





Map of Muna-Buton area

# MUNA HISTORICAL PHONOLOGY

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Historical and comparative data on the languages of southeast Sulawesi is still scarce. In this article the historical phonology of the Muna language is presented in a top-down fashion: the reflexes of Proto-Malayo-Polynesian phonemes in Muna are determined and illustrated. Irregular developments in numerals and in the person-marking system are also dealt with. It is hoped that this study will contribute to the future classification of the languages in the islands of southeast Sulawesi and clarify the status of the putative Muna-Buton group.

## 1 INTRODUCTION

This paper deals with the historical phonology of the Muna language, spoken in southeast Sulawesi. A synchronic description of the language is found in A grammar of the Muna language (van den Berg 1989), hereafter referred to as GML.

A historical phonology can be written in at least two ways. First, one can take as a starting-point the present-day phonemes and consequently trace them back to reconstructed proto-forms. In addition, present-day forms can be compared to cognates in related languages to illustrate sound changes. The second approach is top-down: starting from the proto-language the reflexes of the proto-phonemes are determined and discussed. Although both ways have their pros and cons, I will follow the second alternative in this article.

After a short discussion of the synchronic phonology of Muna (Section 2) and some remarks on Proto-Malayo-Polynesian (Section 3), I will discuss the changes that have taken place in vowels and consonants (Section 4) and syllable and word structure (Section 5). In the remaining sections I will treat two subsystems in which a number of idiosyncratic changes have taken place, viz. numerals (Section 6) and pronouns and pronominal affixes (Section 7). During the discussion occasional reference will be made to other languages in southeast and central Sulawesi. These include Wolio (Anceaux 1952, 1987), Cia-Cia (van den Berg, n.d.), Mori (Esser 1926, 1933), Pamona (= Bare'e) (Adriani 1931) and several other Kaili-Pamona languages, for which data was drawn from Martens (1989). Although no thorough classification has yet been made for Sulawesi, I will work on the hypothesis that all the languages of southeast and central Sulawesi are related and form an exclusive subgroup within Western Malayo-Polynesian.

## 2 MUNA SYNCHRONIC PHONOLOGY

For a full statement on the synchronic phonology of standard Muna, the reader is referred to chapter 2 of GML. Information on the phonology of other Muna dialects is found in van den Berg (1983), where an attempt is also made to reconstruct proto-Muna phonology. The outline presents the phonology of Standard Muna, although in the remainder of the article I will also occasionally refer to other Muna dialects.

The basic facts of standard Muna phonology can be given in the following overview (I will use the now generally accepted Muna alphabet and not phonetic symbols):

- 1) There are five vowel phonemes: i, e, a, o, u.
- 2) There are twenty-five basic consonants:
  - plosives: p, b, t, d, dh (dental plosive), k and g
  - implosive: bh
  - nasals: m, n, ng
  - prenasalized consonants: mp, mb, nt, nd, ngk, ngg, ns
  - fricatives: f, s, gh (voiced uvular), h
  - liquids: l, r
  - approximant: w

Rare recent loan-phonemes are: c, j and y (all palatal consonants). The plosive dh is also only found in clear or suspected loanwords.

3) There are no syllable-final consonants; the only occurring syllable types are V and CV.

4) Sequences of two or three vowels are common (each vowel filling a syllable slot).

5) Stress is almost invariably penultimate.

6) The majority of roots are disyllabic, but trisyllabic roots are also common.

7) A number of phonotactic constraints pose limitations on the co-occurrence of consonants in roots (e.g. plosives do not co-occur with contra-voiced homorganic plosives).

8) The phoneme bh does not occur before u.

### 3 PROTO-MALAYO-POLYNESIAN

Like all languages of Sulawesi, Muna is a member of the Western Malayo-Polynesian branch of Austronesian. The exact relationships within this putative subgroup have not been established yet and no proto-language has been reconstructed. Hence I have taken the following approach in writing this historical phonology.

1. My starting point is Proto-Malayo-Polynesian, the reconstructed proto-language for the Austronesian language family excluding the languages of Formosa. Since Proto-Austronesian had already undergone a significant number of mergers at the time of Proto-Malayo-Polynesian, this means that a number of PAN phonemes can be ignored (such as \*C, \*N, \*L, \*W and various subscripts). See Adelaar (1985) for a similar approach with regard to Proto-Malagic.

2. Proto-forms have been taken from the following sources: Dempwolff (1938), Dyen and McFarland (n.d.), Dahl (1976), Zorc (1982), Adelaar (1985) and Blust (1986). Spellings have been brought in accordance with PMP (e.g. PAN \*C to PMP \*t).

3. I will not enter the discussion on the status of certain disputable proto-phonemes (e.g. \*r, \*c, \*g), although Muna seems to offer little basis for these reconstructions. I unite \*d and \*D into \*d/D and \*z and \*Z into \*z/Z in my discussion of these sounds.

4. Owing to a limited corpus and time pressure many reflexes of PMP

etyma remain undiscovered. Those that have been unearthed have almost all been used in illustrating the sound changes. This article must therefore be viewed as only the first step in the field of Muna historical phonology. In Muna forms a slash </> denotes a non-productive or fossilized affix.

#### 4 FROM PMP TO MUNA

##### 4.1 Vowels

The changes vowels have undergone in Muna can be grouped under the following headings:

- a) regular developments
- b) height assimilation
- c) fronting of back vowels
- d) antepenultimate raising
- e) consonant-related changes
- f) minor changes

Category e) specifically applies to vowels adjacent to the proto-consonants \*R and \*j and will be discussed in 4.2.6.

A. The regular changes in vowels and combinations of vowels and glides from PMP to Muna are as follows:

PMP	*a	*e	*i	*u	*-ay	-*ey	*-uy	*-iw	*-aw
MUNA	a	o	i	u	e	e	i	u	o,u

Examples, arranged by vowels and vowel + glide combinations (these obviously also illustrate some other vowel phenomena as well as the consonants, to be discussed later):

*panaq	'shoot an arrow'	pana
*qatep	'roof'	ghato
*bulan	'moon, month'	wula
*ina	'mother'	ina
*qitem	'black'	ghito
*telu	'three'	tolu
*baŋkay	'corpse'	bhangke
*qaqay	'leg'	ghaghe
*beRsay	'canoe paddle'	bhose
*qazay	'chin'	ghase
*kiDay	'forehead'	kire
*qenay	'sand'	ghone 'bot'
*qatey	'liver'	ghate
*pajey	'rice'	pae
*matey	'dead'	mate
*quey	'rattan'	ghue
*babuy	'pig'	wewi
*hapuy	'fire'	ifi
*laŋuy	'swim'	leni
*kahiw	'tree, wood'	sau
*pulaw	'island'	pulo
*liŋaw	'quiet'	lino
*kasaw	'rafter'	saho
*babaw	'on, over'	wawo

But:

\*panaw  
\*bañaw

'blotch'  
'wash, bathe'

panu 'skin disease'  
wanu 'wash hands/  
feet'

The evidence for \*-iw is very meagre since it rests upon one form. It could be argued that the development of this word was \*kahiw > kaiw > kayu > kau > sau, in which case u reflects a resyllabified \*w. This, however, is not likely, as an intermediate form \*kayu would have resulted in \*\*keu or \*\*seu (see 4.2.6). Hence I take u as the direct reflex of \*iw. Another PMP etymon with \*-iw, is reflected as bhei <\*baRiw 'tainted, spoiled (of food)', but here I believe that the i is the result of fronting (see under C below).

B. Height assimilation generally involves the following patterns in order of frequency of occurrence (C stands for any consonant). Notice that these assimilations must be ordered after certain other changes (e.g. \*-uR > i).

1. \*aCi > eCi
2. \*iCa > eCa / iCe
3. \*uCa > uCe
4. \*uCi > uCe

Examples:

*tasik	'sea'	tehi
*laŋuy	'swim'	leni
*babuy	'pig'	wewi
*tapi[]	'winnow'	tepi
*qapuR	'lime'	ghefi
*sa(m)buR	'scatter'	hewi
*hapuy	'fire'	ifi
*Rabiqi	'evening'	ind/ewi 'yesterday'
*dilaq	'tongue'	lela
*isa	'one'	ise
*quZan	'rain'	ghuse
*putiq	'white'	pute

As can be seen, these conditioned changes make the resulting vowels less dissimilar, either by lowering the high vowel or by raising the low vowel. In the example of ifi, the assimilation has gone even further and the vowels are identical. Interestingly enough, in the southern Muna dialects the word for 'fire' is efi. In view of the surrounding languages (all of which have i in the penult) this must be considered a later lowering. Exceptional assimilation is also shown by \*(i)sai 'who' > hae 'what' and lahae 'who'.

The first assimilation rule is quite widespread in Muna and has applied to forms for which no clear etymology is available. Compare such forms as mie 'person' to Wolio, Cia-Cia mia and wite 'earth, land' to Bungku wita (?from PMP \*butaq 'land'). Yet this change is not regular, as there are many examples where the structural input for the rule is met, but the change has not taken place. Compare for instance, the following words which are exceptions to rule 1:

*laŋit	'sky'	lani
*panij	'wing'	pani
*paqit	'bitter'	paghi

We are left with the conclusion that height assimilation is a sporadic sound change which has nevertheless reached a substantial portion of the vocabulary.

C. The third vowel change, fronting of back vowels, is a true example of a sporadic and unpredictable change, as there is no conditioning environment.

Examples include the following (doubly starred items are the expected but non-existent reflexes):

*baRiw	'tainted, spoiled'	bhei	(**bheu)
*laŋkaw	'high'	langke	(**langko)
*qateluR	'egg'	ghunteli	(**ghuntoli)
*besuR	'full, satiated'	wehi	(**wohi)
*kanuku	'fingernail'	konisi	(**konusu)

The word nae/wine 'tomorrow', from PMP \*beRgin 'night' shows both fronting and metathesis. The expected form is something like \*\*woni.

D. The fourth vowel change, antepenultimate raising refers to the raising of \*a to o or u in prestressed syllables. Examples were provided in van den Berg (1988), which are here repeated and extended:

*qateluR	'egg'	ghunteli
*baqeru	'new'	bughou
*qapeju	'gall'	ghufei
*qasiRa	'salt'	ghohia
*qalejaw	'day'	gholeo
*qalipan	'centipede'	gholifa
*qabaRa	'shoulder'	ghowea
*paniki	'bat'	ponisi
*balabaw	'mouse'	wulawo
*kanuku	'fingernail'	konisi
*ka-wanan	'right'	suana

It is not possible at this point to specify whether the vowel has become o or u. In standard Muna there is variation between these two vowels in prepenultimate position and it may even be that there is no phonemic contrast between /o/ and /u/ in that position. This raising of \*a is no doubt caused by the prestressed position of the syllable, as a result of which the vowel was reduced from a full open vowel to a mid or even close vowel.

E. Finally there are a few other minor changes in the vowels, involving processes such as vowel coalescence (C), other assimilations (A) and some irregular changes.

*dahun	'leaf'	roo	(C)
*pahuq	'mango'	foc	(C)
*te(n)Duq	'calm (wind)'	toro	(A)
*penuq	'full'	pono	(A)

## 4.2 Consonants

### 4.2.1 Introduction

The following generalizations can be made concerning the consonant reflexes in Muna:

1. Final consonants were invariably lost; although \*R, \*j and \*y have left traces (see 4.2.6).
2. A number of consonants have undergone phonemic splits, some of them seemingly unconditioned. These will be discussed and illustrated in detail in this section.
3. The reflexes of the following consonants are unclear, as no non-suspect cognates have been unearthed: \*c, \*r and \*g. Notice that these proto-phonemes are rejected by Wolff (1974, 1982).

4. Nasal clusters arising from reduplication in medial position have become homorganic and have not participated in weakening processes.

5. The first consonant in non-nasal clusters has been lost.

The following chart shows the established reflexes of PMP consonant phonemes:

PMP	*p	*t	*k	*q	*b	*d/D	*z/Z	*j			
Muna	p, f	t	k, s	gh	b, bh, w	r	s	-			
PMP	*m	*n	*ñ	*ŋ	*R	*l	*s	*h	*w	*y	
Muna	m	n	n	n	-	l	s, h	-	-	-	

Before I deal with the phonemes that need discussion (4.2.2-4.2.9), I will first illustrate the regular and straightforward cases, with the risk of being slightly boring. This concerns the following proto-phonemes: \*t, \*q, \*d/D, \*m, \*l and \*h.

1.	*t	*tunu *mata	'burn' 'eye'	tunu mata	
2.	*q	*qatep *qetut *qulu *taqun *tuqah	'roof' 'fart' 'head' 'year' 'old'	ghato ghotu ghulu taghu tugha	'body' 'hard'
3.	*d/D	*daqan *daqih *diqdiq *quDaq	'branch' 'forehead' 'cold' 'lobster'	ragha kon/daghi rindi ghura	
4.	*m	*mamaq *manuk *ama	'chew' 'chicken' 'father'	mama manu ama	
5.	*l	*lima *kulit	'hand' 'skin'	lima kuli	
6.	*h	*Duha  *ha(n)teD	'two'  'escort'	dua, rua-  ato	(cf. Section 6)

#### 4.2.2 \*p

PMP \*p is reflected in Muna as either p or f. Although there is some degree of regularity here, we have to allow for a number of exceptions. The split of \*p has resulted in a phonemic contrast between p and f in Muna, as is demonstrated by the following minimal pair:

<u>paa</u>	'four'
<u>faa</u>	'termite'

It should be pointed out that Muna is the only language in Sulawesi which has f as a phoneme. The presence of f as a phoneme in Muna also means that loanwords containing f have retained this sound. Notice the following loanwords:

faraluu	'necessary'	( < Malay <u>perlu/fardu</u> )
folopena	'pencil'	( < Dutch <u>vulpen</u> )
fadhara	'dawn'	( < Malay/Arabic <u>fajar</u> )
fari	'fairy'	( < ?)

Allowing for some exceptions the following tentative rules can be formulated (S = syllable):



1. \*p > f /   V(V)#
2. \*p > f / #   V.S.S (S)
3. \*p > p elsewhere

In other words, \*p became f before final vowels (either one or two) and in initial position in tri- or quadrisyllabic words. These rules can also be related to stress: given that stress is penultimate \*p was retained as p in stressed syllables, but weakened to f in unstressed syllables (either following or preceding the stressed syllable). The exception is the configuration \*pVV where \*p has weakened, even though it is the onset of the stressed syllable. Notice again that these rules have to follow other changes (to be discussed later), such as loss of \*j.

Examples of rule 1:

*hapuy	'fire'	ifi	
*nipis	'thin'	nifi	
*apa	'what'	no/afa	'why'
*qapuR	'lime'	ghefi	
*qapeju	'gall'	ghufei	
*qalipan	'centipede'	gholifa	
*p-ijan	'when'	nae/fie	'when'
*pahuq	'manggo'	foo	
*peRes	'squeeze'	feo	
*depa	'fathom'	rofa	

Exceptions to rule 1 (\*p is retained) in words with a clear etymology (for paa 'four' see Section 5):

*kapal	'thick'	kapa
*sapu	'wipe'	hapu/i
*tapi	'winnow'	tepi
*pajey	'rice'	pae
*nepuq	'stonefish'	nopu

In addition to these words there are quite a few examples of 'new' words (i.e. not relatable to PMP) where the structural description for the sound change is met, but where the change has not taken place. Examples of p before one final vowel include such words as sape 'light'; napa 'beach'; kupa 'money', dopi 'board' and many others. Examples of p before two final vowels: pui 'coccyx'; piu 'extinguish' and pau 'umbrella' (probably a loan from Malay payung). Some of these exceptions can possibly be accounted for by referring to phonotactic constraints. The fact that \*kapal is not reflected as \*\*kafa seems to be related to the observation that the sequence kVfV does not occur in Muna. In other words, there are no examples of words such as \*\*kofi or \*\*kufa. This constraint in itself, however, does not seem to be phonetically motivated (compare the non-occurrence of two prenasalized plosives within one word, which seems phonetically plausible - the word becomes too 'heavy'). It is possible that for the other exceptions similar constraints may be found.

Examples of the second rule are mostly found in the prefixes fo- (causative), fe- (locutional causative) and feka- (factitive), which naturally occur in prestressed position. Notice however, that the reciprocal prefix is po-.

Also, \*p is reflected as f in initial position in some disyllabic words. These are unexplained:

*puluq	'ten'	-fulu	'unit of ten'
*paqa	'thigh'	fagha	

The difficulties with the rules proposed so far lie in the fact that the rule \*p > f has sometimes been 'underapplied' (as in sape, napa etc.), but in other cases 'overapplied'. In order to give an idea of the extent of this overapplication, all disyllabic words with initial f from my corpus are presented here.

faa	'termite'
fafa	'k.o. tree'
fagha	'thigh' ( <*paqa)
fele	'morning star'
finda	'tread, step'
finde	'dry bananaleaf'
fiu	'blow'
folu	'consider'
foni	'climb, go up' ( ?<*pa-nahik)
fotu	'head'
fula	'be successful in hunting'
funge	'talk through the nose'
fura	'penis'

Of these thirteen examples, two conform to the earlier pattern of f before two final vowels (faa, fiu), one is a taboo word (fura), one is onomatopoeic (funge), fafa can be explained by phonotactic rules (pVfV sequences are not allowed, hence the initial \*p is assimilated) and so we are left with eight unexplained examples.

Examples of the third rule (\*p is retained as p) include the following (there are some 22 in my corpus):

*pitu	'seven'	pitu	
*panaw	'blotch'	panu	'skin disease'
*putiq	'white'	pute	
*puqun	'tree'	pughu	
*peñu	'sea turtle'	ponu	
*patuq	'bamboo sp.'	patu	
*panaq	'shoot'	pana	
*pules	'turn, twist'	pulo	
*pañan	'food'	pana	'chew betelnut'
*pusej	'navel'	puhe	

Interesting pairs are formed by pana 'hot (of an object)' and fanaha 'hot (of the atmosphere)', both supposedly from \*panas 'hot'; and pitu 'seven (in counting)' and fitu- 'seven (prefixed numeral form)' as in fitu paku 'seven times' and fitu-fulu 'seventy'. In both cases \*p is retained as p in stressed position, but has shifted to f in unstressed position. As noted above, this is phonetically plausible, the unstressed syllable being more weakly articulated and hence more prone to a lenition process such as the spirantization of p to f. This raises the question as to whether some of the exceptions noted above can be explained in terms of unstressed syllables. Muna uses affixes frequently, and many of the initial p's in disyllabic roots do actually more often occur in unstressed syllables because of a following suffix. This may especially be true for body terms such as fotu 'head' which is almost always affixed with a possessive suffix (e.g. fotu-ku 'my head'). But why would this only apply to fotu and fagha 'thigh', but not to puhe 'navel'? In spite of regularities, such exceptions are hard to account for.

#### 4.2.3 \*b

PMP \*b is reflected in Muna as bh, b or w. The difference between bh and b is a conditioned split: b only occurs before the vowel u; bh before all other vowels. The split between on the one hand bh/b and on the other hand w, however, is unconditioned. The shift from PMP \*b to Muna implosive bh is best viewed as the 'simple shift of a phonetic norm', as Blust (1980:134) notes with regard to Wolio in his article on the origin of glottalic consonants. Implosive consonants are found in all the languages of the Muna-Buton area, and even as far north as Tolaki on the southeast Sulawesi mainland. Usually the imploded character of the bilabial stop is stronger than that of the alveolar, a fact which is especially clear in Muna, where plain and implosive d are in free variation.

Examples of bh and b (before u) as reflexes of \*b:

*baRiw	'tainted, spoiled'	bhei	
*bales	'repay'	bhalo	'answer'
*baŋkay	'corpse'	bhangke	
*benaqi	'sand'	bhone	
*b-in-ahi	'woman'	ro/bhine	
*baseq	'wet'	bhaho	'spray'
*beRsay	'paddle'	bhose	
*buqaya	'crocodile'	buea	
*buku	'bone'	buku	
*buni	'hide'	fe/buni	
*qabu	'ashes'	ghabu	'kitchen'
*Debuŋ	'bamboo shoot'	robu	

The number of etyma in which \*b has become w (also before \*u) is much larger, however. The following table presents a sample of this change (there being 25 examples in all):

*baRah	'live coal'	wea	
*babuy	'pig'	wewi	
*bulan	'moon, month'	wula	
*balabaw	'mouse'	wulawo	
*bulu	'body hair'	wulu	
*buaq	'fruit'	wua	
*bibiR	'lip'	wiwi	
*i babaw	'above'	wawo	
*i babaq	'under'	wawa	'space under house'
*sabuw	'cockfight'	sawu	
*tebuh	'sugarcane'	towu	

It can be quickly observed that there is no obvious basis for the split of \*b. Neither the following vowel, nor the position in the word, nor phonotactic constraints seem to offer a solution here.

This lenition process is not limited to Muna, but occurs to a greater or lesser extent in all the languages of central and southeast Sulawesi. In the following chart I have put together thirteen PMP forms with initial \*b and their reflexes in seven Sulawesi languages (Ledo, Uma, Napu, Pamona, Muna, Wolio and Cia-Cia).

		Led	Uma	Nap	Pam	Mun	Wol	Cia
*bibiR	'lip'	b	w	w	w	w	b	w
*bulu	'body hair'	b	w	w	w	w	b	w
*babuy	'pig'	b	w	-	w	w	b	w
*bulan	'moon'	b	w	w	w	w	b	w
*buḡa	'flower'	b	w	b	-	w	b	b/w
*batu	'stone'	w	w	w	w	w	b	w
*beRsay	'paddle'	w	w	b	w	b	b	b
*baḡeRu	'new'	-	b	w	b	b	b	w
*beḡel	'deaf'	b	w	b	w	b	b	-
*benaqi	'sand'	b	w	(w)	b	b	b	b
*babaw	'top'	b	-	-	w	w	b	w
*binahi	'woman'	(m)b	b	w	-	b	w	w
*buaḡ	'fruit'	w	w	w	w	w	-	w

Notice the following points about this chart:

1. Implosives are not marked in Muna, Wolio and Cia-Cia.
2. Cia-Cia has bunga 'flower' but wunga-no lima 'finger' (lit: flower of hand).
3. Ledo has baru for 'new', a loan from Malay which does not directly reflect \*baḡeRu.
4. Napu wungi 'sand' is possibly not cognate with \*benaqi.
5. \*b-in-aqi 'woman' is in all languages reflected with a (usually) irregular additional first syllable: mombine (Ledo), tobine (Uma), towawine (Napu), robhine (Muna), bawine (Wolio) and mowine (Cia-Cia).

As can be seen, Wolio and Ledo (geographically the extremes of these seven) seem to be the languages that have been most resistant to the lenition; Uma and Pamona, on the other hand, have been most prone to it. The distribution of b/w over the etyma is also random, as it is not possible to predict which etymon will be the first to be affected by this process. Within a framework of lexical diffusion it is apparently necessary to recognize different 'lexical paths' for the same sound change in neighbouring languages.

#### 4.2.4 \*k

PMP \*k also displays two reflexes in Muna, k and s. Although there are a number of exceptions, a general rule seems to be that \*k has become s before a in the stressed syllable:

*kahiw	'wood'	sau
*kali	'dig'	seli
*kasaw	'rafter'	saho

*kaRat	'bite'	sia
*kawad	'wire'	saa 'wire trap'
*i-kami	'we (excl.)'	in/sai/di (cf. Section 7.1)

But occasionally we find s as a reflex of \*k in other environments:

*kilaw	'blinded'	silo
*ka-wanan	'right side'	suana
*paku	'nail'	paso
*paniki	'bat'	ponisi
*bukid	'heap (of earth)'	wusi 'vulva'

Paso 'nail' is possibly a loanword in Muna, and the final o is unexplained anyway. The semantic connection between 'heap' and 'vulva' is also shown by the use of the word kabumbu 'little hill, elevation, vulva (used for small girls)'

Counterexamples of the rule \*k > s in stressed syllables before \*a are the following:

*kapal	'thick'	kapa
*laka(dt)	'go, walk'	kala
*kamay	'hand'	kema 'left hand'
*kaDus	'touch, scratch'	kura 'rasp, scrape'

The first example is a real exception (notice also the discussion of kapa in 4.2.2) but the others have undergone metathesis. The k can be explained by ordering the metathesis after the consonant change in the case of kema and kura.

Examples of \*k > k before other vowels:

*kulit	'skin'	kuli
*sakit	'sick'	saki
*kulambu	'mosquito net'	kolambu
*teka	'arrive'	toka 'complete'
*kiDay	'eyebrow'	kire
*kalimpetpet	'firefly'	kolipopo 'star, firefly'
*Daki	'body dirt'	raki
*bekaq	'split'	woka
*kuRita	'octopus'	kuita

#### 4.2.5 \*Z/z

I will not enter the discussion on the status of the proto-phoneme \*z, which is rejected by Wolff (1982). In any event, the reflexes of \*z and \*Z are identical in Muna, as both are reflected as s. Examples:

*Zalan	'road'	sala 'path'
*quZan	'rain'	ghuse
*tuZuq	'point'	tusu
*qazay	'chin'	ghase

In three cases \*Z/z is reflected as d in Muna:

*Zaqet	'evilhearted'	dagho 'stingy'
*ZaRum	'needle'	deu
*ma-Zauq	'far'	ko/doho

\*The word for 'needle' is possibly a borrowing, though from which language is not clear. Many of the neighbouring languages also have deu (but not Wolio, which has sorumba). The other two etyma (if related, notice the irregular h in kodoho) are unexplained. Finally, the Muna word lela

'tongue' is reconstructed as \*Zilaq by Dahl, but as \*dilaq by Dempwolff. Muna lala points to \*dilaq; an earlier form \*dila or \*rila must have undergone assimilation to lila and hence to lala (with height assimilation).

#### 4.2.6 \*j, \*R and \*y

These proto-phonemes are treated together as they first merged and were subsequently deleted, but not without having left traces in the adjacent vowels.

The phoneme \*j (Dempwolff's \*g') is thought to have been a post-palatal affricate. Dahl (1976) comments on the difficulties with reconstructing several phonemes in the palatal area, but maintains the traditional interpretation. \*R was probably a uvular trill.

In Muna \*j is either reflected as zero or it has left a trace by merging with the preceding vowel. This same situation holds for \*R. The best way to account for this change, is (following Adriani 1900:257 for Bungku) to posit an intermediate \*y, which in some environments has disappeared and in other environments has merged with preceding a or o to e. The change from a palatal affricate to a palatal approximant can be considered a natural weakening process, although the reverse change is also found in this position (Cf. Uma kaju < \*kayu). In initial position \*j is not reconstructed. The change from a uvular trill to a palatal approximant seems less natural. These changes are shared with \*y, for which very few cognates were detected. In summary: \*j, \*R and \*y merged as \*y.

The following rules can be established for the loss and merger of these consonants in final position. The middle column represents an intermediate stage between PMP and Muna. Notice that in the first column <e> represents a central vowel, but in the second and third column a mid-front vowel.

*-ij#, *-iR#	*-iy	-i
*-ej#	*-ey	-e
*-uR#	*-uy	-i

#### Examples:

*kunj	'yellow'	kuni	
*panij	'wing'	pani	
*bibiR	'lip'	wiwi	
*pasiR	'sand'	pasi	'coral'
*pusej	'navel'	puhe	
*qulej	'snake'	ghule	
*qapuR	'lime'	ghofi	
*qateluR	'egg'	ghunteli	
*besuR	'satiated'	wehi	
*kemuR	'move around in mouth'	komi	'suck on'

Notice that these rules fit perfectly with the vowel + glide changes proposed in 4.1 (\*ey > e and \*uy > i). A problem case, however, is the reflex lali 'bedbug' from \*lalej 'housefly', instead of the expected \*\*lale. Is this a case of height dissimilation, the reverse of the rule -aCi > aCe as discussed in 4.1?

Medially, the following patterns can be discovered:

1. *aja,	*aRa,	*aya	*aya	ea	(ia)
2. *aje,	*aRe		*ayo	eo	(io)
3. *ajey			*aye	ae	
4. *aji,	*aRi		*ayi	ai	
5. *aRu,	*aRiw		*ayu	eu	
6. *eju,	*eRu		*oyu	ou	
7. *ejaw,	*eRe		*oyo	eo	
8. *ija,	*iRa		*iya	ia	
9. *uRa			*uya	ua	

10. *uRi	*uyi	ui
11. *iji	*iyi	ii

The pattern seems to be that intermediate \*y has undergone vowel coalescence with the preceding \*a when followed by a, o or u. Also the sequence \*oyo has undergone coalescence (to eo); in all the other cases \*y has disappeared. Minor irregularities are marked by H (heightening of e to i), F (fronting) and HA (height assimilation).

1. *qajan	'name'	nea	
*DaRaQ	'blood'	rea	
*baRah	'ember'	wea	
*qabaRa	'shoulder'	ghoewa	
*kaRat	'bite'	sia	(H)
(but <u>sea-kito</u> )	'black biting ant')		
*buqaya	'crocodile'	buea	(unexplained) loss of *q)
2. *qajeŋ	'charcoal'	gheo, ghio	(H)
*daReQ	'clay'	reo	
*baReQ	'abscess'	weo, wio	(H)
3. *pajej	'rice'	pae	
4. *a(n)ji	'younger sibling'	ai	
*maRi	'come'	mai	
5. *ZaRum	'needle'	deu	
*taRuq	'set down'	tei	(F)
*baRiw	'spoiled'	bhei	(F)
6. *qapeju	'gall'	ghufei	(F)
*baqeRu	'new'	bughou	
7. *qalejaw	'day'	gholeo	
*peRes	'squeeze'	feo, fio	(H)
8. *p-ijan	'when'	nae/fie	(HA)
*qasiRa	'salt'	ghohia	
9. *uRat	'vein'	ue	(HA)
10. *kuRita	'octopus'	kuita	
*DuRi	'thorn'	ki/ri	(<ka/rui)
11. *qiris	'cut, slice up'	ghii	

As can be seen, there are a few irregularities here, that can be accounted for by fronting (e.g. tei for expected \*\*teu) and height assimilation in the cases of nae/fie and ue. I treat those as (irregular) height assimilations rather than mergers of \*y with the following vowel, since that rule would not be independently motivated. Another exception is suo 'spiky bamboo trap' < \*suja 'spike'. The change \*a < o is common in affixes (see Section 7) but not in content words. Notice also that in some words (sia, wio, ghio, fio), there has been further raising of e to i.

Finally, note the following reflexes of \*R. \*R is reflected as g medially in one known instance: pagi 'stingray' < \*paRi. In clusters \*R is invariably lost:

*beRsay	'paddle'	bhose
*beRgin	'night'	nae/wine 'tomorrow'

Initially the reflexes of \*R are less straightforward:

*Rakit	'raft'	raki
*Rabiqi	'evening'	ind/ewi 'yesterday'

The first word is most likely a loan from Malay and in the second example the initial nasal cluster obscures the reflex. In moghane 'man, male' < \*ma-Ruqanay, \*R was probably deleted at an early stage in antepenultimate position, after which the vowel sequence was reduced to o.

#### 4.2.7 \*s

The reflex of PMP \*s is again two-fold in Muna: s and h. Although there is no exceptionless conditioning, two tendencies may be discerned that account for the weakening of \*s to h:

1. Initially before a, \*s tends to weaken to h;
2. Intervocally, \*s usually weakens to h, unless there is an initial s.

Examples of the weakening of \*s to h:

*salaq	'mistake'	hala	'wrong'
*sa(m)buR	'scatter'	hewi	
*sapu	'wipe'	hapu/i	
*sebar	'strew'	hobha	'spill'
*tasik	'sea'	tehi	
*asu	'dog'	d/ahu	
*pusej	'navel'	puhe	
*kasaw	'rafter'	saho	
*qasiRa	'salt'	ghohia	
*besuR	'satiated'	wehi	
*isi	'flesh'	ihi	
*baseq	'wet'	bhaho	'spray'
*pusuq	'heart'	ko/puhu	
*qasuh	'smoke'	ghahu	'attic'

In the following examples \*s has been retained:

*sabun	'cockfight'	sawu	
*sakit	'pain'	saki	
*siwa	'nine'	siua	
*qunsu	'mouth'	nunsu	'snout'
*sepsep	'suck'	soso	
*beRsay	'paddle'	bhose	
*siku	'elbow'	siku	
*suja	'spike'	suo	'spiky trap'
*sessel	'regret'	soso	
*susuk	'pierce'	ka/susu	'pin'
*pasaq	'pair'	pasa	'equal'
*asiq	'sympathy'	asi	'like, love'
*isa	'one'	ise	

The tendencies are clearly not exceptional: the first one is violated by hobha (initial weakening before \*e) and the retentions sawu and saki. This last word could be a borrowing from Malay (cf. also panaki 'illness' < penyakit). Other likely borrowings from Malay into Muna are piso 'knife' (< pisau) and sepa 'kick' (< sepak).

The cases where intervocalic \*s has not weakened can partly be accounted for by the presence of an initial s and partly by the occurrence of \*s in a cluster (e.g. nunsu, bhose). In some cases these two principles are mutually supportive (e.g. both cases of soso). The remaining cases of intervocalic s remain unexplained (e.g. pasa, asi, ise).

#### 4.2.8 \*ŋ and \*ñ

The PMP velar and palatal nasals have merged in Muna with the alveolar nasal \*n as n. Examples of \*ŋ and \*ñ, with a few examples of \*n:

*laŋit	'sky'	lani
*laŋuy	'swim'	leni
*buŋa	'flower'	wuna
*baŋun	'get up'	wanu
*liŋaw	'calm, quiet (of water)'	lino



*ḡunsu	'mouth'	nunsu	'snout'
*ḡajan	'name'	nea	
*peñu	'turtle'	ponu	
*wañi	'bee'	ani	
*miñak	'fat, grease'	mina	'oil'
*bañaw	'wash, bathe'	wanu	'wash hands'
*ina	'mother'	ina	
*nanaq	'pus'	nana	
*nipis	'thin'	nifi	

Examples of initial \*ñ were not discovered in the material, apart from inawa 'soul' (<\*ñawa), which almost certainly is a loan, possibly through Wolio, which has nyawa/inyawa. The word mina 'oil' is also very likely a loan. The only exception to the rule \*ḡ > n is Muna bhongo 'stupid' (<\*beḡel 'deaf'). It should be noted, that although \*ḡ is regularly reflected as n, Muna does have the phoneme ng, though its functional load is rather low.

#### 4.2.9 \*w

Although there are only few etyma which clearly reflect \*w, it seems clear that \*w has been lost except in the numerals 'eight' and 'nine' (for more discussion of the numerals, see Section 6).

Examples:

*walu	'eight'	alu, oalu
*siwa	'nine'	siua
*wakaR	'root'	par/aka
*wañi	'bee'	ani
*tawa	'laugh'	fu/taa
*ka-wanan	'right'	suana
*kawad	'wire'	saa 'wire trap'
*sawa	'giant snake'	Lia-no-saa (place nama: snake-cave)

#### 4.2.10 Minor and irregular changes

In this section I present some of the minor and irregular sound changes that have applied to the consonants. Some of the examples have already been used in previous sections. These processes are:

##### 1. Metathesis (both vowels and consonants)

*kamay	'hand'	kema	'left hand'
*kaDus	'touch, scratch'	kura	'rasp, scrape'
*Dikiq	'small'	tang/kidi	'little finger'
*belaq	'split'	wogha-li	
*laka[dt]	'walk, go'	kala	
*dulas	'slippery'	ndeli (cf. Section 5.2)	

The root kidi 'small' is also found in various Muna dialects; standard Muna has rubu.

##### 2. Consonant assimilation and dissimilation:

*dilaq	'tongue'	lela	
*Dalem	'inside'	lalo	
*lebleb	'immerse, inundate'	lodo	'sleep'

The semantic shift in the meaning of \*lebleb to 'sleep' can also be observed in Malay lelap 'disappear; be sound asleep' (if the words are indeed related).

### 3. Loss or addition of medial nasal:

*tuŋked	'cane, staff'	ka/tuko
*qateluR	'egg'	qhunteli
*hasaŋ	'gill'	ansa

4. Irregular changes. In some instances the words may in fact not be related.

*DiŋDiŋ	'wall'	ka/rondo/mi
*saiuR	'liquid'	solo 'flow'
*iuhaq	'tear (of eye)'	liu
*wahiR	'water'	oe
*beRey	'give'	waa
*waDa	'be (present)'	na/ando(o)
*ikan	'fish'	ken/ta
*kabut	'fog'	gawu
*DiRi	'stand'	ere
*bahaq	'flood'	ma/wa

## 5 SYLLABLE AND WORD STRUCTURE

In this section I want to deal with several phenomena that are linked up with word and syllable structure, such as deletion of whole syllables, the fate of final consonants (5.1) and the rise of prenasalized consonants (5.2).

In trisyllabic words ending in \*-hi(C) or \*-qi(C), the intervocalic glottal consonant was lost and the vowels merged:

*benaqi	'sand'	bhone
*b-in-ahi	'woman'	ro/bhine
*binehiq	'seed'	wine
*Rabiqi	'evening'	ind/ewi 'yesterday'
*bitiqis	'calf of leg'	folo/bhiti

### 5.1 Final consonants

As noted in Section 2 above, Muna does not permit word-final consonants. This constraint was normally taken care of by deleting all final consonants (but notice the influence of final consonants \*w, \*y, \*j and \*R on preceding vowels). Only in two known cases has the reverse taken place, namely the addition of a paragogic vowel:

*panas	'hot'	fanaha
*qelet	'interval'	gholota

As for syllable-final consonants in medial position in PMP, two situations can be distinguished. Medial nasal clusters have been retained, but reinterpreted as syllable-initial prenasalized consonants: \*tanduk > tandu 'horn'. In medial clusters that are the result of reduplicated monosyllables, the first member has been deleted: \*tektek > toto 'cut, hack'.

As in many Oceanic languages (e.g. Fijian, Maori), traces of original final consonants can still be seen in the allomorphy of certain suffixes. Muna has two suffixes -Ci and -Cao, in which C stands for a limited class of consonants. Verbs suffixed with -Ci have either a locative-directional or a repetitive (rep.) meaning. In the following examples the suffix consonant of -Ci is clearly a reflex of the original final consonant:

*kaRat	sia	'bite'
	sia-ti	'bite (rep)'
*mamaq	mama	'chew'
	mama-ghi	'chew (rep)'
*sepsep	soso	'suck'
	soso-pi	'suck on'
*tumbuq	tumbu	'grow'
	tumbu-ghi	'grow on'
*dakep 'embrace'	rako	'catch, seize'
	rako-fi	'catch, seize (rep)'

But in many other examples extensive reorderings must have taken place among these suffixal consonants, and new consonants have also been introduced, even in loanwords:

*laquy	leni	'swim'
	leni-fi	'swim towards'
*tumbuk	tumbu	'knock, pound, hit'
	tumbu-li	'knock repeatedly'
*salaq	hala	'wrong'
	po-hala	'differ from'
	po-hala-ti	'differ about'
*tunu	tunu	'burn'
	tunu-li	'burn repeatedly'
*maRi	mai	'come'
	mai-hi	'come towards'
bisara	'speak' < Ind. <u>bicara</u>	
bisara-ki	'scold'	
dhaga	'guard, watch, be careful' < Ind. <u>jaga</u>	
dhaga-ni	'guard (transitive)'	

This subject can only be briefly touched upon here, as it needs extensive research before any firm conclusions can be drawn. A question which has not been addressed yet is whether certain groupings can be made for the suffixes on the basis of the meanings of the verbs as was done for Fijian by Arms (1973). The presence of dialectal and even idiolectal variation in the shape of the suffix is a further complication (e.g. ene-pi, ene-mi 'pick up repeatedly'). For more examples see GML 8.1 and 10.2.16.

## 5.2 Prenasalized consonants

In this section I will treat the origin of prenasalized consonants (which function as units in Muna); especially in initial position.

As a result of the loss of wordfinal consonants and the development of a single (C)V syllable type in Muna, syllable-final nasals in medial position were re-analyzed as belonging to the next syllable and forming a unit with the following plosive. This means that the syllable division of earlier \*tan.du 'horn' changed to ta.ndu. This resulted in a distributional asymmetry: prenasalized consonants (PCs) were only found as the onset of a second or third syllable and not as the onset of the initial syllable. In order to restore a uniform distribution of all segments over the word, PCs were 'created' in initial position. Nevertheless, morpheme-initial PCs are still relatively uncommon in Muna (see frequency tables in GML 2.5), and most of them do not appear word-initially but word-medially (i.e. after one or more prefixes). PCs word-initially are certainly quite marked in Sulawesi languages. The question which needs to be answered is: under what conditions and from what segments have initial PCs developed? Again, only a few hints at a possible solution will be given; a detailed analysis must wait at this point. I believe that the following points may give some insights.

In the first place, a distinction needs to be made between 'absolute' PCs and PCs in free variation with plain plosives, such as the following (see GML 2.8 for more examples):

bhirita / mbiriti  
kolipopo / ngkolipopo

'news'  
 'star, firefly'

The variant containing the PC is regarded as more 'refined' it has a poetic or literary flavour. In poetry and lyrical prose these variants are commonly used. This could have been an important factor in the development of PCs, although the extent to which this principle has been at work (or still is) is not completely clear.

Secondly, a quick look at morpheme-initial PCs reveals that about half of the entries in which they occur are verbs. Examples with clear etymologies:

*Dalem	'deep'	ndalo
*Dabu	'fall'	ndawu
*dulas	'slippery'	ndeli (metathesis + fronting)

Since these intransitive roots never occur as free words, it seems highly likely that one or several prefixes have triggered nasal accretion, after which reanalysis of the root has taken place. Such prefixes could have been the verbal class-affixes me- and mo- and the nominalizing prefix ka-. The possibility that the nasal accretion reflects an older final nasal of the prefix (e.g. \*kaŋ-) needs further exploration. In present-day Muna, ka- is still occasionally accompanied by nasal accretion; cf. gholeo 'dry in the sun' and ka-ngkoleo-ha 'clothes line'. I suggest that re-analysis has taken place in the following three stages, illustrated by the words ndalo 'deep' and tisa 'plant'. (ka- is the nominalizing prefix, followed by nasal accretion, ne- is a third person singular person marker illustrating the total verbal paradigm):

	*dalo	'deep'		*tisa	'plant'
1.	ka-n-dalo		ne-dalo	ka-n-tisa	ne-tisa
2.	ka-ndalo		ne-dalo	ka-ntisa	ne-tisa
3.	ka-ndalo		ne-ndalo	ka-ntisa	ne-tisa

It is easy to see how reanalysis has taken place in the case of ndalo, so that the morphophonemic alternation in stage 2 was resolved in favour of the form ndalo throughout the paradigm (stage 3). This leaves the question why reanalysis has not (yet) taken place in tisa. I believe part of the answer is grammatical: tisa is a transitive verb, which, when the object is definite (see GML 4.6) shifts to class a-. As such the initial consonant may also be found word-initially (as in tisa-e! 'plant it!'). Word-initially, PCs had to 'leap a bigger hurdle' to develop and consequently tisa and ntisa are both found. This point is supported by the fact that almost all verbal roots with initial PCs are intransitive (class ae- and ao-), as a result of which these consonants are never found word-initially.

The second reason is phonological: the second consonant in the root may 'block' or 'encourage' prenasalization (cf. the section on phonotactics in GML 2.7). The exact nature of this constraint is still vague, but the fact that the second consonant in these verbs is either l, w, ng, r, k or t (but never s, f, mp or bh, for instance) is probably significant.

The third factor in the rise of PCs is found in compound constructions (GML 10.4). A close connection between two nouns (or occasionally between a noun and a deverbal attribute) is sometimes signalled by nasal accretion on the second noun. This process is found productively in other languages in central and southeast Sulawesi, but in Muna it is limited to a number of fixed phrases. Some examples:

<u>turu-ngkato</u>	'eaves'	<u>turu</u>	'drip'
		<u>ghato</u>	'roof'
<u>we koro-mpolangku</u>	'under the staircase'	<u>koro</u>	'bottom'
		<u>pclangku</u>	'staircase'

Again I propose that re-analysis has taken place in some cases, so

that the second part of the compound came to be an independent word. Since this process is no longer productive in Muna, it may as an archaic feature explain the literary usage of prenasalization as outlined above.

This leaves a relatively small group of nouns and some functor words with initial PCs. Some of the trisyllabic verbs may in fact hide some morphological material, such as 'obscure' prefixes (not productive, no clear meaning, sometimes no independent root), e.g. the element nta- which is found in the following words:

<u>ntabheka</u>	'young monkey'	<u>bheka</u>	'cat'
<u>ntabhala</u>	'thumb'	<u>bhala</u>	'big'
<u>ntahoro-horo</u>	'airplane'	<u>horo</u>	'fly'
<u>ntamele-mele</u>	'dragon fly'	-	

Other categories are onomatopoeics (nduu, ndii), shortenings (ndua 'second cousin' <topendua) and loanwords (ndikele 'nickel')

I hope I have shown in this section that, although there remains much more to be investigated, a number of parameters in the development of initial PCs can be identified.

## 6 NUMERALS

The numerals in Muna show a number of regular and irregular sound changes, that make the system less than transparent. The lower numerals one to nine each have three variants (or allomorphs): the so-called 'free', 'prefixed' and 'reduplicated' forms. These are shown in the following chart, in combination with the PMP reconstruction for these numerals.

	<u>free</u>	<u>prefixed</u>	<u>reduplicated</u>	<u>PMP</u>
1	ise	se-	se-ise	*isa
2	dua	rua-/raa-	ru-dua	*duha
3	tolu	tolu-	to-tolu	*telu
4	paa	fato-	po-paa	*epat
5	lima/dima	lima-	di-dima/li-dima	*lima
6	noo	nomo-	no-nco	*enem
7	pitu	fitu-	pi-pitu	*pitu
8	oalu/alu	alu-	oalu	*walu
9	siua	siua-	si-siua	*siwa

For the usage of the three sets, see GML 5.7.1. These forms can all be related to the PMP forms without major problems, but we have to account for the differences between the sets. One possibility that can be considered is that one set (for instance the free forms) has been borrowed and that the prefixed forms represent the true reflexes. This option is unlikely, because the languages from which Muna has borrowed (Malay, Wolio, Bugis) have other forms in these sets (e.g. Wolio jua 'two', talū 'three'). Also, differences between free and prefixed numerals are very common in languages of central and southeast Sulawesi. It is therefore more appropriate to consider all the forms to be directly inherited.

The reduplicated forms are clearly derived from the free forms. I will treat them at the end of this section, dealing first with the free and the prefixed forms by number.

1. The change from \*isa to ise is another example of height assimilation, although this is the only example of the pattern iCa > iCe that I have found (cf. 4.1). The loss of the initial i in the prefixed form is irregular, and probably due to high frequency. It seems that the number 'one' is the first candidate for a prefixed (or cliticized) form, as witnessed by languages such as Malay se- versus the full forms satu and esa and Tagalog sa- in sampu 'ten' versus isa. It is to be noted also at this

point that the word ompulu 'ten' also contains a remnant of the word for 'one'. The derivation is likely to have moved along the following lines: \*sa- > ha- > ho- > o- + nasal accretion (cf. Mori hopulu 'ten', without nasal accretion). For the change \*a > o see below (Section 7).

2. The prefixed form raa- (sometimes even shortened to ra-) is due to vowel assimilation from rua-. The free form dua can be explained in two ways. Either the change \*d > r did not take place in this form (but why not?) or, alternatively, dua is a relatively new form, created on the basis of the reduplicated ru-dua, which itself is the product of dissimilation from earlier \*ru-rua. The latter possibility is more likely, also in the light of the Cia-Cia free form rua.

3. This is completely regular.

4 and 6. Both 'four' and 'six' show interesting alternations. These are not limited to Muna and neighbouring languages such as Cia-Cia and Wolio, but are also found in e.g. Mori and Pamona, thus going back to the probable common ancestor of these languages. I hypothesize a development along the following lines:

- a) Before the proto-language lost final consonants, there was one form, used as a free form and before classifiers and measure nouns;
- b) When syllable-final consonants became disallowed, the free forms dropped the final consonant, but before classifiers and measure nouns an excremental vowel was put in. This was the unmarked vowel o;
- c) Initial vowels in the prefixed forms were deleted;
- d) apa and ono metathesized to paa and noo. This process of metathesis in the configuration VCV with identical vowels is found also in words like nee 'nose' from earlier \*ene (cf. Mori enge).

The only problem is that \*epat should have led to \*\*opa, which could not have metathesized. Schematically the changes can be presented as follows (I take - without evidence - apat as the historically correct form):

	<u>free</u>		<u>prefixed</u>	
	'four'	'six'	'four'	'six'
a)	apat	onom	apat-	onom-
b)	apa	ono	apato-	onomo-
c)	apa	ono	pato-	nomo-
d)	paa	noo	pato-	nomo-

5. The alternation between lima and dima is no doubt due to reanalysis of li-dima, lima being the historically correct form, with dima reanalyzed as the basis of li-dima. This form li-dima itself is the result of dissimilation of earlier \*li-lima. It seems that the prefixed form (only lima-) is less prone to reinterpretation and analogy, no doubt because these forms are not used independently but always in combination.

6. See under 4.

7. The alternation between p (free form) and f (prefixed form) was mentioned in 4.2.2. In the free form pitu the bilabial plosive was retained because of its stressed position, whereas in the prefixed form it shifted to f as it takes secondary stress. Primary stress falls on the following classifier or measure noun (e.g. fitu ghulu 'seven (animals)').

8. As was shown in 4.2.9, the regular reflex of \*w is zero in Muna; alu is therefore the expected form. How then can we account for oalu? There are two possibilities here. It might be the case that o is the article o found before free nouns (GML 5.6). In Mori, for instance, free forms are almost invariably preceded by the article o (but Esser 1933:280 believes this is reduplication). But why would only one of the numerals be preceded by the article? It is therefore more likely that o is a lowering of \*u in the prestressed syllable. The \*u was probably retained here

because of the preceding word pitu, which ends in u (or maybe it was lost first, and then reintroduced). Since free forms are typically used in counting, the preceding word may have been of influence here. Adriani (1931:323) ascribes the w which occurs in rapid counting in Pamona walu 'eight' to the preceding pitu.

9. These forms are almost regular, except that intervocalic \*w has been syllabified to the full vowel u. In present-day Muna the word siua is exceptional in that it has antepenultimate stress (on i and not - as was to be expected - on the penultimate u). This irregular stress pattern may reflect the original disyllabic nature of this word.

The reduplicated form of most numerals can be derived from the free forms, although we saw that some free forms have most likely been formed on the basis of the reduplicated form. In any case the connection is a strong one. The following points can be made about the irregular forms:

a) Dissimilation of liquids is responsible for the forms ru-dua and li-dima. The alternative di-dima is no doubt a further attempt to bring regularity into the paradigm; by creating the regular form on the basis of the free form dima. Notice that the expected \*du-dua does not exist.

b) The reduplication pattern is such that the first consonant and vowel are repeated. This also accounts for the form se-ise. In other words, the system is template-driven and not phoneme driven (see Marantz 1982). The exceptional behaviour of oalu is probably due to the double initial vowel, which blocks reduplication (expected form: \*lu-oalu). The vowel o in po-paa is the 'given' or pre-associated vowel in one-syllable reduplication of roots with a. Other examples are lako / lo-lako 'cut' and hae / ho-hae 'what'. Cia-Cia uses the vowel o as the regular vowel in all these reduplications: do-rua; to-tolu, po-pa'a; lo-lima; no-no'o; po-picu (but no reduplication in oalu and siua - possibly because these roots are trisyllabic). Unlike Muna, Cia-Cia siua has penultimate stress.

c) The question may be raised why \*p has not shifted to f in the reduplicated forms po-paa and pi-pitu. I believe this is again due to phonotactics: combinations of p and f within words tend to be avoided.

## 7 PRONOUNS AND PRONOMINAL AFFIXES

In this section I will deal with the phonological changes that have occurred in the pronouns and in the person-marking affixes. These categories show a number of irregular and sporadic sound changes, a fact which can only be attributed to their different status as grammatical morphemes. Apparently such morphemes, which are high-frequency items in any case, display some unique behaviour. The same is shown to be the case in Rejang by Blust (1984). I will treat the free pronouns first, followed by a discussion of the different sets of pronominal affixes. It will be inevitable to go into some historical morphology as well.

### 7.1 Full Pronouns

In van den Berg (1988) I reconstructed the free pronouns in Proto-Muna on the basis of the present-day Muna dialects. This section will closely follow the results presented in that study.

The following chart shows the free pronouns in standard Muna, in Proto-Muna, in a still earlier stage showing the morphemic make-up and, for the sake of comparison, in PMP. Because of lack of data from other Muna dialects, I will not discuss the second person plural. Also I limit myself here to basic forms (thus excluding the derived form intaidi-imu 'we (plural inclusive)'). Notice that in present-day Muna intaidi usually has dual reference. In the chart i = inclusive and e = exclusive.

	Muna	Proto-Muna		PMP	
sg	1	inodi	*inodi	< *in-aku-odi	*(i)aku
	2	(i)hintu	*(i)sintu	< *(i)-si(n)tu	*(i)kahu
	3	anoa	*anoa	< *a-no-a	*(si)ia
pl	li	intaidi	*intaodi	< *in-ta-odi	*(i)kita
	le	insaidi	*incamoodi	< *in-kami-odi	*(i)kami
	3	andoa	*andoa	< *a-ndo-a	*(si)iDa

The following points can be made about these forms.

1. All Muna forms show formative elements, the meaning of which cannot be determined with certainty. These elements include the prefixes in-/i- for first and second person; the suffix -odi for first person (originally possibly a demonstrative or a locative element) and the prefix-suffix combination a-a for third person. The suffix -odi has undergone vowel assimilations.

2. Lexical replacements have taken place in the second and third person. \*(i)sintu goes back to a second person demonstrative 'there (near you)'. This phenomenon of a locative/demonstrative as a polite second person pronoun is also reported for varieties of Malay (di situ). The change from \*s to h has been found to be quite common in Muna. The forms \*a-no-a and \*a-ndo-a have been formed on the basis of the possessive suffixes and subject markers (see below). This phenomenon could be called 'paradigm cross-over'.

3. The element aku in \*in-aku-odi has been reduced to au and hence to oo. The sequence of o's has been reduced to one single o. The loss of intervocalic k in Muna is exceptional. It is not clear why the first syllable of \*kita should have been lost in \*in-ta-odi. \*kami has changed to \*\*sami, but after a nasal the resulting combination was originally nc. Later the c depalatalized to s. The medial m has weakened to w (still insawoodi in some Muna dialects) and then further to zero.

## 7.2 Subject prefixes

Muna shows quite a variety of subject prefixes. In addition to differences according to person, the forms are dependent on verb class membership and the realis-irrealis distinction. The following chart shows the basic forms (again excluding derived forms; p=polite).

	Class a-		Class ae-		Class ao-		
	REALIS	IRREALIS	REAL	IRR	REAL	IRR	
sg	1	a-	a-	ae-	ae-	ao-	ao-
	2	o-	o-	ome-	ome-	omo-	omo-
	2p	to-	ta-	te-	tae-	to-	tao-
pl	3	no-	na-	ne-	nae-	no-	nao-
	li	do-	da-	de-	dae-	do-	dao-
	ie	ta-	ta-	tae-	tae-	tao-	tao-
	3	do-	da-	de-	dae-	do-	dao-

Class a- typically has dynamic intransitive verbs as its members (e.g. kala 'go', linda 'dance', suli 'return'). Class ae- transitive verbs (e.g. ala 'take') and class ao- stative intransitive verbs (e.g. rubu 'small', lodo 'sleep'). The realis is used for the present and the past; the irrealis has its main use for marking future or intentions and is also used after negators. In class a- the irrealis is further marked by the infix -um- (or one of its allomorphs). For further details and examples, see GML chapter 4.

All these forms can, I believe, be brought back to one relatively simple system. First I will deal with the class differences. There is so much similarity in form here, that even synchronically one is tempted to derive them from one underlying form. I propose that what has happened



historically is that class a- has more or less retained the original forms (especially in the irrealis), whereas the prefixes in class ae- and ao- go back to the combination of the simple subject prefix plus an intervening affix -me- and -mo- before the verb root. The main reason for positing this -me- and -mo- is that these affixes still emerge in these classes under the following circumstances:

1. Imperatives: kala 'go!'; but: me-ala 'take!', mo-lodo 'sleep!'.
2. Participles: k[um]ala-no 'going'; but: me-ala-no 'taking', mo-lodo-no 'sleeping'.
3. With certain other affixes, e.g. si-/-ha 'together': do-si-kala-ha 'they went together'; but: do-si-me-ala-ha 'they took together', do-si-mo-lodo-ha 'they slept together'.

This means that ae- goes back to \*a-me- and similarly ao- to \*a-mo- etc. Apart from the vowel changes (see below) we therefore need to postulate the deletion of m in this environment. This occurred everywhere except after the second person prefix o-. That may seem surprising, but most probably this o- goes back to \*u- (which is still its shape in Wolio), thereby forming an environment which was less prone to weakening and deletion.

The distinction between the realis and the irrealis probably originated in the a-class, where it is marked by the absence or presence of the infix -um-. The forms can be brought together by allowing for the change a > o in unstressed syllables (the a- forms are definitely older). In the realis forms the subject prefixes normally precede the stressed (penultimate) syllable, e.g. no-kala 'he goes', whereas in the irrealis they receive secondary stress because they are two syllables away from the main stressed syllable, e.g. na-k[um]ala 'he will go'. For unknown reasons the first person singular a- and the first person exclusive ta- have not participated in this change. Interestingly, in Cia-Cia this change has spread to first person as well: cf. o-mbule 'I return(ed)' versus a-mbule 'I will return'.

My hypothesis is that once the realis-irrealis distinction in the a-class was also marked by different subject markers (at least for certain persons), this spread to the two other classes. There must have been system pressure for this distinction to apply to all the verbs in the different classes. Hence the vowel sequences -ae- and -ao- were reduced to simple -e- and -o- respectively, with the exception of the first person singular and plural exclusive. Thus a perfect parallel distribution resulted.

The following chart-- basically the result of internal reconstruction --presents the results obtained so far. At this point it is impossible to say anything about the time-depth of this reconstruction. It is certainly older than Proto-Muna.

sg	1	*a-
	2	*u-
	2p	*ta-
	3	*na-
pl	li	*da-
	le	*ta-
	3	*da-

Given the above-mentioned sound changes (a > o; deletion of m; reduction of -ae- and -ao-), all the present-day forms can be derived from this set. I will not be concerned here with the origins and the developments of the \*ta- and \*da- prefixes, but it is clear that a number of changes in the reference and reinterpretations have taken place ('person shifts'). Also, I will not attempt to derive this reconstructed set from PMP forms.

### 7.3 Direct, indirect and possessive suffixes

The chart for the remaining person-marking affixes is presented below

(again excluding derived forms), together with the Proto-Austronesian genitive pronouns, taken from Blust (1977).

	<u>direct object</u>	<u>ind.object</u>	<u>poss.</u>	<u>PAN genitive</u>
sg - 1	-kanau	-kanau	-ku	*i-ku/ni-ku
	-ko	-angko	-mu	*i-su/ni-su
	2p -kaeta	-kaeta	-nto	
3	-e	-ane	-no	*i-a/ni-a
	pl li --	--	-nto	*i-ta/ni-ta
le	-kasami	-kasami	-mani	*i-mi/ni-mi
	3 -da	-anda	-ndo	*i-da/ni-da

The direct object forms are ultimately related to the free PMP forms. Since they became phonologically bound to the preceding word, they have undergone some unusual changes. First, the forms -kanau, -kaeta and -kasami all show a fossilized prefix ka- which was apparently attached to first person direct object pronominals (Present-day second person polite -kaeta is no doubt an original first person inclusive, for which no form is available now; see GML 4.8.3 for the question how the language solves this problem). An allomorph kan- occurred before vowel-initial pronouns: hence -kanau, which goes back to \*kan-aku with loss of intervocalic k (compare the discussion on inodi 'I'). Similarly, -kaeta reflects \*ka-kita, with loss of k and vowel assimilation (some Muna dialects still have -kaita). In -kasami, from \*ka-kami, the medial k has weakened to s (cf. 4.2.4).

As for the other direct object pronominal suffixes, -ko no doubt reflects PMP \*kahu or possibly \*kamu, with loss of the intervocalic consonant and subsequent vowel coalescence. The origin of -e is less clear. Some languages in southeast and central Sulawesi have -i as a third person marker (Uma, Mori) and this may have lowered to -e in Muna. Alternatively, it may directly reflect the PAN free pronoun \*ia. The third person plural -da goes back to the PAN possessive ('genitive') \*i-da/ni-da. Notice that this form -da corresponds very well with the reconstructed da- as third person plural subject marker.

The indirect object series present few problems. Monosyllabic direct object suffixes were preceded by the affix -an-, resulting in -angko, -ane and -anda. This -an-, which can only be found in these few forms in Muna, could be related to the beneficiary suffix -an in several South Sulawesi languages such as Bugis and Toraja.

The possessives finally, are relatively straightforward. The Muna forms -ku and -mu are direct reflexes (although \*mu was second person plural in PAN, in PMP it was probably already singular, see Blust 1977). -nto and -ndo show nasal accretion, and, together, with -no, illustrate the change a > o. The only real problem is -mani. Since this is -mami in some related languages (Mori, Wolio), Muna seems to have undergone dissimilation here. Haaksma (1933:100) links Mori -mami to kami found in other languages and derives them from a proto-form \*kamami. In any case the Muna form -mani is exceptional in that it is disyllabic and hence does not directly reflect the PAN genitive.

This discussion has shown that even in the seemingly chaotic system of person marking in Muna there is enough evidence of a historically fairly transparent system. The factors that have complicated the picture are irregular sound changes, person shifts and paradigm cross-overs. A detailed analysis of these last two topics forms a major challenge for Sulawesi comparative morphology.

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