'Those two are good.'

(293) *Koiva tawa i-ka* **anuku.**
now paper ND-TOP **1PL.POSS**
'Now this book is ours.'

(294) *Makari guro i-ka,* **ya-sike** *ŋata nuku.*
Makari speech ND-TOP **1SG.POSS-grandfather** PL POSS
'This Makari (clan) language is my ancestors.''

(295) *Rubrama-da anam n-o ka* **i-ka-ya.**
sit-SS water eat-3PL.NFUT MD **ND-TOP-EXST**
'Here's (one where) they're sitting down drinking beer (lit. 'water').'

(296) *Koiva skur ve-da, yaku om bin in-e ka-ka,* **yaku**
now school come-SS 1SG.POSS land LOC stay-3SG.NFUT MD-TOP **1SG.POSS**

mi bin ma. Yaku nidir bin ma.
thought LOC NEG **1SG.POSS** **strength** LOC NEG
'Now the school's coming and staying on my land wasn't my idea (lit. 'wasn't in my thinking'). It wasn't by my strength.'

Because of the lack of a verbal copula, nonverbal predicates are not marked for any of the verbal categories described in §5.5. If speakers wish to specify one of these verbal

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categories, they can do so with the verb *in* 'stay,' as shown in the second clause in (75), or with *du* 'do' (298). The difference between these two options is not fully understood, but it seems that *du* encourages a more inceptive reading, as with the English verb 'become.'

(297) *Ka-ka   gapɨra   **pakwit**   na   i-ka   pakwit   **nuai**   **in-e.***
       MD-TOP   all   **one**   and ND-TOP   one   **different**   stay-3SG.NFUT
       'All those are one (kind) and this one is different.'

(298) *I-ka-n   skur   **idua**   d-e.*
       ND-TOP-LOC   school   **bad**   do-3SG.NFUT
       'The school here is bad.'

There are two special nonverbal predicates, the existential particle *para* and the negative existential *kwe*. The former has only been observed in predicates of possession, in which a possessor appears in topic position (§5.6.4) and the possessed item is the subject of a *para* predicate (299). The same construction can be used with *kwe* to indicate non-possession (300). It should be noted that both of these meanings can be conveyed with the verb *in* 'stay' in place of the particle (301).

(299) *Ya   karia   **para.***
       1SG   betelnut   **EXST**
       'I have betelnut.'   Elicited

(300) *Ya   karia   **kwe.***
       1SG   betelnut   **none**
       'I don't have betelnut.'   Elicited

(301) *Ya   karia   **in-e**   (ma).*
       1SG   betelnut   **stay-3SG.NFUT**   NEG
       'I (don't) have betelnut.'   Elicited

While *para* has not been observed outside of these elicited contexts, *kwe* occurs in the corpus of natural speech to indicate nonexistence (302). When it occurs with a verb to bear verb morphology, it is always *du* and never *in* (303).

(302) *Guro*　　***kwe.***
 speech　**none**
 'There's nothing to say.'

(303) *Giroma,*　***kwe***　***d-eke,***　　　*ukap,*　*kura*　*nin-iba,*　*imire*　*dai-da.*
 k.o.drum　**none**　**do-3SG.DS**　just　man　3PL-EMPH　path　walk-SS
 'There were no *giroma* drums, (so) men themselves just walked along the paths and ...'

5.7. Clause Combining

Clause combining is a large topic that cannot be fully covered in this sketch. Instead, I focus on three primary constructions: I discuss the clause chaining and switch reference system in the next section, then discuss the subordinating construction I call clause chain nominalization in §5.7.2, and discuss quoted speech, and the related desiderative construction, in §5.7.3.

5.7.1. Clause Chaining and Switch Reference

Kursav has a fairly typical Papuan system of clause chaining and switch reference. In this system (which was introduced somewhat in §5.5.2), medial clauses (i.e., clauses with verbs bearing medial morphology) are chained together and ended with a final clause (one where the verb bears final morphology). Medial clauses are not marked for any TAM category, rather receiving their TAM specification from their final verb. Final verbs are marked for the full range of TAM categories discussed in §5.5.1, as well as for person/number agreement with their subject. Medial verbs are marked for switch reference. The switch reference marking functions as follows: each medial verb bears a suffix which indicates

whether its own subject is the same as, or different from, that of the following verb. Thus all the same-subject verbs in (304) are understood to be 3PL non-future verbs.

(304) *Kɨsar* *v-e* *va-da* *ripa-da* *mo-da,* *sanav* *kubut* *bini,* *mo-da*
fight come-3SG.NFUT **say-SS** **fear-SS** **go-SS** stone cave LOC **go-SS**

rovra-da, *in-o.*
hide-SS stay-3PL.NFUT
'"A fight's coming," they said and they fled and went and hid in a cave and stayed there.'

When one verb is followed by another verb with a different subject, the switch reference marking on the first agrees with the subject of that verb. Thus in the irrealis example in (305), the medial verb is 2SG, but it is followed by the 3SG clause *veda* 'come.' Thus it is marked different-subject (via an irrealis verb used medially; see §5.5.1.5), and it agrees with its own 2SG subject. The realis chain in (306) is similar, except that both subjects, while different, are 3SG.

(305) *Nuaya* *kura* *nɨga,* *rabɨra-t-a* *ve-da* *ya* *soro* *inu-koro.*
white man SPEC **send-IRR-2SG** come-SS 1SG COM stay-3SG.IMP
'Send a white man to come stay with me.'

(306) *Ni-naba* *iv-eke,* *kim* *nu-kuna* *ve-da* *ita* *in-e.*
3SG.POSS-wife **hit-3SG.DS** bow 3SG.POSS-father come-SS hold stay-3SG.NFUT
'He hit his wife, and the policeman (lit. 'bow's father') came and is holding him.'

The examples below also illustrate that same-subject (307) and different-subject (308) medial verbs can take object prefixes.

(307) *Kim* *nu-kuna* *ve-da* *nin-ta-da* *mo-da* *nɨn* *suar* *iv*
bow 3SG.POSS-father come-SS **3PL.OBJ-hold-SS** go-SS 3PL jail house

bin *skr-e.*
LOC put-3SG.NFUT
'The policeman (lit. 'bow's father') came and arrested them and went and put them in prison.'

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(308) *I-ka*   *anam*   **u-b-ike**   *mat-ua*   *va-da ...*
       ND-TOP   water   **3SG.OBJ-give-3SG.DS**   leave-1SG.NFUT   say-SS
       'This one~i~ is giving him~j~ beer (lit. 'water'), but he~j~ doesn't want it (lit. 'says, "I~j~ leave it"') and ...'

In natural speech, it is quite common for clause chains to consist almost entirely of verbs, with most arguments elided (309).

(309) **Iv-eke**   **ruko-da**   **mo-da**   *sime*   **kev-u.**
       hit-3SG.DS   see-SS   go-SS   string   **throw-3PL.NFUT**
       'He hit her and they saw it and went and threw him in jail (lit. 'string').'

The corpus contains some examples like (310), in which speakers complete each others' clause chains. In this example, the first line is a clause chain begun by one speaker, the last clause of which, *rukoda*, is recapitulated by the next speaker as *nɨ nɨga rukoda*, after which this speaker completes the chain.

(310) *Awia*   **wara-t-a,**   *ve-da,*   *ruko-da,*
       father.1SG.POSS   **call.out-IRR-2SG**   come-SS   see-SS
       'Call Father and (he'll) come and look and ...'

       Nɨ   *nɨga*   **ruko-da**   *aba-md-e.*
       3SG   SPEC   **see-SS**   speak-FUT-3SG
       'He'll look at one and talk.'

One of the common questions asked about switch reference systems is how they handle situations of partial subject overlap between clauses. While I have not conducted elicitation on this question, there are a few relevant examples in the corpus. Unfortunately, they are inconclusive. For example, in (311), the speaker has been describing the way the ancestors used to spread news—namely, by walking from village to village and telling people. When he transitions from the 3SG clause *vuruva nɨga bin abeke* '(a man would) speak in a village' to the summary 3PL clause *kaka sarua vu* 'they did that work,' he marks the transition as

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different-subject, even though the ancestor in the *abeke* clause is part of the plural subject of *vu*. Similarly, in (312) the transition from the 3SG subject of *vete* 'he will come' to the 1PL subject of *tasururu dumduar* 'we will straighten' is marked different-subject even though the latter contains the former.

(311) *Okei   kura   nɨga,   kɨva-da   mo-da   vuruva   nɨga   bin   **ab-eke,**   ka-ka*
     okay   man   SPEC   get.up-SS   go-SS   village SPEC   LOC   **speak-3SG.DS**   MD-TOP

     sarua   v-u.
     work   get-3PL.NFUT
     'Okay, a man would get up and go talk in a village, and they would do that work (i.e., going from village to village spreading news).'

(312) *Ramɨra-da   **v-et-e,**   oke   sarua   ka   tasururu   du-md-uar.*
     return-SS   **come-IRR-3SG.NFUT**   okay work   MD   straighten do-FUT-1PL
     'He'll come back, and we'll finish (lit. 'straighten') this work.'

However, the same situation—a transition from 3SG to 1PL—is marked same-subject in (313), where the subject of *veda* is contained in the subject of *abamduar*. And the reverse change, from 1PL to 3SG between *ivoda* and *matada* in (314), is also marked same-subject.

(313) *Amarte   kunbar   bin   **ve-da,**   an   pavɨr   guro   aba-md-uar.*
     tomorrow   Sunday   LOC   **come-SS**   1PL   only   speech   speak-FUT-1PL
     'Tomorrow, Sunday, he'll come and we'll talk with him.'

(314) ***Kaba   ivo-da,**   mata-da,   duv   in-e   kidi-n   mo   di-d-e.*
     fight   hit-SS   leave-SS   woman stay-3SG.NFUT LOC-LOC go   do-HAB-3SG
     'We fight and he leaves and goes to where his (other) wife is.'

Finally, the change from the 1PL subject of *ida* to the 1SG subject of *vua* in (315) is also marked same-subject. While it is difficult to draw firm conclusions from these examples, they suggest that the Kursav switch reference system is sensitive to a wide variety of notions in addition to subjecthood.

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(315) *An   rubrama-da   **i-da,***   *ya   sarua   ka-ka   v-ua.*
      1PL   sit-SS   **stay-SS**   1SG   work   MD-TOP   get-1SG.NFUT
      'We're sitting down, and I'm doing this work.'

In fact, this has been another issue that has often faced linguists working on switch reference systems: what, exactly, is the system tracking? As with the previous issue, we lack the data to fully address this question, but some preliminary statements are possible. It is quite clear, for example, that the notion of grammatical subject, while not the only thing that is tracked by the switch reference system, is at least a very important feature in determining switch reference marking. For example, the non-referential subjects in both a verbal (316) and nonverbal (317) clause are marked as different from their following subjects.

(316) *At   **d-eke**   m-o?*
      what   **do-3SG.DS**   go-3PL.NFUT
      'Why did they go (lit. 'what happened and they went')?'

(317) *Giroma,   **kwe   d-eke,***   *ukap,   kura   nɨn-ɨba,   imɨre   dai-da.*
      k.o.drum   **none   do-3SG.DS**   just   man   3PL-EMPH   path   walk-SS
      'There were no *giroma* drums, (so) men themselves just walked along the paths and ...'

The system also tracks grammatical subject when transitioning into, instead of out of, a non-referential or abstract subject. For example, in (318), the transition between the first and second clauses is between the 3PL subject of the first clause and the abstract noun *surei* 'not want,' which marks the experiencer predicate in the second clause. Moreover, the topic of both clauses is the 1SG pronoun *ya*, as shown by the pronoun in topic position in the first clause, and as required by the grammar of experiencer predicates for the second clause. In spite of this, the transition between the clauses is marked different-subject. The

second transition, from *surei* to the 1SG subject of the third clause, is also marked different-subject.

(318) *Ya*   ***ya-b-uko***   *ruko-m*   *surei*   ***ya-ruk-eke,***   *gwada*
      1SG   **1SG.OBJ-give-3PL.DS**   see-PTCP   not.want   **1SG.OBJ-see-3SG.DS**   slowly

      gwada   *vɨsa-da* *so*   *iv*   *bin*   *kev-ua.*
      slowly get-SS   feces house LOC throw-1SG.NFUT
      'They gave it to me and I didn't want to look at it, (so) I took it very gingerly and threw it in the toilet.'

In addition, speakers track grammatical in elicitation when they are prompted with transitions into (319) and out of (320) experiencer predicates.

(319) ***Ve-ku***   *nugwe*   *ya-ruk-e.*
      come-1SG.DS   hunger   1SG.OBJ-see-3SG.NFUT
      'I came and I was hungry.'   Elicited

(320) *Na*   *v-iana*   *ko*   *kada*   ***na-it-eke***   *mehra-na*
      2SG   come-2SG.NFUT and disease **2SG.OBJ-hold-3SG.DS**   vomit-2SG.NFUT
      'You came and you were sick and threw up.'   Elicited

Nevertheless, sometimes the switch reference system does not track grammatical subject, although examples like those below are quite rare. In (321) the transition from a verbal to a nonverbal clause is marked same-subject, even though the subject (or topic) of the nonverbal clause, *anam nuku* 'his beer,' is not the same as that of the previous clause.

(321) *Kaba*   ***ivo-da***   *anam*   *nuku*   *wara* *ka-ya.*
      fight   **hit-SS**   water 3SG.POSS   FOC   MD-EXST
      'They're fighting and that's his beer (lit. 'water').'

In (322), the first transition is between the subject *niga ka* 'one (man)' of the first clause and *kim nukuna* 'policeman' of the second. One would expect different-subject marking under these circumstances, but the transition is marked same-subject. The utterance is

slightly disfluent, but it is not clear that it contains a speech error. The various factors that influence switch reference marking in Kursav remain a topic for future investigation.

(322) *Nɨga   ka,   ni-naba,   **ivo   skra-da,**   kim   nu-kuna   ve-da*
　　　SPEC   MD   3SG.POSS-wife **hit   put-SS**   bow   3SG.POSS-father come-SS

　　　ka-ya   nu-koma,   waka   ram-e.
　　　MD-EXST   3SG.POSS-arm   tie   make-3SG.NFUT
　　　'One (man) hit his wife and the policeman (lit. 'bow's father') came and tied up his hands there.'

5.7.2. Clause Chain Nominalization

Kursav possesses a subordination strategy in which a clause chain is nominalized with a demonstrative or postposition, which is placed after the subordinate chain. The subordinate chain then functions as a noun (or perhaps a noun phrase) in the matrix clause. A typical example is given in (110). While most subordinate chains consist of a single clause, it is possible for multiple chained clauses to be subordinated, as in (324) and (325). For this reason I refer to the construction as "clause chain nominalization" instead of "clause nominalization."

(323) *[Rainim   d-ua   ] ka   ruk-uana?*
　　　line.up   do-1SG.NFUT   MD   see-2SG.NFUT
　　　'Do you see the ones I've lined up?'

(324) *[Rubrama-da anam   n-o   ] ka   i-ka-ya.*
　　　sit-SS   water   eat-3PL.NFUT   MD   ND-TOP-EXST
　　　'Here's (one where) they're sitting down drinking beer (lit. 'water').'

(325) *Koiva, [Don   ve-da,   sarua   v-i   ] i-ka,   guro   aba-mis*
　　　now   Don   come-SS   work   get-3SG.NFUT   ND-TOP   speech   speak-DESID

　　　d-ua.
　　　do-1SG.NFUT
　　　'Now, I'd like to tell the story of Don coming and working.'

In the following sections, I discuss the form of clause chain nominalization, followed by its semantic interpretation and its use in discourse (§5.7.2.2).

5.7.2.1. Form of Nominalized Chains

In this section I discuss the formal properties of clause chain nominalization. I begin with the kinds of subordinators that can be used, then discuss the formal properties of the subordinate chain, and then discuss the roles that subordinate chains can fulfill in the matrix clause.

Clause chains can be nominalized with several demonstrative forms, but the most commonly used are the simple (326) and simple topic (327) demonstratives (see §5.3.6 for a discussion of demonstratives). Both of these can take a benefactive enclitic, as in (328) and (329), which illustrate both forms of the common expression for 'therefore.'

(326) [M-uar   ] **ka,** agɨdem in-uar.
      go-1PL.NFUT   **MD** good   stay-1PL.NFUT
      '(When) we went, we lived well.'

(327) [Koiva skur   ve-da,   yaku   om   bin in-e   ] **ka-ka,**   yaku
      now   school come-SS   1SG.POSS   land LOC stay-3SG.NFUT **MD-TOP**   1SG.POSS

      mi   bin   ma.
      thought   LOC   NEG
      'Now the school's coming and staying on my land wasn't my idea (lit. 'wasn't in my thinking').'

(328) [Kad-e   ] **ka=si,**   ya   guro   ni-vam   aba-t-Ø   ma.
      do.thus-3SG.NFUT   **MD=BEN**   1SG speech 3SG.POSS-many   speak-IRR-1SG   NEG
      'Therefore, I won't talk too much.'

(329) [Kad-e   ] **ka-ka=si,**   koiva, kinarama, giroma   iv-ua.
      do.thus-3SG.NFUT   **MD-TOP=BEN**   now   morning   k.o.drum   hit-1SG.NFUT
      'Therefore, this morning, I hit the giroma drum.'

As in other functions, middle demonstratives are the most common form encountered in the chain nominalization construction, but near (330) and, somewhat rarely, far (331) demonstratives can also be used.

(330) [Nɨga   ya   ruk-ua   ] *i-ka*   anam   ni-vam   pa
      SPEC   1SG   see-1SG.NFUT   **ND-TOP**   water   3SG.POSS-many   only

      u-bu-mis   *d-e.*
      3SG.OBJ-give-DESID   do-3SG.NFUT
      '(In) this other one I'm looking at, he wants to give him lots of beer (lit. 'water').'

(331) [Nɨga   kiu   d-e   kidi   rubrama-da   in-e   ] *do-ka.*
      SPEC   dusk   do-3SG.NFUT   LOC   sit-SS   stay-3SG.NFUT   **FD-TOP**
      'There's one where someone is sitting down at night.'

Existential demonstratives can also be used as subordinators, although this has only been observed in a stand-alone construction which may not in fact be subordinate. Both the simple (332) and topic (333) existential forms occur in this construction.

(332) *Okei* [*iv-e*   ] *i-ya.*   *Okei* [*mo-da*   nu-wia   nu-koma   waka
      okay   hit-3SG.NFUT   **ND-EXST**   okay   go-SS   3SG.POSS-leg   3SG.POSS-arm   tie

      ram-o   ] *i-ya.*   *Okei* [*mo-da*   tor   bin   in-e   ] *i-ya.*
      make-3PL.NFUT   **ND-EXST**   okay   go-SS   court   LOC   stay-3SG.NFUT   **ND-EXST**
      'Okay, here's the one where he hits her. Okay here's the one where they go and tie his arms and legs. Okay here's the one where he goes and he's in court.'

(333) [*Rubrama-da*   in-e   ] *i-ka-ya.*
      sit-SS   stay-3SG.NFUT   **ND-TOP-EXST**
      'Here's one where he's sitting down.'

Locative demonstratives were elicited in this function (105), but in natural speech the locative subordinator *kidi*, which is only used in this subordinating construction, is the only form that is attested (335). I also attempted to elicit adverbial demonstratives in *–vav* (§5.3.6.5) in this function, but that appears to be ungrammatical. Instead, speakers use the postposition *map* 'like' (336).

(334) [*Nan* *vuruva* *in-uara*] ***i-ka-n,*** *ya* *ramɨra-da* *ve-md-ua.*
2PL village stay-2PL.NFUT **ND-TOP-LOC** 1SG return-SS come-FUT-1SG
'I'll come back to the village you guys live in.' Elicited

(335) *I-ka* *nu-koma* *toroka-da,* [*ni-naba* *nono,* *ka* *ita-da*
ND-TOP 3SG.POSS-arm make.fist-SS 3SG.POSS-wife baby MD hold-SS

in-e] ***kidi*** *vuk-e.*
stay-3SG.NFUT **LOC** slap-3SG.NFUT
'(In) this one, he makes a fist with his hand and slaps his wife where she's holding the baby.'

(336) [*Mi* *yaku* *bin* *in-e*] ***map,*** *ab-a.*
thought 1SG.POSS LOC stay-3SG.NFUT **like** speak-1SG.NFUT
'I'm talking about what I'm thinking about (lit. 'talking like what's in my thoughts').'

The form *kidi* occurs in the frequent phrase *kiu d-e kidi* [dusk do-3SG.IPST LOC] 'at night, in the dark,' and this construction can occur inside a nominalized clause (337). If *kiu de kidi* is considered a productive example of this subordinating construction, rather than a fixed lexical item, then this is an example of embedding a nominalization within another nominalization.

(337) [[*Kiu* *d-e*] ***kidi*** *in-e*] *i-ka,* *ruk-uana?*
dusk do-3SG.NFUT **LOC** stay-3SG.NFUT ND-TOP see-2SG.NFUT
'Do you see this one where he's in the dark?'

The form of the subordinate clause chain itself is rather free. The corpus contains examples of future (338), non-future (339), and irrealis (340) subordinate clauses, and the habitual clause in (341) and nonverbal clause in (342) were elicited. Attempts to elicit imperative and uncertain future clauses revealed that they cannot be subordinated in this way.

(338) [*Ka* *na* *skra-md-uar*] *i-ka* *bua* *pa* *kwe.*
MD do.SS put-FUT-1PL ND-TOP enough only none
'(If) we put them like that here, it won't be enough.'

(339) [*Gwayam gwayam, waiba,   d-o   ] map   aba-mis*
old.man old.man grandfather.1SG.POSS do-3PL.NFUT like speak-DESID

d-ua.
do-1SG.NFUT
'I'd like to talk about what the ancestors, the grandfathers, acted like.'

(340) [*Kwe   d-ɨt-e   ] ka, ukap ini-md-e.*
none do-IRR-3SG MD   just stay-FUT-3SG
'If not, it'll just stay.'

(341) [*Aya nan ne   kevɨ-d-uara] ka-ka,   ya   ne-md-ua.*
food 2PL eat throw-HAB-2PL MD-TOP   1SG eat-FUT-1SG
'I'll eat the food you guys eat.'   Elicited

(342) [*Duv   ka-ka   yaku] ka, in-e.*
woman MD-TOP 1SG.POSS MD stay-3SG.NFUT
'That wife of mine is there.'   Elicited

It also appears that subordinate clauses allow for topic fronting (§5.6.4), as evidenced

by the fronted object *nɨga* in (343).

(343) [*Nɨga ya   ruk-ua   ] i-ka   anam   ni-vam   pa*
SPEC 1SG see-1SG.NFUT ND-TOP water 3SG.POSS-many only

u-bu-mis   d-e.
3SG.OBJ-give-DESID do-3SG.NFUT
'(In) this one I'm looking at, he wants to give him a lot of beer (lit. 'water').'

The roles that nominalized clause chains can fulfill in the matrix clause are varied, as

they function like nouns (or possibly noun phrases), and these serve a variety of functions.

They can function as the subject (344) or object (345) of a verbal clause, as well as the

subject (or topic) of a nonverbal predicate (346). They can also function as one of several

kinds of oblique argument, including locative (347) and benefactive (348).

(344) [*Ka-ka   skra-na   ] ka-ka   itavɨ-da   in-e.*
MD-TOP put-2SG.NFUT MD-TOP be.correct-SS stay-3SG.NFUT
'That one you've put there is right.'

(345) [*Nuai*   *in-e*   ]   *ka-ka*   *ruk-uana?*
       different   stay-3SG.NFUT   MD-TOP   see-2SG.NFUT
       'Do you see that different one?'

(346) [*Tubuna*   *anuku*   *in-o*   ]   *ka, nuai.*
       ancestor   1PL.POSS   stay-3PL.NFUT   MD   different
       '(The way) our ancestors lived was different.'

(347) *I-ka*   [*kiu*   *d-e*   ]   *kidi*   *akun-e.*
       ND-TOP   dusk   do-3SG.NFUT   LOC   sleep-3SG.NFUT
       '(In) this one he's sleeping at night.'

(348) [*Kɨvɨr*   *bin*   *in-o*   ]   *ka=si*   *ka-ka*   *nitɨbu*   *in-e.*
       darkness   LOC   stay-3PL.NFUT   MD-BEN   MD-TOP   custom   stay-3SG.NFUT
       'Because they lived in darkness, those customs persisted.'

In addition, they can occur in topic position. If they are coreferential with an argument in the clause core, they have their typical nominal interpretation (349). If they are not, they have the range of semantic interpretations discussed in §5.6.4 (350).

(349) *So*   [*at*   *dɨ-m*   *agɨdem*   *waka*   *in-e*   ]   *ka-ka*   *na*   *ruko-da…*
       so   what   do-PTCP   good   maybe   stay-3SG.NFUT   MD-TOP   2SG   see-SS
       'So, what sort might be good, you look (for those) and …'

(350) *Koiva*   [*taidua*   *d-uara*   *v-et-e*   ]   *ka, nɨga*   *mɨne*   *rama*
       now   mess.up   do-2PL.NFUT   say-IRR-3SG.NFUT   MD   SPEC   time   make

       ruk-uar.
       see-1PL.NFUT
       'Now, (if) he says, "You guys messed it up," we try to do it another time.'

Like other nouns, nominalized clause chains can function attributively within the noun phrase to modify the head noun. For example, the subordinate clause *vurum dumdo* 'they will get together' modifies its head noun *mot* 'day' in (351).

(351) [*Vuru-m*   *du-md-o*   ]   *ka-ka*   *mot,*   *Pabin.*
       unite-PTCP   do-FUT-3PL   MD-TOP   day   Friday
       'The day they'll get together is Friday.'

Finally, there is one construction in which nominalized clauses appear to stand on their own and serve an apparently presentational function. This is most common when an existential demonstrative is being used as the subordinator (352), but can also occur with a simple topic demonstrative (353). The fact that these forms occur on their own naturally raises the question of whether they should be considered subordinate or nominalized in the first place, but this question will not be fully explored here. It should be noted, however, that the same presentational meaning can be conveyed by what is clearly a subordinate nominalization, as in (354), where the subordinate clause *suar kevi* 'he throws him in jail' is nominalized by *ka* and functions as the subject of the nonverbal predicate *ia* 'here.'

(352) *[Mo-da   tor   bin   ragota   in-e   ]   i-ka-ya.*
       go-SS   court   LOC   stand   stay-3SG.NFUT   ND-TOP-EXST
       'Here's the one where he goes and he's standing up in court.'

(353) *[Nɨga   in-e   ]   i-ka.*
       SPEC   stay-3SG.NFUT   ND-TOP
       'Here's another one.'

(354) *[Suar   kev-i   ]   ka   i-ya.*
       jail   throw-3SG.NFUT   MD   ND-EXST
       'Here's the one where he throws him in jail.'

5.7.2.2. Semantic Interpretation

The semantic interpretation of nominalized clause chains appears to be governed primarily by pragmatic inference. Since the whole clause chain is nominalized, it can be interpreted as referring to any aspect of the event described in the chain. Thus nominalized clauses can refer to their own subjects (355) or objects (356), in which case

they resemble internally headed relative clauses, or they can refer to an argument that is omitted, as in (357) and (358), in which case they resemble headless relative clauses.

(355) [*Nuai   in-e   ] ka-ka   ruk-uana?*
      different stay-3SG.NFUT MD-TOP   see-2SG.NFUT
      'Do you see that different one?'

(356) [*Ka-ka   skra-na   ] ka-ka   itavi-da   in-e.*
      MD-TOP   put-2SG.NFUT   MD-TOP   be.correct-SS   stay-3SG.NFUT
      'That one you've put there is right.'

(357) [*Rainim d-ua   ] ka ruk-uana?*
      line.up do-1SG.NFUT   MD   see-2SG.NFUT
      'Do you see the ones I've lined up?'

(358) [*Ya agɨdem ruk-ua   ] ka, do-ya.*
      1SG good   see-1SG.NFUT   MD   FD-EXST
      'There's one that I consider good.'

When nominalized clauses refer to their participants, that reference is not always definite. This is shown by (359), in which the clause refers to its subject, *at dɨm* 'what kind,' and (360), in which the clause refers to an omitted object and the indefinite reading is encouraged by the fact that the subordinate clause is future tense.

(359) *So [at   dɨ-m   agɨdem waka   in-e   ] ka-ka   na   ruko-da ...*
      so what do-PTCP good   maybe stay-3SG.NFUT   MD-TOP   2SG see-SS
      'So (when) you see whatever kind might be good ...'

(360) [*Agɨdem   va-md-uana] ka-ka,   agɨdem va-md-uar.*
      good   say-FUT-2SG MD-TOP   good   say-FUT-1PL
      'We'll call whichever one you call good, good.'

Nominalized clauses can also refer to the location of the event that they describe, as with the elicited example in (361), as well as (362), in which the nominalized clause refers to a piece of paper with a picture on it that depicts the scene described in the nominalized clause.

(361) [Iv   rip-uana   ] kidi ya   ruk-ua.
house thatch-2SG.NFUT   LOC   1SG see-1SG.NFUT
'I saw where you're building the house.'   Elicited

(362) [Ni-naba   vuk-e   ] ka visa-da, do-n   skra-da be.
3SG.POSS-wife slap-3SG.NFUT   MD get-SS   FD-LOC put-SS   Q
'Take the (one where) he hits his wife and put it over there.'

Finally, nominalized clauses can refer to the whole event that they describe, rather than any particular participant or the location, as illustrated in (363) and (364).

(363) [Tubuna   anuku   sakum   ka-ka   in-o   ] ka, midim, reide   ma.
ancestor 1PL.POSS many   MD-TOP stay-3PL.NFUT   MD before daybreak NEG
'(The way) all our ancestors used to live before, it wasn't enlightened.'

(364) [Duv   ariga   v-ua   ] ka guro   aba-Ø.
woman   two   get-1SG.NFUT   MD speech speak-1SG.NFUT
'I told the story of (how) I married two women.'

It should also be noted that clause nominalization morphology is sometimes used in a way that resembles discourse linking morphology more than subordinating morphology. For example, the sentence in (365) contains two nominalized chains. The first is *iv ripuar* 'we built a house,' although it is possible that the preceding clause, *iv ripikura voko*, should also be considered part of the subordinate chain. This is followed by another subordinate clause, *tisa koiva ve* 'now the teacher has come,' and again it is possible to analyze the first subordinate chain as occurring in topic position (see §5.6.4) of this chain, under which analysis the second subordinate clause could include everything preceding *tisa koiva ve*. However, it is probably not possible or desirable to delineate precisely which clauses are being subordinated to which other clauses. Rather, the subordinating morpheme *ka* appears, in this example, to function as a clause linker. Based on analogy with examples like (366), where the nominalized clause functions as the topic for the matrix clause, *ka* in

(365) is functioning as a clause linker that signals that the action of the preceding clause or clause chain is topical or relevant for the action of the following clause.

(365) *Iv   ripi-kura   v-oko,   [iv   rip-uar   ] ka, koiva, [tisa*
     house thatch-2PL.IMP say-3PL.DS house thatch-1PL.NFUT MD now teacher

     koiva v-e   ] ka, sake bin ini-n   va-da v-e.
     now come-3SG.NFUT MD three LOC stay-1SG.IMP say-SS come-3SG.NFUT
     'They said, "Build a house," and we built a house, and now, now the teacher has come, she wanted to be in (grade) three (i.e., teach it) and she came.'

(366) *[An kumo-md-uar] ka, Makari guro   kumo-md-e.*
     1PL die-FUT-1PL   MD Makari speech die-FUT-3SG
     'If/when we die, the Makari (clan's) language will die.'

Another example of a sentence with several embedded clauses is given in (367). Here, the brackets show the doubly-embedded analysis.

(367) *[[So   ita-r   ] ka idua d-e   ] ka=si, ya mo-t-Ø   ma*
     feces hold-1PL.NFUT MD bad do-3SG.NFUT MD=BEN 1SG go-IRR-1SG NEG

     va-Ø.
     say-1SG.NFUT
     '"We held poop and it's bad (there), so I'm not going back," I said.'

5.7.3. Quoted Speech

In this section I discuss the grammar of quoted speech, as well as the desiderative construction (§5.7.3.1), which makes use of some of the same machinery. Quoted speech is normally introduced with the pre-quote verb *aba* 'speak,' which usually has final morphology and falls under a separate intonation contour, and followed with the post-quote verb *va* 'say' (368). In addition, the serial verb construction *aba bu* [speak give] 'tell, inform' can be used as a pre-quote verb (369).

(368) *Skr-o   ka, **ab-o.**   A, nan gapɨra, sarigi   na,*
     put-3PL.NFUT MD **speak-3PL.NFUT** ah 2PL all   line.up do.SS

sikasika   *so*   *iv*   *mo-kura-i*   **_v-oko._**
completely feces house go-2PL.IMP-INT **say-3PL.DS**
'They put it (inside) and spoke. Uh, "All you guys, line up all the way to the toilet," they said.'

(369) *Ve-da,*   **_aba_**   **_nɨnɨ-b-uko,_**   *rɨpa,* *mata-kura-i*   **_va-da_** *…*
      come-SS **speak** **3PL.OBJ-give-3PL.DS**   fear leave-2PL.IMP-INT **say-SS**
      'They came, and told them, "Don't be afraid," they said and …'

However, it is somewhat rare to find both verbs bracketing a quotation in this way, and more commonly only *aba* (370) or *va* (371) will be used.

(370) *Ivo-ku*   *nuaya* **_ab-e,_**   *ka-ka* *atis* *iv-uana?*
      hit-1SG.DS white **speak-3SG.NFUT**   MD-TOP why hit-2SG.NFUT
      'I hit (the drum) and the white man spoke, "Why did you hit that?"'

(371) *Kapa* *v-e*   *ka=si,* *ruko-da,* *kapa* *ka* *atɨ*   *iduabaya*
      bird come-3SG.NFUT MD-BEN see-SS bird MD what thing

      v-e   **_va-da_** *…*
      come-3SG.NFUT **say-SS**
      'A bird would come, and they'd see it, and they'd say, "(Because of) this bird, what thing is coming (i.e., 'what kind of omen is this bird')?" and …'

In longer quotations, it is common for the post-quote verb *va* to follow each quoted intonation unit, as in (121). However, it can also be omitted, as in (373).

(372) **_Ab-e,_**   *ve-da* *ya* *sarim* *d-it-Ø*   *ma* **_v-e._**
      speak-3SG.NFUT come-SS 1SG sell do-IRR-1SG NEG **say-3SG.NFUT**

      Sanav *v-it-Ø*   *ma* **_v-e._**   *Ukap* *mo-da* *taski* *skra-da* *ve-da*
      money get-IRR-1SG NEG **say-3SG.NFUT** just go-SS make put-SS come-SS

      nɨn-ɨba *nɨnɨ-bu-md-ua*   **_va-da_** *ka-ka* *na*   **_ab-e._**
      3PL-EMPH 3PL.OBJ-give-FUT-1SG **say-SS** MD-TOP do.SS **speak-3SG.NFUT**
      'He talks. "I'll come and I won't sell them," he says. "I won't make money," he says. "I'll just go and finish making them and come back and give it to them themselves," he says and he talks like that.'

(373) *Ka-ka* *guro* **_ab-oko_**   *ya* **_aba-Ø,_**   *Mm,* *ya-ba-ima*
      MD-TOP speech **speak-3PL.DS** 1SG **speak-1SG.NFUT** mm 1SG-EMPH-alone

bua	*pa*	*kwe*	*ke,*	*nuaya*	*kura*	*niga,*	*rabɨra-t-a*	*ve-da*	*ya*
enough	only	none	and	white	man	SPEC	send-IRR-2SG	come-SS	1SG

soro	*inu-koro,*	**va-da**	*ka-ka*	*na*	**aba-Ø.**
COM	stay-3SG.IMP	**say-SS**	MD-TOP	do.SS	**speak-1SG.NFUT**

'They said that and I spoke. "Mm, I alone am not enough, send a white man to come stay with me," I said and spoke like that.'

The post-quote verb *va* can also be used in the serial verb construction *va ruko* [say see] 'think, perceive,' in which case it indicates that the quoted material describes the inner speech or thoughts of the speaker (374). It seems that inner speech can also be conveyed with a simple *va*, as in (375), although it is not clear in this example whether the speaker meant for *matua* to be interpreted as literal speech.

(374)
Akun-e	*va*	*ruk-ua.*
sleep-3SG.NFUT	**say**	**see-1SG.NFUT**

'I think he's sleeping.'

(375)
I-ka	*anam*	*u-b-ike*	*mat-ua*	**va-da,**	*nu-koma*	*sakim*
ND-TOP	water	3SG.OBJ-give-3SG.DS	leave-1SG.NFUT	**say-SS**	3SG.POSS-arm	push

d-e.
do-3SG.NFUT

'This one$_i$ is giving him$_j$ water, but he$_j$ doesn't want it (lit. 'says, "I$_j$ leave it"') and he's$_j$ signaling that (lit. 'pushing') with his$_j$ hand.'

5.7.3.1. The Desiderative Construction

The desiderative construction expresses the desire, intention, or imminent action of the subject, and it makes use of quotative morphology in that it employs the post-quote verb *va* 'say.' In this construction, the desired action is encoded as a quote in the 1SG imperative, and the post-quote verb agrees with the person who desires the action. The quote is thus interpreted as representing the internal speech of the speaker. An example is given in (125).

(376) *Sake   bin   **ini̵-n**   **va-da**   *v-e.*
     three   LOC   **stay-1SG.IMP**   **say-ss**   come-3SG.NFUT
     'She wanted to be in (grade) three (i.e., teach it) and she came.'

The post-quote verb is always in the same-subject form. When speakers wish to place the desiderative construction at the end of a clause chain, they follow the post-quote verb with a "dummy" verb *du* 'do,' which bears the final morphology (377).

(377) *Ni-naba*   ***ivi̵-n***   ***va-da***   ***d-e***   *i-ya.*
     3SG.POSS-wife   **hit-1SG.IMP**   **say-ss**   **do-3SG.NFUT**   ND-EXST
     'Here's the one where he's about to hit his wife.'

Finally, the embedded quote is always placed in the 1SG, even when the subject of the desiderative construction is plural, as shown in the elicited example in (378).

(378) *Ni̵n   Kursav   guro*   ***varevu-n***   ***va-da***   ***d-o.***
     3PL   Kursav   speech   **hear-1SG.IMP**   **say-ss**   **do-3PL.NFUT**
     'They want to learn (lit. 'hear') the Kursav language.'

5.8. Discourse

Discourse is too large a topic to cover fully here, so I only focus on two discourse phenomena: I discuss tail-head linkage below, and the focus marker *wara* in §5.8.2.

5.8.1. Tail–head Linkage

Tail-head linkage is a common discourse feature in Papuan languages (de Vries 2005). In this construction, which is particularly common in narrative, the speaker repeats the last clause of a just-completed clause chain (the "tail") as the first clause of the following clause chain (the "head"). Typical examples are given in (379) and (380). Note that in (379) the head bears same-subject morphology, while in (380) the head is marked different-subject.

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Also, in (379) the head repeats the arguments of the tail, while in (380) the object of the tail, *giroma* 'signal drum,' is omitted in the head.

(379) *Koiva,* **duv** **wara** **v-ua.** **Duv** **wara** **visa-da** *in-ua.*
now **woman** FOC **get-1SG.NFUT** **woman** FOC **get-SS** stay-1SG.NFUT
'Now, I've married. I've married and I live (here).'

(380) *Kad-e* *ka-ka=si,* *koiva,* *kinarama,* *giroma* **iv-ua.**
do.thus-3SG.NFUT MD-TOP=BEN now morning k.o.drum **hit-1SG.NFUT**
'Therefore, this morning, I hit the *giroma* drum.'

Ivo-ku *nuaya* *ab-e,* *ka-ka* *atis* *iv-uana?*
hit-1SG.DS white speak-3SG.NFUT MD-TOP why hit-2SG.NFUT
'I hit it and the white man spoke, "Why did you hit that?"'

It is also fairly common for the head to take the form of a nominalized repetition of the tail (see §5.7.2 on clause chain nominalization), as in (381).

(381) *Mata-da,* *Manepur* *Begesin* **m-uar.** **M-uar** **ka,** *agidem*
leave-SS Manepur Begasin **go-1PL.NFUT** **go-1PL.NFUT** MD good

in-uar.
stay-1PL.NFUT
'We left, and went to Manepur Begasin. We went, and we lived well.'

And finally, sometimes the head is not an exact repetition of the tail, but rather employs a more semantically broad verb to stand in for the tail. In (382), for example, the single verb *kadeke* 'it did thus and' stands in for the tail clause *sarua kaka vire* 'this work arose.'

(382) *Sarua* *ka-ka* **vir-e.** **Kad-eke** *koiva* *visa-da* *in-ua.*
work MD-TOP **appear-3SG.NFUT** **do.thus-3SG.DS** now get-SS stay-1SG.NFUT
'This work arose. That happened, and now I'm doing (the work).'

5.8.2. Focus Marking

The particle *wara* marks contrastive focus on the constituent that it follows. It is rather

infrequent, occurring only nine times in my corpus, but its basic function can be seen from

the exchange in (383).

(383) *Ya   agɨdem ruk-ua   ka, do-ya.*
      1SG good   see-1SG.NFUT   MD FD-EXST
      'The one I like (lit. 'see as good') is that one.'

      I-ka?
      ND-TOP
      'This one?'

      Ee.
      yes
      'Yes.'

      *Ka, ya   **wara** i-ka   agɨdem ruk-ua.*
      MD   1SG **FOC**   ND-TOP good   see-1SG.NFUT
      'As for that, I like this one too.'

In addition to marking pronouns, as above, the focus marker can mark nouns (384),

demonstratives (385), and even whole clauses (386). A more detailed investigation into the

grammar and meaning of this particle will have to await further research.

(384) *Kaba   ivo-da   anam   nuku   **wara** ka-ya.*
      fight hit-SS water 3SG.POSS **FOC**   MD-EXST
      'They're fighting and that's his beer (lit. 'water').'

(385) *I-ka   **wara** ka na   pa…*
      ND-TOP **FOC**   MD do.SS only
      'This one too is just the same …'

(386) *Ka   makim   d-uana   **wara** ka, kwe.*
      MD   indicate do-2FG.NFUT **FOC**   MD none
      'The one you're indicating there, isn't (different).'

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Appendix 6

Gants Grammar Sketch

6.1. Introduction

Gants [gao] is spoken in Madang Province, Papua New Guinea, by 1,880 people, according to Lewis et al. 2015, citing Wurm & Hattori 1981 (although I suspect the actual figure today is higher). The language is referred to by its speakers as *gaj* (phonetically [gaɲc]); the name has also been spelled Gaj and Ganj. Pawley (2006*a*: 430) classifies it as a South Adelbert language. Lewis et al. classify it as belonging to the Kalam-Kobon subgroup of Madang, but the fact that this classification is erroneous has, it is hoped, been demonstrated in this dissertation.

6.1.1. Previous Research

Previous research on Gants has been quite limited. Aufenanger (1960: 249) presents the counting system and a handful of lexemes. Later Lyle Scholtz, working with the Summer Institute of Linguistics, collected a wordlist in 1965 which contains 190 items, including some simple sentences. Scholtz's consultant was a luluai (a colonial-era village representative) named Walay, for whom Maring, the nearby Chimbu-Wahgi language, was the "language used in the home" (Scholtz 1965: 1). After that John Z'graggen (1971: 95) "collected only a very brief wordlist from Gantj speakers in Madang." In addition to these three brief forays into research on Gants, I believe other researchers working in the area

have also taken down wordlists (including Andrew Pawley and Joachim Görlich), but I have not had access to any of their notes.

6.1.2. Data Sources

The data for this description come from fieldwork that I conducted in Madang city for three weeks in April and May 2012. I worked with two speakers, Joel Aikarịp and Wilidon Samuel. In addition to extensive wordlist collection and grammatical elicitation, we recorded, transcribed, and translated 42 minutes of connected speech. This is the corpus on which the following analysis is based, and whenever possible I use data from these texts; however, at times this is not possible and I use elicited material.

6.1.3. Typological Outline

Gants is a head-final language, having SOV word order (§6.7.1), noun–adjective word order (§6.4.1.4), determiners following nouns, and postpositions. It has inalienably possessed kin terms (§6.3.2.3) and noun determiners that primarily mark a range of information structure properties (definiteness, specificity, topicality, etc.) as well as spatial location (§6.3.6).

Its verb morphology (§6.5) is extensive: so-called "final" verbs can be marked for present tense, future tense, one of four past tenses, irrealis mood, or imperative mood; "medial" verbs distinguish same-subject sequential, same-subject delayed sequential, different-subject simultaneous, and different-subject sequential. The irrealis mood is unique in that it can function both medially, as a different-subject irrealis form, and finally

(§6.5.1.7). Verbs can also occur in an infinitive form and as a reduplicative participle. Gants also allows serial verb constructions (§6.6).

Gants has a rich switch-reference clause chaining system (§6.8.1), and a clause chain nominalization construction in which a demonstrative or postposition placed after a clause chain nominalizes it and marks its status in the matrix clause (§6.8.2).

6.2. Phonology

The consonant inventory of Gants is outlined in Table 1 below. (When the orthographic symbol that I use in the rest of this sketch differs from the phonetic symbol, the orthographic symbol is given in <angled brackets> on the right.)

Table 1. Gants consonant inventory

	bilabial	alveolar	palatal	velar
voiceless plosive	p	t	c	k
voiced prenasalized plosive	^{m}b <b>	^{n}d <d>	^{ɲ}ɟ <j>	^{ŋ}g <g>
voiceless fricative		s		
nasal	m	n	ɲ <ñ>	ŋ
flap		ɾ <r>		
glide	(w)		(j <y>)	

Gants has 14 consonants at four points of articulation. All of the plosives except /c/ exhibit allophonic variation, as described below.

/p/ >   [p] / #__   [β] / V(C)__(C)V

              / __#

       [ɸ] / #__

              / V(C)__(C)V

              / __#   /t/ >   [t] / #__

                                          [ɾ]   elsewhere

/k/ >	[k] / #__		/j/ >	[ɟ] / #__
	/ __#			[ɲc] / __#
	[ɣ] elsewhere			[ɲɟ] elsewhere

/b/ >	[b] / #__		/g/ >	[g] / #__
	[mp] / __#			[ŋk] / __#
	[mb] elsewhere			[ŋg] elsewhere

/d/ >	[d] / #__
	[nt] / __#
	[nd] elsewhere

/p/, in particular, shows a great deal of variation. The [p] articulation is probably the least common, although it is preferred in slow speech, while [ɸ] can occur anywhere and [β] in any word-medial environment.

The other consonants, /c s m n ñ ŋ/, do not exhibit significant allophony.

The case for the inclusion of a borrowed alveolar flap phoneme /r/ in the inventory is somewhat subjective. While it is clear that historically [ɾ] was a word-medial and word-final allophone of /t/, the introduction of Tok Pisin loanwords has probably changed this. If such words as *raikim* 'like,' *ramu* 'Ramu (River),' and *rere* 'ready' are considered borrowed vocabulary, rather than codeswitched Tok Pisin inclusions, that would mean that /r/ is fully contrastive with /t/ in word-initial position. However, it is difficult to draw a principled line, and I leave the question unresolved here. In this sketch, though, I treat /r/

as a separate phoneme—which means that what used to be word-medial and word-final occurrences of /t/ are now instances of /r/, and /t/ is restricted to word-initial position.

The phones /y/ and /w/ also require additional comment, as the two glides are in fact syllable-initial allophones of the vowels /i/ and /u/, or vice versa (but note that I use separate characters for them in my orthography). This can be seen when verb stem alternations or morphological patterns cause syllable boundaries to be redrawn. Verbs have two stem forms: a free form, which is used in serial verb constructions, and a bound form. The free forms sometimes occur with an additional root-final /a/ that is not present in the bound forms, and in some verbs, the presence of this /a/ can lead to different syllabification patterns. For example, the verb for 'plant, shoot' is, underlyingly, /kui/. It is realized as *kwi–* when bound, but *kuya* when bare, as shown below. It is also realized as *kuya* when followed by one of a small number of suffixes that attach to the free form of the root, such as *–ik* '3PL.IPST.'

| /kui/ | + | /–ruŋ/ | | → | [kwi.ruŋ] |
| 'plant' | | '1PL.IPST' | | | 'we planted' |

| /kuia/ | | | | → | [ku.ja] |
| 'plant' | | | | | |

| /kuia/ | + | /–ik/ | | → | [ku.jaik] ~ [ku.ja.jɨk] |
| 'plant' | | '3PL.IPST' | | | 'they planted' |

In addition, the glides appear epenthetically whenever /i/ or /u/ is followed by a non-high vowel.

| /kia/ | | → | [ki.ja] |
| 'speech' | | | |

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/kuan/		→	[ku.wan]
'arrow'			

/iue/		→	[ju.we]
'seed'			

/iuom/		→	[ju.wom]
'forest'			

Finally, if the bound form of a verb ends in /a/, some suffixes cause this vowel to be deleted. For example, when /ua/ 'say' is combined with the different-subject simultaneous suffix –ɨre, the /a/ is deleted and the /u/ is syllabified as a nucleus and realized as a vowel.

/ua/	+	/–ɨre-re/	→	[u.re.re]
'say'		'-DS.SIM-3SG'		'as s/he was saying ...'

/ua/	+	/–m-ek/	→	[wa.mek]
'say'		'-FPST-3SG'		's/he said'

The Gants vowel inventory is outlined in Table 2:

Table 2. Gants vowel inventory

	front	central	back
high	i	ɨ	u
mid	e		o
low		a	

Gants has six vowel phonemes, including /i/ and /u/. Of these, /ɨ/ serves as a schwa-like central vowel, and other vowels will often be centralized to [ɨ] in unstressed syllables or in fast speech. Conversely, /ɨ/ will sometimes assimilate to the quality of a nearby vowel, particularly if it is one of the round vowels /u/ or /o/, which can make determining the phonemic quality of an unstressed vowel challenging.

There is evidence supporting the claim that /ɨ/ should be considered a separate phoneme, not just an epenthetic vocoid as it is in other nearby languages like Kalam

(Pawley & Bulmer 2011) and Anamuxra (Ingram 2001). The primary piece of evidence is that it can trigger vowel elision (§6.2.1), as shown below.

/wisɨka/	+	/–ɨna/		→	[wɨ.sɨ.ɣɨ.na]
'untie'		'2SG.IRR'			'untie!'

Gants also allows the following diphthongs: ai, ei, oi, au, and iu. (The last of these is very rare, occurring only in the 3PL pronouns *niu* '3PL.SUBJECT' and *niuk* '3PL.OBJ,' and often being pronounced simply as [i].) These sequences are probably best analyzed as diphthongs, and not as sequences of a simple nucleus plus a consonantal offglide. The evidence for this comes from syllable structure, which is not well understood. But while it seems that Gants does not allow complex codas, forms like *kain* 'dog,' *poim* 'sore,' and *tauj* 'leaf' do exist.

6.2.1. Morphophonemics

There are two primary morphophonemic processes, both of which occur at the boundary between verb roots and suffixes: vowel elision and vowel raising. Vowel elision takes place whenever two vowels come into contact at a morpheme boundary. In this case, the first vowel is elided; this can be seen with the verb roots *aba* 'speak' and *yako* 'go up' below, and also with the verb suffix *–me* 'FAR PAST.'

/aba/	+	/–naŋ/		→	[a.mba.naŋ]
'speak'		'2SG.IPST'			'you spoke'
/aba/	+	/–ek/		→	[a.mbek]
'speak'		'3SG.IPST'			's/he spoke'
/aba/	+	/–ɨna/		→	[a.mbɨ.na]
'speak'		'2SG.IRR'			'speak!'

/iako/	+	/–naŋ/			→	[ja.ɣo.naŋ]
'go up'		'2SG.IPST'				'you went up'

/iako/	+	/–ek/			→	[ja.ɣek]
'go up'		'3SG.IPST'				's/he went up'

/c/	+	/–me/	+	/–ruŋ/	→	[cɨ.me.ruŋ]
'stay'		'FPST		'1PL'		'we stayed'

/c/	+	/–me/	+	/–aik/	→	[cɨ.maik]
'stay'		'FPST'		'3PL'		'they stayed'

Occasionally, a verb stem that ends in /o/ will not undergo this elision. This is most common in cases that could result in ambiguity, as with *go* 'give,' which is potentially homophonous with *ga* 'see, hear.'

/go/	+	/-ek/	→	[gwek] ~ [gøk] ~ [gek]
'give'		'3SG.IPST'		's/he gave'

Verbs that end in /o/ also interact uniquely with /ɨ/-initial suffixes. Instead of undergoing elision, /o/ acquires the vowel height from /ɨ/, and the two vowels combine as /u/.

/go/	+	/-ɨna/	→	[gu.na]
'give'		'2SG.OPT'		'that you would give'

6.3. Word Classes

Gants has seven primary word classes: verbs, nouns, adjectives, adverbs, pronouns, postpositions, and determiners.

6.3.1. Verbs and Verb Adjuncts

There are two kinds of verb: basic verbs and complex verbs. Basic verbs consist of a simple verb root; complex verbs consist of a verb adjunct plus a basic verb.

6.3.1.1. Verbs

Verbs are words that can take TAM morphology and that can occur as the last word in a transitive predicate (not counting postposed material, which is always set off intonationally; see §6.7.6). They are a closed class in Gants. Verb roots can also be serialized; in (1), *mia* 'hold' and *ca* 'stay' form a serial verb construction, as do *aba* 'speak,' *wa* 'go,' and *ga* 'see, hear.'

(1) *Oŋai   mia   cɨ-cɨ-k   aba   wa ga-k-e   ma   cɨ-m-ek*
     possum hold stay-PRS-3SG speak go perceive-DS-3SG NEG stay-FPST-3SG
     'He thought it would hold a possum (so) he went and looked and it wasn't there.'

6.3.1.2. Verb Root Alternations

Each verb root has two forms: a bound form and a free form. I use the free form of a verb as its citation form. The shapes of these two forms can be predictably derived from the underlying form of the verb. It is useful to divide the verbs into four classes, based on the final segment of the root: *a*-root, *o*-root, *i*-root, and *ɨ*-root. A-root verbs are the most common class, and exhibit no alternation between the bound and free forms. O-root verbs likewise show no alternation, but exchibit different morphophonemic behavior (§6.2.1). *I*-root verbs add a final /a/ to the free form, which sometimes results in different syllabification, as with *kuya* 'shoot, plant.' Finally, there are only two *ɨ*-root verbs, both of which are very high-frequency forms: *ca* 'stay' and *ada* 'do.' They add a final /a/ to the free

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form, like *i*-roots, which replaces the /ɨ/ of the bound form. Table 3 gives some examples of each class.

Table 3. Verb root alternations

Class	Underlying form	Free form	Bound form	English
a-root	/aŋa/	*aŋa*	*aŋa–*	go
	/tama/	*tama*	*tama–*	put
	/aba/	*aba*	*aba–*	speak
	/ua/	*wa*	*wa–*	go, say
	/mɨŋa/	*mɨŋa*	*mɨŋa–*	get
o-root	/akro/	*akro*	*akro–*	carry
	/tɨbo/	*tɨbo*	*tɨbo–*	tie
	/mɨro/	*mɨro*	*mɨro–*	break
	/io/	*yo*	*yo–*	hit
	/kumo/	*kumo*	*kumo–*	die
i-root	/kui/	*kuya*	*kwi–*	shoot, plant
	/mi/	*mia*	*mi–*	hold
	/ai/	*aya*	*ai–*	come
	/mai/	*maya*	*mai–*	bring
	/epri/	*epria*	*epri–*	hide
ɨ-root	/adɨ/	*ada*	*adɨ–*	do
	/c/	*ca*	*cɨ–*	stay

6.3.1.3. Verb Adjuncts

Verb adjuncts are words which express a verbal meaning—that is, they denote an action or event—but which take no morphology. They occur with a verb and, together with that verb, form a complex predicate (2).

(2) **Iwaŋ** *mai-naŋ.*
     steal bring-2SG.IPST
     'You stole.'

Some verb adjuncts have transparent lexical meaning no matter what verb they are paired with, as is the case with *kuñɨk* 'spit' in (3) and (4). (In both of these examples, the

complex predicate with *kuñik* occurs in a serial verb construction that ends in *tama* 'put,' which adds completive meaning to the serial verb. For more on serial verbs, see §6.6.)

(3) *Wa-da,* **kuñik ada** *tama-m-aik.*
    say-ss **spit do** put-fpst-3pl
    'So, they spit on him.'

(4) *Kiñam ko ai-k-e* *ga auna keniŋ ko* **kuñik epra** *tama-m-ek.*
    close DEF come-DS-3SG TOP eye inside DEF **spit buy** put-FPST-3SG
    'When he came close she spit in his eye.'

However, some adjuncts have meanings that change based on what verb they are paired with. In (5), *aj* occurs with *ada* 'do' and means 'arrange,' whereas in (6) it occurs with *tama* 'put' and means 'mark, claim.'

(5) *Tai aka-da, op* **aj** **adɨ-da**=n ...
    tree chop-ss garden **arrange** **do-ss**=LNK
    'We cut the trees and arrange (the branches in) the garden and ...'

(6) *Node ko mɨja ko pe* **aj** **tama-m-ek.**
    woman DEF loincloth DEF CTR **mark** **put-FPST-3SG**
    'The woman marked (the mushroom) with the loincloth.'

Verb adjuncts are an open class; when verbs are borrowed into Gants, they are borrowed as verb adjuncts that occur with the verb *ada* 'do' (7).

(7) *Yak sain kɨrmo* **soim ad-ɨna** *ga, ya ga-da*=n ...
    1SG.OBJ sign INDF **show do-2SG.IRR** TOP 1SG perceive-SS=LNK
    'If you show me a sign I'll see and ...'

Finally, verb adjuncts can sometimes be difficult to distinguish from nouns. Observe the form *kojɨŋ* 'whistle' in (8); in this example it is impossible to tell whether it is a verb adjunct in an intransitive clause, or a noun in object position of a transitive clause. However, the fact that it can be possessed, as in (9), suggests that *kojɨŋ* is a noun.

(8) *Ya*   **kojɨŋ**   **ab-enɨŋ**   *ga-naŋ?*
     1SG whistle   speak-1SG.IPST   perceive-2SG.IPST
     'I whistled; did you hear?'

(9) **Kojɨŋ**   **nadɨŋ**   *tɨkipa.*
     whistle   2SG.POSS   good
     'Your whistle was good.'

6.3.2. Nouns

Nouns in Gants can serve as the subject or object of a clause (see §6.7.2 and §6.7.3) or the object of a postpositional phrase, and can be possessed (either by affixation or with pronouns). Semantically, they usually refer to people, places, and things; abstract nouns are not common in Gants, although there are a few. There are three subclasses of noun: common nouns, proper nouns, and inalienably possessed nouns.

6.3.2.1. Common Nouns

The subclass of common nouns is a residual class composed of those nouns that do not fall into one of the other two noun subclasses. It is an open lexical class, and Tok Pisin borrowings, like *ped* 'paint' in (10), are common.

(10) **Ped**   *miɲi-m-ek*   *ko*   *ga-m-ek.*
      paint   take-FPST-3SG   DEF   perceive-FPST-3SG
      'She saw the paint that he had.'

Most common nouns do not take any morphology, although two (*kura* 'man' and *op* 'garden') sometimes take the suffix *-dɨŋ*, shown in (11) and (12), which I tentatively analyze as a definite singular suffix. *Kura* 'man' has also been found with the definite plural suffix *-deŋ* (13).

(11) *Mɨnek,   node   korañi ko   **op-idɨŋ**   aŋa-i-re-re ...*
    morning woman two   DEF **garden-DEF.SG** go-PL-DS.SIM-3
    'In the morning, the two women went to the garden and ...'

(12) ***Kura-dɨŋ***   ko   aba   g-ek   e.*
    man-DEF.SG DEF speak perceive-3SG.IPST hey
    'The man thought, "Hey."'

(13) ***Kura-deŋ***   *tubraŋa odɨŋ   tɨbo-da,   adɨ-paŋ-ruŋ.*
    man-DEF.PL all   unite put.in-SS do-FUT-1PL
    'We'll get all the men together and work.'

6.3.2.2. Proper Nouns

Proper nouns are an open subclass of nouns that refer to specific people, places, or other entities, and are distinguished grammatically from other nouns by the fact that they cannot be possessed. In some nearby languages, proper nouns are also distinguishable in that place names can serve as locative adverbials without further morphology; however, in Gants, common nouns can also serve this function. Compare the proper noun *redio medeŋ* 'Radio Madang' in (14) with the common noun *wara* 'house' in (15).

(14) ***Redio   medeŋ***   *tama-m-aik.*
    radio   Madang   put-FPST-3PL
    'They put it on Radio Madang.'

(15) *Tɨbo   tama-da   **wara**   aŋa-m-ek.*
    tie   put-SS   **house** go-FPST-3SG
    'He tied (her) up and went home.'

6.3.2.3. Inalienably Possessed Nouns

The subclass of inalienably possessed nouns is a relatively small, closed class of kin terms. They obligatorily take the possessive prefixes *(y)a–* '1.POSS,' *na–* '2.POSS,' and *no–/nɨ–* '3.POSS.' The variation between *ya–* and *a–* '1.POSS,' as well as the variation between *no–* and *nɨ–*

'3.POSS,' appears to be unpatterned—each lexeme simply selects for certain prefixes. A few examples are given in Table 4.

Table 4. Some Gants kin terms

1.POSS	2.POSS	3.POSS	English
yaŋ	*naŋ*	*noŋ*	father
ami	*namɨŋ*	*nomɨŋ*	mother
abeñ	*nabeñ*	*nɨbeñ*	daughter
yamdaŋ	*namdaŋ*	*nɨmdaŋ*	cross-cousin
apɨke	*napɨke*	*nopɨke*	grandmother
yakamɨr	*nakamɨr*	*nɨkomɨr*	brother (of male ego)

A few kin terms, like those for 'mother' and 'brother' in Table 4, have suppletive forms in the first or third person.

In addition, the forms for 'father' (*–ŋ*) and 'mother' (*–m* or *–mɨŋ*) sometimes appear with a suffix *–doi*, which is of uncertain meaning but which I tentatively gloss 'OBLIQUE.'

6.3.3. Adjectives

Adjectives are a small, closed class of words that can occur in a noun phrase modifying the head noun attributively. They occur after the noun (16) and can be repeated for emphasis (17).

(16) *Wak* **tikɨpa** *ko*   *torgara-da ...*
     skin **good**   DEF   wear-ss
     'He wore his good skin and ...'

(17) *Kura* **kerma** **kerma** *ai-da=n ...*
     man **big**   **big**   come-ss=LNK
     'The very big men will come and ...'

Note that while nouns can also be used attributively to modify other nouns, an attributive noun precedes its head (18), while an attributive adjective follows it.

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(18) *Op   kogo   adɨ-paŋ adɨ-da ...*
 garden work do-INF do-SS
 '(We) want to garden (lit. 'do garden work') and ...'

In addition to their attributive use, adjectives can also function as part of a predicate, as in the second and third clauses in (19), or as the entire predicate, as in (20).

(19) *Ñɨŋe ko,   miŋa kɨda-i-k-e,   kerma tama-da, yona kerma cɨ-cɨ-k.*
 child DEF   get walk-PL-DS-3 **big put-ss**   now **big stay-PRS-3SG**
 'They raised the child, it got big, and now it's big.'

(20) *Wara   ko   kerma (yɨb).*
 house DEF **big   (very)**
 'That house is (very) big.'

Numerals (21) and quantifiers (22) also function syntactically as adjectives, occurring after their head and potentially being repeated for emphasis.

(21) *Aba-m-aik   aŋai pakaraŋ   pakaraŋ.*
 speak-FPST-3PL day **one   one**
 'They said, "One particular day."'

(22) *Aŋoi bada popaka ko   miŋa nɨmai kenɨŋ ebe   ko   marepa   tama-da ...*
 tinea **a.lot** bad   DEF get water inside in.there DEF take.off put-ss
 'He took the really bad tinea (skin) off and put it in the water and ...'

6.3.3.1. Positional Words

There is another class of words that I am choosing to analyze as a subclass of adjectives, although more careful investigation into their syntax may well reveal that they belong elsewhere. These words occur inside the noun phrase—between the head noun and the determiner—and orient the noun with regard to the rest of the clause. They function semantically almost exactly like adpositions, and differ from postpositions only in their placement with regard to the determiner (postpositions follow the determiner; §6.3.6).

(23) *Wa-da tai   mañ mia kreŋɨd **ab**   kokoda   tama-da …*
     go-SS tree seed hold vehicle **on.top** up.there put-SS
     'He went and took the fruit and put it on the bike and …'

(24) *Taka   tama-da, kros   **ebe** ko   tama mai-k.*
     remove put-SS   clothes **in** DEF put   bring-3SG.IPST
     'He took them and put them in his clothes and brought them.'

(25) *Kura ko   tai   **kɨp** kokoda   cɨ-cɨ-k.*
     man   DEF tree **up**   up.there stay-PRS-3SG
     'The man is in (lit. 'up') the tree.'

6.3.4. Adverbs

Adverbs are a small closed class of words that take no morphology, and that can modify verbs (26), adjectives (27), other adverbs (28), pronouns (29), and phrases, including noun phrases (30) and postpositional phrases (31). Adverbs that modify non-verbs are mostly limited to various words with meanings like 'very.'

(26) ***Pakai* ur   taka   ga-m-ek.**
     again path remove perceive-FPST-3SG
     'She opened the door and looked again.'

(27) *Wara   eja **kis**   ko   mera-da wara   nupera adɨ-ma-gɨ-nɨŋ.*
     house old **very** DEF leave-SS house new   do-MPST-RPST-1SG
     'I left the really old house and build a new house.'

(28) *Yona **pɨka,** api   koda adɨ-k.*
     now   **very** type thus do-3SG.IPST
     'Just now she did that sort of thing.'

(29) *Wa-da   nɨba   **pɨka,** made,   stat   ada-m-ek.*
     say-SS 3SG.EMPH **very** Monday start do-FPST-3SG
     'She said that and then she herself started on Monday.'

(30) *Ñɨn koimo aya   ga-m-aik,   tɨŋre ko   **pɨka** cɨ-m-ek.*
     day SPEC   come perceive-FPST-3PL bone   DEF **very** stay-FPST-3SG
     'One time they came and looked, and just bones were there.'

(31) *Wisɨn kere raŋa* **yɨb** *ai-m-ek.*
     sleep strength CHAR **very** come-FPST-3SG
     'She was really tired (lit. 'Sleep that was truly characterized by strength came.').'

Adverbs that modify non-verbs are placed after the element they modify, as examples (27)–(31) illustrate. Adverbs that modify verbs (or rather, predicates), are placed much more freely. The preferred position appears to be before the verb phrase, but after the subject (32). However, they can also occur before the subject (33) or, more rarely, after the object (34) or even after the verb (35).

(32) *Kain sɨrɨk raŋa adɨko* **pakai** *aya tagrom-ek.*
     dog itch CHAR DEF **again** come stand-3SG.IPST
     'The dog with the skin disease came back and stood there.'

(33) **Amor** *ya, nesa korañi koimo, aba mai-da ...*
     one.day.away 1SG boy two SPEC speak bring-SS
     'Tomorrow I'll bring two more guys and ...'

(34) *Nak* **per** *rotu ad-enɨŋ ko pe ...*
     2SG.OBJ **always** praise do-1SG.IPST DEF CTR
     'I always praise you but ...'

(35) *Kɨmna mañ kogo ko ada-ruŋ* **koda.**
     food thing work DEF do-1PL.IPST **thus**
     'We do our food work like that.'

It is possible for adverbs to occur next to one another (36).

(36) *Mɨnek ci-m-ek mɨnek pakai ai-m-ek.*
     morning stay-FPST-3SG morning again come-FPST-3SG
     'The next day he stayed (away), the day after that he came back.

6.3.5. Pronouns

The personal pronouns are laid out in Table 5.

Table 5. Gants pronouns

	Subject	Object	Possessive	Emphatic
1SG	ya	yak	yadɨŋ	yaba
2SG	na	nak	nadɨŋ	naba
3SG	nu	nuk	nuduŋ	nɨba
1PL	ayu	ayuk	aiduŋ	aiba
2PL	nayu	nayuk	naiduŋ	naiba
3PL	niu	niuk	niduŋ	niba

There is an additional dual pronoun *añi*, which can be added to any of the plural forms to render them dual: *ayuk añi* '1DU.OBJ'; *niu añi* '3DU.SUBJECT'; *niduŋ añi* '3DU.POSS' (see §6.4.2.1). Two of these combinations have been lexicalized: *ayañi* '1DU.SUBJECT' and *nayañi* '2DU.SUBJECT.' There are also dialectal variants of these combined forms: *arañi* and *narañi*. Finally, *añi* can also be used by itself, in which case person information is inferred from context.

The subject pronouns occur in subject position (37), but also as the object of a postpositional phrase (38).

(37) **Ya**   ai-paŋ-nɨŋ.
      1SG   come-FUT-1SG
      'I'll come.'

(38) *node*   *yak*   *ko*   *mɨda*   **ya**   *mɨda*
      woman   1SG.OBJ   DEF   COM   **1SG**   COM
      'my wife and I'

Object pronouns are used in object position (39), and also as possessive pronouns following the possessed object (40).

(39) *Ada,*   **nak**   *aba*   *mɨŋa-da*   *aŋa-paŋ-nɨŋ.*
      do   **2SG.OBJ**   speak   get-SS   go-FUT-1SG
      'Now I'm going to take you and go.'

(40) *waŋa* **nuk**
    bag   3SG.OBJ
    'his/her bag'

The possessive pronouns can be used in the same way to express possession (41), although it is unclear what the difference in meaning is between object and possessive pronouns being used to express possession. Possessive pronouns can also be used metonymically to refer to someone's house (42), and as a reiterated subject in a kind of topicalization construction that is not well understood (8).

(41) *waŋa* **nuduŋ**
    bag   3SG.POSS
    'his/her bag'

(42) *Kura ko*   **nuduŋ**   *cɨ-da ...*
    man   DEF   3SG.POSS   stay-SS
    'The man stayed at home and ...'

(43) *Kɨdɨk, pakai don*   **nuduŋ**   *erkara ai-da=n ...*
    later again Don   3SG.POSS   turn   come-SS=LNK
    'Later, Don will come back again and ...'

The last set of pronouns, the emphatic pronouns, is used to express individuation or contrastiveness (44). They have only been encountered in subject position, so it is unclear whether they can occur elsewhere in the clause.

(44) *Node   nɨbeñ niduŋ*   **niba**   *ada   kuya-ik.*
    woman   girl   3PL.POSS 3PL.EMPH do   plant-3PL.IPST
    'The women themselves plant (the gardens).'

6.3.5.1. Topic Pronoun bɨr

There is an additional pronoun *bɨr*, which I refer to as the topic pronoun. It is unmarked for person or number and usually occurs in subject position. Its functions are not well understood, but it often seems to highlight a topical participant in the current discourse

about which something noteworthy is being said. It is often set off intonationally by a following pause, as in (43), where it is the subject of *mɨgamaik*. It will often be used in the last clause of a clause chain (46), bringing added focus to the final predicate.

(45) *Tama-da* ***bɨr,*** *mɨga-m-aik.*
    put-SS   TOP   sleep-FPST-3PL
    'They put (the food down) and slept.'

(46) *Wa-da* *ga* *tama-da* ***bɨr*** *cɨ-m-ek.*
    say-SS perceive put-SS   TOP   stay-FPST-3SG
    'She said that, looked (at him), and she stayed there.'

Bɨr can also be combined with other pronouns to form complex pronominal phrases (47). When such a complex pronominal phrase occurs in non-subject position, *bɨr* still combines with a subject pronoun (44). More discussion of pronouns functioning attributively in noun phrases can be found in §6.4.2.1.

(47) *Mɨnek,* *nu* ***bɨr*** *oŋai* *kanaŋ* *aŋa-m-ek.*
    morning 3SG TOP   possum BEN   go-FPST-3SG
    'In the morning, he went (hunting) for possums.'

(48) *Ya* *ai-k-eniŋ,* *ya* ***bɨr,*** *aba* *tama-naŋ.*
    1SG come-DS.SEQ-1SG 1SG TOP   speak put-2SG.IPST
    'I came and you threw me out.'

The topic pronoun, like other pronouns, can be made dual with *añi* (49).

(49) *Node* *ko* *ai-k-e,* ***bɨr*** *añi* *cɨ-m-aik.*
    woman DEF come-DS.SEQ-3SG TOP   DU   stay-FPST-3PL
    'The woman came (home), and the two of them stayed there.'

6.3.6. Postpositions

Postpositions occur after noun phrases and either relate those noun phrases to the clause in which they occur, like the benefactive postposition *kanaŋ* in (50), or relate the noun to

another noun that it modifies, like *raŋa* 'characterized by' in (51). They can also function as predicates, like the postpositional phrase ending in *nɨb* 'from' in (52).

(50) **Tauj kanaŋ** *sukuma aŋa-m-ek.*
     leaf   BEN   forest go-FPST-3SG
     'She went (looking) for leaves in the forest.'

(51) *Opre* **sɨrɨk raŋa** *ti-da ...*
     dog   **itch   CHAR** become-SS
     'I became a dog with a skin disease and ...'

(52) *Node   yak   ko   **mɨda** ya   **mɨda,** arañi, sibai   **nɨb.**
     woman   1SG.OBJ DEF   **COM**   1SG   **COM**   1DU   Simbai **from**
     'My wife and I are from Simbai.'

Note that *raŋa* occurs with initial /r/. This suggests that it is actually an enclitic—that is, that it is phonologically bound but placed at a phrasal level. Recall that [ɾ] used to be a word-medial allophone of /t/ until the phoneme /r/ was borrowed from Tok Pisin, probably quite recently (§6.2). The fact that *raŋa* begins with [ɾ] suggests that it is phonologically bound to whatever precedes it.

6.3.7. Determiners

Determiners are a closed word class. They occur near the end of the noun phrase and mark various information structure properties such as definiteness, specificity, topicality, and contrast, in addition to spatial deixis and quantity. A partial inventory of determiners is presented in Table 6; more determiners with locative meaning have been found (such as *kokoi* 'up there,' *kopɨda* 'down there,' and *koipoi* 'over there'), but these are not understood well enough to discuss.

Table 6. Some Gants determiners

Determiner	Meaning
ko	definite (DEF)
koimo	indefinite specific (SPEC)
kɨrmo	indefinite non-specific (INDF)
adɨko	near definite ('this')
kadɨko	far definite ('that')
mo	some
pe	contrast (CTR)
kra	topic (TOP)
be	interrogative ('which')

Determiners can also occur on their own, as in (53); this is discussed further in §6.4.3.

(53) *Nuk*   **mo**   *tora*   *gw-ek.*
       3SG.OBJ   **some**   gather   give-3SG.IPST
       'He gave him some.'

They are also used as subordinators (115), nominalizing the clause chain that precedes them and indicating its status in the matrix clause. This construction is discussed further in §6.8.2.

(54) *Tworp*   *okrok*   *stret*   *ai-nɨŋ*   **ko**   *ga-naŋ?*
       twelve   o'clock   exactly   come-1SG.IPST   **DEF**   perceive-2SG.IPST
       'Did you see that I came right at noon?'

Determiners can also co-occur, as in (55).

(55) *ne*   **koimo**   **pe**=*n*
       child   **SPEC**   **CTR**=LNK
       'a different child'

6.3.7.1. Definite ko

Ko is, by far, the most frequent determiner, occurring 334 times in my corpus. It marks anoun phrase as definite—that is, as identifiable to both the speaker and the listener.

It is unmarked for number, occurring with singular (74), dual (57), and plural (58) noun phrases.

(56) *Kura* **ko,** *mɨŋa gon tama-m-ek.*
man DEF get trap put-FPST-3SG
'The man set a trap.'

(57) *Mɨnek, node korañi* **ko** *op-ɨdɨŋ aŋa-i-re-re …*
morning woman two DEF garden-DEF.SG go-PL-DS.SIM-3
'In the morning, when the two women went to the garden …'

(58) *Kapi mɨramɨra bada* **ko** *ga-ruŋ.*
just shadow a.lot DEF perceive-1PL.IPST
'We only looked at pictures.'

Ko occurs with both subjects and objects, as illustrated in (59). It also occurs with

oblique noun phrases (60).

(59) *Node* **ko,** *mɨraŋ kɨp* **ko** *ga tama-da,*
woman DEF mushroom top DEF perceive put-SS

kura **ko** *mɨraŋ kɨp* **ko** *ga tama-da …*
man DEF mushroom top DEF perceive put-SS
"The woman saw the top of the mushroom, and the man saw the top of the
mushroom, and …'

(60) *Na ai-da sade ñin* **ko** *yak buŋ adɨ-ke-naŋ …*
2SG come-SS Sunday day DEF 1SG.OBJ join do-DS.SEQ-2SG
'You came and on Sunday you joined me and …'

6.3.7.2. The Indefinite Determiners koimo *and* kɨrmo

There are two indefinite determiners, *kɨrmo* and *koimo.* They differ in specificity and

referentiality. *Koimo* is referential, and the referent can be identified by the speaker,

although not by the listener. Thus *ñin koimo* in (61) refers to a specific day when something

particular happened.

(61) *Ñɨn* **koimo,** *kura-dɨŋ, pusi ab-ek o.*
day SPEC man-DEF.SG cat speak-3SG.IPST oh
'One day, the cat said, "Oh."'

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Kɨrmo, on the other hand, is non-referential and non-specific; it does not refer to any specific entity in the speaker's mind. Thus *ñɨn kɨrmo* in (62) does not refer to any particular day, and, in this context, is translated 'ever.'

(62) *Ñɨn* **kɨrmo** *ai-re   ga   ya,   ab-rɨŋ …*
      day INDF   come-3SG.IRR TOP 1SG speak-1SG.IRR
      'If he ever comes I'll talk to him and …'

Another example of *koimo* (63) and *kɨrmo* (64) is given below.

(63) *Aŋa, tai   wak* **koimo** *maya go-da …*
      go   tree skin SPEC   bring give-SS
      'He went and brought her some tree bark and …'

(64) *Yak   sain* **kɨrmo** *soim   ad-ina   ga,   ya   ga-da=n …*
      1SG.OBJ sign INDF   show do-2SG.IRR TOP 1SG perceive-SS=LNK
      'If you show me some sign, I'll see and …'

6.3.7.3. *Near and Far Deictics* adɨko *and* kadɨko

The two determiners *adɨko* and *kadɨko* are definite, like *ko*, but also indicate spatial deixis in addition to definiteness. Like other determiners, they are unmarked for grammatical role or gender. They are also unmarked for number.

(65) *Kura pakaraŋ* **adɨko** *node* **kadɨko** *korañi korañi mɨŋa-da   cɨ-m-aik.*
      man one   **this** woman **that** two   two   get-SS   stay-FPST-3PL
      'This one man married those women doubly and they lived.'

Adɨko is more frequent than *kadɨko* in my corpus, and it occurs sometimes as *adeko*. I suspect that these determiners are actually *adeko* and *kadeko*, but that the unstressed /e/ has been centered to /ɨ/ in almost all instances.

6.3.7.4. *Quantifier* mo

The infrequent determiner *mo* appears to mean 'some.'

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(66)   *Tai   mañ   **mo**   miŋ-enɨŋ.*
       tree   seed **some** get-1SG.IPST
       'I took some fruit.'

6.3.7.5. Contrastive pe

The contrastive determiner *pe* is also fairly infrequent. It sometimes occurs on its own (67), but more commonly occurs with *ko* (68). It contrasts its noun phrase either with another noun phrase, as in (67), or with an expectation, as in (68), where the idea that this woman would stop being a believing woman is unexpected.

(67)   *Kura-dɨŋ   kopiak   **pe**   bɨr   ebe   kra   aŋa-m-ek.*
       man-DEF.SG   rat   **CTR** TOP   inside.there TOP   go-FPST-3SG
       'The rat too, he went in there.'

(68)   *Bilip   node   ko   **pe,**   aya   erkara-da,   node   yɨb,   erkara-da=n ...*
       belief   woman   DEF   **CTR**   come   turn-SS   woman   very   turn-SS=LNK
       'The Christian woman (of all people) changed, she became just a woman, and ...'

6.3.7.6. Topic kra

Finally, the topic determiner *kra* indicates that the noun phrase it marks is topical. It often occurs on noun phrases that are important to the discourse, but that have not been mentioned in a while and need to be reactivated. For example, in (69) two characters eat and leave some food to get cold. Then they go to sleep, and five intonation units later, one of them comes back and eats up the cold leftovers (44). This is highly relevant to the story, which is about the fight the two have about this perceived act of thievery, and so the leftovers are highlighted and reactivated with the topicalizer *kra*.

(69)   *Añi   ña   taki   tama-ik.*
       DU   eat   cold   put-3PL.IPST
       'They ate and left some cold.'

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(70) *Aya maj   taki **kra** ada ña   tapr-ek.*
    come sweet.potato cold **TOP** do eat finish-3SG.IPST
    'He came and ate up the cold sweet potatoes.'

6.3.7.7. Interrogative be

The interrogative determiner *be* is glossed 'which,' although it is only used for locative (or,

by semantic extension, temporal) questions.

(71) *Ur   **be**   aŋa-cɨ-naŋ?*
    path **which** go-PRS-2SG
    'Where are you going?'

(72) *Na se   **be**   cɨ-cɨ-naŋ?*
    2SG place **which** stay-PRS-2SG
    'Where are you?'

(73) *Ñɨn **be**   ai-paŋ-naŋ?*
    day **which** come-FUT-2SG
    'When will you come?'

However, *be* can also be used predicatively, in which case it means 'where'

(74) *Node   nadɨŋ   **be?***
    woman 2SG.POSS **where**
    'Where's your wife?'

6.4. Noun Phrases

Noun phrases can appear in their basic form (§6.4.1), as pronominal noun phrases (§6.4.2),

or as anaphoric determiner noun phrases (§6.4.3). They can also be coordinated (§6.4.4).

6.4.1. Basic Noun Phrases

The structure of the noun phrase can be represented as follows:

(NP)   N   (PP)   (AdjP)   (Poss)   (Det)   (Pron)

That is, an optional attributive noun phrase precedes the head noun. The head noun is required, except in noun-less noun phrases, which consist simply of a determiner (see §6.4.3 on determiners). An optional attributive postpositional phrase follows, followed by an optional attributive adjective phrase (or positional word), an optional possessive pronoun, an optional determiner, and finally an optional recapitulative pronoun.

6.4.1.1. Attributive Noun Phrase

The first element in a noun phrase is the optional attributive noun phrase, which is the only element that precedes the semantic head of the noun phrase. It can be a simple noun, as in (75) or (76), but it can also be a more complex noun phrase. Example (77) shows an attributive noun phrase consisting of a noun (*kura*) modified by an adjective (*kerma*), all of which is modifying the head noun *neduŋ*.

(75) **tai**   *wak*
    tree skin
    'bark'

(76) **kura** *no-ra*   *ko*
    man 3.POSS-in.law DEF
    'her male in-law'

(77) ***Kura*** ***kerma*** *ne-duŋ*   *nuk*   *aba-m-ek.*
    man **big** child-3.POSS 3SG.OBJ speak-FPST-3SG
    'God's (lit. 'the Big Man's') child spoke to her.'

The semantic relationship between the attributive noun phrase and the head noun is simply that the attributive noun phrase characterizes the head noun in some way. This characterization can include possession, and sometimes attributive noun phrases possess

the head noun; in (78) the possessor noun phrase *kura ko* 'the man' appears in attributive

position modifying the head noun *mɨja* 'loincloth.'

(78) *Ga-da,* **kura ko** *mɨja* *ko* *yar-k-e* *aŋ-re-re ...*
perceive-SS **man** **DEF** loincloth DEF throw-DS-3SG go-DS.SIM-3SG
'She looked, and threw the man's loincloth away and ...'

When noun phrases are possessors, they occur in attributive position. They usually co-

occur with a possessive pronoun following the head noun, but as (78) above shows, this is

not necessarily the case. In (79) the head noun, *kesɨm*, is possessed by a noun phrase, *tai mañ*

(which is itself composed of the head noun *mañ* modified by the attributive noun *tai*), and is

followed by the possessive pronoun *nuduŋ*. Similarly, in (80), the possessor noun phrase,

the coordinated *añɨke apɨke* 'grandparents,' occurs in conjunction with the possessive

pronoun *niduŋ*.

(79) **tai** **mañ** *kesɨm* *nuduŋ*
tree **seed** story 3SG.POSS
'the fruit's story, the story about fruit'

(80) **a-ñɨke** **a-pɨke** *stori* *niduŋ* *ko*
1.POSS-grandfather **1.POSS-grandmother** story 3PL.POSS DEF
'the grandparents' story'

The attributive noun phrase construction has given rise to some constructions that

resemble noun classifiers, although it would probably be inaccurate to claim that Gants has

a fully developed classifier system. For example, the noun *mañ* 'seed, egg,' when following

another noun, often indicates that the preceding noun is being referred to as a bounded

quantity, as with the loanword *nil* 'nail' in (81), or a single item, as with *kebra* 'head' in (82).

In this use, it is glossed as 'thing.'

(81) **Nil**   **mañ**   epra   miŋa-da   pakai   aŋa-da=n ...
     nail **thing** buy   get-ss   again   go-ss=LNK
     '(I) bought nails and went and ...'

(82) Yo-da   **kebra** **mañ**   mi-da   arepa   ñ-iriŋ ...
     hit-ss   **head**   **thing** hold-ss   break   eat-1SG.IRR
     'I'll kill (you) and take your head and break and eat it and ...'

The attributive noun phrase position can occasionally result in a fairly complicated amount of nested structure in the noun phrase. While this is not common, examples like (83) do occur.

(83) kesɨm   niduŋ   añi   piñ   sɨka   ko
     story   3PL.POSS DU   end   piece   DEF
     'the last piece of the story about the two of them'

In this example, the head noun is *sɨka* 'piece,' which is modified by the attributive noun phrase *kesɨm niduŋ añi piñ* 'the end of their (DU) story.' This noun phrase, in turn, is composed of the head noun *piñ* modified by the noun phrase *kesɨm niduŋ añi* 'their (DU) story,' which is itself composed of the head noun *kesɨm* and the possessive pronoun *niduŋ añi* 'their (DU).' All of this is followed by the definite determiner *ko*.

6.4.1.2. Head Noun

After the attributive noun phrase comes the head noun, which is usually a single word. However, it is possible for this position to be occupied by an exocentric pair (84) or by two coordinated nouns (85).

(84) oŋai   opɨr
     possum   frog
     'animal'

(85) | *node* | *ko* | **no-ŋ-doi** | **no-miŋ-doi** | *ko* |
|---|---|---|---|---|
| woman | DEF | 3.POSS-father-OBL | 3.POSS-mother-OBL | DEF |

'the woman's parents'

6.4.1.3. Postpositional Phrase

Following the head noun is an optional attributive postpositional phrase (PP), as illustrated in (86), which may be modified by an adverb.

(86) | *wisɨn* | **kere** | *raŋa* | **yɨb** |
|---|---|---|---|
| sleep | **strength** | CHAR | **very** |

'very strong sleep, sleep truly characterized by strength'

6.4.1.4. Adjective Phrases and Positional Words

Following the postpositional phrase is an optional adjective phrase (87).

(87) | *opre* | *sɨrɨk* | *raŋa* | **pomaka** | **pomaka** |
|---|---|---|---|---|
| dog | itch | CHAR | **bad** | **bad** |

'a very bad dog with a skin disease'

It is also possible for a noun to be modified by more than one adjective (88), although this is rare.

(88) | *aŋoi* | **bada** | **popaka** | *ko* |
|---|---|---|---|
| tinea | **a.lot** | **bad** | DEF |

'the really bad tinea(-diseased skin)'

I have analyzed positional words as occurring in this position in the noun phrase, although that is far from certain. Positional words are rather rare, and there are no noun phrases in my corpus in which they co-occur with possessor pronouns, postpositional phrases, or adjectives, so their placement with regard to these other word classes is uncertain.

(89) | *Node* | *no-ra* | *nimai* | *kenɨŋ* | **ebe** | *ko* | *aŋa-m-ek.* |
|---|---|---|---|---|---|---|
| woman | 3.POSS-in.law | water | inside | **in** | DEF | go-FPST-3SG |

'His in-law went into the inside of the water.'

6.4.1.5. Possessor Pronoun

After any adjective phrases comes the possessor, which can be realized with a pronoun from either the object set (32) or the possessive set (91). As mentioned above, it is unclear what the difference in meaning is between these two possessive constructions.

(90) *pi*   ***yak***   *ko*
village   1SG.OBJ   DEF
'my village'

(91) *pi*   ***nuduŋ***   *ko*
village   3SG.POSS   DEF
'his/her village'

6.4.1.6. Determiner

An optional determiner follows the possessive pronoun, as in (92) and (93).

(92) *op-ɨdɨŋ*   *wara*   *ñɨŋe*   *ñɨŋe*   ***koimo***
garden-DEF.SG   house   small   small   SPEC
'a very small garden house'

(93) *tai*   *mañ*   *nuduŋ*   ***ko***
tree   seed   3SG.POSS   DEF
'his fruit'

It is also possible for a determiner to stand in for a noun phrase by itself, in which case it refers anaphorically to an object or participant in the discourse (see §6.4.3).

6.4.1.7. Recapitulative Pronoun

A noun phrase can be immediately followed by a co-referential, recapitulative pronoun. This is most common with objects, since grammatical relations are not marked on determiners and an object pronoun can disambiguate the grammatical role of a noun phrase, as in (94) and (95). However, this can also occur with non-object noun phrases, as in

(96), where the topic pronoun *bɨr* follows the contrastive determiner *pe*, and (97), where

ayu 'we' follows *kura* 'man.' This can also occur with a pronominally-headed noun phrase

(98), although such a construction could also be analyzed as a complex pronoun.

(94) *Nuk   birua tama-da=n, kaimi **nuk**   yo-da ada ñ-ek.*
3SG.OBJ enemy put-SS=LNK rat   **3SG.OBJ** hit-SS do   eat-3SG.IPST
'He became his enemy, he kills the rat and eats it.'

(95) *Node   ko   **nuk**   mia   gon   ko   miñ   tɨbo tama-m-ek.*
woman DEF **3SG.OBJ** hold trap DEF vine tie put-FPST-3SG
'He held the woman and tied her with the trap's rope.'

(96) *Kura-dɨŋ   kopiak pe **bɨr** ebe   kra aŋa-m-ek.*
man-DEF.SG rat   CTR **TOP** inside.there TOP go-FPST-3SG
'As for the rat, he went in there too.'

(97) *Kura **ayu** aŋa-da tai   aka-ruŋ.*
man **1PL** go-SS   tree chop-1PL.IPST
'We men go chop trees.'

(98) *Na   nene **nuk**   okra-cɨ-naŋ?*
2SG who **3SG.OBJ** look.for-PRS-2SG
'Who are you looking for?'

6.4.2. Pronominal Noun Phrases

Noun phrases can be headed by pronouns, in which case they have quite a different

structure from noun phrases headed by pronouns. Their structure can be represented as

follows:

Pron   (Pron_{ATTRIB}) (Adv) (Adj)

They consist of any pronoun, followed by an optional attributive pronoun, an optional

adverb, and an optional adjective. None of the three optional modifying positions is fully

productive; only a limited set of pronouns, adverbs, and adjectives can modify a pronoun.

6.4.2.1. The Attributive Pronoun

Only two pronouns can be used attributively: *bɨr* 'TOP' (99) and *añi* 'DU' (100)—but note that

each of these can also be used as a head pronoun, as illustrated in (101) and (102).

(99) *Nu* **bɨr** *ñɨpi* *ai-m-ek.*
3SG **TOP** hide come-FPST-3SG
'He came stealthily.'

(100) *Niuk* **añi** *y-ek.*
3PL.OBJ **DU** hit-3SG.IPST
'He hit them (DU).'

(101) *Wa-da* *aba-k-e* **bɨr** *mera* *aŋa-m-ek.*
say-SS speak-DS-3SG **TOP** leave go-FPST-3SG
'She said that and it left.'

(102) *Kɨdɨk,* *barus,* *yo* *wa-i-re* *ga-da=n* **añi** *aŋa-paŋ-ruŋ.*
later airplane yes say-PL-3.IRR perceive-SS=LNK **DU** go-FUT-1PL
'Later, if the airplane (people) tell us okay, we'll (DU) go.'

When *bɨr* is used as a head pronoun, it can be modified by *añi* (103), but the reverse does

not occur.

(103) *Node-duŋ,* *miñ* *wɨsɨka* *mɨŋa-da,* **bɨr** **añi** *wara* *aŋa-m-aik.*
woman-3.POSS vine untie get-SS **TOP** **DU** house go-FPST-3PL
'He untied his wife's bonds and the two of them went home.'

6.4.2.2. Pronominal Adverb

The only adverbs that have been observed in pronominally headed noun phrases are ones

like *pɨka* 'very' (104), which emphasize individuation or contrast in the head pronoun.

(104) *Wa-da* **nɨba** **pɨka** *made,* *stat* *adɨ-m-ek.*
say-SS **3SG.EMPH** **very** Monday start do-FPST-3SG
'She said that and she herself started on Monday.'

6.4.2.3. Pronominal Adjectives

Pronominal adjectives are limited semantically in much the same way as adverbs; the only ones that have been observed are quantifiers and other adjectives that limit or emphasize the reference of the pronoun, as in (105).

(105) *ayu   tubraŋa*
      1PL   all
      'all of us'

It is possible for a pronoun to be modified by more than one adjective, but this is rare. The only example in the corpus is (106), in which *yaba* '1SG.EMPH' is modified by the adverb *pɨka* 'very' and the adjectives *kei* 'single' and *tubraŋa* 'all' to mean something like 'just me by myself and that's all.'

(106) **Yaba   pɨka   kei   tubraŋa**   *cɨ-paŋ-nɨŋ   wa-m-ek.*
      1SG.EMPH   very   single   all   stay-FUT-1SG   say-FPST-3SG
      '"I alone will be there," she said.'

6.4.3. Determiner Noun Phrases

As mentioned above, determiners can be used anaphorically to refer to a discourse participant by themselves. This use is rare, as zero anaphora are more common in Gants, and its motivation and structure are not well understood. Examples (107) and (108) show *mo* and *koimo* being used anaphorically, and (109) shows *ko* being used exophorically to refer to a speech act participant.

(107) *Pakai   nik   añi   **mo**   tora   go-ik.*
      again   3PL.OBJ   two   **some**   gather   give-3PL.IPST
      'He gave some to the two of them again.'

(108) *Korañi   paka   ci-k.*   ***Koimo***   *ma   tam-ek.*
      two   only   stay-3SG.IPST   **SPEC**   NEG   put-3SG.IPST
      'Only two were there. One, he didn't put there.'

(109) *Node   ko   mia   tɨbɨka-da,   **ko**   wa-m-ek.*
      woman   DEF   hold   embrace-SS   **DEF**   say-FPST-3SG
      'He held the woman tight and asked, "You?"'

6.4.4. Noun Phrase coordination

Noun phrases can be coordinated in one of three ways. The first involves the comitative postposition *mɨda*. It can be placed either after each noun phrase to be coordinated (110), or only after the second (111). In the latter case, the postpositional phrase with *mɨda* functions adverbially, and the free noun phrase is the only syntactic subject; example (111) could also be translated 'I will build a house with you.' When both coordinands are coordinated with *mɨda*, the subject is usually recapitulated as in (110). It is unclear whether this is a grammatical requirement or not.

(110) ***Node   yak   ko   mɨda   ya   mɨda,*** *arañi   sibai   nɨb.*
      woman   1SG.OBJ   DEF   COM   1SG   COM   1DU   Simbai   from
      'My wife and I, we're from Simbai.'

(111) *Ya   **na   mɨda**   wara   adɨ-paŋ-niŋ.*
      1SG   **2SG   COM**   house   do-FUT-1SG
      'You and I will build a house.'

The second method of coordinating noun phrases is simply to list them. A few examples above have illustrated this, such as (80) and (85), but (112) and (113) illustrate it again with noun phrases of different composition, serving different syntactic functions. Noun phrases that are coordinated in this way are usually separated intonationally, but occasionally this is not the case.

(112) *Ya   **cem   mora**   kanaŋ   adɨ-k.*
      1SG   **plant.sp   plant.sp**   BEN   do-3SG.IPST
      'I'm hungry for *cem* and *mora*.'

(113) *Asïko   kra,   tai   wak   kra   arma-da,   kuñïk   ada   tama-m-ek.*
      ginger   **TOP**   **tree**   **skin**   **TOP**   chew-SS   spit   do   put-FPST-3SG
      'He chewed ginger and tree bark and then he spit (it on her).'

Example (114) shows three nouns coordinated by juxtaposition.

(114) *Ya   oŋai   kobri   pe   mïŋa-da   ai-paŋ-nïŋ.*
      1SG   **possum**   **cassowary**   **pig**   get-SS   come-FUT-1SG
      'I'll bring possums, cassowaries, and pigs.'

The last coordination strategy is for disjunctive ("or") coordination. The strategy consists in placing a disjunctive coordinator between the two coordinands. This coordinator can be the Tok Pisin borrowing *o* 'or' (115) or the uncertainty particle *waka* (116). Note that *waka* is often used in questions (§6.7.8), and its function as a coordinator may be restricted to them.

(115) *Ya   tride   o   pode   aŋa-paŋ-nïŋ.*
      1SG   Wednesday   **or**   Thursday   go-FUT-1SG
      'I'll go on Wednesday or Thursday.'   Elicited

(116) *Kura   waka   node?*
      man   **Q**   woman
      '(Is that) a man or a woman?'   Elicited

6.5. Verb Morphology

Verbs are the most morphologically complex words in Gants. For many Papuan languages it is common to talk about two kinds of verb morphology: medial morphology and final morphology (see, for example, Roberts 1997). In short, medial verbs (that is, verbs with medial morphology) are chained together before final verbs (verbs with final morphology) and are dependent on them for TAM and some person–number information. Gants, like many Papuan languages, has a distinction between medial and final verb morphology, and I will discuss each set of suffixes in turn. (Gants clause chains are discussed further in §6.8.1.)

The basic verb template in Gants takes the form

root   (PL)   (TAM)   (person)

where 'root' represents the verb root, 'PL' represents an occasional plural suffix that I describe below, 'TAM' represents tense/aspect/mood morphology (including different-subject switch-reference suffixes; see §6.5.2), and person represents an agreement suffix that references the subject of the verb. Every TAM category except for the immediate past, the irrealis, and the same-subject forms has TAM morphology, and every verb form aside from the infinitive (§6.5.3.1) and the same-subject forms (§6.5.2) has a person agreement suffix.

In two TAM categories, different-subject sequential and different-subject simultaneous, the third person plural desinence is discontiguous. Instead of a single suffix that comes after the switch reference suffix, there is a plural suffix *–i* that precedes the switch reference suffix, which is followed by the 3SG suffix for that agreement set. This pattern is illustrated with the different-subject sequential forms *–k–e* '3SG.DS.SEQ' in (117) and *–i–k–e* '3PL.DS.SEQ' in (118).

(117) *Urod* **mi-k-e**   *wekara-m-ek.*
      door   **hold-DS.SEQ-3SG**   close-FPST-3SG
      'She shut the door and it closed.'

(118) *Mɨŋa*   **kida-i-k-e,**   *kerma*   *tama-da ...*
      get   **walk-PL-DS.SEQ-3**   big   put-SS
      'They raised him, and he got big, and he ...'

Whenever this plural –*i* is adjacent to the verb root—that is, in the different-subject sequential and different-subject simultaneous, as well as in the immediate past and irrealis—the verb root appears in its free form, not its bound form.

There are eight sets of person agreement suffixes, and the choice of which to use is determined by the TAM category of the verb. The forms of the different sets, and the TAM categories with which they are used, are laid out in Table 7.

Table 7. Gants subject agreement suffixes

	1SG	2SG	3SG	1PL	2PL	3PL	TAM categories
Set I	–*niŋ*	–*naŋ*	–*k*	–*ruŋ*	–*raŋ*	–*ek*	Present, Imperative
Set II	–*niŋ*	–*naŋ*	–*dɨk*	–*ruŋ*	–*raŋ*	–*dek*	Future
Set III	–*enɨŋ*	–*naŋ*	–*ek*	–*ruŋ*	–*raŋ*	–*ɨk*	Immediate past
Set IV	–*niŋ*	–*naŋ*	–*rɨk*	–*ruŋ*	–*raŋ*	–*rek*	Recent past, Middle past
Set V	–*enɨŋ*	–*naŋ*	–*ek*	–*ruŋ*	–*raŋ*	–*aik*	Far past
Set VI	–*enɨŋ*	–*naŋ*	–*e*	–*ruŋ*	–*raŋ*	–*i-...-e*	Different subject (DS) sequential
Set VII	–*riŋ*	–*na*	–*re*	–*ruŋ*	–*raŋ*	–*i-...-re*	DS simultaneous
Set VIII	–*ɨruŋ*	–*ɨna*	–*ɨre*	–*ruŋ*	–*ɨraŋ*	–*i-re*	Irrealis

The formal similarity of many of these sets is plain to see, as is the presence of the /i/ element in many 3PL suffixes, even those in which it is contiguous with the rest of the suffix.

6.5.1. Final Morphology

In this section I describe the form and meaning of the present tense, the future tense, the immediate past tense, the recent past tense, the middle past tense, the far past tense, the irrealis mood, and the imperative mood. The irrealis mood is unique in that it can also function as a medial different-subject form.

6.5.1.1. Present Tense –cɨ

The present tense is formed with the present tense suffix -cɨ (which is cognate with the verb ca 'stay,' both being descended from Proto-Sogeram *kɨña 'stay') followed by the Set I person agreement suffixes.

Table 8. Present tense suffixes

	SG	PL
first person	-cɨ–nɨŋ	-cɨ–ruŋ
second person	-cɨ–naŋ	-cɨ–raŋ
third person	-cɨ–k	-c–ek

The present tense is rather marked semantically, and in situations where the time reference of an event is unclear or unimportant, speakers prefer the immediate past (§6.5.1.3). This means that English translations of Gants presents usually use the present progressive, but the Gants tense does not appear to have any aspectual meaning.

(119) *Asi-da   aŋa,   kɨñɨŋ   ko   **cɨ-cɨ-k?***
      do.what-SS go   bottom DEF   **stay-PRS-3SG**
      'Why is he staying at the bottom (of the tree)?'

(120) *Nɨ-komɨr   kaneŋ kɨrmo aya   arpim   **adɨ-c-ek.***
      3.POSS-brother group some   come   help   **do-PRS-3PL**
      'Now some of his brothers are coming to help him.'

6.5.1.2. Future Tense –paŋ

The future tense is formed with the future tense suffix –paŋ followed by the Set II person agreement suffixes, as shown in Table 9. This tense refers to any event whose time reference is in the future.

Table 9. Future tense suffixes

	SG	PL
first person	*–paŋ–niŋ*	*–paŋ–ruŋ*
second person	*–paŋ–naŋ*	*–paŋ–raŋ*
third person	*–paŋ–dɨk*	*–paŋ–dek*

(121) *Ya   ga-da,   bilip   **adɨ-paŋ-niŋ**   wa-m-ek.*
       1SG   perceive-SS believe **do-FUT-1SG**   say-FPST-3SG
       '"I'll see and believe," she said.'

(122) *Ai-da   g-ire   ga,   nagi   koimo ma   **cɨ-paŋ-dɨk.***
       come-SS perceive-3SG.IRR TOP basket SPEC   NEG   **stay-FUT-3SG**
       'When he comes and looks, one basket won't be there.'

The future tense suffix is also used as the infinitive suffix (123), which is discussed further in §6.5.3.1.

(123) *Tai   mañ   **miŋa-paŋ**   ai-cɨ-k.*
       tree   seed   **get-INF**   come-PRS-3SG
       'He's coming to take fruit.'

6.5.1.3. Immediate Past Tense –Ø

The immediate past tense does not have an overt morphological marker, but is rather marked by the Set III person agreement suffixes with no preceding TAM suffix.

Table 10. Immediate past tense suffixes

	SG	PL
first person	*–Ø–eniŋ*	*–Ø–ruŋ*
second person	*–Ø–naŋ*	*–Ø–raŋ*
third person	*–Ø–ek*	*–Ø–ik*

I-root and *ɨ*-root verbs behave somewhat differently in the immediate past. As discussed above, the 3PL suffix *–ik* does not attach to the bound form of these verbs, but rather to the free form, as with *kuya* 'plant' in (124); compare the same root in (125). (Recall, though, that the bound and free forms of *a*-root and *o*-root verbs are identical, so

the same analysis is also possible for these verb classes; cf. (126).) Additionally, the 3SG

immediate past suffix is *-k*, not *-ek*, for *i*-root and *ɨ*-root verbs, as in (127) and (128).

(124) *Mɨnek, op-idɨŋ   aŋa-da, stat ada, **kuya-ik.***
morning garden-DEF.SG go-SS   start do   **plant-3PL.IPST**
'In the morning they go to the garden and start planting.'

(125) ***Kwi-ruŋ.***
plant-1PL.IPST
'We plant.'

(126) *Koimo ñɨpi mɨŋa **aŋa-ik.***
SPEC   hide get   **go-3PL.IPST**
'They clandestinely took one and left.'

(127) *Yak   gon   **mɨŋi-k.***
1SG.OBJ   trap   **take-3SG.IPST**
'A trap caught me.'

(128) *Aya   pinis **adɨ-k.***
come   finish **do-3SG.IPST**
'(The story) is finished.'

The time reference of this tense is fairly recent and usually includes only events from

the day of the speech act or the last few days. But the time reference of this tense, like all

past tenses, is flexible. They are rigidly ordered with regard to one another; that is, if the

co-occur in a single context, the order from most remote to most recent tense is far–

middle–recent–immediate past. But the boundaries between them are not fixed, and in the

right context the immediate past can refer to events up to one year ago, and the far past

can refer to events from last week.

The immediate past tense is also used for habitual meanings, as in (129).

(129) *Pɨka kobra-k-e   kɨdɨk, kura ayu aŋa-da, tai   **aka-ruŋ.***
slice finish-DS.SEQ-3SG later man 1PL go-SS   tree **chop-1PL.IPST**
'After she finishes slicing, we men go chop trees.'

It can also be used as a narrative or historical present, as in (130), which is from a legend about a cat and a rat.

(130) *Aya   maj   taki   kra   ada   ña   **tapr-ek.***
        come   sweet.potato   cold   TOP   do   eat   **finish-3SG.IPST**
        'He came and ate up the cold sweet potatoes.'

6.5.1.4. Recent Past Tense –ɡ

The recent past tense is formed with the recent past suffix *–g* followed by the Set IV subject agreement suffixes. When the tense suffix precedes a nasal consonant, an epenthetic /ɨ/ is inserted. The time reference of the recent past is earlier than the immediate past, but more recent than the middle past. Usually it refers to events from a few days to several months ago.

Table 11. Recent past tense suffixes

	SG	PL
first person	*–gɨ–nɨŋ*	*–g–ruŋ*
second person	*–gɨ–naŋ*	*–g–raŋ*
third person	*–g–rɨk*	*–g–rek*

(131) *Mɨnek   **aŋa-gɨ-naŋ,**   ko   asepia   ada-cɨ-naŋ   wa-m-ek.*
        morning   **go-RPST-2SG**   DEF   what   do-PRS-2SG   say-FPST-3SG
        '"You went a while ago, what are you doing?" she asked.'

(132) *Ni   urod   **taka-g-rek.***
        3PL   door   **remove-RPST-3PL**
        'They opened the door.'

6.5.1.5. Middle Past Tense –ma-ɡ

The middle past tense is formed with the middle past suffix *–ma*, followed by the recent past suffix *–g*, followed by the Set IV subject agreement suffixes. It is the only tense that is formed with more than one tense suffix. The time reference of the middle past is earlier

than the recent past, but later than the far past. Usually it refers to events from one to several years ago, as in (134).

Table 12. Middle past tense suffixes

	SG	PL
first person	–ma–gɨ–niŋ	-ma-g-ruŋ
second person	–ma–gɨ–naŋ	-ma-g-raŋ
third person	–ma–g–rɨk	-ma-g-rek

(133) *Wara   nuk   ko   ada   **tama-ma-gɨ-niŋ.***
      house 3SG.OBJ DEF do   put-MPST-RPST-1SG
      'I built his house.'

(134) *Ayu   tutausensiks   kogo   **adɨ-ma-g-ruŋ.***
      1PL   2006   work   do-MPST-RPST-1PL
      'We worked in 2006.'

6.5.1.6. *Far Past Tense* –me

The far past tense is formed with the far past suffix *-me* followed by the Set V person agreement suffixes. (Note that the /e/ in the 1SG and 3SG forms could be analyzed as belonging to either the tense suffix or the person agreement suffix.)

Table 13. Far past tense suffixes

	SG	PL
first person	–m–enɨŋ	–me–ruŋ
second person	–me–naŋ	–me–raŋ
third person	–m–ek	–m–aik

The far past tense has the earliest time reference of any tense, and usually refers to events that occurred many years before the speech act. But as stated, speakers can manipulate the boundaries between the past tenses, so a speaker who wishes to emphasize how long ago something has happened can use this tense for an event from a week before the speech act (136).

(135) *Pakai   nok   **adɨ-m-ek.***
      again   knock   **do-FPST-3SG**
      'He knocked again.'

(136) *Tude   ya   medeŋ   **ai-m-enɨŋ.***
      Tuesday 1SG   Madang   **come-FPST-1SG**
      'Tuesday I came to Madang.'

6.5.1.7. Irrealis Mood

The irrealis mood is unique in that it can be used both medially and finally. It is formed with the Set VIII person agreement suffixes, which occur without any other TAM suffix.

Table 14. Irrealis mood suffixes

	SG	PL
first person	*–ɨrɨŋ*	*–ruŋ*
second person	*–ɨna*	*–ɨraŋ*
third person	*–ɨre*	*–i–re*

The presence of the suffix-initial /ɨ/ is not always obvious, and when the two consonants surrounding it form an acceptable consonant cluster, as in (137), it is often (but not always) elided. This makes it seem as though its presence in sentences like (88) is simply epenthetic, but two facts suggest that /ɨ/ is actually a part of these suffixes. First, the final /a/ from *wɨsɨka* would be expected in (88) instead of /ɨ/; and second, the raising of /o/ to /u/ in *go* 'give' in (139) could not otherwise be explained.

When used finally, the primary function of the irrealis is to give directives. In this use it only occurs in the second person; attempts to elicit first or third person directives have been unsuccessful.

(137) *Narañi   **g-raŋ!***
      2DU   **perceive-2PL.IRR**
      'You (DU) look!'

(138) *Miñ* **wisik-ina** *wa-m-ek.*
     vine **untie-2SG.IRR**   say-FPST-3SG
     '"Untie the ropes," he said.'

(139) *Maya* **gu-na!**
     bring **give-2SG.IRR**
     'Bring it to me!'

Other meanings of final irrealis verbs include desire (140) and intent (141). In addition, there are some verbs, such as *yar* 'throw,' that must be chained—in the case of *yar* the following verb must be a verb of motion that describes the path of the thrown object (142). When this is expressed as an imperative, the final verb appears in the irrealis (143).

(140) *Mañ* *pakaraŋ* *koimo* **miŋ-riŋ** *aba* *ga-k-e* *ga ...*
     seed one   SPEC **get-1SG.IRR** speak perceive-DS.SEQ-3SG TOP
     'He wanted to take one but ...' or 'He thought, "I'll take one," but ...'

(141) *Ya* *urod* **tak-riŋ.**
     1SG door **remove-1SG.IRR**
     'I want to open the door.' or 'I'm about to open the door.'

(142) *Ga-da,* *kura ko* *mija* *ko* **yar-k-e** *aŋ-re-re ...*
     perceive-SS man DEF loincloth DEF **throw-DS.SEQ-3SG** go-DS.SIM-3SG
     'She looked and threw the man's loincloth away and ...'

(143) *Yar-ina* **aŋ-re!**
     throw-2SG. IRR **go-3SG.IRR**
     'Throw it away!'

As mentioned, the irrealis can also be used medially. In this context it functions as a different-subject form. It only occurs in clause chains that end in a final verb that is marked for a semantically irrealis category—the future, the irrealis, and probably the imperative. It indicates that the subject of the verb bearing irrealis morphology differs from the subject of the following verb.

This form is most commonly used with future tense clause chains, where its meanings range from future indicative (144) to negative hypothetical (145) and positive hypothetical (146). But it is also used in clause chains whose final verbs are marked for irrealis mood (147), and presumably a different-subject verb in a chain ending in an imperative verb would also take this form, although that has not been confirmed. Sometimes it can be difficult to determine whether medial irrealis verbs should be interpreted indicatively or hypothetically (148).

(144) *Nu   pe   **yu-re**   kumo-paŋ-dɨk.*
3SG   pig   **hit-3SG.IRR**   die-FUT-3SG
'He's going to kill a pig.'

(145) *Mɨŋ   ma   **yu-re,**   kreŋɨd   mɨŋa-paŋ-nɨŋ.*
rain   NEG   **hit-3SG.IRR**   vehicle   get-FUT-1SG
'If it doesn't rain, I'll take a car.'

(146) *Ya   sabe   **ci-re,**   go-paŋ-nɨŋ.*
1SG   betelnut   **stay-3SG.IRR**   give-FUT-1SG
'If I had betelnut, I'd give (you some).'

(147) ***Yar-na***   *aŋ-re!*
throw-2SG.IRR   go-3SG.OPT
'Throw it away!'

(148) *Ñɨn   kɨrmo   **ai-re**   ga   ya,   **ab-rɨŋ**   **ai-re***
day   some   **come-3SG.IRR**   TOP   1SG   **speak-1SG.IRR**   **come-3SG.IRR**

ga-paŋ-nɨŋ   wa-da ...
perceive-FUT-1SG   say-SS
'"Someday if/when he comes, I'll tell him to come and I'll see him," she said and ...'

6.5.1.8. Imperative Mood –p

The imperative mood has only been observed in the second person, and attempts to elicit first and third person imperative forms have been unsuccessful. It is formed with the

imperative suffix *–p* and the Set I person agreement suffixes (although the two suffixes used are identical to most other sets). As with the recent past suffix *–g*, when the imperative suffix appears next to a nasal consonant an epenthetic /ɨ/ is inserted.

Table 15. Imperative mood suffixes

	SG	PL
first person		
second person	*–pɨ–naŋ*	*–p–raŋ*
third person		

(149) *Yak   wetim   **adɨ-pɨ-naŋ.***
     1SG.OBJ   wait   **do-IMP-2SG**
     'Wait for me.'

(150) *Auna   kenɨŋ   ko,   kuñɨk   epra   **tama-pɨ-naŋ**   wa-m-ek.*
     eye   inside   DEF   spit   buy   **put-IMP-2SG**   say-FPST-3SG
     "'Spit in his eye,' he said.'

A prohibitive, or negative imperative, is formed with the negative particle *ma* preceding the verb.

(151) *Na   ma   **aŋa-pɨ-naŋ.***
     2SG   NEG   **go-IMP-2SG**
     'Don't go.'

(152) *Yak   ma   aya   **ga-p-raŋ**   wa-m-ek.*
     1SG.OBJ   NEG   come   **perceive-IMP-2PL**   say-FPST-3SG
     "'Don't come see me," she said.'

It is unclear how imperatives formed with the suffix *–p* differ interactionally or semantically from irrealis forms used as imperatives.

6.5.2. Medial Morphology

Medial verbs are marked for switch reference, relative tense, and sometimes mood. The switch-reference marker indicates whether the subject of the switch-reference-marked

verb is the same as the subject of the following verb or not (see §6.8.1 for more discussion of switch reference). There are two same-subject suffixes (sequential and delayed) and two different-subject suffixes (sequential and simultaneous).

6.5.2.1. Same–subject -da

Same-subject (SS) verbs distinguish two relative tenses. The more semantically unmarked form is *-da*, which is glossed simply 'SS,' and which indicates that the action of the following verb occurs either immediately following that of the SS-marked verb, or relatively soon after it. It can also be used when the interval of time between the two events is not important.

Same-subject verbs are not marked for person agreement, but rather get their person information either from an overt noun phrase in their clause or from following clauses, which must eventually contain subject agreement in the form of either a different-subject verb (153) or a final verb (154).

(153) *Gon* **tama-da,** **aŋa-da** **ai-da,** *wa ga-k-e* *ma ci-m-ek.*
trap **put-ss** **go-ss** **come-ss** go perceive-DS.SEQ-3SG NEG stay-FPST-3SG
'He set a trap, left, came back, checked, and (the animal) wasn't there.'

(154) **Wa-da** *tai mañ mia kreŋid ab kokoda* **tama-da,** *ikop* **miŋa-da**
go-ss tree seed hold vehicle top above **put-ss** just **get-ss**

aŋ-ek.
go-3SG.IPST
'He went and got the fruit and put it on top of his bike and just pushed it along.'

6.5.2.2. Same–subject Delayed -medi

The suffix *-medi* indicates that the action of the following verb is performed by the same subject as that of the *-medi*-marked verb, and that it occurs after a significant interval of

time has passed (155). This suffix can also be used to transition between different episodes in a narrative (156). It is much rarer than *–da*, occurring only seven times in my corpus (compared to 376 tokens of *–da*).

(155) *Pakai,* *tripela* *wik* *aŋa* **cɨ-medi,** *ai-da,* *aba-me-naŋ.*
again three week go **stay-SS.DELAY** come-SS speak-FPST-2SG
'You stayed three more weeks, came back, and spoke.'

(156) *Kada* *aba-da=n,* *cɨ-m-ek.* **cɨ-medi,** *añi* *maj* *ada* *maya ...*
thus speak-SS=LNK stay-FPST-3SG **stay-SS.DELAY** DU sweet.potato do bring
'He said that, and stayed like that. After staying like that a while, one time they got some sweet potatoes and ...'

6.5.2.3. Different–subject Sequential -ke

The different-subject (DS) medial suffixes differ from the same-subject suffixes in two key respects. First, they are marked for subject agreement, and second, they make different relative tense and mood distinctions. DS verbs distinguish sequential from simultaneous relative tense, and realis from irrealis mood.

The different-subject sequential (DS.SEQ) is formed with the DS.SEQ suffix *–ke* followed by the Set VI person agreement suffixes. The 3PL desinence is formed with the discontiguous plural agreement suffix *–i*, which precedes the DS.SEQ suffix *–ke* and the 3 suffix *–e*.

Table 16. Different-subject sequential suffixes

	SG	PL
first person	*–k-enɨŋ*	*–ke-ruŋ*
second person	*–ke-naŋ*	*–ke-raŋ*
third person	*–k-e*	*–i-k-e*

The different-subject sequential is a realis form, and as such is used with the present tense (157) and the past tenses. Recall that irrealis clause chains use the irrealis mood as a different-subject form (§6.5.1.7). The different-subject sequential indicates that the action

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of the following verb takes place after the action of the DS-marked verb. It sometimes occurs in a sequence of single-verb clauses (158), as is common with SS-marked verbs, but more commonly the verbs will be separated by noun phrases and other verbs (159). Note that not all of these verbs seem to indicate strict sequentiality between the different-subject verb and the following verb. It appears that the different-subject sequential is the unmarked different-subject form, and it is preferred when the relative tense between the two events is backgrounded. The different-subject simultaneous, on the other hand, is more semantically marked and only occurs when simultaneity is being highlighted.

(157) ***Yo-k-e***   *kumo-cɨ-k.*
      hit-DS.SEQ-3SG   die-PRS-3SG
      'He's killing it.'

(158) *Es*   *wak*   ***miɲi-k-e***   ***opa-k-e***   ***ga-k-e***   *arɨŋ*
      leg   skin   **take-DS.SEQ-3SG**   **descend-DS.SEQ-3SG**   **perceive-DS.SEQ-3SG**   shin

      yoro   *tam-ek*   *o.*
      break   put-3SG.IPST   Q
      'He pulled his socks down and looked to see if his shin had broken.'

(159) *Kura*   *ko*   *aya*   ***ga-k-e,***   *node*   *ko*   *tewa-da*
      man   DEF   come   **perceive-DS.SEQ-3SG**   woman   DEF   pick-SS

      cɨ-k-e,   *oŋai*   *erkara-da ...*
      stay-DS.SEQ-3SG   possum   turn-SS
      'The man came and looked, and the woman was picking (the mushrooms), and he turned into a possum and ...'

6.5.2.4. Different–subject Simultaneous –re

The different-subject simultaneous medial verb is formed with the DS.SIM suffix *–re* followed by the Set VII subject agreement suffixes. Like the DS.SEQ form, the DS.SIM has a discontiguous 3PL agreement suffix *–i*. Additionally, in the 2SG form, the DS.SIM suffix *–re*

assimilates in nasality to the nasal consonant in the agreement suffix, yielding the form

-ɨne–na.

Table 17. Different-subject simultaneous suffixes

	SG	PL
first person	*–ɨre-rɨŋ*	*–ɨre-ruŋ*
second person	*–ɨne-na*	*–ɨre-raŋ*
third person	*–ɨre-re*	*–i-re-re*

The DS.SIM indicates that the event of the marked verb occurs at the same time as that of the following verb. It thus gives only relative tense information, and like other medial forms, depends on its final verb for absolute tense.

(160) *Pi   pi   kam-ek   ko   ni   wɨsɨn   **mɨga-i-re-re,**   nu   bɨr*
      dawn dawn dawn-3SG.IPST   DEF   3PL   sleep   **sleep-PL-DS.SIM-3**   3SG   TOP

   ñɨpi   ai-m-ek.
   hide   come-FPST-3SG
   'At the break of dawn, while they were sleeping, he snuck out.'

(161) *Pub   awe   **ai-re-re,**   node,   aŋa   kra-k-e   tu-ek.*
      sun   time   **come-DS.SIM-3SG**   woman   go   cook-DS.SEQ-3SG   burn-3SG.IPST
      'During the dry season, the women go light (the gardens) on fire.'

As with the irrealis, it can be difficult to identify the presence of the suffix-initial /ɨ/, but in (162) and (163) its effect can be seen from the elision of root-final /a/ of *kɨda* 'walk' and *tua* 'burn.'

(162) *Oŋai   yo   mɨŋa-da   **kɨd-re-re** ...*
      possum   hit   get-SS   **walk-DS.SIM-3SG**
      'He killed a possum and was walking and ...'

(163) *Kra-k-e   **tu-re-re,**   aŋai   korañi, pakara cɨ-da ...*
      cook-DS.SEQ-3SG   **burn-DS.SIM-3SG**   day   two   one   stay-SS
      'She burns it and as it's burning, (we) wait three days and ...'

Like other TAM categories that have suffix-initial –*i* in the 3PL, the 3PL DS.SIM attaches to the free form of the root, as in (160) above. One verb is irregular in this respect: *aya* 'come' deletes the plural suffix –*i* (164).

(164) *Ni* **aya-re-re,** *jon* *aŋa-paŋ-dɨk.*
     3PL **come.PL-DS.SIM-3** John go-FUT-3SG
     'When they come, John will leave.'

6.5.3. Other Morphology

A few verb suffixes do not fall easily into the medial/final distinction. These include the infinitive suffix (§6.5.3.1), the reduplicative participle (§6.5.3.2), the desiderative suffix (§6.5.3.3), and the nominalizer (§6.5.3.4).

*6.5.3.1. Infinitive –*paŋ

The future tense suffix –*paŋ* is also used to form the infinitive. In this usage, there are no subject agreement suffixes,[24] which distinguishes it from the future. For this reason, and because the infinitive does not have inherent time reference (that is, it does not have future meaning), I gloss the suffix 'INF' and not 'FUT.'

The infinitive can be used to express purpose, as in (165) and (166). In this usage, the matrix verb usually occurs directly after the infinitive verb, but this does not have to be the case (167).

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[24] The use of a future tense suffix without subject agreement to form an infinitive has also been observed in the Mayan language Jacaltec (Craig 1977).

(165) **Ña-paŋ**   ai-c-ek.
     eat-INF   come-PRS-3PL
     'They're coming to eat.'

(166) *Na*   *ramu*   *suka*   *kogo*   **adɨ-paŋ**   *aŋa-me-naŋ.*
     2SG   Ramu   Sugar   work   **do-INF**   go-FPST-2SG
     'You went to Ramu Sugar to work.'

(167) *Kura*   *ko*   *oŋai*   *yo*   **miŋa-paŋ**   *sukuma*   *aŋa-m-ek.*
     man   DEF   possum   hit   **get-INF**   forest   go-FPST-3SG
     'The man went to the forest to kill a possum.'

With the matrix verb *ada* 'do,' the infinitive is interpreted desideratively, as in (168) and (169). By extension of the desiderative semantics, this construction can also be used inceptively, as in (170), which can be translated 'it was about to turn six o'clock.'

(168) *Op*   *kogo*   **adɨ-paŋ**   *adɨ-da ...*
     garden   work   **do-INF**   do-SS
     'We want to make a garden ...'

(169) *Mokor*   *kesɨm*   **aba-paŋ**   *adɨ-cɨ-nɨŋ.*
     sorcerer   story   **speak-INF**   do-PRS-1SG
     'I want to tell a traditional story.'

(170) *Sis*   *akrok*   **adɨ-paŋ**   *ad-re-re*   *aba-m-ek*   *yi?*
     six   o'clock   **do-FUT**   do-DS.SIM-3SG   speak-FPST-3SG   what.to.do
     'It was almost six o'clock and she said, "What am I to do?"'

The infinitive can also be used to refer to an action in an abstract way—for example *ña-paŋ* 'eat-INF' would simply be translated 'eating.' In this use, the infinitive does not have a subordinate relationship to a matrix verb, as it does in the examples above. Nevertheless, this use is not common in isolation, but rather is used as a way to refer to an action without reference to tense, as in (171) and (172), or when the tense is understood from context, as in (173) and (174) (the latter of which was said while watching a film).

(171) *Kura*   *kerma=n,*   *ne-duŋ*   **ai-paŋ**   *aba-k-e,*   *kɨmna*   *kra*   *rere*
     man   big=LNK   child-3.POSS   **come-INF**   speak-DS.SEQ-3SG   thing   TOP   ready

ad-eniŋ.
do-1SG.IPST
'The big man's son said he'd come and I got everything ready.'

(172) *Ya   sabe   **ña-paŋ.***
1SG   betelnut   **eat-INF**
'I chew betelnut.'

(173) *Amor   ci-paŋ-niŋ   añir   **ai-paŋ**   wa-m-ek.*
one.day.away   stay-FUT-1SG   two.days.away   **come-INF**   say-FPST-3SG
'"Tomorrow I'll stay (away), the day after that I'll come back," he said.'

(174) *Yona ikop   miŋa-da   **aŋa-paŋ.***
now   just   get-SS   **go-INF**
'Now he's just pushing it and going.'

6.5.3.2. Reduplicative Participle

Verb roots can be reduplicated to form what I term a participle. These participles are not well understood, but appear to have a range of functions. Sometimes they behave similarly to verbal adjuncts, as in (175) and (176), and sometimes they seem most like adverbs (117). They can also be used in some idiomatic expressions, such as *kia tama~tama* speech put~PTCP 'angry.'

(175) *Ebe   kokoda   taka-da   **ma   ga~ga**   adi-k   ko ...*
inside   up.there   remove-SS   **NEG   perceive~PTCP**   do-3SG.IPST   DEF
'As he was up there picking fruit and wasn't looking ...'

(176) ***Ga~ga***   *tama-da kia   ade   redio   medeŋ   tama-m-aik.*
perceive~PTCP   put-SS   speech   ?   Radio   Madang   put-FPST-3PL
'They finished listening and they put the speech on Radio Madang.'

(177) *Tai   mañ   kra   **tiga~tiga**   arip   ko   arip   ko   aŋ-ek.*
tree   seed   TOP   **scatter~PTCP**   right   DEF   right   DEF   go-3SG.IPST
'The fruit scattered and went all around.'

One verb, *ga* 'perceive,' forms its participle irregularly for one speaker, inserting an /i/ before the suffix (178).

(178) *Wa-da* **ga-iga** *ca* *ga-k-e,* *kura-dɨŋ,* *kaimi* *aŋa-da…*
 say-SS **perceive~PTCP** stay perceive-DS.SEQ-3SG man-DEF.SG rat go-SS
 'He said that and was watching, and he saw the rat go and …'

6.5.3.3. Desiderative –ɨnaba

There is one example of a suffix *-ɨnaba* in my corpus, and it appears to have desiderative

meaning of some kind. Whether it means 'want,' 'not want,' or something else is unclear.

(179) *Yak* *ma* **aŋ-inaba** *adɨ-k.*
 1SG.OBJ NEG **go-?** do-3SG.IPST
 'I don't want to go.'

6.5.3.4. Nominalizer –ko

There are two examples of a suffix *-ko* in my corpus, which may be a nominalizer of some

sort.

(180) *Kuyara* **cɨ-ko-ruŋ** *pom* *adɨ-k.*
 sit **stay-?-1PL** bad do-3SG.IPST
 'Our life (lit. 'sitting') is bad.'

6.6. Serial Verbs

The term "serial verb" has been used in so many different ways, to refer to so many

different things, that it is good to take some time to be precise about what one means by it.

Thus I begin with Aikhenvald's (2006: 1) definition, which is worth quoting at length.

> A serial verb construction (SVC) is a sequence of verbs which act together as a
> single predicate, without any overt marker of coordination, subordination, or
> syntactic dependency of any other sort. Serial verb constructions describe what is
> conceptualized as a single event. They are monoclausal; their intonational
> properties are the same as those of a monoverbal clause, and they have just one

tense, aspect, and polarity value. SVCs may also share core and other arguments. Each component of an SVC must be able to occur on its own. Within an SVC, the individual verbs may have same, or different, transitivity values.

Gants has many constructions which fit this definition, such as those in the examples below. In these constructions, two or more verbs are strung together, and the last verb bears the morphology for the whole serialized string. The serialized verbs all have the same subject, although they may have different objects. These strings can be used medially, as with *miga ca* 'come.down stay' in (7), or finally, as with *miŋa yako* 'get go.up' in the same sentence. There are many lexicalized expressions, like the pair *aba ga* 'speak perceive' in (182), which means 'think.' But SVCs are also productive, and verbs can be combined in new and creative ways to describe unique situations, as in (183).

(181) *Miga   ci-k-e   miŋa   yako-da ...*
      come.down   stay-DS.SEQ-3SG   get   go.up-SS
      'It had fallen down (come.down stay) and she picked it up (get go.up) and ...'

(182) *Nu   ma   miŋ-ek   aba   g-ek.*
      3SG   NEG   get-3SG.IPST   **speak   perceive-3SG.IPST**
      'He thinks (speak perceive) he didn't take it.'

(183) *Mi-da   kebra   mañ   koida,   arepa ña-k-e   opa   ai-m-ek.*
      hold-SS cap   thing above **break eat-DS.SEQ-3SG** descend come-FPST-3SG
      'He held him and broke his head and ate him, coming down (to his bottom).'

But there are a few ways in which these constructions also violate Aikhenvald's definition. It is possible for serialized verbs in Gants to have differing polarity values (63), and SVCs are often only loosely integrated phonologically (185) (although the extent to which their intonational properties differ from those of a monoverbal clause is unclear). It is also difficult to tell whether what is being described is being "conceptualized as a single

event." Indeed some examples, such as (186), would seem to most unbiased observers to consist of at least two.

(184) *O okra ma ga-da bɨr kuyara-paŋ-dɨk.*
oh **look.for** NEG **perceive-SS** TOP sit-FUT-3SG
'Oh, he'll look for it and won't find it and he'll sit down.'

(185) *Okei keceki ko ipa miga, node ko nuk mia gon ko*
okay spirit DEF **get.up go.down** woman DEF 3SG.OBJ **hold** trap DEF

miñ tɨbo tam-ek.
vine **tie** put-3SG.IPST
'Okay, the spirit got up (get.up go.down) and took (hold) the woman and tied her up (tie put) with rope from the trap.'

(186) *Mɨŋa aŋa se popaka ko akro erkar-ek.*
get go place bad DEF **carry turn-3SG.IPST**
'He took them (get go) and spilled them (carry turn) in a bad place.'

Nevertheless, because these constructions match Aikhenvald's definitional criteria (as well as those of other authors) in other respects, and because it will be useful, in the following discussion, to have a term for them that differentiates them from clause chains, I refer to them as serial verbs.

SVCs interact in very subtle ways with several grammatical parameters, including argument structure, information structure, and TAM categories (especially aspect). The following discussion cannot hope to cover Gants SVCs in all their complexity—rather, I focus on their argument structure and word order properties (§6.6.1) and their TAM properties (§6.6.2).

6.6.1. Argument Structure and Word Order

What follows is simply a brief description of the most common patterns found in Gants SVCs. There is doubtless much more to be said, but, broadly speaking, there are three positions in the clause where verb roots most typically appear. I label these positions V1, V2, and V3, and each of these positions may be occupied by any number of verbs, including complex verbs (see §6.3.1.3).

(S)   (V1)   (O)   (V2)   (Obl)   V3

The subject comes first, followed by the verbs in V1, which I call "subject-modifying verbs." The object follows, followed in turn by the V2 verbs. The oblique argument comes next, followed lastly by V3, which contains the rest of the predicate. V3, as the inflected verb, is the only obligatory constituent in any verbal clause.

It is unclear whether the positions V1 and V2 exist independently of the nominal arguments that separate them from V3. In other words, I do not know if the verb root *aŋa* 'go' in (187) can be said to be in V1 position. Semantically, it functions exactly like a typical V1 verb, but I do not know whether there is any structural reality to the V1 position in the absence of an overt object or oblique argument.

(187) *Node,*   **aŋa**   *kra-k-e*   *tu-ek.*
     woman   **go**   cook-DS.SEQ-3SG   burn-3SG.IPST
     'The women go burn (the gardens).'

I do not attempt to resolve this question here, and focus instead on those clauses which contain objects and obliques that separate V1 and V2 from V3. I assume that any verbs next to the inflected verb occupy V3 position.

It is uncommon for every verb position to be filled. In fact, this only occurs once in my corpus, in a sentence which I presented above but which I repeat here as (188).

(188) Okei keceki ko   **ipa**   **miga,**   node   ko   nuk   **mia**   gon ko
okay spirit DEF **get.up** **go.down** woman DEF 3SG.OBJ **hold** trap DEF

miñ **tɨbo** **tam-ek.**
vine **tie** put-3SG.IPST
'Okay, the spirit got up (get.up go.down) and took (hold) the woman and tied her up (tie put) with rope from the trap.'

6.6.1.1. Subject–modifying Verbs

I call verbs in V1 position "subject-modifying verbs." These verbs are usually intransitive, and orient the subject with respect to the rest of the predicate. Most commonly they are verbs of motion like *aŋa* (43) or *aya* (190), but other verbs can occur in this position as well (7).

(189) **Aŋa** asɨko **miŋa-m-ek.**
go   ginger **get-FPST-3SG**
'He went and got ginger.'

(190) **Aya** maj   taki kra **ada** ña **tapr-ek.**
come sweet.potato cold TOP **do** eat finish-3SG.IPST
'He came and ate up the cold sweet potatoes.'

(191) **Tɨpa** pi   nuduŋ   **ai-m-ek.**
fear village 3SG.POSS **come-FPST-3SG**
'He fled to his village.'

The verbs in V1 position can have their own oblique arguments, as shown in (192) and (193).

(192) Ya op-idiŋ   **aŋa** kɨmna yue   **ada** **mai-ci-niŋ**   wa-m-ek.
1SG garden-DEF.SG **go** food seed **do** **bring-PRS-1SG** say-FPST-3SG
'"I'm going to the garden and bringing seeds," he said.'

(193) *Pi   nuduŋ   koroda   **aŋa,** kɨmna mañ   nagi   **mɨŋa   go-da** ...*
     village 3SG.POSS other.side **go**   food   thing basket **get**   **give-ss**
     'She went to her village over there and gave (her family) a basket of food and ...'

The intransitive, subject-modifying interpretation of V1 verbs is nicely illustrated by the following elicited minimal pair. In (45), the verb *aba* 'speak' precedes the object and is interpreted intransitively (it was translated with the intransitive Tok Pisin verb *toktok* 'talk'). In (46), the verb is being used as a transitivizer for the verb *mɨŋa*, which is preferred when it has a human object (see §6.7.3.1).

(194) *Ya   **aba**   node   **mɨŋa-da** ...*
     1SG **speak** woman   **get-ss**
     'I talked and I got my wife and ...'

(195) *Ya   node   **aba**   **mɨŋa-da** ...*
     1SG woman   **speak** **get-ss**
     'I got my wife and ...'

Tok Pisin word order may be influencing the kinds of verbs that can occur in V1 position. In (196), the Tok Pisin verb *stat* 'start' is borrowed as a verb adjunct that takes the verb *ada* 'do.' This kind of verb, which modifies the predicate aspectually, would usually occur in V3 position. But, possibly because this word was borrowed from Tok Pisin, an SVO language, its word order properties are being borrowed with it.

(196) *Node   ko   **aŋa, stat   ada** op-ɨdɨŋ   **pɨk-ek.**
     woman   DEF   **go   start do**   garden-DEF.SG **slice-3SG.IPST**
     'My wife goes and starts clearing the garden.'

It may be that subject-modifying verbs are best analyzed as adverbs. Example (197) contains the only example of serialized verbs with different subjects in my corpus, and it is unclear how best to analyze it.

(197) *Tride*   *Ramu*   **aya**   *moto*   **ma**   **ai-k-e**   *ga-da,*
Wednesday   Ramu   **come**   boat   **NEG**   **come-DS.SEQ-3SG**   perceive-ss

mɨga-m-enɨŋ.
sleep-FPST-1SG
'Wednesday I came to the Ramu and the boat didn't come so I slept.'

6.6.1.2. V2 and Oblique Arguments

When an oblique noun phrase is an argument for only some of the verbs in an SVC, the verbs for which it is not an argument occur in V2 position, those for which it is occur in V3, and the oblique itself occurs between them. For example, the locative noun phrase *nimai kenɨŋ ebe ko* 'the inside of the water' in (198) is an argument of *tamada* 'put and' but not of *marepa* 'take off'; the bad skin was not taken off inside the water, but only put inside the water.

(198) *Kura*   *no-ra*   *ko,*   *wak*   *popaka*   *ko*   **marepa,**   *nɨmai*   *kenɨŋ*
       man   3.POSS-in.law   DEF   skin   bad   DEF   **take.off**   water   inside

ebe   *ko*   **tama-da ...**
inside.there   DEF   **put-ss**
'Her in-law took off the bad skin and put it in the river and ...'

A couple more examples are given below. Note that in (198) and (199), the object of the V2 verb is also the object of the V3 verb. In (200), though, *mɨja ko* 'the loincloth' is the object of *makubra* 'take off,' but is the instrument of the complex verb *aj tama* 'mark.'

(199) *Masarai*   *bo*   *ko*   **kuya**   *so*   *ko*   **tama-m-ek.**
       spirit   ?   DEF   **shoot**   place   DEF   **put-FPST-3SG**
       'He shot the spirit right there.'

(200) *Mɨja*   *ko*   **makubra,**   *tai*   *waja*   *ab*   *so*   *ko,*   *aj*   **tama-da ...**
       loincloth   DEF   **take.off**   tree   branch   top   place   DEF   **mark**   **put-ss**
       'He took off his loincloth and marked a tree branch with it and ...'

It is also possible for verbs in V2 and V3 positions to have differing polarity, and possibly mood, values. In (64), the negative imperative clearly has scope over *aya* 'come,' but is more ambiguous with respect to the verbs *tago miŋa* 'step get.' The oblique argument *kineb keniŋ yak ko* 'the inside of my house' is only an argument of *aya*, since the debris is gotten by stepping outside; but whether the speaker intends for the listeners to cease all their stepping, outside as well as in, is unclear.

(201) *Sikasika* **tago** **miŋa** *kineb* *keniŋ* *yak* *ko* **ma** **ai-p-raŋ!**
debris **step** **get** house inside 1SG.OBJ DEF **NEG** **come-IMP-2PL**
'Don't track dirt inside my house!'

When an oblique argument is an argument for all the verbs in an SVC, it can occur before the object, as in (202).

(202) **Aŋa** *sukuma* *ebe* *ko,* *oŋai* **yo** **ada** **miŋa-da** *ai-m-ek.*
go forest inside.there DEF possum **hit** **do** **get-ss** come-FPST-3SG
'He went and killed a possum in the forest and came back.'

6.6.2. TAM Properties

Many verbs, when used in an SVC, do not contribute their typical lexical semantics to the predicate, but rather impart (usually aspectual) TAM meaning. For example, *tama* in (203) does not convey any literal putting, but rather contributes completive aspect to the predicate: the dog *finished* coming back and standing at the door. These kinds of aspectual verbs are usually the last verb in their SVC. However, note that these aspectual verbs can still be used lexically, as in (204), which does involve actual putting.

(203) *Kain* *sirik* *raŋa* *adiko* *pakai* *aya* *tagurama* **tama-m-ek.**
dog itch CHAR this again come stand **put-FPST-3SG**
'This mangy dog came and stood up again.'

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(204) *Sij   kra   kupia   **tama-k-e**   cɨ-m-ek.*
      taro   cook   bake   **put-DS.SEQ-3SG**   stay-FPST-3SG
      'She baked taro and set it out and it was there.'

In the following sections I briefly discuss some of the more common aspectual verbs, and the particular aspect that they impart to a predicate. The list is not exhaustive, but will hopefully alert the reader to the broader patterns that emerge in Gants SVCs.

6.6.2.1. *Stative/Durative* ca

The verb *ca* 'stay' can add stative (29) or durative (206) aspect to a predicate.

(205) *Aŋa-da   ai-da   ada   ga-k-e   ga,   oŋai   ma   mia   **cɨ-m-ek.***
      go-SS   come-SS   do   perceive-DS.SEQ-3SG   TOP   possum   NEG   hold   **stay-FPST-3SG**

      'He left and came back and when he looked, it wasn't holding a possum.'

(206) *Wa-da,   mi   kɨba   kɨba   tama   **cɨ-m-ek.***
      say-SS   thought   long   long   put   **stay-FPST-3SG**
      'She said that and thought for a very long time.'

The stative sense usually highlights the state that results from the events described by the other verbs in the SVC; that is, it does not necessarily render those verbs stative themselves, but rather highlights the state that results from them. This distinction is difficult to see with examples like (29) above, but is clearer with other examples like (207). Here, the state of falling has ended, but the resultant state—the state of lying on the floor—is being highlighted. This semantic emphasis on the state resulting from an event is often best translated into English with perfects, as with this example.

(207) *Aŋa   ga-k-e   pepa   bada   ko   mɨga   **cɨ-m-ek.***
      go   perceive-DS.SEQ-3SG   paper   a.lot   DEF   come.down   **stay-FPST-3SG**
      'She went and looked and a lot of paper had fallen down.'

The durative sense of *ca* is more straightforward, and simply marks the event described

by the other verbs as as ongoing, as in (208).

(208) *Wara   tua   ci̱-ci̱-k.*
     house   burn   stay-PRS-3SG
     'The house is burning.'

6.6.2.2. Completive tama

As mentioned above, *tama* 'put' can be used to mark completive aspect. This can be seen in

(209), where it would be nonsensical for the subject (the shin) to put anything, and in (210),

where, although there is putting happening, it is described in the following clause.

(209) *Es   wak   mi̱ni-k-e   opa-k-e   ga-k-e   ari̱ŋ   yoro*
     leg   skin   take-DS.SEQ-3SG   descend-DS.SEQ-3SG   perceive-DS.SEQ-3SG   shin   break

     tam-ek   o.
     put-3SG.IPST   Q
     'He pulled his socks down and looked to see if his shin had broken.'

(210) *Taka   tama-da,   kros   ebe   ko   tama   mai-k.*
     remove   put-ss   clothes   inside   DEF   put   bring-3SG.IPST
     'He removed them and put them in his clothes and brought them.'

6.6.2.3. Completive mi̱ga

The verb *mi̱ga* 'come down' can also be used for completive aspect, and it is unclear how it

differs from *tama* in this regard. However, its meaning is clear from examples like (211),

where the action described is the opposite of coming down, and (212), where there can be

no literal "coming down" (in this example *mi̱ga* is in an SVC with the verb adjunct *pom* '(be)

bad,' which takes the verb *ada* 'do').

(211) *Ipa   mi̱ga-da   ai-re-re,   no-ki̱n   ñi̱ŋe   ab-ek.*
     get.up   come.down-ss   come-DS.SIM-3SG   3.POSS-sister   small   speak-3SG.IPST
     'She got up and while she was coming, her little sister spoke.'

(212) *Pom   ada   **miga-m-ek,**   kura   aŋoi   raŋa.*
      bad   do   **come.down-FPST-3SG**   man   tinea CHAR
      'He was really bad, (he was) a man with tinea (a skin disease).'

One way in which the *miga* completive may differ from *tama* is that *miga* can modify

tama. Tama never occurs with itself in my corpus to mean 'put completively.' Rather, when

this meaning is desired, *miga* is used, as in (213), where *tama* is being used with an adjective

phrase to mean 'become.'

(213) *Miŋa   kɨda-i-k-e   kerma   yɨbri, tama   **miga-da,**   yona,   kada*
      get   walk-PL-DS.SEQ-3 big   very   put   **come.down-ss**   now   thus

      cɨ-cɨ-k.
      stay-PRS-3SG
      'They raised him and he grew really big, and now, that's how he is.'

6.6.2.4. Habitual kɨda

Kɨda 'walk' can be used to add habitual aspect to a predicate.

(214) *Krɨm   mɨda, araka, dugep,   kra   nuduŋ   rotu   ada   **kɨda-m-ek.***
      night   COM   noon   afternoon   TOP   3SG.POSS worship   do   **walk-FPST-3SG**
      'Night, day, and afternoon, she would always worship.'

6.7. Clause Structure

For most of this section I describe the structure of verbal clauses, which are the most

common clause type, and in §6.7.9 I discuss nonverbal clauses.

6.7.1. Basic Word Order

The basic word order in the verbal clause can be outlined as follows:

    (Temp)   (S)   (R)   (T)   (Obl)   (Neg)   V   (Q)

Temp refers to a temporal argument, S is the subject, R is the recipient, T is the theme, Obl refers to other oblique arguments), Neg is the negative particle, V is the inflected verb, and Q is the question particle. In clauses with only one object, that object occurs in the same location as R and T. In addition to this basic word order, constituents can be fronted for topicality (§6.7.5) as well as postposed (§6.7.6).

It is uncommon for a clause to have more than two arguments, and most clauses have one or none. Because of this, the constituent order which I present above is based on examples which do not contain all logically possible arguments. It is unknown if there are reordering rules which apply to clauses with many arguments; rather, what is more likely, and what is observed in my corpus, is that argument-heavy clauses are simply dispreferred, and strategies are commonly used (or possibly grammatically required) to reduce the number of arguments in a clause. For example, in the only ditransitive clause in my corpus in which all three core arguments are expressed, the theme, *asɨko ko* 'the ginger,' is fronted and thereby removed from the core of the clause (215).

<pre>
       [T   ] [S] [R   ]
(215) Asɨko   ko   bɨr node   ko   go-k-e ...
      ginger   DEF   TOP woman   DEF   give-DS-3SG
      'The ginger, he gave to his wife and ...'
</pre>

Another common practice is to distribute arguments that might occur in the same clause among multiple chained clauses. Example (216) would probably be expressed "He brought the woman to his house" in English, but Gants places the subject and (fronted) object in one clause, and the locative argument in another.

(216) *Node   ko   bɨr   aba   miŋa-da,   wara   nuduŋ   ko   aŋa-m-ek.*
       woman DEF TOP speak get-SS, house 3SG.POSS DEF go-FPST-3SG
       'The woman, he took her and went to his house.'

Nevertheless, clauses with multiple arguments do occur, and I discuss each argument type in turn below.

6.7.2. Subjects

Subjects in Gants are the first core argument, following only the temporal oblique. They trigger person agreement in final verbs (§6.5.1) and switch-reference agreement in medial verbs (§6.8.1), and are usually the most topical, agentive, and animate argument in a clause. Subjects do not have special case marking, except in pronouns, and there do not appear to be any syntactic operations (such as passivization) that operate only on subjects.

Subjects triggering medial and final verb agreement can be seen in examples (217)–(220) below.

(217) *So   koipi aŋa ga-pɨ-naŋ   w-eniŋ.*
      place there go   perceive-IMP-2SG say-1SG.IPST
      'Go look over there, I say.'

(218) *Nu   bɨr   ñɨpi ai-m-ek.*
      3SG TOP   hide come-FPST-3SG
      'The man came stealthily.'

(219) *Kura ayu aŋa-da, tai   aka-ruŋ.*
      man   1PL   go-SS   tree chop-1PL.IPST
      'We men go and cut trees.'

(220) *Cɨ-da,   añi yo-i-k-e   kiaŋ aba-m-ek,   gɨcɨŋ mɨre.*
      stay-SS DU   hit-PL-DS.SEQ-3 noise speak-FPST-3SG drum like
      'They stayed and hit it and it made noise like a drum.'

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As noted in §6.4.4 above, comitative noun phrases do not form part of the subject for purposes of verb agreement (and presumably switch reference, although I do not have data on that question).

(221) *Ya   na   mɨda   wara   adɨ-paŋ-niŋ.*
    1SG   2SG   COM   house   do-FUT-1SG
    'You and I will build a house.'

Experiencer noun phrases usually occur as objects, while the experienced force, such as hunger (222), sickness (223), or *yame* sugar (224), is the subject. When there is a large difference in animacy between the subject and the object of a transitive clause, the more animate constituent will usually come first; this tendency also applies to non-experiencer predicates (225). However, it is still possible (although less common) for a less animate subject to occur in normal subject position, as in (226) and (227).

(222) *Yak   ekur   adɨ-k.*
    1SG.OBJ   hunger   do-3SG.IPST
    'I'm hungry.'

(223) *Yak   dukɨma   adɨ-k.*
    1SG.OBJ   illness   do-3SG.IPST
    'I'm sick.'

(224) *Yak   yame   ko   eruk   adɨ-k   ko   pe   ña-cɨ-niŋ.*
    1SG.OBJ   k.o.sugar   DEF   not.want   do-3SG.IPST   DEF   CTR   eat-PRS-1SG
    'Although I don't like *yame*, I'm eating it.'

(225) *Oŋai   ko   gon   mia   cɨ-m-ek.*
    possum   DEF   trap   hold   stay-FPST-3SG
    'The trap was holding the possum.'

(226) *Ekur   yak   adɨ-k.*
    hunger   1SG.OBJ   do-3SG.IPST
    'I'm hungry.'

(227) *Dukɨma   yak   adɨ-k.*
      illness   1SG.OBJ   do-3SG.IPST
      'I'm sick.'

6.7.3. Objects

Gants does not have object agreement, and there are no known verbs that index any properties of their object. In this section I describe the behavior of objects in simple transitive clauses (§6.7.3.1) and ditransitive clauses (§6.7.3.2).

6.7.3.1. Monotransitive Clauses

Ellipsis of arguments is very common in Gants, and even clauses that are plainly transitive will often not have an overt object. This can be because the object has been mentioned in a preceding clause in the clause chain, as in (228), or because it is understood from context and is simply not needed, as in (229), which comes from later in the same story.

(228) *Aya   ur   jɨmjɨm kona=n   ai-da=n,   yo-k-e   kiaŋ   aba-m-ek.*
      come   path   door   here=LNK   come-SS=LNK hit-DS.SEQ-3SG noise   speak-FPST-3SG
      'He came up to the door and knocked (lit. 'hit it and it made noise').'

(229) *Pakai   yo-k-e   aba-m-ek.*
      again   hit-DS.SEQ-3SG   speak-FPST-3SG
      'He knocked again (lit. 'hit [the door] again and it made noise').'

Some verbs must occur in an SVC with *aba* 'speak' if they have a human object, such as *maya* 'bring' (230), *tama* 'put' (231), and *mɨŋa* 'get' (232).

(230) *Amor   ya,   nesa   korañi koimo,   aba   mai-da ...*
      one.day.away   1SG   child   two   SPEC   speak   bring-SS
      'Tomorrow I'll bring two more boys and ...'

(231) *Yak   aba   tama-ke-naŋ,   aŋa-k-eniŋ ...*
      1SG.OBJ   speak   put-DS.SEQ-2SG   go-DS.SEQ-1SG
      'You put me (out), so I left and ...'

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(232) *Ci-da   pakai   ni-moŋ   nuk   aba   miŋa-da   aŋa-m-ek.*
     stay-SS   again   3.POSS-husband   3SG.OBJ   speak   get-SS   go-FPST-3SG
     'She stayed and got her husband again and left.'

It was mentioned above that it is common to spread arguments from heavy clauses out over a clause chain. This can even occur with an object, as illustrated in (233), which has the rather heavy subject *kura yakamɨr kona nɨba wakai* 'possibly this brother here.' (Note that the form *trik* in this clause is a borrowed verb adjunct, not a noun; it is combined with the verb *ada* 'do' to form a complex verb.)

(233) *Kura   ya-kamɨr   kona   nɨba   wakai, trik   adɨ-da, yak   adɨ-k.*
     man   1.POSS-brother   here   3SG.EMPH   Q   trick do-SS   1SG.OBJ   do-3SG.IPST
     'I think it was this brother here who tricked me.'

6.7.3.2. Ditransitive Clauses

Ellipsis is just as common in ditransitive clauses, and when the theme and recipients are understood from context, no object is needed (234).

(234) *Krɨm   komgoda   maya   kapɨr   ab   so   ko   tama-da   gw-ek.*
     night   very   bring   ground top   place DEF   put-SS   give-3SG.IPST
     'In the middle of the night she came and put it on the ground and gave it (away).'

However, when both objects are present, the recipient comes first and is followed by the theme. In (235) the theme is fronted as *tai mañ ko* 'the fruit,' and recapitulated as *mo* 'some.' In (236), the recipient *nik añi* 'they (DU)' precedes the theme *mo*, and in (237), the recipient *nuk* 'him' precedes *kɨmna kra* 'the stuff.'

(235) *Emɨdeŋ   tai   mañ   ko   nuk   mo   tora   go-paŋ-dɨk.*
     next   tree   egg   DEF   3SG.OBJ   some   gather   give-FUT-3SG.FUT
     'Next, the fruit, he'll give him some.'

(236) *Miŋa-da   aŋra   u-re-re,   pakai nik   añi mo   tora   go-ik.*
     get-SS   go   go-DS.SIM-3SG   again 3PL.OBJ   DU   some   gather   give-3PL.IPST
     'As he_i was taking them away, he_j gave some to the other two.'

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(237) *Nuk   kɨmna kra go-pɨ-naŋ   wa-m-ek.*
     3SG.OBJ thing   TOP give-IMP-2SG   say-FPST-3SG
     '"Give him the stuff," he said.'

However, it is possible that the argument structure of ditransitive predicates is variable; due to the rarity of clauses with two overt arguments, it is difficult to be certain. But in (238), the predicate *aba go* speak give 'tell' takes two arguments, a theme (the thing told) and a recipient (the audience). In this case, the theme, *mokor kesɨm* 'traditional story,' precedes the recipient, *yak* 'me.'

(238) *Node   yak   ko   mɨda, mokor   kesɨm yak   aba   go-k-e ...*
     woman 1SG.OBJ DEF COM   sorcerer story 1SG.OBJ speak give-DS.SEQ-3SG
     'My wife told me a traditional story and ...'

It may also be that some benefactive arguments can be coded as objects, as in (239) below. Here, the noun phrase *yakamɨr koŋar yak ko nuk* 'my elder brother (OBJ)' is not set off as an oblique argument in any way, but has benefactive semantics. This word order conforms the the more general pattern of RECIPIENT–THEME order found in most other ditransitive predicates.

(239) *Ya-kamɨr   koŋar yak   ko   nuk,   wara   nuk   ko   ada*
     1.POSS-brother older 1SG.OBJ DEF 3SG.OBJ house 3SG.OBJ DEF do

     tama-ma-gɨ-nɨŋ.
     put-MPST-RPST-1SG
     'I built my elder brother his house.'

6.7.4. Oblique Arguments

Oblique arguments are often not marked as oblique. There are no determiners that mark grammatical relations, and postpositions are rather rare. Thus, in (240), the oblique noun phrase *ñɨn koimo* 'one day' functions as a temporal adverb, exactly like the adverbs *pakai*

'again' and *nuksai* 'first.' Similarly, the noun *ku* 'stone' in (241) functions as a manner adverbial, but is unmarked. The definite noun phrase *agar ko* 'the claws' functions as an instrumental argument in (242), as does the indefinite noun phrase *tai mañ koimo* 'a (piece of) fruit' in (243). The definite noun phrase *wara ko* 'the house' functions as a locative argument in (244), and the noun phrase *kor mañ komgoda* 'right in the back' also functions as a locative in (243).

(240) **Ñɨn koimo,** *pakai,* *node* *ko* *nuksai* *aya* *tewa-da* *cɨ-m-ek.*
      day SPEC again woman DEF first come pick-SS stay-FPST-3SG
      'One day, the woman came back first and was picking (mushrooms).'

(241) *Oŋai* *kra* **ku** *kra* *kupi-da,* *añi* *ña-m-aik.*
      possum TOP **stone** cook bake-SS DU eat-FPST-3PL
      'She baked the possum with hot stones and they ate.'

(242) *Kaimi* *bo,* *mi-da=n,* **agar** **ko** *mia* *tama-cɨ-nɨŋ.*
      rat ? hold-SS=LNK **claw DEF** hold put-PRS-1SG
      'He held the rat, held him completely with his claws.'

(243) **Tai** **mañ** **koimo** **kor** **mañ** **komgoda** *yo-k-enɨŋ ...*
      tree **seed** **SPEC** **spine** **thing** **exactly** hit-DS.SEQ-1SG
      'I hit him in the back with a piece of fruit and ...'

(244) *Kura* *ko* *ai-da* *bɨr* **wara** **ko** *cɨ-da ...*
      man DEF come-SS TOP **house DEF** stay-SS
      'The man came and he stayed in the house and ...'

However, postpositions can also mark noun phrases as having an oblique relationship to the predicate, as illustrated in (245) and (246).

(245) *Ya* **na** **mɨda** *wara* *adɨ-paŋ-nɨŋ.*
      1SG **2SG COM** house do-FUT-1SG
      'I will build a house with you.'

(246) *Mɨnek,* *nu* *bɨr* **oŋai** **kanaŋ** *aŋa-m-ek.*
      morning 3SG TOP **possum BEN** go-FPST-3SG
      'In the morning, he went (hunting) for possums.'

I have not been able to determine any ordering principles for clauses with more than one oblique argument. Examples (247) and (248) both contain *sukuma* as a locative noun phrase and a benefactive postpositional phrase with purpose meaning, but they occur with opposite orders. (However, the intonational break after *kanaŋ* 'BEN' in (247) may be significant.)

(247) *Tauj kanaŋ, sukuma aŋa-m-ek.*
     leaf BEN   forest   go-FPST-3SG
     'She went (looking) for leaves in the forest.'

(248) *Kra tama-da, sukuma oŋai kanaŋ aŋa-m-ek.*
     TOP put-SS **forest**   **possum** BEN   go-FPST-3SG
     'He put it away, and went to the forest (looking) for possums.'

In general, temporal obliques tend to precede the subject, while other obliques tend to follow the object. It may be, though, that the placement of oblique arguments (and other adverbs) in clause chains has implications for their scope, and the more subtle word order properties of Gants are a topic for further investigation.

6.7.5. Fronted Items

Clausal constituents can be fronted, which serves to topicalize them. The topicalized constituent will sometimes be recapitulated in its original position, as with *mo* 'some' for *tai mañ ko* 'the fruit' in (249). However, this is not always the case, as (250) and (251) illustrate.

(249) *Emɨdeŋ tai mañ ko nuk mo tora go-paŋ-dɨk.*
     later   **tree** **seed** DEF 3SG.OBJ **some** gather give-FUT-3SG
     'Later, about the fruit, he'll give him some.'

(250) **Wak popaka kra,** *ñaip akro tamraka-m-ek.*
   skin bad TOP knife carry cut.up-FPST-3SG
   'The bad skin, he cut it up with a knife.'

(251) **Wara ko** *nene adɨ-k.*
   house DEF who do-3SG.IPST
   'Who built this house?'

Sometimes the topicalized noun phrase will not even be an argument in the following clause, as with (252) and (253), although of course it will be relevant to the discourse. In (252) it is even overtly mentioned as a possessor.

(252) **Ya** *node yak ko kumo-k-e, nuk miŋa kaka-da cɨ-da …*
   1SG woman 1SG.OBJ DEF die-DS.SEQ-3SG 3SG.OBJ get bury-SS stay-SS
   'Me, my wife died and I buried her and stayed and …'

(253) **Gaj kia,** *añi aba tama-cɨ-ruŋ.*
   Gants speech DU speak put-PRS-1PL
   'About Gants, we're making our plans.'

As all the examples above indicate, topicalized constituents are only sometimes set apart intonationally. Some constructions of this type are actually very common, such as the possessive construction illustrated in (254) and (255), in which the possessor is topicalized and its status as topic has scope over the clause *sabe (ma) cicɨk* 'there is(n't) betelnut.'

(254) **Ya** *sabe cɨ-cɨ-k.*
   1SG betelnut stay-PRS-3SG
   'I have betelnut.'

(255) **Ya** *sabe ma cɨ-cɨ-k.*
   1SG betelnut NEG stay-PRS-3SG
   'I don't have betelnut.'

6.7.6. Postposed Items

It is common in Sogeram languages to postpose items from a clause to post-verbal position. This phenomenon has been called right dislocation in Nend (Harris 1990: 140) and an afterthought construction in Apalɨ (Wade 1989: 56). In Gants, almost any item can occur in this postposed position, including clauses that are longer than the main clause. In (256), the clause *kuek añike apɨke adɨmaik* 'long ago our grandparents acted' is subordinated by the definite determiner *ko* to form a complex noun phrase, and this noun phrase is postposed.

(256) *Mokor   kesɨm aba-paŋ adɨ-cɨ-nɨŋ, **kuek,**   **a-ñike,***
sorcerer story speak-INF do-PRS-1SG **long.ago**   **1.POSS-grandfather**

a-pɨke,   adɨ-m-aik   ko.
1.POSS-grandmother   do-FPST-3PL   DEF
'I want to tell a traditional story, one about what our grandparents did long ago.'

However, it is more common for postposed items to be shorter, like the manner adverbial *gicɨŋ mire* 'like a drum' in (257), or the locative argument *bag koroda* 'over in Bank' in (258). The latter example also illustrates that there seems to be little pragmatic difference between a postposed constituent and one that is kept inside the clause, like *Aikuram* in the immediately following sentence. Rather, constituent postposition may have more to do with utterance planning and other cognitive constraints.

(257) *Añi yo-i-k-e   kiaŋ   aba-m-ek,   **gicɨŋ mire.***
DU   hit-PL-DS.SEQ-3 noise speak-FPST-3SG **drum like**
'They hit it and it made noise, like a drum.'

(258) *Node   ko cɨ-m-ek,   **bag   koroda.**   Kura ko, Aikuram cɨ-m-ek.*
woman DEF stay-FPST-3SG **Bank other.side**   man   DEF Aykuram stay-FPST-3SG
'The woman lived over in Bank. The man lived in Aykuram.'

6.7.7. Negation

Negation is marked by the negative particle *ma*, which immediately precedes the verb.

(259) *Yak   ma   aya   ga-p-raŋ   wa-m-ek.*
     1SG.OBJ NEG come   perceive-IMP-2PL say-FPST-3SG
     '"Don't come see me," she said.'

(260) *Tride   Ramu aya   moto **ma** ai-k-e   ga-da,*
     Wednesday Ramu come   boat NEG come-DS.SEQ-3SG perceive-SS

     miga-m-eniŋ.
     sleep-FPST-1SG
     'Wednesday I came to the Ramu and the boat didn't come so I slept.'

(261) *Nagi   koimo **ma** cɨ-paŋ-dɨk.*
     basket SPEC   NEG stay-FUT-3SG
     'One basket won't be there.'

(262) *Wa-k-e   kia   **ma** aba-m-ek.*
     say-DS.SEQ-3SG speech NEG speak-FPST-3SG
     'She said (that) and it didn't respond.'

Negation has the pragmatic force of of obligation in some contexts. That is, saying "he didn't do X" can sometimes mean "he should do X." For example, (263) translates literally to 'He isn't saying, "I've given you guys (some),"' but its pragmatic force is 'He should say, "I've given you guys some,"' or even 'He should give them some.'

(263) *Nayuk   g-eniŋ   **ma** wa-cɨ-k.*
     2PL.OBJ give-1SG.IPST NEG say-PRS-3SG
     'He isn't saying, "I've given you guys (some)."'

An expected or hoped-for result can also be negated with the negator *maŋ*, in which case it essentially stands in for the negated clause (264).

(264) *Ya   wa ga-k-eniŋ   **maŋ,** gon   ma   mia-cɨ-k.*
     1SG go perceive-DS.SEQ-1SG **no**   trap NEG hold-PRS-3SG
     'I went and looked and no, the trap isn't holding (anything).'

6.7.8. Interrogative Clauses

There is no obligatory interrogative marker or question particle that marks interrogative mood. However, there is an optional marker *waka*, which marks uncertainty. (For simplicity, however, I gloss it 'Q.') Yes/no questions can occur with it (265) or without it (266).

(265) *Yak   ga-paŋ-dɨk   waka?*
1SG.OBJ   perceive-FUT-3SG   Q
'Will he see me?'

(266) *Tworp   okrok   stret   ai-nɨŋ   ko   ga-naŋ?*
twelve   o'clock   exactly   come-1SG.IPST   DEF   perceive-2SG.IPST
'Did you see that I came right at noon?'

Waka can also be used as an alternative coordinator (267).

(267) *Ai-paŋ-naŋ   waka   aŋa-paŋ-naŋ?*
come-FUT-2SG   Q   go-FUT-2SG
'Will you come or will you go?'

Content questions are formed with the question words *nene* 'who' (268) and *asɨmina* 'what' (269). They occur *in situ*, although the special information structure of interrogatives frequently results in word order modifications (270) or topic fronting (271).

(268) **Nene** *mɨŋa*   *aŋa-ik?*
who   get   go-3PL.IPST
'Who took it?'

(269) **Asɨmina**   *kiaŋ*   *aba-cɨ-k?*
what   noise   speak-PRS-3SG
'What's making that noise?'

(270) *Wara   ko   **nene** adɨ-k?*
house   DEF   **who**   do-3SG.IPST
'Who built this house?'

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(271) *Kɨmna adɨko* **asɨmɨna** *yo-i-k-e* *ab-ek?*
　　 thing this **what** hit-PL-DS.SEQ-3 speak-3SG.IPST
　　 'This thing, what are they hitting that's making noise?'

Content questions about obliques can be formed with postpositions, like (272) and

(273), or with the interrogative determiner *be*, like (274) and (275).

(272) *Wara ko* **nene** *kɨdiŋ?*
　　 house DEF **who** GEN
　　 'Whose house is this?'

(273) **Asɨmɨna** *kanaŋ aŋa-naŋ?*
　　 what BEN go-2SG.IPST
　　 'What were you looking for?'

(274) *Na se* **be** *cɨ-cɨ-naŋ?*
　　 2SG place **which** stay-PRS-2SG
　　 'Where are you?'

(275) *Ñɨn* **be** *ai-paŋ-naŋ?*
　　 day **which** come-FUT-2SG
　　 'When will you come?'

The interrogative adverb *beda* 'how' forms questions about manner (276) and, in the

right context, quantity (277).

(276) *Na wara* **beda** *adɨ-naŋ?*
　　 2SG house **how** do-2SG.IPST
　　 'How did you build the house?'

(277) *Na sabe* **beda** *epra-naŋ?*
　　 2SG betelnut **how** buy-2SG.IPST
　　 'How much betelnut did you buy?'

There are also two ways of forming interrogatives with verbs: the interrogative verbal

adjunct *asepia* (sometimes *asepe*), which takes the verb *ada* 'do' (278), and the interrogative

verb *asia* 'do what' (279), which can be used in a clause chain to ask 'why' questions (280).

(278) *Tai mañ so kona tam-enɨŋ ko* **asepe** *adɨ-k wa-da*
　　 tree seed place here put-1SG.IPST DEF **what** do-3SG.IPST say-SS

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okr-ek.
look.for-3SG.IPST
'"The fruit I put here, what did it do?" he said and looked for it.'

(279) *Amor*   **asi-naŋ?**
one.day.away   **do.what-2SG.IPST**
'What did you do yesterday?'

(280) **Asi-da**   *yo-naŋ?*
do.what-ss   hit-2SG.IPST
'Why did you hit him?'

6.7.9. Nonverbal Clauses

Gants does not have a copula, so nonverbal predicates are formed by simple juxtaposition.

Almost anything can be predicated, including nouns (281), adjectives (282), adverbs (283),

pronominal possessors (284), postpositional possessors (285), other postpositions (286), and

postpositions with subordinated clause objects (287).

(281) *Jon*   **kura tikipa.**
John   **man good**
'John is a good man.'

(282) *Wara*   *ko*   **kerma**   **(yib).**
house   DEF   **big**   **(very)**
'That house is (very) big.'

(283) *Krokro*   *ko,*   *kia,*   *nuduŋ*   **koda.**
chicken   DEF   speech   3SG.POSS   **thus**
'The chicken's story is like that.'

(284) *Wara*   *ko*   **yadiŋ.**
house   DEF   **1SG.POSS**
'That house is mine.'

(285) *Wara*   *ko*   **nene kidiŋ.**
house   DEF   **who GEN**
'Whose house is this?'

(286) *Arañi*　**sibai**　**nɨb.**
　　　1DU　　**Simbai**　**from**
　　　'We're from Simbai.'

(287) *Ya*　**yame**　**ñ-enɨŋ**　　**raŋa.**
　　　1SG　**k.o.sugar**　**eat-1SG.IPST**　**CHAR**
　　　'I am a *yame*-eater.'

Nonverbal predicates can also be coordinated, as (288) shows (*baraŋ nene* appears to be an idiomatic expression for 'good person').

(288) *Na*　**ñapñap**　**waka,**　**baraŋ**　　**nene**　*wa-m-ek.*
　　　2SG　**sorcerer**　**Q**　　**good.person**　**who**　say-FPST-3SG
　　　'"Are you a sorcerer or a good person?" she asked.'

Example (289) contains two clauses coordinated by *waka*. The first is simply a noun phrase, uttered as a question: *kura pakaraŋ ko* 'that one man.' The second clause contains a predicate adjective, *kei* 'separate,' which is predicated about the subject, *kura adeko* 'this man.'

(289) *Kura*　*pakaraŋ*　*ko*　　*waka,*　*kura*　*adeko*　*kei?*
　　　man　　one　　　DEF　Q　　　man　　this　　separate
　　　'(Is this) that one man, or is this man another (one)?'

Nonverbal predicates are negated with the negator *maŋ* following the predicate.

(290) *Ko*　**pe**　**maŋ.**
　　　DEF　**pig**　**no**
　　　'That's not a pig.'

(291) *Wara*　**ko**　**yadɨŋ**　　**maŋ.**
　　　house　DEF　**1SG.POSS**　**no**
　　　'That house isn't mine.'

Example (292) is not well understood. It appears to be a nonverbal predicate with a topicalized noun phrase preceding it, but that is not certain. Unfortunately, the

grammatical properties of the quantifier *nɨmɨnam* 'many' are unknown, as this is its only occurrence in my corpus.

(292) *A-pu   ya   nɨmɨnam.*
     1.POSS-uncle   1SG   many
     'I have a lot of uncles.'

6.8. Clause Combining

Some clause combining constructions, such as the purpose and desiderative uses of the infinitive (§6.5.3.1), have already been discussed above. In this section I focus on the two major clause combining strategies—clause chaining and switch reference (§6.8.1) and clause chain nominalization (§6.8.2)—as well as quoted speech (§6.8.3).

6.8.1. Clause Chaining and Switch Reference

Papuan languages are famous for their systems of clause chaining and switch reference, and Gants possesses a rather typical Papuan system of this type: a clause chain consists of any number of so-called "medial" clauses chained to what is called the "final" clause. The final clause is marked for TAM information, and this TAM information has scope over all the preceding medial clauses. The final clause is also marked for subject agreement. Each medial clause, in turn, is marked for relative tense—that is, the temporal location of its event relative to the event in the following clause—and switch reference. The meanings of the various relative tense categories that are marked on medial verbs are discussed in §6.5.2. The switch reference marking functions as follows: if the clause following the medial clause has the same subject as the medial clause, the medial clause is marked 'SS' (293). It is possible for several SS-marked verbs to be chained together (294).

(293) *Tama-da   bɨr,   mɨga-m-aik.*
      put-ss   TOP   sleep-FPST-3PL
      'They put it down and slept.'

(294) *Mɨnek   ko, kura ko oŋai   yo **mai-da,**   aur **wa-da,**   ada **kra-da,***
      morning   DEF man DEF possum hit **bring-ss**   fire **say-ss**   do **burn-ss**

      cɨ-m-ek.
      stay-FPST-3SG
      'In the morning, the man killed a possum and brought it back, and thought it was
      firewood, and burned it and stayed there.'

If, however, the clause following the medial clause has a different subject than the

medial clause does, then the medial clause is marked 'DS' (295). In this case, the subject of

the DS-marked clause will also be indicated on the verb, and this subject marking will also

have scope over any preceding ss clauses (296). As with ss-marked clauses, it is possible for

several DS-marked clauses to be chained together (297); and of course it is possible for

clause chains to alternate between ss and DS marking as the discourse requires.

(295) *Ya **kɨda-k-enɨŋ**   gon   mɨŋi-k.*
      1SG **walk-DS.SEQ-1SG**   trap   take-3SG.IPST
      'I was walking and a trap caught me.'

(296) *Mɨŋa-da aŋra **u-re-re,**   pakai nik   añi mo   tora   go-ik.*
      get-ss   go **go-DS.SIM-3SG**   again 3PL.OBJ DU some gather give-3PL.IPST
      'As he$_i$ got them and was going, he$_j$ gave some to them (DU).'

(297) *Es   wak **mɨŋi-k-e**   **opa-k-e**   **ga-k-e**   arɨŋ*
      leg skin **take-DS.SEQ-3SG** **descend-DS.SEQ-3SG** **perceive-DS.SEQ-3SG** shin

      *yoro **tam-ek**   o.*
      break **put-3SG.IPST**   Q
      'He pulled his socks (and they went) down and he looked to see if his shin had
      broken.'

In this discussion I use the term "sentence" to refer to any complete clause chain—that

is, a final verb preceded by zero or more medial verbs.

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6.8.1.1. Tense Marking

Sometimes a clause chain will contain a sequence of actions that begin with one time reference and end with another. In this case, the final verb will be marked for its own time reference, not that of the preceding medial verbs. For example, (298) contains a chain that begins in the past but ends in the present, and the final verb is marked for present tense. Similarly, (299) begins in the past, continues through the present, and ends with the future-tense verb *adɨpaŋruŋ* 'we will do.' Incidentally, this principle also holds for SVCs, as illustrated in (300), where *aŋa* 'go' refers to a past event but *maicɨnɨŋ* 'I'm bringing' refers to a present event.

(298) *Mɨŋa kɨda-i-k-e   kerma yɨbri, tama mɨga-da,   yona, kada*
  get walk-PL-DS.SEQ-3 big very put come.down-SS now thus

  cɨ-cɨ-k.
  stay-PRS-3SG
  'They raised him and he grew really big and now that's how he is.'

(299) *Ayañi barus   aŋa-ruŋ   aba   adɨ-ke-ruŋ   barus,   maŋ*
  1DU airplane go-1PL.IPST speak do-DS.SEQ-1PL airplane no

  wa-i-k-e   ga-da   añi cɨ-da,   pakai kogo, añi adɨ-paŋ-ruŋ.
  say-PL-DS.SEQ-3 perceive-SS DU stay-SS again work DU do-FUT-1PL
  'We wanted to go by airplane but the airplane (people) said no and we heard so we're waiting and we'll work some more.'

(300) *Ya   opɨdɨŋ aŋa kɨmna yue   ada   mai-cɨ-nɨŋ   wa-m-ek.*
  1SG garden go food seed do bring-PRS-1SG say-FPST-3SG
  '"I went to the garden and I'm bringing seeds," she said.'

6.8.1.2. Subject Overlap

The question of what constitutes the "same" subject for purposes of switch reference marking has occupied Papuanist linguists for quite some time. There are two main

dimensions of the question: first, how are situations of partial subject overlap handled? And second, how do notions like topicality and agency interact with grammatical subjecthood to determine switch reference marking?

In regard to the first question, I have not performed elicitation geared at discovering how partial subject overlap is handled. However, there are a few relevant sentences in the corpus. Example (301) shows a 3PL clause, which is followed by a 3SG clause whose argument is contained in the 'they' of the first clause, that is marked DS. Example (302) shows the opposite situation: a 3SG clause is followed by a 3PL clause that includes the argument from the first clause, and the 3SG clause is marked DS. (But note that in (302) the transition from 'the man' to 'the woman' is marked SS.) Finally, (303) shows a 1PL clause, which is inclusive in meaning, being marked SS in reference to the following 2SG clause. Note also that the first verb of (303), *wa-da* 'say-SS,' is recapitulating the final 1SG form *wa-m-enɨŋ* 'say-FPST-1SG' from the previous chain (see §6.9.1), and is marked SS in reference to the following 1PL clause. This would be a fruitful topic for future research.

(301) *Nagi   pakai   tora   **tɨbo-i-ke**   **miŋa-da**   bɨr   aŋ-ek.*
basket   again   gather   **put.in-3PL-DS**   **get-SS**   TOP   go-3SG.IPST
'They put them back in the basket and he took them and left.'

(302) *Kura   ko   ai-da   bɨr   wara   ko   ci-da,   node   ko   **ai-k-e,***
man   DEF   come-SS   TOP   house   DEF   stay-SS   woman   DEF   **come-DS.SEQ-3SG**

*bɨr   añi   **cɨ-m-aik.***
TOP   DU   **stay-FPST-3PL**
'The man came and stayed in the house, then the woman came, and they both stayed.'

(303) *Wa-da,   añi   aba   **tama-da,**   na   ramu   suka   kogo   adɨ-paŋ   **aŋa-me-naŋ.***
say-SS   DU   speak   **put-SS**   2SG   Ramu   Sugar   work   do-INF   **go-FPST-2SG**
'(I) said that, the two of us decided, and you went to work at Ramu Sugar.'

6.8.1.3. *"Subjecthood" in Switch Reference*

The second question posed above—how is the notion "subject" defined for purposes of switch reference?—is difficult to answer. In many languages, topicality and other discourse notions play a significant role in determining how switch reference marking is used. In Gants, however, "subject" is defined in a strictly syntactic way in the vast majority of cases. Thus, when expressing the action of a topical human agent on a non-topical, unfocused, non-agentive, inanimate patient, as with a woman closing a door in (304), the switch reference system still treats the door as a subject.

(304) *Urod* **mi-k-e**   *wekara-m-ek.*
      door   **hold-DS.SEQ-3SG**   close-FPST-3SG
      'She closed the door (lit. 'held the door and it closed').'

This is also true for non-referential "dummy" subjects. Example (305) comes from a story about a man who set a possum trap that never caught any possums. The last clause of the first sentence is *api koda adɨmek* 'it was like that,' which is marked as a different subject from the man in the previous clause. In the following sentence, this state of affairs is marked as a different subject from the (non-existent) possum, which in turn is marked as a different subject from the man. Throughout this sequence, only grammatical subject is tracked by the switch reference system.

(305) *Ñɨn*   *ko*   *ñɨn*   *ko*   *ñɨn*   *ko*   *wa*   *ga-k-e*   *api*   *koda*   *adɨ-m-ek.*
       day   DEF   day   DEF   day   DEF   go   perceive-DS.SEQ-3SG   type   thus   do-FPST-3SG

       Adɨ-k-e   *ma*   *cɨ-k-e*   *ga,*   *aya*   *node-duŋ*   *nuk*   *aba*
       do-DS.SEQ-3SG   NEG   stay-DS.SEQ-3SG   TOP   come   woman-3.POSS   3SG.OBJ   speak

go-m-ek.
give-FPST-3SG
'Day after day he went and looked, and it was like that. It was like that and (a possum) wasn't there, so he came and let his wife know.'

However, it is possible for the switch reference system to ignore a non-topical clause, particularly if it is meteorological. In (306), the clause *pi kamrere* 'as it was dawning' is not tracked by the previous clause, *wisin gada* 'she dreamed and.' Rather, *wisin gada* overlooks *pi kamrere* and is marked SS in reference to the next clause, *po kopaŋ aŋada* 'she went to poop.' The meteorological clause, on the other hand, does index the non-identity of its own subject with that of the following clause.

(306) *Miga-da, wisin **ga-da,** pi kam-re-re, po ko-paŋ aŋa-da ...*
sleep-SS sleep **perceive-SS** dawn dawn-DS.SIM-3SG poop poop-INF go-SS
'She slept and dreamed, and at dawn she went to poop and ...'

6.8.1.4. Medial Clause Topicalizer ga

Medial clauses can be marked as topics by the particle *ga*, which follows the clause that it marks. In this construction, the *ga*-marked clause functions as a cause or backdrop for the focused event that occurs in the following clause. *Ga*-marked clauses are often translated as 'if' (307), 'when' (77), or 'because' (309) clauses in English.

(307) *Yak sain kirmo soim ad-ina **ga,** ya ga-da, bilip adi-paŋ-niŋ.*
1SG.OBJ sign INDF show do-2SG.IRR **TOP** 1SG perceive-SS believe do-FUT-1SG
'If you show me a sign, I'll see and believe.'

(308) *Miñ wisika-da adi-k-e **ga,** kura erkara-da ...*
vine untie-SS do-DS.SEQ-3SG **TOP** man turn-SS
'When she untied the rope, it turned into a man and ...'

(309) *Mañ pakaraŋ koimo miŋ-riŋ aba ga-k-e **ga,** ma*
seed one SPEC get-1SG.OPT speak perceive-DS.SEQ-3SG **TOP** NEG

ga-k-e ...
perceive-DS.SEQ-3SG
'Because he wants to pick one (lit. 'thinks, "I should pick one"'), he doesn't see, and ...'

There is also a morpheme *ka* which is much less frequent, but which appears to behave much like *ga*. However, it does not appear that the clauses marked by *ka* in (78) serve as a topical backdrop for the following action in any meaningful way. It is possible that *ka* and *ga* are variants of the same morpheme, but at the moment it remains unclear.

(310) *Mɨŋa-da aŋa u-re-re* **ka,** *kura koimo, pe ko urod koipoi mɨŋa-da ...*
get-SS go go-DS.SIM-3SG **TOP** man SPEC pig DEF path there get-SS
'When he took them, another man got a pig along the path and ...'

6.8.2. Clause Chain Nominalization

Clause chain nominalization is a construction in which a clause chain is nominalized and functions as a noun phrase in a matrix clause. This nominalization is accomplished by placing either a determiner, the postposition *mɨre* 'like,' or the postposition *raŋa* 'characterized by' after the subordinate chain. The subordinating morpheme indicates the status of the subordinate chain in the matrix clause—that is, whatever properties the determiner normally marks for noun phrases, such as definiteness, topicality, and so on, are also indicated for the nominalized clause chain. Although it is most common for a nominalized clause chain to consist of a single clause, it is possible for multiple chained clauses to be subordinated in this way, as in (76).

(311) *[Ped mɨŋi-da yɨg adɨ-m-ek] ko, kada cɨ-m-ek.*
paint take-SS festival do-FPST-3SG DEF thus stay-FPST-3SG
'The paint he taken and decorated himself with was right there.'

Nominalized clause chains can function as any argument in the matrix clause, including as subject (76), object (312), temporal (313) or locative (314) oblique, and presumably any other oblique argument. They can even occur as clauses that function to set the scene for the matrix clause, but which do not seem to be arguments in a strict sense; these are probably best analyzed as topic noun phrases in the matrix clause (315).

(312) [*Node   gon   mia   ci-m-ek*   ] *ko, kuj   adɨ-da   gobai   tama-m-ek.*
      woman trap hold stay-FPST-3SG DEF poison do-SS plant.sp put-FPST-3SG
      'He poisoned the woman that the trap held and put *gobai* on her.'

(313) [*Pi   pi   kam-ek*   ] *ko   ni   wisɨn   miga-i-re-re ...*
      dawn dawn dawn-3SG.IPST DEF 3PL sleep sleep-PL-DS.SIM-3
      'When it was almost dawn they were sleeping and ...'

(314) [*No-ŋ   no-miŋ   ci-m-aik*   ] *ko,   kimna mañ   nagi   ada*
      3.POSS-father 3.POSS-mother stay-FPST-3PL DEF food thing basket do

      miŋa-da   bɨr   aŋa-m-ek.
      get-SS   TOP   go-FPST-3SG
      'She took a basket of food and went to where her parents lived.'

(315) [*Kɨmna   kra   rere   ad-eniŋ*   ] *ko   ma   ai-k   yi*
      thing   TOP   ready   do-1SG.IPST   DEF   NEG   come-3SG.IPST   what.to.do

      wa-m-ek.
      say-FPST-3SG
      'She said, "I got everything ready but he didn't come, oh dear."'

The tense of the subordinated clause chain does not have to match that of the matrix clause, regardless of the subordinate chain's function in the matrix clause. In (316), a present-tense subordinate clause functions as the subject of a future-tense matrix chain. In (317), the subordinate chain is in the future tense and functions as an object, while the final verb of the matrix chain (which does not appear for three more clauses) is in the immediate past. In (318), the recent-past subordinate chain functions as a topic in the

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matrix chain, which is in the present tense. (But note that this example is somewhat disfluent; the subordinating demonstrative is not normally separated from the subordinate clause intonationally.)

(316) [Ne   ai-cɨ-k   ] ko, ai-da   tai   mañ ñɨpi mɨŋa aŋa-paŋ-dɨk.
      child come-PRS-3SG DEF come-SS tree seed hide get   go-FUT-3SG
      'The boy who's coming is going to come and steal some fruit.'

(317) [Urod op-ɨdiŋ   pɨka-paŋ-ruŋ] ko wa-da   aba   ga-da=n ...
      path garden-DEF.SG slice-FUT-1PL DEF say-SS speak perceive-SS=LNK
      'We discuss where we'll clear the garden, and decide and ...'

(318) [Mɨnek   aŋa-gɨ-naŋ],   ko   asepia   ada-cɨ-naŋ wa-m-ek.
      morning go-RPST-2SG DEF what   do-PRS-2SG   say-FPST-3SG
      '"Since you left in the morning, what are you doing?" she asked.'

The interpretation of nominalized clauses appears to be governed by context. Often, they resemble internally headed relative clauses and can refer to their subject (319), object (320), or an oblique argument (321). But it is just as common for the nominalization to refer to the event described by the subordinate clause, and not to any particular nominal argument, as in (322) and (323).

(319) [Ne   ai-cɨ-k   ] ko, ai-da   tai   mañ ñɨpi mɨŋa aŋa-paŋ-dɨk.
      child come-PRS-3SG DEF come-SS tree seed hide get   go-FUT-3SG
      'The boy who's coming is going to come and steal some fruit.'

(320) [Kɨmna mañ   taki tama-m-ek] kra ada ña-da, mɨga-m-ek.
      food   thing cold put-FPST-3SG TOP do eat-SS go.down-FPST-3SG
      'He ate the cold food he had put (aside) and slept.'

(321) [Urod op-ɨdiŋ   pɨka-paŋ-ruŋ] ko wa-da   aba   ga-da=n ...
      path garden-DEF.SG slice-FUT-1PL DEF say-SS speak perceive-SS=LNK
      'We discuss where we'll clear the garden, and decide and ...'

(322) [Mɨŋa-da   aŋa-cɨ-k] ko   aba-naŋ?
      get-SS   go-PRS-3SG DEF speak-2SG.IPST
      'Are you saying that he took it?'

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(323) [*Tworp   okrok   stret   ai-nɨŋ   ]   ko   ga-naŋ?*
      twelve   o'clock   exactly   come-1SG.IPST   DEF   perceive-2SG.IPST
      'Did you see that I came right at noon?'

Most nominalized clause chains are nominalized with *ko* 'DEF,' just like most nominal

noun phrases occur with *ko*. But it appears that clause chains can be subordinated with any

determiner, although I do not have an example for each one. The following examples show

embedding with the topic determiner *kra* (324) (see also (320) above) and the contrastive

determiner *pe* (325). The numeral adjective *korañi* 'two' also appears to function as a

determiner in (326); *korañi* may be etymologically composed of a determiner and the dual

pronoun *añi*. (However, this IU is quite disfluent and may contain speech errors.) Examples

(327) and (328) show clauses subordinated with *kokoda* 'up.there' and *kokoda pe* 'up.there

CTR.'

(324) [*Kɨmna   yɨg   adɨ-paŋ-dɨk   ]   kra   ada   tama-m-ek.*
      thing   festival do-FUT-3SG.FUT   TOP   do   put-FPST-3SG
      'He was putting on all his festival decorations.'

(325) [*Ya   wara   ad-enɨŋ   ]   ko   pe,   ma   ada   tapr-enɨŋ.*
      1SG   house   do-1SG.IPST   DEF   CTR   NEG   do   finish-1SG.IPST
      'I built a house, but I didn't finish it.'

(326) [*Nagi   koimo   kuba-ik   ]   korañi   koimo   ma   cɨ-k.*
      basket   SPEC   be.full-3PL.IPST   two   SPEC   NEG   stay-3SG.IPST
      'Of the two full baskets, one isn't there.'

(327) [*Kura-dɨŋ   ko   tai   mañ   taka-cɨ-k   ]   kokoda,   nu   ma*
      man-DEF.SG   DEF   tree   seed   remove-PRS-3SG   up.there   3SG   NEG

      ga-cɨ-k.
      perceive-PRS-3SG
      'The man who's picking fruit up there, he isn't looking.'

(328) [*Kura   nadɨŋ   tai   mañ   taka-da   cɨ-k   ]   kokoda,   pe   mɨgo*
      man   2SG.POSS   tree   seed   remove-SS   stay-3SG.IPST   up.there   CTR   descend

aya   g-ek.
come   perceive-3SG.IPST
'Your guy who's picking fruit up there came down and looked.'

There are two locative nouns that appear to be able to occur in the subordinating position of this construction. The first is *urod* 'path' (329), and the second is *so* 'place' (330). It is unclear exactly how to analyze these examples.

(329) *Urod ko   taka-da=n,   [toiret aŋa-naŋ] urod koipi.*
　　　path   DEF   remove-SS=LNK   toilet   go-2SG.IPST   path   there
　　　'Open the door, the door where to the toilet.'

(330) *[Na wara   adɨ-cɨ-naŋ] so   ko   nak   g-enɨŋ.*
　　　2SG house do-PRS-2SG   place DEF   2SG.OBJ perceive-1SG.IPST
　　　'I saw you in the place where you're building a house.'

The postposition *raŋa* 'characterized by' can also be used as a subordinator (331), and it can be combined with the complex determiner *ko pe* 'DEF CTR' (332). *Mɨre* 'like' can also be used as a subordinator (333).

(331) *Ya [yame   ñ-enɨŋ   ] raŋa.*
　　　1SG k.o.sugar eat-1SG.IPST   CHAR
　　　'I am a *yame*-eater.'

(332) *[Kada ma   adɨ-k   ] raŋa ko   pe,   yona pɨka, yona pɨka, api   koda*
　　　thus   NEG do-3SG.IPST   CHAR DEF CTR   now   very   now   very   type thus

　　　adɨ-k.
　　　do-3SG.IPST
　　　'She never did that, but this once, this once she did just that.'

(333) *Yak   tɨpa adɨ-k,   [na kumo-paŋ-naŋ] mɨre cɨ-k.*
　　　1SG.OBJ fear do-3SG.IPST   2SG die-FUT-2SG   like stay-3SG.IPST
　　　'I'm afraid; you may die (lit. 'it's like you will die').'

It should also be noted that it is possible for non-finite verbs to take nominalized clause objects (334).

(334) *[Ayu   Papua Nugini, kura   node   ko   op   kogo   ada   kuya*
      1PL   PNG   man woman DEF garden work do   plant

       ña-ruŋ   ]   ko,   aba   tama-paŋ ada-cɨ-nɨŋ.
       eat-1PL.IPST DEF speak put-INF   do-PRS-1SG
       'I want to talk about how we PNG people garden and eat.'

It is difficult to capture the flow of Gants sentences with examples that are only a few clauses in length, so I have given the sentence in (335) to convey the gestalt of Gants verb serialization and clause combining. It is a single sentence, but it contains nine clauses, three of which are subordinate, and fourteen verbs, one of which (*korkor ada*) is complex.

(335) *Mɨnek,   node-duŋ   ko,   node-duŋ   nuba   ko,   op-idɨŋ   ada*
     morning woman-3.POSS DEF woman-3.POSS 3SG.EMPH DEF garden-DEF.SG do

     kɨd-re-re,   node   no-ra   ko,   ñipi   cɨ-da,   [kura ko   yaj
     walk-DS.SIM-3SG woman 3.POSS-in.law DEF hiding stay-SS man   DEF ashes

     korkor   ada   mɨga   cɨ-m-ek   ] ko   aya   ga,   yaj   kra
     rub.on.self do   sleep stay-FPST-3SG DEF come perceive ashes TOP

     yo-k-e   mɨg-re-re,   ñipi   ñipi   auna   modemej ab   ko
     hit-DS.SEQ-3SG come.down-DS.SIM-3SG hiding hiding eye nose   top DEF

     ga-k-e,   [ped   mɨŋi-da yɨg   adɨ-m-ek] ko, kada cɨ-m-ek.
     perceive-DS.SEQ-3SG paint take-SS festival do-FPST-3SG DEF thus stay-FPST-3SG
     'In the morning, the wife, when the wife went to the garden, the in-law was hiding and she came and looked at the husband, who had rubbed ashes on himself and was sleeping, and as she brushed the ashes off she very stealthily looked at his face, and the paint that he had decorated himself with was there.'

6.8.3. Quoted Speech

There are two verbs used for quoted speech. *Aba* 'speak' is used before the quoted material, and *wa* 'say' is used after. It is not uncommon for the two verbs to occur, bracketing the quoted material as in (336) and (122). The normal pattern is for *aba-* to introduce a quote

and *wa-* to tag each subsequent intonation unit, but neither verb is required and there is a good deal of stylistic variation.

(336) *Kuya kobra-da **aba-ruŋ**   opa   kwi-ruŋ   **wa-da=n …***
plant finish-ss **speak-1PL.IPST**   enough plant-1PL.IPST **say-SS=LNK**
'We finish planting and say, "We've planted enough," and …'

(337) *Jisas   **aba-m-ek,**   ya   ai-paŋ-niŋ   **wa-m-ek.***
Jesus **speak-FPST-3SG**   1SG come-FUT-1SG   **say-FPST-3SG**
'Jesus said, "I'll come."'

Quotes are usually set off intonationally from the surrounding material. However, they can occur under the same intonation contour as their matrix clause, in object position. In (338) the quote is literal speech, and is bracketed by the adverb *pakai* 'again' and the verb, and in (339) the quote is internal monologue, and is bracketed by the subject-oriented verbs *mɨgo aya* 'descend come' (see §6.6.1.1 on serial verbs) and the last verb.

(338) *Pakai   **na   nene**   wa-m-ek.*
again   **2SG   who**   say-FPST-3SG
'Again she asked, "Who are you?"'

(339) *Kura-dɨŋ   adiko   mɨgo   aya   **tai   mañ   yak**   ko   asepia*
man-DEF.SG   this   descend   come   **tree   seed   1SG.OBJ**   DEF   **what**

  * **adɨ-k**   wa-da   ade …*
  do-3SG.IPST   say-SS   ?
'This man came down and said, "What did my fruit do?" and …'

Rarely, speech can be introduced by one of the two verbs of speaking, *aba* 'speak' (340) or *wa* 'say' (341), being used without inflection as a quotative particle. When *aba* is used after a quote in this way, it is not marked for person information, as illustrated by its first person use in (342).

(340) *Yak   ga-paŋ-dɨk   waka   **aba.***
1SG.OBJ   perceive-FUT-3SG   Q   **speak**
'"Will he see me?" he wondered.'

(341) **Wa,** *tai* *mañ* *so* *kona* *tam-eniŋ* *ko* *asepe* *adɨ-k* *wa-da*
say tree seed place here put-1SG.IPST DEF what do-3SG.IPST say-SS

okr-ek.
look.for-3SG.IPST
'He said, "What did the fruit I put here do?" and looked for it.'

(342) *Kura* **aba.**
man **speak**
'I'm saying it's a man.'

This uninflected use of *aba* and *wa* is distinct from one of these verbs not carrying

inflection due to being a part of an SVC, as with *aba* in (343).

(343) *Oŋai* *mia* *cɨ-cɨ-k* **aba** *wa* *ga-k-e* *ma* *cɨ-m-ek.*
possum hold stay-PRS-3SG **speak** go perceive-DS-3SG NEG stay-FPST-3SG
'He thought it would hold a possum (so) he went and looked and it wasn't there.'

6.9. Discourse

Describing the discourse patterns in any language is a huge undertaking. I will describe

only one common discourse construction here, namely what is known as tail-head-linkage,

as well as the linking enclitic *=n*.

6.9.1. Tail–head Linkage

Tail-head linkage is a common discourse phenomenon in Papuan languages. It consists of a

recapitulation of the last clause (or clauses) of one clause chain at the beginning of the

immediately following clause chain—that is, the last verb, or "tail," of one clause chain is

repeated as the first verb, or "head," of the next chain. For example, the verb *erkarapaŋruŋ*

'we will turn' ends the first clause chain in (344), and the next chain begins by

recapitulating that verb in medial form as *erkaradan.* This can also happen with verbs in an

SVC, as with *ako maya tama* 'give birth to' in (345), or with multiple chained clauses, as with *mike wekara* 'close' in (346) and *krake tua* 'burn' in (347).

(344) *Gaj   kia   **erkara-paŋ-ruŋ.**   **Erkara-da=n,**   aba   tama-da=n ...*
       Gants   speech   **turn-FUT-1PL**   **turn-SS=LNK**   speak   put-SS=LNK
       'We're going to translate Gants. We'll translate it, then we'll decide and ...'

(345) *Ñiŋe   yoro-da=n,   ñiŋe   bo   **ako**   **maya**   **tam-ek.***
       baby   break-SS=LNK   baby   ?   **birth**   **bring**   **put-3SG.IPST**

       ***Ako**   **maya**   **tama-da,**   no-miŋ   ko   urod   pɨka,   kumo-cɨ-k.*
       birth   **bring**   **put-SS**   3.POSS-mother   DEF   path   very   die-PRS-3SG
       'She had a baby, she gave birth to a baby. She gave birth to a baby, and then the mother dies completely.'

(346) *Urod   **mi-k-e**   **wekara-m-ek.**   **Mi-k-e**   **wekara-k-e***
       door   **hold-DS.SEQ-3SG**   **close-FPST-3SG.**   **hold-DS.SEQ-3SG**   **close-DS.SEQ-3SG**

       pakai,   aya   cɨ-m-ek.
       again   come   stay-FPST-3SG
       'She closed the door. She closed it, and came back and waited.'

(347) *Pub   awe   ai-re-re,   node,   aŋa   **kra-k-e**   **tu-ek.***
       sun   time   come-DS.SIM-3SG   woman   go   **cook-DS.SEQ-3SG**   **burn-3SG.IPST**

       ***Kra-k-e**   **tu-re-re,**   aŋai   korañi,   pakara   cɨ-da ...*
       cook-DS.SEQ-3SG   **burn-DS.SIM-3SG**   day   two   one   stay-SS
       'When the dry season comes, the women go burn them. They burn them, and wait three days, and ...'

Sometimes, verbs can be recapitulated with slight modifications. In (348), the two clauses *aba miŋada aŋamek* 'take (human object) and go' are recapitulated as one SVC, *aba miŋa aŋake*. In (349), the final verb *tamrakamek* 's/he cut it up' is recapitulated (without the rest of its SVC) as a reduplicative participle.

(348) *Ai-da,   cɨ-da   pakai   ni-moŋ   nuk   **aba**   **miŋa-da**   **aŋa-m-ek.***
       come-SS   stay-SS   again   3.POSS-husband   3SG.OBJ   **speak**   **get-SS**   **go-FPST-3SG**

Aba   miŋa aŋa-k-e,   node   ko, no-ŋ-doi   no-miŋ-doi   ko ...
speak get go-DS.SEQ-3SG   woman   DEF 3.POSS-father-?   3.POSS-mother-?   DEF
'She came, stayed a while and took her husband and went back. She took him and went, and the woman's parents ...'

(349) *Wak   popaka kra,   ñaip   akro   **tamraka-m-ek.**   Tamraka~tamraka*
skin   bad   TOP,   knife   carry   **cut.up-FPST-3SG**   cut.up~PTCP

tama-da, nu   bɨr   wara   ai-m-ek.
put-SS   3SG   TOP   house   come-FPST-3SG
'The bad skin, she cut it up with a knife. Cutting it all up, she went home.'

Mismatches like this can occasionally give etymological clues. The present tense suffix *-cɨ* is descended from the verb *ca* 'stay' (§6.5.1.1), which can be seen in the way it is recapitulated by that verb in (350).

(350) *No-miŋ   ko   urod   pɨka,   **kumo-cɨ-k.***
3.POSS-mother   DEF   path   very   **die-PRS-3SG**

Kumo   cɨ-k-e,   *no-miŋ   ko   miŋa kaka-da ...*
die   stay-DS.SEQ-3SG   3.POSS-mother   DEF   get   bury-SS
'The mother dies completely. She dies, and they bury her and ...'

6.9.2. Linking Enclitic *=n*

The enclitic *=n* can appear at the end of an intonation unit that ends in a vowel. There does not appear to be an equivalent for consonant-final intonation units. The function of *=n* is not well understood, but it appears to signal that the speaker intends to continue talking, and that the current intonation unit is not final. Speakers almost never repeated *=n* during transcription sessions, and it may function most closely to English fillers like 'uh' or 'um.' It is simply glossed as a 'linking morpheme.'

(351) *Wa-da**=n,**   kada aba-da**=n,**   cɨ-m-ek.*
say-SS**=LNK** thus speak-SS**=LNK** stay-FPST-3SG
'He said that, spoke like that, and stayed.'

(352) *Kura   kerma=n,   ne-duŋ   ai-paŋ   aba-k-e ...*
     man   big=LNK   child-3.POSS   come-INF   speak-DS.SEQ-3SG
     'The big man's son said he'd come and ...'

Rarely, *=n* will occur without a noticeable pause following it, as with the first occurrence in (353).

(353) *Adɨ-k-e   ga   ni-moŋ   ebe   koida=n   kipam   ko   mia*
     do-DS.SEQ-3SG   TOP   3.POSS-husband   inside   above=LNK   bow   DEF   hold

     cɨ-meda=n ...
     stay-SS.DELAY=LNK
     'He did that and her husband was up there holding a bow and ...'

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