

SKETCHES OF THE MORPHOLOGY AND PHONOLOGY OF BORNEAN LANGUAGES

2: MUKAH (MELANAU)

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0. BACKGROUND

The following description of Mukah Melanau is the second of seven language sketches promised in Blust 1977. Given the time lapse between these publications a recapitulation of the circumstances under which the data were collected, and a brief restatement of the goals and theoretical position which have guided the analysis will perhaps be helpful.

Preliminary work in Honolulu with a speaker of the Bario dialect of Kelabit led to the discovery of a previously unnoticed problem in comparative Austronesian linguistics (Blust 1969). To pursue the matter further, fieldwork was undertaken in Sarawak, Malaysian Borneo, from April–November, 1971. Material was collected for 41 speech communities representing all of the major languages of northern Sarawak and some of the languages of adjacent areas. In very few cases did the total collection time for any language exceed 20 hours. Moreover, since the data collection procedure was guided by the need to test a phonologically-based subgrouping hypothesis in the field, it was heavily biased toward selected lexical material. Only a small part of this material could be used in my still unpublished doctoral dissertation (Blust 1974).

My original dissertation plan was to include sketches of seven representative languages in a central descriptive chapter, as follows:

1. Uma Juman (Kayan)
2. Mukah (Melanau)
3. Bintulu
4. Miri
5. Kiput
6. Long Anap (Kenyah)
7. Bario (Kelabit)

The first two sketches were written in 1972, and together totalled 211 typed pages. At this point the feasibility of my dissertation plans began to appear doubtful even to me, and the descriptive chapter was drastically scaled down.

In the summer of 1976 the sketch of Uma Juman was revised for publication, and an accompanying vocabulary prepared. It appeared the following year. The present sketch is modelled closely after the first, as the two were written only months apart.

Papers in Western Austronesian linguistics No.3, 151–216.
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The focus of both sketches is a phonological description, with some remarks on morphology and superficial features of syntax. The descriptive model derives from that of Chomsky and Halle (1968) in requiring a single underlying representation for all morphemes, but departs from their position in several important respects. No attempt has been made to incorporate more recent proposals in phonological theory, since 1) the sketches in this series are not primarily theoretical in orientation, and 2) it is clear that a number of the phonological rules that must be posited for these seven languages cannot be insightfully stated in terms of distinctive features, thus compelling me to depart from all published versions of generative phonology.

More, perhaps, than most languages Mukah raises the seemingly intractable issue of phonological abstractness, and hence by implication the issue of how synchrony is to be distinguished from diachrony in language description. In 1972 I favoured somewhat less abstract underlying representations than I now adopt. The major issues in Mukah phonology arise not so much because of phonological alternations as because of 1) historical consonant mergers which have left a trace of the original opposition in their differing effects on preceding vowels, 2) a second set of reflexes found in the numerous Malay loanwords in the language, and 3) a complex sequence of changes which gave rise to a typologically unusual system of verbal ablaut. These issues are discussed at greatest length in section 2.5.2.

1. GENERAL INFORMATION

Mukah, located on the coast at the mouth of the Mukah River, is the site of the district headquarters Mukah District, Third Division, Sarawak. The nearest major settlements are Oya' (officially spelled Oya), at the mouth of the Oya' River 15 miles to the south, and Balingian, 8-9 miles up the Balingian River, which empties into the South China Sea some 35 miles to the north. At the time of the 1960 census the population of the entire Mukah District (2,835 square miles) was 38,724, of which 15,892 were classed as 'Melanaus'.

The term 'Melanau' or 'Milano' (sometimes spelled 'Lemanau') was applied by the Brunei Malays as early as the 16th century to the indigenous coastal peoples of western Borneo from the Rejang estuary in the south to at least the Kemena River in the north. This label, which corresponds only partly to a demonstrable linguistic subgroup, persists to the present as an exonym (Appell 1968), the people so classified calling themselves a *likəw*, plus a qualifying place-name.

The proper linguistic referent of the term 'Melanau' is a dialect chain which extends along the coast of Sarawak from Balingian in the north to the region of Rejang, Jerijeh and Sarikei villages in the south, and up the Rejang River as far as Kanowit. Contrary to an often-repeated statement, it does not include Bintulu. As noted by Clayre (1970:333), "It would seem likely that Mukah's prestige as the centre of local government, its magnetic attraction for youth to the Three Rivers School, and the radio broadcasts in its dialect, will cause it to emerge as the eventual cultural form for spoken Melanau." Because they are distinguished by only minor linguistic differences, the people of the Mukah and Oya' basins are sometimes referred to collectively as 'Mukah-Oya' Melanaus' (Leach 1950; Cense and Uhlenbeck 1958).

Throughout the Melanau coastal zone and in the Bintulu District to the north, rice - the staple of all other sedentary Bornean peoples - is replaced by sago as the principal food plant (Morris 1953). It is undoubtedly this common and distinctive ecological adaptation to a swampy coastal environment that has

caused Melanau and Bintulu speakers to be grouped under a common term, leading to confusion in the classification of the languages.

Hang Tuah Merawin of Kampung Teh, an upper 6 arts student at the Kolej Tun Datu Tuanku Haji Bujang, Miri, age about 18, served as informant. Apart from his native language the informant was fluent in English and, together with a large segment of the population at Mukah, spoke Sarawak Malay. Material was collected between 17 April and 23 June 1971, and included 38 8½" x 11" notebook pages of data in phonetic transcription, plus a four and one half page account of principal episodes in the life of the Melanau culture hero, Tugau ('Serita Tugau, raja Melanau'), handwritten by Hang Tuah, with English translation.

After several centuries of heavy Malay influence there has been in recent years an awakening interest among the people of Mukah in their own linguistic and cultural heritage. As an indication of its growing practical importance, Radio Sarawak now broadcasts a daily program in the language. The most important published materials are:

ANON

- 1930 A vocabulary of Mukah Milano. *SMJ* 4.1.12:87-130. (Approximately 1,600 words compiled anonymously from material collected by Frs Bernard Mulder at Dalat and Anthony Mulder at Mukah, and by government officer A.E. Lawrence.)

CLAYRE, I.F.C.S.

- 1970 The spelling of Melanau (née Milano). *SMJ* 18(NS):330-352. (Principally concerned with the rather different dialect of Dalat, with passing references to other forms of Melanau.)

LEACH, Edmund R.

- 1950 Social science research in Sarawak. A report on the possibilities of a social economic survey of Sarawak presented to the Colonial Social Science Research Council. London: His Majesty's Stationery Office for the Colonial Office (contains kinship terms in Mukah and Oya').

MORRIS, H.S.

- 1953 Report on a Melanau sago producing community in Sarawak. London: Her Majesty's Stationery Office. (Contains kinship terminology and some cultural vocabulary from the Medong subdialect of the Oya' River.)

RAY, Sidney H.

- 1913 The languages of Borneo. *SMJ* 1.4:1-196. (Lists some 252 items of everyday vocabulary.)

2. LINGUISTIC INFORMATION

The description is organised under the following headings: 1. subsystems, 2. morphology, 3. lexical representation, 4. morpheme structure, 5. phonology, and 6. vocabulary.

2.1 Subsystems

Four subsystems are described: 1. personal and possessive pronouns, 2. demonstrative pronouns, 3. numeration/classifiers, and 4. kinship terms.

2.1.1 Personal and possessive pronouns

There are two partially distinct sets of personal/possessive pronouns, called respectively sets A and B, as follows:

	Set A	Set B
1sg.	akəw	kəw
2sg.	kaʔaw	nəw
3sg.	siən	
1du. (incl.)	tua	Third person singular and non-singular forms are identical with set A
1du. (excl.)	mua	
2du.	kədua	
3du.	dua iən	
1pl. (incl.)	tələw	
1pl. (excl.)	mələw	
2pl.	kələw	
3pl.	(də)ləw iən	

Members of Set A occur as

1. Goal
2. Actor (Active verb)

Members of Set B occur as

1. Actor (Passive verb)
2. Possessives

Examples:

- (1a) akəw b-əm-in siən mabəy
I carried him on my back yesterday. (A2, A1)
- (1b) siən b-ən-in kəw mabəy
I carried him on my back yesterday. (A1, B1)
- (2) bin akəw
carry me on your back (A1)
- (3a) siən ŋ-pə-u-pək akəw
he whipped me (A2, A1)
- (3b) akəw pə-i-pək siən
he whipped me (A1, B1)
- (4) minəw tan siən b-əm-ukut kaʔaw?
Why did he punch you? (A2, A1)
- (5a) kaʔaw pə+igi? sulud iən
you took the comb (A2)
- (5b) sulud iən ən+igi? nəw
you took the comb (B1)
- (6a) siən g-əm-utiŋ buk kəw
he is cutting my hair (A2, B2)

- (6b) buk kəw g-ən-utiŋ sian
he cut my hair (B2, B1)
- (7) gaday mas nəw
pawn your gold (B2)

In addition, non-singular members of both sets occur as the actor and goal of reciprocal verbs:

- (8) dua iən pə+bukut
the two of them are fist-fighting

Following ga? at, to (relational), the goal is represented by a set B pronoun:

- (9a) (də)ləw iən tətawa ga? kəw
they are laughing at me
- (9b) (də)ləw iən tətawa ga? nəw
they are laughing at you

A surface pronoun was not observed in any injunction. It should be noted, however, that the form of the verb suggests that the underlying pronoun in positive injunctions is selected from set B and the underlying pronoun in negative injunctions from set A, as seen in the following sentences:

positive injunction (imperative)

- (10a) də-i-dut kayəw itəw
uproot this tree
- (11a) su?un kayəw itəw
carry this wood
- (12a) bə-i-nu? babuy iən
kill that pig

negative injunction

- (10b) ka? də-u-dut kayəw itəw
don't uproot this tree
- (11b) ka? məŋ+su?un kayəw itəw
don't carry this wood
- (12b) ka? ŋ+bə-u-nu? babuy iən
don't kill that pig

passive declarative

- (10c) kayəw itəw də-i-dut nəw
you uprooted this tree
- (11c) kayəw itəw su?un nəw
you carried this wood
- (12c) babuy iən bə-i-nu? nəw
you killed that pig

active declarative

- (10d) *kaʔaw də-u-dut kayəw itəw*
you uprooted this tree
- (11d) *kaʔaw məŋ+suʔun kayəw itəw*
you carried this wood
- (12d) *kaʔaw ŋ+bə-u-nuʔ babuy iən*
you killed that pig

Reflexive constructions are formed with *diriʔ self*:

- (13) *siən pə+bənuʔ diriʔ*
he committed suicide

2.1.2 Demonstrative pronouns

The demonstrative pronouns involve three locative dimensions: 1. near speaker, 2. definite, place already known to the addressee regardless of location relative to him or the speaker, 3. indefinite, place not known to the addressee regardless of location relative to him or the speaker. The forms and their glosses, with proximity to participants in the conversation and definiteness marked by + and non-proximity and indefiniteness marked by - are:

	near		
	speaker	hearer	definite
<i>itəw this :gaʔ gitəw here</i>	+		+
<i>iən that :gaʔ giən there</i>	-		+
<i>inan that :gaʔ ginan there</i>	-		-

Location near the speaker apparently is regarded as necessarily definite.

2.1.3 Numeration/classifiers

The cardinal numerals 1-12, 20, 100 and 1000 are:

satu ~ ja¹ one
dua two
tələw three
pat four
lima five
nəm six
tujuʔ seven
lapan eight
səmilan nine
səpuluh ~ puluʔ+ən ten
sə+bəlas eleven
dua bəlas twelve
dua puluʔ twenty
sə+ratus one hundred
sə+ribu one thousand

Multiplicative values are indicated by placing the smaller number to the left, additive values by placing the smaller number to the right of any of the simple decimal values: *dua ratus 200*, *lima ribu tələw ratus dua 5,302*. /puluʔ/ (not

/puluh/) forms the base of non-singular multiples of ten: dua pulu? tuju? 27. As seen above, singular multiples of ten, hundred and thousand are formed with the clitic prefix sə- rather than with satu or ja. /ja/ does not occur in any higher number: dua pulu? satu 21 (never **dua pulu? ja), sə+ratus satu 101 (never **sə+ratus ja). The numerals eleven through nineteen are formed by placing the smaller number to the left of bəlas *teen*.

Five numeral classifiers were identified, as follows:

ala? (lit. *seed*)

dua ala? buŋa *two flowers*
 lima ala? bua? bəŋuh *five coconuts*
 tələw ala? batəw *three stones*
 nəm ala? kərtih *six sheets of paper*
 tuju? ala? buŋa *seven flower seeds*

apah (lit. *body*)

tuju? apah jəkan *seven fish*
 pat apah da?un *four leaves*

awa? (lit. meaning unknown)

lima awa? kayəw *five sticks*

lawas (lit. meaning unknown)

lapan lawas apah *eight persons (= eight bodies)*
 dua lawas anak umit *two children*

usah (lit. meaning unknown)

lima usah kayəw *five trees* (cp. lima awa? kayəw *five sticks*)
 usah badan *the body*²

Although the preferred order of elements in numeral classifier constructions is number-classifier-noun, the noun can be placed first, as in:

kayəw dua awa? *two sticks*
 jəkan tələw apah *three fish*

These differences appear to be entirely stylistic.

2.1.4 Kinship system

The kinship terminology recorded for Mukah is as follows. Compositional definitions do not necessarily represent the full range of relationships designated by the classificatory label:

relative : warih
 FF, MF, FM, MM : tipəw
 F : tama
 M : tina
 So : anak lay
 Da : anak mahəw

CC	:	səw
FB,MB,FZH,MZH	:	tuaʔ
FZ,MZ,FBW,MBW	:	təbusəw
eSb	:	janak tika
ySb	:	janak tadəy
FBC,MBC,FZC,MZC	:	jipəw
BC,ZC	:	nakən anak
SpF,SpM	:	mətua
Sp	:	sawa
SpB,SpZ	:	maʔit
CSp	:	bənatəw, bisan

other terms

in-law	:	saudara mara
second cousin	:	jipəw dua lakaw
nephew's nephew	:	nakən

2.2 Morphology

The morphology of Mukah can be described under the following headings:

THE SIMPLE ROOT

Apart from particles, pronouns and numerals, the simple root is usually a noun (təba *well*, pəsəy *fishhook*) or an adjective (rata *smooth*, of *surface*, biləm *black*). When verbal it generally appears as the imperative of non-ablauting roots, in accidental passives or non-agentive completives with buyaʔ or tərəh *struck, affected by*,³ after uaʔ *thing* and in future (or desiderative) constructions with baʔ⁴ ((2), (7), (11a) and sentences (15), (16), (18), (19), (21), (23), (25), (27), (28), (32), (34), (36), and (39) below):

- (14a) siən t-əm-ud kayəw
he is bending a stick
- (14b) kayəw t-ən-ud siən
he bent a stick
- (15) tud isi iən
bend that ruler
- (16) kayəw itəw baʔ tud siən
he will bend this stick
- (17a) siən pətiduʔ akəw/(1) tələw alaʔ/(2) buaʔ balak (or 2, 1)
he gave me three bananas
- (17b) akəw ən+iduʔ siən/(1) tələw alaʔ/(2) buaʔ balak (or 2, 1)
he gave me three bananas
- (18) iduʔ siən/(1) lima alaʔ/(2) buaʔ bəñuh (or 2, 1)
give him two coconuts
- (19) itəw uaʔ iduʔ siən
this is his gift (the thing that he gave)
- (20a) siən ñə-u-ñəʔ saguʔ iən
he chewed the sago balls

- (20b) *sagu? iən fə-i-fə? siən*
he chewed the sago balls
- (21) *itəw ua? fəfə? siən*
this is the thing that he chewed
- (22a) *siən əm-upuk kain iən*
she washed the clothes
- (22b) *kain iən ən+upuk siən*
she washed the clothes
- (23) *upuk kain itəw*
wash these clothes
- (24a) *siən lə-u-pəw buŋa*
he picked a flower (intentionally)
- (24b) *buŋa lə-i-pəw siən*
he picked a flower (intentionally)
- (25) *buŋa itəw {buya?} ləpəw kəw*
tərah
I picked this flower (accidentally, as when intending to pick s.t. else)
- (26a) *siən tə-u-bək akəw*
he stabbed me (intentionally)
- (26b) *akəw tə-i-bək siən*
he stabbed me (intentionally)
- (27) *akəw {buya?} təkək siən*
tərah
he stabbed me (accidentally)
- (28) *bas təkək aŋəy dən aŋəy*
the mark made by stabbing (wound or scar) can still be seen clearly
- (29) *tənawan itəw bə-i-nu? a*
this person was killed by s.o. (intentionally)
- (30) *tənawan itəw {buya?} bənu? (a)*
tərah
this person was killed (accidentally)
- (31) *jəkan iən k-in-an siən*
he ate the fish (intentionally)
- (32) *jəkan iən {buya?} kan*
tərah
the fish was eaten (accidentally, as when s.o. intended to save it for another occasion)
- (33a) *siən tə-u-tək kayəw iən*
he cut the wood (intentionally)
- (33b) *kayəw iən tə-i-tək siən*
he cut the wood (intentionally)
- (34) *kayəw iən {buya?} tətək siən*
tərah
he cut the wood (accidentally)

- (35a) bəlabaw ɲə-u-ɲət kain itəw
a rat has nibbled this cloth
- (35b) kain itəw ɲə-i-ɲət bəlabaw
a rat has nibbled this cloth
- (36) bah busəw kain itəw {buya?} ɲəɲət
tərah
the corner of this cloth has been nibbled away (as by a rat)
- (37) sək siən sala? ji
her way of putting/arranging things is improper
- (38) tələɲ siən təʔah aɲay
his diving is very noisy
- (39) kayəw iən ba? suʔun siən
he will carry the wood

A few simple verbal roots occur in other constructions:

gigit to chatter, of the teeth

- (40) ɲipən siən gigit
his teeth are chattering

bəy have

- (41) sagu? itəw nda bəy ɲam
these sago balls are tasteless

REDUPLICATION

Reduplication is put to morphological use with only two lexical items in the collected corpus. In both cases it indicates an intensification of the meaning of the root: kumuh *itch* : kumuh kumuh *itchy, itching all over*, laju *quick, fast* : laju laju *very fast*. The relationship between the monosyllabic root and its reduplication in forms such as tək *piece made by cutting* ; tətək *cut, cutting*, and kan *eat* : kakan *feed* does not appear to be systematic.

Some roots that were formed historically by reduplication have variant shapes, one simple the other reduplicated, which are completely interchangeable in certain environments:

{ bəbəd } taləy *tie the rope*
bəd

In some of these roots the synchronic relationship of the variant shapes is no longer one of simple reduplication:

itəw sunəy { kəkut } *this is a man-made river (= canal)*
kut

Partial reduplication of nominal roots is not at all uncommon, and must have been historically productive, but in contemporary Mukah is completely lexicalised:

kəkəlɪt *small cave bat*
lələɲaw *housefly*
ɲəɲala *light burning ashes carried off by the wind*
ɲəɲiəw *kind of large flying fox*
tətadəw *caterpillar*

məŋ-

The prefix məŋ- is added to words of two or more syllables that do not begin with a voiced obstruent. It forms active verbs which may be transitive, as with

paləy *taboo, prohibition* : məŋ+paləy *forbid, prohibit*

- (42) a dukun məŋ+paləy siən pə+isa? diba? ləbu?
the shaman forbade him to play under the house

tabun *lid, cover* : məŋ+tabun *to cover*

- (43) akəw məŋ+tabun ua? kan
I'm covering the food

kuniŋ *yellow* : məŋ+kuniŋ *make s.t. yellow*

- (44) (də)ləw iən məŋ+kuniŋ kərtih iən
they are making the paper yellow

səruŋ? *a joke* : məŋ+səruŋ? *tease, play a joke on s.o.*

- (45) dua iən məŋ+səruŋ? akəw
the two of them played a joke on me

aŋit *sharp* : məŋ+aŋit *sharpen*

- (46) tika kəw məŋ+aŋit utuŋ kayəw
my older brother is sharpening the end of a stick

lasu? *hot* : məŋ+lasu? *to heat*

- (47) siən məŋ+lasu? na?əm iən
she is heating the water

pali? *a wound* : məŋ+pali? *to cut, wound*

- (48) paraŋ iən məŋ+pali? buduk siən
the parang cut his leg

or intransitive, as with

- (49) paɗay ŋa? məŋ+kuniŋ
the paddy is already turning yellow (ripening)

In one recorded example the root prefixed with məŋ- is interchangeable with the simple root:

- (50) siən {məŋ+puput} akəw
 puput
he spit on me

nəŋ-

The prefix nəŋ- forms the passive of məŋ- verbs. It was recorded only in:

- (51) ŋa?əm nəŋ+lasu? siən
she heated the water

pə-

There is apparently more than one prefix with this phonemic shape. In some examples pə- indicates habitual activity or the role defined by such activity:

upuk *wash, washing of clothes* : pə+upuk *wash clothes (habitually); s.o. who washes*

(52) kərja pə+upuk kain susah aḡay
washing clothes is hard work

(53) siən pə+upuk kain
she is a washerwoman

suʔun *carry, carrying* : pə+suʔun *carry (habitually); s.o. who carries*

(54) siən məŋ+suʔun kayəw iən
he is carrying the wood

(55) kərja pə+suʔun kayəw susah aḡay
carrying wood is hard work

(56) tama kəw kərja pə+suʔun kayəw
my father works as a wood-carrier

uug *rub, rubbing* : pə+uug *rub (habitually); s.o. who rubs*

(57) uug asuʔ iən pəbaʔ ŋuʔ
rub the floor with (using) oil

(58) akəw kərja pə+uug təpuḡ
I work as a (sago) flour sifter (rubbing lumpy sago flour to break it into finer pieces)

In other cases a prefix with the same shape indicates intransitive action, while the transitive equivalent is signalled by məŋ- or -əm-:

(59) akəw pə+pikir
*I'm thinking (**akəw məŋ+pikir)*

(60) akəw məŋ+pikir hal itəw
I'm thinking of that matter

(61) akəw pə+patəḡ baw tiləm
I'm lying on the mattress

(62) siən məŋ+patəḡ anak iən baw tiləm
she laid the child on the mattress

(63) akəw baʔ pə+lu kuh
I want to go on a hunger strike

(64) kaʔ l-əm-ukuh anak a
don't make other people's children go hungry (as by not offering them food)

In a few sentences pə- marks reciprocal action (sentence (8) and the following):

(65) dua iən pə+daləw
the two of them are quarrelling (with each other)

Certain other examples appear to represent spontaneous action, or action that is not the result of reflection or intent:

- (66) siən pə+tabik gaʔ daʔan
he is hanging from a branch (as after falling some distance and catching hold)

next to:

- (67) siən məŋ+tabik buaʔ dian iən
he reached for the durian

pə+təmək *knock against the bank (as a raft forced out of control by a strong current)*

next to:

- (68) təmək akit iən gaʔ təbiŋ
push the raft to the riverbank

- (69) siən pə+tuab
he is yawning

- (70) paliʔ kəw pə+nanaʔ
my wound is suppurating

In one sentence pə- evidently signals the result of non-directed action:

- (71) kayəw iən pə+tud
that tree is (naturally) bent

Some verbs with pə-, however, clearly describe intentional or directed action:

- (72) kaʔaw pə+igiʔ buaʔ iən
you took the fruit

- (73) akəw pə+bin baw buta siən
he is carrying me on his back

- (74) akəw baʔ pə+taʔah ucapan siən
I will listen to his speech

isaʔ game : pə+isaʔ to play

Finally, a prefix pə- occurs with some roots in which the morphological relationship is apparently idiosyncratic:

- (75) siən kərja pə+matay lalu
he works himself to exhaustion

- (76) siən matay {buyaʔ} bənuʔ (a)
 tərah
he was killed by someone (accidentally)

tuduy sleep : pə+tuduy nuptial night

-əm-

The infix -əm- is inserted after a root-initial consonant if there is one, but is not found in polysyllabic roots that begin with a voiceless obstruent. It forms active verbs which may be transitive, as with:

- (77) auy pu? aʔi iən
smoke out that beehive
- (78) siən m+auy pu? aʔi
he is smoking out a beehive

ibay *buying* (n.)

- (79) siən əm+ibay ua? jaja kəw
he is buying my merchandise
- (80) siən əm+uug asu? pəba? kain
she is scrubbing the floor with a cloth
- (81) minəw tən ka?aw t-əm-ud kayəw iən?
why are you bending that stick?
- (82) kaŋ bənawaŋ
open the door
- (83) siən k-əm-aŋ bənawaŋ
he is opening the door
- (84) bua? iən b-əm-aat ŋa?an un
the fruit just adds to the weight of the tote bag (said when advising s.o. who is about to embark on a journey not to take some fruit)
- (85) siən d-əm-əkət kərtih ga? didiŋ
he attached the paper to the wall
- (86) tina kəw j-əm-a?it kain
my mother is sewing clothes
- (87) siən g-əm-atuŋ bakul iən
he hung the basket up
- (88) tadəy kəw l-əm-u?uy pil
my younger brother swallowed a pill

or intransitive, as with

l-əm-əpəw *fall, of a fruit*

g-əm-aduŋ *turn green, become green*

məŋ-, pə- and -əm- are neutral with regard to tense:

- (89) akəw məŋ+lasu? nasi?
I'm warming up the (cooked) rice
- (90) akəw ŋa? məŋ+lasu? nasi?
I've already warmed up the (cooked) rice
- (91) akəw məŋ+lasu? nasi? məbəy
I warmed up the (cooked) rice yesterday
- (92) akəw (ba?) məŋ+lasu? nasi? səmunih
I'll warm up the (cooked) rice tomorrow
- (93) siən pə+bin baw buta kəw
I'm carrying him on my back
- (94) siən pə+bin baw buta kəw məbəy
I carried him on my back yesterday

- (95) siən (baʔ) pə+bin baw buta kəw səmunih
I'll carry him on my back tomorrow
- (96) akəw l-əm-uʔuy pil
I'm swallowing a pill
- (97) akəw l-əm-uʔuy pil məbəy
I swallowed a pill yesterday
- (98) akəw (baʔ) l-əm-uʔuy pil səmunih
I'll swallow a pill tomorrow

As can be seen, the affixes məŋ- and -əm- are in partial complementation, the former not occurring on monosyllables or any root that begins with a voiced obstruent, and the latter not occurring on polysyllables that begin with a voiceless obstruent.⁵ These facts might be taken as evidence that the forms in question are divergent surface realisations of a single underlying affix. An inspection of polysyllabic roots that begin with a vowel or a consonant other than a non-nasal obstruent, however, reveals clearly that these elements contrast in other environments, as in:

- (99) siən məŋ+lasuʔ ʔaʔəm
she is heating water
- (100) sə Nawi l-əm-uʔuy pil iən
Nawi swallowed the pill
- (101) mələw məŋ+adək ʔuʔ wəŋi itəw
we (pl.excl.) smelled the odour of this fragrant perfume
- (102) mua əm+ituŋ buaʔ iən
we (du.excl.) counted the fruit
- (103) siən əm+upuk kain
she is washing clothes

Given sentences (99)-(102) it is difficult to maintain that məŋ- and -əm- are not distinct. This issue is treated at greater length in section 2.5.2.

-ən-

The infix -ən- forms the passive of -əm- and of some other verbs (sentences (1b), (5b), (6b), (14b), (17b), (22b) and the following):

- (104) dəbəw iən g-ən-aup anak
a child blew the ashes away
- (105) akəw p-ən-ayun siən
he held the umbrella for me (over my head)
- (106) bukaŋ a tama t-ən-aŋih siən
he wept over his father's corpse
- (107) ʔaʔəm iən s-ən-iŋuəh (də)ləw iən
they (pl.) let the water cool
- (108) kain j-ən-aʔit tina kəw
my mother sewed some clothes
- (109) buaʔ iən ən+ituŋ siən
he counted the fruit

- (110) buŋa iən ən+adək kəw
I smelled the flower

-ən- differs further from -əm- in referring specifically to completed action. Thus:

**akəw b-ən-in siən səmunih

is rejected on the grounds that a verb infixed with -ən- and a word referring to future time (səmunih *tomorrow*) are incompatible.

ABLAUT

A number of disyllabic roots show systematic variation of the penultimate vowel.⁶ As this variation is correlated with grammatical function (much like the variation in English *sing : sang : sung*), and has not to my knowledge previously been described in its simple form for any Austronesian language, the familiar term 'ablaut' has been borrowed from Indo-European linguistics as a provisional designation.⁷ Roots that undergo ablaut exhibit three grades of the variant vowel: /ə/, /u/ and /i/. Shwa-grade realisations will be referred to as the neutral grade. Because they have the widest distribution, and correspond for the most part with the historically primary vowel, neutral grade realisations are adopted as the underlying representation of ablauting roots. /u/- and /i/-grade realisations are represented phonemically by an infixed vowel.

/ə/ grade

/ə/-grade realisations, which were discussed in part under THE SIMPLE ROOT, appear in concrete or abstract nouns (often after ua? *thing*), in accidental passives or non-agentive completives with buya? or tərəh *struck, affected by*, with reciprocals, and in some future (or desiderative) constructions (sentences (13), (21), (25), (27), (28), (30), (34), (36) and the following):

- (ua?) pəpəh a *whip*
- (111) ua? kəkut siən nda bəy dia?
his digging is not good
- (112) ga? ləŋən siən bəy gələma səbut asəw
there is a scar on his arm from a dog's bite
- (113) səsəp siən ta?ah aŋay
his sipping is very loud
- (114) babuy itəw ba? bənu?
this pig will be killed

In one known form the neutral grade realisation of an ablauting root appears in a positive injunction:⁸

- (115) {bəbəd} taləy *tie the rope*
 bəd

/u/ grade

/u/-grade realisations indicate that the first nominal expression in the sentence is the actor. They are neutral with regard to tense (sentences (10d), (20a), (24a), (26a), (33a), (35a) and the following):

- (116) siən kə-u-kut təba
he is digging a well
- (117) asəw sə-u-but ləŋən kəw (mabəy)
a dog is biting my arm (a dog bit my arm yesterday)

As noted earlier, the /u/ grade of the root also occurs in negative injunctions ((10b) and the following):

- (118) kaʔ kə-u-kut ləgah
don't dig fast
- (119) kaʔ sə-u-but ləŋən siən
don't bite his arm

In several stems which begin with a labial stop a prefix ŋ- (simple nasal substitution), which only rarely occurs alone, co-occurs with /u/-grade ablaut ((3a), (12b), (12d) and the following):

- (120) (də)ləw iən ŋ+pə-u-pah asəw itəw
they (pl.) whipped this dog
- (121) akəw ŋ+bə-u-bəd taləy
I'm tying the rope

/i/ grade

/i/-grade realisations indicate that the first nominal expression in the sentence is the goal ((3b), (10c), (12c), (20b), (24b), (26b), (29), (33b), (35b) and the following):

- (122) asəw itəw pə-i-pah (də)ləw iən
they (pl.) whipped this dog
- (123) taləy bə-i-bəd kəw
I tied the rope

As already noted, the /i/ grade of the root also occurs in positive injunctions ((10a), (12a) and the following):

- (124) pə-i-pah asəw iən
whip that dog
- (125) sə-i-bət biləm kain iən
blacken that cloth
- (126) sə-i-but ləŋən siən
bite his arm

In declarative sentences the /i/-grade realisation of an ablauting verb refers specifically to completed action. Thus

****təbaa(baʔ) kə-i-kut siən səmunih**

reportedly is regarded as unacceptable because of contradictory time reference.

There are two recorded examples of a root which takes either /u/-grade ablaut or məŋ-. In one of these məŋ- occurs with the neutral grade of the root, in the other with the /u/-grade. The resultant morphologically complex verbs appear to be completely interchangeable:

- (127) akəw {məŋ+tətəŋ} kupi
 tə-u-təŋ
I drank some coffee
- (128) siən {məŋ+sə-u-səp} juu? bəfiuh
 sə-u-səp
he is sipping coconut water

In several other examples a root takes either /i/-grade ablaut or -ən-. While some of the resultant morphologically complex verbs appear to be interchangeable without affecting the meaning of the sentence, as in

- (129) kupi {t-ən-ətəŋ} kəw
 tə-i-təŋ
I drank the coffee

others clearly involve a semantic distinction:

- (130) asəw iən pə-i-pək siən
he hit the dog
- (131) kayəw iən p-ən-əpək siən
he used the stick to hit with
- (132) uji? tə-i-bək siən ga? tana?
he plunged the knife into the earth (with prior intent to do so)
- (133) uji? t-ən-əbək siən ga? tana?
he plunged the knife into the earth (through a last-second change of mind after prior intent to stab s.o. or s.t. else)

Two roots were recorded which undergo ablaut changes, but appear to lack a neutral grade variant:

- ['dudut] *pluck, pull out* : ['didut] *be plucked, pulled out*
- ['puput] *what is spat out* : [pə'nɔput] *be spat upon*
 ['piput]
 [mə'mɔput] *spit on*
 ['puput]

To account for the observed /u/-/i/ variation in these items we might assume an abstract underlying root with penultimate shwa. Such a solution would encounter semantic difficulties, however, in items such as ['puput] *what is spat out*, which cannot plausibly be explained as a /u/-grade realisation of hypothetical **pəput. The problem becomes still more serious in the morphological variant [pə'nɔput] *be spat upon*, where we would be forced to acknowledge semantically contradictory affixes in the same root (/p-ən-ə-u-əput/). As a temporary expedient the above items are written /dudut/, /didut/, /puput/, /piput/, and the morphological relationship between them left formally unstated.⁹

sə (person-marking particle)

The clitic particle sə occurs before any personal name which functions as the actor of an active verb:

- (134) sə Ahmad ŋ+bə-u-nu? dipa
Ahmad killed a snake

Before a personal name which functions as the actor of a passive verb this particle does not occur:

(135) *dipa bə-i-nuʔ Ahmad*
Ahmad killed a snake

2.2.1 Residual difficulties

In addition to the above well-attested affixes, a number of items are segmentable into a root and an unexplained residual element. Some of these elements may result from borrowing, while others probably involve real but minimally productive affixes whose functions are not yet well understood. The difficulties recognised are as follows:

bə-

A prefix bə- appears in:

judi die, dice : bə+judi gamble
lagu song : bə+lagu sing

and the phonological variant bəl- in

ajər learning, teaching : bəl-ajər learn

where it was acquired through borrowing both the simple root and the morphologically complex word from Malay. A prefix with the same shape, however, can be identified in

uaʔ kahaŋ fishing gear : bə+kahaŋ go fishing (general term)

and

labuʔ a fall : bə-labuʔ to fall

which presumably are directly inherited.

j-

An apparent prefix j- is found in

umiʔ ~ umit small : j-umiʔ ~ j-umit a little bit, a few

k-

It is possible to relate the verb in

(136) [*'katay 'iijin*] *stop (i.e. kill) the engine*

and

[*'mətay*] *die, dead*

on the assumption that the latter form contains a root /atay/ together with the infix -əm- or possibly a prefix mə- (see below). If this analysis is adopted, a prefix k- or kə- must be recognised in the former item. Similarly, the verb in

(137) [*'ʔakəw mət'ŋətəŋ 'amətəw*]
I'm afraid of ghosts

can be related to the verb in

(138) [*'ʔay, kət'ŋətəŋ 'siən gaʔ kəw*]
oh, he is very afraid of me

through the assumption of a root /ŋaŋ/ which is infixed with -əm- in the former and prefixed with kə- in the latter word. This analysis receives direct support from

- (139) ['ŋɛʔŋ 'siən]
frighten him

where the root occurs unaffixed. In

- (140) ['ʔakəw kənʔ'ŋɛʔŋ 'siən]
he is afraid of me

however, it is necessary to recognise infixation of the prefix (/k-ən-ə+ŋaŋ/), a morphological feature otherwise not attested in the material collected. For the present, then, the morphology of this verb remains somewhat unclear. Likewise, it remains uncertain whether [kan] *eat* : ['kakan] *feed* are related through reduplication or prefixation with kə-.

mə- (Attributive)

An attributive or stative verbal prefix mə- appears to be isolable in:

- ['anit] *sharpen* : ['manit] *sharp*
[səy] *flesh* : [mə'səy] *fat, obese*
['ikah] *itch* : ['mɪkah] *itchy*
['ʔudip] *life* : ['mɪdip] *living, alive*
['lasoʔ] *hot* : [mə'lasoʔ] *burning hot*
['ʔaŋʔt] *face s.t. bravely* : ['məŋʔt] *bold, fearless*
[lau] *wither* : [mə'lau] *withered*
[ŋeəʔ] *fat, grease* : [mə'ŋeəʔ] *fatty, oily*
[pa'ʔit] *bitterness* : [məpa'ʔit] *bitter*

though it is conceivable that the affix in all cases is -əm-.

mi-, ni-

Apparent affixes with these shapes occur in:

- (141) [hig bup iən]
move that book a bit
- (142) ['siən 'mihig bup iən]
he moved the book a bit
- (143) [bup iən 'nihig 'siən]
he moved the book a bit

where they perhaps result from an idiosyncratic change of the affixal vowel of /h-əm-ig/, /h-ən-ig/.

ŋ-

A formative ŋ- can be isolated in one recorded word:

- ['ʔagəm] *grasp* : ['ŋɛgəm] *hand*

ŋ-

In a single known example ŋ- occurs without ablaut:

- [bə'ləy] *buy* : [mə'ləy] *to buy* (= /bələy/ : /ŋ+bələy/)

pəŋ-

Two known items, at least one of which (pəŋ+tawar) appears to be a Malay loan, take pəŋ-:

panas *feeling of anger* : pəŋ+panas *hot-tempered*
 tawar *treat with medicine* : pəŋ+tawar *antidote*

sə-

As noted earlier (2.1.3) a clitic prefix sə- *one* occurs in the numerals

sə+puluh *ten*
 sə+bəlas *eleven*
 sə+ratus *100*
 sə+ribu *1000*

where it was borrowed from Malay.

t-

A single root in the available material exhibits a morphologically complex shape with t-:

['ʔudip] *life* : ['tudip] *living, alive*

tələ-

An apparent affix with this shape can be identified in:

(144) suy kayəw iən
 let the wood slip down
 tələ+suy *slip, slide forward*

-in-

This infix is attested only in the root kan *eat; food*, and might be compared with the prefix in sentence (143):

(145) nasiʔ k-in-an Nawi
 Nawi ate the rice

-ən

-ən is attested in two words:

puluʔ+ən *ten*
 uaʔ kan *ordinary food*
 uaʔ kan+ən *any special food, as one's favourite food*

2.2.2 Sample paradigms

The following paradigms illustrate the range of affixes that can be attached to a few particular roots:

lasuʔ *hot*

məŋ+lasuʔ *to heat*
 nəŋ+lasuʔ *be heated*
 mə+lasuʔ *burning hot*

bəd, bəbəd *tying, tie* (imper.)

ŋ+bə-u-bəd *to tie*

bə-i-bəd *be tied*

pə+bəd *tie (habitually, as in an occupation)*

uug *rubbing; rub* (imper.)

əm+uug *rub*

ən+uug *be rubbed*

pə+uug *rub (habitually, as in an occupation)*

kan *eat* (imper.); *ordinary food*

kə+kan *feed* (imper.)

məŋ+kə+kan *to feed*

k-ən-a+kan *be fed*

k-əm-an *eat*

k-in-an *be eaten*

kan+ən *special food*

2.3 Lexical representation

Lexical items in Mukah can be represented in terms of the following minimal inventory of symbols. Justification of the symbols used will be given in later sections:

CONSONANTS					VOWELS		DIPHTHONGS	
p	t	c ¹⁰	k	ʔ	i	u	uy	iw
b	d	j	g		ə		əy	əw
m	n	ŋ	ŋ		a		ay	aw
	s			h				
	l							
	r							
w	y							

Consonant phonemes have their expected phonetic values except that final /k/ is realised as /ʔ/ after vowels other than /ə/, final /s/ is realised as [ih], and /r/ appears as [y] in loanwords, but as -[h] in native forms.

2.4 Morpheme structure (phonotactics)

Constraints on permissible phoneme sequences in morphemes can be divided into two types: categorial constraints and segmental constraints.

2.4.1 Categorial constraints

Categorial constraints are limitations on the distribution of the categories 'consonant' and 'vowel'. These are discussed first in terms of the syllable, then in terms of root morphemes.

2.4.1.1 Canonical shapes of syllables

Possible phonemic syllable shapes (underlined> are as follows:¹¹

V	<u>i</u> .juh <i>extend the legs while sitting</i>
VC	li. <u>aŋ</u> <i>light (in weight)</i>
CV	bu. <u>kəw</u> <i>yam</i>
CVC	<u>ja</u> .tih <i>gibbon</i>
	ga. <u>gaw</u> <i>busy</i>

2.4.1.2 Canonical shapes of stems

All theoretically possible combinations of the categories 'consonant' and 'vowel' within root morphemes of up to three phonemic segments are listed below. Where a canonical shape is exemplified by at least one known form, a representative example is cited to the right:

V	a <i>somebody, someone</i>	VVC	uaŋ <i>dry</i>
C		VCV	uma <i>cultivated field</i>
VV	ua <i>just, only</i>	VCC	
VC	ud <i>headwaters</i>	CVV	sia <i>salt</i>
CV	ja <i>one</i>	CVC	tip <i>thirsty</i>
CC		CCV	nda <i>no, not</i>
VVV		CCC	

The following is a list of all attested canonical shapes that involve longer sequences:

VCVC	udut <i>dandruff</i>
	atay <i>liver</i>
CVVC	luup <i>exhausted</i>
	siaw <i>chicken</i>
CVCV	dipa <i>snake</i>
CVCVV	bəŋai <i>large river</i>
CVCVC	puyan <i>hearth</i>
	dabəw <i>ashes</i>
	tutuk <i>knock, rap</i>
CVCCV	kərja <i>work (L)</i>
CVVCVC	lautan <i>open sea (L)</i>
CVCVCV	bətuka <i>large intestine; bowels</i>
CVCVVC	səluəh <i>trousers (L)</i>
CVCVCVV	gələgua <i>intestinal worm</i>
CVCVCVC	təgaliŋ <i>tail feathers of a rooster</i>
	bəbulan <i>ocular cataract</i> ¹²
	kəlibuy <i>monitor lizard</i>
CVCVCVCVC	sələmawa? <i>large fructivorous bat or flying fox</i>

On the basis of this information it is possible to formulate a set of constraints on permissible combinations of vowels and consonants within Mukah root morphemes as follows:

1. Every root morpheme must contain at least one vowel.
2. No more than two Vs may occur in sequence.
3. Except in *nda no, not* and a few Malay loans (as *kərja work*), consonant clusters do not occur.
4. No root morpheme of more than two syllables begins with a vowel.

Blanks in the above list of theoretically possible trilateral and shorter sequences can now be distinguished as structural impossibilities or accidental gaps. Non-occurring canonical shapes appear below, with constraints violated cited in parentheses. Remaining blanks indicate accidental gaps:

C (1)	VVV (2, 4)
	VCC
CC (1, 3)	CCC (1, 2, 3)

2.4.1.3 Relative frequency of canonical shapes

Based on a sample of 100 roots selected at random the attested canonical shapes (2.4.1.2) show the following frequency percentages:

CANONICAL SHAPE	FREQUENCY %
V	
VC	
CV	
VVC	
VCV	
CVV	2
CVC	8
CCV	
VCVC	15
CVVC	6
CVCV	7
CVCVV	2
CVCVC	49
CVCCV	
CVVCVC	
CVCVCV	1
CVCVCVV	1
CVCVCVC	9
CVCVCVCVC	
	<u>100</u>

2.4.2 Segmental constraints

Segmental constraints are limitations on the distribution of particular segments. For expository convenience consonant distribution and vowel distribution will be discussed separately.

2.4.2.1 Constraints on the distribution of particular consonants

The recorded distribution of consonant phonemes in initial, intervocalic and final positions appears below, keyed by number to the illustrative lexical items that follow. To simplify the statement of environments attested clusters are cited separately at the end. Segments which are rare in any given position, or that are known to occur only in loanwords are marked as such:

	INITIAL	INTERVOCALIC	FINAL
p	1,20	2,26	8,18
t	7,9,19,21	11,16	10
c	-	26 (in loans)	-
k	18	9,10,17	19,21
ʔ	-	13	5
b	11,27	19	7
d	10,23,24	21	9,17
j	5	1,12	-
g	12	20	1
m	16	22	4,13
n	8	23	22,26
ŋ	13	4	-
ŋ	14	14	6
s	2	3	27
h	-	18	15,25
l	15	5	12
r	17	25	20
w	6,25	24	2,3
y	-	15	24

- | | |
|---------------------------------|--|
| 1. pəjug <i>foot</i> | 14. ŋəŋə <i>mouth of fish trap</i> |
| 2. sapaw <i>thatch</i> | 15. layah <i>sail</i> |
| 3. asəw <i>dog</i> | 16. mata <i>eye</i> |
| 4. aŋam <i>weave</i> | 17. rukəd <i>space between joints</i> |
| 5. jəlaʔ <i>tongue</i> | 18. kuhəp <i>crush with molars</i> |
| 6. wuŋ <i>rapids</i> | 19. təbək <i>stabbing; stab</i> |
| 7. tuab <i>yawn</i> | 20. pagər <i>fence (L)</i> |
| 8. nap <i>fish scale</i> | 21. tuduk <i>single-barbed harpoon</i> |
| 9. tukəd <i>climbing; climb</i> | 22. amun <i>if</i> |
| 10. dəkət <i>stick, adhere</i> | 23. dana <i>old, of things</i> |
| 11. buta <i>back (anat.)</i> | 24. daway <i>wire</i> |
| 12. gajil <i>lazy</i> | 25. warih <i>relative</i> |
| 13. ŋaʔəm <i>water</i> | 26. ucapan <i>speech (L)</i> |
| | 27. kias <i>mosquito</i> |

ATTESTED CONSONANT CLUSTERS

- nd- nda *no, not*
 -rb- kərbaw *water buffalo (L)*
 -rj- kərja *work (L)*
 -rt- kərtih *paper (L)*

In addition to the above clusters, city people (people in Mukah proper) sometimes introduce a homorganic nasal before a medial stop in self-conscious imitation of Malay: ['kəpuəŋ] ~ ['kəmpuəŋ] *settlement*. This usage is apparently quite recent and is sometimes overgeneralised, as it occasionally affects words which lack a nasal in the Malay cognate: [sə'nəpəəŋ] ~ [sə'nəmpəəŋ] *gun, weapon* (Sarawak Malay senapaŋ *gun, rifle*).

In summary, the following constraints on the distribution of consonant phonemes can be stated:

1. /c/ is rare, and occurs only in Malay loanwords or with restricted segments of the population in certain conversational styles.
2. /ʔ/, /h/ and /y/ do not occur initially.¹³

3. /n/ does not occur before /i/.
4. medial nasal clusters occur with restricted segments of the population in certain styles as a mark of social prestige, but do not occur in normal speech between social peers.
5. palatals do not occur finally.

2.4.2.2 Constraints on the distribution of particular vowels

The following constraints on the distribution of vowel phonemes can be stated:

1. apart from the Malay loanword *lautan open sea*, all vocalic oppositions are neutralised as shwa in prepenultimate syllables within a root.
2. shwa does not occur initially, prevocalically, before /ʔ/ or /h/, or in open final syllables.

ATTESTED VOWEL SEQUENCES

- aa *baat heavy*
 bānaa *glowing ashes*
- ai *kain cloth, clothing*
 pai *stingray*
- au *jaut recede, of the tide*
 ŋau *eagle; kite*
- ia *diaʔ good*
 sia *salt*
- iə *iən that (def.)*
- ii *dii housepost*
- ua *buaʔ fruit*
 dua *two*
- uu *tuun swim*
 nuu *secondary forest*

2.4.2.3 Relative frequency of phonemes

The relative list frequency of consonant phonemes in each position appears below. Given the zero convention marking the non-occurrence of an initial, intervocalic or final consonant, initial and final consonants necessarily total 100. Absolute numerical values and percentages are thus identical. Due to a substantial number of monosyllables only partly compensated by multiple intervocalic consonants in words of three or more syllables, the absolute number of intervocalic consonants is less than 100:

p-	: 8	-p-	: 8	-p	: 2
t-	: 15	-t-	: 10	-t	: 10
c-	: ∅	-c-	: ∅	-	: -
k-	: 5	-k-	: 4	-k	: 7
-	: -	-ʔ-	: 5	-ʔ	: 16
b-	: 17	-b-	: 5	-b	: 1
d-	: 5	-d-	: 7	-d	: 1
j-	: 7	-j-	: 2	-	: -
g-	: 2	-g-	: 2	-g	: ∅
m-	: 1	-m-	: 6	-m	: 1
n-	: 1	-n-	: 5	-n	: 14
ŋ-	: 5	-ŋ-	: ∅	-	: -
ŋ	: ∅	-ŋ	: 3	-ŋ	: 10
s-	: 9	-s-	: 5	-s	: 4
-	: -	-h-	: 1	-h	: 8
l-	: 6	-l-	: 11	-l	: 3
r-	: 2	-r-	: 1	-r	: ∅
-	: -	-w-	: 5	-w	: 5
-	: -	-y-	: 4	-y	: 7
∅	: 17	-∅-	: 8	-∅	: 11
	<u>100</u>		<u>92</u>		<u>100</u>

Based on the above observations, the following general claims about the relative frequency of consonants in Mukah seem tentatively to be justified:

1. /b/, initial vowel and /t/ are strongly favoured in C-position within root morphemes.
2. In intervocalic position /l/ and /t/ are preferred, followed closely by /p/ and ∅.
3. In final position /ʔ/ is the preferred segment, followed by /n/, ∅, /t/ and /ŋ/.

The relative frequency of vowel phonemes in each syllable (penultimate and ultimate) is as follows:

	penultimate	ultimate
a	45	49
ə	15	20
i	10	9
u	18	22
e	-	∅

Based on the above observations the following general claims about the relative frequency of vowels in Mukah appear tentatively to be justified:

1. /a/ is the most frequent vowel in both positions.
2. /u/ is the second most frequent vowel in both positions, followed closely by /ə/, and more distantly by /i/.

The preferred canonical shape (disyllabic) and segment distribution of Mukah can be symbolised by the formula: balaʔ, though formulae bataʔ and talaʔ receive nearly as much support.

No associative tendencies between segments were noted. The only dissociative tendency recognised to date is the inherited Austronesian aversion to unlike labials (b--p, p--m, etc.) in successive syllables within the same morpheme.

2.5 Phonology

The phonology of Mukah can be described in terms of a set of partially ordered rules relating lexical representations to their phonetic realisations.

2.5.1 Phonological rules

The phonological rules of Mukah are as follows:

1 (stress placement)

As stress placement in Mukah citation forms is apparently governed by a rather complex set of conditions, it will perhaps be clearest if the general case (a) is stated first, followed by each subcase (b-d) in descending order of importance:

- (a) the penultimate vowel of a word receives stress.

EXAMPLES

/uləd/	→	['ʔuləd]	<i>maggot, caterpillar</i>
/tuləy/	→	['tuləy]	<i>dammar</i>
/liŋə/	→	['liŋə]	<i>ear</i>
/daaʔ/	→	['daaʔ]	<i>blood</i>
/pəmələy/	→	[pə'mələy]	<i>python</i>

- (b) if the penultimate vowel of a word is schwa, stress shifts to the final syllable.

EXAMPLES

/tələw/	→	[tə'ləw]	<i>three</i>
/bəbut/	→	[bə'but]	<i>hole</i>
/təba/	→	[tə'ba]	<i>well</i>
/sələlan/	→	[sələ'lan]	<i>mirror</i>

- (c) following /a/ and preceding word boundary high vowels receive stress (and perhaps added length - not mentioned further).

This subpart of the stress rule is posited to account for the fact that minimal pairs such as

/pay/	→	[pay]	<i>go across</i>	/law/	→	[law]	<i>day</i>
/pai/	→	[pa'i:]	<i>stingray</i>	/lau/	→	[la'u:]	<i>wither</i>

and the similar parts of

/matay/	→	['mātay]	<i>die, dead</i>
/tai/	→	[tə'i:]	<i>long, of time (up to several hours)</i>
/suŋay/	→	['suŋəy]	<i>stream, tributary, small river</i>
/bəŋai/	→	[bəŋə'ɪ:]	<i>main branch of a river, large river</i>

differ not only in number of syllables, but also in placement of stress. The shift of stress in such cases may be motivated by a desire to avoid homophony,

or may have been a product of unnatural emphasis for my sake. No examples of -iu or -ui were recorded.

In a sequence of like vowels the first vowel is normally stressed, though stress sometimes shifts in emphatic pronunciations, as to distinguish minimal pairs:

/baat/ → ['baat] or [ba'at] *heavy* (by contrast with /bat/ → [bat] *net, web*)

(d) if the penultimate vowel is followed by glottal stop, stress optionally shifts to the final syllable.

EXAMPLES

/daʔun/ → ['daʔun] ~ [da'ʔun] *leaf*
 /paʔa/ → ['paʔa] ~ [pa'ʔa] *thigh*
 /ʔaʔəm/ → ['ʔaʔəm] ~ [ʔa'ʔəm] *water*
 /mɛŋ+sʊʔun/ → [mɛŋ'ʔun] ~ [mɛŋʔun] *carry on the shoulder*

2 (glide insertion)

$$\emptyset \rightarrow \begin{bmatrix} -\text{voc} \\ -\text{cons} \\ +\text{high} \\ \alpha\text{back} \end{bmatrix} / \begin{bmatrix} +\text{voc} \\ +\text{high} \\ \alpha\text{back} \end{bmatrix} \text{ — } \begin{bmatrix} +\text{voc} \\ -\text{cons} \end{bmatrix}$$

(between a high vowel and any following unlike vowel a glide is inserted homorganic with the first phonemic segment)

EXAMPLES

/biah/ → ['biyah] *run*
 /siən/ → ['siyən] 3sg.
 /buaʔ/ → ['buwaʔ] *fruit*

3 (prepenultimate neutralisation)

v → ə / C ___ CV(C)+VC

(any vowel that comes to be prepenultimate as a result of affixation is neutralised with shwa)

This is a minor rule, needed to account for the alternation in the first syllable vowel of

/puluʔ/ → ['puloʔ] *group of ten (in counting even multiples of ten beginning with twenty)*
 /puluʔ+ən/ → [pə'luʔən] ~ [pəluʔən] *ten*

Although this interpretation is not adopted here, Rule 3 might also be invoked to account for the vowel change in the reduplicated variant of ['diyan] ~ [də'diyan] *candle*.

4 (shwa deletion)

ə → ∅ / ___ +V (a shwa that comes to be prevocalic as a result of affixation is deleted)

EXAMPLES

/pə+upuk/ → ['pupuəʔ] *wash clothes (habitually)*

/pə+igiʔ/ → ['piɡeʔ] *take*
 /pə+isaʔ/ → ['pisaʔ] *play*

In other environments shwa remains:

/pə+suʔun/ → [pə'suʔun] ~ [pəsu'ʔun] *carry on the shoulder (habitually)*
 /pə+tuab/ → [pə'tuab] *to yawn*

5 (deletion of prepenultimate initial vowels)

v → Ø / # ___ C+V(C)V(C) (a vowel which comes to be prepenultimate and initial as a result of affixation is deleted)

EXAMPLES

/əm+uug/ → ['mʊʊg] *rub*
 /ən+uug/ → ['nʊʊg] *be rubbed*
 /əm+ituŋ/ → ['mitʊŋ] *count*
 /ən+ituŋ/ → ['nitʊŋ] *be counted*

6 (glottal onset)

Ø → ʔ # ___ V (glottal stop is added before a vowel that follows word boundary. This rule applies in citation forms, and phrase-initially, but apparently not phrase-medially)

EXAMPLES

/arəŋ/ → ['ʔarəŋ] *charcoal*
 /idaʔ/ → ['ʔidaʔ] *much, many*
 /uma/ → ['ʔuma] *cultivated field*

7 (breaking)

The rule of breaking is divided into three subparts, the second of which may involve more than one phonological process:

(a) $\begin{bmatrix} +\text{voc} \\ +\text{high} \end{bmatrix}$ → [+central offglide] / ___ $\begin{bmatrix} k \\ \eta \end{bmatrix}$ #

(high vowels are pronounced with a centralising offglide before word-final /k/ and /ŋ/)

EXAMPLES

/tabik/ → ['tabiəʔ] *reach*
 /gutiŋ/ → ['gutiəŋ] *scissors*
 /tutuk/ → ['tutuəʔ] *knock, rap*
 /jaluŋ/ → ['jaluəŋ] *flame*

The breaking of high vowels does not occur before word-final /g/:

/hig/ → [hig] *budge, move slightly*
 /duhig/ → ['duhig] *mythological forest monster*
 /tug/ → [tug] *ball of the heel*
 /pajug/ → ['pajug] *foot*

(b) /a/ → [eə] / ___ $\begin{bmatrix} k \\ \eta \\ r \end{bmatrix}$ # (/a/ is fronted, raised, and offglided before word-final /k/, /ŋ/ and /r/)

EXAMPLES

- /sak/ → [seəʔ] *red*
 /anak/ → ['ʔanəʔʔ] *child*
 /kaŋ/ → [keəŋ] *open*
 /bitaŋ/ → ['biteəŋ] *star*
 /nar/ → [nəʔh] *heat*
 /sadar/ → ['sadeəh] *lean against*
 /gagar/ → ['gageəh] *k.o. raised platform*

The fronting, raising and offgliding of /a/ does not occur before word-final /g/:

- /tatag/ → ['tatag] *patch, repair*
 /tipag/ → ['tipag] *stamping of feet*¹⁴

Strict adherence to the use of features within the standard theory of generative phonology would force us to regard the breaking of high vowels before word-final /k/ and /ŋ/ as unrelated phenomena, since the environment in question is not a natural class. If this implicit claim is correct, however, it should be possible to find a language in which breaking occurs just before e.g. word-final /p/ and /ŋ/ or /k/ and /m/, or any two randomly selected consonants. Breaking before various word-final consonants is extremely widespread in languages of western Borneo, and in all languages for which information is available, if high vowels are affected before only two word-final consonants these segments are /k/ and /ŋ/. There thus appears to be some reason to believe that breaking is rule-governed even though the environment of the proposed rule violates the formal requirements of the simplicity metric.

The fronting, raising and breaking of /a/ is clearly more problematic. Phonetically there seems to be no reason to believe that fronting and raising are related to offgliding. To treat these two phonetically dissimilar processes as phonologically unconnected, however, fails to account for the fact that /a/ is fronted and raised in just those environments where it is also offglided, and that /g/ is excluded both from the set of environments in which fronting and raising takes place and from the set of environments in which offgliding occurs.

The phonemic interpretation of a few items is indeterminate for the presence of underlying /ə/, as with ['ʔayəŋ] *big*, ['ʔiəŋ] *precede, go before*, [kə'ləyəŋ] *double-headed spear or harpoon* and ['ləyəŋ] *float on the wind*, all of which are potentially assignable to underlying forms with -/yəŋ/ or -/iŋ/. In such cases I have adopted the representation that most closely conforms to the dominant canonical shape of phonemically unambiguous morphemes. A single known example shows reinterpretation of an earlier phonemic shwa as a predictable offglide: /bauŋ/, borrowed from Malay bawaŋ as [bawəŋ], with subsequent reanalysis.

8 (height assimilation) - OPT

- i → [e] / ___ (ʔ)e (/i/ is optionally lowered to [e] if it is followed by [e] (</a/). Glottal stop may intervene)¹⁵

EXAMPLES

- /liəŋ/ → ['liyeəŋ] ~ ['leyeəŋ] *light in weight*
 /tiʔəŋ/ → ['tiʔeəŋ] ~ [ti'iʔeəŋ] ~ ['teʔeəŋ] ~ [te'iʔeəŋ] *cemetery*

Assimilation does not occur if other consonants intervene:

- /bitaŋ/ → ['biteəŋ] *star*
 /isak/ → ['ʔiseəʔ] *cooking (n.)*

9 (gemination)

$$\begin{bmatrix} -\text{voc} \\ +\text{cons} \\ +\text{high} \\ -\text{nas} \end{bmatrix} \rightarrow [+long] / \text{ə} \text{ ____ } \text{ (non-nasal velar stops are geminated after shwa, but only if [ə] is penultimate)}$$

EXAMPLES

/jəkan/ → [jək'kan] *fish*
 /bəkaʔ/ → [bək'kaʔ] *leave behind; remainder*
 /jəgəm/ → [jəg'gəm] *and*

Other consonants do not geminate after shwa:

/ləŋən/ → [lə'ŋən] *lower arm*
 /pədih/ → [pə'deh] *sick*
 /tələw/ → [təl'ləw] *three*

nor do velar stops geminate after other vowels:

/akah/ → [ʔakah] *vine, aerial root*
 /tigah/ → [ʔtigah] *straight*
 /lukuh/ → [ʔlukoh] *hungry*

10 (lowering)

$$\begin{bmatrix} +\text{voc} \\ -\text{cons} \end{bmatrix} \rightarrow [-\text{high}] / \text{____} \begin{bmatrix} -\text{voc} \\ -\text{cons} \\ -\text{high} \end{bmatrix} \text{ (high vowels become non-high before word-final /h/ and /ʔ/)}$$

EXAMPLES

/bəsuʔ/ → [bə'soh] *satiated, full after eating*
 /taŋih/ → [ʔtaŋəh] *weep*
 /bibih/ → [ʔbibeh] *lip*
 /tuliʔ/ → [ʔtuleʔ] *deaf*
 /ləbuʔ/ → [lə'boʔ] *house*
 /təŋuʔ/ → [tə'ŋəʔ] *neck*

It is possible that rule 10 is a rule of laxing rather than a rule of lowering. My phonetic transcriptions vary between [i], [e] and [ɛ] for /i/, and [u], [ʊ] and [o] for /u/.

The following apparent exceptions to lowering (or laxing) have been noted:

['biyuʔ] <i>blue</i>	['kukuh] <i>stable, enduring</i>
['tujuʔ] <i>seven</i>	['kumʊh 'kumʊh] <i>itch</i>
['juuʔ] <i>juice</i>	['wayih] <i>relative</i>
['jauʔ] <i>far</i>	['puluh] <i>ten</i>
['lipih] <i>thin, of things</i>	['sauh] <i>anchor</i>
['jiŋih] <i>beautiful, of women</i>	['mʊsuh] <i>enemy</i>

Because the above items do not undergo lowering a few minimal and near-minimal pairs can be found which differ in [i] : [e] or [u] : [o]:

/kukuh/ → ['kukuh] *stable, enduring*
 (manuk) /kukuh/ → ['kukoh] *small dark blue bird*
 /tujuʔ/ → ['tujuʔ] *seven*
 /tujuʔ/ → ['tujoʔ] *hand*
 /lipih/ → ['lipih] *thin, of things*
 /bəlipih/ → [bə'lipih] *cockroach*

Given these straightforward phonetic contrasts it is possible to contend that Mukah has phonemic mid vowels /e/ and /o/. To adopt this interpretation, however, would obscure the fact that the occurrence of [e] and [o] is almost fully predictable, contrast resulting only from the failure of a few lexical items to undergo lowering. Several of these exceptions (the words for *blue*, *stable*, *relative*, *ten*, *anchor* and *enemy*) are almost certain Malay loans, and it seems clear that the relationships between the segments involved can be captured in most general terms by the recognition of lexical strata which exhibit differential behaviour with respect to certain synchronic rules.¹⁶

11 (weakening of /r/)

Between /a/ and a following word boundary /r/ is weakened to [h] in directly inherited words:

EXAMPLES

- /gagar/ → ['gagəəh] *kind of raised platform*
 /nar/ → ['nəəh] *heat*
 /sadar/ → ['sədəəh] *lean against*

In indirectly inherited words weakening does not occur.

12 (weakening of /s/)

Word-finally /s/ is weakened to [ih].

EXAMPLES

- /abus/ → ['ʔabuɪh] *fog, mist*
 /bias/ → ['biɑɪh] *body*
 /panas/ → ['panɑɪh] *feeling of anger*
 /ratus/ → ['ɾatuɪh] *group of one hundred*

13 (weakening of /k/)

Between an offglided vowel and a following word-boundary /k/ shifts to /ʔ/.

EXAMPLES

- /titik/ → ['titiəʔ] *speck, dot*
 /adik/ → ['ʔadiəʔ] *short*
 /buduk/ → ['buduəʔ] *leg*
 /manuk/ → ['mənʊəʔ] *bird*
 /lalak/ → ['laleəʔ] *bald*
 (buaʔ) /pak/ → ['peəʔ] *knee cap*

Before a non-offglided vowel (/ə/) /k/ remains unchanged:

- /təbək/ → [tə'bək] *stab; mark made by stabbing*
 /pəpək/ → [pə'pək] *what is used to hit*
 /sək/ → [sək] *grass*

Following last-syllable vowels other than /ə/ my transcriptions generally show /k/ as /ʔ/, but occasionally show [k] instead. It is unclear whether this means that rule 13 applies optionally, or whether the transcriptions are inaccurate in such cases.

14 (metathesis of -əm-, -ən-)

#C $\begin{Bmatrix} -əm- \\ -ən- \end{Bmatrix}$ (the consonant of the infixes -əm- and -ən- metathesises with the first consonant of an infixed root. Metathesis is optional with polysyllables, but obligatory with monosyllables)¹⁷

1 2 1,2 \Rightarrow 2,1

EXAMPLES

/j-əm-aʔit/ → [jə'mʌʔɪt] ~ [mʌ'jaʔit] *sew*
 /j-ən-aʔit/ → [jə'nʌʔɪt] ~ [nʌ'jaʔit] *be sewn*
 /g-əm-utiŋ/ → [gə'mʊtiŋ] ~ [mʌ'gutiŋ] *cut with scissors*
 /g-ən-utiŋ/ → [gə'nʊtiŋ] ~ [nʌ'gutiŋ] *be cut with scissors*
 /t-əm-ud/ → [mʌ'tud] *to bend*
 /t-ən-ud/ → [nʌ'tud] *be bent*
 /k-əm-aŋ/ → [mʌ'keəŋ] *to open*
 /k-ən-aŋ/ → [nʌ'keəŋ] *be opened*
 /b-əm-in/ → [mʌ'bin] *carry on the back*

There appear to be generational differences in the use of this rule. According to the informant, speakers of his grandparents' generation use only non-metathesised forms: [jə'mʌʔɪt], etc. Speakers of his parents' generation use metathesised forms most often, but occasionally use non-metathesised forms when conversing with their elders. As indicated above, younger people use either form. An opinion was expressed that the metathesised form of roots infixed with -əm- seems more 'modern' and the non-metathesised form more 'old fashioned'. By contrast, no such social connotation was felt to attach to the alternative pronunciations of roots infixed with -ən-.

15 (nasal substitution)

This rule must be stated as a complex (multi-step) phonological process. Two steps are recognised here:

(a) (assimilation)

$$[+nas] \rightarrow \begin{Bmatrix} \alpha_{ant} \\ \alpha_{cor} \end{Bmatrix} / \text{---} + \begin{Bmatrix} -son \\ \alpha_{ant} \\ \alpha_{cor} \end{Bmatrix}$$

The nasal ending of the prefixes /məŋ/- and /nəŋ/- and the nasal prefix /ŋ/- which co-occurs with /u/-grade ablaut in most stems that begin with a labial stop, assimilates to the point of articulation of a following obstruent.¹⁸

(b) (replacement)

Root initial obstruents are replaced by the assimilated nasal.

EXAMPLES

/paləy/ → ['paləy] *taboo, prohibition*
 /məŋ+paləy/ → [mʌ'mʌləy] *forbid, prohibit*
 /tabun/ → ['tabun] *lid, cover*
 /məŋ+tabun/ → [mʌ'nʌbun] *to cover*
 /kuniŋ/ → ['kunɪŋ] *yellow*
 /məŋ+kuniŋ/ → [mʌ'ŋʊnɪŋ] *become yellow; make s.t. yellow*
 /səruʔ/ → [sə'ʎuʎoʔ] *a joke*
 /məŋ+səruʔ/ → [mʌ'ŋʌ'ʎuʎoʔ] *tease, play a joke on s.o.*

16 (shwa epenthesis)

When the nasal ending of the prefixes /məŋ/- and /nəŋ/- comes to stand before a root-initial /l/ shwa is inserted between the members of the derived cluster.¹⁹

EXAMPLES

- /lasuʔ/ → [ˈlasoʔ] *heat*
 /məŋ+lasuʔ/ → [məŋʃʂˈlasoʔ] *to heat*
 /nəŋ+lasuʔ/ → [nəŋʃʂˈlasoʔ] *be heated*

Before vowel-initial roots the nasal ending remains unchanged:

- /adək/ → [ˈʔadək] *sniff, smell; sniffing, smelling*
 /məŋ+adək/ → [məŋˈʔadək] *to sniff, smell*
 /aŋit/ → [ˈʔaŋit] *sharp*
 /məŋ+aŋit/ → [məŋˈʔaŋit] *sharpen*

17 (nasalisation)

Vowels are nasalised after a nasal consonant, and this nasalisation carries over to succeeding vowels unless interrupted by an oral consonant other than /y/, /w/, /ʔ/ or /h/).

EXAMPLES

- /maap/ → [ˈmāʃp] *lose one's way*
 /bəŋai/ → [bəŋāˈi:] *main branch of a river, large river*
 /məŋ+payuŋ/ → [məŋˈmāyūʃŋ] *hold an umbrella for s.o.*
 /sələmawaʔ/ → [sələˈmāwāʔ] *large fructivorous bat or flying fox*
 /maʔit/ → [ˈmāʔit] ~ [māˈʔit] *sibling-in-law*
 /məŋ+paʔih/ → [məŋˈmāʔēh] ~ [məŋmāˈʔēh] *roast fish or meat wrapped in leaves*
 /məŋ+suʔun/ → [məŋˈʃʂūʔun] ~ [məŋʃʂūˈʔun] *carry on the shoulder*
 /mahəw/ → [ˈmāhəw] *female; woman*

If not nasalised by the process described above, the nasalisation of vowels before a nasal consonant is negligible:

- /puyan/ → [ˈpuyan] *hearth*
 /kədəŋ/ → [kəˈdəŋ] *stand; place upright*
 /bin/ → [bin] *carry on the back*
 /guun/ → [ˈguun] *jungle, forest*

Several other phonological phenomena involving changes in non-segmental characteristics such as stress and juncture can be mentioned here.

Liaison

Within a phrase /h/ at the end of a word is resyllabified as the initial consonant of a following word that begins with an underlying vowel.

EXAMPLES

- /susah aŋay/ → [ˈsusa ˈhaŋāy] *very difficult*
 /bah ajuʔ/ → [ˈba ˈhajoʔ] *upriver (loc.)*
 /kipas aŋin/ → [ˈkipaj ˈhaŋin] *electric fan*

It is not known whether glottal stop exhibits similar linking behaviour.

Clitics

The unstressed person-marking particle /sə/ invariably belongs to the same phonological word as a following morpheme:

/sə Tugaw/ → [sə'tugaw] *Tugaw* (name of a culture hero)

In rapid speech /tərah/, one of the two recorded markers of non-agentive or non-deliberate action loses its stress and contracts to [tə]:

/tərah dudu?/ → [tə'dudo?] *fall into a sitting position (through buckling of the legs, etc.)*

/tərah səbut/ → [təsə'but] *mention inadvertently*

Before a vowel-initial deictic expression the unstressed locative marker ga? contracts to g-:

itəw *this*

/ga? itəw/ → ['gitəw] *here*

iən *that* (def.)

/ga? iən/ → ['giyən] *there* (def.)

inan *that* (indef.)

/ga? inan/ → ['ginən] *there* (indef.)

Before consonant-initial expressions of location ga? remains uncontracted:

jaway *face, front*

/ga? jaway → [ga? 'jaway] *in front*

buta *back, behind*

/ga? buta/ → [ga? 'buta] *behind, in back*

dawək *side, flank*

/ga? dawək/ → [ga? 'dawək] *beside, at the side*

By contrast with the above, /a/ *person* appears never to be cliticised.

2.5.2 Major issues in phonology

Several of the more important issues in Mukah phonology merit a more extended discussion than they have received thus far. I will take these up separately, but attempt to interrelate them in a coherent pattern of interpretation. Unresolved issues or debatable points that cannot easily be incorporated into our discussion of the major problems will be treated separately at the end.

The vowel allophones of Mukah include not only [i], [u], [ə] and [a] (the phonetic symbols for the recognised phonemes), but also [e], [o], and the diphthongs [iə], [uə], [eə], [ai] and [ui]. With the marginal exceptions already mentioned under phonological rule 8, all lowered and off-glided allophones occur in final closed syllables. The distribution of vowel allophones in relation to final consonant allophones appears in Table 1:

Table 1: Distribution of vowel allophones in final syllables

No.	i u	e o	iə uə	a	eə	ə	ai	ui	-[C]
1.	X			X		X			p
2.	X			X		X			t
3.						X			k
4.	(X)	X	X	X	X				ʔ
5.	X			X		X			b
6.	X			X		X			d
7.	X			X		X			g
8.	X			X		X			m
9.	X			X		X			n
10.			X		X	X			ŋ
11.	(X)	X	l	X	X		X	X	h
12.	X			X		X			l
13.	(X)			(X)		(X)			r
14.	i			X		X			w
15.	u			X		X			y
16.				X			X		∅

2.5.2.1 The phonemic status of [e], [o]

As can be seen in Table 1, [i] and [e], [u] and [o] (as opposed to the corresponding offglided variants) appear to contrast only before final /ʔ/ and /h/. In both environments underlying high vowels are normally lowered (or, perhaps, laxed) before a final laryngeal in the directly inherited vocabulary. Twelve apparent exceptions were recorded, of which six ([biʔuʔ] *blue*, [kukuh] *stable*, *enduring*, [wayih] *relative*, [puluh] *ten*, [sauh] *anchor* and [musuh] *enemy*) almost certainly are Malay loans. Of those exceptions to lowering which do not appear to be Malay loans one ([tujuʔ] *seven*) has an etymological doublet which shows lowering ([tujuʔ] *finger*),²⁰ indicating probable borrowing from some other language.

In most variants of American Structuralism [e] and [o] would be considered phonemes in Mukah, based on this marginal evidence of contrast. However, in any approach which aims at distinguishing the blurring effects of recent loans from fundamental phonological processes, the phonemic status of Mukah [e] and [o] must be questioned. There is little doubt that the great majority of morphemes which contain a high vowel before a final laryngeal show a lowered or laxed allophone in this position. The issue is whether the exceptions should be treated as such or taken as evidence for contrast. In accordance with the general orientation of these sketches I have adopted the former, more abstract, interpretation, marking the exceptions as loans.

2.5.2.2 The phonemic status of [iə], [uə] and [eə]

One of the most striking features of Mukah historical phonology is the addition of a rule of breaking which in final closed syllables had the phonetic effects shown in Figure 1:

Figure 1: Sources of last-syllable vowels and diphthongs in Mukah Melanau

PRE-MUKAH	MUKAH	PRE-MUKAH	MUKAH
*-ak	[eəʔ]	*-aʔ	[aʔ]
*-ək	[ək]	*-əʔ	[aʔ]
*-ik	[iəʔ]	*-iʔ	[eʔ]
*-uk	[uəʔ]	*-uʔ	[oʔ]
*-ag	[ag]	*-ar	[ah, eəh]
*-əg	[əg]	*-ər	[ah, eəh]
*-ig	[ig]	*-ir	[eh]
*-ug	[ug]	*-ur	[oh]
*-aŋ	[eəŋ]	*-as	[aih]
*-əŋ	[əŋ]	*-əs	[aih]
*-iŋ	[iəŋ]	*-is	[eh]
*-uŋ	[uəŋ]	*-us	[uih]

In directly inherited vocabulary, then, *i and *u developed a mid-central off-glide before final *k or *ŋ (but not *g). Following the introduction of breaking *k shifted to [ʔ] in final position after all vowels other than shwa. Although I consistently recorded a voiceless velar stop after shwa, and generally transcribed glottal stop after other vowels and diphthongs, I occasionally recorded [k] after breaking vowels. The change of final *k to glottal stop thus appears to be in progress, though spontaneous speech samples suggest that it is all but completed.

A glance at Table 1 shows that, apart from [siŋuəh], which may be due to an idiolectal peculiarity (the Mulders give singoh *cold*), [iə] and [uə] contrast with the [e], [o] allophones of /i/, /u/ only before a final glottal stop. Moreover, although they clearly contrast intervocalically, final [k] and [ʔ] are in complementary distribution. Since high vowels invariably are offglided before final [ŋ], and since glottal stop sometimes appears as [k] after breaking vowels in careful speech, the simplest interpretation of this distribution would be one in which [ʔ] is treated as /k/ after breaking vowels (but not elsewhere). Under such an interpretation the breaking of high vowels becomes fully predictable: /i/ and /u/ are offglided before final /k/ and /ŋ/.²¹ This analysis is further supported by considerations of morpheme structure. No prepenultimate vowels other than shwa occur in unambiguous (non-breaking) stems, and apart from /nda/ *no*, *not*, no consonant clusters occur in any position in non-borrowed words. Transcriptions such as /tabiəʔ/ *reach* would violate the first of these constraints if [ə] is interpreted as a vowel, and the second if [ə] is interpreted as a consonant.

Given /tabik/ and the like it is noteworthy that breaking is synchronically transparent before /ŋ/ but opaque before /k/, since it applies in an underlying - not in a surface environment (Kiparsky 1971). The case of Mukah breaking illustrates nicely how terms such as "opaque" and "transparent" cannot be categorically opposed, since one and the same phonological rule can be opaque in some environments and transparent in others, a situation that might be described as one of "split opacity".

The phonemic status of [eə] involves somewhat greater complications than are found with [iə] and [uə]. As seen in Figure 1, [eə] results historically from 1) the raising, fronting and offgliding of *a before final *k and *ŋ, and 2) an apparently unconditioned split of *-aR/eR which generally yielded -[ah], but in three recorded morphemes produced -[eəh] instead.

The distributional relationship of [eə] and [a] parallels that for [iə] and [i], [uə] and [u] before final /k/ and /ŋ/. In these environments [eə] can be regarded as an allophone of /a/. Before final /h/, however, [eə] and [a] contrast, as with [layəh] *sail*, [sadeəh] *lean against*. Since all other instances of [e] can be assigned to /i/ or /a/ in accordance with general phonological processes, it would be desirable to avoid the recognition of a new phoneme /e/ in three morphemes, particularly since this phoneme would be the only vowel to undergo breaking before final /h/.

To accomplish this we could write -/ar/ for -[eəh]. A number of recorded forms end with -[əy], but all of these appear to be loans. We would thus write /sadar/₁ (= [sadeəh]), /sadar/₂ (= [saday]) *lean against*. Non-homophonous forms which are etymologically equivalent, then, would be written as phonemic equivalents, the phonetic differences resulting from phonological rules which apply differently to directly inherited and to borrowed vocabulary.

The foregoing analysis implies that earlier *r (Proto-Austronesian *R) remained a liquid phonemically if it followed *a or *e (shwa), but otherwise became /h/: *sanDeR > /sadar/ ([sadeəh]) *lean against*, *bibiR > /bibih/ ([bibeəh]) *lip*.

Since such a phonemic split did not occur phonetically we might have reservations about adopting a phonemicisation which could complicate the historical description of the language. Moreover, as seen in Figure 1, although pre-Mukah *r and *s remained distinct following other vowels, the sequences *-ir and *-is fell together. In contemporary Mukah, then, final [h] following [e] is in complementary distribution both with [y] and with [s]. To avoid an arbitrary assignment of allophone to phoneme which inevitably would create some distortions in the statement of historical phonology I write final [h] after [e] as /h/. The [h] of phonetic transcriptions is consequently assigned to any of three different phonemes: /r/ in the three words in which the preceding vowel is [eə] ([sadeəh] = /sadar/), /s/ if the preceding sequence is a vowel followed by unstressed [i] ([majh], [alujh] = /mas/, /alus/), and /h/ if the preceding sequence is a consonant followed by [e] ([bətəh] = /bətih/).²²

Historically, the breaking of word-final high vowels through the addition of a centering onglide (*tali > taləy *rope*, *batu > batəw *stone*) undoubtedly is related to breaking before word-final /k/ and /ŋ/. Synchronically, however, the sequences -əy and -əw must be treated as underlying diphthongs.

A basic consideration in the foregoing, rather abstract interpretation, is whether the underlying forms are psychologically real, or are products of linguistic analysis. I have little doubt that the breaking of high vowels before final /ŋ/ would be recognised as a rule by most speakers of Mukah. This part of the rule of breaking is transparent, and given its high productivity there is no reason to believe that speakers would prefer underlying representations with a centering offglide. Before final /k/ the psychological reality of the rule becomes somewhat less clear, as its phonetic transparency decreases. Much the same can be said of the fronting, raising and breaking of /a/ before final /k/, /ŋ/ and /r/ (three forms). In summary, then, the matter remains in limbo. It seems clear that we want to describe breaking as part of the synchronic grammar of Mukah, but to do so completely we must depart from the phonetic facts to a greater degree than may suit the tastes of some linguists.

2.5.2.3 Ablaut

Mukah is one of a number of languages in north-west Borneo which have developed a system of verbal ablaut from earlier infixes *-um-, *-in-. Historically this development involved two steps: 1) syncope of *e (shwa) / VC__CV, 2) reduction

of consonant clusters. There is no known support for a synchronic analysis which recapitulates the historical development, but a process which is independently required - deletion of prevocalic shwa - permits us to derive the surface forms from underlying representations with *-/u/-* and *-/i/-*. Thus, **tetek cutting, hacking, *t-um-etek to cut, hack, *t-in-etek be cut, hacked by* became Mukah [tətək], [tutək], [titək], and in the analysis adopted here the corresponding underlying forms are */tətək/, /tə-u-tək/, /tə-i-tək/*. Although this analysis "works" I regard it as little more than a descriptive gimmick, given the fairly clear indications of the historical development. At the same time I see no way to justify underlying representations that correspond to the reconstructed forms as psychologically real. Although much appealed to in contemporary linguistics, the entire issue of psychological reality seems to me to be one in need of much more careful testing than is typically done. Individual speakers may differ in their views on the psychological reality of competing underlying representations, and it is possible that some speakers store paradigm-mates as sets rather than as a single underlying form with affixational differences.

2.5.2.4 Relation of */məŋ/-* and *-/əm/-*

Although */məŋ/-* and *-/əm/-* contrast in stems that begin with a vowel or */l/*, the contrast is neutralised before consonant-initial stems, the former occurring with voiceless-initials and the latter (in its optionally metathesised form) with voiced initials. It is not altogether clear how this situation developed. Historically *-/əm/-* derives from three sources: **mə-* 'stative/attributive', **-um-* 'marker of active voice', **məŋ-* 'marker of active voice'.²³ Other things being equal, voiceless-initial stems should reflect **-um-* as *-/əm/-* and **məŋ-* as */məŋ/-*, while voiced-initial stems should reflect both as *-/əm/-* (↔ */mə/-*). In fact, voiceless-initial stems of two or more syllables reflect **-um-* and **məŋ-* indifferently as */məŋ/-*. In monosyllables only *-əm-* occurs, whether the initial is voiced or voiceless.

There appear to be two historical scenarios for this situation: 1) **-um-* was lost in voiceless-initial stems, leaving only reflexes of **məŋ-*, 2) after prepenultimate neutralisation, consonant cluster reduction and optional metathesis had occurred, the reflexes of **məŋ-* and **-um-* both appeared as *mə-* in voiced initial roots, but still contrasted in voiceless-initial roots. The neutralisation of contrast before voiced initials precipitated a neutralisation before voiceless-initials, but by generalising the distribution of *məŋ-* rather than of *-əm-*.

It seems fairly certain that the affixational difference between semantically parallel paradigmatic sets such as */kuniŋ/ yellow : /məŋ-kuniŋ/ become yellow* and */gaduŋ/ green : /g-əm-aduŋ/ become green* arose through neutralisation of the */məŋ/- : -/əm/-* contrast. The occurrence of a cognate inchoative or inceptive prefix in Malay (*kuniŋ yellow : məŋ-kuniŋ become yellow; hitam black : məŋ-hitam become black*) and Tagalog (*puti? white : məŋ-puti? become white, itim black : məŋ-itim become black*) suggests that Mukah */g-əm-aduŋ/* derives from **məŋ-gaduŋ*. Following prepenultimate neutralisation of **a* and **e* in stems that began with a voiced obstruent, consonant cluster reduction and optional metathesis evidently led to confusion of the two previously distinct affixes. In stems that began with a voiceless obstruent the metathesis of *-əm-* could not in itself have levelled the earlier morphological distinction, since nasal substitution in this environment must have been part of the language from an earlier period. At this point, for unknown reasons, voiceless-initial stems with an optionally metathesising *-əm-* began to undergo nasal substitution. In effect, then, **məŋ-* and

*-um- fell together as -/əm/- before voiced-initial stems and as /məŋ/- before voiceless-initial stems, but continued to contrast in other environments.

2.5.2.5 Miscellaneous

In one known paradigm the shapes of the simple and affixed stems differ in the presence of a glottal stop in intervocalic position:

[?'aid] *wipe* (imperative) : ['ma?id] *to wipe*
(kain) ['pa?id] *cloth for wiping*

Although no other examples of this alternation were recorded, comparative evidence suggests that these forms are to be related by a rule of metathesis which operates on sequences of initial vowel plus /ʔ/ (cf. Blust 1977:3.3.5.2). The stem meaning *wipe* is tentatively written /a?id/, then, and a provisional rule of metathesis posited to account for the disappearance of /ʔ/ in the non-affixed form.

In a few words the simple and morphologically complex shapes of the stem are further distinguished by an unexplained change of the initial consonant:

- (146) ga? gaan ləbu? səku? *where is the school (house)?*
(147) k-ən-aan ka?aw? *where are you going?*
(148) kudu? diba? *sit down*
(149) siən tərəh dudu? *he fell into a sitting position (after stumbling, buckling of the knees, etc.)*

2.5.3 Sample derivations

To illustrate the interaction of the phonological rules and the crucial ordering arguments relevant to determining their position in the sequence, some sample derivations are given below:

- | | |
|------------------------------|---------------------------------------|
| 1. /əm+ituŋ/ <i>to count</i> | 2. /tuak/ <i>rice wine</i> |
| 'əm+ituŋ (1) | 'tuak (1) |
| 'm+ituŋ (5) | 'tuwək (2) |
| ə'm+ituŋ (7) | 'tuweək (7) |
| ə'm+ʔtuŋ (17) | 'tuweə? (13) |
| ['mʔtuŋ] | ['tuweə?] |
| 3. /pulu?+ən/ <i>ten</i> | 4. /pə+upuk/ <i>wash (habitually)</i> |
| pu'lu?+ən ~ pulu'?+ən (1) | pə+'upuk (1) |
| pə'lu?+ən ~ pəlu'?+ən (3) | p+'upuk (4) |
| [pə'lu?+ən] ~ [pəlu'?+ən] | p+'upuək (7) |
| | p+'upuə? (13) |
| | ['pupuə?] |

- | | |
|---|---|
| 5. /iluh/ <i>channel</i>
'iluh (1)
'ʔiluh (6)
'ʔiloh (10)
['ʔiloh] | 6. /liəŋ/ <i>light in weight</i>
'liəŋ (1)
'liyəŋ (2)
'liyəəŋ (7)
'liyəəŋ ~ 'leyeəŋ (8)
['liyəəŋ] ~ ['leyeəŋ] |
| 7. /g-əm-utiŋ/ <i>cut with scissors</i>
g-ə'm-utiŋ (1)
g-ə'm-utiəŋ (7)
g-ə'm-utiəŋ ~ mə-'gutiəŋ (14)
g-ə'm-Ůtiəŋ ~ mʂ-'gutiəŋ (17)
[gə'mŮtiəŋ] ~ [mʂ'gutiəŋ] | 8. /məŋ+sadar/ <i>lean against</i>
məŋ+'sadar (1)
məŋ+'sadeə (7)
məŋ+'sadeəh (11)
məŋ+'sadeəh (15a)
mə+'ŋadeəh (15b)
mʂ+'ŋadeəh (17)
[mʂ'ŋadeəh] |
| 9. /jəkən/ <i>fish</i>
jək'an (1)
jək'kan (9)
[jək'kan] | 10. /məŋ+lasuʔ/ <i>to heat</i>
məŋ+'lasuʔ (1)
məŋ+'lasoʔ (10)
məŋə+'lasoʔ (16)
mʂŋə+'lasoʔ (17)
[mʂŋə+'lasoʔ] |
| 11. /tuliʔ/ <i>deaf</i>
'tuliʔ (1)
'tuleʔ (10)
['tuleʔ] | 12. /tulək/ <i>push away</i>
'tulək (1)
'tuleək (7)
'tuleəʔ (13)
['tuleəʔ] |

The following crucial ordering requirements are necessary. Numbers refer to phonological rules. The rule referred to by the number on the left must precede the rule referred to by the number on the right in order to prevent the derivation of forms such as those given in parentheses. Underlying representations are written between slant lines:

1	7	(guti'əŋ) /gutiŋ/ <i>scissors</i>
3	7	(tə'leəŋ) /tuləŋ/ <i>bone</i>
5	6	(ʔə'mituəŋ) /əm+ituŋ/ <i>count</i>
7	8	(ti'ʔeəŋ) ²⁴ /ti'ʔəŋ/ <i>cemetery</i>
	11	('gəgəh) /gəgə/ <i>k.o. raised platform</i>
	13	('tutuʔ) /tutuk/ <i>knock, rap</i>
9	14	(mək'keəŋ) /k-əm-əŋ/ <i>to open</i>
14	17	(jə'məʔʔt ~ mə'jəʔʔt) /j-əm-əʔit/ <i>sew</i>
15a	15b	(mʂ'ŋəʂləy) /məŋ+pələy/ <i>forbid, prohibit</i>
15	17	(mʂ'məyueŋ) /məŋ+pəyueŋ/ <i>hold an umbrella for s.o.</i>
16	17	(mʂŋə'lasoʔ) /məŋ+lasuʔ/ <i>to heat</i>

2.5.4 Evidence of contrast

A few minimal and subminimal pairs are given below to demonstrate contrast in areas where transcriptional errors might be expected:

['giyan] *addicted* : ['giyəŋ] *there* (definite)
 [pəy] *cross, go across* : [pə'i:] *stingray*
 ['nəwʔ] *male personal name* : ['nəy] *be smoked out, of a beehive*

['baat] *heavy* : [bat] *net, web*
 ['dipa] *snake* : ['dipah] *opposite bank*
 ['suŋəy] *tributary, small stream* : ['buŋəyh] *storm*
 ['paʔit] *upper abdomen (above the navel)* : ['paʔid] *wiping*
 ['taʔeəŋ] *handspan* : ['teʔeəŋ] *cemetery*
 [mʂ'səy] *fat (adj.)* : [mʂ'say] *to bloom*
 ['bauəŋ] *onion* : ['ʔawəŋ] *atmosphere*
 [bun] *odour* : ['buən] *bad weather*

2.6 Variation

Variant pronunciations not attributable to the application or non-application of an optional phonological rule were noted in:

layu ~ layəw *invitation*
 aluy ~ saluy *boat*
 umiʔ ~ umit *small*
 adiʔ ~ adik *short*
 tuh ~ atur *arrange, put in order*
 tabih ~ tawar [-breaking] *treat with medicine*²⁵

NOTES

¹ /ja/ is regarded as 'old' language.

² It is not known whether /usah apah/ is permitted.

³ As in buŋa itəw {buyaʔ} ləpəw kəw *I picked this flower (accidentally)*. It is possible that such constructions actually consist of {buyaʔ} + noun + possessive pronoun (= *this flower was affected by my picking*). If so, the distribution of morphologically simple roots that are intrinsically verbal is even more restricted.

⁴ Some morphologically complex verbs, however, occur in future constructions:

ləw iən tuad baʔ pə+suʔun kayəw
they are going (somewhere) to carry wood
 akəw (baʔ) pə+bin baw buta siən səmunih
he will carry me on his back tomorrow

⁵ Because of gaps in the available data the affixation potential of nasal-initial and r-initial roots is unclear. For purposes of formulating the phonological rules it will be assumed that such roots never take a prefix which ends in a nasal (i.e. take -əm-, -ən-, but never məŋ-, nəŋ-).

⁶ This is apparently true of all disyllabic verbal roots that historically contained shwa as the penultimate vowel, though some roots that do not meet this condition have also come to belong to the ablauting class. Since no root begins with shwa in Mukah ablaut occurs only in consonant-initial roots.

⁷ Egerod (1965:258) has described an ablaut pattern as one type of morphophonemic alternation in the verb system of Atayal (northern Taiwan), but all

examples cited by him appear to involve coexistent affixation of other types, as in m-blaq :liq-an *good, do it well*, h-m-op:hab-an *stab*, m-ziup:iop-un *enter* or m-qes:qas-un *happy*.

- ⁸ /təmək/ (sentence (68)) is possibly another example, though /u/- and /i/-grade realisations were not recorded.
- ⁹ Since both exceptions reflect reduplicated monosyllables, it is conceivable that ablaut developed historically both in disyllabic verbal roots in which the penultimate vowel was shwa, and in reduplicated monosyllables irrespective of vocalism.
- ¹⁰ Found only in recent Malay loanwords (as ucapan *speech*) and in some conversational styles where the usual /s/ < *c of older loans is replaced by /c/ in imitation of Malay.
- ¹¹ To these we might add C in n.da *no, not*, though this item is phonotactically unique, and the syllabification remains unclear.
- ¹² The following synchronic roots were recorded which developed historically from partial reduplications: bəbulan *ocular cataract*, dian ~ dədian *candle*, kəkəlit *k.o. small insectivorous bat*, ləlaŋaw *housefly*, kəŋala *flying ashes*, kəŋiəw *k.o. flying fox (larger than sələmawa?)*, tətawa *laugh*.
- ¹³ Clayre (1970:337) implies that /ʔ/ occurs initially in Dalat Melanau. However, I did not record a contrast of initial smooth and glottal onset in Mukah, Dalat, or any other Melanau dialect.
- ¹⁴ No forms ending in [aŋ] were actually recorded. These items are taken from the Mulders' vocabulary.
- ¹⁵ It is likely that height assimilation also occurs across /h/, but the available material does not permit a definite statement.
- ¹⁶ Nonetheless, for reasons that are not yet well understood, a few words which are clearly Malay loans do undergo lowering: [lə'beh] *excess*, [kəŋ'teh] *paper*.
- ¹⁷ /k-əm-an/ *eat*, however, is never pronounced [mə'kan]. This root must either be marked as an exception to Rule 14, or the affix regarded as distinct.
- ¹⁸ It should be noted that /ŋ/- plus b in ablauting stems undergoes nasal substitution, but in the present analysis /məŋ/-, /nəŋ/- never occur before a root which begins with a voiced obstruent. If morphologically complex words of the latter type were admitted, complications would be introduced into Rule 15, since nasal substitution occurs in e.g. /ŋ+bə-u-bəd/ ([mŋbəd]) *to tie*, but would not occur in, e.g. /məŋ+biłəm/ ([mə'biłəm] ~ [bə'mŋləm]) *blacken; become black*. As I have argued elsewhere (Blust n.d.), the initial segment in [mŋbəd] and similar forms is historically a product of canonically motivated assimilation, and has no connection with nasal substitution.
- ¹⁹ Gaps in the available data prevent our knowing whether /ŋ/- can be added to ablauting roots that begin with /l/, and if so, whether these also form input to Rule 16.
- ²⁰ From *tuZuq *index finger*, the seventh in finger-counting.
- ²¹ Superficially the distribution of final [k] and [ʔ] resembles that in Javanese, where -[k] (after shwa) and -[ʔ] (after other vowels) have been united as /k/ (Uhlenbeck 1949:41ff). To unite Mukah -[k] and -[ʔ] under /k/, however, would obscure important differences between the two languages. First, unlike Javanese, Mukah has a contrastive glottal stop in intervocalic position. Any loss of contrast between *-k and *-ʔ in final position could thus at best be

- regarded synchronically as the neutralisation of a phonemic opposition which is well-attested in intervocalic position. Second, because the historical rule of breaking in Mukah affected vowels before a final /k/ but not vowels before a final glottal stop, the phonetic change *-k > [ʔ] did not lead to partial merger (hence to neutralisation in the synchronic relationships of the phones) if we regard breaking as still present in the synchronic grammar of Mukah.
- ²² Clayre (1970) proposed an ad hoc segment -H as the phonemic source for surface -[ih] following a vowel. The interpretation of this sequence as /s/ accounts for the complementation of -[s] and -[ih] and solves the problems for which he proposed -H, without introducing the undesirable consequences of his analysis.
- ²³ Originally *-um- and *maq- appear to have distinguished verb classes. In Mukah there is no clear semantic basis for such a distinction.
- ²⁴ Without a variant ['teʔeəŋ].
- ²⁵ The forms actually recorded were ['tabeh] *chewed betel nut and sirih leaf spat on the abdomen of a sick child (generally not used for adults)* and ['tawəy] *treat with medicine* < *ta(ŋ)baR *antidote, medicine*. The latter is identifiable as a Malay loan from the distinctive treatment of *b (> w/*a ___ *a). Given the formal and semantic similarity of these items it seems likely that ['tabeh] is a transcriptional error for ['tabeəh]. If so, this set of variants parallels sadar ~ sadar [-lowering] *lean against*, tuh ~ atur *arrange, put in order* and other pairs of words with differing meanings (as bəsəy *spear*, bəsi *iron*) in containing a cognate Malay loan next to the directly inherited item.

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VOCABULARY

A

- | | | | |
|---------------|--|---------------|---|
| a | somebody, someone; other people | agap | dragonfly |
| anak a | other people's children | aga? | coffin (regarded as a new word;
cf. luqun) |
| a bayuh | shaman, native healer | agəm | grip, grasp (cf. ŋagəm) |
| a bə+kahaŋ | fisherman | əm+agəm | to grip, to grasp |
| a iən | someone | agəy (L?) | again; more |
| a ki? | someone else, a different
person | ajər (L) | |
| a lakəy | old man | bəl+ajər | to learn |
| a məŋ+taɸa? | stranger | məŋ+ajər | to teach |
| aam | pangolin, scaly anteater | aju? | (see bah) upriver |
| aan | (see gaan, tan) how? | akah | creeper, vine; (aerial?) root
(cf. amut, dalid) |
| aat | press two surfaces together to
squeeze liquid from something, as
in squeezing copra; press in a vice | akəl (L) | wits, cunning, intelligence |
| əm+aat | to press, squeeze | məŋ+akəl | to cheat |
| aba? | (see bah) downriver | akəw | I; me |
| abəy | late afternoon, evening | akit | raft |
| abəy məbəy | yesterday evening | alan | (see guun) virgin forest (cf.
nuu) |
| abuk | tiny ash-like particles in the
air (as from sago flour that is too
dry) | ala? | seed; numeral classifier used
with fruits, flowers, sheets of
paper, stones |
| abus | fog, mist | aləw | long; distance |
| adək | sniff, smell | alih (L) | change position (as a person
shifting in a chair); move an object |
| məŋ+adək | to sniff, smell (something) | alun alun (L) | major road (cf. jalan) |
| ən+adək | to have been smelled by | alus | fine (as powder) |
| adət (L) | custom, traditional law | aman | float (something), send adrift |
| adik (= adi?) | short | | |
| adi? (= adik) | short | | |

- pə+aman adrift, drifting on the water
- aməw ghost
- amid cockscomb
- (a)mun conditional, if
- amut root (cf. akah, dalid)
 amut pəŋuduŋ taproot
 amut tuba the root of *Derris elliptica* (used to stun fish)
- an (see gay)
- anak child; offspring
 anak lay son
 anak mahəw daughter
 anak umi?/anak umit small child
- aŋam plait, plaiting
 əm+aŋam to plait
 ən+aŋam to have been plaited by
- aŋi honeybee
- aŋit sharp, sharpen
 mə+aŋit sharp
 məŋ+aŋit sharpen
 ən+aŋit to have been sharpened by
- aŋat face bravely
 əm+aŋat bold or fearless in facing someone who is angry with you
- aŋay intensifier, very; intently
 tuab siən ta?ah aŋay *his yawn is very loud*
 təlabaw a tama t-ən-a?ah siən aŋay *he listened intently to his father's advice*
- aŋit anger
 əm+aŋit to provoke, make angry
 ən+aŋit to have been provoked, made angry by
- apah₁ numeral classifier for fish, leaves
- apah₂ person, body (cf. badan, usah)
 apah lay man
 apah mahəw woman
- apu? white
 məŋ+apu? to whiten, make white
 ən+apu? to have been whitened by
- apuy fire
- a?id (see pa?id) wipe
- ara? (see kayəw) fig tree
- arəŋ (L) charcoal
- arus (L) flow of water (cf. aus)
- asa gills
- asa? (see batəw) whet, sharpen
 əm+asa? to whet, sharpen
 ən+asa? to have been sharpened by
- asək (see ua?) dress, put on clothes
 pə+asək to put on clothes
 ən+asək to have been put on, of clothes
- asəw dog
 məŋ+asəw to hunt using dogs
- asi? pity, mercy
 əm+asi? to pity, have mercy on
- asu? floor; plank
- atay liver
- atəb shut, close
- atur (L) arrange, put in order (cf. tuh)
- aus current of air, as from someone blowing through a tube (cf. arus)
 əm+aus to have no result when blowing into something, as to blow into a trumpet but get no sound, or blow into an air mattress which does not inflate
- auy smoke a beehive to collect the honey
 əm+auy to smoke a beehive
 ən+auy to have been smoked by someone (of a beehive)
- awan cloud
- awa? numeral classifier used with sticks
- awəŋ (L) empty space; space between earth and sky
- ay exclamation, oh!
- ayəŋ big (too big to measure) (cf. flat)
- B
- baa abscess, boil
- baat heavy
 b-əm-aat to increase the weight of
 b-ən-aat to have had its weight increased by

- babuy pig
 babuy guun wild boar
 badan (L) body (cf. apah, usah)
 badək (L) rhinoceros
 baduŋ₁ adze
 baduŋ₂ cassava (cf. ubəy)
 baduŋ₃ fishing boat with triangular
 sails
 bagəy (see tulaŋ) collarbone
 bah at, on
 bah aba? downriver
 bah aju? upriver
 bah baw over, above
 bah diba? below
 bah dipah across (a river)
 bajəw (L) shirt
 bakaw a tree, the mangrove
 bakul (L) basket
 bakuŋ long-leaved aquatic plant
 with latex-like sap that causes
 itching
 balak (see bua?) banana
 balas revenge
 b-əm-alas take revenge
 balaw sago palm
 baləw widow
 balik return home; turn something
 over
 baliw (see buən) transformation
 baŋaw (see manuk)
 ba[?]₁ preverbal particle; future
 ba? məŋ+lasu? to heat (s.t.)
 ba? ta?əw to know
 ba? jadi to become
 ba? pəŋiŋih ?
 ba[?]₂ use
 pə+ba? to use
 b-ən-a? to have been used by
 ba[?]ay ebb, recede
 ba[?]ay salih ebb tide
 ba[?]əw new (but a few days old -
 not as recent as ta?)
 barəŋ (L) thing
 bas mark, trace
 basa? wet
 bat net; web
 bat bəlawə? spiderweb
 bataŋ trunk, log
 batəw stone (cf. batu)
 batəw asa? whetstone
 batik (L) batik cloth
 batu (L) mile (cf. batəw)
 bauŋ (L) onion
 bauŋ sak red onion
 bauŋ apu? garlic
 baw on, upon; over, above
 baway rising
 baway dug rising tide
 bay loincloth
 baya crocodile
 bayar (L) pay (cf. səsaŋ)
 bayəw old (as a dry coconut or an
 unmarried girl past her prime)
 bayuh ceremony for the curing of
 illness
 pə+bayuh to perform the rites of
 the a bayuh (playing the gənaŋ and
 chanting incantations to drive off
 evil spirits)
 bəbah split (stative); broken (as
 vases)
 ŋ+bə-u-bah to split
 bə-i-bah to have been split by
 beba? mouth (coarse expression; cf.
 mujun)
 bəbəd tie (cf. bəd)
 ŋ+bə-u-bəd to tie
 bə-i-bəd to have been tied
 bəbulan cataract of the eye
 bəbut hole in the ground
 bəd tie (cf. bəbəd)
 pə+bəd to tie, bind (habitual
 action)
 bəduk large yellowish-brown short-
 tailed monkey
 bəjagaŋ (see kayəw) teak

- bəlabaw rat, mouse
 bəlakin Achille's tendon
 bəlanək k.o. fish: mullet?
 bəlaŋaw housefly
 bəlas (L) formative for numerals
 from 11-19
 bəlawə? spider
 bələbaŋ butterfly
 bələbawən dizzy
 bələy buy (cf. ibay)
 ŋ+bələy to buy
 b-ən-ələy to have been bought by
 bəlusu? (see jəkan) dolphin, por-
 poise
 bənaa hot ashes
 bənaŋ (L?) thread
 bənatəŋ (L) animal
 bənatəw son- or daughter-in-law (cf.
 bisan)
 bənawaŋ door
 bənu? kill
 ŋ+bə-u-nu? to kill
 bə-i-nu? to have been killed by;
 kill (polite imperative)
 pə+bənu? diri? suicide
 bənusia (L) person, human being
 (cf. tənakaw, tənawan)
 bəŋaŋi (L) sing (cf. bəlaŋu)
 bəŋuh (see bua?) coconut tree
 bəŋai large stream, river (cf.
 suŋay)
 bəras (L) husked rice
 bərian (L) gold, jewelry, valuables
 (see pakan)
 bəsəy spear (cf. bəsi)
 bəsi (L) iron (cf. bəsəy)
 bəsuh satiated, full after eating
 bətih thigh
 bətuka intestines
 bətul (L?) correct
 bəy be, have; possess
 biah run
 pə-biah to run
 bias body
 bibih lip
 bibi? broken bits of Chinese plates
 and cups
 biləm black
 b-əm-iləm to blacken
 b-ən-iləm to have been blackened
 by
 bilit (L) room
 bilun (L) aeroplane
 bin load carried on the back; carry
 (imper.)
 b-əm-in to carry on the back
 b-ən-in to have been carried on
 the back
 pə+bin be carried on someone's
 back
 biru? (L) blue
 bisan son- or daughter-in-law (cf.
 bənatəw) NOTE: The meaning of the
 cognate term in Malay (*bésan the
 relationship of persons whose child-
 ren have intermarried*) and the re-
 ported synonymy of bənatəw and bisan
 suggest that the latter actually
 refers to the relationship between
 the parents of a married couple.
 bisul abscess
 bitaŋ star
 bua? fruit; round object
 bua? balak banana
 bua? bəŋuh coconut
 bua? bulas k.o. fruit with fleshy
 seeds
 bua? dian durian
 bua? gənuk gourd
 bua? guli marble
 bua? limaw citrus fruit
 bua? naka jackfruit
 bua? pak kneecap
 bua? piŋəŋ pineapple
 bua? səmaka? watermelon
 bua? sukun breadfruit
 bua? timun cucumber
 buaw run away

- bubəw conical bamboo wickerwork
fish trap (cf. ŋaŋa)
- bubuk (L?) small shrimps
- bubuŋ ridge of the roof
- buda? foam, bubbles
- budəy false
- buduk leg (cf. pajug)
- buən storm, bad weather (cf. buŋas)
buən baliw a storm said to be
caused by doing something unnatu-
ral. NOTE: cf. Blust 1981 for a
description of the "thunder com-
plex" in Malaya, Borneo and the
Philippines.
- buh fishing rod
- buk head hair (cf. buləw)
- bukaŋ corpse
- bukəw₁ knee (cf. buku?)
- bukəw₂ yam
- bukit (L) hill
- buku? (L) knuckle, joint (cf. bukəw)
- bukut punch
b-əm-ukut to punch
b-ən-ukut to have been punched by
pə+bukut punch one another
- bulan moon, month
- bulas (see bua?)
- bulət (L) round
- buləw body hair, feathers (cf. buk)
buləw manuk feathers
- buliŋ wooden dish
- buluŋ (see jəkan) k.o. fish
- bulu? bamboo
bulu? tədiŋ kind of bamboo
- bun odour
pə+bun to smell, have an odour
- buŋa flower
- buŋas storm (cf. buən)
- bup (L) book
- buruk old and crumbling (furniture,
houses), decaying (vegetables) (cf.
madam)
- busew corner (of table, cloth, room)
- buta back (anat.); behind
- buut breathe (cf. ŋus, siŋud)
pə+buut
- buya? be struck, affected by (= Malay
kena; cf. tərəh)
- buyən terrified, paralysed by fear
- buyəw marine crab 1"-4" in diameter,
with large pincers (cf. gəramah)
- D
- daa? blood
- daat littoral sea, sea near the
shore (cf. lautan)
- dabəw ash
- dada incisor (cf. ŋipən)
- dadəŋ sit by the hearth to recuper-
ate (of women for some time after
childbirth)
- dagiŋ (L) meat
- daləm depth (as of water)
- daləw a quarrel, altercation
pə+daləw to quarrel
d-ən-aləw be on bad terms (?)
- dalid buttress root (cf. akah, amut)
- damay (L?) peace
- dana old, of things (cf. lakəy)
- danaw lake
- dapur (L) kitchen
- da?un leaf
- daway (L) wire
- dawək side, flank; edge
- daya inland, toward the interior
(cf. aju?)
- dəbəy on purpose
siən məŋ+pədiŋ siən dəbəy *He hurt
himself on purpose.* NOTE: possibly
nda + bəy.
- dədian candle (cf. lilin)
- dəkət stick
d-əm-əkət to stick, cause to ad-
here (tr.)

- d-ən-əkət to have been stuck on
pə+dəkət to adhere, stick (intr.)
- dələw
dələw iən they (pl.)
- dən visible
- dəŋah news
- dəpa fathom, measure of outstretched
arms
- dian (see bua?) durian
- dia? good
- diba? beneath, under
bah diba? beneath
- didiŋ wall (of a house)
- dii housepost
- dipa snake
- dipah opposite bank of a river
- dipən slave
- dipih hide
d-əm-ipih to hide, stash away
- diri? self, oneself
- dua₁ two
- dua₂
dua iən they (du.)
- duduh thunder
- dudut pluck (feathers, hair), pull
out (as a post), unsheath
didut to have been plucked, pulled
out by
- duəy thorn
- dug (see baway)
- duga (L?) measure, estimate
d-əm-uga to fathom, measure the
depth of water; (fig.) probe some-
one's mind
d-ən-uga to have been fathomed by
d-əm-uga akəl to measure one's
intelligence
- duhig mythical monster of the for-
est
- dukun Moslem healer (cf. a bayuh)
- G
- gaan (see ga?) where?
- gabər (L) picture
- gaday (L) pawn
g-əm-aday to pawn
g-ən-aday to have been pawned by
- gadiŋ (L) ivory (cf. tariŋ)
- gadun green
g-əm-adun to become green; to make
something green
g-ən-adun to have been made green
by
- gagar kind of raised platform
- gagaw busy
- gahut scratch
g-əm-ahut to scratch
- gajah (L) elephant
- gajil lazy
- galaŋ throw
g-əm-alaŋ to throw
- ga? at (locative and relational),
on; to, toward; for (benefactive)
- ga? buta behind, in back
- ga? dawək beside, at the side
- ga? g+aan where?
- ga? g+iən there (place known to
the hearer, whether near or far,
in view or not)
- ga? g+inan there (place unknown
to the hearer, whether near or far,
in view or not)
- ga? g+itəw here
- ga? jaway in front
- ga'am jaw
- gatuŋ
g-əm-atuŋ hang, suspend
g-ən-atuŋ be hung, suspended by
- gaul (L?) mix (cf. **sapur)
g-əm-auŋ to mix
- gaup blow, blow away (with the
breath)
g-əm-aup to blow, blow away (with
the breath)
g-ən-aup to have been blown, blown
away (by the breath)
- gay how much/how many?
gay an gay how much/how many?
- gaya (L?) way, manner

gayuŋ dipper, water scoop used in
 bathing
 gəga chase away (as a fowl)
 gə-u-ga to chase away
 gə-i-ga to have been chased away
 by
 gəgət gnaw; silverfish, moth
 gə-u-gət to gnaw
 gə-i-gət to have been gnawed by
 gələma scar
 gələgua intestinal worm
 gələŋ bracelet
 gənaŋ (L) open-ended drum about 18"
 long, used by the shaman (cf.
 rəbana)
 gənuk (see bua?) gourd
 gəramah small freshwater crab (cf.
 buyəw)
 gətan failure
 gian (L?) addicted to
 siən gian bə-judi *he is addicted
 to gambling*
 giən (see ga?) there (cf. iən)
 gigit chatter (of the teeth)
 ginan (see ga?) there (cf. inan)
 gitəw (see ga?) here (cf. itəw)
 gua (L?) cave
 guəm abdomen below the navel (cf.
 pa?it)
 gula (L) sugar
 guli (L; see bua?) marble
 gunuŋ (L) mountain
 gupul (L?) gather
 bə+gupul
 gutiŋ (L?) scissors
 g-əm-utiŋ to cut with scissors
 g-ən-utiŋ to have been cut with
 scissors by
 guun jungle, forest
 guun alan virgin forest
 guy look, see
 pə+guy to look, watch
 g-ən-uy to have been watched by

H

hal (L) reason
 hig budge, move something a bit
 h-əm-ig to move (something) a bit
 h-ən-ig to have been moved a bit
 by

I

iap count (cf. ituŋ)
 əm-iap to count
 iaw sound
 ibay buying, buy (cf. bələy)
 əm+ibay to buy
 ida? much, many
 idu? (see ua?) give
 pə+idu? to give
 ən+idu? to have been given by
 iən the, that (thing known to hearer,
 whether near or far, in view or not)
 iəŋ preceding, in front
 igi? take
 pə+igi? to take
 ən+igi? to have been taken by
 ihat stretch oneself
 pə+ihat to stretch oneself
 ii? yes
 ija? (L) spell
 əm+ija? to spell
 ən+ija? to have been spelled by
 ijin (L) engine
 ijuh stretch out the legs (as after
 sitting cross-legged for awhile)
 ikah itch (cf. kumuh kumuh)
 mət+ikah itchy
 ikiw tail (cf. tikiw)
 iluh channel between the roots of
 mangrove trees in a mangrove swamp
 imən raise, rear (an animal)
 pə+imən to raise, rear (an animal)
 inan the, that (thing unknown to
 hearer, whether near or far, in
 view or not)
 inəw (see ua?) what?
 ipa? hunt (animals)

- pə+ipaʔ to hunt (animals)
 ən+ipaʔ to have been hunted by
 (of animals)
- iput coconut husk
- isak cook
 əm+isak to cook
 ən+isak to have been cooked by
 pə+isak to cook (as an occupation)
- isaʔ game
 pə+isaʔ to play
 pə+isaʔ ragaʔ game played with a
 rattan ball which is knocked over
 a net using only the head or feet
- isi (L; Eng. *inch*) ruler; (linear)
 measurement (cf. sukat)
 əm+isi to measure
- isi finger ring
- itəw this
- itik duck (bird)
- ituŋ count (cf. iap)
 əm+ituŋ to count
 ən+ituŋ to have been counted by
- J**
- ja one (cf. satu) NOTE: regarded
 as "old" language.
- jadi (L?) become
- jaja sell, selling
 j-əm-aja to sell
 j-ən-aja to have been sold by
- jalan path (cf. alun alun)
- jalaʔ independent
- jaluŋ flame
 pə+jaluŋ flaming, of a fire
- janak sibling
 janak lay brother
 janak mahəw sister
 janak tadəy younger sibling
 janak tika older sibling
- japan just now, a moment ago
 japan kəna susəw new-born baby
 japan tapaʔ just come/arrived
- jaʔit sew
 j-əm-aʔit to sew
 j-ən-aʔit to have been sewed by
- jatih gibbon
- jatun (L?) heart (cf. nasəŋ)
- jauʔ (L) far
- jaut to flow downward, of a receding
 tide (cf. jujuk)
- jaway face; front
- jəgahaʔ with
 jəgahaʔ say with whom?
- jəgəm and
- jəkan fish
 jəkan bəlusuʔ dolphin, porpoise
 jəkan buluŋ small orange scaly fish
 with barbels - prized as food
 jəkan kəluəŋ shark
 jəkan maləŋ fish resembling tabəy,
 but smaller and lighter in colour
 jəkan məʔən small scaly fish with
 lateral stripe - resembles a carp
 jəkan paus whale
 jəkan tabəy highly prized edible,
 long black scaleless fish that
 resembles an eel
- jəlaʔ tongue
- jəŋələh slip on a slick surface
- ji appearance
 diaʔ ji pleasing to the eye (of
 objects, scenery or people)
- jinih beautiful (of a woman)
- jipəw cousin (FBC, MBC, FZC, MZC)
 jipəw dua lakaw second cousin
- juah give
 pə+juah to give
 j-ən-uah to have been given by
- judi die, dice
 bə+judi to gamble
- jujab hack, chop vegetation (cf.
 supəd) NOTE: possibly jə-u-jab.
- jujuk to flow upward, of a rising
 tide (cf. jaut)
- jujur (L) honest
- juuʔ juice (of fruit), sap (of
 trees); gravy
 juuʔ bəŋuh coconut cream
- K**
- kabiŋ (L) goat

- kabut buttocks, posterior, bottom,
 base
 kahaŋ fishing
 bæ+kahaŋ to go fishing (general
 term)
 kain (L?) cloth, clothes
 kajaŋ roof made of nipa palm fronds
 kalay amount, quantity
 kalay lakaw how many times?
 kan (see ua?) eat
 k-əm-an to eat
 k-in-an to have been eaten by
 kan+ən (see ua?)
 ka+kan feed
 məŋ+ka-kan to feed
 k-ən-a+kan to have been fed by
 kaŋ open
 k-əm-aŋ to open (a door, etc.)
 k-ən-aŋ to have been opened by
 (of a door, etc.)
 kaŋan thick, of materials
 kapas cotton
 kaŋək (L) axe
 kaŋəl (L) ship
 ka(m)puŋ (L) village, settlement
 kapur (L) camphor
 ka? dehortative, don't
 ka?aw you (sg.)
 karam (L?) capsize, sink
 karaŋ (L?) coral reef
 kasaw rafter
 kasut (L?) shoe
 katay stop, as an engine (cf. matay)
 məŋ+katay to stop (e.g. an en-
 gine)
 k-ən-atay to have been stopped
 by (of an engine)
 kaul annual ceremony to ensure a
 good catch of fish the following
 year
 kawit pole with a hook for picking
 fruit
 kayəw wood; tree
 kayəw ara? fig tree
 kayəw bæjagaŋ teak wood
 kayəw tənəjaw rubber tree
 kədəŋ raise, pull up into a standing
 position
 kədəŋ kayəw iən *raise that tree!*
 (pull it up into a standing posi-
 tion)
 pə+kədəŋ to stand (stative and
 active)
 kədua you (du.)
 kəjiwat earthworm
 kəkay rake
 kə-u-kay to rake
 kə-i-kay to have been raked by
 kəkəlat lightning
 kəkəlīt small insectivorous cave bat
 kəkut dug, excavated (cf. kut)
 kə-u-kut to dig
 kə-i-kut to have been dug by; dig
 (polite imperative)
 kəlayəŋ double-headed spear or har-
 poon (cf. tuduk)
 kələmumur dandruff, scaly skin
 kələt rope (cf. taləy)
 kələw you (pl.)
 kəlibuy monitor lizard
 kəluaŋ (see jəkan) shark
 kəman way, direction
 səliŋih kəman itəw jaway nəw *turn
 your face this way*
 kəna (L) be struck, affected by (cf.
 buya?)
 kənaan where?
 NOTE: kən+aan? (cf. gaan)
 kəŋaŋ fear, afraid (cf. ŋaŋ)
 k-ən-əŋaŋ to have been feared by
 kərbaw (L) carabao, water buffalo
 kərəsəŋ wrinkled
 kərja (L) work
 məŋ+kərja to work on s.t.
 k-ən-ərja to have been worked on
 (repaired, etc.) by
 kərna (L) because (cf. səbap)
 kərtih (L) paper

- kətəm (L?) wood plane
 kəw my
 kiap hand fan (cf. kipas aqin)
 məŋ+kiap to wave, beckon to
 k-ən-iaŋ to have been waved/
 beckoned to
 kias mosquito
 kijəŋ the barking deer: *Cervulus*
muntjac (cf. payaw, pəlanuk)
 kikir (L) file, rasp
 kila? flat rectangular winnowing
 basket (cf. niru)
 kipas aqin electric fan (cf. kiap)
 ki? (see a, ua?) other, different
 kiray cigarette made of tobacco
 rolled in the leaves of the nipa
 palm
 kuba
 kuba kalay how much?
 kuba tan how?
 kuduŋ missing, of the fingers
 kudu? sit (cf. tədudu?)
 kudu? diba? sit down (imper.)
 kuhəp crush something hard with
 the molars. NOTE: Anon (1930)
 cites *chew* kuhəp, kihəp, thus
 implying a base **kəhəp. /ə/,
 however, is otherwise unattested
 before /h/, and in this environ-
 ment presumably would become /a/.
 kukuh₁ (see manuk) k.o. bird
 kukuh₂ (L) stable, enduring (as a
 stable marriage); industrious,
 hard working
 kulat fungus, mushroom
 kulit skin; bark; shell
 kulit kayəw bark of a tree
 kulit pəŋu? shell of a turtle
 kuman from
 kumuh kumuh (L) itchy (cf. mikah)
 kuniŋ (L) yellow
 məŋ+kuniŋ to become yellow, ripen
 (as rice); to make something yel-
 low
 k-ən-uniŋ to have been made yellow
 kuŋit (L) turmeric
 kupi (L) coffee
 kurəŋ (L?) lacking
 kurus (L?) thin, of animate beings
 (cf. lipih)
 kusuŋ (L?) empty
 kut dug, excavated (cf. kəkut)
 suŋay kut/kəkut a man-made canal
 kutəw louse
 kuyad small brown long-tailed monkey
 L
 labu? a fall (cf. paha?)
 bə+labu? to fall, of people
 lada chili pepper
 lada sagu? white or black pepper
 lagu (L) song (cf. ŋaŋi)
 bə+lagu to sing
 laju laju (L?) fast (as in running)
 lakaw (see kalay) business, doings;
 walk (cf. makaw)
 inəw lakaw *Why did you come?* (lit.
What business?; very polite form)
 l-ən-akaw to have been walked on
 lakəy old, of people (cf. dana)
 lalak bald
 lalu (L) excessively, too much
 laluŋ (see siaw) cock
 laman cleared area around a house
 or in the centre of a village
 laŋih fat, lard, grease
 laŋit sky
 lapan (L?) eight
 la?əy according to
 lasəy sweat, perspiration
 lasu? hot
 məŋ+lasu? to heat (as over a fire)
 nəŋ+lasu? was heated by
 mə+lasu? burning (as the mouth
 from chili peppers)
 latək to hammer (a nail, etc.)

- lati? mud
- lau
 mə+lau withered
 NOTE: Anon gives mə-laun *withered*
- lautan (L) open sea far from shore
 (cf. daat)
- law day
- lawa showy
 l-əm-awa to show off
- lawas numeral classifier used with
 people
- lawən (L) go against, fight, oppose
 l-əm-awən to go against, fight,
 oppose
- lay male
- layəw (v layu) invitation; invite
 (imper.)
 l-əm-ayəw to invite people to
 one's house
- layah sail
- layan side
 layan ta?əw right side
 layan ulay left side
- layəŋ (L)
 l-əm-ayəŋ float on the wind, as
 an eagle, or a piece of paper
 dropped from a high place
- ləbih (L) surplus, excess
- ləbu? house
 ləbu? səkul school
- ləgah fast, quickly
- ləkəb lid
 ləkəb mata eyelid
- lələŋaw housefly
- ləlu? chase
 l-əm-əlu? to chase, pursue (with
 intent to catch)
- ləmari (L) chest of drawers
- ləmək soft
- ləffəp disappear
- ləŋən arm
- ləpaw hut, shed
- ləpək fold; a fold
- lə-u-pək to fold
 lə-i-pək to have been folded by
- ləpəw pick
 lə-u-pəw to pick
 lə-i-pəw to have been picked by
 l-əm-əpəw to fall without being
 picked (of fruit)
- ləsut to float
- lian time, era, period; during
- liaŋ light (not heavy)
- lia? ginger
- likəw country
 likəw putih England (= *white
 people's country*)
- lilin (L) wax, candle (cf. dadian)
- lima five
- limaw (see bua?) citrus fruit
- liŋ saliva, spit
- liŋa ear
- lipih (L) thin, of materials (cf.
 kurus)
- lisiŋ edge
- litaŋ lay across
 l-əm-itaŋ to lie across
- lubəŋ in, inside
- lukuh hungry
 l-əm-ukuh make someone go hungry
 (as when someone else's children
 are in your house and you give food
 to your children, but not to the
 others)
 pə+lukuh go on a hunger strike
 (one cannot pə+lukuh someone else
 - one can only l-əm-ukuh others)
- lumut moss, lichen
- luŋun coffin (regarded as an old
 word; cf. aga?)
- lu? want, wish
- lu?uy swallow
 l-əm-u?uy to swallow (tr.)
 l-ən-u?uy to have been swallowed
 by
 pə+lu?uy bua? kind of party or
 game in which the seeds of rambu-
 tans are swallowed

luup exhausted

M

maap lose one's way, be lost (as in a forest) NOTE: possibly əm-aap.

mabəy yesterday (cf. abəy)

mabuk drunk

madam decaying, rotten, of flesh (cf. buruk)

mahəw female

makaw walk, go (cf. lakaw)

maləŋ (see jəkan) k.o. fish

malas (L?) lazy

maləd numb, paralysed (of part of the body) NOTE: mə+aləd?

maləm night

maləm itəw tonight

maləm pə+tuduy nuptial night

mama? bad; dirty

mama? bun bad smell

NOTE: possibly mə+ama?. Anon (1930) give mana?

manik (L) bead

manuk bird

manuk baŋaw heron

manuk kukuh small dark blue bird

manuk mayaw kind of hornbill

manuk puyū? quail

maŋa? crack, fissure

mapək blind

NOTE: mə+apək?

məʔən (see jəkan) k.o. fish

məʔih to gasp for breath

NOTE: əm+aʔih?

məʔit sibling-in-law

mara (see saudara)

maraw straight walking stick (cf. tukat)

mas (L) gold

masin salty

NOTE: mə+asin?

mata eye

mata law sun

matay die; dead (cf. katay)

pə+matay to die

siən kərja pə+matay lalu *He works himself to exhaustion ('death')*

mayaw (see manuk) kind of hornbill

məgəw burning (as a house on fire)

NOTE: mə+gəw?

mələw we (pl.excl.)

məlirəŋ (L) sulphur

məmih a bruise, bruised

NOTE: possibly mə+mih

məŋəm tasteless, insipid

NOTE: mə+ŋəm?

məŋəta? pale (from fear or illness)

məsəm sour

NOTE: possibly mə+səm

mətua parent-in-law

mia? shy, ashamed

miaw to lose something (objects)

NOTE: əm+iaw?

mija (L) table

min all

minəw why? (cf. inəw)

minəw tan why?

mua we (du.excl.)

muda? young

mudəy last, behind

mujun lips, mouth (refined expression; cf. bəba?)

mun dew; fog

musuh (L) enemy

N

naka (see bua?) jackfruit

nakən nephew's nephew

nakən anak nephew

nama (L) name (cf. ŋadan)

nana? pus

pə+nana? to suppurate, as a wound

nap fish scale

nar heat

nar apuy heat of the fire

nasəŋ heart; emotions (cf. jatəŋ)

nasɪʔ (L) cooked rice

nay sand

nda no, not

nda bəy ŋam

nda sukup

nəm six

nəw you (sg., agent)

nupəy dream

nuu secondary forest (cf. guun)

N

ŋabuŋ prow (of a boat)

ŋagəm fist, hand (cf. paʔa, agəm)

ŋak fat, grease

mə+ŋak fatty, oily (of taste of food cooked in fat)

ŋam taste

ŋaŋi (L) song (cf. lagu)

bə+ŋaŋi to sing

ŋaʔəm water

ŋat big (but capable of being measured) (cf. ayəŋ)

ŋatan border, boundary

ŋau eagle; kite

ŋawa life

ŋəl blunt, dull

ŋ-əm-əl to make (something) blunt

ŋəŋala light burning ashes carried in the wind from a fire

ŋəŋaʔ chew

ŋə-u-ŋaʔ to chew (something)

ŋə-i-ŋaʔ to have been chewed by; chew (polite imperative)

ŋəŋiəw animal similar to but larger than the flying fox (cf. sələmawaʔ)

ŋipaʔ the nipa palm: *Nipa fruticans*

ŋipən tooth

ŋipən dada incisor

ŋipən puʔun molar

ŋiruʔ (L) round winnowing basket (cf. kilaʔ)

ŋuŋuh melted wax

ŋ-əm-uŋuh melt, become semi-liquid, as wax that has been heated

ŋuʔ oil, varnish

N

ŋadan name (cf. nama)

pə+ŋadan famous, renowned

ŋəŋ fear, afraid (cf. kəŋəŋ)

ŋ-əm-aŋ be afraid of

ŋəŋa funnel-shaped mouth of converging bamboo splints in bubəw fish trap that allows fish to enter but not exit (cf. bubəw)

ŋaʔ already; yet

paday ŋaʔ məŋ+kuniŋ the rice is already ripening (turning yellow)

ŋaʔan knapsack, carrying bag

ŋəŋət chewed up

ŋə-u-ŋət to gnaw, chew on

ŋə-i-ŋət to have been gnawed, chewed on by

ŋus exhale (cf. buut, siŋud)

P

pəəŋ wing

padaŋ non-cultivated field (cf. uma)

padaʔ ask for, request

məŋ+padaʔ to ask for, request

p-ən-adaʔ to have been asked/requested by

paday riceplant, rice in the field

padəm dark (as at night); obscured from view

padət crowded

pagah storage shelf for firewood above the hearth

pagəŋ (L) fence

pahaʔ to fall, of things (cf. labuʔ)

pai stingray

pajəm closed, as the eyes; extinguished, of a fire

mata siən pajəm his/her eyes are closed

məŋ+pajəm mata to close the eyes

- pajəm apuy extinguish a fire
 pajug foot (cf. buduk)
 pak (see bua?) kneecap
 pakan money
 pakan bərian dowry
 pakəw nail (of iron)
 paləy a taboo
 məŋ+paləy forbid
 p-ən-aləy to have been forbidden
 by
 pali? wound, cut
 məŋ+pali? to wound
 p-ən-ali? to have been wounded by
 pan mat
 panah ray (of light)
 panas feeling of anger
 məŋ+panas to make someone angry
 pəŋ+panas
 siən pəŋ+panas nasəŋ *He/she has
 a hot temper*
 paŋu? (L) turtle
 paŋay wind
 papid twins
 paʔa hand (cf. ŋagəm)
 paʔid wipe
 kain paʔid a cloth for wiping
 məŋ+paʔid to wipe
 p-ən-aʔid to have been wiped by
 paʔih fish or meat wrapped in
 leaves and roasted over the fire
 məŋ+paʔih wrap fish or meat in
 leaves and roast over the fire
 paʔit₁ abdomen above the navel (cf.
 guəm)
 paʔit₂ bitterness, bitter
 mə+paʔit bitter
 paraŋ (L?) bush knife, machete
 pat four
 pataŋ lie
 məŋ+pataŋ to lay someone (e.g. a
 child) down
 p-ən-ataŋ to have been laid down
 (as a child)
 pə+pataŋ lie down
 paus (see jəkan) whale
 paut long time (as a year or more;
 cf. tai)
 pay go across
 paya when?
 payaw kind of large deer: *Cervus
 equinus* (cf. kijaŋ, pəlanuk)
 payən fever
 payuŋ (L?) parasol, umbrella
 məŋ+payuŋ to shelter with a para-
 sol or umbrella
 pədəŋ (L?) sword
 pədəw gall, gall bladder
 pədih (L?) painful, sick (cf.
 pəŋakit)
 məŋ+pədih to hurt (something)
 pəlanuk mousedeer (cf. kijaŋ, payaw)
 pələpət firefly
 pəmaləy python
 pənali? purulent skin ulcers
 NOTE: possibly = p-ən-ali?
 pənu? full
 pəŋakit (L) disease (cf. pədih)
 pəŋiŋi glowing ember
 pəŋiŋih (see baʔ)
 pəŋuduŋ (cf. amut) taproot
 pəpah (cf. uaʔ) hit, whip
 ŋ+pə-u-pah to hit, whip
 pə-i-pah to have been hit or
 whipped by
 pəpək anything used for hitting; whip
 ŋ+pə-u-pək/pə-u-pək to hit, whip
 pə-i-pək to have been hit or whip-
 ped by; hit, whip (polite command)
 pəsəy fishhook
 məŋ+pəsəy to fish with line and
 hook
 p-ən-əsəy to have been caught with
 line and hook, of fish
 piaw sound
 pidin (L?) fin of a fish
 pikir (L) thought; think

məŋ+pikir to think about (something)
 pə+pikir think (intr.)

pili? chosen, selected
 buya? pili? *He is chosen, selected*
 məŋ+pili? to choose, select

pipəy cheek

pirək (L) silver

pisəŋ (see bua?) pineapple

pisit squeeze, wring out
 məŋ+pisit squeeze out, knead
 p-ən-isit to have been squeezed, wrung out

pulaw island

puli? return

puluh (L) group of ten (cf. pulu?)
 sə+puluh ten

pulu? group of ten (cf. puluh)
 pulu?+ən ten
 dua pulu? twenty
 tələw pulu? thirty

pulut latex, sticky sap

pupuŋ bunch, cluster (of fruit)

puput spray water from the mouth, blow suddenly, puff; anything spat out (food, etc. mixed with saliva)
 məŋ+puput to spit on (someone or something)
 p-ən-uput/piput to have been spat upon by

pu? nest
 pu? aŋi? beehive

pu?un base; source, origin, beginning; molar (see ŋipən)
 pu?un kayəw base of a tree

pusəd navel
 pusəd ŋa?əm whirlpool

pusək promontory, peak (as of a mountain)
 pusək gunuŋ peak of a mountain

pusiŋ turn the body (cf. səliŋih)

putih (L) (see likəw) white

puyan hearth

puyu? (see manuk) quail

R

rabun basket containing food, scraps of cloth and small flags which is placed on a pole on the beach during the kaul ceremony; the food is meant to attract good spirits, and the cloth to frighten away evil spirits

raga? (L) (see isa?) kind of woven rattan ball

ragi (L) yeast

rajin (L) industrious

rakit approach
 r-əm-akit to approach, draw near one another (of large things, as armies, rafts, etc.)

ra?ut pull
 r-əm-a?ut to pull

rasun (L) poison

rata (L?) smooth, level

ratay (L) chain

ratus (L) group of one hundred

rəbana (L) short open-ended drum (cf. gənaŋ)

rəga (L) price

ribu (L) group of one thousand

rugi (L) loss in business

rukəd distance between joints of the finger (used in measuring)

ruku? (L)
 pə+ruku? to smoke (tobacco)

rusek (L) destroy, destroyed
 r-əm-usək to destroy

S

sabi? ask for

sabit sickle

sabun (L) soap

sabuŋ fight (cocks)
 pə+sabuŋ to fight one another (of cocks)
 məŋ+sabuŋ to pit cocks against one another
 s-ən-abuŋ to have been pitted against one another (of cocks)

- sadar₁ lean against
- sadar₂ (L) lean against
 məŋ+sadar to lean against
 s-ən-sadar to have been leaned against
- sagu[?]₁ (L) sago balls, balls of cooked sago flour
- sagu[?]₂ (see lada)
- sak₁ put, place
 s-əm-ak to put or place
- sak₂ red
- sakay friend, companion
- sakul (L) hoe
- sala[?] wrong, in error
- salih (see ba[?]ay) ebb tide
- saluy (ʌ aluy) boat
- sama one another (reciprocal)
 pə+bənu[?] sama ləw iən *They killed one another*
- samay scatter, strew (as seeds in sowing)
- sapaw roof, thatch
 sapaw da[?]un palm thatch roofing
- sapəw broom
 məŋ+sapəw to sweep
 s-ən-apəw to have been swept by
- sapur (L) mix (cf. gaul)
 məŋ+sapur to mix
- satu (L) one (cf. ja)
- sauh (L) anchor
- sawa spouse
 sawa lay husband
 sawa mahəw wife
 s-ən-awa to have been married to
 pə+sawa marriage
- say₁ blossom; numeral classifier for flowers
 s-əm-ay to bloom, open up (of a bud)
- say₂ sago flour
- say₃ who?
- sə₁ marker of personal names
 sə Nawi k-əm-an nasi[?] *Nawi is eating rice*
- sə-₂ (L) one (clitic used only with puluh, bəlas, ratus, ribu)
- səbap (L) because (cf. kərna)
- səbəlum (L) before
- səbət way or manner of making
 sə-u-bət to make
 sə-i-əbət to have been made by; make (imper.)
- səbut₁ bite
 sə-u-but to bite
 sə-i-but to have been bitten by
- səbut₂ (L) mention
 məŋ+səbut to mention
- səga[?] near
- sək grass
- səkəl strangle
 sə-u-kəl to strangle
 sə-i-kəl to have been strangled by
- səkət limit
- səkul (L) (see ləbu[?]) school
- sələg burn
 sə-u-ləg to burn
 sə-i-ləg to have been burned by
- sələlən mirror
- sələmatək large jungle leech
- sələmawa[?] fruit bat, flying fox (cf. fəfiəw)
- sələŋan diving out of necessity (cf. tələŋ)
 pə+sələŋan dive out of necessity, as a cornered animal that leaps for life
- sələŋatip scorpion
- səlīŋih turn the head (cf. pusīŋ)
 pə+səlīŋih
- səludan gutter
- səlūəh (L) trousers
- səmaka[?] (see bua[?]) watermelon
- səmilan (L?) nine
- səmua (L) all
- səmunih tomorrow
- sənapaŋ (L) gun

- sənəŋ stare
 məŋ+sənəŋ to stare at
 s-ən-ənəŋ to have been stared at by
- səpa? betel quid
- səpəd hack, chop (anything) (cf. jujab)
 sə-u-pəd to hack, chop
 sə-i-pəd to have been hacked, chopped
- səput blowpipe
 sə-u-put to shoot with a blowpipe
 sə-i-put to have been shot with a blowpipe
- səruru? a joke
 məŋ+səruru? to mock, tease
- səsəŋ pay (cf. bayar)
 sə-u-səŋ to pay
 sə-i-səŋ to have been paid by
- səsəd immerse, submerge something in the water (as a bottle to be filled)
- səsəl regret
- səsəŋ a dam
- səsəp sipping, sucking
 məŋ+sə-u-səp/sə-u-səp to sip, suck
 sə-i-səp to have been sipped or sucked by
 NOTE: **s-ən-əsəp
- səw grandchild
 səw sikəw great grandchild
- səy₁ flesh (cf. məsəy)
 mə+səy fat, obese
- səy₂ sago flour when still wet
- sia salt
- siaw chicken; cock
 siaw laləŋ cock
 siaw sabuŋ fighting cock
 pə+sabuŋ cockfight
- sidi? a slice
- siduk spoon
- siən he/she/it; his/her/its
- sikəw₁ elbow
- sikəw₂ (see səw) great grandchild
- sila? cross (the legs, in sitting cross-legged)
 pə+sila? sit cross-legged
- siləw claw; fingernail, toenail
- siliŋ fly, sail (as a paper aeroplane)
 pə+siliŋ to fly
 siliŋ bilun kərtih *Sail the paper aeroplane*
 siliŋ ŋəu iən *Let the eagle fly (away)*
- sini? urine
 pə+sini? to urinate
- siŋ cat
- siŋud inhale (cf. buut, ŋus)
- siŋuəh
 məŋ+siŋuəh
 məŋ+siŋuəh nəsəŋ to cool the emotions
 s-ən-iŋuəh to have been cooled or chilled
- sipa? branch, fork
 sipa? suŋay branch of a river
- si?ət sago grub
- sisiŋ drip, let drip
 pə+sisiŋ to drip
- subit tear to pieces (cloth, paper, tree bark)
- subuŋ (L?) proud, arrogant
- sug continue
 s-əm-ug to continue
- suka (L?) to like, enjoy
- sukat (L?) measurement (cf. isi)
 məŋ+sukat to measure
- sukun (see bua?) breadfruit
- sukup (L) enough
- sulin (L) flute
- sulud comb
- sumit moustache
- suŋay (L?) canal, small stream (cf. bəŋai)
- su?un carrying on the shoulder
 məŋ+su?un carry on the shoulder

- s-ən-uʔun to have been carried on the shoulder
 pə+suʔun to carry wood (habitually, as an occupation)
- surat (L) letter
- sus steam
- susah (L) hard, difficult
- susaʔ process of making iron tools, blacksmithing
 NOTE: possibly s -u-saʔ
- susəw breast, milk
- susud follow someone (who may or may not know he is being followed)
- susuh ask someone to leave a place
- susup lungs
- susur (L) cake made of bananas and flour
- suud line on a fruit (e.g. durian), marking the internal sections; also mark made by anything moving or being dragged on the ground (snake, log, etc.)
- suy let slip or slide down (cf. tələsuy)
- ‡
- taas hardwood tree, the belian
- taban seize, grasp, hold (cf. tabik)
 pə+taban hold on to something
- tabəy (see jəkan) k.o. fish
- tabih chewed betel and sirih used as medicine (spat on the abdomen of sick children, but generally not used for adults)
- tabik reach for (cf. taban)
 məŋ+tabik to reach for
 t-ən-abik to have been reached for
 pə+tabik be hanging by the arms
- tabir (L) curtain
- tabuk trigger of a trap
- tabun a cover, lid
 məŋ+tabun to cover
 t-ən-abun to have been covered by
- tadaʔ dance
 pə+tadaʔ to dance
- tadəy younger sibling (cf. janak, tika)
- tai long time (as several hours; cf. paut)
- tain (L) unit of measurement for grains, etc.
- taji (L) cockspur
- tajuh needle
- takup lid, cover
 məŋ+takup to cover
 t-ən-akup to have been covered by
- taləy string, rope (general term; cf. kələt)
- tama father
- tan (see kuba, minəw) how?, why?
 tan aan how?
- tanaʔ earth, soil
- taŋih a cry; cry
 məŋ+taŋih to weep, cry
 t-ən-aŋih to have been wept over by
- tap sole of the foot, palm of the hand
- tapaʔ arrive at, visit
 məŋ+tapapaʔ to visit
 t-ən-apaʔ to have been visited by
- taʔ brand new, just produced (of things) (cf. baʔəw); raw, unripe
- taʔah loud, resounding
 məŋ+taʔah to hear
 t-ən-aʔah to have been heard, listened to by
 pə+taʔah to listen to (in future constructions)
- taʔaŋ handspan (tip of outstretched index finger to tip of outstretched thumb)
- taʔəw₁ know
- taʔəw₂ (see layan) right (side)
- taʔəy faeces, excrement
- taʔun year
- tariŋ (L) tusk (cf. gadiŋ)
 tariŋ gajah elephant tusk
- tatag repair
 məŋ+tatag to repair
 t-ən-atag to have been repaired by

- tatah₁ present part of one's body that is to be affected by something (as the arm for an injection), leave oneself open in a fight
- tatah₂ to hit, punch, strike
- tawar₁ (L) bargain, haggle
mən+tawar to bargain, haggle
- tawar₂ (L) give medicine to
mən+tawar give medicine to cure something; done by the dukun (Moslem healer) or a bayuh (Pagan healer)
pən+tawar antidote
- təbaa a well
- təbək stab, stabbing
tə-u-bək to stab
t-ən-əbək/tə-i-bək to have been stabbed by
- təbən fell (a tree)
tə-u-bən to fell (a tree)
tə-i-bən to have been felled (of a tree)
- təbəw sugarcane
- təbiŋ bank of a river
- təbusəw aunt (FZ, MZ, FBW, MBW)
- tədiŋ (see bulu?) kind of bamboo
- tədudu? fall down into a sitting position, as when one's knees buckle and one falls to the floor (cf. kudu?) NOTE: possibly /tərah dudu?/, with sporadic compression of the first morpheme. If dudu? and kudu? contain the same morpheme the difference of initial consonants is unexplained.
- təgaliŋ long tail feathers of a rooster
- tək piece made by cutting (cf. tətək)
- təlabaw speech, language; advice
- tələkin prop; stick, etc. used as a prop
- tələŋ diving for fun (cf. sələŋan)
pətələŋ dive in the water for fun, as when bathing
- tələsuy slip, slide (cf. suy)
- tələw₁ three
- tələw₂ we (pl.incl.)
- tələuh egg
pətələuh to lay an egg
- təmək push something heavy
pətəmək knock against the riverbank, as a raft forced out of control by a strong current
- tənakaw person (cf. bənesia, tənawan)
- tənawan person, human being (cf. bənesia, tənakaw)
- tənəjaw (see kayəw) rubber tree
- təŋəd hard palate
- təŋu? neck
- təŋu?uh groan, groaning
- təpuŋ flour, meal
- tərah do unintentionally, by accident (cf. buya?)
tərah kan eat by accident
tərah səbut mention inadvertently
- tərupa? sandals
- tətədəw caterpillar
- tətawa to laugh
t-ən-ətawa to have been laughed at by
- tətək cut (cf. tək)
tə-u-tək to cut
tə-i-tək to have been cut by
- tətəŋ drinking
mən+tətəŋ/tə-u-təŋ to drink
t-ən-ətəŋ/tə-i-təŋ to have been drunk by
- tətəuŋ porcupine
- tidan payment, prize
- tigah straight
- tijun point out, indicate
mən+tijun to point out, indicate
t-ən-ijun to have been pointed out, indicated by
- tika elder sibling (cf. janak, tadəy)
- tikaw theft
mən+tikaw to steal

- t-ən-ikaw to have been stolen by
 tikiw tail (cf. ikiw)
 tiləm (L) mattress
 timah (L) lead (metal)
 timan praise
 məŋ+timan to praise
 t-ən-iman to have been praised by
 timək shoot
 məŋ+timək to shoot
 t-ən-imək to have been shot by
 timun (see bua?) cucumber
 tina mother; female (of animals)
 tina tama parents
 tip thirsty
 tipəw grandparent, ancestor
 tipəw əyəŋ great grandparent
 tiʔəŋ graveyard
 titik speck, dot
 tua we (du.incl.)
 tuab a yawn
 pə+tuab to yawn
 tuad go somewhere
 tuad kənan kaʔaw Where are you
 going?
 tuah (L) luck, fortune
 tuak (L) rice wine (bought from
 the Ibans)
 tua? uncle (FB, MB, FZH, MZH);
 headman, leader
 tua? ka(m)puŋ village leader
 tuba a plant: *Derris elliptica*
 tubih waste time joking and gossip-
 ing
 pə+tubih to waste time joking
 and jossipping
 tubu? grow, sprout
 tud bend, bent
 tud isi iən bend that ruler!
 t-əm-ud to bend (a stick, etc.)
 t-ən-ud to have been bent by
 pə+tud be naturally bent (agent
 unspecified)
 tuduk single-pronged spear or har-
 poon (cf. kəlayəŋ)
- tuduy sleep
 məŋ+tuduy to put someone (as a
 child) to sleep
 t-ən-uduy to have been put to
 sleep by
 pə+tuduy (see maləm)
 tug ball of the heel
 tugun smoke
 tuh arrange, put in order (cf. atur)
 t-əm-uh to arrange, put in order
 tuju?₁ finger
 tuju?₂ (L) seven
 tukat (L) walking stick with a crook
 at the end (cf. maraw)
 tukəd climbing
 tukul hammer
 tulak push
 məŋ+tulak to push
 t-ən-ulak to have been pushed by
 tuləŋ bone
 tuləŋ bagəy collarbone
 tuləy tree resin, dammar
 tuli? deaf
 tuluy help
 məŋ+tuluy to help
 t-ən-uluy to have been helped by
 tupuk heap, pile
 tuʔu true, correct
 tutuk knock, as with the knuckles
 tuun swim
- U
 uaŋ dry
 ua? object, thing
 ua? asək clothes
 ua? idu? gift
 ua? iən that thing
 ua? inəw what?
 ua? jaja merchandise
 ua? kahaŋ fishing gear
 ua? kan food (ordinary food; cp.
 ua? kan+ən)
 ua? kan+ən special food (one's
 favourite food; cp. ua? kan
 ua? kəkut (someone's) digging

uaʔ kiʔ other
 uaʔ pəpəh a whip, anything used
 for hitting

uat vein, tendon

uay rattan

uban grey, of hair; grey hair

ubəy k.o. tuber
 ubəy baduŋ cassava

ucapan (L) speech

ud headwaters of a river

udaŋ lobster

udip life
 əm+udip to live
 tə+udip living, alive

uduŋ nose

udut dandruff, scurf

ujan rain

ujiʔ knife

ukum (L) law

ukur₁ (L) measure the length
 məŋ+ukur to measure the length
 of something

ukur₂ (L) shave
 məŋ+ukur to shave

ulay (see layan) left (side)

uləd maggot, caterpillar

uləw head

ulin rudder
 əm+ulin to steer
 ən+ulin to have been steered by

ulun slave, servant

ulur (L) pay out rope

uma cultivated field (cf. padaŋ)
 uma paday rice field
 pə+uma to farm, cultivate

umiʔ small (cf. umit)
 bəy j+umiʔ (= ja umiʔ?) a few, a
 little

umit small (cf. umiʔ)
 bəy j+umit (= ja umit?) a few, a
 little

un only, just

buəʔ iən b-əm-aat ŋəʔan un the
 fruit just makes the knapsack heavy
 (could be said as advice to a
 traveller not to take unnecessary
 fruit)

upan bait

upat to swell, swollen

upuk wash
 əm-upuk to wash
 ən-upuk to have been washed by
 pə+upuk to wash (as an occupation)

uʔəm soak
 əm+uʔəm to soak
 ən-uʔəm to have been soaked by

uras dust?

usah numeral classifier used with
 trees
 usah badan body

usuk chest (anat.)

utap shield

utaʔ vomit (n.)
 pə+utaʔ to vomit (involuntary)
 ən+utaʔ to have been vomited up
 by

utək brain
 utək tulaŋ marrow

utuŋ end, tip

uug rub, scrub
 əm+uug to rub, scrub
 ən+uug to have been rubbed, scrub-
 bed by
 pə+uug to rub, scrape (uninten-
 tional or habitual action)
 səluəh siən pə+uug baw asuʔ *His
 trousers scraped (dragged) on the
 floor (because they were too long)*
 akəw kərja pə+uug təpuŋ *I work as
 a (sago) flour sifter*

W

wəŋi (L) fragrant

warih (L) relative

wərna (L) colour

wud shin

wuŋ rapids in a river