

A MUSSAU VOCABULARY, WITH PHONOLOGICAL NOTES

Robert Blust

0. INTRODUCTION AND AIMS

According to Beaumont (1976) there are nineteen Austronesian (AN) languages spoken in the New Ireland Province of Papua New Guinea. While most of these are found on New Ireland itself, a substantial minority are spoken on outlying islands. The most northerly of these is the language of the St. Matthias Archipelago, separated by the 50-mile wide Ysabel Channel from New Hanover to the south, and by 100 miles of open sea from the Admiralty Islands to the south-west.

The St. Matthias group consists of Mussau (or Musau), some 110 square miles in extent, Emira (Emir, E Mira), about 18 square miles in extent, and a number of smaller islands including Tenis (or Tench), 40 miles due east of Emira and 60 miles from the nearest landfall in New Ireland.¹ Population according to the 1970-71 census figures is Mussau 3,153, Emira 498, Tenis 49 (Beaumont 1972:13).

Although there appear to be some dialect differences on Mussau itself, the available evidence suggests that a single language is spoken throughout the St. Matthias Archipelago. The most extensive publication on this language to date is an English-Emira (E Mira) vocabulary of about 500 words collected by Chinnery (1927). Lithgow and Claassen (1968) offer a few passing observations on the phonetic typology of Mussau (Musau), Emira and Tenis. Based on a comparison of equivalents for the first 120 meanings of a standard S.I.L. test list they also report 92% shared cognates between Mussau and Emira. Capell (1971:261ff) states that a Mussau (Musau) wordlist and sentences were supplied to him in 1945, and that he himself took some fieldnotes in 1952 on Emira (E Mira). He lists the Emira pronouns (singular, dual, trial, plural) together with three sentences, and a few possessive forms from Mussau. Beaumont (1972:29), who provides the most extensive review of the linguistic literature on New Ireland currently available, calls attention to an unpublished Mussau-English and English-Mussau wordlist which "was probably written by Pastor A.S. Atkins who was pioneer missionary for the Seventh Day Adventist Mission from 1934-1942. Each section of the wordlist has about 600 words". There are no phonological data in Chinnery nor, reportedly, in this manuscript. Finally, Beaumont (1976), basing himself on the first 105 items of the S.I.L. comparative vocabulary used by Lithgow and Claassen, gives a cognate score of 66% for Tenis with Mussau-Emira, which he treats as a single language (called 'Emira-Musau'). Based on cognate percentages with other languages of the New Ireland Province he assigns Emira, Mussau and

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Tenis to a distinct St. Matthias subgroup. Nine Mussau-Emira and six Tenis words are given on a comparative vocabulary of New Ireland languages, and all six cases of overlap appear to be cognate.²

The following vocabulary of approximately 570 words was collected as an incidental by-product of fieldwork conducted in the Admiralty Islands from February to May, 1975. Several Mussau speakers were located near Lorengau, Manus, and two elicitation sessions were arranged totalling about six contact hours. All elicitation was through the medium of New Guinea Pidgin English. The principal informant was Uloulo Ainamangas, a native of Lomakunauru village on southern Mussau who was born around 1930 and had served for several years as a Seventh Day Adventist missionary stationed in Manus. I was told that the speech of central and northern Mussau villages differs in some particulars from that of Lomakunauru.

My major aims in this paper are: 1. to extend the published lexical record for Mussau-Emira beyond the beginning made by Chinnery in 1927, and 2. to provide a first statement of both the synchronic and the diachronic phonology, which until now has been all but totally neglected. In addition to these aims I offer a few very limited remarks on grammar.

1. GRAMMAR

The discussion of grammar will be divided into 1. subsystems (numerals, pronouns) and 2. morphology and syntax.

1.1 Subsystems

The Mussau system of numeration can be outlined as follows. Numerals 16 - 19 were not recorded, but are inferred on the basis of the system apparent in the forms actually transcribed:

1	sesa	17	(ka-sa-ŋaulu-ga-itu)
2	lua	18	(ka-sa-ŋaulu-ga-ualu)
3	tolu	19	(ka-sa-ŋaulu-ga-sio)
4	ata	20	ga-lue-ŋaulu
5	lima	30	ko-tolu-ŋaulu
6	nomo	40	ga-ati-ŋaulu
7	itu	50	ga-lima-ŋaulu
8	ualu	60	ga-onomo-ŋaulu
9	sio	70	ga-itu-ŋaulu
10	sa-ŋaulu	80	ga-ualu-ŋaulu
11	ka-sa-ŋaulu-ka-teba	90	ga-sio-ŋaulu
12	ka-sa-ŋaulu-ga-lua	100	ai-e-teba
13	ka-sa-ŋaulu-ko-tolu	200	ai-e-lua
14	ka-sa-ŋaulu-ga-ata	1000	airari-e-teba or ka-teba-airari ³
15	ka-sa-ŋaulu-ga-lima	2000	airari-e-lua or ga-lua-airari
16	(ka-sa-ŋaulu-ga-onomo)	3000	airari-e-tolu or ko-tolu-airari

As can be seen, Mussau has an unmixed decimal system of counting. Moreover, the numerals 2 - 10 clearly reflect the corresponding Proto-Oceanic (POC) forms. The most significant synchronic problems in analysing this system are: 1. the suppletive alternation of sesa and teba in the meaning *one*, 2. the phonological alternation of lua (2, 12, 200, 2000) with lue (20), 3. the phonological

alternation of ata (4, 14) with ati (40), 4. the phonological alternation of nomo (6) with onomo (60), 5. the phonological alternation of ka, ga and ko, 6. the seemingly redundant presence of this proposed element in numerals above ten.

If the limited material permits any definite conclusions, *sesa* is perhaps restricted to serial counting (cf. *la-ŋa-teba one day*, *bo-ŋa-teba one night*, *koko a-teba one fish*). In the preceding contexts the function of *teba* seems to border on that of an article. This is further suggested by the recorded contrast *ane-gi niu my coconut*: *ane-gi niu e-teba I have a/one coconut*. One might therefore expect *ale-gi e-teba* to mean *I have a/one house (ale)*, but this string was actually given to me in the meaning *my house*. Moreover, *kina-gi e-teba my mother (kina)* could hardly have a clausal interpretation. It thus appears likely that one form of possessive marking derives from an earlier clausal construction in which the numeral/article has (at least in non-contrastive contexts) become semantically vacuous.⁴ No reason can be given for the alternation of *lua* with *lue*, but explanations for the other anomalies will be suggested below.

Before considering the pronouns it should be noted that Chinnery's material on the Emira numerals differs from mine in the following respects: 1. the word for *one* is unrelated (*latin-ng ai ia*), 2. *lua* is the only stem form for *two*, (cf. *galua two*, *ga luang au ulu twenty*), 3. *ati* is the only stem form for *four* (*gati four*, *ga ting au ulu forty*, 4. *onomo* (written *unomo*) is the only stem form for *six* (*gaunomo six*, *gau nomong au ul sixty*), 5. *ga* does not alternate with *ka* or *ko* (*ga luang au ulu twenty*, *gato lung au ulu thirty*), 6. *ga* appears on all numerals above *one* (*galua*, *gatolu*, *gati*, *galima*, etc.).

Mussau has three sets of pronouns of which the first two are partially similar. These are labelled A, B and C below. With one exception, only the singular forms were recorded for the third set.

	Set A	Set B	Set C
sg.			
1	agi	-gi/gu	a-
2	io	-m	u-
3	ia	-na	e-
dual			
1 (incl.)	ita lua	ita lua	
(excl.)	ami lua	ami lua	
2	aŋa lua	aŋa lua	
3	ila lua	ira rua	la-lu
plural			
1 (incl.)	ita	ita	
(excl.)	ami	mami	
2	aŋa	aŋa	
3	ila	ira	

Set A consists of independent subject pronouns, Set B of object and possessive pronouns and Set C of proclitic subject markers in the verb complex (see below). A single trial form was recorded (*aŋa tolu*), and it therefore seems likely that a trial/paucal number is morphologically distinguished in Mussau, as it is in Emira. Collective plurals *ita akapa all of us* and *ila akapa all of them* were also recorded.

Capell's (1971) data indicate two types of possessive construction in Mussau, the first marked by a postclitic pronoun (*tama-gi my father*) and the second by a preposed complex of relation marker (RM) plus clitic pronoun: *kalu-ku niu my coconut (as mere possession), ane-gi niu my coconut (to eat), oi-gu niu my coconut (to drink)*. This type of distinction is, of course, widely attested in Oceanic languages. As indicated in the vocabulary, virtually all body part names and kinship terms as well as some non-material extensions of the self ('shadow/soul', 'name') were recorded with obligatory possessive suffixes. Unlike the situation in many Oceanic languages, however, some nouns which are not obligatorily possessed evidently take the same suffix, as in *ale-gi e-teba my house* (cf. e.g. *nima-gi my hand, kina-gi e-teba my mother*). Apart from *ane-gi inana my food* and *ane-gi koko my fish (to eat)*, I recorded little further information on the preposed relation markers. The possibility that Mussau has some relation markers other than those listed by Capell is suggested, however, by *une-gi pen(i) my pen*.

1.2 Morphology and syntax

I collected only 23 isolated sentences, three intransitive verb paradigms (eat, sleep, laugh) in the singular, and one relatively complete transitive verb paradigm (look). These are given in full below:

- (1) *sei e-nama-la ane-gi koko a-teba*
who he-eat RM-my fish a/one
who ate my fish?
- (2) *u-nama-la saa*
you-eat what
what did you eat?
- (3) *polii-saa John e-nama-la ane-gi koko a-teba*
why he eat RM- my fish a/one
why did John eat my fish?
- (4) *a-nama-ie-la polii a-maamalo*
I-eat because I-hungry
I ate it because I was hungry.
- (5) *elobi-saa u-gaa-la koko a-teba*
time- what you-catch fish a/one
*when did you catch the fish?*⁵
- (6) *ea u-gaa-la koko a-teba*
where you-catch fish a/one
where did you catch the fish?
- (7) *u-gaa-la koko tale-saa*
you-catch fish how
how did you catch the fish?
- (8) *u-gaa-la ga-isa koko*
you-catch how many fish
how many fish did you catch?
- (9) *koko e-kaakaa-i tale keru*
fish it-stay-at inside basket
the fish is inside the basket

- (10) une-gi pen(i) atiulu toko/too/teke
 RM- my pen this/that/that
 this/that is my pen
- (11) gai-a uru-ŋ-ai me u-laa sulu-i
 fetch-it paper and you-go burn-it
 take the paper and burn it!
- (12) poso-a-la ta-nima-m
 hold in-hand-your
 hold it in your hand!
- (13) pasi pate-a-la
 cut break
 go cut it!
- (14) porapora nima-m
 wash hand-your
 wash your hands!
- (15) bibi aogi e-la
 push back
 push it back!
- (16) ŋusu poi e-la
 smell odor
 smell it!
- (17) e-asai inoa-na
 he-pull breath-his
 he is breathing
- (18) ila lokuloku
 they dance
 they are dancing
- (19) agi a-tuutuu
 I I-cook
 I'm cooking
- (20) agi a-uŋu
 I I-work
 I'm working
- (21) ane-gi niu e-teba
 RM- my coconut a/one
 I have a/one coconut (to eat); my coconut
- (22) agi a-ropi manu
 I I-drink water
 I'm drinking water
- (23) sei arari-m
 who name-your
 what is your name?
- (24) a. agi a-namanama I'm eating
 b. io u-namanama you're eating
 c. ia e-namanama he's/she's eating

- (25) a. agi a-asekanue *I'm sleeping*
 b. io u-asekanue *you're sleeping*
 c. ia e-asekanue *he's/she's sleeping*
- (26) a. agi a-kaŋakaŋa *I'm laughing*
 b. io u-kaŋakaŋa *you're laughing*
 c. ia e-kaŋakaŋa *he's/she's laughing*
- (27) a. agi a-tara-la eta-na or agi a-tara ie-la
I'm looking at him/her
 b. io u-tara-la eta-gi or io u-tara-ie-gi-la
you are looking at me
 c. ia e-tara-la eta-m or ia e-tara io-la
he is looking at you
 d. ia e-tara-la eta-ita or ia e-tara ita-la
he is looking at us (incl.)
 e. ia e-tara-la eta-mami or ia e-tara mami-la
he is looking at us (excl.)
 f. ia e-tara-la eta-aŋa or ia e-tara aŋa-la
he is looking at you (pl.)
 g. ia e-tara-la eta-ira or ia e-tara ira-la
he is looking at them
 h. ila-lua la-lu tara-la eta-gi
they (dual) are looking at me
 i. ita tara-la eta-na
we (incl.) are looking at him/her
 j. ami tara-la eta-na
we (excl.) are looking at him/her

In addition to the above the following complex noun phrases should be noted: ateio talia (= *fresh water + round*) *lake*, manu kulalaba (= *water + big*) *high tide*, kapu-gu bause (= *elder sibling + my + female*) *my older sister*, tubu-gu bause pisike (= *lineal consanguine two generations removed + my + female + small*) *my grand-daughter*, patu nima (= *joint + arm*) *elbow*, uu gila (= *feather + bird*) *feather*, biliki niu (= *skin, integument + coconut*) *coconut husk*, biliki-ŋ-ai (= *skin, integument + tree*) *tree bark*, riu-ŋ-aasono (= *bone + of + rafter*) *rib*, uru-ŋ-ai (= *leaf + of + tree*) *leaf; paper*, rarum-i-koko (= *water + of + fish*), *fish broth*, pakasa *handle*, pakasi kaputu (= *handle + i + adze*) *adze handle*.

Based on the foregoing extremely limited data the following tentative conclusions about Mussau sentence structure can be advanced:

- 1) the order of major sentence constituents is SVO
- 2) this order is internally mirrored in the verb complex. The verb complex is a single phonological word which consists minimally of two elements: 1. a proclitic subject marker which varies for person and number, and 2. the verb stem. Various suffixes or postclitics may follow a transitive verb stem, but too little material was collected to determine their functions with certainty (see below).
- 3) locative relations are indicated by prepositions

4) the structure of attributive constructions is head (+ possessor) + attribute. Genitive constructions follow the order part + whole.

As in human languages generally, the shortest morphemes in Mussau often present the biggest problems in analysis. A brief inventory of minor morphemes identified, and their possible functions follows:

/a/- (ligature?). The /a/ that appears in e.g. koko a-teba *a/one fish* looks rather like a numeral ligature, but this cannot yet be determined with confidence. Moreover, the relationship of this /a/ to the /e/ of e.g. ale-gi e-teba *my house* remains unclear.

-/a/ (transitive). An unambiguous suffix -/a/ was recorded in a few verbs, where it appears to mark transitivity. The clearest example is seen in the contrast between kasu mai *come here* (vocative) and kasu-a mai *to bring (something)*.

-(V)na (attributive). An attributive suffix containing the common element -na is common in Mussau adjectives. In some cases this seems clearly to have the phonological shape -ana, as in raerae-ana *red* (cf. rae *blood*) and usouso-ana *white*. In other cases the shape appears to be -ena, as in riuriu-ena *skinny thin* (cf. riu *bone*) and boboji-ena *black*. In still other cases the suffix is -na, as in masoso or masoso-na *ripe, cooked*, kalakalanji-na *near*, malaŋo-na *dry*, ou-na *new*. Lastly, some adjectives have no suffix, as aanasa *hot*, makariŋe *cold*, namuu *big*, pisike *small*, sesa *bad*, onose *sweet* and masau *far*. The distribution of -(V)na allomorphs is phonologically unpredictable, and so is mentioned here. Other problems with this suffix which may be amenable to a phonological solution are discussed under 'morphophonemics'.

/e/ (predicative?). This is perhaps the single most problematic morpheme recorded in the entire corpus. It appears before the citation forms of many (though not all) verbs, as in e asoaso poi *to dream*, e bukabukala *to float*, e (ma)matautu *to fear, be afraid* and e porapora *to wash* (but cf. asaasa *to swim*, kanusu *to spit*, ropi *to drink*). In this position it resembles the marker of indefinite predication reported for Fijian, Samoan, Rennellese and some other Oceanic languages. Its absence with many verbs, however, is puzzling — though this may simply reflect the optional character of the particle in conjunction with the limited size of the corpus. In some other respects /e/ resembles a pronoun, much like the similar particle in Motu, Gilbertese, Marshallese and Ponapean, and it is possible that it will ultimately prove to be identical to the third person singular Set C proclitic.⁶ In addition /e/ is found cliticised to /la/ in several imperative sentences, and occurs in such directional expressions as e lamana *toward the sea* and e lae *toward the interior*. As already noted, the /e/ in ale-gi e-teba *my house* or ai-e-teba *one hundred* resembles a ligature. Finally, /e/ appears to be lexicalised in some words and expressions, as in e lo marase *sky* (PRED-in-middle), e lo alai *good afternoon* and possibly elobi-saa (= e lo bi saa?) *when?*

/eta/ (preposition?). A preposition-like element /eta/ was recorded in sentences 27a - j, where it is phonologically bound to the following object pronoun. It is possible that this phonological sequence consists of /e/ plus /ta/, and that the second morpheme is identical to the prenominal particle in poso-a-la ta-nima-m *hold it in your hand!*

/i/ (genitive). A genitive marker /i/ was recorded in rarum i koko *fish broth*. A second example can be isolated by comparison of pakasi kaputu *handle of an adze* with pakasa *handle* (in general), and a third example may be lexicalised in tukuilapu *rainbow* (cf. lapu *kind of colorful lizard*). An apparently more productive genitive marker is /ŋ/ (see below).

/i/ (locative?). A single example of a possible locative marker /i/ was recorded in the sentence koko e-kaakaa-i tale keru *the fish is inside the basket*.

-/ie/. As noted already, the postverbal clitic complex -e-la occurs in several imperative sentences in the corpus. In one known case, however, the sequence -i-e-la is postposed to the verb stem: soa-i-e-la *shoot/stab him/it!* (cf. soaso-la idem). Moreover, as seen in soaso-la, such variant pairs as katu/katuu-la *to fall* and the first variant of sentences 27a-j, /la/ sometimes is postposed directly to the verb stem. Given these facts the morphological analysis of some verbs that were transcribed only in complex form is ambiguous: e.g. [ŋusu poyéla] *smell it!* = /ŋusu poie la/, /ŋusu poi e la/ or /ŋusu po i e la/? In general I have chosen the pattern that appears to be most common for unambiguous forms as a basis for the analysis of ambiguous forms. Thus in the present case I write /poi e la/, since -e-la is the most frequent postverbal clitic complex in my data. Given the overall pattern it seems likely that sentence 27b u-tara-ie-gi-la is an error for u-tara-gi-la. If so, there are grounds for regarding -ie as an allomorph of the third person singular Set A pronoun /ia/, and for regarding Set A forms as not exclusively subject pronouns.

-/la/. This element is closely associated with postverbal /e/, and is almost equally difficult to characterise given the limitations of the data. In sentences 27a-j, it might be considered a generalised (invariant) object marker which is postposed either to the verb or to the object pronoun. However, the citation form of *to see, look at* was recorded as tarala, and /la/ occurs in such intransitive constructions as /e mate la/ *he is dead*. The preverbal /la/ of /la pasa asi/ *plant the taro!* appears to be distinct, though this is by no means certain. Finally, as will be mentioned presently, the main verb laa *to go, walk* is sometimes used as a verbal auxiliary to indicate motion away from the speaker, as in kasu-a laa *to take*. In [biβi aogi εla] *push it back!* the informant suggested that [εla] = *go*. If so it is possible that [εla] is /e laa/, and that these constructions thus parallel (or are calqued on?) Pidgin verbs of motion with *i go* (e.g. siubim *i go push*). However, since the last vowel of -e-la was consistently recorded as short, the informant's remark may have been nothing more than a forced attempt to find Mussau translation equivalents of the Pidgin elicitation forms.

/laa/, /mai/ (directional). These two verbal auxiliaries were recorded in only a few forms, but their significance is unambiguous in kasu-a mai *to bring*, kasu-a laa *to take*. It is noteworthy that laa can also be used as a main verb with the verbal auxiliary mai, which then contrasts with tau: laa mai *to bring*, laa tau *to take*.

-/ni/. This morpheme was recorded only in bause-ni *wife* (cf. bause *female, woman*) and taita-ni *husband* (cf. taita *male, man*).

/ŋ/ (genitive). In view of the limited quantity of data collected /ŋ/ appears to be a highly productive genitive marker. It was recorded as a functional morpheme in eight compounds with ai *tree* (biliki-ŋ-ai *bark of a tree*, laa-ŋ-ai *branch of a tree*, liue-ŋ-ai *base of a tree*, etc.), as well as in several compounds with nei *odor* (nei-ŋ-asi *odor of taro* nei-ŋ-ulu *odor of breadfruit*, etc.). In addition, several genitive compounds have been lexicalised, as in riu-ŋ-aasono *rib* (lit. *bone of rafter*), uru-ŋ-uita *heart* (lit. *head of octopus*) and possibly ai pake ŋ-ale *roof* (lit. *covering-thing of house?*). /ŋ/ is realised as a velar nasal only before vowel-initial nouns. Before consonant-initial nouns it is realised as zero: biliki niu *coconut husk*, patu nima *elbow*, ui mosu *tail of a pig*. Given this complementation some genitive

compounds in which the second noun was not recorded in isolation are morphologically ambiguous: [taliŋa ŋiŋii] *kind of mushroom* = /taliŋa ŋ iŋii/ or /taliŋa ŋiŋii/? In a few other cases a proposed lexical entry may be a genitive compound, as with kalaŋisi *sandfly* and patuŋanua *anchor*. The relationship between /ŋ/ and /i/ remains unclear.⁷

/ŋa/ (ligature?). Historically the initial CV of ŋaulu *group of ten* derives from a numeral ligature which may or may not persist as a separate morpheme in contemporary Mussau. A similar element is found in [laŋatɛβa] *a/one day* and [boŋatɛβa] *a/one night*. Since the Mussau words for *day* and *night* almost certainly derive from prototypes *daŋi, *boŋi it is tempting to regard these collocations as /laŋ a teba/, /boŋ a teba/, thus confirming the apparent ligature noted in /koko a teba/ *a/one fish*. The principal difficulty with this proposal is that the unquantified bases were recorded as [la] *light* and [bo] *night*, thereby supporting a phonemic analysis /la ŋa teba/, /bo ŋa teba/. The homophonous postnominal element in tuu laalaa-ŋa-na *fork of its branch* (cf. laa *branch*) appears to be distinct.

/pa/- . At some level of analysis it seems certain that paluaalua *twin* is to be related to lua *two*, but no parallels to the morphology of this form were observed.

/teba/ (article?). As noted already, teba resembles an article in some contexts, though in other contexts this interpretation is difficult. It is unclear why it was recorded in sentences (1), (3), (5) and (6) but not in sentences (7), (8) or (9).

/toa/ (collective). A collective particle toa was recorded in alikietoa *children* (cf. natu *child, offspring*), namuu atoa *adults* (cf. namuu *big, wide; old, of people*) and tuŋatoa *all*. The phonemic analysis of these three items appears therefore to be /aliki e toa/, /namuu ŋa toa/, /tu ŋa toa/. Such an analysis strengthens the argument for a ligature /ŋa/, and raises further questions about the range of functions of /e/. It is possible that the last element of /aluse taumata tu/ *tall person* is to be identified with the first element of /tu ŋa toa/.

In addition to the foregoing minor morphemes which can be isolated on the basis of contrast within the present grammatical system of Mussau, two affixes which may or may not be productive can be isolated through comparison with other Austronesian languages.

/ai/- (collective or reciprocal action). Several recorded polysyllabic verbs appear to contain a reflex of POC *paŋi- *prefix of collective or reciprocal action*. The most convincing candidates are aiobi *to fight, as in war*, aiora *to copulate* and perhaps aitoka *to collect, gather*. This affix may still be functional in Mussau, but the available data are insufficient to determine the point.

/ma/- (attributive). Many Mussau adjectives — both those recorded with the attributive suffix -(V)na and those recorded without it — are polysyllables that begin with ma-: malaŋona *dry*, mamaatana *heavy*, masikana *sweet*, malalake *thin, of materials*, maroate *wet*, masau *far*, etc. Two words of this type were recorded with an optional additional sequence ma-: (ma)matautu *to fear, be afraid*, (ma)maulue *living, alive*. It is not known whether this extension is 1) a historically secondary layer of identical morphology or 2) a product of partial reduplication. If 1) these two items can be taken as evidence that /ma/- is still functional in Mussau. In view of the fact that ma- and -(V)na can co-occur in the same base, however, it seems more likely that ma- is moribund, if not defunct.

Reduplication. A substantial number of the word bases in my corpus are reduplicated. In some cases reduplication appears to be little more than an arbitrary feature of the lexical item with no semantic content, as with *areare susu nipple of the breast*, *batibati spider* or *guluguluena straight, correct, true*. With non-stative verbs, however, reduplication probably has some grammatical functions. The available material does not permit us to state these with complete confidence, but a correlation of non-reduplicated verb stem with purposive or goal-directed action on the one hand, and of reduplicated verb stem with non-purposive or non-goal-directed action on the other seems likely. This perhaps appears most clearly in *kasu mai come here!*, *kasu-a mai to bring*, *kasu-a laa to take* next to *kasukasu to walk*, *kuu-e-la blow on it!* next to *kuukuu to blow, of the wind* and perhaps *suu sio to dive down* next to *suusuu to bathe*. In general this correlation can be stated in terms of transitivity, since purposive action is most commonly transitive and non-purposive action most commonly intransitive. Contrasts such as *suu sio* vs. *suusuu* and *u-nama-la saa what did you eat?* vs. *ia e-namanama bua he is chewing betel* suggest nonetheless that the basis for the distinction is not transitivity as such, but some other feature closely associated with it. Some exceptions to the foregoing pattern appear to exist, as with *porapora mata-m wash your face!* (where, however, a non-reduplicated base was not recorded) and *soasoa-la stab him/it!*. Finally, several words of three identical syllables were noted, as with *mamama to yawn* and *mumumu to suck*. These appear to be invariant.

Subject pronoun deletion. Subject pronouns were recorded almost entirely within grammatical paradigms. In sentences that were not collected with a view to paradigmatic contrast the subject pronoun was normally omitted, much as in Romance, where person is marked redundantly by verbal inflection.⁹

Order of question words. As can be seen in sentences (1) - (8), the interrogatives 'who?', 'why?', 'when?' and 'where?' are preverbal, while the interrogatives 'what?', 'how?' and 'how many?' are postverbal. The latter two, however, differ in that 'how many?' precedes the object, whereas 'how?' follows it. The data are insufficient to determine whether these observational differences reflect underlying syntactic differences, or merely the random recording of variable orders common to all of these words.

2. SYNCHRONIC PHONOLOGY

The discussion of synchronic phonology will be divided into 1. phoneme inventory, 2. phonotactic constraints, 3. morphophonemics and 4. phonetics.

2.1 Phoneme inventory

Mussau makes contrastive use of eleven consonants and five vowels, as follows:

Consonants			Vowels	
p	t	k	i	u
b		g	e	o
m	n	ŋ		a
	s		(plus length)	
	l			
	r			

In addition to the above I transcribed two phones which might be called "phantom laryngeals". Lithgow and Claassen (1968:7) noted as a general phonetic feature of Emira-Musau a "fluctuating ... h preceding word-initial vowels". I did not observe this feature, but instead transcribed [h] in *final* position once in [ágh] *I* (which was otherwise recorded many times with a final vowel), and in [gáh] *manta ray*, which was recorded only once. Similarly, I transcribed an optional weak glottal stop following underlying final vowels in a number of words.

Neither of these phones is phonemic. They will be discussed further under *phonetics* (2.4).

2.2 Phonotactic constraints

Although trisyllables are quite common and quadrisyllables not unusual, a preliminary check of non-reduplicated bases in Mussau suggests that the canonical shape with greatest frequency is CVCV.

There appear to be no limitations on the distribution of vowels, which occur in geminate clusters (*aanasa warm, hot biiso foam, froth, bubbles*) and in heterorganic clusters of up to four members (*uaiata large brown rock cod*). Final *u*, however, is rare after *m*, having been recorded only in *mumumu to suck*.⁹

There is one known limitation on the distribution of consonants: /l/ and /r/ may not co-occur within the same morpheme. That this constraint is not due to accidental gaps in the data is clear from the historical phonology, where the non-permitted sequences invariably assimilated to /r/ ... /r/. Moreover, as seen earlier, a puzzling feature of the recorded third person plural pronoun is the occurrence of Set A *ila*, but Set B *ira*. The full significance of this observation is impossible to appreciate with the data to hand, but it is striking that in the dual number the liquid of the dual marker co-varies with that of the pronoun: *ila lua they* (dual), but *ira rua them* (dual).

The major question in Mussau phonotactics is whether underlying final consonants and consonant clusters should be recognised. Final consonants were recorded in fourteen morphemes, as follows: 1. *abum*, 2. *aum*, 3. *bagalaim*, 4. *batim*, 5. *gomgom*, 6. *kulum*, 7. *-m*, 8. *malumlum*, 9. *patioŋ*, 10. *pen(i)*, 11. *rarum*, 12. *raum*, 13. *saurorom*, 14. *taon*. In addition a heterorganic consonant cluster was recorded in items 5 and 8 above, and in *tumtumŋana dull, blunt*. As can be seen, the range of consonants that is permitted pre-consonantly or before word-boundary in Mussau is severely restricted. If we exclude the recent English loanword *pen(i)*, which has an optional pronunciation with final vowel, only /m/ was recorded in these environments except in items 9 and 14. However [patiyóŋ] was transcribed with an irregular final stress which indicates that an underlying final vowel of undetermined quality has been deleted by a low-level allophonic rule. Similarly, Nevermann (1933:98) gives *taono* as the name of a fruit tree. If connected, this suggests that [taon] is a free variant of [taóno]. These two words are thus perhaps best regarded (despite the stress in [táon] as containing an underlying final vowel. As will be seen below (*phonetics*, 2.4), final vowels are commonly devoiced in Mussau. In a number of words both Chinnery and Nevermann write a final consonant where I recorded an optionally voiceless vowel: Chinnery *talinga bulong* (*boloŋo*) *deaf*, *kalangis* (*kalaŋisi*) *sandfly*, Nevermann *sinak* (*sinaka*) *sun*. We must, therefore, ask whether preconsonantal and final /m/ is a feature of Mussau morpheme structure, or a phonetic fact which results from the application of a low-level allophonic rule of vowel devoicing.

Since no instances of preconsonantal or final /m/ were recorded following /a/ or /e/, it might be supposed that these problematic consonants are followed in underlying representations by a vowel identical to that which precedes them: /abumu/, /bagalaimi/, /gomogomo/, etc. There are, however, two difficulties with this proposal. First, comparative evidence shows that the deleted vowel was not always identical to the vowel of the preceding syllable (thus gomom < *komu komu). Supplying the missing vowel without phonetic or morphophonemic support from the language itself can therefore be a matter of rather hazardous guesswork. Second, although most of items 1-14 are represented by a single token in my fieldnotes, the second person singular Set B pronoun -m was recorded repeatedly in possessive paradigms as a final nasal. In at least some morphemes, then, a final vowel appears to have been genuinely lost. For the two reasons just given preconsonantal and final /m/ are tentatively written in a small number of forms. Further checking of the phonetic details of these forms by future fieldworkers on the language is, of course, strongly recommended.

2.3 Morphophonemics

Several morphophonemic problems were raised in connection with the numerals and will be discussed now.

In the first of these *ata* was seen to alternate with *ati* in *ata four*, *ka-sa-ŋaulu-ga-ata fourteen* next to *ga-ati-ŋaulu forty*. It has been suggested elsewhere (cf. e.g. Blust 1974:105) that Proto-Oceanic had both *pat and *pati *four*. Mussau *ata*, *ati* may therefore reflect POC *pat and *pati respectively, though any syntactic distinction that may once have obtained has apparently now been lost.

A second alternation noted earlier in the numerals was that of *nomo* and *onomo* in *nomo six* and *ga-onomo-ŋaulu sixty*. Historically *onomo *six* is expected, but all other numerals below ten are phonetically disyllabic (/ualu/ = [walu]), a fact which we may presume to be perceptually more salient than the fact that all multiples of ten below one hundred consist of six syllables except sixty, which consists of seven. The alternation of *nomo* with *onomo* can thus be attributed to apocope under canonical pressure.

A third alternation in the numerals is that of *ka-*, *ga-*, *ko-*. So far as can be determined, this alternation is — at least in part — phonologically conditioned: *k* precedes a stem that begins with a voiceless stop (but not with *s* !), and *o* precedes a consonant-initial stem of which the second vowel is *o*. The latter condition, however, is ad hoc, and may not be genuinely phonological. A slightly different condition governs the alternation of the suffixal vowel in *-gu* (following stems that end in a rounded vowel) and *-gi* (elsewhere) *first person singular Set B pronoun*. The variant *-ku*, recorded by Capell in Emira, was not recorded in Mussau.

The last alternation in the numerals is that of *ga-* (which precedes numerals above ten) with zero (which precedes numerals below eleven). As noted already, Chinnery (1927) recorded this morpheme in all Emira numerals above 'one', and it seems likely from internal evidence (*atu ko-tolu three stones of the hearth, trivet, gaisa how much, how many?*) that a similar situation formerly existed in Mussau. The loss of *ga-* in the lower numerals is perhaps related to their greater conversational frequency, and the consequently greater pressure to minimise the articulatory effort needed to produce them.

The remaining morphophonemic alternations in Mussau centre about 1) the contraction of like-vowel sequences across morpheme boundary, and 2) suffixal alternations.

Contraction of the derived sequence a + a was observed in *aitoka to collect, gather + aitaua together* → [aitōkaitāwa] *gather together* and in e.g. *agi a-asekanue* → [ági àsekanúwe] *I'm sleeping*. Contraction of the derived sequence a + aa was observed in *papapa shoulder + aanasa hot* → [pappánasa] *noon*. As a consequence of this alternation some verbs that were not recorded in paradigmatic sets are ambiguous for the presence of an initial vowel: [amáamalo] *I am/was hungry* = /a + amaamalo/ or /a + maamalo/?

Suffixal alternations pose much more fundamental problems for Mussau synchronic phonology. The most poorly attested of these is the alternation $\emptyset \sim a$ in *pakas-i kaputu handle of an adze* next to *pakasa handle (in general)*. Historically this alternation almost certainly derives from the 'capture' of a genitive marker *i by a preceding noun which ended in a consonant (hence pre-Mussau *pakas *handle*, *pakas-i handle of*. At a later stage Mussau added echo vowels to all words that ended in a consonant (hence *pakas > pakasa), thereby giving rise to the attested alternation. Although no other alternation with genitive -i was recorded, this example raises the question whether the addition of echo vowels in Mussau should be considered purely as a historical change, or as at least in part a synchronic rule.

This problem is raised much more acutely—at least in the corpus collected—in connection with Mussau adjectives. Most of the color terms are reduplicated, and in *raerae-ana red* and *usouso-ana white* the presence of a suffix -ana seems incontestable. To isolate a suffix of the same shape in words such as *beroberoṅana black*, *kulukulutana dirty* or *raramukana sharp*, however, we must admit some morphophonemic final consonants which may in fact never appear as such phonetically. It would be comforting if the problem could be resolved by simple appeal to a more abstract level of phonological representation, but unfortunately this is not the case. As seen earlier, -ana alternates unpredictably with -ena, -na and zero. Consequently many adjectives which were recorded only in morphologically complex form are open to more than one morpheme analysis: [bêrobèroṅána] = /beroberoṅ-ana/ or /beroberoṅa-na/?; [ówna] = /ou-na/ or /ouna/ (plus zero)? No definitive solution to these problems will be attempted in this paper, and the attributive ending will thus be retained for purposes of lexical representation (hence *beroberoṅana*, *ouna*, *usousoana*, etc.). Where it is necessary to recognise a morpheme boundary in the discussion of historical phonology I do so, but without commitment as to the status of such a boundary in Mussau as it is spoken today.

2.4 Phonetics

The discussion of phonetics will be divided into 1. consonant and vowel allophones, 2. stress and length, 3. stress shift and 4. syncope.

2.4.1 Consonant and vowel allophones

The consonant phonemes of Mussau have their expected phonetic values, with the following qualifications: 1. all stops are unaspirated, 2. /t/ is postdental, 3. /b/ is spirantised intervocalically,¹⁰ 4. /r/ is a 2-3 tap alveolar trill.

The spirantisation of /b/ was noted both within a morpheme and across morpheme boundary: /teba/ → [tɛ̃βa] *a/one*, /taliŋa boloŋo/ → [talíŋa βolóno] *deaf*. /g/ was occasionally recorded as a spirant intervocalically within a morpheme but appears to be much less consistently spirantised than /b/ in this environment. Spirantisation of /g/ was not heard across morpheme boundary.

Mussau vowel phonemes have their expected phonetic values except as follows: 1. high vocoids tend to be non-syllabic in certain environments, 2. /e/ is [e] before another vowel, but [ɛ] elsewhere, 3. final vowels are optionally devoiced, 4. when not devoiced final vowels are sometimes followed by slight glottal closure.

Environments in which high vocoids tend to be non-syllabic are: a) word initially before a vowel (/iema/ → [yéma] *knife*), b) word finally after a vowel (/niu/ → [níw] *coconut*), c) intervocalically, both within a morpheme and across morpheme boundary (/lauei/ → [láwey] *Hibiscus manihot*, /isoí-e-la/ → [isoyéla] *cut it!*), d) postvocally before a consonant (/pouru/ [pówru] *mountain*, /tauba/ → [táwβa] *sardine*). In the one known instance where conditions a) and b) both apply, a) takes precedence: /ui/ → [wi] *tail*. It is noteworthy that many words which contain only two vocoids are apparent exceptions to semivocalisation, as with /ia/ → [íya] *elephant-ear taro*, /ua/ → [úwa] *crocodile* and /ue/ → [uwe] *fruit*. These exceptions, however, are united by a common denominator: the second vowel is non-high. A very similar condition has been noted for the Kayan dialect of Uma Juman in Sarawak (Blust 1977a:74), where initial high vowels are semivocalised before a non-low vowel, but not before a low vowel. If the phonetic facts are accurate, they suggest that high vowels generally tend to become non-syllabic more readily before a different high vowel than before a mid vowel, and more readily before a mid vowel than before a low vowel. A few further remarks on semivocalisation will be made in connection with stress (2.4.2).

The optional devoicing of final vowels in Mussau was recorded only following voiceless obstruents and nasals. Although my corpus contains no examples of full devoicing following a voiced obstruent or liquid, it is likely that a weaker tendency to devoice final vowels also exists in these environments. As noted earlier, a 'phantom' -h was recorded in a single token of /agi/ *first person singular Set A pronoun*, and in /gaga/ *manta ray*, which was recorded only once. Given the well-established tendency to devoice final vowels in other environments, the anomalous phone in these two transcriptions can be seen as a partial devoicing of the final vowel.

Finally, the weak glottal closure that was sometimes observed following a final vowel may be indirectly related to the phenomenon of final devoicing. Mussau appears to be a language torn between an inherited phonemic tendency to maintain open syllables, and a secondary phonetic tendency – evidently shared with some other languages of the New Ireland area – to devoice vowels in final position, and in certain word-internal environments. If the phonetic tendency to final devoicing is viewed as a type of lenition ('erosion from the right'), the glottal coda of final syllables might be seen as a type of fortition motivated by structural pressures which are acting to preserve the favored canonical form. However, non-phonemic final glottal stop is also widespread in the languages of the Admiralty Islands, and its presence in the speech of my informant may be due to contact influence.

2.4.2 Stress and length

In the great majority of cases primary stress was recorded on the penultimate vocoid:

[ráme]	<i>chew</i>	[talíŋa]	<i>ear</i>
[sésa]	<i>one</i>	[màlatáw]	<i>flesh, meat</i>
[ařóa]	<i>cuscus</i>	[ràmuràmutípa]	<i>tongue</i>

Nonetheless, a few apparent stress contrasts are found, as in:

A1	[báo]	<i>carry pick-a-back</i>
A2	[baó:]	<i>rain</i>

Since stress and length tend to co-occur in natural languages the length in [baó:] might be viewed as a predictable consequence of stress. But vowel length clearly is contrastive (and independent of stress) in e.g.

B1	[máo]	<i>heal</i>
B2	[má:o]	<i>boil, abscess</i>

Given the contrast in B1 : B2, the contrast in A1 : A2 is most parsimoniously attributed to underlying length, and primary stress can be assigned to the penultimate mora of the word. It is possible that phonemic length in the vowels has somewhat different realisations related to quality, as the vowel sequence in /ulaa/ *swamp taro* and /mamaa/ *gecko* sounds longer than the sequence in /baoo/.

In a number of words with phonetic penultimate stress the stressed vowel is *phonemically* prepenultimate. This is true only where semivocalisation has occurred (2.4.1.), as in:

/ateio/	[atéyo]	<i>water</i>
/katai/	[kátay]	<i>pandanus sp.</i>
/pouru/	[pówru]	<i>mountain</i>
/taia/	[táya]	<i>generic for large crabs</i>
/tauba/	[táwβa]	<i>sardine</i>

This observation might be used to support the interpretation of non-syllabic high vocoids as phonemic semivowels in Mussau. However, consistency would then compel us to recognise atypical consonant clusters in e.g. /powru/ *mountain* and /tawba/ *sardine*. All high vocoids are therefore interpreted phonemically as vowels, and semivocalisation is presumed to occur prior to stress placement.

2.4.3 Stress shift

Mussau has a rule of stress shift which is reminiscent of the well-known rule in Malay and some other languages of western Indonesia. In accordance with this rule stress shifts after affixation so as to remain on the penultimate syllabic of the word:

/nima/	:	[níma]	<i>hand</i>
/nima-gi/	:	[nimági]	<i>my hand</i>
/niu/	:	[níw]	<i>coconut</i>
/niu-na/	:	[niyúna]	<i>its coconut</i>

Unfortunately possessive paradigms were noted schematically in my field-notes (e.g. níma, nimá-gi, -m, -na) and are not included in the limited material that was tape-recorded. It is thus impossible to say definitely where stress

falls in nouns that are possessed with -m. My recollection, however, is that stress falls on the last stem vowel in all forms suffixed with singular possessive markers. If true this may indicate that -m still contains an underlying final vowel.

2.4.4 Syncope

One of the most conspicuous phonetic facts about Mussau is the presence of geminate consonants both initially and intervocalically. I recorded all consonants except /b/ and /s/ as geminated in some words, and it is likely that the absence of [bb] and [ss] is fortuitous.¹¹ Generally an alternative pronunciation was recorded in which the consonants of the geminate cluster were separated by a vowel identical to that which follows the geminate: [m:úko] ~ [mumúko] *holothurian, sea cucumber*, [t:úlu] ~ [tutúlu] *housepost*, [kaβít:o] ~ [kaβítótó] *nit, egg of a louse*. Such long forms were said to be more commonly used by 'old people', and seem clearly to correspond in relevant details to the phonemic representation. Consonant gemination in Mussau can thus be attributed to a synchronic rule of syncope which deletes the vowel of the first of two successive identical syllables.

The deletion of the first vowel in the environment C₁V₁C₁V₁ (where subscript identity = class identity of segment) is of particular interest from a comparative viewpoint, as it parallels a historical change reported for Trukese by Goodenough (1963) and a change-in-progress reported for the Polynesian outlier of Takuu by Irwin Howard (personal communication).¹² Changes of the type POC *tutuk-i > tuki are widespread in Oceanic languages, and were attributed to truncation by haplology under canonical pressure in Blust (1977b). However, as noted there (fn. 29) such truncations may in fact have been products of syncope plus geminate reduction.

As seen already, heterorganic consonant clusters are tentatively recognised in gomgom, malumlum and tumtumjana. It is noteworthy that the conditions for historical syncope in these forms include not only the presence of /m/, but also reduplication. Despite this general resemblance the two rules in Mussau (the first presumably diachronic, the second synchronic) appear to be fundamentally distinct.

Two further details connected with phonetic gemination in Mussau should be noted. First, where an underlying representation contains three successive identical syllables (and there are thus two possible environments for syncope), it is the *middle* vowel which drops:

/kukuku/	:	[kúk:u]	<i>white-tailed dove</i>
/malalalake/	:	[malal:akε]	<i>thin, of material</i>
/e mumumu/	:	[ε múm:u]	<i>to suck</i>
/papapa/	:	[páp:a]	<i>shoulder</i>

According to Goodenough (1963) Trukese — which like Mussau permits geminates both initially and medially — shows an identical (in this case historical) rule: *tititi > titti-n *fence of*, *papapa > pappan *its board*. Relevant information on this point is lacking from the other languages.

The second detail concerns the relationship of syncope to stress placement. It is noteworthy that in such forms as /kukuku/, /e mumumu/ and /papapa/ stress is penultimate both in the non-syncopeated and in the syncopeated forms: [kukuku] ~ [kúk:u], [ε mumúmu] ~ [ε múm:u], [papápa] ~ [páp:a]. A second rule of stress

shift which assigns primary stress to derived penultimate vocoids is thus evidently required. Alternatively, in the formal terms of generative phonology stress placement could be regarded as a late rule which applies after semi-vocalisation, affixation and syncope.¹³

3. DIACHRONIC PHONOLOGY

The discussion of diachronic phonology will be divided into 1. canonical changes and 2. segmental changes. Appendix 1 lists all Mussau forms for which I have been able to find, or to establish, a probable Proto-Oceanic etymology (several of the reconstructions being proposed here for the first time). Throughout the discussion reference is made to this body of data.

3.1 Canonical changes

Mussau is noteworthy in preserving POC final *t, *m, *n, *ŋ, *s and probably *d and *l in non-suffixed bases through the addition of an 'echo' vowel.¹⁴ In this respect it is similar to many other languages of New Ireland, Buka-Bougainville, the New Georgia Archipelago, and to some extent of Bugotu (Isabel), but differs from most of the better-known Oceanic languages. Oceanic languages generally appear to have altered a canonical shape that permitted final consonants to one that at some stage permitted only final vowels. Languages such as Motu, Fijian or the Polynesian group accomplished this drift to open syllables through the deletion of a final consonant, thereby preserving the predominantly disyllabic canonical shape of POC base morphemes. Languages such as Mussau accomplished the same change in syllable type only at the partial expense of the favored disyllabic canonical shape. For convenience we can call these two diachronic types 'morpheme reducing languages' and 'morpheme extending languages' respectively:

Table 1					
Development of POC closed syllables in 'morpheme reducing languages': (Motu, Fijian, Samoan) and in 'morpheme extending languages' (Mussau)					
POC	Motu	Fijian	Samoan	Mussau	English
uRat	- -	ua	uaua	ueta	<i>vein</i>
onom	- -	ono	ono	(o)nomo	<i>six</i>
pulan	hua	vula	- -	ulana	<i>moon</i>
asa	lada	- -	- -	asaŋe	<i>gills</i>
panas	- -	- -	mafanafana	aanasa	<i>hot</i>

Following the change to an open syllable pattern some OC languages of both types (e.g. the Nuclear Micronesian languages, Raluana) lost final vowels, thus reducing trisyllables to disyllables and disyllables to monosyllables — a process which apparently is under way in Mussau at the present time. Even in

languages which have not lost final vowels secondary reduplication or the fossilisation of affixes has somewhat obscured this basic difference, but it seems likely that morpheme extending languages like Mussau have a somewhat lower percentage of disyllables than morpheme reducing languages which have preserved POC final vowels. Finally, like the morpheme reducing languages Mussau preserves original final consonants in many verb bases before a transitive suffix, as in *susud-i-a > sul-i-a *sew*.

3.2 Segmental changes

The discussion of segmental changes will be divided into 1. regular reflexes, 2. the problem of consonant grades, 3. irregular and indeterminate reflexes and 4. chronological ordering.

3.2.1 Regular reflexes

The discussion of regular reflexes will be divided into 1. unconditioned changes and 2. conditioned changes.

3.2.1.1 Unconditioned changes

Table 2 presents the Proto-Oceanic phoneme inventory as presently reconstructed (*j and *ñ follow Blust 1978):

Table 2							
Inventory of Proto-Oceanic phonemes							
consonants					vowels		
P	p ^w	t		k	q	i	u
		d	j			e	o
m	m ^w	n	ñ	ŋ		a	
		s					
		l		R			
	w		y				

Of the consonants listed in Table 2 *p, *t, *k, *d, *j and *s occurred both plain (oral grade) and prenasalised (nasal grade), the two grades often yielding different reflexes in attested Oceanic languages. Although differences of consonant grade have not previously been distinguished for *p^w, the Mussau reflexes suggest tentatively that a distinction is needed. The evidence indicates that *q probably was a stop, but occurred only in the oral grade.

For present purposes a reflex will be called 'regular' under either of two sets of circumstances: 1) if it is demonstrated in a minimum of three independent cases, even if this is not the most frequent reflex, or 2) if it is demonstrated in two independent cases so long as no more frequent reflex is known. The following regular unconditioned changes can be established for Mussau (cf. Appendix 1):

POC	MUSSAU	EXAMPLES
labials		
p	∅	9, 29, 153
	p	17, 128, 134
	b	30, 33, 35
mp	p	129, 131, 133
	b	31, 36, 38
m	m	13, 50, 98
labiovelars		
p ^w	cf. 3.2.2.	
mp ^w	cf. 3.2.2.	
m ^w	cf. 3.2.3.	
w	cf. 3.2.1.2.	
dentals		
t	t	24, 25, 169
nt	r	19, 194
	t	168, 179
d	l	60, 77, 164
nd	r	18, 20, 142
n	n	10, 14, 116
	s	2, 21, 152
s	r	141, 143, 144
	s	106, 159, 160
ns	r	138, 139, 140
	l	9, 78, 80
l	∅	52, 59, 179
palatals		
j	s	43, 122
nj	cf. 3.2.2.	
ñ	n	69, 107, 111
y	i	4, 7
	cf. 3.2.1.2.	
velars		
k	∅	4, 30, 105
	k	61, 62, 176
ŋk	k	60, 63, 69
ŋ	ŋ	21, 80, 120
uvular		
R	∅	20, 47, 49
	l	8, 85, 92
back velar/glottal		
q	∅	29, 38, 57

The Proto-Oceanic vowels are normally reflected without change in Mussau. Exceptions are discussed under 3.2.1.2. and 3.2.3.

3.2.1.2 Conditioned changes

The following conditioned changes have been noted:

ASSIMILATION (1): *l (< *l, *R) became r if an adjacent syllable contained r (< *nd, *ns): 138, 139, 140 (with *R > l), 142. This change is entirely regular, and is responsible for the observed constraint against the occurrence of l and r within the same morpheme (2.2.).

ASSIMILATION (2): *a > e/i_ : 10, 49, 50. *a often remains unchanged in this environment, even when the vowels in question come in contact (47, 48, 78, 148). Given its relatively high frequency, however, the partial assimilation of *a to a preceding *i is perhaps best regarded as a subregularity (cf. also 1.2., discussion of -ie). By contrast, the assimilation of *a to a following *i appears to be sporadic (87?, 155?)

ASSIMILATION (3): *a > o/_ o: 55, 106, 125. Although the sequence *aCo generally remains unchanged (11, 20, 62, 80, 82, 92, 95), the partial assimilation of *a in this environment occurs with sufficient frequency that it seems best to regard it as a recurrent phenomenon. This change parallels the preceding one, with the puzzling qualification that the assimilation is progressive in (2) but regressive in (3). Note that the alternant ko- of the numeral marker discussed earlier (2.3.) occurs before tolu (ko-tolu-ŋaulu *thirty*), but not before onomo (ga-onomo-ŋaulu *sixty*).

CONTRACTION (1): The sequences *aw and *wa generally contracted to o: *aw (12, 162); *wa (30, 121, 122, 160, 172). Where both possibilities existed (in *-awa-) the former contraction predominated twice (12, 162) and the latter once (172).

CONTRACTION (2): The sequence *ya contracted to e in one known item (77). Since the sequence *Ra occasionally underwent a similar contraction (17, 135, 187) it seems reasonable to assume an intermediate stage in which *R > y in some words. The entire collection of forms thus shows a close parallel to the second part of CONTRACTION (1). By contrast the sequences *ay and *aR did not contract (4, 5, 7, 17, 121, 122, 135, 158). It is unclear whether the change *a > e in *ipaR > ie and *kiRam > iema should be attributed to ASSIMILATION (2) or to contraction of earlier *a and an adjacent semivowel.

CONTRACTION (3): the sequences *-aqa, *-aqo- and *-aqe- contracted to a, o and e respectively following the loss of *q in a trisyllable (97, 101, 126, 175). Contraction did not occur following the loss of other consonants in trisyllables (2, 20, 93, 102, 190) or of *q in disyllables (75, 147). Similarly, contraction did not occur following the loss of *q in a trisyllable if either of the vowels thus juxtaposed was high (57, 78). It thus seems unlikely that the syllable loss in *puqaya > ua is related to the changes discussed here.

HAPLOLOGY: A sequence of identical syllables in an inherited trisyllabic or polysyllabic word was frequently reduced by haplology: 7, 67, 91 (*makadindiŋ > makaliriŋe > makaririŋe > makaririŋe), 132, 134, 144, 163, 164. Haplology did not occur in disyllabic reduplications or in known trisyllabic compounds (65, 154). Words which became trisyllabic through regular change were not subsequently reduced by haplology (72, 138), and one form which could

have been reduced actually appears to have been extended by reduplication, possibly in consequence of its expressive character (118).

3.2.2 The problem of consonant grades

Nearly a century ago Kern (1886) drew attention to the fact that both *p* and *b* in languages such as Malay correspond sometimes to Samoan *f*, Fijian *v*, but sometimes instead to Samoan *p*, Fijian *b*. He found these divergent developments inexplicable.

Dempwolff (1920:5) maintained that the correspondences indicated by Kern were due to differences of *consonant grade*: PAN **p/b* > SAM *f*, FIJ *v*, but **mp/mb* > SAM *p*, Fij *b*. He demonstrated convincingly that the languages of island South-East Asia generally support the reconstructed oral/nasal grade distinctions. However, in some cases it was necessary for him to assume that Oceanic and non-Oceanic cognates contain obstruents with opposite consonant grades. Dempwolff's theory of consonant grades has been widely accepted by Oceanic linguists, but in recent years it has been found inadequate in accounting for two types of problems. First, consonant grade 'cross-over' is encountered not only between Oceanic and non-Oceanic AN languages, but also between Oceanic languages themselves, thus rendering the reconstruction of Proto-Oceanic consonant grade a difficult matter in some morphemes. Second, as noted in Blust (1976) some of the best-known Oceanic languages have not two, but three consonant grade reflexes of the palatals. Other languages show similar problems for the labials, dental and velars.

The phenomenon of consonant grade 'cross-over' is discussed in Blust (1978), where it is shown that for many morphemes the consonant grade reconstructed for a given obstruent is a function of the languages chosen as criterial witnesses (some widely separated witnesses supporting the oral grade, others the nasal grade). To cite one of a number of possible examples, Nali, Ere (Admiralties) *duh*, Fijian *dovu* point unambiguously to POC **ntopu*, but Mussau, Manam *tu* point just as clearly to POC **topu* *sugarcane*. For other morphemes a single consonant grade appears to be consistently reflected. Thus, to my knowledge all languages that distinguish POC **nd* from **d* and **nt* from **t* reflect the prenasalised stop in the words for *blood*, *pandanus* and *banana* (POC **ndaRaq*, **pandan*, **punti*). Moreover, this consistency holds even where other stops in the same morpheme exhibit inconsistent consonant grades, as with Proto-Admiralty **budi* (< **mpunti*), Mussau *uri*, Fijian *vudi* (< **punti*) *banana*.

We might attempt to modify the consonant grades of established Proto-Oceanic reconstructions so as to achieve greater consistency with the Mussau reflexes, but this almost certainly would be futile since other languages would contra-indicate the changes. Instead, I assume the following consonant grade reflexes in Mussau. The number of instances of each reflex in Appendix 1 is given in parentheses:¹⁵

- | | |
|----------------------------------|----------------------------------|
| 1. a) * <i>p</i> > ∅ (39) | 2. a) * <i>t</i> > <i>t</i> (39) |
| b) * <i>mp</i> > <i>b</i> (12) | b) * <i>nt</i> > <i>r</i> (2) |
| > <i>p</i> (10) | |
| 3. a) * <i>d</i> > <i>l</i> (14) | 4. a) * <i>s</i> > <i>s</i> (41) |
| b) * <i>nd</i> > <i>r</i> (10) | b) * <i>ns</i> > <i>r</i> (7) |

- | | |
|--------------------------------------|-------------------|
| 5. a) *j > s (2) | 6. a) *k > Ø (28) |
| b) *nj > (no examples) ¹⁶ | b) *ŋk > k (15) |
| | > g (3) |
| 7. a) *p ^w > Ø (1) | |
| b) *mp ^w > b (1) | |

In each case the decision as to which segment should be considered the oral grade (OG) and which the nasal grade (NG) reflex is based on three considerations:

1. degree of constriction (OG reflexes are likely to be more open, NG reflexes more closed articulations)
2. relative frequency (OG reflexes are likely to be more frequent than their NG counterparts)
3. pattern of mergers (the consonant grade assumed for one segment type is more likely to merge with the *same* consonant grade of another segment type than with its opposite)

Consideration (1) favours Ø as the OG reflex of POC *p and *k, and suggests that consonant grade distinctions — though not previously reconstructed for Proto-Oceanic — also occur in reflexes of *p^w: uena < *kup^wena *casting net*, but bo, bo-boŋi-ena < *mp^woŋi *night*. Consideration (2) supports this decision for *p and *k and also suggests that t is the OG reflex of *t, and s the OG reflex of *s (and *j). Consideration (2) only weakly supports l as the OG reflex of *d, but this decision is further strengthened by consideration (3), since the merger of *nt, *nd and *ns is phonologically more plausible than the merger of *nt, *d and *ns. As noted by Dempwolff (1937) NG reflexes in Oceanic languages sometimes occur in environments from which they are excluded in non-Oceanic languages, as in Mussau sair-i-a (< *saind-i-a) *split* and makariŋe (< *maŋka-dindiŋ) *cold*.

Developments such as POC *pakiwa > Mussau baio (< *mpakiwa) *shark* or *nsiwa > sio (< *siwa) *nine*, then, will not be considered irregularities. Rather, they will be treated as part of the general problem of 'cross-over' in consonant grades. The multiple NG reflexes of *p and *k present difficulties that I hope to address in a future publication.

The regular changes from Proto-Oceanic to Mussau are summarised in Table 3:

Table 3			
Regular changes from POC to Mussau, indicating phonemic mergers and splits ¹⁷			
POC	Mussau	POC	Mussau
p (p ^w) k q R (l)	∅	s j	s
mp (mp ^w)	p b	ŋk	k g
m	m	ŋ	ŋ
t	t	y i	i
nt nd ns	r	u	u
d l (R)	l	a/y e	e
n ñ	n	a/w o	o
		a	a

3.2.3 Irregular and indeterminate reflexes

The following irregular reflexes have been noted:

- (1) *u > i : 3/44, 157
- (2) *u > ii : 35
- (3) *-v > ∅ : 4, 45, 88, 141, 172
- (4) *-t > ∅ : 17, 39
- (5) ∅ > -e : 21, 91
- (6) *-pa > o : 33, 34
- (7) *-ŋi > ∅ : 37, 74
- (8) *d > l, r : 51
- (9) *t > k : 68, 147

- (10) *n > Ø : 75, 81
 (11) *q > k : 87
 (12) *i > e : 104, 173
 (13) *l > n : 112 (?)
 (14) *d > n : 115
 (15) *o > a : 122
 (16) *l > r : 127, 195
 (17) *a > e : 87 (?), 155, 181, 185
 (18) *R > k : 158
 (19) *R > n : 171
 (20) *-ya > Ø : 183

(1) : although -gi alternates with -gu, it is clear that the former is the underlying (unconditioned) variant in Mussau, even though the latter agrees more closely with POC *-ŋku. Most witnesses support POC *au as an irregular development from PAN *aku *first person singular subject pronoun*. It is therefore likely that Mussau agi is modelled on -gi; (3): the loss of a final vowel after a nasal is sufficiently common to be considered a subregularity. However, as remarked under 2.2. it is possible that forms recorded with a final nasal (except -m *second person singular possessive pronoun*) have a careful speech pronunciation with the anticipated vowel. The loss of the final vowel in *kayu > ai *wood* is paralleled by *qayuyu > aiu *coconut crab* and *puqaya > ua *crocodile*, and so might also be considered a subregularity. However, many Oceanic languages appear to reflect *kai or *kau rather than *kayu *wood*, and both aiu and ua show loss of an entire syllable. The former loss may be attributed to haplology, while the latter is unexplained; (5) the unexpected supporting vowel -e appears twice after *ŋ. That this is not a conditioned change, however, seems likely from *nsalaŋ > raraŋ *kind of sea urchin*; (6) the parallel changes *mpapa > bao *carry pick-a-back* and *mpapaq > bao *short* suggest that *p sporadically became w in these words, the resulting forms then undergoing CONTRACTION (1). Since no other reflexes of POC etyma which contain the sequence *pVp are known, it is conceivable that this is a conditioned change parallel to the well-known Eastern Polynesian dissimilation of PPN *f ... f to *w ... h; (7) the sporadic loss of an identical last syllable in the words for 'night' (but not 'black'!) and 'day' strongly suggests a meaning-based motive for this change; the details, however, remain obscure; (8) this puzzling alternation, if accurately recorded, may reflect a difference of consonant grade; (10) if Mussau tuutuu *to cook* is associated with POC *tunu *burn, cook* the change *n > Ø might be considered a subregularity, as it would then be attested in three forms. The difficulty with this proposal is that the changes *daqaŋ > laa and *dapaŋ > lapa could be due to analogical wrong division of earlier forms ending in -na on the misapprehension that this sequence was the third person singular possessive suffix. In view of this possibility the proposed etymology of tuutuu is perhaps best abandoned: (11) *q > k is possibly paralleled in *panaq *shoot with a bow* > ai manaki *bow*, but the latter form shows two irregularities, and is best discarded for the present; (17) this change could be regarded as a subregularity. However, given the distinct environments of 87 and 155 as against 181 and 185 I prefer to treat all instances of *a > e as irregular.¹⁹ No explanation can be suggested for any of the remaining sporadic changes.

The change $*m^w > m$ (136) may be regular, but the available data are insufficient to determine this.

In addition to the foregoing a morpheme division is assumed in 6, 26, 57 (ŋitau), 64, 137, 154 and 165 (usulu). It is possible that Mussau aīnao is a mishearing of $**aēnao$, and thus points — like many reflexes in the Admiralty Islands — to $*papenako$.¹⁹

Some other items may also turn out to reflect a POC etymon, but show semantic disagreements that cast doubt on the validity of cognation, or exhibit phonological irregularities for which parallels in at least two other words are as yet unknown. Examples in the former category include: 1) atāŋisi *a tree*: *Casuarina equisetifolia* (< POC $*taŋis$ *weep*, with prefix?), 2) paka *a tree*: *Terminalia catappa* (< POC $*mpaka$ *banyan?*), 3) oana *large brown or yellow four-cornered fish* (probably triggerfish species; < POC $*qawan$ *the milkfish: Chanos chanos?*), 4) tasi *brother-in-law* (< POC $*tanji$ *younger sibling of the same sex?*) and 5) utana *garden* (< POC $*qutan$ *forest?*). Examples in the latter category include: 1) POC $*kan > ane$ *marker of edible possession* (?; expected $**ana$), 2) POC $*mañawa$ (PAN $*ma-ñawa$) $> i-noa$ *to breathe* (?; expected $**manoa$), 3) POC $*lolo > loa$ *red tree ant* (?; expected $**lolo$), 4) POC $*maqudip > (ma)maulue$ *living, alive* (?; expected $**mauli$), 5) PAN $*ma-wanan > muenana$ *right side* (?; expected $**maonana$), 6) POC $*papaq > pa$ *mouth* (?; expected $**aa/papa/baba$), 7) POC $*ndanum > rarum$ *fresh water* (?; expected $**ranum(u)$) and 8) POC $*tunu > tuutuu$ *to cook* (?; expected $**tunu$). As already noted (1.2), Mussau may have a locative marker $i < POC *i$. Finally, in Blust (1984) Kwaio $masi-ʔa$, Lau $ma-masi$, Marshallese $mā-met$ *sweet* are associated with POC $*ma-qasin$ *salty*, with common change of meaning. However, in view of $masini$ *salty*, Mussau $masik-ana$ *sweet* cannot be interpreted in this way, and together with the other forms may indicate a previously overlooked POC etymon $*masik$.

3.2.4 Chronological ordering

It is clear that the changes discussed in the preceding sections did not all occur at once. Accordingly an attempt is made in this section to establish their relative chronology.

The most important ordering relations among regular changes concern the loss of consonants, the contraction of vowel sequences and the addition of supporting vowels. Throughout the following discussion it is assumed that consonants which disappeared were lost in all positions through a single change (thus $*p > \emptyset$, not $*p- > \emptyset$, $*-p- > \emptyset$, $*-p > \emptyset$ as historically distinct changes). If this assumption is false some of the conclusions that follow will be invalid.

It has been shown that where $*q$ was lost in a trisyllable a sequence of like vowels thus juxtaposed contracted:

POC	MUSSAU	ENGLISH
maqasin	masini	<i>salty</i>
maqati	mati	<i>low tide, dry reef</i>

It is noteworthy that contraction did *not* take place if the lost consonant was $*p$, $*k$ or apparently $*R$:

POC	MUSSAU	ENGLISH
panas (> pa-panas)	aanasa	<i>hot</i>
mapat	ma-maat-ana	<i>heavy</i>
pulaka	ulaa	<i>taro (Cyrtosperma)</i>
ma-puRuk	mauu	<i>rotten, to stink</i>

These observations can be accounted for most simply if we assume the following order of changes, where (1) must precede (2) and (2) must precede (3), (4) and (5), but the latter three changes are unordered relative to one another:

1. *q > Ø
2. CONTRACTION (3)
3. *p > Ø
4. *k > Ø
5. *R > Ø

Now consider the contrast between like vowel sequences and simple vowels in such pairs as:

POC	MUSSAU	ENGLISH
moñak	mona	<i>tasty; fat (n.)</i>
pulaka	ulaa	<i>taro (Cyrtosperma)</i>

By allowing rule (4) to apply before rule (2) Mussau mona can be derived in the following way:

*moñak
 moñaka (echo vowel)
 moñaa (4)
 moña (2)
mona (ñ > n)

However, as we have already seen, (4) cannot be ordered before (2), since CONTRACTION (3) would then also apply to *pulaka, yielding the non-occurring form **ula. In other words, mona and ulaa show that the merger of *-ak and *aka which we would have expected as a result of the addition of echo vowels apparently never took place: *k was lost before echo vowels were innovated. Much the same can be said of *R, as no reconstructed form ending in this segment contains a like vowel sequence: *pitaquR > itau (not **itauu), *niuR > niu (not **niu), *wakaR > oa (not **oaa), etc. For these reasons it must be concluded that the addition of echo vowels in Mussau postdated the loss of *k and *R in final position, and hence also changes (1) and (2). The available data do not permit a similar statement with regard to *p.

The foregoing inference is of general interest to Oceanic linguistics, since many other languages which have added echo vowels have lost neither *k nor *R. We can therefore conclude 1) that echo vowels were not present in Proto-Oceanic and 2) that the addition of echo vowels occurred independently in a number of languages over a relatively continuous geographical area in Western Melanesia.

Finally, it also appears possible to establish the chronology of several minor rules or sporadic changes relative to the addition of echo vowels in Mussau. Thus, the loss of *t in *apaRat > apae and of *n in *daqaR > laa evidently preceded the addition of echo vowels, since otherwise we would expect

a three-vowel sequence in the former (**apaea) and a contraction of *-aqa- (**la) in the latter. By contrast, the change *a > e in *kiRam > iema (not **ieme) and *uRat > ueta (not **uete), like the loss of *t in *mpulut > buluu (not **bulu) followed the addition of echo vowels, an inference that is partly confirmed by Emira uata *sinew* and possibly iama *handle*.²⁰

4. CONCLUSIONS

The present study should remind us above all else how few really thorough descriptions are yet available for the 400 or more AN languages of Melanesia. Nonetheless the limited analyses offered here hopefully mark an advance over Chinnery (1927), who gives no phonetic information and whose arbitrary word divisions can be highly misleading (e.g. ama-tau-tuai-ili *coward*, where matautu < POC *matakut *fear, afraid* is thoroughly disguised). Most importantly, the vocabulary has made possible a much improved understanding of Mussau historical phonology.

It has been said that many of the AN languages of Melanesia contain little non-basic lexical material with a known etymology, yet more than one third of all Mussau lexical items collected (not just those in the 'basic' vocabulary) have a probable Proto-Oceanic source. This suggests that a fuller vocabulary could provide considerably more comparative material. At the same time Mussau is certainly not among the lexically most conservative Oceanic languages. In a still unpublished study (Blust 1981b) Mussau was found to retain about 25.6% of the items reconstructed for Proto-Malayo-Polynesian (= Proto-Extra Formosan) on a modified version of the Swadesh 200-item lexicostatistical test list. As such it ranks 33rd in a sample of 70 Oceanic languages, or at about the 53rd percentile. Some of the more conservative of these languages (Fijian, Mota, the languages of the South-east Solomons and Polynesia) attracted comparative attention from an early date and are now relatively well described. But the lexicons of many others (e.g. Raga, Nauna, Nakanai, Leipon, Nguna, Wogeo and Seimat) are known only through short survey lists if at all. Apart from its inherent value to Oceanic linguistics, then, the present vocabulary may have an added value in inspiring a heightened awareness of the wealth of comparative lexical material that remains to be tapped from the languages of this large and still poorly described region.

5. ELICITED ROOT MORPHEMES AND MORPHOLOGICALLY COMPLEX FORMS²¹

A	
1	aanasa warm, hot; to heat aanasa manu to heat, boil water
2	aasono rafter
3	aau upper limb aau keke thigh aau nima upper arm
4	abu to blow with the breath (cf. kuu)
5	abum anthozoan, sea anemone
6	agi first person singular class A pronoun
7	agueguli black ant (P. anis; cf. loa)
8	ai ₁ stick, tree, wood ai bua areca palm ai erasi jointed vine the fiber of which is used in making nets

- 8 ai kaukau slitgong
ai keli fishing spear; punting pole (cf. ai tioŋo)
ai lala mast
ai manaki hunting bow
ai ŋ alata fishing pole
ai patoi outrigger boom (cf. ioro)
ai raramuti lime spatula (P. stik kambang)
ai salo bed; storage shelf for firewood, etc.
ai salo ŋ olimo platform on outrigger canoe
ai tioŋo punting pole (cf. ai keli)
- 9 ai₂ thing, instrument, implement²²
ai aloalo rudder of boat
ai e sio anua anchor (= thing that goes down to the land?)
ai gagali razor (traditionally of shell)
ai guma tongs
ai kakala broom
ai kame koko bait
ai pake ŋ ale thatch (= thing to cover the house)
ai panukana wooden neckrest, pillow
ai saesae ladder (= thing for climbing)
ai sapisapi coconut scraper
ai sila comb
ai tuutuu cooking vessel (= thing for cooking)
- 10 ai₃ hundred
- 11 aia to pull (cf. kunei)
aia la pull it! (possibly ai-a-la)
- 12 aiei earth oven
- 13 ainao to steal
- 14 aiobi to fight, as in war (possibly ai-obi)
- 15 aiora to copulate, have sexual intercourse (possibly ai-ora)
- 16 airari thousand (possibly ai-rari)
- 17 aisosa kind of basket (cf. kaka, keru, laka)
- 18 aitauna together
- 19 aitoka to collect, gather (possibly ai-toka)
aitoka aitauna to collect together
- 20 aiu coconut crab, *Birgus* sp. (cf. kitou, rikarikae, taia)
- 21 akala current, tide
akaakala to flow
- 22 akapa all
- 23 akarusi (-a, -e-la) to throw away, discard
- 24 akou inverted, upside-down
- 25 aku to fill with water
- 26 alai afternoon
e lo alai good afternoon (greeting)
- 27 alaŋitana saltwater eel (= ala ŋ itana?; cf. inaua)
- 28 alata (cf. ai₁; possibly ŋalata)
- 29 ale house
ale maŋa church
- 30 aliena centipede
- 31 alikietao children (collective; = aliki e toa?²³ cf. namuu natu₁)
- 32 alo₁ (-gu, -m, -na) neck
- 33 alo₂ to steer
aloalo (cf. ai₂)
- 34 alo₃ kind of tree the wood of which is used for firewood, and was traditionally used to make fireplows
- 35 alo₄ (-na) desire, want (n.)
- 36 aloa (-gi, -m, -na) mother's brother
- 37 alomasaŋa to know (things), be knowledgeable (cf. kila)
- 38 alomu (-gu, -m, -na) parent-in-law

- 39 aluse long, tall; deep
aluse taumata tu tall person
- 40 amaamalo hungry (possibly
a-maamalo)
- 41 ameti (-a, -e-la) to hunt, go
hunting
- 42 ami first person plural
exclusive Class A and B
pronoun
- 43 ane termite
- 44 ane (-gi, -m, -na) relation
marker, edible possession
- 45 anua land (?) (cf. ai₂, Emira
anua 'house')
- 46 aŋa wide open, gaping
aŋa tau open-mouthed
- 47 aogi back, behind
- 48 apae strong wind, storm wind
- 49 arana littoral pandanus the
leaves of which are used to
plait mats - probably *P.*
tectorius (*P. aran*) (cf.
aum, ieri, katai, maruna)
- 50 araŋa to stick, adhere to
(cf. raŋasi)
- 51 arari (-gi, -m, -na) name
sei arari-m what is your
name?
- 52 areare (cf. susu)
- 53 arita the putty nut, *Parinari*
laurinum
- 54 aroa cuscus (*P. kapul*)
- 55 asaasa to swim; to drift
- 56 asai to pull, draw
e-asai inoa-na he is
breathing (= he is drawing
his breath)
- 57 asakararike to stumble, fall
down (cf. katuu₁)
- 58 asaŋe internal gills (cf.
utaliŋa)
- 59 asekanue to sleep (= aso
kanue with morphophonemic
change?)
- 60 asi taro, probably *Colocasia*
esculenta (cf. ia, kaala,
ulaa)
- 61 asiŋe to sneeze (onom.)
- 62 aso to lie down
asoaso poi to dream
- 63 asu smoke
- 64 ata four
- 65 atamana door opening
(atama-na? cf. Emira atama
'door')
- 66 ataŋisi a tree, *Casuarina*
equisetifolia
- 67 atea (-gi, -m, -na) liver
- 68 ateio fresh water
ateio talia lake (= round
water)
ateio akaakala river
(= flowing water) (cf. manu,
rarum; uela)
- 69 atu₁ to plait (mats, baskets)
- 70 atu₂ stone
atu ko-tolu three stones of
the hearth, trivet
- 71 au ash
- 72 auena behind, later
- 73 aulia to stay, tell
(= auli-a?; cf. poa)
- 74 aum broad-leaved pandanus
(cf. arana, ieri, katai,
maruna)
- 75 autu chin, jaw

B

- 76 bagalaim small variety of
the Malay apple, *Syzygium*
gomata (cf. oaa)
- 77 bagii cooking vessel of
plaited pandanus leaves
(ceramics were not used
traditionally)
- 78 baio shark

- 79 baka fishscale
- 80 balabala fence
- 81 balabalana headache, tooth-ache
- 82 balai fish sp.
- 83 balus (P) dove sp. (cf. kukuku)
- 84 bao₁ carry pick-a-back
- 85 bao₂ short (cf. tukuna)
- 86 baoo rain
- 87 batibati spider
- 88 batum tapioca
- 89 bause female, woman
bause-ni (-gi, -m, -na) wife
bause raebulu widow
- 90 belu₁ fish corral made of stone-filled baskets
- 91 belu₂ (-a, -e-la) to throw (cf. ue₂)
- 92 beroberonana black (cf. bobonjena)
- 93 bibi to push
- 94 biiso foam, froth, bubbles
- 95 bilae stingray (cf. gaga)
- 96 bili (-gi, -m, -na) back (anatomic)
- 97 biliki (-gi, -m, -na) skin; body
biliki niu coconut husk
biliki ŋ ai bark of a tree
- 98 bito (-gu, -m, -na) navel
- 99 bo night
bo ŋa teba one night
- 100 bobonjena black (cf. beroberonana)
- 101 bologo (cf. talina)
- 102 bua areca nut
- 103 bukabukala to float
- 104 buluu to caulk
- E
- 105 ea where?
- 106 elei to make, build
- 107 elobi time (?)
elobi saa when? (= what time?)
- 108 erasi (cf. ai₁)
- G
- 109 gaa to catch (fish)
- 110 gaga manta ray (cf. bilae)
- 111 gagaa large flat fish with big mouth
- 112 gagaga (cf. manu)
- 113 gagali to shave (cf. ai₂)
- 114 gai (-a) to fetch, get
- 115 gaisa how much, how many? (possibly ga-isa)
- 116 gigima tree used to make canoes (cf. nakasa)
- 117 gila bird, fowl
- 118 goagoa catfish sp. (cf. matulubo)
- 119 gongom to swallow (cf. tuku)
gongom uela giant clam, *Tridacna* sp. (lit. 'swallow saltwater')
- 120 goruru edible green seaweed
- 121 gou to bend, fold
- 122 guluguluena straight, correct, true
- 123 guma (cf. ai₂)
- I
- 124 ia₁ elephant-ear taro, *Alocasia macrorhiza* (cf. asi, kaala, ulaa)
- 125 ia₂ third person singular class A pronoun

- 126 iaa (cf. mamaulue)
- 127 ie (-gi, -m, -na) sister-in-law
- 128 iema knife
- 129 ieri pandanus sp. with long red or yellow fruit (cf. arana, aum, katai, maruna)
- 130 iina fat, grease
- 131 ila₁ pandanus rain cape
- 132 ila₂/ira third person plural class A and B pronoun
- 133 ilou to run
- 134 imuimutu moss, algae
- 135 inana food
- 136 inaqari to talk
- 137 inaua freshwater eel (cf. alaqitana)
- 138 inoa (-na) breath
- 139 io second person singular class A pronoun
- 140 ioi to count (cf. ira)
- 141 ioro outrigger boom (cf. ai patoi)
- 142 ira to count (cf. ioi)
- 143 iri (-la) to tie, bind by wrapping around (cf. nagi)
- 144 isoi (-a, -e-la) to cut (fish (fish, meat, rope; cf. toai)
- 145 ita first person plural inclusive class A and B pronoun
- 146 itau tree from which the slitgong is made (= *Calophyllum inophyllum?*; cf. qitau)
- 147 itu seven
- K
- 148 kaakaa to stay
kaakaa i to stay at
- 149 kaala large-leaved taro sp. (cf. asi, ia, ulaa)
- 150 kabitoto nit, egg of a louse
- 151 kaikai₁ to dig
- 152 kaikai₂ (-na) wing
kaikai gila wing of a bird
- 153 kaka open-mouth carrying basket (cf. aisosa, keru, laka)
- 154 kakala to sweep (cf. ai₂)
- 155 kalakalaqina near
- 156 kalaqeiqei sandfly (probably kala-qeiqei; cf. kalaqisi)
- 157 kalaqisi sandfly (probably kala-qisi; cf. kalaqeiqei)
- 158 kalao rattan
- 159 kalasi to peel, as yams
- 160 kalio mens' sarong (P. laplap)
- 161 kalipa bush spirit (P. masalai; cf. raroai, tootoo).
- 162 kalokalo (-a) to scratch
- 163 kame (cf. ai₂)
- 164 kanusu to spit
- 165 kaqakaqa to laugh
- 166 kao to pour, spill
- 167 kapou monitor lizard, *Varanus* sp.
- 168 kapu₁ friend, companion (= kapu₂?)
- 169 kapu₂ (-gu, -m, -na) older sibling
kapu-gu my older sister
kapu-gu taita my older brother
- 170 kaputu adze, implement for dressing wood
- 171 karaane rain cloud
- 172 karai small clam sp.
- 173 karake largest digit of hand or foot
karake keke big toe
karake nima thumb
- 174 karasa to whet, grind a blade

- 175 kariboo²⁴ hornbill sp. with white feathers (cf. kinaku)
- 176 karika no, not
karika oroi not many/much;
few
- 177 karou a tree, the roots of which yield a crimson dye, *Morinda citrifolia*
- 178 karuma short upright stick on the outrigger float used to connect float and boom (cf. papasa)
- 179 kasu₁ to go, walk (cf. laa₂)
kasukasu to walk
kasu mai come here! (vocative)
kasu-a laa to take
kasu-a mai to bring
- 180 kasu₂ (-na) gall
- 181 katai pandanus sp. with long fruit and small seeds (cf. arana, aum, ieri, maruna)
- 182 katoto star
- 183 katu₁ seed
- 184 katu₂ (cf. ḡaluḡalu)
- 185 katu₁ (-la) to fall from a height, as fruit (cf. asakararike)
- 186 katu₂ large snake sp. (cf. otuana, tariti)
- 187 kau (P) sweet potato
- 188 kaubebe butterfly (probably kau-bebe; cf. kurubebe)
- 189 kaukau (cf. ai₁)
- 190 kauru large bamboo from which combs are made
- 191 keke (-gi, -m, -na) foot, leg
- 192 keli (cf. ai₁)
- 193 kereḡana (cf. mata)
- 194 keru kind of basket (cf. aisosa, kaka, laka)
- 195 kiki small red cockatoo
- 196 kikiau large mound-building bird, *Megapodius*
- 197 kila to know (people), be acquainted with (cf. alomasaḡa, tara)
- 198 kina (-gi, -m, -na) mother
- 199 kinaku hornbill sp. with black feathers (cf. kariboo)
- 200 kinari to sing
- 201 kiniti to pinch
- 202 kiriababa insectivorous cave bat
- 203 kirikiri a tree the crushed seeds of which are used to stupefy fish, *Barringtonia asiatica* (P. vut)
- 204 kiriola to turn
- 205 kitou hermit crab (cf. aiu, rikarikae, taia)
- 206 koba (-gi, -m, -na) abdomen, belly
- 207 koikoi coconut shell; canoe bailer of coconut shell
- 208 koko fish (cf. pisi₂)
- 209 kolo(kolo) to call, hail someone
- 210 komo sleeping mat
- 211 koḡurumakere marlin, swordfish (= koḡuru-makere?)
- 212 koronana false, untrue
- 213 kosa earth, soil
- 214 koto surf, breakers (cf. toḡetoḡea)
- 215 ku (-gu, -m, -na) penis
- 216 kukuku white-tailed dove sp. (cf. balus)
- 217 kulalaba big (cf. namuu)
- 218 kuluki to strip off bark, decorticate
- 219 kulukulutana dirty
- 220 kulum axe, implement for felling trees
- 221 kunei (-a, -e-la) to pull (cf. aia)

- 222 kunu to cough
- 223 kuraa fire; firewood
- 224 kurubebe butterfly (probably
kuru-bebe; cf. kaubebe)
- 225 kuu to blow
kuu-e-la blow on it! (as on
a fire to start it)
kuukuu to blow, of the wind;
wind
kuukuu tasi hurricane
- L
- 226 la light, radiance; day
e lala day (lit. 'it is
shining')²⁵
la ŋa teba one day
- 227 laa₁ branch
laa ŋ ai branch of a tree
tuu laalaa-ŋa-na fork of a
branch (= 'its fork'; cf.
saŋasaŋa)
- 228 laa₂ to go, walk (cf. kasu)
u-laa (you) go!
laa mai to bring
laa tau to take
- 229 lae hinterland, interior (cf.
tubui)
- 230 laia ginger
- 231 laka round carrying basket
placed on the head (cf.
aisosa, kaka, keru)
- 232 lala (cf. ai₁)
- 233 lalu lionfish
- 234 lamana sea near the shore
(cf. malama, malioŋe)
- 235 laŋasi brain
laŋasi niu/laŋalaŋasi niu
pith of young coconut
- 236 laŋo housefly
- 237 lapalapa palm, sole
lapalapa keke sole of the
foot
lapalapa nima palm of the
hand
- 238 lapu kind of colourful lizard
- 239 laso (-gu, -m, -na) testicles
- 240 lauei an edible plant,
Hibiscus manihot (cf. naula)
- 241 lima five
- 242 lisa louse
- 243 liu hole for housepost; grave
(= liuu?)
- 244 liue base, bottom
liue ŋ ai base of a tree
- 245 liuu place (cf. tauu)
liuu ai taataau place for
earth oven
liuu ŋ ai tuutuu fire place,
hearth (lit. 'place for the
cooking pot')
- 246 loa red tree ant (*P. korakum*)
(cf. agueguli)
- 247 lokuloku to dance
- 248 loŋoti (-a) to chop wood
- 249 looloo to fly
- 250 lotoloto a hardwood tree:
Intsia bijuga (*P. kwila*)
- 251 lua two
- 252 luei calm, still, of water
- 253 lueki to vomit
- 254 lutalaua morning
- M
- 255 maa boil, abscess
- 256 maasu black shore bird similar
to a seagull (cf. rabaŋana)
- 257 mai hither, toward the speaker
- 258 makariŋe cold
- 259 makere sago palm
- 260 makikile sour
- 261 makuruke raw, uncooked
- 262 malalalake thin, of material

- 263 malama lagoon, shallow green water within the reef (cf. lamana, malione)
- 264 malaŋona dry
- 265 malatau flesh, meat
- 266 malatu large mullet sp. (P. karua)
- 267 malione deep blue sea beyond the reef (cf. lamana, malama)
- 268 malumlum poisonous brown starfish (= crown of thorns?); cf. siŋakoio)
- 269 mama type of seaweed used to weatherproof canoes
- 270 mamaa gecko, house lizard
- 271 mamaatana heavy
- 272 mamama to yawn
- 273 mamaulue/maulue living, alive
e mamaulue/maulue iaa to be alive
- 274 mami first person plural exclusive class B pronoun
- 275 manaki (cf. ai₁)
- 276 manoi unicorn fish (Admiralty loan?)
- 277 manu water (cf. ateio, rarum, uela)
manu gagaga tidal wave
manu kulalaba high tide (lit. 'big water')
- 278 maŋa taboo, holy
- 279 maŋini giant squid (cf. nusa)
- 280 mao heal, recover
- 281 marase middle
e lo marase sky (lit. 'in the middle?')
- 282 marieba large flying fox sp. (cf. papaamara)
- 283 maroate wet (cf. posona)
- 284 maruna small pandanus sp. (cf. arana, aum, ieri, katai)
- 285 masaaliki village, settlement
- 286 masau far
- 287 masikana sweet (cf. onose)
- 288 masina good
- 289 masini salty
- 290 masoko hiccough
- 291 masoso/masosona ripe, cooked
- 292 mata (-gi, -m, -na) \ eye, face; blade; source; sucker of plant
mata kaala sucker of the kaala taro
mata kereŋana sharp (cf. raramukana)
mata ŋ asi sucker of the asi taro
mata ŋ ateio source of a river
mata salusalu blind
mata ulaula spring, place where water bubbles up
mata utu pride
- 293 matautu/mamatautu to fear, be afraid
- 294 mate dead, to die (cf. ubi)
e mate la he is dead
- 295 mati low tide, dry reef (cf. poŋamati)
- 296 matulubo catfish sp. (cf. goagoa)
- 297 mauu pus; to stink
mauu ŋ usai pus of a wound
- 298 me and, with (comitative)
- 299 meme urine, urinate
- 300 miroro large fish sp. (P. kulapo)
- 301 mona pounded taro with coconut cream
- 302 monono swamp
- 303 mosou a tree with sweet fruit
- 304 mosu pig
- 305 muenana right side (cf. oaise)
- 306 mukei mango
- 307 mumuko holothurian, sea cucumber
- 308 mumumu to suck

N

- 309 nagi (-a, -e-la) to tie, bind by wrapping around (cf. iri)
- 310 nakasa tree used for canoe hulls (cf. gigima)
- 311 nama(nama) to eat, chew
u-nama-la saa what did you eat?
ia e-namanama bua he's chewing betel
- 312 nami taste
nami masini a salty taste
- 313 namisi to play
- 314 namuu big, wide; old, of people (cf. kulalaba, pokane)
namuu ŋa toa adults (collective)
- 315 nata coconut flower spathe (P. galimbong)
- 316 natu₁ (-gu, -m, -na) child, offspring (cf. alikietoa)
- 317 natu₂ latex-producing tree with apple-like fruit, *Palaquium* sp.
- 318 naula a flowering plant, *Hibiscus tiliaceus* (cf. lauei)
- 319 nei (-na) smell, odor
nei batum odor of tapioca
nei ŋ asi odor of the asi taro
nei ŋ ulu odor of breadfruit
- 320 neŋa (-gi, -m, -na) younger sibling of the same sex (cf. tue₁)
- 321 nima (-gi, -m, -na) arm, hand
- 322 nimuru garfish
- 323 ninamanama year
- 324 ninanana to think
- 325 niu coconut tree
niu-na dry coconut (= 'it's coconut? P. drai)
- 326 noko mosquito
- 327 nomo six
- 328 noŋonoŋo to hear
- 329 nou stonefish
- 330 nusa small squid (cf. maŋini)
- ŋ
- 331 aŋa²⁶ second person plural class B (and A?) pronoun
- 332 ŋaapa lime gourd (P. skin kambang)
- 333 ŋaluŋalu tooth
ŋaluŋalu katu molar tooth
- 334 ŋaŋaŋala to whine, cry, weep
- 335 ŋiŋii (cf. taliŋa)
- 336 ŋitau a tree, *Calophyllum inophyllum*, coastal variety (= itau? cf. tamanu)
- 337 ŋoo to snore
- 338 ŋunupi to crush lice
- 339 ŋusu nose; to smell (trans.)
ŋusu poi e la smell it!
- 0
- 340 oa root
oa ŋ ai root of a tree
- 341 oaa large variety of the Malay apple, *Syzygium gomata* (cf. bagalaim)
- 342 oaise left side (cf. muenana)
- 343 oana large brown or yellow four-cornered fish
- 344 oasa rope, vine
oasa rarai betel pepper
- 345 obo fallow land
- 346 olimo boat, canoe
- 347 onose sweet (cf. masikana)
- 348 onu turtle
- 349 oroi much, many
- 350 osaosa the canarium nut (P. galip)

- 351 ose canoe paddle
oseose to paddle
- 352 oso yam
- 353 otolu egg
otolu gila bird egg, chicken
egg
- 354 otuana snake (generic; cf.
katuu₂, tariti)
- 355 ouna new
- P
- 356 pa mouth; hole in a pot,
canoe, etc.
- 357 pae stinging nettle, *Laportea*
sp.
- 358 paepae to seek, search for,
find (cf. rere)
- 359 paka a tree, *Terminalia* sp.
- 360 pakasa handle
pakasi kaputu handle of an
adze
- 361 pake to cover
- 362 pakepakeni back of the head
- 363 pakieu flying fish
- 364 palapalana thunder
- 365 palata sick
- 366 pale sail (Admiralty loan?)
- 367 palee hawk
- 368 paluaalua twin (cf. lua)
- 369 panukana (cf. ai₂)
- 370 papaamara small flying fox
sp. (cf. marieba)
- 371 papapa (-gi, -m, -na) shoulder
- 372 papapa aanasa noon, time of
day when the sun is hottest
(lit. 'hot shoulder')
- 373 papasa connecting piece for
outrigger float and booms
(cf. karuma)
- 374 pararaṅisi gold-lip pearl
shell (cf. ulaṅa)
- 375 parikaṅa charcoal
- 376 paro (-gu, -m, -na) vulva
vagina
- 377 paru (-e-la) to hit, strike
paru e la tale ai hit him
with a stick!
- 378 pasa(pasa) to plant
la pasa asi plant the taro!
- 379 pasi to cut
- 380 pasipasi young coconut (P.
kulau)
- 381 pasu full (as a container)
- 382 pate (-a-la) to break, snap
as a rope
- 383 patilaka forehead (apparently
pati-laka; cf. patinau)
- 384 patinau forehead (apparently
pati-nau; cf. patilaka)
- 385 patioṅ dolphin, porpoise
- 386 patoi (cf. ai₁)
- 387 patu (-na) joint, node
patu keke knee
patu nima elbow
patu tou node of the sugar-
cane stalk
- 388 patuṅanua island (= patu ṅ
anua?)
- 389 pau to pluck, pull out
- 390 pawa dog
- 391 pen/peni pen (E)
- 392 piipinosa to grow (intrans.)
- 393 pili (-a) to crumple up
- 394 pisi₁ to fart, break wind
- 395 pisi₂ fish (P)
- 396 pisike small; narrow
- 397 poa to say, tell (cf. aulia)
- 398 poi₁ (cf. aso)
- 399 poi₂ (cf. ṅusu)

- 400 pokane old, of things (cf. namuu)
- 401 polii because
polii saa why?
- 402 poŋamati coral reef (probably poŋa-mati; cf. mati)
- 403 porapora to wash (clothes, dishes, face or hands; cf. suu)
porapora mata-m wash your face!
porapora nima-m wash your hands!
- 404 posalai (-a, -e-la) to slap
posalai e la slap him!
- 405 poso to hold, squeeze in the hand
poso a la ta nima-m hold it in your hand
poposo-a to squeeze with the hand
posoposo to hold in the hand
- 406 posona wet (cf. maroate)
- 407 pouru mountain
- 408 pua flower, blossom
pua ŋ ai blossom of a tree
- 409 pue flatfish, flounder, halibut
- 410 puŋana roof, ridgepole
- R
- 411 rabaŋana seagull (cf. maasu)
- 412 rabarabaia lightning
- 413 rae (-gi, -m, -na) blood (cf. raeraeana)
- 414 raeraeana red (cf. rae)
- 415 raipa saliva
- 416 rame to chew
- 417 ramoramo sore, wound (cf. usai)
- 418 ramuramutipa (-gi, -m, -na) tongue
- 419 raŋasi to stick, adhere to (cf. araŋa)
- 420 rarai (cf. oasa, uru)
- 421 raramukana sharp (cf. mata kereŋana)
- 422 raramuti (cf. ai₁)
- 423 rarana mangrove sp. (cf. toŋo)
- 424 rarana sea urchin
- 425 rararasa saw grass, *Imperata cylindrica* (P. kunai)
- 426 rare coral limestone
- 427 rari (-a) to rub, as medicine on the skin
- 428 rariao rat
- 429 raroai bush spirit (P. masalai; cf. kalipa, tootoo)
- 430 rarum water (cf. ateio, manu, uela)
rarum i koko fish broth
rarum mata tears
- 431 rauebulu (possibly rau e bulu; cf. bause)
- 432 raum needle
- 433 raura frigate bird
- 434 rekati fishhook
- 435 rere to seek, search for, find (cf. paepae)
- 436 rikarikae hermit crab (cf. aiu, kitou, taia)
- 437 rira sand
- 438 riu bone
riu ŋ aasoŋo rib
riuriu-ena thin, skinny, of persons or animals (= 'bony')
- 439 roŋo to swell (cf. rupa)
e roŋo la it is swollen
- 440 roparopa frog
- 441 ropi to drink
- 442 roro thorn
- 443 rukeruke earthquake
- 444 rupa to swell (cf. roŋo)
e rupa la it is swollen

S

- 445 saa what?
- 446 sabana a tree with dry wood,
similar to alo
- 447 sae up (cf. sio)
saesae to climb
- 448 sai to sharpen the point (of
a stick, etc.; cf. supi)
- 449 saiki to sew, of clothes (cf.
sui; suli)
- 450 sairi (-a, -e-la) to split
- 451 salana path, road, way
- 452 salii to husk coconuts
- 453 salo (cf. ai₁)
- 454 salusalu (cf. mata)
- 455 samana outrigger float
- 456 samusamu (-a) to bite
- 457 saŋasaŋa (-na) fork of a
branch (cf. tuu laalaa-ŋa-na)
- 458 sa-ŋaulu ten (possibly
sa-ŋa-ulu)
- 459 saŋina lime (P. kambang)
- 460 sapesape barracuda, sea pike
- 461 sapisapi (cf. ai₂)
- 462 sau (-gu, -m, -na) chest (of
a man)
- 463 saua to catch (as a ball)
(possibly sau-a)
- 464 saurorom dark
- 465 sei who?
- 466 sesa₁ bad
- 467 sesa₂ one
- 468 sii banyan, *Ficus* sp.
- 469 sila to comb (cf. ai₂)
- 470 sinaka sun
- 471 siŋakoio starfish (generic;
cf. malumlum)
- 472 sio₁ down (cf. sae)
- 473 sio₂ nine
- 474 soa(soa) to shoot, stab
soa i e la shoot him!
soasoa la shoot him!
- 475 soana channel, passage
through the reef
- 476 sokiki kingfisher
- 477 sui to sew, of mats, thatch,
etc. (cf. saiki, suli)
- 478 suli (-a, -e-la) to sew (cf.
saiki, sui)
- 479 sulu(-i-a) to burn (cf. usulu)
- 480 sunuki to carry on a pole
between two men
- 481 sunuku pregnant
- 482 supi to sharpen the point (of
a stick, etc.; cf. sai)
- 483 susu (-gu, -m, -na) breast
areare susu nipple of the
breast
- 484 suu/suusuu to bathe, dive
suo sio to dive down
suusuu to bathe (cf. porapora)

T

- 485 taataau (cf. liuu)
- 486 taia generic for large crabs
(cf. aiu; kitou, rikarika)
- 487 taita male, man
taita-ni (-gi, -m, -na)
husband
taita namuu old man
- 488 takea rollers for beaching a
canoe
- 489 talakia/talakiena yellow
- 490 tale₁ inside
- 491 tale₂ with (instrumental),
way, manner
tale saa how? in what way?
- 492 talia round
- 493 taliŋa (-gi, -m, -na) ear
taliŋa boloŋo deaf
taliŋa ŋiŋii mushroom
(possibly taliŋa ŋ iŋii)

- 494 tama (-gi, -m, -na) father
- 495 tamanu a tree, *Calophyllum inophyllum*, inland variety (cf. ŋitau)
- 496 taŋini a fish, the Spanish mackerel
- 497 taon a tree with sweet fruit (P. pakpak)
- 498 taotaoko sea eagle
- 499 tara to look
tara la look at it!
tara kila to recognise
- 500 tariti kind of quick, small snake (cf. katuu, otuana)
- 501 tasi₁ (-gi, -m, -na) brother-in-law
- 502 tasi₂ (cf. kuu)
- 503 tau₁ (cf. aŋa)
- 504 tau₂ to give
laa tau to take
mai tau to bring
tau la give it!
- 505 tauba sardine (P. talay)
- 506 taue conch shell, triton
- 507 taulona large rock cod (cf. uaiata, uouna)
- 508 taumata person, human being
taumata tu ŋa toa people (collective)
- 509 tautaele dugong
- 510 tauu place (cf. liuu)
tauu ramoramo scar
- 511 teba a, one (cf. sesa₂)
- 512 teka feces; to defecate
- 513 teke that (distant)
- 514 tine intestines
- 515 tiŋina to stand
tiŋina sae stand up!
- 516 tioŋi dorsal fin
- 517 tioŋo (cf. ai₁)
- 518 toa(-i-e-la) to cut (string, rope; cf. isoi)
- 519 toka to sit
toka sio la sit down!
tokatoka to reside, live in a place
- 520 toko this
- 521 toliiti maggot
- 522 tolu three
- 523 toŋetŋea wave, swell in the open sea (cf. koto)
- 524 toŋo mangrove sp. with edible fruit (cf. rarana)
- 525 too that (near hearer)
- 526 tootoo shadow, reflection, spirit of the dead (cf. kalipa, raroai)
- 527 toto grasshopper
- 528 totu to wake up
- 529 tou sugarcane
- 530 tubu (-gu, -m, -na) grandparent, grandchild
tubu bause grandmother
tubu bause pisike granddaughter
tubu taita grandfather
tubu taita pisike grandson
- 531 tubui jungle, bush (cf. lae)
- 532 tubula satiated, full from eating
aŋa tubula you (pl.) are full
- 533 tue₁ (-gi, -m, -na) older sibling of the same sex (cf. neŋa)
- 534 tue₂ to fell a tree
tue la fell it!
- 535 tuku (-a) to swallow (cf. gomgom)
- 536 tukuilapu rainbow (possibly tuku i lapu; cf. lapu)
- 537 tukuna short (in length or height; cf. bao₂)
- 538 tumari (-a, -e-la) to hit (with the fist), punch
- 539 tumaroaroko bee

- 540 tumtumꞵana dull, blunt
 541 tutulu housepost
 542 tuu (cf. laa₁)
 543 tuutuu to cook (trans.)
 agi a-tuutuu I'm cooking

U

- 544 ua crocodile
 545 uaiata large brown rock cod
 (cf. taulona, uouna)
 546 ualu eight
 547 ubi to strike, kill
 ubi e mate a la
 548 ue₁ fruit
 ue ŋ ai fruit of a tree
 549 ue₂ (-a, -e-la) to throw
 (cf. belu₂)
 550 uela salt; saltwater (cf.
 ateio, manu, rarum)
 551 uena casting net
 552 ueta vein, vessel, tendon
 553 ui (-na) tail
 ui koko tail of a fish
 ui mosu tail of a pig
 554 uita octopus
 555 ulaa swamp taro with large
 leaves, *Cyrtosperma* sp.
 (cf. asi, ia, kaala)
 556 ulana moon, month
- 557 ulaꞵa gold-lip pearl shell
 (used in other parts of St.
 Matthias, but not in
 Lomakunauru; cf. pararaꞵisi)
 558 ulaula to effervesce, bubble
 up
 559 ulu breadfruit
 560 uꞵu to work
 561 uꞵuru (-gu, -m, -na) head hair
 562 uouna giant black rock cod
 (cf. taulona, uaiata)
 563 uri banana
 564 uru₁ (-gu, -m, -na) head
 uru ŋ uira heart (lit. 'head
 of octopus')
 565 uru₂ leaf
 uru ŋ ai leaf of a tree;
 paper
 uru rarai betel leaf (P.
 lip ndaka)
 566 usai sore, wound (cf.
 ramoramo)
 567 usousoana white
 568 usulu coconut leaf; torch
 made of coconut leaf (cf.
 sulu)
 569 utaliꞵa external gills (= uu
 taliꞵa? cf. asane)
 570 utana garden
 571 utu (cf. mata)
 572 uu feather (also 'body hair'?)
 uu gila feather of a bird

APPENDIX 1

Mussau reflexes of Proto-Oceanic reconstructions

No.	POC	MUSSAU	ENGLISH ²⁷
1	-a	-a (transitive)	<i>3sg object pronoun</i>
2	panas (> pa-panas)	aanasa	<i>hot</i>
3	(i)-au	agi	<i>1sg subject pronoun</i>
4	kayu	ai	<i>wood, tree</i>
5	paRi-	ai- (?)	<i>reciprocal prefix</i>
6	penako	ainao	<i>to steal</i>
7	qayuyu	aiu	<i>coconut crab</i>
8	pa-Rapi	alai	<i>afternoon, evening</i>
9	pale	ale (house)	<i>public building</i>
10	qalipan	aliena	<i>centipede</i>
11	kalo	alo	<i>neck</i>
12	qalawa	aloa	<i>mother's brother</i>
13	kami	ami	<i>1pl ex. subject pronoun</i>
14	ane	ane	<i>termite</i>
15	panua	anua (land?)	<i>settled area</i>
16	aŋak/aŋap	aŋa	<i>to gape</i>
17	apaRat	apaē	<i>storm wind</i>
18	pandan	arana	<i>pandanus</i>
19	kantita	arita	<i>putty nut</i>
20	kandoRa	aroa	<i>cuscus, phalanger</i>
21	asaŋ	asaŋe	<i>internal gills</i>
22	asiŋe	asiŋe	<i>to sneeze (onom.)</i>
23	kasu/qasu	asu	<i>smoke</i>
24	pat	ata	<i>four</i>
25	kataman ²⁸	atamana	<i>doorway</i>
26	qate	ate-a	<i>liver</i>
27	patuR	atu	<i>to plait</i>
28	patu	atu	<i>stone</i>
29	qapu ²⁹	au	<i>ash</i>
30	pakiwa ³⁰	baio	<i>shark</i>
31	(mpada)mpada	balabala	<i>fence</i>
32	mpalai	balai	<i>fish. sp.</i>
33	papa	bao	<i>carry pick-a-back</i>
34	mpapaq	bao	<i>short</i>
35	pujoq	biiso	<i>foam, bubbles</i>
36	mpito ³¹	bito	<i>navel</i>
37	pWojj	bo, bo-bonji-ena (black)	<i>night</i>
38	mpuaq	bua	<i>areca nut</i>
39	mpulut	buluu (to caulk)	<i>gum, sap glue</i>
40	e-	e-	<i>3sg subject marker</i>
41	pea ³²	ea	<i>where?</i>
42	ka	ga/ka/ko	<i>ordinal marker</i>
43	pija	ga-isa	<i>how many/how much?</i>
44	-ŋku	-gi/gu	<i>1sg possessive pronoun</i>
45	ŋkommŋkomu	gomgom (to swallow)	<i>to rinse the mouth, gargle</i>

No.	POC	MUSSAU	ENGLISH
46	i	i	<i>genitive</i>
47	piRaQ	ia	<i>taro (Alocasia sp.)</i>
48	ia	ia	<i>3sg subject pronoun</i>
49	ipaR	ie	<i>sister-in-law</i>
50	kiRam	iema (<i>knife</i>)	<i>axe, knife³³</i>
51	ida	ila/ira	<i>3pl subject pronoun</i>
52	limut	imuimutu	<i>moss, algae</i>
53	kinan	inana (<i>food</i>)	<i>meat</i>
54	iko	io	<i>2sg subject pronoun</i>
55	kianso	ioro	<i>outrigger boom</i>
56	kita	ita	<i>1pl in. subject pronoun</i>
57	pitaquR	itau/ŋ-itau	<i>a tree: Calophyllum sp.</i>
58	pitu	itu	<i>seven</i>
59	kali	kaikai	<i>to dig</i>
60	ŋkadanj	kala-kalanj-na	<i>near</i>
61	kadasi	kalasi	<i>to peel</i>
62	kaRo-a	kalo-kalo-a	<i>to scratch</i>
63	ŋkanus ³⁴	kanusu	<i>to spit</i>
64	qasu	k-asu	<i>gall (bladder)</i>
65	(kau)mpempe ³⁵	kaubebe	<i>butterfly</i>
66	kaundu	kauru	<i>bamboo sp.</i>
67	kilala	kila	<i>to know (people)</i>
68	tina	kina	<i>mother</i>
69	ŋkiñit	kiniti	<i>to pinch</i>
70	(koi)koi	koi	<i>coconut shell</i>
71	kondon	koron-ana	<i>false</i>
72	kukuk	kukuku (<i>dove sp.</i>)	<i>to coo, murmur</i>
73	lapa ³⁶	kula-laba	<i>big</i>
74	danj	la (<i>light, radiance</i>)	<i>day</i>
75	daqan	laa	<i>branch</i>
76	daka ³⁷	laa	<i>to go, walk</i>
77	daya	lae	<i>interior, hinterland</i>
78	laqia	laia	<i>ginger</i>
79	laman	lamana (<i>littoral sea</i>)	<i>deep sea</i>
80	laŋo	laŋo	<i>housefly</i>
81	dapan	lapa-lapa	<i>palm, sole</i>
82	laso	laso	<i>testicles</i>
83	lima	lima	<i>five</i>
84	linsaq	lisa	<i>nig, egg of louse</i>
85	Ropok	loo-loo	<i>to fly</i>
86	dua	lua	<i>two</i>
87	luaq	luek-i	<i>to vomit</i>
88	-mu	-m	<i>2sg possessive pronoun</i>
89	ma-	ma-	<i>attributive/stative</i>
90	mai	mai	<i>hither, toward speaker</i>
91	makadindj	makarige	<i>cold</i>
92	(ma)-Raŋo	ma-laŋo-na	<i>dry</i>
93	mapat	ma-maat-ana	<i>heavy</i>
94	mami	mami	<i>1pl ex. possessive pronoun</i>
95	mapo	mao	<i>to heal, recover</i>
96	(ma)-sauq	masau	<i>far</i>

No.	POC	MUSSAU	ENGLISH
97	maqasin	masini	salty
98	mata	mata	eye, face, focus
99	matakut	(ma)matautu	afraid
100	mate	mate	die, dead
101	maqati	mati	low tide, ebb
102	mapuRuk	mauu (pus; to stink)	rotten
103	me	me	and, with
104	mimiq/mimiR	meme	urine, urinate
105	moñak	mona	tasty; fat (n.) ³⁸
106	mansoku	mosou	cinnamon tree
107	-ña	-na	3sg possessive pronoun
108	ñama	(nama)nama	to eat, chew
109	ñami	nami (taste)	to taste
110	natu	natu	child
111	ñatuq	natu	tree sp.
112	lima/nima	nima	hand, arm
113	niuR	niu	coconut tree
114	onom	(o)nomo	six
115	doŋoR	noŋo-noŋo	to hear
116	nopuq	nou	stonefish
117	nusa	nusa	squid
118	(ŋa)ŋada	ŋa-ŋaŋala	to whine, whimper
119	ŋoRo	ŋoo	to snore
120	ŋusu	ŋusu (nose)	labial circle
121	wakaR	oa	root
122	waRoj	oasa	vine, rope
123	poñu	onu	turtle
124	ponse	ose	canoe paddle
125	qatoluR	otolu	egg
126	paqoRu	ou-na	new
127	palu	paru	to hit, strike
128	pansi	pasi	to split, cut
129	mpatu	patu	joint, node
130	mpisi	pisi	to fart
131	mpoi	poi	odor, smell
132	popos	poso ³⁹	to hold in hand, squeeze
133	mpua	pua	flower
134	pupuŋ-an	punaŋa	roof ridge, ridgepole
135	ndaRaŋ	rae	blood
136	ndam ^{We}	rame	to chew
137	ndamu	ra-ramu-ti	lime spatula
138	nsalaŋ	raraŋa	sea urchin sp.
139	lanse	rare	coral limestone
140	nsaRi	rari	to rub, smear, anoint
141	saRum	raum	needle
142	ndaula	raura	frigate bird
143	suRi	riu (< M)	bone
144	sosop-i	ropi (to drink)	to suck, drink
145	nsapa	saa	what?
146	nsake	sae, saesae	to climb, upwards
147	saŋit	saik-i	to sew (clothes)
148	said-i-a	sair-i-a	to split
149	nsalan	salana	path, road

No.	POC	MUSSAU	ENGLISH
150	nsaman	samana	outrigger float
151	samuksamuk	samusamu (to bite)	to chew, bite
152	saŋa	saŋa-saŋa	bifurcation, to branch
153	sa-ŋa-puluq	saŋaulu	ten
154	ndondom	sau-rorom	dark
155	nsai ⁴⁰	sei	who?
156	esa	s-esa	one
157	suda	silā	to comb
158	sinaR	sinaka (sun)	to shine
159	nsipo	sio	down
160	nsiwa	sio	nine
161	nsoka	soa (to shoot)	to stab, shoot
162	sawan	soana	channel, strait
163	susuk-i	su-i	to sew (mats, etc.)
164	susud-i	sul-i	to sew (mats, etc.)
165	suluq	sulu (to burn), u-sulu	torch
166	susu	susu	breast
167	suku	suu	to bathe, dive
168	ntaliŋa	taliŋa	ear
169	tama	tama	father
170	tamanu	tamanu	a tree: <i>Calophyllum</i> sp.
171	taŋiRi	taŋini	a fish: Spanish mackerel
172	tawan	taon	a tree: <i>Pometia pinata</i>
173	tapuRi	taue	conch shell, triton
174	taumataq	taumata	person, human being
175	tinaqe	tine	intestines
176	toka	toka	to sit, squat; reside
177	tolu	tolu	three
178	toŋoR	toŋo	mangrove
179	ntopu	tou	sugarcane
180	tumpu	tubu	grandparent/grandchild
181	tuka	tue	elder sibling of same sex
182	tudu/tuRu ⁴¹	tu-tulu	housepost
183	puqaya	ua	crocodile
184	walu	ualu	eight
185	puaq	ue	fruit
186	kupWena ⁴²	uena	casting net
187	uRat	ueta	vein, vessel, tendon
188	ikuR	ui (< M)	tail
189	kuRita	uita	octopus
190	pulaka	ulaa	taro (<i>Cyrtosperma</i> sp.)
191	pulan	ulana	moon, month
192	pudapuda	ulaula	foam, bubbles
193	kuluR	ulu	breadfruit
194	punti	uri	banana
195	qulu	uru	head
196	puso	usouso-ana	white
197	pulu	uu	body hair, feather
198	-Vna	-Vna	attributive suffix

NOTES

1. On all recent maps that I have been able to consult the name 'Mussau' (or 'Musau') is applied to the major island of the St. Matthias group. Nevermann (1933:17), however, calls this island 'St. Matthias' and reserves the name 'Musau' for an islet of 35 hectares lying between it and the reef island of Eloaua.
2. Dyen (1965:37, 41) regards Mussau as an isolate within the 'Austronesian Linkage' — that is, as a primary branch of the Austronesian language family. In view of the numerous phonological, lexical and grammatical innovations which Mussau shares exclusively with other Oceanic languages this classification can hardly be taken seriously.
3. To judge from the pattern for thousands, it is likely that alternative forms ka-teba-ai, ga-lua-ai, exist for *one hundred*, *two hundred*, etc. though these were not heard.
4. For a possessive construction which derives from a clausal source in another Austronesian language cf. colloquial Indonesian saya punya isteri *my wife* (lit. *I have a wife*).
5. It is unclear whether a-teba can function as a definite article, or whether it is neutral with regard to definiteness. The English translations must be regarded as convenient approximations.
6. Lister-Turner and Clark (1930) give e as a third person subject marker in Motu: (ia) e gini *he/she/it stands*, (idia) e gini *they stand*. As in Mussau, however, it has some uses which seem less straightforward: e hitologumu *I am hungry* (lit. *it hungers me*), e goreregumu *I am ill*, etc. The existence of similar systems of subject marking in various languages of eastern Indonesia suggests that the subject-marking function of Mussau, Motu e is old, and may have been transformed into an indefinite predicative function in Eastern Oceanic languages when the original system of subject marking broke down.
7. Interestingly, Chinnery (1927) records a 'reversed' genitive construction in Emira, as in ai-uruna (Mussau uru-η-ai) *leaf*, ai-puana (pua-η-ai) *blossom*, ai-viliki (biliki-η-ai) *bark of a tree* and ai-oan (oa-η-ai) *root of a tree*. While the structure of these constructions is generally whole + part + third person singular possessor, at least one compound that Chinnery cites contains an additional element -i which may mark the genitive: ai-lai-ina (Mussau laa-η-ai) *branch of a tree*.
8. cf. Lister-Turner and Clark (1930:12) for a very similar situation in Hanuabada Motu (but not in 'Police' Motu).
9. Phonemically, -mu also occurs in /samusamu-a/ *to bite* and /alomu/ *parent-in-law*, but these items were recorded only in suffixed form. As will be seen, it is possible that the near-constraint against /u/ between /m/ and a following word boundary is not phonemic, but rather a product of low-level allophonic rules.
10. Chinnery frequently — but inconsistently — writes Emira v corresponding to Mussau /b/: bilik *skin*, ai viliki *tree bark* (Mussau /biliki/), valavala (/balabala/) *fence*, tuvui *grass*, tubui *wild* (probably both = Mussau /tubui/ *jungle, bush*).

11. Geminate r is a lengthened (5-6 tap?) trill.
12. In this connection we might also recall Milner's (1958) explanation of aspirated stops in Kapingamarangi and Tuvalu (Ellice) as deriving from earlier partial reduplications which presumably gave rise to historically intermediate geminates, much as the written geminates of Italian are realised in some colloquial varieties as voiceless aspirates. Haudricourt (1971:384) reports a similar situation in New Caledonia. To the extent that these changes agree, then, they may be regarded as exemplifications of a common phonological drift in Oceanic languages.
13. Certain exceptions remain, as with [pappánasa] *noon* next to [papápa] ~ [páppa] *shoulder*, [aanása] *hot*, and [amáamalo] *I am/was hungry*. These may be due to transcriptional error, and should be checked in future fieldwork on the language.
14. Reflexes of final *d were recorded only before a transitive suffix. No reflexes of final *l were recorded, but as POC *l is retained in non-final position, its retention in final position is expected.
15. Consonant grades in Appendix 1 follow Grace (1969), or earlier (mostly unpublished) Proto-Oceanic reconstructions of my own. The distinctions suggested here are attributed to a language of undetermined time-depth that can conveniently be called 'pre-Mussau'.
16. The reader is reminded that I write Milke's *nj as *ns unless it reflects PAN *(n)j. My *nj is the nasal grade of POC *j < PAN *j.
17. Parentheses indicate minor rules, or weakly attested reflexes; a/y and a/w are to be read as "*a adjacent to *y, *a adjacent to *w", as explained in 3.2.1.2.
18. cf. also lua *two*, ka-sa-ŋaulu-ga-lua *twelve*, etc. next to ga-lue-ŋaulu *twenty*.
19. However, note Pokao vīnao, Tami pinau, Havannah Harbour binako *to steal*, cited by Milke (1968). Together with Mussau aīnao these words could be taken as evidence for a POC doublet *pinako.
20. If, on the other hand, taon is /taono/ and derives from POC *tawan, some instances of *wa > o evidently preceded the addition of echo vowels.
21. P. = New Guinea Pidgin, E. = English. Many lexicalised phrases in Mussau are likely calques on New Guinea Pidgin (e.g. ateio talia = P. raunwara *lake*, tara kila = P. luksave *to recognise*, ubi e mate = P. kilim i dai *to kill*). Since the semantic structure of Pidgin is determined to a very large extent by its Austronesian component, however, some of these similarities may be due to common origin.
22. Although ai₁ and ai₂ clearly are distinct, the assignment of compounds to one rather than the other is often arbitrary, as a great many traditional implements are/were made of wood.
23. cf. Chinnery (1927) aliki *child*.
24. Said to be an Emira word.
25. Greeting? cf. alai *afternoon*, e lo alai *good afternoon*; Chinnery (1927) elo la *day*.
26. Initially misanalysed as ŋa. This error was caught after the vocabulary had been typed, hence the alphabetical anomaly.

27. Unless stated otherwise glosses are generally those attributed to the POC reconstruction.
28. Emira atama *door* suggests that Mussau atamana may be a morphologically complex reflex (atama-na) of a POC form which lacked the final consonant. However, Emira sala < *nsalan *path* shows that POC *-n was lost in some other bases. Kayan (Southwell 1980) katamen (variant: betamen) *door doorway* may be connected and so support the reconstruction of *-n, though the last vowel is problematic.
29. Tongan efu *dust*, assigned by Dempwolff to PAN *qabu, is now generally derived from POC *ndapuR. Mussau au shows that a reflex of PAN *qabu also survived in Proto-Oceanic.
30. Grace (1969) writes *pakiwak, basing himself on Capell (1943). The latter, however, derives the Oceanic terms for *shark* from 'Indonesian' *pa-iwak, on the apparently groundless speculation that reflexes of POC *pakiwa are cognate with Javanese iwak *fish*, Samoan faiva *fishing trip, fishing party*. To date no support for a final consonant in this form is known from any Oceanic language, and no cognates are known outside the Oceanic group.
31. Milke (1968) posits *mbuto (Grace: *mputo) *navel*, but several of the reflexes he cites (Tuna bito-no, Tongan pito) point instead to *mpito.
32. Pawley (1972:78) attributes Proto-Polynesian *fea and a few similar forms in languages of central and northern Vanuatu (Sesake, Motu vea) to Proto-Eastern Oceanic *pai *where?*, taking the distribution of the 'irregular' forms as evidence for a 'North Hebridean-Central Pacific' subgroup of Eastern Oceanic languages. Mussau ea, however, shows that *pea almost certainly was found in Proto-Oceanic.
33. Milke (1968) writes *giRam (Grace: *kiRam) *stone adze, axe*, but cites Meto II (Vitu Islands) kira *knife* among his reflexes. Together with this form Mussau iema can be taken as evidence that the meaning of *kiRam included *knife*.
34. Doublet *qanus-i; cf. Motu kanud-i *to spit, spittle*.
35. Probably a morphologically complex form of POC *mpempe; cf. Motu kaubebe idem.
36. If Mussau -laba is cognate with e.g. Roviana lavat-ana *great, large*, Nggela lava *great* (in compounds), Sa'a laha *big*, Trukese napa *big, large, great, principle, main* the lack of a final syllable -ta is unexplained. Only Trukese agrees in reflecting the nasal grade of *p.
37. Dempwolff (1938) assigned Tongan laka *go, walk, step* and similar forms in other Polynesian languages to PAN *laŋkaq *step, stride*. Motu raka *step, walk, go*, however, indicates a POC etymon with *d-.
38. Reconstructed in Blust (1978) as *moñak *fat; sweet*. Mussau mona *pounded taro with coconut milk* might be regarded as semantically too divergent to justify the proposed cognate association. This connection is made far more likely, however, by Gitua mona *sago*, Nggela mona *coconut cream*, i.e. *shredded coconut and salt water squeezed over food; tender, of food* (monamona); *greasy* and Sa'a mona tele *a dish made from taro*, which suggest that POC *moñak referred additionally to a *taro dish prepared with coconut cream*.

39. Possibly from POC *poRos *squeeze, wring out juice*. If so, however, the semantic fit is poorer, and the derivation violates the chronological ordering of CONTRACTION (2) and *R > Ø assumed in 3.2.4.
40. Proto-Oceanic may have had a doublet *nsei; cf. Pawley (1972:78), Tryon (1976:420ff).
41. Grace (1969) lists only *turu (my *tudu) *post*, but Aua u, Nauna tu *house-post point* instead to *tuRu.
42. Milke (1968) gives *gubeŋa (Grace: *kupeŋa) *fishing net*. Evidence for the doublet appears in Blust (1981a:244ff).

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