LANGUAGE & LINGUISTICS IN MELANESIA

Notes on Mwakai, East Sepik Province, Papua New Guinea

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Abstract

This paper provides data on Mwakai, a previously undescribed language of Papua New Guinea. It offers information concerning the language's social context, its speakers, and its level of endangerment, as well as description of various aspects of the grammar. Although not a comprehensive grammatical description, the present paper is intended to make more widely available some basic information concerning this severely endangered and otherwise undescribed language.

1.   Introduction

This paper provides descriptive grammatical notes on Mwakai [ISO 639-3 mgt, Glottocode mong1344], a severely endangered language spoken by perhaps around 200 people in the East Sepik Province of Papua New Guinea (PNG). Mwakai is a non-Austronesian (i.e., Papuan) language, belonging to the Ulmapo branch of the Keram family.[1]

The paper consists of the following sections: introduction (§1), phonetics and phonology (§2), nouns (§3), pronouns (§4), determiners (§5), numerals (§6), verbs (§7), basic syntax (§8), conclusions (§9), and references (§10). The appendix contains a Mwakai word list.

In this introductory section (§1), I first mention the limited previous research on the language (§1.1), before discussing my methodology (§1.2) and addressing the issue of the name of the language (§1.3). Then I introduce the Mwakai environment (§1.4) and people (§1.5), before discussing variation (§1.6), endangerment (§1.7), and classification (§1.8).

1.1   Previous research on the language

Prior to 2016, there was only minimal linguistic research concerning the Mwakai language. The first allusion to the language is found in Wurm (1971:639), who suspects that the three villages of Kaimba (= Kaimbal), Mongol, and Langam spoke a single language, which he suggests could be called "Kaimba" and which he estimates to have over 500 speakers. Indeed, Kaimbal and Mongol are the two villages where Mwakai has traditionally been spoken. The language spoken by the people of Langam village, however, is Mwakai's sister language Pondi.

During a survey trip in 1971, Laycock produced 29 pages of handwritten field notes, including a word list of about 200 items and some basic sentences. These have never been published, but digital copies of his field notebooks (including his writing on Mwakai) are available through the PARADISEC online archive (Laycock 1971). Laycock (1973:36) dubbed the language "Mongol", noting that it is spoken in Kaimba and Mongol villages, whose combined population he estimates to be 338 people as of January 1970. He also classified the language as being related to Ulwa ("Yaul") and Pondi ("Langam").

I do not know of any further linguistic field research between 1971 and 2016, when I visited the villages of Mongol and Kaimbal.

1.2   Methodology

The descriptions and analyses here are based on research conducted during two field trips. On the first field trip (August 2016), I visited the two villages where Mwakai is traditionally spoken: Mongol and Kaimbal. I spent about 18 hours eliciting words and sentences over the course of five days, spending most of my time in Kaimbal village (I made a single daytrip to Mongol village). On the second field trip (August 2018), I met with three Mwakai consultants in the town of Angoram, where a sizable population of ethnic Mwakais reside. There I spent about 20 hours eliciting data over the course of ten days. My three Mwakai consultants were older men who had been raised in Mongol village but had been living in Angoram since the 1970s: Philip Da (born in 1949), Clemens Ya (born around 1950), and Freddy Sika (born in 1964). Elicitation was conducted by using Tok Pisin as a contact language. All examples in the present paper come from elicited words, phrases, and sentences.[2] Given the limited time I spent conducting research on this language, which has fallen into almost utter disuse (§1.7) and whose speakers have forgotten many forms and constructions, the data provided here must be regarded as simply my best effort at the description of a moribund language.

1.3   The name of the language

To refer to Mwakai, Laycock (1973:36) used the exonym Mongol, which is the Tok Pisin name for one of the two villages where Mwakai was traditionally spoken. When I asked speakers in 2016 what their language was called, some could think of no name, some offered Mwa, and some offered Mwakai. The suggestion of the names *mwa* and *mwakai*, both of which mean 'no' or 'nothing' (-*kay* is an emphatic element), seems to have been influenced by larger neighboring ethnolinguistic groups such as the Ap Ma, in whose language *ap ma* means 'no' or 'nothing'. Indeed, there seems to be a recent trend of linguistic communities adopting endonyms based on their respective words for 'no' or 'nothing'. Other cases include Kanda (also known as Angoram), Ambakich (also known as Aion), and Ulwa (also known as Yaul). Since the speakers I consulted were indifferent as to whether the name Mwa or Mwakai were used to refer to the language, I have opted for the latter name, because it differentiates the language from Pondi (or Langam), which is also known as Mwa.[3] Also, the longer form is more easily discoverable in computer-based searches. Finally, the name Mwakai is much less problematic than Laycock's

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[2] The abbreviations used in the examples in this paper follow the conventions of the Leipzig Glossing Rules (Comrie et al. 2008). Recordings of Mwakai texts (as well as photographs of the two Mwakai villages) can be found in the PARADISEC online archive (Barlow 2016).

[3] Pondi speakers use the word *mwa* 'no, nothing', but—to my knowledge—have no word **mwakay*.

"Mongol", which excludes one of the two villages associated with the language (to say nothing of the potential confusion with the Central Asian ethnic group).

1.4   The environment

The ancestral environment of the Mwakai people is tropical swampy jungle intercut with bayous. The two villages of Mongol and Kaimbal lie about 4.0 km (2.5 miles) apart from each other, but are not always easily accessible by foot, nor are they always easily accessible by waterways. Indeed, in the dry season the small creek connecting the two villages may be too dry to navigate, even in a small traditional canoe; and, in the wet season, the walking paths may be overgrown with thorn-bearing sago palms and immersed in swamp water. The nearest year-round navigable river is the Yuat (a tributary of the Sepik), which is about 7.5 km (4.7 miles) west of Mongol and about 12.0 km (7.5 miles) west of Kaimbal (as the crow flies). In the rainy season, when the water levels are high enough, the Yuat river can be reached by means of a creek, providing access to the Sepik, the serpentine river that serves as the major highway of the East Sepik Province.

1.4.1   Mongol village

Mongol village is located in the Keram Rural Local-Level Government area (LLG), in Angoram District, East Sepik Province, PNG. The geographic coordinates of Mongol are 4°15'40"S, 143°55'5"E (-4.261, 143.918). The endonym for the village is Amngwar. The nearest village to Mongol is Kaimbal (the only other Mwakai village), which lies about 4.0 km (2.5 miles) east-southeast of Mongol. The second-nearest village is Langam (where the sister language Pondi is spoken)—about 6.0 km (3.7 miles) southwest of Mongol.

The village occupies an insalubrious plot of swamp. The entire center of the village is—for most of the year—flooded with potentially noxious water. About 35 houses, built on stilts, sit around the periphery of this bog pool, which measures about 90 x 250 meters (300 x 820 feet). To enter any Mongol house generally requires paddling a narrow canoe to the house supports and then climbing up a sloped log with notches cut into it. Only by the end of the dry season (around October or November) does the center of the village return to solid (if muddy) ground.

A census conducted in July 2016 at my behest revealed that there were 243 permanent residents and about 75 part-time residents of Mongol. Of the 243 permanent residents, 34 were estimated to be around 30 years old or older, 98 between around 20 and 30, and 111 younger than 20 years old.

There are no public services of any kind in the village: no health clinic, no school, no government buildings of any kind. An attempt was made to establish an elementary school in 2014, but it is currently defunct. Most of the inhabitants belong to the Seventh-Day Adventist church, although they have no formal place of worship. It perhaps goes without saying that there is no electricity, plumbing, post, internet access, or phone service in the village.

The living conditions in Mongol village were so challenging (the gravest challenge being the lack of potable water), that the majority of its inhabitants fled to the town of Angoram in the 1970s, where the government had allotted these refugees plots of land (known as *gavman blok* in Tok Pisin) in the outskirts of town (§1.4.3).

1.4.2   Kaimbal village

Kaimbal village is also located in the Keram Rural LLG, in Angoram District, East Sepik Province, PNG. The geographic coordinates of Kaimbal are 4°16'30"S, 143°57'15"E (-4.275, 143.954). The endonym for the village is Kaymbar. The nearest village to Kaimbal is Mongol (the only other Mwakai village), which lies about 4.0 km (2.5 miles) west-northwest of Kaimbal. The second-nearest village is Wom (where the distantly related Ap Ma language is spoken), which lies about 6.5 km (4.0 miles) southeast of Kaimbal.

Compared to Mongol, Kaimbal enjoys a less harrowing position in the jungle, as it sits upon firmer ground. The village is located beside a creek. Along this creek runs a path, which stretches less than 0.5 km (0.3 miles) from end to end. On either side of this path sit 33 houses. Like their Mongol counterparts, these houses are built on stilts, as the wet season can bring severe flooding to this village as well.

A census conducted in July 2016 at my behest revealed that there were 265 permanent residents and about 75 part-time residents of Kaimbal. Of the 265 permanent residents, 40 were estimated to be around 30 years old or older, 99 between around 20 and 30, and 126 younger than 20 years old.

Somewhat centrally located in the village is a meeting house (*haus bung* in Tok Pisin), where community decisions are made. There was an attempt to establish an elementary school in 2010, but it is currently defunct. Most of the inhabitants belong to the Assemblies of God Pentecostal church, which uses a nondescript house next to the meeting house for its services. Although Kaimbal enjoys a marginally more comfortable position than neighboring Mongol, it, too, lacks health services, plumbing, electricity, post, internet, and phone service.

The people of Mongol and Kaimbal visit each other somewhat regularly, although it is not always easy to do so. By canoe this trip can take one or two hours, depending on creek conditions. Alternatively—in the dry season only—it is possible to walk, which can take over two hours.

1.4.3   The Angoram "blocks"

Due largely to the lack of potable water, many Mongol residents (as well as some Kaimbal residents) left their homes in the 1970s. The local government provided them with plots of land in the outskirts of the town of Angoram, each plot known in Tok Pisin as a *blok* 'block'. It is nearly impossible to obtain any census information about these blocks, which operate like shanty towns some kilometers removed from the already rather impoverished settlement of Angoram proper. According to informal sources, there are nine Mongol blocks and three Kaimbal blocks, which are all located near one another. With several houses in each block, each house accommodating perhaps upwards of seven people, it is possible that these twelve or so rather unchartered plots of land are home to as many as 1,000 ethnic Mwakais (and, considering the very high birth rates of the area, this number is likely to be climbing steadily).

1.5   The people

Within the two villages of Mongol and Kaimbal live about 500 people, almost all of whom belong to the Mwakai ethnolinguistic group. Everyone currently living in Mongol is from the village of Mongol. The only non-Mwakai person living in Kaimbal is a woman from the Ap Ma-

speaking village of Kambuku, who is married to a man from Kaimbal. In addition to these 500 full-time residents, about 150 other Mwakais split their time somewhat equally between one of these villages and the town of Angoram.

The staple carbohydrate and single greatest source of food energy is sago, which is eaten with almost every meal (the word *kay* means both 'sago jelly' and 'food' in Mwakai). The primary source of protein for people in the villages is fish, which are caught by net or by hand. Especially in the dry season, people also harvest several species of beetle grubs, which live in palm trees, and hunt crocodiles for meat. Hunting pigs is also known, but not particularly common. The diet is rather low in vegetable matter. The land is generally too swampy for gardening, although some people manage to grow leafy greens, bananas, and melons in the dry season.

People enjoy chewing betel nut (the fruit of the *Areca catechu* palm) mixed with lime (calcium hydroxide) along with the leaf or flower of the *Piper betle* vine (betel pepper) to produce a mild stimulant.

Although the Mwakai people are generally able to sustain themselves on what they can find and make in the jungle, they do benefit from the small amount of cash that manages to enter the community. Some people produce surplus sago, which they transport via canoe to sell in the town of Angoram. Some people also sell sago grubs and fish in town. People use cash to buy things like clothes, soap, pots, and occasionally non-perishable food items, such as rice, canned fish, and salt. There are no cash crops (such as cocoa or betel nut, which are grown in some of the other villages of the region), so not very much money comes to the villages.

The Mwakai people are Christians, although not unified by a single sect. Most of the Mongol population are Seventh-Day Adventists, whereas most of the Kaimbal population are members of the Pentecostal Assemblies of God church. There are no regular church services held in either village (although Kaimbal does have a humble structure serving as a place of worship). Some Kaimbal villagers travel by canoe on Sundays to the Ap Ma-speaking village of Wom to attend religious services there (in Tok Pisin).

1.6   Variation

The inhabitants of the two villages speak mutually intelligible varieties of Mwakai. Some speakers have described the two varieties as being exactly the same language, and some have noted only slight differences between the two. Of the 81 words in the Swadesh 100-list for which I had data for both varieties, I found that 44 items were identical in both varieties (54%) and a total of 68 items (84%) were either identical or phonetically very similar. 16% of the items did not appear to be cognate. This may, however, be a skewed portrayal of similarity—that is, the two varieties may be more similar than a Swadesh list might suggest—since a lot of what is considered "basic" vocabulary in the Swadesh list is not basic in languages of the area (e.g. color terms and many verbs). In a comparison of 124 nominal lexical items for which I had data in both varieties, I found that 80 items (65%) were identical, a total of 108 items (87%) were either identical or phonetically very similar, and total of 115 items (92%) were clearly cognate forms. Thus, I believe it is safe to say that the two varieties—let us call them Mongol and Kaimbal—are two dialects of a single language, Mwakai.

The following list of nouns (001), selected somewhat randomly, suggests some of the similarities and differences found between the two dialects. Of course, since I only worked with a limited number of people from each of the two villages, some of the differences found here

could reflect village-internal variation (i.e., synonymy) or even speaker-level variation (i.e., idiolectal alternations), rather than true dialectal variation between the two villages. Phonological differences in forms are set in bold type.

(001)   *Comparison of Mongol and Kaimbal dialects*

gloss	Mongol	Kaimbal
'person'	akam	akam
'old woman'	am	am
'butterfly'	**aypwa**	**pop**
'lizard'	ik**e**n	ik**i**n
'basket'	imbïn	imbïn
'liver'	ina	ina
'tail'	k**a**ngun	k**o**ngun
'head'	kara	kara
'cloud'	kar**i**m	kar**ï**m
'knife'	kina	kina
'machete'	kom**ï**s	kom**i**s
'fish trap'	k**we**	k**o**
'mouth'	mama	mama
'louse'	mon	mon
'mosquito'	n**a**ngun	n**o**ngun
'village'	ngoy	ngoy
'canoe'	ni**m**	ni**mba**
'man'	n**ïm**on	n**um**un
'coconut shell'	por	pore
'wind'	rap**a**	rap**ï**
'creek'	re	re**n**
'fish'	sambon	sambon
'dust'	s**isi**	s**us**
'bird'	w**or**	w**eme**
'child'	worï	worï
'girl'	**worï anïngopun**	**ye**
'blood'	**y**i	**ir**i
'belly'	yok**o**n	yok**u**n

I have less information about the grammar of the Kaimbal dialect than about the grammar of the Mongol dialect, but I do not suspect any major structural differences between the two.

The greatest source of linguistic variation is time rather than space. That is, the language is changing radically as speakers shift to Tok Pisin. The Mwakai spoken by members of the younger generations (if spoken by them at all) is likely both structurally and lexically quite different from what must have been spoken 50 years ago.

Unless stated otherwise, the forms provided in this paper represent the Mongol dialect.

1.7   Endangerment

Mwakai is severely endangered. Thus, it is in roughly the same position as many (if not all) languages of the Sepik region, even the most vital of which are obsolescing. My impression, however, is that Mwakai is in a particularly perilous position, at least compared with its two closest sister languages—Ulwa and Pondi—both of which are severely endangered as well, but which seem to have begun obsolescing later and which seem to have suffered less grammatical attrition.

　　The language to which the ethnic Mwakais have been shifting is Tok Pisin, the English-based creole that serves as PNG's lingua franca and is one of the nation's three official languages. There are currently no monolingual Mwakais. Indeed, it seems that everyone in the area (including members of other ethnolinguistic groups) is fluent in Tok Pisin. Increasingly, this language is becoming the dominant (and often only) language known.

　　Undoubtedly a major factor in the decline of Mwakai (at least compared to the somewhat slower loss of Ulwa and Pondi) is the mass migration of Mongol villagers (and to a lesser extent Kaimbal villagers) to the town of Angoram in the 1970s. Those who moved have come to use Tok Pisin almost exclusively, and even those who have remained behind have likely been greatly influenced by this exodus to shift almost entirely to Tok Pisin: they maintain frequent contact with the Mwakais living in Angoram, and have, since at least the 1970s been brought into a wider world of almost exclusively Tok Pisin-based communication.

　　Although I have taken census figures for both Mongol and Kaimbal villages (in 2016), it has proven much more difficult to get reliable data on the many ethnic Mwakais living in the Angoram settlements (§1.4.3). Therefore, many of my estimates of speaker numbers and percentages must remain rather rough. Having said that, I estimate that there are (as of 2016) around 1,500 ethnic Mwakais, of whom around 200 are (or at least at some point in their lives were) fluent speakers, with perhaps another roughly 400 semi-speakers. These numbers come from population estimates of the 265 permanent residents of Kaimbal plus the 243 permanent residents of Mongol plus the (very roughly estimated) 1,000 residents of the Mwakai blocks in Angoram. I assume that people older than 30 (in 2016) living in the two villages were more or less fluent (about 40 people in Kaimbal and 35 people in Mongol); and I assume (based on interviews) that only people older than 60 (in 2016) living near Angoram are fluent (I estimate, based on my Mongol and Kaimbal demographic data, that there were 125 such elders in Angoram). For the "semi-speaker" category, I assumed that ethnic Mwakais between 20 and 30 years old living in the villages would have a partial command of the language and that ethnic Mwakais between 30 and 60 years old living near Angoram would have such a command. This provides the rough figure of 400. The remaining Mwakais (i.e., children, teenagers, and—as of 2019—those in their early twenties as well) do not speak the language, although they may be familiar with a very limited number of lexical items. The following list (002) summarizes these population figures.

(002)   *Mwakai speaker numbers*

Ethnic population:	~ 1,500	
Fluent speakers:	~ 200	(13%)
Semi-speakers:	~ 400	(27%)
Non-speakers:	~ 900	(60%)

I conclude this section with a summary of Mwakai's vitality based on the Language Endangerment Index (LEI) (Lee and Van Way 2016, 2018). According to this index, Mwakai would be considered a "severely endangered" language (Table 1).

	LEI factor	Mwakai's status	Description in LEI	Notes on Mwakai
1	Intergenerational transmission	4: severely endangered	"Many of the grandparent generation speak the language, but the younger people generally do not."	Although a few members of the "parent" generation living in the two villages may know the language, the majority of this generation (who live near Angoram) do not.
2	Absolute number of speakers	3: endangered	"100–999 speakers"	There are perhaps around 200 fluent speakers.
3	Speaker number trends	4: severely endangered	"Less than half of the community speaks the language, and speaker numbers are decreasing at an accelerated pace."	Only about 40% of the community are speakers (including semi-speakers). I do not know whether the rate of decline in speaker numbers is accelerating, but speaker numbers are certainly decreasing.
4	Domains of use	4: severely endangered	"Used mainly just in the home and/or with family, and may not be the primary language even in these domains for many community members."	The language is not used for any wider communication, nor is it the primary language in any domain for any community member.
calculation of factors: $[(f_1 \times 2) + f_2 + f_3 + f_4] \div 25$	$[(4 \times 2) + 3 + 4 + 4] \div 25 = 76\%$	"80–61% = Severely Endangered"	Mwakai is severely endangered.

Table 1. Mwakai's endangerment status according to the LEI.

1.8   Classification

Mwakai is a member of the Ulmapo subgroup of the Keram family. Ulmapo consists of three languages: Ulwa ([yla, yaul1241]), Mwakai ([mgt, mong1344]), and Pondi ([lnm, lang1328]). I estimate that Mwakai, Ulwa, and Pondi each share about 40% cognate vocabulary of a Swadesh 100 list with each of the other two languages.

      I tentatively propose that Mwakai and Pondi form a subgroup within Ulmapo, with Ulwa having diverged from the proto-language somewhat earlier.

      The Ulmapo subgroup, in turn, belongs to the Keram family of five languages, which was first postulated by Timothy Usher (p.c.). The Keram family consists of Ulmapo as well as two other languages, Ap Ma (also known as Kambot or Botin [kbx, apma1241]) and Ambakich (also known as Aion [aew, amba1269]). These latter two languages may form an East Keram subgroup, although this grouping is tentative. The relationships between Ulmapo and the East Keram languages are deeper and therefore weaker. If basic vocabulary may serve as any guide, then it can be said that, of a Swadesh 100-word list, Ulmapo shares around 30% cognate vocabulary with Ambakich and less than 20% cognate vocabulary with Ap Ma, the most lexically divergent member of the family. The cognacy of pronouns, deictic markers, suppletive alternations, and bound TAM morphology, however, are all strong pieces of evidence for the Keram family.

      Figure 1 presents the Keram family tree, arranged in what I believe represents the most likely subgrouping.
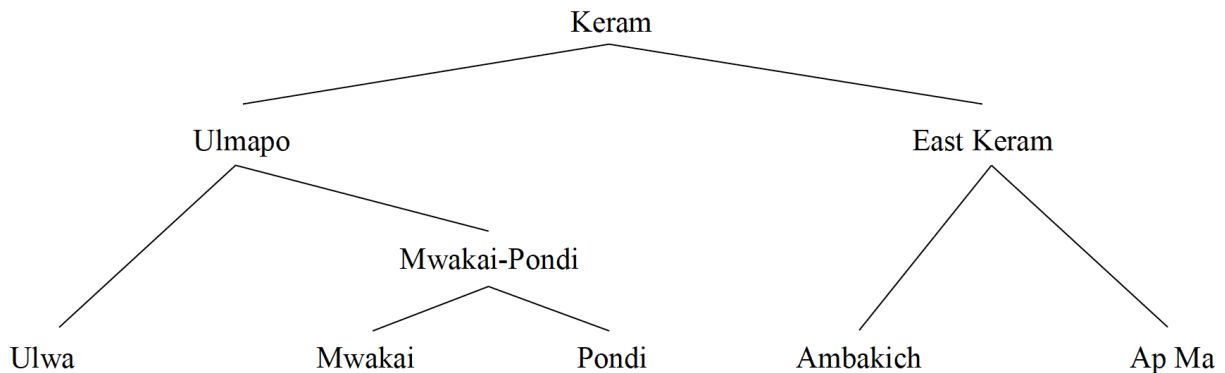
Figure 1. The Keram family.

      Finally, there is some evidence suggesting that the Keram family of five languages is related to the Ramu family of some 22 to 25 languages spoken farther to the east.

2   Phonetics and phonology

In this section I discuss the phonemic inventory of Mwakai, describing the general phonetic realization of its phonemes. In the discussion of consonants (§2.1) and of vowels (§2.2), I provide minimal pairs as much as possible. I also describe syllable structure (§2.3) and offer analyses of some of the morphosyntactic processes that occur in the language (§2.4).

      There are 18 phonemes in Mwakai, consisting of 12 consonants and 6 vowels. In terms of its phonemes, Mwakai is similar to its two closest sister languages, Ulwa and Pondi. The

phonetic realization of some of these phonemes, however, differs from what is found in Ulwa and Pondi. Stress in Mwakai is not phonemic. Nor is there phonemic tone, nor are other suprasegmental phonemic distinctions made in the language.

A note on orthography: the working orthography has been chosen here so as to avoid less common (or more difficult to type) characters (such as <ⁿdʒ>) as well as to facilitate phonological comparison with Mwakai's two closest sister languages, Ulwa and Pondi. Although there are, of course, phonetic differences among the sets of phones in these three languages, all graphemes used in this paper match the orthography used in the grammar of Ulwa (Barlow 2018) and the sketch grammar of Pondi (Barlow forthcoming). All three languages have a central vowel <ɨ>. Whereas in Ulwa and Pondi the basic phonetic realization of this vowel is taken to be [ɨ] (with Pondi exhibiting the allophone [ə] as well), in Mwakai the basic phonetic realization of this vowel is taken to be [ə], with [ɨ] occurring as a mostly predictable allophone.

The graphemes used in this orthography mostly match those found in the IPA. The exceptions are as follows: <mb> = /ᵐb/, <nd> = /ⁿd/, <ng> = /ᵑg/, <nj> = /ⁿdʒ/, and <ɨ> = /ə/.

2.1   Consonants

The consonant inventory of Mwakai consists of five stops (two voiced and three voiceless), one (voiced) affricate, two nasals, one liquid, one (sibilant) fricative, and two glides (or semivowels). Table 2 shows these 12 consonants, presented in the practical orthography; where this differs from the conventions of the IPA, the IPA equivalent is also given (in parentheses). In brackets are three common phones that do not have phonemic status.

	Labial	Alveolar	Palatal	Velar
Voiceless stops	p	[t]		k
Prenasalized voiced stops	mb (ᵐb)	nd (ⁿd)	[ny (ɲ)]	ng (ᵑg)
Prenasalized voiced affricate			nj (ⁿdʒ)	
Nasals	m	n		
Liquid		r, [l]		
Fricative		s		
Glides	w		y (j)	

Table 2. Mwakai consonants (in practical orthography).

The set of eight oral consonants (that is, excluding the two nasals and two semivowels) can be viewed as comprising two series, as depicted in Table 3. This arrangement captures the probable history of the Mwakai sound system (e.g., that an earlier stop *t has become liquid r) as well as some of the synchronic facts of the system (e.g., that alveolar /s/ may be pronounced as palatal [ʃ]).

ᵐb	ⁿd	ⁿdʒ	ᵑg
p	r	s	k

Table 3. Mwakai oral consonants.

2.1.1   Voiceless stops

There is a two-way (phonemic) place distinction among voiceless stops: labial /p/ vs. velar /k/. These stops are pronounced without any aspiration. The /p/ is bilabial, produced between the lips. It has as an occasional allophone the voiceless bilabial fricative [ɸ]. The /k/ phoneme is generally realized as a prototypical voiceless velar stop, although it may occasionally be labialized. Rather unusual from a crosslinguistic perspective, there is no phonemic voiceless alveolar stop /t/. This phone does, however, sometimes occur, generally only in word-final position and generally only in the Mongol dialect.[4] In that dialect it is an occasional realization of final /r/. It is somewhat common in the Mongol pronunciation of the plural suffix -ir (i.e., [-it]) (§3.3). The voiceless alveolar stop also occurs in Mongol as a paragogic sound, occasionally following final /a/. When realized as [t], underlying /r/ is pronounced as a plain 't', that is, neither dental nor postalveolar.

The minimal pairs (and near-minimal pairs) in (003) illustrate contrasts between the voiceless stops /p/ and /k/ in word-initial position.

(003) **p**ara   'far'   **k**ara   'head'
       pira   'sago starch'   **k**ira   'earth'
       pomo   'packet'   **k**oma   'who?'
       purumo   'mud'   **k**uruma   'flute'
       pusam   'bee sp.'   **k**usa   'again'
       pïnïri   'urine [PL]'   **k**ïnïri   '*kundu* [PL]'

The following words (004) illustrate contrasts between the voiceless stops /p/ and /k/ in intervocalic position.

(004) ra**p**a   'wind'   ra**k**a   'palm flower'
       a**p**orar   'vine'   a**k**ombo   'thick'
       a**p**u   'fire'   a**k**u   'rat sp.'
       ka**p**ïr   'house [PL]'   pa**k**ïr   'turtle'
       ki**p**is   'full'   i**k**imin   'clavicle'
       yo**p**o   'cockatoo'   yo**k**on   'chicken'
       mapu**p**o   'snake sp.'   ambu**k**oni   'rope [PL]'
       ku**p**uka   'sprout'   su**k**u   'pick-axe'
       kï**p**ïm   'breadfruit'   kï**k**ïr   'termite'

As in Ulwa, the voiceless velar stop /k/ does not occur word-finally. Since [t] (when it does occur) always occurs word-finally and [k] never occurs word-finally, one might be inclined —at least synchronically—to posit that [t] and [k] are environmentally conditioned allophones of

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[4] There is exactly one known lexical item in which [t] occurs elsewhere than word-finally: the verb *tïpïr* 'stand', which may be a loan from another language (there is another verb for 'stand' in Mwakai: *siraka*).

the same phoneme, since they appear to be in complementary distribution. However, even in the Mongol dialect, where [t] is more common than in the Kaimbal dialect, it is not consistently pronounced [t], but is rather commonly pronounced [r] or [l], even by the same speaker, and it is almost certainly underlyingly /r/ (or, when paragogic, underlyingly /Ø/).

Thus, bilabial /p/ is the only voiceless stop that occurs word-finally, as in the following words (005).

(005)
ama**p**	'eat [PFV]'	i**p**	'be'
moroma**p**	'four'	piro**p**	'scoop'
kora**p**	'feather'	ko**p**	'please'
kre**p**	'also'	ngu**p**	'crown'
krinje**p**	'gecko'	sakru**p**	'bunch'

2.1.2 Prenasalized voiced stops

There are three voiced stops, all of which are prenasalized—that is, each is preceded by a homorganic nasal. They are: labial /ᵐb/, alveolar /ⁿd/, and velar /ᵑg/. In the practical orthography, these are written <mb>, <nd>, and <ng>.

The following words (006) illustrate contrasts among the prenasalized stops in word-initial position. When utterance-initial, the voiced velar stop is typically devoiced and thus pronounced as [k]; when, however, such a word immediately follows a vowel, the voicing (including prenasalization) is clearly audible.

(006)
mbas	'why?'	**nd**a	'that'	**ng**a	'this'
mbis	'so'	**nd**im	'stone'	**ng**i	'here'
mbon	'trunk'	**nd**oki	'walk in them'	**ng**om	'sago sp.'
mbu	'work'	**nd**um	'poison'	**ng**un	'earring'

The following words (007) illustrate contrasts among the three voiced stops in intervocalic position.

(007)
ya**mb**aro	'adze'	ya**nd**ar	'vein'	ma**ng**am	'thatch'
ka**mb**i	'stomach'	ra**nd**i	'spirit [PL]'	na**ng**i	'ant sp.'
a**mb**uka	'rope'	a**nd**um	'small'	a**ng**u	'not'
ka**mb**ïn	'boy'	ma**nd**ïn	'snake sp.'	na**ng**ïn	'tongs'
ku**mb**u	'bird sp.'	pu**nd**um	'sago stick'	ru**ng**um	'sucker'

The voiced stops never occur in word-final position.

2.1.3 Prenasalized voiced affricate

There is one affricate in Mwakai: the prenasalized voiced palato-alveolar affricate /ⁿdʒ/. In the practical orthography, it is written <nj>. Some speakers occasionally pronounce the affricate as the fricative [s]. Like the prenasalized voiced stops, this affricate may occur word-initially or intervocalically but never word-finally. It occurs word-initially in the following words (008).

(008)	**nj**amba	'short'	**nj**ini	'egg'
	njerïman	'frog sp.'	**nj**uwa	'pot'
	nji	'thing [SG]'		

The following words (009) contain the prenasalized voiced affricate intervocalically.

(009)	ka**nj**in	'tall ginger'	ku**nj**i	'enemy'
	kri**nj**ep	'gecko'	arï**nj**i	'fish sp.'
	ko**nj**isi	'left'		

2.1.4   Nasals

There are two nasal consonants in Mwakai: bilabial /m/ and alveolar /n/. The palatal /ɲ/ (which may be analyzed as two segments, i.e., /nj/, and which is written here as <ny>), does not seem to have phonemic status in the language, although it does occur as a surface form in some words. The nasal consonants /m/ and /n/ can both occur word-initially, intervocalically, and word-finally. The following words (010) show these nasals in word-initial position.

(010)	**m**ara	'spear'	**n**ara	'bat'
	me	'is hungry'	**n**era	'ripe'
	mim	'dog [SG]'	**n**im	'canoe'
	mo	'forehead'	**n**o	'self'
	murpun	'wrist'	**n**umbu	*'garamut'*

The following words (011) have nasals in medial position.

(011)	ka**m**i	'taro'	ka**n**i	'I'
	pi**m**ar	'arrow'	ki**n**a	'knife'
	yoko**m**ar	'throat'	yamo**n**a	'snake'
	kangu**m**ïri	'duck sp. [PL]'	ngu**n**ïri	'earring [PL]'
	nï**m**ïn	'upper leg'	pïnï	'urine'

The following words (012) exhibit nasals in final position.

(012)	manga**m**	'thatch'	mamnga**n**	'chin'
	kande**m**	'tree sp.'	ase**n**	'talk'
	ki**m**	'some'	si**n**	'coconut husk'
	mi**m**	'dog [SG]'	i**n**	'thorn'
	moro**m**	'long spear'	mbo**n**	'trunk'
	panu**m**	'skirt'	kumu**n**	'handle'
	porï**m**	'scale'	kurï**n**	'flying fox'

The palatal nasal <ny> has a very limited distribution in Mwakai, and it likely falls short of phonemic status. Its presence in some words can generally be explained as due to 1) borrowing, 2) sound change, or 3) compounding. For example, the word *nyoko* 'wildfowl' is a loan from Ap Ma *ɲokok* 'wildfowl'. A number of words ending in /-ni/ have undergone a sporadic sound

change of palatalizing the nasal /n/ preceding the high front vowel /i/ (this has sometimes been followed by a weakening of final /i/ to [ï]). Thus, for example, *kanyi* 'frog' may have developed from *kani, and *nyi* 'feces' from *ni. The palatal nasal in this form (*nyi*) has been carried into a number of compounds derived from the word for 'feces', including *nyay* 'anus' (< *nyi ay* 'feces path'), *nyiku* 'outhouse' (< *nyi ku* 'feces bridge'), and *nyuwar* 'intestines, guts' (exact derivation unknown). The word *nyim* 'two' was probably originally *ni, having first palatalized and then been affixed with the singulative suffix *-m* (§3.7).[5] The word *nyinga* 'yesterday' is similarly likely derived from *nyi-nga. The plural suffix *-nyï* (< **-ni*) exhibits a reduced final vowel (§3.5). Although most occurrences of [ny] can thus be explained as underlyingly /n/, a very small number of odd cases remain that have yet to be explained, including *nye* 'grub sp.', *nyap u* 'lie down', and *kinyï* 'coconut'.

2.1.5   Liquid

There is one liquid consonant in Mwakai: it is most commonly pronounced as a rhotic consonant, whether a voiced alveolar trill [r] or a voiced alveolar tap [ɾ]. It can, however, also occur as a voiced alveolar lateral approximant [l]. These phonetic forms are mostly all in free variation, although the form [r] seems to be preferred in careful speech and is perhaps the most common phonetic realization of the phoneme.[6] The liquid /r/ occurs word-initially, intervocalically, and word-finally. The following words (013) illustrate word-initial position.

(013) **r**a   'those'   **r**isin   'side'
       raka   'palm flower'   **r**op   'tomorrow'
       re   'creek'   **r**ungum   'sucker'
       ri   'axe head'   **r**ur   'seedling'

The following words (014) show /r/ in medial position. This phoneme has a rather wide distribution: it occurs both before and after a great variety of vowels.

(014) a**r**a   'bad'   i**r**ïm   'scrotum'
       ka**r**ena   'rash'   ko**r**a   'friend'
       sa**r**i   'lips'   ko**r**i   'jungle spirit'
       nga**r**o   'nephew'   mo**r**om   'long spear'
       ya**r**um   'granddaughter'   po**r**ïm   'scale'
       a**r**ïs   'duck'   mu**r**a   'blowfly'
       ne**r**a   'ripe'   wu**r**in   'close'
       kwe**r**i   'fish trap [PL]'   ku**r**umbon   'step'
       nje**r**ïman   'frog sp.'   ku**r**ïn   'flying fox'
       i**r**a   'rattan'   pï**r**angan   'vomitus'
       pi**r**e   'white'   popï**r**e   'armpit'
       kanyi**r**i   'frog [PL]'   sisï**r**i   'spine of a frond [PL]'
       i**r**ono   'back of the skull'   yesï**r**um   'firefly'

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[5] That the word for the number two should receive a *singulative* suffix would seem very odd. However, Mwakai's sister language Pondi uses singular marking (i.e., non-plural marking) for all referents less than three (Barlow forthcoming).

[6] The lateral realization [l] may be comparatively more common in the Kaimbal dialect.

| yi**r**u | 'beetle sp.' | pïr**ï** | 'talk' |

The following words (015) illustrate the liquid consonant in final position.

(015)	aka**r**	'person [PL]'	kawu**r**	'tree sp.'
	yi**r**	'housefly'	pakï**r**	'turtle'
	pipo**r**	'sago sp.'	kïkï**r**	'termite'
	ngumngu**r**	'headdress'		

Along with the labial-velar glide /w/, the liquid /r/ is one of only two segments permitted as the second element in a consonant cluster. It may follow any stop (/p, mb, nd, k, ng/), although [pr] may be underlyingly /pïr/ (§2.3).

2.1.6   Fricative

There is a single fricative phoneme in Mwakai, the sibilant voiceless alveolar fricative /s/, which occurs word-initially, intervocalically, and word-finally. It has as an occasional allophone the voiceless postalveolar fricative [ʃ]. Also, some speakers occasionally pronounce the fricative as the affricate [ⁿdʒ] in casual speech. The following words (016) illustrate word-initial position.

(016)	**s**amo	'coconut frond'	**s**imba	'meat'
	say	'wound'	**s**oke	'tobacco'
	sembi	'eel'	**s**uku	'pick-axe'
	si	'ashes'	**s**ïmara	'tree sp.'

The following words (017) illustrate /s/ as it occurs intervocalically.

(017)	a**s**ari	'chewed-up betel nut'	ki**s**im	'jungle'
	ka**s**era	'fat'	pi**s**ï	'foot'
	ma**s**ipa	'Jew's harp'	ko**s**a	'crayfish'
	a**s**okwar	'broom'	ko**s**ï	'breast'
	ka**s**ïmbum	'ant sp.'	pu**s**am	'bee sp.'
	ye**s**ïrum	'firefly'	amu**s**i	'many'
	pi**s**er	'ringworm'	komï**s**ani	'machete [PL]'

The following words (018) exemplify /s/ in final position.

(018)	moma**s**	'container'	yo**s**	'grandson'
	yire**s**	'ginger'	arï**s**	'duck'
	kipi**s**	'full'	komï**s**	'machete'
	woko**s**	'behavior'		

2.1.7   Glides

There are two glides (or semivowels) in Mwakai, a labial-velar /w/ and a palatal /j/ (written here as <y>). The following words (019) all begin with glides.

(019) **w**i   'you'   **y**i   'blood'
        wu   'you'[7]   **y**u   'crocodile'
        wurin   'close'   **y**ur   'crocodile [PL]'
        wokor   'moon'   **y**okon   'belly'
        worï   'child'   **y**ora   'three'
        we   'cut'   **y**e   'hand'
        weme   'bird'[8]   **y**amona   'snake'
        yandar   'vein'   **y**aw   'banana sp.'

The labial-velar glide *w* occurs word-initially in only a limited number of words. Furthermore, since almost all of these words have back rounded vowels (/o, u/) immediately following [w], it is possible that [w] here is serving an epenthetic function.[9] The forms *wi* 'you' and *weme* 'bird', however, suggest that it is possible for other vowels to follow initial /w/. The palatal glide *y* has a greater distribution in word-initial position, and may be followed by any vowel other than *ï*.

Glides occur only occasionally in intervocalic position. This may in part be due to the fact that Mwakai has begun a process of losing its glides, especially /w/. Thus, many words with intervocalic glides may be pronounced as vowel sequences (with no intervening glide) (§2.2.7). The following words (020) contain intervocalic glides.

(020) ka**w**akay   'afternoon'[10]   mbwa**y**amba   'vegetable sp.'
        iri**w**a   'sleep'   sangi**y**a   'axe'
        a**w**i   'how many?'   apu**y**ir   'red [PL]'
        ya**w**or   'three'[11]   nambi**y**e   'wet'
        ka**w**ur   'tree sp.'   a**y**um   'rib'
        nju**w**a   'pot'   apu**y**e   'red'
        aru**w**o   'father'

Indeed, intervocalic glides are uncommon, and several of the forms in (020) may be explained (diachronically) as deriving through compounding (e.g. *apuye* 'red' from *apu* 'fire') or through borrowing (e.g. the areal loan word *sangiya* 'axe').

Finally, glides may close a syllable, as in the following list of words (021), which exhibits both word-final glides and word-medial glides serving as codas (indicated as such with syllable boundaries).

(021) a**w**   'how?'   a**y**   'path'
        ka**w**   'betel nut palm'   ka**y**   'sago jelly'
        ya**w**   'banana sp.'   sa**y**   'wound'
        a**w**.kon   'basket'   a**y**.pwa   'butterfly'
        a**w**.ra   'pouch'   a**y**.mi   'rib [PL]'
        ko**w**.rï   'scarf'   ngo**y**   'village'

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[7] The 2SG pronominal forms *wi* and *wu* are both attested in the Mongol dialect (§4.1).

[8] Kaimbal dialect.

[9] Similarly, instances of initial [yi-] might be due to glide epenthesis (cf. the Mongol dialect *yir* 'hair' vs. the Kaimbal dialect *ir* 'hair').

[10] Kaimbal dialect.

[11] Kaimbal dialect.

Only the vowels /a/ and /o/ are found immediately preceding glides serving as codas.

Along with the liquid /r/, the labial-velar glide /w/ is one of only two segments permitted as the second element in a consonant cluster. It may follow any labial or velar consonant (/m, p, mb, k, ng/) (§2.3).

2.2   Vowels

The vowel inventory of Mwakai consists of six monophthongs: two front vowels, two central vowels, and two back vowels. Table 4 shows these six vowels, presented in the practical orthography. The only major difference between this orthography and the IPA is found in the mid central vowel (<ï> for /ə/). Also, the grapheme <a>—as is common in linguistic literature—represents a low central vowel, and not a low front vowel, as the IPA vowel chart might suggest.

	Front	Central	Back
High	i		u
Mid	e	ə (ï)	o
Low		a	

Table 4. Mwakai vowels (in practical orthography).

2.2.1   The high front unrounded vowel /i/

The high front unrounded vowel /i/ is rarely pronounced as the cardinal vowel [i], but is rather more often realized as the lax vowel [ɪ] or as the high central vowel [ɨ], especially when unstressed. The high front vowel has a wide distribution. Along with /a/, it is one of only two vowels (with perhaps a few exceptions) to be permitted word-initially, as in the following words (022).

(022)	**i**ken	'lizard'	**i**n	'thorn'
	ikïmar	'shoulder'	**i**na	'liver'
	imbïn	'basket'	**i**re	'eye'

The following words (023) show /i/ contrasting with the other high vowel—the high back vowel /u/.

(023)	s**i**n	'coconut husk'	s**u**n	'hearth'
	r**i**r	'axe head [PL]'	r**u**r	'seedling'
	nd**i**m	'stone'	nd**u**m	'poison'
	m**i**	'dog [PL]'	m**u**	'vegetable'
	ar**i**	'sun'	ar**u**	'white person'

The following words (024) show /i/ contrasting with the other front vowel—the mid front vowel /e/.

(024)	s**i**mba	'meat'	s**e**mbi	'eel'

k**i**na	'knife'	ik**e**n	'lizard'
m**i**	'dog [PL]'	m**e**	'is hungry'
kasis**i**	'crab [PL]'	kasis**e**	'crab [SG]'
ny**i**	'feces'	ny**e**	'grub sp.'
r**i**	'axe head'	r**e**	'creek'
y**i**	'blood'	y**e**	'hand'

2.2.2   The mid front unrounded vowel /e/

The mid front unrounded vowel /e/ is rarely pronounced as the cardinal vowel [e], but is rather more often realized as the lax vowel [ɛ], or even as the mid central vowel [ə], especially when unstressed. There do not seem to be any words that begin with /e/, although words that underlyingly begin with /ay/ may be pronounced as beginning with [e].[12] This apparent phonotactic constraint is also found in Ulwa and mostly found in Pondi, which has as the only known exception the monosyllabic (and monophonemic) word *e* 'blood'. Contrasts between /e/ and the other front vowel, /i/, are given in §2.2.1. Contrasts between /e/ and the mid central vowel /ə/ are given in §2.2.6. The following words (025) show the mid front vowel /e/ contrasting with the mid back vowel /o/.

(025)	m**e**	'is hungry'	am**o**	'woman'
	p**e**	'sago pancake'	amop**o**	'betel pepper'
	sok**e**	'tobacco'	kok**o**	'banana flower'
	yoramb**e**	'sword grass'	simb**o**	'tree sp.'
	y**e**sïrum	'firefly'	y**o**s	'grandson'
	ik**e**n	'lizard'	yok**o**n	'chicken'

2.2.3   The low central unrounded vowel /a/

The low central unrounded vowel /a/ is generally pronounced as [a], but it may be pronounced a bit higher, as [ə], especially when unstressed and in word-final position. Also, when preceding the liquid /r/ (sometimes [l]), this vowel is often pronounced as [ə]. The low vowel /a/ has a wide distribution. Along with /i/, it is one of only two vowels (with perhaps a few exceptions) to be permitted word-initially, as in the following words (026).

(026)	**a**	'old man'	**a**pu	'fire'
	akam	'person'	**a**ra	'bad'
	am	'old woman'	**a**sokwar	'broom'
	ambï	'spirit house'	**a**w	'how?'
	andrum	'small'	**a**wkon	'basket for carrying fish'
	angï	'fern'	**a**y	'path'
	anji	'what? [SG]'		

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[12] There is also a verb *e* 'strike', which is only used with *ndika* 'hunger' as its subject, and which never occurs without a prefix (an object-marker prefix indicating the person experiencing the feeling of hunger).

The low central vowel may be contrasted with the two other non-high vowels in Mwakai, /e/ and /o/. The following words (027) show the low central vowel /a/ contrasting with the mid front vowel /e/.

(027) ra   'those'   re   'creek'
       ira   'rattan'   ire   'eye'
       ma   'he, she, it'   me   'is hungry'
       pira   'sago starch'   pire   'white'
       sambinam   'Malay apple'   sembi   'eel'

The following words (028) show the low central vowel /a/ contrasting with the mid back vowel /o/.

(028) ka   'these'   ko   'a, an'
       kara   'head'   kora   'friend'
       param   'shield'   porom   'ant sp.'
       rapa   'wind'   rop   'tomorrow'
       mapari   'odor'   amopo   'betel pepper'
       kakar   'bird sp.'   koko   'banana flower'

2.2.4   The mid back rounded vowel /o/

The mid back rounded vowel /o/ is generally pronounced somewhat close to the cardinal vowel [o], although it may be pronounced either somewhat lower in the vowel space (approaching [ɔ]) or somewhat higher in the vowel space (approaching [u]). It may even be pronounced as the mid central vowel [ə] when unstressed. There are no words in Mwakai that begin with /o/ (aside from the paralinguistic affirmative response *o* 'yes'). Contrasts between the mid back vowel /o/ and the mid front vowel /e/ are given in §2.2.2. Contrasts between the mid back vowel /o/ and the mid central vowel /ə/ are given in §2.2.6. The following words (029) show /o/ contrasting with the other back vowel—the high back vowel /u/, which is also the only other rounded vowel in Mwakai.

(029) ambipon   'bedbug'   murpun   'wrist'
       yorambe   'sword grass'   yur   'crocodile [PL]'
       komba   'chest'   kumbu   'bird sp.'
       ko   'a, an'   ku   'bridge'

2.2.5   The high back rounded vowel /u/

The high back rounded vowel /u/ is rarely pronounced as the cardinal vowel [u], but is rather more often realized as the lax vowel [ʊ] or as the high central vowel [ɨ], especially when unstressed. Thus, in casual speech, the phonemes /i/ and /u/ (as well as /ə/) may neutralize to [ɨ]. The high back vowel is generally not permitted word-initially. The only known exceptions are the postposition *u* 'in, at, on' (which is typically preceded by a proclitic and—when not—is often pronounced as [wu]) and the second person pronouns (which also have alternate forms beginning with [w], §4.1). Contrasts between /u/ and the other high vowel, /i/, are given in §2.2.1. Contrasts

between /u/ and the other back vowel, /o/, are given in §2.2.4. Contrasts between /u/ and the mid central vowel /ə/ are given in §2.2.6.

2.2.6   The mid central unrounded vowel /ə/

The mid central unrounded vowel /ə/ is written in the practical orthography as <ï> and is generally pronounced as [ə], but may be pronounced higher in the vowel space as [ɨ] (this phonetic difference is mostly influenced by the consonants in its immediate environment, but there is also simply some amount of free variation). The mid central vowel has a relatively limited distribution. Like the vowels /u, e, o/, it is not known to occur word-initially. Since /a/ may be pronounced higher, the vowels /ə/ and /a/ are often rendered phonetically identical in casual speech. Likewise, since both /i/ and /u/ may be pronounced more centralized, and since /ə/ may be pronounced higher, these three vowels may also be realized the same as one another. Thus, it is possible for the vowels /ə, a, i, u/ (and, to a lesser extent, even also /e, o/) to neutralize to a single central vowel [ə ~ ɨ]. Furthermore, this central vowel [ə ~ ɨ] often serves an epenthetic function, breaking up forbidden (or disfavored) consonant clusters. Despite these common cases of ambiguity, however, the mid central unrounded vowel /ï/ can be shown to have phonemic status in Mwakai, since it forms minimal pairs with the other vowels in the language, as shown in the following examples.

(030) */ï/ vs. /i/*

kïm	'mother's brother'	kim	'some'
nangïn	'tongs'	namngin	'lizard sp.'
pï	'piece'	pi	'name'
mï	'he, she, it'	mi	'dog [PL]'

(031) */ï/ vs. /e/*

ambï	'spirit house'	yorambe	'sword grass'
pï	'piece'	pe	'sago pancake'
mï	'he, she, it'	me	'is hungry'

(032) */ï/ vs. /a/*

kïpïm	'breadfruit'	kapï	'house'
kïkïr	'termite'	kïkar	'ear'
kïma	'brother'	kama	'thus'
kosï	'breast'	kosa	'crayfish'
mï	'he, she, it'	mama	'mouth'

(033) */ï/ vs. /o/*

mï	'he, she, it'	mo	'forehead'
kïma	'brother'	koma	'who?'
akïra	'groin'	kora	'friend'

(034) */ï/ vs. /u/*

m**ï**	'he, she, it'	m**u**	'vegetable'
pund**ï**m	'caterpillar'	pund**u**m	'sago stick'
k**ï**m	'mother's brother'	wuk**u**m	'breath'
s**ï**ko	'sister'	s**u**ku	'pick-axe'

2.2.7 Diphthongs?

Generally, Mwakai does not have diphthongs, at least not in the sense of a sequence of two vowels acting as the single nucleus of a syllable. If, however, the segments *w* and *y* may be analyzed not as glides, but rather as the vowels /u/ and /i/, respectively, then it can be said that vowel sequences containing these vowels are permitted. However, there are no known vowel sequences that do not include either /u ~ w/ or /i ~ y/ (i.e., there are no forms such as **ae*, **ao*, **ea*, **eo*, **oa*, **oe*, etc.) There are also no vowel sequences of like vowels (e.g. no **aa* or **uu*), nor are there phonemic long vowels.

    That said, Mwakai seems to have begun a process of losing the labial-velar glide, and some words that contain (or at least historically contained) this /w/ may be pronounced as having consecutive vowels. Thus, phonetically at least, Mwakai differs from its sister languages Ulwa and Pondi in that it may permit consecutive vowels, each with its own pulse, acting as the nucleus of its own syllable. The following words containing /w/ may alternatively be pronounced as having VV sequences (in which case the first vowel is always [u]), as shown in (035).

(035) *Alternations between [VV] and [VwV]*

[kua]	for	/ku**w**a/	'all'
[njua]	for	/nju**w**a/	'pot'
[nyuar]	for	/nyu**w**ar/	'intestines'
[aruo]	for	/aru**w**o/	'father'

There are also a few words in the language that alternate between having and not having [y] (and thus, in the latter case, having VV sequences, in which case the first vowel is always [i]). Here, however, it may be that the alternations are due to [y] emerging epenthetically at a morpheme boundary and not /y/ being deleted between vowels within a morpheme. They are shown in (036).

(036) *Alternations between [VV] and [VyV]*

[sangia]	from	/sangiya/ ?	'axe' (areal loan)
[nambie]	from	/nambi-e/ ?	'wet' (derived from **nambi* 'water')[13]
[rie]	from	/ri-e/ ?	'window'

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[13] The property-denoting word *apuye* 'red' is probably similarly derived, in this case from *apu* 'fire'.

2.3   Syllable structure

Mwakai permits a variety of syllable shapes, including syllables with onsets, syllables with codas, syllables with both onsets and codas, and syllables with neither onsets nor codas. However, complex onsets are rare, and complex codas are completely unattested.

The following words (037) exemplify syllables that have neither onsets nor codas—that is, they consist entirely of nuclei.

(037)   *Syllables without onsets or codas (V)*

a	'old man'
i	'come'
u	'in, at, on'
o	'yes'

Generally speaking, /a/ and /i/ are the only vowels permitted word-initially. The postposition *u* 'in, at, on', when not preceded by a clitic, is typically pronounced [wu]. The response word *o* 'yes' is arguably paralinguistic.

The next set (038) consists of longer words that begin with simple V syllables. Since prenasalized voiced stops do not occur in coda position, it can be assumed in each example that each stop is serving as the onset to the second syllable of the word.

(038)   *Syllables without onsets or codas (in longer words) (V)*

a.mbï	'spirit house'	i.mbïn	'basket'
a.mbi.pon	'bedbug'	i.nga	'in-law'
a.ngï	'fern'	i.ngim	'fog'

The following set (039) offers clear examples of CV syllables, since each word is monosyllabic, beginning with a consonant.

(039)   *Syllables with simple onsets (CV)*

ko	'a, an'	ndï	'they'
ku	'bridge'	ngi	'here'
ma	'he, she, it'	nji	'thing [SG]'
me	'is hungry'	pi	'name'
mi	'dog [PL]'	pï	'piece'
mo	'forehead'	ra	'those'
mu	'vegetable'	re	'creek'
mï	'he, she, it'	ri	'axe head'
mbo	'ring'	si	'ashes'
mbu	'work'	wi	'you'
ne	'selves'	wu	'you'
no	'self'	ye	'hand'
nda	'that'	yu	'crocodile'

Syllables may also contain codas (including glides), as illustrated by the following words (040).

(040) *Syllables with simple coda and no onset (VC)*

am	'old woman'	ay	'path'
an	'I'	in	'thorn'
ar	'outside'	ip	'be'
aw	'how?'	ir	'hair'[14]

The following set (041) consists of monosyllabic CVC words—that is, words that each contain a single onset and a single coda (here, the onset [ny] in *nyim* 'two' and in *nyir* 'grub sp. [PL]' is taken to be a single segment [ɲ], §2.1.4).

(041) *Syllables with both onset and coda (CVC)*

kas	'battle'	ngoy	'village'
kaw	'betel nut palm'	ngup	'crown'
kay	'sago jelly'	nyim	'two'
kim	'some'	nyir	'grub sp. [PL]'
kïm	'mother's brother'	por	'coconut shell'
kïn	'*kundu*'	rir	'axe head [PL]'
kïr	'cassowary'	rop	'tomorrow'
mim	'dog [SG]'	rur	'seedling'
mon	'louse'	sin	'coconut husk'
mbas	'why?'	sun	'hearth'
mbon	'trunk'	wor	'bird'
nam	'water'	woy	'vegetable sp.'
nim	'canoe'	yaw	'banana sp.'
ndum	'poison'	yep	'after'
ngan	'frond'	yir	'hair'
ngom	'sago sp.'	yos	'grandson'

Consonant clusters are only found in onsets (never in codas), and they never consist of more than two consonants. The only phonemes permitted as the second element of such clusters are the labial-velar glide /w/ and the alveolar liquid /r/. The glide /w/ may follow any labial (/m, p, mb/) or velar (/k, ng/) consonant. The liquid /r/ may follow any stop (/p, mb, nd, k, ng/), although the (possibly) underlying form /pr/ is almost always pronounced as [pïr]. I am assuming that [ï] is here an epenthetic vowel (there are attested examples of [pr]), and that the cluster /pr/ is indeed permitted (if, perhaps, disfavored). The following words exemplify syllables with consonant clusters in their onsets.

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[14] Kaimbal dialect.

Syllables with complex onsets (CCV or CCVC)

(042) *mbr*   (043) *mbw*

na.mbri	'mature coconut'	mbwas	'don't!'
sa.mbrum	'beetle sp.'	mbwa.ya.mba	'vegetables sp.'
yo.mbra	'skin'		

(044) *pr*   (045) *pw*

pïrï	'talk' (/prï/?)	pwa.na	'young coconut'
pïrim	'mound' (/prim/?)	ay.pwa	'butterfly'
pïrum	'swamp' (/prum/?)	pwe	'rat [PL]'

(046) *ndr*   (047) *mw*

a.ndri	'small [PL]'	mwar	'gray hair'
a.ndrum	'small'[15]	mwi	'tree'
ka.ndru	'snail'	ki.ri.mwa.na	'stand'

(048) *ngr*   (049) *ngw*

ngri	'kidney'	Am.ngwar	'Mongol village'
so.ngru.pï.ni	'mushroom sp.'	a.nï.ngwi	'mother [PL]'
su.mo.ngri	'trash'		
ya.ngra	'strap'		

(050) *kr*   (051) *kw*

kra	'root'	kwe	'fish trap'
kra.nda	'long'	kwin	'vegetable sp.'
krep	'also'	kwi.nar	'navel'
kri.njep	'gecko'	kwi.nim	'perfume'
kri.sïn	'leech'	a.rï.kwap	'afternoon'
krï.ri	'cassowary [PL]'	as.o.kwar	'broom'
i.krep	'bean'	so.kwe	'tobacco'
pa.krir	'turtle [PL]'		
sa.krup	'bunch (of coconuts)'		

2.4   Morphophonemic processes

Mwakai exhibits a number of morphophonemic processes, which may occur across morpheme boundaries or across word boundaries. The following brief catalogue of processes is not exhaustive.

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[15] There also exists the alternate form *andum* 'small'.

2.4.1   Mid central vowel epenthesis

One rather pervasive phonological process in Mwakai is the epenthesis of the mid central vowel /ï/, which occurs, typically, to break up illicit (and sometimes even permitted but disfavored) consonant clusters. This epenthesis can be seen in the following singular-plural alternations (052) (cf. §3.4).

(052)   gloss   singular   plural   underlying plural

        'duck sp.'   kangum   kangumïri   < /kangumri/
        'earring'   ngun   ngunïri   < /ngunri/

Sometimes, even when generally permitted, consonant clusters are nevertheless broken up by an epenthetic /ï/, as in the pronunciation [yombïronyï] for /yombronyï/ 'skin [PL]'.

Similarly, although final sonorant consonants (i.e., liquids and nasals) are permitted in the language, speakers often place an epenthetic [ï] after utterance-final liquids and nasals, resulting in forms such as [monï] for /mon/ 'louse'.

2.4.2   Mid vowel raising

There is an optional raising of the mid back vowel /o/ to the high back vowel [u] when preceding a high vowel (053).

(053)   o > u / _C₁V[+high] (optional)

The effects of this process can be seen in certain plural forms with the suffix *-i* (§3.1), which contain *u* where their singular equivalents contain *o*, as in (054).

(054)   gloss   singular   plural

        'sago sp.'   pip**o**r   pip**u**ri
        'fish'   samb**o**n   samb**u**ni
        'elbow'   yamb**o**n   yamb**u**ni
        'belly'   yok**o**n   yok**u**ni

Synchronically, however, this rule is optional. There are plural forms, for example, that end in *-oni*, such as *pomoni* 'packet [PL]'.

2.4.3   High vowel lowering

The high front vowel /i/ lowers to the mid front vowel [e] when preceding the low vowel /a/ (055).

(055)   i > e / _ a

Thus, whereas the phrase 'big frog' is pronounced [kany**i** mondar] (that is, preserving the underlying final /i/ of 'frog'), the phrase 'small frog is pronounced [kany**e** andum] (that is, the following /a/ of 'small' lowers the final /i/ of 'frog' to [e]). Similarly, whereas the word for 'day' alone is [ar**i**], the phrase 'good day' is pronounced [ar**e** anïmo].

2.4.4   Glide-vowel coalescence

In another optional rule, the labial-velar glide /w/ and the low vowel /a/ may coalesce to the mid rounded vowel [o] (056).

(056)   wa > o (optional)

This can be seen in the two alternate pronunciations of 'forehead': *mwa* and *mo*. It may be that, in certain conditions, the effects of this rule have been lexicalized, as suggested by the alternation in the singular and plural forms of the words 'fence' and 'butterfly' (057).

(057)	gloss	singular	plural
	'fence'	num**wa**	num**o**rari
	'butterfly'	ayp**wa**	ayp**o**nyï

2.4.5   Metathesis

Although there is unlikely any formal rule governing its properties, metathesis seems to be a relatively common feature of Mwakai pronunciation and morphological alternations. Sometimes alternate versions of the same lexical item exist due to metathesis, as in *yamona* 'snake' alongside *yomana* 'snake'. Some plural forms seem to incorporate metathesis in their derivation, as in (058).

(058)	gloss	singular	plural	notes
	'wrist'	mur**pu**n	mur**up**ïni	with suffix -*i* and epenthetic *ï*
	'anklebone'	sipasana	sipasa**nyï**na	< /sipasa**na-nyï**/ (with suffix -*nyï*)

3   Nouns

Nouns in Mwakai constitute a large, open lexical class. They serve as the heads of noun phrases (NPs), which can function as grammatical subjects, as direct objects of verbs, and as objects of postpositions. NPs may also contain determiners, adjectives, and numerals. Unlike verbs, nouns are not inflected in any way for tense, aspect, or mood. Although nouns do not reflect grammatical gender or case, they are marked for number, exhibiting a two-way number distinction between singular and plural. The singular forms may be better described as *unmarked* forms, since they may be used even when not referring to single referents (i.e., plural marking may be optional).

Generally, plural nominal forms in Mwakai are marked by the presence of /i/ or /r/ (or both) in their endings. Although there is no single, simple agglutinative plural marker, plural

forms are generally identifiable by one or both of these segments. That said, there are numerous variations to these suffixes, some of which are likely phonologically determined, but others of which are simply lexically defined. The variations in forms may be grouped together based on observed patterns.

Thus, in the following sections I arrange Mwakai nouns into classes determined by shared patterns of phonological forms. These classes should not, however, be mistaken for *noun classes*, as they do not represent any distinctions in semantics or morphosyntax. There do not appear to be any semantic features (i.e., animate vs. inanimate, male vs. female, or long vs. round) that unify the members of any given class (as found in languages with grammatical gender or class). Also, there are not differences in agreement—that is, although multiple nominals in a given NP may agree with one another, they do so only in terms of number, and never in terms of any sort of class (§3.10).[16]

The most common Mwakai plural endings include the following (059).

(059)   *Nominal plural endings*

-i	(§3.1)
-r	(§3.2)
-ir	(§3.3)
-ri	(§3.4)
-ni ~ -nyï	(§3.5)

There are also several less-common forms (§3.6), a singulative suffix *-m* (§3.7), suppletive forms (§3.8), and an analytic plural marker *ari* (§3.9). Agreement is discussed in §3.10.

3.1   The plural suffix *-i*

The largest class of nouns in Mwakai consists of those that have plural forms ending in *-i*. This morpheme can function essentially as an agglutinative plural suffix, since it often simply affixes to the base form to indicate plurality. It is likely cognate with the very common Pondi plural marker *-e*. The following nouns (060) all form their plurals with the suffix *-i*.

(060)	gloss	base/singular	plural
	'female (animal)'	amar	amar**i**
	'thorn'	in	in**i**
	'paddle'	kanar	kanar**i**
	'tail'	kangun	kangun**i**
	'sago sp.'	kasam	kasam**i**
	'termite'	kïkïr	kïkïr**i**
	'navel'	kwinar	kwinar**i**
	'louse'	mon	mon**i**
	'tongs'	nangïn	nangïn**i**

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[16] I do not find any morphosyntactic distinctions between a lexical class of nouns and a lexical class of adjectives in Mwakai. Accordingly, in the following sections, I include examples of property-denoting words alongside examples of other, more semantically prototypical nouns.

'canoe'	nim	nim**i**
'hearth'	sun	sun**i**
'vein'	yandar	yandar**i**

In all of the examples given in (060), the base form ends in one of the following consonants: /m, n, r/. Sometimes, when the final vowel of the base is /o/, it raises to [u] in the plural form, presumably under the influences of the final /-i/ plural marker, as shown in example (054) in §2.4.2.

In a subset of nouns belonging to this class, the singular (or base) form ends in a vowel, which is not present in the plural. This vowel may be any non-high vowel (/e, o, ï, a/). It seems that every consonant (i.e., not just /m, n, r/) is permitted to precede these vowels in the singular, as shown in (061).

(061)	gloss	base/singular	plural
	'crab'	kasis**e**	kasis**i**
	'good'	anïm**o**	anïm**i**
	'back of the skull'	iron**o**	iron**i**
	'coconut frond'	sam**o**	sam**i**
	'adze'	yambar**o**	yambar**i**
	'grasshopper'	kasïp**ï**	kasïp**i**
	'new'	akïr**a**	akïr**i**
	'bad'	ar**a**	ar**i**
	'mask'	aripïn**a**	aripïn**i**
	'head'	kar**a**	kar**i**[17]
	'fingernail'	kawr**a**	kawr**i**
	'snake'	yamon**a**	yamon**i**

The noun *anïngo* 'mother', however, seems to maintain its final /o/, or—rather—this vowel strengthens to a glide [w] before the suffix /i/ (062).

(062)	gloss	base/singular	plural
	'mother'	anïng**o**	anïng**wi**

One irregular form shows slight stem alternation (063): *n* in the singular and *nd* in the plural.

(063)	gloss	base/singular	plural
	'spirit'	ra**na**	ra**ndi**

Some nouns with plurals ending in *-i* exhibit another particular irregularity in stem alternation, one which may have emerged due to compounding. Some nouns that refer to small items commonly found in larger groups (such as 'tooth', 'banana [fruit]', and 'maggot') have endings of: SG *-um*, PL *-mi*. This may reflect a proto-Keram form **mo* (SG) / **mi* (PL) 'fruit, seed'. If so,

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[17] A different plural form, *karari* 'head [PL]', is found in the Kaimbal dialect.

then the following base forms (064) may derive from metathesis (and a slight change of vowel quality, i.e., *mo > -um).

(064)   gloss   base/singular   plural

        'banana'   in**um**   in**mi**
        'rib'   ay**um**   ay**mi**
        'maggot'   ar**um**   arï**mi**
        'tooth'   ar**um**   ar**i**
        'small'   andr**um**   andr**i**

In the word for 'maggot', whose base ends in /r/, the plural form receives an epenthetic [ï] before the /m/. In the word for 'tooth', however, whose base likewise ends in /r/, the plural form loses the following /m/. The word *andrum* 'small' seems to have undergone the same sound change of m > Ø / r _.

3.2   The plural suffix *-r*

Another large group of nouns form their plurals with the suffix *-r*. This morpheme may be cognate with the Pondi plural marker *-al*. In all of the following examples (065), the singular form ends with a vowel.

(065)   gloss   base/singular   plural

        'nose'   kïpa   kïpa**r**
        'leaf'   papa   papa**r**
        'banana flower'   koko   koko**r**
        'coconut seedling'   popo   popo**r**
        'cockatoo'   yopo   yopo**r**
        'rat sp.'   aku   aku**r**
        'pick-axe'   suku   suku**r**
        'crocodile'   yu   yu**r**
        'house'   kapï   kapï**r**

3.3   The plural suffix *-ir*

A third common plural ending is *-ir*, which transparently contains both the single segment of the plural marker *-i* (§3.1) and the single segment of the plural marker *-r* (§3.2). Thus, it could have derived from a sort of double plural marking. Alternatively, it could simply be a (historically) phonologically conditioned allophone of one of these other suffixes (more likely *-r*). In the Mongol dialect, this ending is frequently pronounced [-it]. The following words (066) contain the plural suffix *-ir*.

(066)   gloss   base/singular   plural

        'mother's brother'   kïm   kïm**ir**

'long spear'	morom	morom**ir**
'cold, sharp'	kïkar	kïkar**ir**
'turtle'	pakïr (/pakr/?)	pakr**ir**
'coconut shell'	por	por**ir**

When the base form ends in a vowel, this vowel is lost in the plural, as in the following words (067).

(067)   gloss   base/singular   plural

'palm flower'	rak**a**	rak**ir**
'red'	apuy**e**	apuy**ir**
'centipede'	karïk**e**	karïk**ir**
'grub sp.'	ny**e**	ny**ir**
'white'	pir**e**	pir**ir**
'window'	riy**e**	r**ir** (< /riyir/)
'axe head'	r**i**	r**ir**

In at least one form (068), a VC sequence in the singular (/ar/) is replaced with /ir/ in the plural.

(068)   gloss   base/singular   plural

'big'	mond**ar**	mond**ir**

The word for 'man' is highly irregular, as seen in (069), exhibiting an alternation between the ending *-mon* in the singular and the ending *-mbir* in the plural.

(069)   gloss   base/singular   plural

'man'	nï**mon**	nï**mbir**

3.4   The plural suffix *-ri*

A fourth nominal plural marker, *-ri*, also consists of the elements /i/ and /r/, but in the reverse order of the one described in §3.3. This form, too, could reflect a type of double plural marking. Alternatively, the form [-ri] could be a reduced form of the plural deictic marker *ari* (§3.9). The following nouns (070) with plurals ending in *-ri* all have bases ending in vowels (or glides).

(070)   gloss   base/singular   plural

'pouch'	awra	awra**ri**
'head'	kara	kara**ri**[18]
'root'	kra	kra**ri**
'spear'	mara	mara**ri**
'fish trap'	kwe	kwe**ri**

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[18] Kaimbal dialect. The Mongol dialect exhibits the plural form *kari* 'head [PL]'.

'kidney'	ngri	ngri**ri**
'frog sp.'	yaki	yaki**ri**
'bee sp.'	kamu	kamu**ri**
'bird sp.'	kumbu	kumbu**ri**
'vulva'	inimbï	inimbï**ri**
'coconut'	kinyï	kinyï**ri**
'sago jelly'	kay	kay**ri**

In nouns of this class with bases ending in a consonant (in all known instances a nasal consonant), the plural form receives an epenthetic [ï] (071).

(071)   gloss   base/singular   plural

'duck sp.'	kangum	kangum**ïri**
'stone'	ndim	ndim**ïri**
'earring'	ngun	ngun**ïri**

The word *kïr* 'cassowary' (072), may underlyingly have the stem /kr-/, as suggested by its plural morphology.

(072)   gloss   base/singular   plural

'cassowary'	kïr (/kr-/)	kr**ïri**

3.5   The plural suffix *-ni* (~ *-nyï*)

Although a very large number of plural forms in Mwakai consist of either /r/ alone, /i/ alone, or a combination (in either order) of /r/ and /i/, there are several other plural suffixes. Of these, the most frequent is the suffix *-ni*, which has, for many words, undergone the apparent change of **-ni* > **-nyi* > *-nyï*. The plural form *-ni*, which bears the vowel /i/ that is so commonly found in Mwakai plural forms, occurs in words such as the following (073), all of which have stems ending in vowels (or glides).

(073)   gloss   base/singular   plural

'friend'	kora	kora**ni**
'sago starch'	pira	pira**ni**
garamut	numbu	numbu**ni**
'outhouse'	nyiku	nyiku**ni**
'packet'	pomo	pomo**ni**
'path'	ay	ay**ni**

Nouns with consonant-final stems have as an allomorph of this suffix the plural ending *-ani* (074).

(074)   gloss   base/singular   plural

  'cough'   kusin   kusin**ani**
  'machete'   komïs   komïs**ani**

There are also several irregular nouns that have plurals ending in *-ni*. They are irregular in that there is significant stem alternation between singular and plural forms, as seen in (075).

(075)   gloss   base/singular   plural

  'rope'   ambuk**a**   ambuk**oni**
  'cheek'   awku**mbos**   awku**sini**
  'bone'   ku**mar**   ku**rumbuni**
  'flattened stem'   ku**sim**   ku**ndini**

  All the nouns that exhibit the (apparently not phonologically conditioned) allomorph *-nyï* have singular forms ending in *-a* (076). In some of the plural forms, however, there is an alternation between this /a/ and either /i/, /e/, /o/, or Ø. The word *kina* 'knife', which may have a stem ending in /-n/, receives an epenthetic [ï] to break up the nasal-nasal cluster of /nny/ in the plural form (which lacks the final [-a] of the singular).

(076)   gloss   base/singular   plural

  'liver'   in**a**   in**enyï** (a > e)
  'in-law'   inga   inga**nyï**
  'rattan'   ira   ira**nyï**
  'mosquito net'   kar**a**   kar**inyï** (a > i)
  'fat'   kaser**a**   kaser**enyï** (a > e)
  'knife'   kin**a**   kinï**nyï** (a > ï)
  'string bag'   mandapa   mandapa**nyï**
  'bat'   nara   nara**nyï**
  'pot'   njuw**a**   nju**nyï** ([w]a > Ø)
  'owl'   poromb**a**   poromb**onyï** (a > o)
  'stone axe'   sana   sana**nyï**
  'skin'   yombr**a**   yombr**onyï** (a > o)

3.6   Other plural suffixes: *-w, -o, -isi, -nim*

There are also a number of plural suffixes that have extremely limited distribution, in some instances having only one known lexical item associated with them: they include the forms *-w, -o, -isi*, and *-nim* (077).

(077)   gloss   base/singular   plural

  'old man'   a   a**w**
  'old woman'   am   am**o**

'duck'	arïs (/ars/)	ars**isi**
'battle'	kas	kas**isi**
'tree sp.'	kawur	kawur**nim**

3.7   The singulative suffix *-m*

Although varied in form, the preceding methods of marking number in Mwakai (§3.1–3.6) are all alike in that the singular category is (generally) morphologically unmarked, whereas the plural category is marked by means of a suffix (often with alternation in the nominal stem as well). In addition to these plural suffixes, there is at least one singulative suffix in Mwakai. That is, there is a suffix (*-m*) that affixes to an inherently plural-denoting nominal stem to mark the form as singular.

In the following nouns (078), the underived base form is taken to be the plural form (which lacks final *-m*). The addition of the suffix /-m/ to these nouns marks them as singular.

(078)	gloss	singular	base/plural
	'jungle'	kisi**m**	kisi
	'yam'	kusi**m**	kusi
	'dog'	mi**m**	mi
	'rat'	pwe**m**	pwe

It may be that the singulative suffix, crosslinguistically uncommon and currently unproductive in Mwakai, is being lost in a sense—that is, the plural (base) forms may have come to be viewed as insufficiently marked for (plural) number. At any rate, it is common for nouns of this class to be marked redundantly for plurality with the analytic plural marker *ari* (§3.9). For some nouns, a singulative suffix *-m* in the singular alternates with a plural suffix, such as *-r* (§3.2) or *-ri* (§3.3) in the plural (079).

(079)	gloss	singular	plural	base
	'person'	aka**m**	aka**r**	aka-
	'tongue'	mïrï**m**	mïrï**ri**	mïrï-
	'shield'	para**m**	para**ri**	para-
	'ant sp.'	poro**m**	poro**ri**	poro-
	'fishing spear'	rapu**m**	rapu**ri**	rapu-

These nouns thus exhibit both overt singular and overt plural inflection.

3.8   Suppletion

Some nouns in Mwakai exhibit a suppletive relationship between a singular form and its associated plural form. Based on comparative data from related languages, it seems that—for most or all of these suppletive nouns—it is the plural (as opposed to the singular) that has been lost and replaced with a new form. Suppletive nouns in Mwakai include the following (080).

(080)   gloss   base/singular   plural

      'woman'   amo   anoro
      'eye'   ire   njini
      'pig'   namar   pi (pi ari)
      'sago sp.'   ngom   wo (wo[r]ari)
      'grub sp.'   ngom   womi
      'thing'   nji   si

For some of these suppletive nouns (e.g. 'pig' and 'sago sp.'), it is very common for the plural form to be followed by the analytic plural marker *ari* (§3.9).

3.9   The analytic plural marker *ari*

Many nouns either lack plural forms or their plural forms have been forgotten. Both for these and for many of the nouns described in §3.1–3.8, it is possible to form analytic plurals with the word *ari*. Whereas the other plural suffixes are pronounced, invariably, as single prosodic words with their respective nominal roots, the form *ari* is usually pronounced as a separate word. The form *ari* may be related to the plural distal deictic form *ara* 'those', perhaps derived from that form plus the plural suffix -*i*. Alternatively, it may be an idiomatic usage of the word *ari* 'bad [PL]', somewhat similar to the semantic extension found in the English adverb *badly* used as an intensifier.

    The following list (081) contains examples of plurals formed analytically with the word *ari*.

(081)   gloss   singular   analytic plural

      'crossbeam'   aki   aki **ari**
      'ligament'   arïm   arïm **ari**
      'taro'   kami   kami **ari**
      'tree'   mwi   mwi **ari**
      'water'   nam   nam **ari**
      'name'   pi   pi **ari**
      'parrot'   samar   samar **ari**
      'housefly'   yir   yir **ari**

3.10   Agreement

Property-denoting words in Mwakai do not exhibit any morphological differences from prototypical (concrete) nouns. As seen in the examples throughout the preceding sections, words like 'good', 'bad', 'big', 'small', 'cold', 'red', 'white', and so on inflect for number—singular or plural. The one morphosyntactic distinction—if any—that can be made between more prototypical nouns and these semantically adjectival words, is that the latter tend to follow the former when occurring in the same noun phrase. That is, the modifier follows the semantic nominal head. When it does so, the modifier may agree with this noun in number.

Number marking, however, is optional: although two elements in a given NP may both be marked for number, it is possible for only one to be marked, and this marking is then taken to hold for the entire NP. In the following examples, the two words in each phrase agree in that they are either both unmarked (and taken to be singular in number, 082, 084, 086) or they are both marked (for plural number, 083, 085, 087).

(082) kïpa mondar
      kïpa   mondar
      nose   big
      'big nose'

(083) kïpar mondir
      kïpar   mondir
      nose.PL   big.PL
      'big noses'

(084) arum andum
      arum   andum
      tooth   small
      'small tooth'

(085) ari mondir
      ari   mondir
      tooth.PL   big.PL
      'big teeth'

(086) kara mondar
      kara   mondar
      head   big
      'big head'

(087) yamoni krisi
      yamoni   krisi
      snake.PL   long.PL
      'long snakes'

In each of the following examples, on the other hand, only the property-denoting word is marked as plural (and the entire phrase is taken to refer to a plural referent).

(088) kara mondir
      kara   mondir
      head   big.PL
      'big heads' (not *kari* 'head [PL]')

(089) ina anïmi
      ina   anïmi
      liver   good.PL
      'good livers' (not *inenyï* 'liver [PL]')

The following examples show NPs involving suppletive noun forms. For the purposes of determining the number of the entire NP, the plural form of the suppletive noun is taken to be 'marked'. Although a noun that exhibits number suppletion may agree with a modifier in terms of number (090, 091, 092, 093), it is also possible for a (morphologically) singular head noun to be modified by a plural property-denoting word (094) and for a plural head noun to be modified by a (morphologically) singular property-denoting word (095). In each instance, the whole NP is taken to be plural. In other words, as long as one element in an NP is marked as plural, then the entire NP is considered plural.

(090) nji ara
      nji   ara
      thing.SG   bad
      'bad thing'

(091) si ari
      si   ari
      thing.PL   bad.PL
      'bad things'

(092) wo mondir
       wo   mondir
       sago.sp.PL   big.PL
       'big *ngom* sago palms'

(093) namar mondar
       namar mondar
       pig.SG big
       'big pig'

(094) namar mondir
       namar mondir
       pig.SG big.PL
       'big pigs'

(095) pi mondar
       pi   mondar
       pig.PL big
       'big pigs'

Similarly, in NPs containing plural numerals (§6), the noun can (096) but need not (097) be marked as plural.

(096) amwi yora
       amwi   yora
       betel.nut.PL   three
       'three betel nuts'

(097) am yora
       am   yora
       betel.nut   three
       'three betel nuts'

4   Pronouns

Mwakai pronouns indicate person and number. They do not vary in any way for gender, clusivity, or level of respect or formality. The following subsections discuss personal pronouns (§4.1), possessive pronouns (§4.2), reflexive and reciprocal pronouns (§4.3), and an irrealis second person singular pronoun (§4.4).

4.1   Personal pronouns

Among personal pronouns in Mwakai, three person distinctions (first, second, and third) and two number distinctions (singular and plural) are made, forming a matrix of six personal pronouns. Unlike its sister languages Ulwa and Pondi, Mwakai does not have dual pronominal forms.

The phonetic realizations of the pronominal forms vary greatly, both between the two dialects of Kaimbal and Mongol and even within individual speakers of either dialect. Some differences in form may be attributable to different grammatical or pragmatic functions. For example, I assume that pronouns ending with /-i/ are emphatic (or stressed) forms. Also, there may be differences between subject- and non-subject uses of the pronouns (as exist somewhat in the pronominal paradigms of both Ulwa and Pondi), but these are difficult to discern: most (if not all) of the allomorphs for any given personal pronoun seem capable of referring either to subjects or to objects. Phonology does not seem to play a major role in determining pronominal allomorphy.

Table 5 presents the various allomorphs of personal pronouns that I have recorded for the Mongol dialect.

	Singular	Plural
1st person	kani, ani, kan, an, nï, n	ari, ara, ar
2nd person	wu, wi, wo	wuni, wun, uni, un
3rd person	ma, mï, m, manï, mandu	ndï, nd

Table 5. Personal pronouns (Mongol dialect).

Table 6 presents the various allomorphs of personal pronouns that I have recorded for the Kaimbal dialect.

	Singular	Plural
1st person	ni, nï, n	kani, kan
2nd person	wu, wi, u, w	un
3rd person	mï, m	ndï, nd

Table 6. Personal pronouns (Kaimbal dialect).

Based in part on comparisons with Ulwa and Pondi, I propose the following forms as canonical proto-Mwakai pronouns (Table 7). Of these six forms, the only form that is not attested in my corpus for either dialect is the 1PL form *an*, which—even despite its absence—is still probably the most parsimonious compromise among *ari, ara, ar, kani,* and *kan* (the five attested forms for this pronoun). The other five proposed proto-Mwakai pronominal forms are all attested in at least one of the two contemporary dialects.

	Singular	Plural
1st person	*ni	*an
2nd person	*u	*un
3rd person	*ma	*ndï

Table 7. Personal pronouns (proto-Mwakai).

4.2   Possessive pronouns

Possessive pronouns in Mwakai are true pronouns (as opposed to determiners): they have nominal antecedents. They are derived from the set of personal pronouns plus the element *nji* 'thing'. Table 8 presents the possessive pronouns found in the Mongol dialect. Alternate forms for both the 1SG.POSS and 1PL.POSS pronouns dialect are shown.

	Singular	Plural
1st person	aninji, kaninji ('mine')	arinji, aranji ('ours')
2nd person	wunji ('yours [SG]')	wuninji ('yours [PL]')
3rd person	mïnji ('his, hers, its')	ndïnji ('theirs')

Table 8. Possessive pronouns (Mongol dialect).

Table 9 presents the possessive pronouns found in the Kaimbal dialect.

	Singular	Plural
1st person	nïnji ('mine')	kaninji ('ours')
2nd person	winji ('yours [SG]')	unji ('yours [PL]')
3rd person	mïnji ('his, hers, its')	ndïnji ('theirs')

Table 9. Possessive pronouns (Kaimbal dialect).

There is no distinct set of possessive markers (such as determiners) to mark a pronominal possessor NP. Instead, the personal pronouns are used: the possessor (genitive) immediately precedes the possessum (possessed), for example: *kani kusim* 'my yam', *wi komïs* 'your machete', *wi worï* 'your child', *ari amwi* 'our betel nuts', and so on.

All possessives are formed this way (that is, not only NPs with pronominal possessors, but also NPs with common or proper noun possessors), for example: *David kapï* 'David's house'.

4.3 Reflexive/reciprocal pronouns

Reflexive pronouns do not encode person, but rather only number—thus there are just two forms: *no* 'myself, yourself, himself, herself, itself' (REFL.SG) and *ne* 'ourselves, yourselves, themselves' (REFL.PL). The reciprocal pronoun is identical in form to the reflexive plural pronoun (i.e., *ne* 'each other, one another'). Reflexive possessive pronouns (i.e., 'one's own') take the same forms as the reflexive pronouns. The following sentences exemplify the use of reflexive and reciprocal pronouns.

(098) John nam nga sisi **no** ri
John   nam   nga   sisi   **no**   r-i
[name] water   DET   see   REFL.SG   see-IPFV
'John saw himself in the water.'

(099) ani sisi **no** ri
ani   sisi   **no**   r-i
1SG   see   REFL.SG   see-IPFV
'I saw myself.'

(100) rop ari sisi **ne** andimnda

    rop   ari   sisi   **ne**   andi-m-nda

    tomorrow   1PL   see   REFL.PL   see-m-IRR

    'Tomorrow, we will see ourselves.'

    'Tomorrow, we will see each other / one another.'

(101) nyinga worï nyim nda **ne** asap

    nyinga   worï   nyim   nda   **ne**   as-ap

    yesterday   child   two   DET   REFL.PL   hit-PFV

    'Yesterday the two children fought each other.'

(102) ndï **ne** asap

    ndï   **ne**   as-ap

    3PL   REFL.PL   hit-PFV

    'They fought one another.'

(103) John **no** amo nda mar Peter nga kap

    John   **no**   amo   nda   ma-r   Peter   nga   ka-p

    [name] REFL.SG   woman   DET   3SG-give   [name] DET   put-PFV

    'John$_i$ showed Peter$_j$ his$_{i/*j}$ wife.'

4.4 Irrealis second person singular pronoun

Another pronominal form that deserves mention is *mbu* '2SG.IRR', a second person singular form that is often used in imperative and interrogative sentences, as well as in some declarative sentences with irrealis modality. It is clearly a fusional morpheme, derived from the 2SG pronoun *u* and an irrealis marker *mbï*. Generally, this marker *mbï* 'IRR' occurs in the canonical oblique position—that is, between subject and object—as in the following examples.

(104) ari **mbï** apu mwi ndora

    ari   **mbï**   apu   mwi   nda   u-ra

    1PL   IRR   fire   tree   DET   burn-IRR

    'We will burn the tree.'

(105) ko **mbï** angu inmi ka am

    ko   **mbï**   angu   inmi   ka   am

    who   IRR   NEG   banana.PL   DET   eat

    'Who doesn't eat bananas?'

(106) wun **mbï** an in aim

    wun   **mbï**   an   in   a-i-m

    2PL   IRR   1SG   with   a-come-m

    'Come with me!'

When the subject is second person singular, however, the fusional form *mbu* occurs (107). Note that no similar fusional form is triggered by a second person plural subject (106).

(107) **mbu** asi ndanda
      mbu   asi   ndï-a-nda
      2SG.IRR   what.PL   3PL-eat-IRR
      'What do you want to eat?'

(108) **mbu** kisim nda mara
      mbu   kisi-m   nda   ma-ra
      2SG.IRR   jungle-SG   DET   go-IRR
      'Will you go to the jungle?'

(109) **mbu** kama angu soke ngï si mandapa nga kanda
      mbu   kama angu soke   ngï   si   mandapa   nga   ka-nda
      2SG.IRR   thus NEG tobacco   DET   take   string.bag   DET   put-IRR
      'You must not put tobacco inside the string bag like that.'

5   Determiners

Mwakai makes ample use of determiners, which occur as the final elements of their respective NPs. Although these sometimes have deictic function, pointing to referents as either being near to or far from the speaker, the range of their functions is much greater than I can deduce from my corpus. Also, although there appears (based both on elicitation and on comparison with Mwakai's sister languages) to be a general number distinction between singular and plural deictic demonstratives, there are numerous examples in my corpus of number mismatches. This, too, might indicate a broader range of functions to these determiners than is currently understood; alternatively, it could suggest some degree of grammatical attrition.

      Table 10 presents these (mostly) deictic demonstratives in Mwakai, including their allomorphs.

	Singular	Plural
Proximal	nga ~ ngï ('this'?)	ka ~ ngara ('these'?)
Distal	nda ~ ndï ('that'?)	ara ~ arï ~ ra ~ rï ('those'?)

Table 10. Deictic demonstratives.

Clearly related to the singular forms of these deictics are the locative adverbs *ngi* 'here' and *andi* 'there'. Other determiners include the indefinite marker *ko* 'a, an' and at least two object-marker prefixes that index whether a third person object NP is singular or plural. Their forms—*ma* '3SG' and *ndï* '3PL'—are transparently related to the set of third person pronominal forms (§4.1). Similar object markers are found in both Ulwa (Barlow 2018) and Pondi (Barlow forthcoming). Notably, in Mwakai (as opposed to in those two sister languages), these object markers can cooccur with other determiners, suggesting a further degree of grammaticalization—that is, they have become syntactically more closely associated with their host verbs in Mwakai, behaving more like object-indexing verbal prefixes (§7).

6   Numerals

Like its sister languages, Mwakai employs a quinary (base-five) numeral system. Although the Mongol and Kaimbal dialects of Mwakai are fairly similar in many respects, they differ considerably in their series of numerals greater than two. In both dialects, the word for 'five' is formed periphrastically with the word *ye* 'hand', an obvious reflection of the hand-counting system that underlies the base-five pattern. In Mongol the form *ye mamngo* 'five' (i.e., 'one hand') is used, whereas in Kaimbal the form *ye pa* 'five' (i.e., '[full] piece [of] hand') is used.

Table 11 presents the numerals one through five in both dialects.

Numeral	Mongol	Kaimbal
1 ('one')	mamngo ~ momngo	momngo
2 ('two')	nyim	nyim
3 ('three')	yora	yawor
4 ('four')	moromap	naningi
5 ('five')	ye mamngo	ye pa

Table 11. Mwakai lower numerals.

Higher numerals are also formed periphrastically. In both dialects, the numbers six through nine are formed through phrases meaning basically that an amount is being added to 'one hand' [= 'five']. Thus, for example, 'six' is literally something like 'one hand, take [i.e., add] one [to it]', 'seven' is literally something like 'one hand, take [i.e., add] two [to it]', and so on. The exact forms of these periphrases in the two languages are, however, different. Interestingly, the Mongol forms include variations on the form of the numeral one. Instead of *mamngo* (or *momngo*), an abbreviated form *ngo* 'one' is used, following the word for 'hand'. In the number six, yet another form of 'one' is used, the indefinite marker *ko* 'a, an'. In Mongol, the verb *si* 'take' is used in the predicate stating the number added to five, whereas in Kaimbal the verb *r* 'give' is used (with the prefix *ra-* and, apparently, the 3SG marker *mï* following the number being 'given' to five). The Mongol forms for six through nine also contain an initial element *awa*, whose purpose and meaning are unclear to me. The numeral ten in Mongol is expressed as 'two hand[s]'. The numeral ten in Kaimbal is expressed as 'all [i.e., both] hand[s]'.

Table 12 summarizes the numerals six through ten in both dialects.

Numeral	Mongol	Kaimbal
6 ('six')	awa ye ngo ko si	ye pa momngo mï rar
7 ('seven')	awa ye ngo nyim si	ye pa nyim mï rar
8 ('eight')	awa ye ngo yora si	ye pa yawor mï rar
9 ('nine')	awa ye ngo moromap si	ye pa naningi mï rar
10 ('ten')	ye nyim	ye popo

Table 12. Mwakai higher numerals.

7   Verbs

Verbs in Mwakai have proven especially challenging to describe. Speakers exhibit great variation in pronunciation, allomorphy, and choice of morphemes, and I do not know to what extent this variation is attributable to subtle distinctions in meaning and to what extent it is attributable to grammatical attrition or misunderstandings in elicitation. Here I present some notes on verbal morphology, with the caveat that my understanding of Mwakai verbs remains rudimentary.

Mwakai verbs may contain prefixes or suffixes. TAM morphology seems to be mainly (if not entirely) suffixal. The grammatical function of prefixes in the language is less clear.

Mwakai exhibits at least the following three TAM suffixes (110).

(110)   *TAM suffixes*

perfective [PFV]   -p ~ -ap
imperfective [IPFV]   -i ~ -Ø
irrealis [IRR]   -ra ~ -nda

The perfective suffix is almost always *-p*. Following certain consonants, this may be realized as [-ïp]. The allomorph *-ap* occurs with the verbs *as* 'hit' and *am* 'eat'.

The irrealis allomorph *-nda* is phonologically conditioned—namely, it occurs when the preceding consonant is a sonorant. This form may be reduced to [ndï]. Elsewhere, the irrealis suffix is *-ra*.

Some verb stems have occasional endings in *-m*, the function of which is obscure to me. These include *as(m)* 'hit' and *krïs(m)* 'fall'.

Mwakai also contains at least two prefixes (111), whose meanings are also unclear to me.

(111)   *Verbal prefixes*

?   ra- ~ rï- ~ r-
?   a-

A third person object-indexing prefix is capable of preceding these prefixes (and thus occupying the first morphological slot in a Mwakai verb). The two object-marker prefixes are given in (112).

(112)   *Object-marker prefixes*

3SG   ma-
3PL   ndï-

The Mwakai verbal system also exhibits verbal number, at least in one known alternation: *wura* 'fly [SG]' (i.e., the subject is singular) vs. *wurura* 'fly [PL]' (i.e., the subject is plural).

Examples of various verb forms can be found throughout the following section on basic syntax (§8).

8   Basic syntax

Mwakai has nominative-accusative morphosyntactic alignment. The order of basic constituents in a Mwakai clause is subject-object-verb (SOV). No element may follow the verb.[19] Obliques either immediately follow the subject (i.e., they come before the object in a transitive clause), or, alternatively, appear before the subject (i.e., both SXOV and XSOV orders are permitted). Although all obliques are capable of occurring after the subject, not all (such as negators) may occur before the subject. When there are two obliques in a given clause, it seems common for one to occur on either side of the subject (XSXOV). In transitive clauses, no element may intercede between the verb and its object. In negative sentences, the negator occurs after the subject and before any object (S-NEG-O-V). The order of elements in a noun phrase is: noun-adjective-numeral-determiner.[20] In possessive constructions, the possessor (genitive) immediately precedes the possessum (possessed). The order of elements in a (transitive) verb phrase is direct object-verb. The order of elements in an adpositional phrase is noun phrase-adposition (i.e., there are only postpositions in the language, no prepositions).

The following subsections describe declarative sentences (§8.1), interrogatives (§8.2), imperatives (§8.3), and negation (§8.4).

8.1   Declarative sentences

This section provides examples of how simple declarative sentences are formed in Mwakai. I begin with examples of intransitive sentences. The order of elements in a Mwakai intransitive sentence is SV, as exemplified by the following sentences.

(113)   aruwo are
        aruwo are
        father go.PFV
        'Father went.'

(114)   am amo nda krip
        am   amo   nda   kri-p
        old.woman   woman   DET   die-PFV
        'The old woman died.'

(115)   mï ndï tïpïrïp
        mï   ndï   tïpïr-p
        3SG   DET   stand-PFV
        'He stood up.'

(116)   mï mbï tïpïndï
        mï   mbï   tïpïr-nda
        3SG   IRR   stand-IRR
        'He will stand up.'

---

[19] The only exception to this generally rigid rule is the emphatic negative element *mwa* or *mwakay* (§8.4).

[20] 'Adjective' should be understood here as referring to a property-denoting nominal.

(117) kinyï nda krïsïmnda
      kinyï   nda   krïs-m-nda
      coconut   DET   fall-m-IRR
      'The coconut will fall.'

The following intransitive sentences contain obliques, the canonical position of which is following the subject and preceding the verb (SXV).

(118) mï **kanïm** asïmup
      mï   **kanïm** asïmu-p
      3SG   now   bathe-PFV
      'He's just now bathed.'

(119) kora ra **rop** irï
      kora   ra   **rop**   i-ra
      friend DET   tomorrow   come-IRR
      'The friends will come tomorrow.'

(120) ani kapï nda **kusa** krïs
      ani   kapï   nda   **kusa**   krïs
      1SG   house DET   again fall
      'My house fell down again.'

(121) mandu **kapï ngï ngu** asen
      mandu **kapï** **ngï** **ngï** **u**   asen
      3SG   house DET   DET   in   talk
      'He's talking inside the house.'

The following intransitive sentences exemplify the alternative, pre-subject (i.e., sentence-initial) oblique position (XSV). This order may be preferred when the oblique is a temporal adverb and the subject is a full NP (but can occur when the NP is a pronoun as well).

(122) **rop** akam mara
      rop   akam ma-ra
      tomorrow   person go-IRR
      'Tomorrow, the person will go.'

(123) **nyinga** ani iriwap
      nyinga   ani   iriwa-p
      yesterday   1SG   sleep-PFV
      'Yesterday, I slept.'

(124) **nyinga** ini nda rapop
      nyinga   ini   nda   rapo-p
      yesterday   rain DET   fall-PFV
      'Yesterday, it rained.' (literally 'Yesterday, the rain fell.')

The order of elements in a Mwakai transitive sentence is SOV, as exemplified by the following sentences.

(125) akam mim nda masap
     akam   mi-m   nda   ma-as-ap
     person dog-SG   DET   3SG-hit-PFV
     'The person hit the dog.'

(126) aruwo nda kapï nda mamun
     aruwo nda   kapï   nda   ma-mun
     father DET   house DET   3SG-build
     'Father is building the house.'

(127) ari kapï ndï munda
     ari   kapï   ndï   mun-nda
     1PL   house DET   build-IRR
     'We will build a house.'

The following transitive sentences contain obliques, the canonical position of which is following the subject and preceding the direct object (SXOV).

(128) akam **nyinga** worï ngï masap
     akam   **nyinga**   worï   ngï   ma-as-ap
     person yesterday   child   DET   3SG-hit-PFV
     'The person hit the child yesterday.'

(129) anoro **rop** inïmi ndanda
     anoro   **rop**   inïmi   ndï-a-nda
     woman.PL   tomorrow   banana.PL   3PL-eat-IRR
     'The women will eat bananas tomorrow.'

(130) aruwo **mara ndï** pi rï ndasap
     aruwo **mara ndï**   pi   rï   ndï-as-ap
     father spear DET   pig.PL DET   3PL-hit-PFV
     'Father killed pigs with a spear.'

Finally, it is worth noting that, although the overwhelming majority of examples presented in this paper contain overt subject arguments, this may very well be an artifact of elicitation. It does indeed seem possible to omit pronominal subject arguments (i.e. pro-drop), as in (131).

(131) kisim are
     kisi-m   are
     jungle-SG   go.PFV
     '(He) went to the jungle.'

I do not know the degree to which Mwakai permits the omission of verbal objects (if it is permitted at all). The verb 'eat', which in many languages can occur without an expressed object, does not seem capable of omitting its object in Mwakai, even when the object is indefinite, as in (132).

(132)   wu **simap**

    wu   **si**   am-ap
    2SG   thing.PL   eat-PFV
    'Have you eaten?' (literally 'Have you eaten things?')

8.2   Interrogatives

Mwakai polar questions (i.e., 'yes/no' questions) are different from their declarative counterparts only in terms of intonation: unlike statements, questions tend to have a rising intonation. The following interrogative sentences, if spoken instead with a falling intonation could be interpreted as declarative sentences (§8.1).

(133)   wi asïmup

    wi   asïmu-p
    2SG   bathe-PFV
    'Have you bathed?'

(134)   mbu kisim nda mara

    mbu   kisi-m   nda   ma-ra
    2SG.IRR   jungle-SG   DET   go-IRR
    'Will you go to the jungle?'

(135)   mim ndï kusim ra mamap

    mi-m   ndï   kusi-m   ra   ma-am-ap
    dog-SG   DET   yam-SG   DET   3SG-eat-PFV
    'Did the dog eat the yam?'

In content questions (i.e., *wh*-questions), the questioned element occurs in the same place that it would occur in an equivalent declarative sentence. That is, content questions are formed in-situ (without any *wh*-movement). The following are examples of content questions. When the questioned element is the grammatical subject, then it occurs before the predicate (137, 139, 141). When it is the grammatical object, then it immediately precedes the verb (136, 138, 140). There are two words for 'what?', one encoding a singular referent (136, 137) and the other encoding a plural referent (138).

(136)   mim ndï **anji** mamap

    mi-m   ndï   **anji**   ma-am-ap
    dog-SG   DET   what.SG   3SG-eat-PFV
    'What did the dog eat?'

(137) **anji** kusim mamap
      anji   kusi-m   ma-am-ap
      what.SG   yam-SG   3SG-eat-PFV
      'What ate the yam?'

(138) mbu **asi** ndam
      mbu   **asi**   ndï-am
      2SG.IRR   what.PL   3PL-eat
      'What are you eating?'

(139) **ko** namar nga as[21]
      ko   namar nga   as
      who   pig   DET   hit
      'Who killed the pig?'

(140) kunji ngï pa **ko** mas
      kunji ngï   pa   **ko**   ma-as
      enemy DET   just   who   3SG-hit
      'Whom did the enemy kill?'

(141) **ko** mbï an in mara
      ko   mbï   an   in   ma-ra
      who   IRR   1SG   with   go-IRR
      'Who wants to go with me?'

In adverbial questions (i.e., where?, when?, why?, how?), the question word occurs in the canonical oblique position (following the subject and preceding the verb phrase, including the object if one is present). The question word *angu* 'where?' (142) is homophonous with (and likely related to) the negator *angu* 'not' (§8.4).

(142) worï **angu** ip
      worï   **angu**   ip
      child   where be
      'Where is the child?'

(143) mbu **awur** kisim nda mar
      mbu   **awur** kisi-m   nda   mar
      2SG.IRR   when jungle-SG   DET   go.IRR
      'When did you go to the jungle?'

(144) John **mbas** Peter nga masap
      John   **mbas** Peter   nga   ma-as-ap
      [name]   why   [name]   DET   3SG-hit-PFV
      'Why did John hit Peter?'

---

[21] It may be possible for the verb *as* 'hit' to occur without TAM marking (cf. also example 147). The cognate verb in Ulwa may likewise occur without TAM marking (Barlow 2018:106).

To ask someone's name, one inquires, literally, 'your name [is] who?', as exemplified in (145).

(145)   wi pi ngï kom
        wi   pi   ngï   kom
        2SG   name   DET   who
        'What is your name?'

8.3   Imperatives

Commands may be formed with an uninflected verb form, as in the following examples.

(146)   **ri**
        ri
        dance
        'Dance!'

(147)   inum ngï **am**
        inum   ngï   **am**
        banana   DET   eat
        'Eat this banana!'

When verb stems exhibit variations among different TAM categories, then it is the irrealis form that is used in imperatives, as in the following examples.

(148)   **masin**
        ma-**sin**
        3SG-take.IRR
        'Take it!'

(149)   masi **anan**
        ma-si   an-**an**
        3SG-take   1SG-give.IRR
        'Give it to me!'

Verb stems that exhibit occasional endings in *-m* (notably the verb *as(m)* 'hit') reflect this ending in their imperative forms, as in the following examples.

(150)   namar ngï **asïm**
        namar ngï   as-**m**
        pig   DET   hit-m
        'Hit the pig!'

(151)   mbu rap **asïm**
        mbu   rap   as-**m**
        2SG.IRR   seat?   hit-m
        'Sit down!'

Example (151) further illustrates that, although not required in an imperative sentence, a second person form may be included as the subject of the clause (it is the irrealis second person singular form, §4.4). Example (152) illustrates an imperative issued to more than one person, here with a second person plural pronominal form (the irrealis particle *mbï* follows the pronoun).

(152)   **wun** mbï ri
        wun   mbï   ri
        2PL   IRR   dance
        'Dance!' (said to multiple people)

Some verbs that are not known elsewhere to take the ending *-m* do so in their imperative forms. The following verbs of motion not only exhibit this *-m* in their imperative forms; they also exhibit the prefix *a-*.

(153)   **amarïm**
        a-mar-**m**
        a-go.IRR-m
        'Go!'

(154)   **aim**
        a-i-**m**
        a-come-m
        'Come!'

The modal particle *kop* 'please' can be added to soften a command (or formulate a polite request), as in (155).

(155)   **kop** aim
        kop   a-i-m
        please a-come-m
        'Please come!'

Prohibitions (or negative imperatives) are formed with an irrealis verb form and the prohibitive oblique element *mbwas* 'don't!', which occurs in the canonical oblique position: following the subject and preceding the object. Often, however, in imperatives, where the subject is understood to be second person, it is not overtly expressed, as in the following examples.

(156)   **mbwas** manda
        mbwas   ma-a-nda
        don't   3SG-eat-IRR
        'Don't eat it!'

(157) **mbwas** masinda
       mbwas   ma-sin-nda
       don't   3SG-take-IRR
       'Don't take it!'

(158) **mbwas** mara
       mbwas   ma-ra
       don't   go-IRR
       'Don't go!'

8.4   Negation

Aside from prohibitions (§8.3), sentences with negative polarity are generally formed with the negator *angu* 'not', which follows subjects and precedes predicates, as in the following examples.

(159) anoro nyinga **angu** kusim amap
       anoro   nyinga   **angu** kusi-m   am-ap
       woman.PL   yesterday   NEG   yam-SG   eat-PFV
       'The women did not eat yam yesterday.'

(160) rop anoro **angu** kusim nda anda
       rop   anoro   **angu** kusi-m   nda   a-nda
       tomorrow   woman.PL   NEG   yam-SG   DET   eat-IRR
       'Tomorrow, the women will not eat yam.'

(161) aruwo **angu** kapï ngï ip
       aruwo **angu** kapï   ngï   ip
       father NEG   house DET   be
       'Father is not at home.'

(162) wi worï ngï kimbe **angu** iriwap
       wi   worï   ngï   kimbe **angu** iriwa-p
       2SG   child   DET   night NEG   sleep-PFV
       'Your child did not sleep last night.'

(163) ndï **angu** si
       ndï   **angu** si
       3PL   NEG   cry
       'They do not cry.'

The negator *angu* 'not' is only used with verbal predicates. Since it is used only to negate the default positive polarity of a verb, it is not used in clauses that contain no verb. Thus, the negator *angu* 'not' is not used in predicate nominal constructions, which have no overt verbs, as demonstrated by the following examples.

(164)   am nga anïmo
        am   nga   anïmo
        betel.nut   DET   good
        'This betel nut is good.'

(165)   ani kapï ngï mondar
        ani   kapï   ngï   mondar
        1SG   house   DET   big
        'My house is big.'

(166)   Lucy ngï amo ra
        Lucy   ngï   amo   ra
        [name]   DET   woman   DET
        'Lucy is a woman.'

In the negative equivalent of predicate nominal construction, the negator *angu* 'not' is not used. Rather, a negative copular verb *kase* 'be not' negates the proposition, as in the following examples.

(167)   ma amo **kase**
        ma   amo   **kase**
        3SG   woman   be.not
        'He is not a woman.'

(168)   wi kora ra an kora ra **kase**
        wi   kora   ra   an   kora   ra   **kase**
        2SG   friend DET   1SG   friend DET   be.not
        'Your friend is not my friend.'

In negative responses to polar questions (§8.2), the word *mwa* 'no, nothing' (or its emphatic form *mwakay*) is used, as in the following examples.

(169)   **mwa** ani angu simap
        mwa ani   angu   si   am-ap
        no   1SG   NEG   thing.PL   eat-PFV
        'No, I haven't eaten yet.' (in response to the question 'Have you eaten?')

(170)   **mwakay** anïngo kay mamarakap
        mwa-kay   anïngo   kay   ma-maraka-p
        no-INT   mother   sago   3SG-prepare-PFV
        'No, mother prepared sago.' (in response to the question 'Did mother boil yams?')

The form *mwa* or *mwakay* 'no, nothing' can also be used as a post-verbal emphatic element, as in the following examples, which contain the negator *angu* 'not'. It is the only word I know to occur after a verb.

(171) ndï **angu** anari **mwa**
ndï   **angu**   an-a-r-i   **mwa**
3PL   NEG   1SG-a-see-IPFV   no
'They weren't watching me at all.'

(172) aruwo **angu** kapï ngï ip **mwakay**
aruwo **angu** kapï   ngï   ip   **mwa-kay**
father NEG   house   DET   be   no-INT
'Father is not home at all.'

Elsewhere, this word *mwa* means 'nothing' and can be used to negate existential propositions, as in the following examples.

(173) njera mï si **mwa**
njera   mï   si   **mwa**
poor.thing   3SG   thing.PL   no
'The poor thing's got nothing!' (literally 'Poor thing, his things are nothing.')

(174) kanïm sambuni amusi **mwakay**
kanïm sambuni   amusi **mwa-kay**
now   fish.PL   many   no-INT
'Nowadays, there aren't many fish.' (literally 'Now many fish are nothing.')

9   Conclusions

I hope that the preceding sections have provided some useful information on the structure of Mwakai. This information may be of interest to historical and typological comparative efforts. Unfortunately, given the limited amount of field research conducted, the descriptions here must all be considered somewhat tentative. Since Mwakai is a moribund language, further research would have to be conducted very soon.

10   References

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Appendix: Mwakai word list

The following is a list of Mwakai words, accompanied by English translations. It contains all Mwakai words included in this paper, as well as additional words that I have recorded. All forms come from the Mongol dialect, unless specified otherwise (forms that have only been observed in the Kaimbal dialect are thus identified). Some of the English glosses also contain translations into Tok Pisin (TP), when this is deemed helpful to the reader.

a	'old man, grandfather' (pl. **aw**)	**amo**	'woman' (pl. **anoro**) (Kaimbal pl. **anor**)
a	verbal prefix	**amopo**	'betel pepper (TP *daka*)'
a(nda)	'eat' (irrealis stem)	**amu**	'betel nut (fruit)' (pl. **ami**) (Kaimbal)
*an	'we' (1PL pronoun) (proto-Mwakai)	**amus**	'many' (Kaimbal)
akakam	'eye mucus' (pl. **akakami**)	**amusi**	'many'
akam	'person, human' (pl. **akar**)	**an**	'I' (1SG pronoun)
akamba	'bottom'	**an(da)**	'give' (irrealis stem)
aki	'crossbeam'	**anan**	'spider web' (Kaimbal)
akïra	'groin'	**andi**	'there'
akïra	'new' (pl. **akïri**)	**andi(m)**	'see, look, watch' (irrealis stem)
akombo	'thick'		
aku	'rat sp. that lives near water' (pl. **akur**)	**andrum**	'small' (pl. **andri**)
		andum	'small'
am	'betel nut (fruit)' (pl. **amwi** or **ami**)	**angï**	'fern'
		angïro	'shadow, shade'
am	'eat'	**angu**	'not'
am	'old woman, grandmother' (pl. **amo**)	**angu**	'where?'
		ani	'I' (1SG pronoun)
amar	'female (animal)' (pl. **amari**)	**anïmo**	'good' (pl. **anïmi**)
amben	'ground'	**anïngo**	'mother, female (human)' (pl. **anïngwi**)
ambï	'spirit house, men's house (TP *haus tambaran*)' (pl. **ambïr**)	**aninji**	'mine' (1SG.POSS pronoun)
		anji	'what? [SG]' (pl. **asi**)
ambïkïn	'big' (Kaimbal)	**anjiya**	'how?' (Kaimbal)
ambipon	'bedbug' (pl. **ambiponi**)	**anoro**	'women' (suppletive plural of **amo**)
ambuka	'rope, bowstring' (pl. **ambukoni**)		
		anum	'good' (pl. **anïmi**) (Kaimbal)
ambumon	'bedbug' (pl. **ambumoni**) (Kaimbal)	**ap**	perfective suffix
		api	'hot'
amndï	'sago shoot'	**apï**	'mushroom sp.'
amngas	'betel pepper (TP *daka*)' (Kaimbal)	**apïndï**	'snake sp. (venomous)' (pl. **apïndi**)
amngïru	'betel pepper (TP *daka*) seed' (Kaimbal)	**aporar**	'vine' (pl. **aporari**)
		apu	'fire'
Amngwar	'Mongol village'	**apu kan**	'smoke' (pl. **apu kani**)
		apu u	'burn'

apuye	'red' (pl. **apuyir**)
ar	'outside'
ar	'we' (1PL pronoun)
ar ip	'hear'
ara	'bad' (pl. **ari**)
ara	'those' (plural distal demonstrative)
ara	'we' (1PL pronoun)
aranji	'ours' (1PL.POSS pronoun)
are	'go' (perfective form)
aremim	'ant sp.' (Kaimbal)
ari	'sun, day'
ari	'we' (1PL pronoun)
ari	analytic plural marker
arï	'those' (plural distal demonstrative)
ari kokun	'rainbow'
arïkwap	'afternoon'
arïm	'ligament'
arinji	'ours' (1PL.POSS pronoun)
arïnji	'fish sp. (TP *nilpis*)'
aripïna	'mask' (pl. **aripïni**)
arïra	'scratch'
arïs	'duck' (pl. **arsisi**)
aro	'father' (Kaimbal)
aroma	'hello; thank you; you're welcome'
aru	'white person'
arum	'maggot' (pl. **arïmi**)
arum	'tooth' (pl. **ari**)
arumngum	'eel sp. (large)' (pl. **arumngumi**)
aruwo	'father'
as(m)	'hit, kill'
asari	'chewed-up betel nut'
asen	'talk'
asi	'what? [PL]'
asïmbïn	'sneeze'
asïmu	'bathe'
asïrum	'beetle sp.' (pl. **asïrumi**)
asokwar	'broom'
aw	'how?'
aw	'younger sibling' (Kaimbal)
aw kosïra	'uncle, aunt (parent's younger sibling)' (Kaimbal)
awa	element in forming higher numerals
awa ye ngo ko si	'six'
awa ye ngo moromap si	'nine'
awa ye ngo nyim si	'seven'
awa ye ngo yora si	'eight'
awi	'how many?'
awkon	'basket for catching fish' (pl. **awkoni**)
awkumbos	'cheek' (pl. **awkusini**)
awra	'pouch' (pl. **awrari**)
awur	'when?'
ay	'path, road' (pl. **ayni**)
aypwa	'butterfly' (pl. **ayponyï**)
ayum	'rib' (pl. **aymi**)
e	'strike (with hunger, i.e., 'be hungry')'
i	'come'
i	imperfective suffix
i	plural suffix
ika	'riverbank'
ika as(m)	'sit'
iken	'lizard; hiccup'
ikïmar	'shoulder'
ikimin	'clavicle'
ikin	'lizard' (pl. **ikïr**) (Kaimbal)
ikrep	'bean'
imbar	'black, blue' (Kaimbal)
imbïn	'basket' (pl. **imbïni**)
imï	'sago sp.'
in	'thorn' (pl. **ini**)
in	'with'
ina	'liver' (pl. **inenyï**) (Kaimbal pl. **inen**)
inga	'in-law, affine' (pl. **inganyï**)
ingamar	'shoulder' (Kaimbal)
ingim	'fog'
ini	'rain'
inï	'banana (tree)' (pl. **inïmi**)
ini rapo	'rain' (verb)
inikïr	'dew'
inimbï	'vulva' (pl. **inimbïri**)

inïpï	'banana leaf'
inum	'banana (fruit)' (pl. **inmi**)
ip	'be (at)'
ipïn	'finger, hand' (pl. **ipïri**)
ipïn akamba	'back of the hand'
ipïn kara	'thumb'
ipïn ngin	'palm of the hand'
ipunïmo	'banana sp.'
ir	'hair' (Kaimbal)
ir	'housefly, fly' (Kaimbal)
ir	plural suffix
ira	'rattan (TP *kanda*)' (pl. **iranyï**)
ire	'eye' (pl. **njini**)
iri	'blood' (Kaimbal)
irïm	'scrotum'
irïm njini	'testicles'
iriwa	'sleep'
irono	'back of the skull' (pl. **ironi**)
ka	'put, carry'
ka	'these' (plural proximal demonstrative)
kakar	'bird sp. (TP *kokomo*)'
kama	'thus'
kambi	'stomach; sago strainer'
kambïn	'boy' (pl. **kambïri**)
kambïn	'knee' (pl. **kambïni**) (Kaimbal)
kambïpïn	'knee' (pl. **kambïpïni**)
kami	'taro'
kamiri	'green' (Kaimbal)
kamndis	'yellow' (Kaimbal)
kamngar	'bird sp. (TP *tarangau*)' (pl. **kamngari**)
kamu	'bee sp.' (pl. **kamuri**)
kamurika	'worm'
kan	'I' (1SG pronoun)
kan	'we' (1PL pronoun) (Kaimbal)
kanar	'paddle' (pl. **kanari**)
kandem	'tree sp. (TP *fikus*)'
kandïmïr	'sugarcane' (pl. **kandïmïri**)
kandru	'snail'
kangrum	'digit (finger or toe)' (pl. **kangrïmi**) (Kaimbal)
kangum	'duck sp.' (pl. **kangumïri**)
kangun	'tail' (pl. **kanguni**)
kani	'I' (1SG pronoun)
kani	'we' (1PL pronoun) (Kaimbal)
kanïm	'now, today'
kaningar	'banana sp.'
kaninji	'mine' (1SG.POSS pronoun)
kaninji	'ours' (1PL.POSS pronoun) (Kaimbal)
kanjikïn	'small' (Kaimbal)
kanjin	'tall ginger (TP *gorgor*)' (pl. **kanjini**)
kanur	'close, near' (Kaimbal)
kanyi	'frog' (pl. **kanyiri**)
kanyingun	'rainbow' (Kaimbal)
kapï	'house' (pl. **kapïr**)
kapïpïr	'millipede' (pl. **kapïpïri**)
kapïrokam	'worm' (Kaimbal)
kaponï	'back of the house'
kara	'head' (pl. **kari** or **karari**)
kara	'mosquito net' (pl. **karinyï**)
kara	'skirt (TP *purpur*)' (pl. **kari**)
karama	'laugh'
karar	'light (not heavy)'
karena	'rash, scabies'
karïke	'centipede' (pl. **karïkir**)
karim	'cloud, sky; day (countable)'
karïm	'cloud, sky; day (countable)' (Kaimbal)
karim krop	'thunder'
karïn	'vine' (pl. **karïni**) (Kaimbal)
karïngo	'older brother'
kariya	'mosquito net' (pl. **kariyen**) (Kaimbal)
karom	'money' (pl. **karomi**)
karu	'millipede' (Kaimbal)
karumbura	'scalp' (pl. **karumbone**)
karumndi	'spider'
kas	'battle, fight' (pl. **kasisi**)
kasam	'sago sp.' (pl. **kasami**)
kasan	'older sister' (Kaimbal)
kase	'be not'
kasera	'fat, grease' (pl. **kaserenyï**)
kasïmbum	'ant sp. (black)' (pl. **kasïmbumi**)
kasingam	'cockroach' (Kaimbal)

kasïpï	'grasshopper' (pl. **kasïpi**)	**kïpïni**	'mucus'
kasise	'crab' (pl. **kasisi**)	**kïpïpï**	'thin'
kaske	'dream'	**kipis**	'full'
kaspar	'grasshopper' (pl. **kaspir**) (Kaimbal)	**kïpunom**	'upper lip' (Kaimbal)
kaw	'betel nut palm'	**kïr**	'cassowary' (pl. **krïri**)
kawakay	'afternoon' (Kaimbal)	**kira**	'earth, soil'
kawra	'fingernail, hoof' (pl. **kawri**)	**kirimbi**	'bird sp. (TP *balus*)'
kawur	'tree sp. (TP *erima*)' (pl. **kawurnim**)	**kirimwana**	'stand (used to hold a pot)'
kay	'sago jelly; food' (pl. **kayri**)	**kisim**	'jungle' (pl. **kisi**)
kay	intensive suffix	**ko**	'a, an; one'
Kaymbar	'Kaimbal village'	**ko**	'ear' (Kaimbal, abbreviated)
kaymbin	'pot (for stirring sago)' (pl. **kaymbini**)	**ko**	'fish trap' (Kaimbal)
kï	'talk'	**ko**	'scrape (sago)'
kïkar	'cold, sharp' (pl. **kïkarir**)	**ko**	'who?'
kïkar	'ear'	**koko**	'banana flower' (pl. **kokor**)
kïkïr	'termite' (pl. **kïkïri**)	**kokona**	'ear'
kim	'some'	**kokun**	'snake sp.'
kïm	'mother's brother, maternal uncle (TP *kandere*)' (pl. **kïmir**)	**kom(a)**	'who?'
		komar	'woven fronds (TP *pangal*)'
kïma	'brother'	**komba**	'chest, heart'
kïma andum	'younger brother'	**kombïn**	'fish sp.'
kimanka	'some'	**komïrapa**	'wall, fence'
kïmbar	'morning'	**komis**	'machete, knife' (Kaimbal)
kïmbar	'tomorrow' (Kaimbal)	**komïs**	'machete, knife' (pl. **komïsani**)
kimbe	'night'		
kïmbïkay	'night' (Kaimbal)	**komndïn**	'bow' (pl. **komndïni**)
kïmbïn	'black, blue'	**komnji**	'whose?'
kïmbïr	'turn'	**kongun**	'tail' (Kaimbal)
kïmbundum	'upper lip'	**koni**	'mosquito swatter'
kïn	'*kundu* drum' (pl. **kïnïri**)	**konjin**	'left' (Kaimbal)
kina	'knife (small)' (pl. **kinïnyï**)	**konjisi**	'left'
kïndïn	'fish sp. (TP *mausgras pis*)' (pl. **kïndïni**)	**konya**	'nose ring'
		kop	'please'
kine	'*kundu* drum' (pl. **kini**) (Kaimbal)	**kora**	'friend' (pl. **korani**)
		koranji	'bandicoot' (pl. **korans**)
kïnin	'bamboo sp.' (Kaimbal)	**korap**	'feather' (pl. **korpi**)
kinyï	'coconut' (pl. **kinyïri**)	**kori**	'jungle spirit' (pl. **korundum**)
kinyï	'now, today' (Kaimbal)		
kinyïnï	'hole'	**kori**	'penis'
kïpa	'before, earlier'	**korïsa**	'maybe'
kïpa	'nose; front' (pl. **kïpar**)	**koros**	'knowledge'
kïpïm	'breadfruit'	**korosa**	'lack of knowledge'
		kosa	'crayfish'
		kosï	'breast' (pl. **kosïri**)
		kosï nam	'milk'
		kowrï	'scarf' (pl. **kowrïri**)

kra	'root' (pl. **krari**)	**m**	verbal ending
kranda	'long' (pl. **krisi**)	**ma**	'he, she, it' (3SG pronoun)
krep	'also, too'	**ma**	'sago pith' (pl. **minyï**)
kri	'die'	**ma**	3SG object-marker prefix
krinjep	'gecko'	**makepa**	'banana sp.'
krïs(m)	'fall'	**mama**	'mouth'
krisïn	'leech' (pl. **krisïni**)	**mamngan**	'chin' (pl. **mamngani**)
krundom	'gecko' (pl. **krundomir**) (Kaimbal)	**mamngo**	'one'
		man	'go' (imperfective form)
ku	'bridge'	**mandapa**	'string bag, net bag (TP *bilum*)' (pl. **mandapanyï**)
kukup	'full' (Kaimbal)		
kumar	'bone' (pl. **kurumbuni**)	**mandïn**	'snake sp.'
kumbu	'bird sp. (TP *guria*)' (pl. **kumburi**)	**mandu**	'he, she, it' (3SG pronoun)
		mangam	'thatch (TP *morota*)' (pl. **mangami** or **mangase**)
kumbura	'boil, abscess' (pl. **kumburari**) (Kaimbal)		
		manï	'he, she, it' (3SG pronoun)
kumïra	'river'	**mapari**	'odor'
kumun	'handle' (pl. **kumini**)	**mapupo**	'snake sp.'
kumuna	'betel nut palm stem (TP *limbum*)'	**mar(a)**	'go' (irrealis stem)
		mara	'spear' (pl. **marari**)
kumunar	'earthquake'	**maraka**	'prepare (sago)'
kundïn	'bed sheet' (pl. **kundïni**)	**masï**	'bamboo' (pl. **masïri**)
kunji	'enemy'	**masipa**	'Jew's harp'
kunom	'base of a shell'	**mbas**	'why?'
kupuka	'sprout'	**mbis**	'so'
kurïn	'flying fox' (pl. **kurïni**)	**mbo**	'ring (to join parts of a pick-axe)'
kuru	'ladle'		
kuruma	'flute' (pl. **kuruminyï**)	**mbon**	'trunk'
kurumbon	'step' (pl. **kurumbunyï**)	**mbu**	'work'
kurunji	'bandicoot' (pl. **kurunjir**) (Kaimbal)	**mbu**	second person singular irrealis marker
		mbwas	'don't!'
kusa	'again'	**mbwayamba**	'vegetable sp. (TP *aupa*)'
kusi	'brains'	**mi**	'fiber (as of coconut husk)'
kusim	'flattened stem (TP *limbum*)' (pl. **kundini**)	**mï**	'he, she, it' (3SG pronoun)
		mim	'dog; possum (TP *kapul*)' (pl. **mi**)
kusim	'yam' (pl. **kusi**)		
kusin	'cough' (pl. **kusinani**)	**mïma**	'that's it!'
kusïrar	'stinging nettle sp.' (Kaimbal)	**mimim u**	'wring, strain'
		min	'inside; insides'
kuwa	'all'	**mïnji**	'his, hers, its' (3SG.POSS pronoun)
kwe	'fish trap' (pl. **kweri**)		
kwin	'vegetable sp. (TP *aibika*)'	**mïrïm**	'tongue' (pl. **mïrïri**)
kwinar	'navel' (pl. **kwinari**)	**mo**	'forehead, face; middle'
kwinim	'perfume'	**momas**	'container' (pl. **momasïni**)
m	'he, she, it' (3SG pronoun)		
m	singulative suffix		

mombas	'container' (pl. **mombasïni**) (Kaimbal)	**ndamar**	'back (of the body)'
momngo	'one'	**ndapïn**	'pus' (pl. **ndapïni**)
momop	'yawn'	**ndï**	'that' (singular distal demonstrative)
mon	'louse' (pl. **moni**)	**ndï**	'they' (3PL pronoun)
mondar	'big' (pl. **mondir**)	**ndï**	3PL object-marker prefix
mora	'armband'	**ndika**	'hunger'
morambi	'statuette'	**ndika e**	'be hungry (experiencer is object of verb)'
morom	'long spear' (pl. **moromir**)		
moromap	'four'	**ndim**	'stone, rock' (pl. **ndimïri**)
mu	'fish sp. (TP *bikmaus*)'	**ndimndi**	'strap (for climbing trees)'
mu	'vegetable, vegetables'	**ndïngï**	'hunger' (Kaimbal)
mumo	'top'	**ndïnji**	'theirs' (3PL.POSS pronoun)
mun	'build'	**ndum**	'poison'
munjini	'beam'	**ne**	'ourselves, yourselves, themselves; each other; one another' (plural reflexive or reciprocal pronoun)
muno	'rear'		
mura	'blowfly' (pl. **murïri**)		
murï	'gourd to store lime' (pl. **murïri**)		
		nera	'ripe'
murpun	'wrist' (pl. **murupïni**)	**nga**	'this' (singular proximal demonstrative)
mwa	'no, nothing'		
mwa	'forehead'	**ngan**	'frond' (pl. **ngani**)
mwakay	'no, nothing (emphatic)'	**ngara**	'these' (plural proximal demonstrative)
mwar	'gray hair'		
mwi	'tree'	**ngaro**	'nephew, niece'
mwi yombra	'bark'	**ngi**	'here'
n	'I' (1SG pronoun)	**ngï**	'this' (singular proximal demonstrative)
nabï	'wart' (pl. **nabïri**)		
nam	'water'	**ngo**	'one' (abbreviated form of **momngo**)
namamndï	'pandanus'		
namar	'pig' (pl. **pi**)	**ngom**	'grub sp.' (pl. **womi**)
nambiye	'wet'	**ngom**	'sago sp.' (pl. **wo**)
nambri	'mature coconut'	**ngoy**	'village'
namin	'banana sp.'	**ngri**	'kidney' (pl. **ngriri**)
namngin	'lizard sp.'	**ngumngur**	'headdress'
namon	'branch' (pl. **namoni**)	**ngun**	'earring' (pl. **ngunïri** or **nguni**)
nangi	'ant sp. (red)'		
nangïn	'tongs (for cooking)' (pl. **nangïni**)	**ngup**	'crown of a tree'
		ngura	'pulp of a tree'
nangun	'mosquito' (pl. **nanguni**)	**ni**	'I' (1SG pronoun) (Kaimbal)
naningi	'four' (Kaimbal)	**ni**	plural suffix
nara	'bat' (pl. **naranyï**)	**nï**	'I' (1SG pronoun)
nd	'they' (3PL pronoun)	**nim**	'canoe' (pl. **nimi**)
nda	'that' (singular distal demonstrative)	**nimba**	'canoe' (Kaimbal)
		nimbona	'buttocks' (pl. **nimboni**)
nda	irrealis suffix	**nïmïn**	'upper leg' (pl. **nïmïni**)

nimïrim	'pimple, mosquito bite' (pl. **nimïrimi**)
nïmon	'man' (pl. **nïmbir**)
nïnga	'alone, only'
nïnji	'mine' (1SG.POSS pronoun) (Kaimbal)
nja	'meat' (Kaimbal) (pl. **njen**)
njamba	'short'
njera	'poor thing'
njerïman	'frog sp.'
nji	'thing' (pl. **si**)
njini	'egg; fruit, seed, nut'
njini	'eyes' (suppletive plural of **ire**)
njuwa	'pot (clay)' (pl. **njunyï**)
no	'myself, yourself, himself, herself, itself' (singular reflexive pronoun)
nongun	'mosquito' (pl **nonguni**) (Kaimbal)
numbu	'*garamut* drum' (pl. **numbuni**)
numun	'man' (pl. **nimbïr**) (Kaimbal)
numwa	'fence, door' (pl. **numorari**)
nyangï	'yesterday' (Kaimbal)
nyap u	'lie down'
nyay	'anus'
nye	'grub sp.' (pl. **nyir**)
nyi	'feces' (pl. **nyari**)
nyiku	'outhouse' (pl. **nyikuni**)
nyim	'two'
nyinga	'yesterday'
nyoko	'wildfowl'
nyoko pïrim	'wildfowl nest mound'
nyor	'intestines, guts' (pl. **nyorir**) (Kaimbal)
nyuwar	'intestines, guts' (pl. **nyuwari**)
o	'yes'
p	perfective suffix
pa	'just'
pa	'piece' (Kaimbal)
pakïr	'turtle' (pl. **pakrir**)
pandïn	'uvula' (pl. **pandïni**)
panum	'skirt (TP *malo*)'
papa	'leaf; arm, wing, fin' (pl. **papar**)
papara	'old, dry' (pl. **papari**)
papen	'leaf' (Kaimbal)
papu	'whole, entire'
para	'far'
param	'shield' (pl. **parari**)
parara	'boil, scab' (pl. **parari**)
paremban	'lightning'
parïmba	'ladder'
parïri	'lime (TP *kambang*)'
pasana	'pan' (pl. **pasananyï**)
pe	'sago pancake'
pe	'sago starch' (Kaimbal)
pi	'name'
pi	'pigs' (suppletive plural of **namar**)
pï	'piece'
pimar	'arrow, spear' (pl. **pimïri**)
pïnï	'urine' (pl. **pïnïri**)
pipor	'sago sp.' (pl. **pipuri**)
pira	'sago starch' (pl. **pirani**)
pïrangan	'vomitus'
pïrangan u	'vomit'
pire	'white' (pl. **pirir**)
pïrï	'talk, speech, story'
pïrim	'mound (for planting yams)'
pïrïm	'cane grass (TP *pitpit*)'
piro	'brother' (Kaimbal)
pirop	'scoop (of sago)'
pïrum	'swamp'
piser	'ringworm'
pisï	'foot, leg' (pl. **pisïri**)
pisï pï	'toe'
pisï pï kara	'big toe'
pisiki	'footprint'
pomo	'packet (of sago)' (pl. **pomoni**)
pop	'butterfly' (Kaimbal)
popïre	'armpit' (pl. **popïriki**)
popïrum	'scale of a fish' (pl. **popïrumir**) (Kaimbal)
popo	'whole, entire, all' (Kaimbal)
popo	'coconut seedling; ball' (pl. **popor**)
popondum	'lungs'

popor	'armpit' (Kaimbal)	**ririsi**	'stinging nettle sp.'
popurum	'rat sp. (large)' (pl. **popurumi**)	**risin**	'side' (pl. **risini**)
		riye	'window' (pl. **rir**)
por	'coconut shell' (pl. **porir**)	**rop**	'tomorrow'
pore	'coconut shell' (Kaimbal)	**rum**	'grind (coconuts)'
porïm	'scale of a fish' (pl. **porïmi**)	**rungum**	'sucker, shoot'
porom	'ant sp. (white)' (pl. **porori**)	**rur**	'seedling'
poromba	'owl' (pl. **porombonyï**)	**sakrup**	'bunch (of coconuts)'
pundïm	'caterpillar' (pl. **pundïmi**)	**samar**	'parrot'
pundum	'sago stick (for stirring sago)'	**sambinam**	'Malay apple (TP *laulau*)'
punumngas	'bladder'	**sambon**	'fish' (pl. **sambuni**)
pura	'segment (of sugarcane)' (pl. **purari**)	**sambrum**	'beetle sp.'
		samo	'coconut frond' (pl. **sami**)
purara	'flatus' (pl. **purari**)	**sana**	'stone axe' (pl. **sananyï**)
purum	'nape of the neck' (pl. **purari**)	**sanan**	'sago sp.' (pl. **sanani**)
		sanapï	'pick-axe handle'
purumo	'mud'	**sangiya**	'axe (metal)'
pusam	'bee sp.'	**sari**	'lips'
pwana	'young coconut (TP *kulau*)' (pl. **pwani**)	**say**	'wound, sore'
		sembi	'eel'
pwem	'rat' (pl. **pwe**)	**sera**	'saliva' (pl. **seri**) (Kaimbal)
r	'give'	**si**	'ashes; salt, soup'
r	'see, look, watch'	**si**	'cry'
r	verbal prefix	**si**	'take'
r ka	'show'	**si**	'things' (suppletive plural of **nji**)
ra	'those' (plural distal demonstrative)		
		sikay	'rough'
ra	irrealis suffix	**sïko**	'sister'
ra	verbal prefix	**sïko andum**	'younger sister'
raka	'palm flower' (pl. **rakir**)	**sïko kosï**	'older sister'
rana	'spirit, ghost' (pl. **randi**)	**sïmara**	'tree sp. (TP *tanget*)' (pl. **sïmari**)
rap as(m)	'sit'		
rapa	'wind'	**simba**	'meat' (pl. **simbanyï**)
rapakonom	'right (not left)'	**simbo**	'tree sp. (TP *aila*)'
rapï	'wind' (Kaimbal)	**sin**	'coconut husk'
rapïrïm	'right (not left)' (Kaimbal)	**sin**	'rain' (Kaimbal)
rapo	'fall (of rain)'	**sin(da)**	'take' (irrealis stem)
rapum	'fishing spear' (pl. **rapuri**)	**sïngar**	'saliva'
re	'creek'	**sipasana**	'anklebone' (pl. **sipasanyïna**)
ren	'creek' (Kaimbal)	**sipïn**	'kidney' (pl. **sipïni**) (Kaimbal)
ri	'axe head' (pl. **rir**)		
ri	'dance'	**sïpïn**	'lie, falsehood'
ri	plural suffix	**sïpora**	'banana sp.'
rï	'those' (plural distal demonstrative)	**siraka**	'stand up'
		sirïm	'tusk' (pl. **sirari**)
rï	verbal prefix		

sïrop	'fishing spear' (pl. **sïroponi**) (Kaimbal)
sisi	'dust'
sisi andi(m)	'see, look, watch' (irrealis stem)
sisi r	'see, look, watch'
sisïrï	'spine of a frond' (pl. **sisïri**)
soke	'tobacco'
sokwe	'tobacco'
songrupïni	'mushroom sp.'
suku	'pick-axe' (pl. **sukur**)
sumongri	'trash'
sumura	'anklebone' (Kaimbal)
sun	'hearth, stove' (pl. **suni**)
sus	'dust' (Kaimbal)
tïpïr	'stand up'
u	'in, at, on'
u	'you' (2SG pronoun) (Kaimbal)
un	'you' (2PL pronoun)
uni	'you' (2PL pronoun)
unji	'yours' (2PL.POSS pronoun) (Kaimbal)
w	'you' (2SG pronoun) (Kaimbal)
we	'cut'
weme	'bird' (pl. **wemir**) (Kaimbal)
wi	'you' (2SG pronoun)
winji	'yours' (2SG.POSS pronoun) (Kaimbal)
wo	'sago sp.' (suppletive plural of **ngom**)
wo	'you' (2SG pronoun)
woki(m)	'walk'
wokor	'moon'
wokori	'question'
wokos	'behavior'
womi	'grub sp.' (suppletive plural of **ngom**)
wor	'bird'
worï	'child'
worï anïngopun	'girl'
woy	'vegetable sp. (TP *balbal*)'
wu	'you' (2SG pronoun)
wukum	'breath; song'
wukur	'moon' (Kaimbal)
wun	'you' (2PL pronoun)
wuni	'you' (2PL pronoun)
wuninji	'yours' (2PL.POSS pronoun)
wunji	'yours' (2SG.POSS pronoun)
wura	'fly' (singular verb)
wurin	'close, near'
wurura	'fly' (plural verb)
yakarum	'grass' (pl. **yakarinya**)
yaki	'frog sp.' (pl. **yakiri**)
yambaro	'adze' (pl. **yambari**)
yambon	'elbow' (pl. **yambuni**)
yambrom	'heavy'
yamona	'snake' (pl. **yamoni**)
yandar	'vein, tendon' (pl. **yandari**)
yangi	'claw'
yangra	'strap, string'
yapandis	'yellow'
yapon	'hand' (Kaimbal)
yarim	'tree sp. (TP *kwila*)'
yarum	'granddaughter'
yaw	'banana sp.'
yawor	'three' (Kaimbal)
ye	'girl' (Kaimbal)
ye	'hand'
ye mamngo	'five'
ye nyim	'ten'
ye pa momngo mï rar	'six' (Kaimbal)
ye pa naningi mï rar	'nine' (Kaimbal)
ye pa nyim mï rar	'seven' (Kaimbal)
ye pa yawor mï rar	'eight' (Kaimbal)
ye pa	'five' (Kaimbal)
ye popo	'ten' (Kaimbal)
yep	'after'
yesïrum	'firefly, star'
yi	'blood' (pl. **yeri**)
yikïkïr	'ant sp. (black)'
yimar	'green'
yir	'hair'
yir	'housefly, fly'
yires	'ginger (TP *kawawar*)'
yirimngi	'fern sp.'

yiru	'beetle sp.'
yokom	'arrow shaft' (pl. **yokor**)
yokomar	'throat, neck'
yokon	'belly' (pl. **yokuni**)
yokon	'chicken'
yokun	'belly' (Kaimbal)
yomana	'snake'
yombra	'skin' (pl. **yombronyï**)
yongïr	'vegetable sp. (TP *kango*)'
yongormongi	'sweet potato'
yopo	'cockatoo' (pl. **yopor**)
yora	'three'
yorambe	'sword grass (TP *kunai*)'
yos	'grandson' (pl. **yosïrem**)
yu	'crocodile' (pl. **yur**)