

PHONEMES OF SABAH MURUT

1. TERMINOLOGY

The definitions of various terms used in this article are given here.

A *phonemic syllable* consists of a vowel and any consonant preceding it within the word, together with any consonant following it which precedes either a word-boundary or another consonant.

A *free morpheme* is a stressed, usually disyllabic morpheme which can be uttered in isolation.

A *bound morpheme* or *affix* is an unstressed, usually monosyllabic morpheme which cannot be uttered in isolation and is always attached to a free morpheme.

Intermediate between free morphemes and affixes are *clitics*, unstressed, usually monosyllabic morphemes which cannot be uttered in isolation, but which, for different phonological or syntactical reasons, cannot be considered as affixes.

A *word* is an utterance consisting of one free morpheme and any affixes attached to it.

A *phrase* is an utterance bounded by two phrase-junctures or higher-ranking terminals, containing a single strong stress.

A *clause* consists of a phrase or a group of phrases which is preceded and followed either by silence or by a clause-terminal.

An *utterance* is a word, phrase or clause followed and preceded by silence.

An *affix-boundary* is that between an affix and a free morpheme.

A *word-boundary* is that between two words or a word and a clitic.

A *phrase-boundary* is that between two phrases.

2. NON-SEGMENTAL PHONEMES

The non-segmental phonemes of the Timugon dialect of Sabah Murut consist of one phrase-juncture /+/, four clause-terminals /↓ ↘ ↗ →/, and three pitches /1 2 3/.

2.1. Stress

Stress appears to be non-phonemic in Timugon, as its occurrence is always, with very few exceptions (see 3.33), predictable from the word- and phrase-structure. No minimal pairs have been found in which differences in stress are not accompanied by phonemic differences. Thus, in the pair: /taŋkuŋ/ [t̄^ˆɑŋk̄^ˆuŋ] "a stringed musical instrument" and /taŋkuuŋ/ [t̄^ˆɑŋk̄^ˆú:ŋ] "hunchback", the difference in stress-position is accompanied by a phonemic distinction in vowel-quantity. Likewise the difference in degree of stress in the pair in 2.12 is accompanied by a phonemic distinction in juncture.

The three recognisable degrees of stress are distributed as follows:

2.11. Strong stress

Strong stress (marked by ^ˆ) occurs on the penultimate syllable of the word (see also 3.41.2):

/mamatoy/ [m̄^ˆm̄^ˆat̄^ˆöy] "will kill"; /potoyon/ [p̄^ˆót̄^ˆöyó:n] "will be killed"

2.12. Weak stress

Weak stress (marked by [˘]) -

(1) occurs on the first syllable of the word when it is separated from the strong stress by two or more syllables:

/pamamagambad/ [p̄[˘]ám̄^ˆám̄^ˆgám̄^ˆb̄^ˆaɾ] "camera"

(2) replaces strong stress in a word which is subordinate to another within a phrase:

/mapulak abuk/ [m̄^ˆp̄^ˆúlak̄^ˆábuk̄^ˆ] "(the) white-haired (one)"
 /mapulak abuk/ [m̄^ˆp̄^ˆúlak̄^ˆ+ábuk̄^ˆ] "(the) hair is white"

2.13. Unstress

Any syllable not covered in 2.11 and 2.12 carries no stress and is unmarked.

2.2. Phrase-juncture

Between every pair of phrases within the clause there occurs a phonemic phrase-juncture /+/, which is manifested as a slight pause in the flow of speech.

2.3. Clause-terminals

Clause-terminals are manifested as a change in the volume and pitch of the voice on the last syllable of the clause, followed by a pause in the flow of speech or by a cessation of speech. There appear to be four clause-terminals in Timugon:

/↓/ *dropping*: a rapid lowering of pitch and sudden decrease in volume.

/↘/ *sliding*: a gradual lowering of pitch and decrease in volume.

/↑/ *rising*: a rapid rise in pitch and sudden decrease in volume.

/→/ *level*: a sustention of pitch and gradual decrease in volume.

Examples:

/aku↓/ "me!" the normal form of the pronoun indicating 'speaker' when spoken in isolation.

/aku↘/ "me!" used when repeating something that has not been heard.

/aku↑/ "me?" used in asking questions in the absence of an interrogative morpheme.

/aku→/ "me..." indicates that the utterance is incomplete, as in the introduction of the topic of a forthcoming statement, or in enumeration.

2.4. Pitch

There are three phonemic pitch-levels in Timugon. Pitch /2/ is the pitch of the normal speaking voice and is called 'mid'. It is used as the standard for determining the other

itches: pitch /1/ which is lower, and pitch /3/ which is higher.

3. SEGMENTAL PHONEMES

The segmental phonemes of the Timugon dialect are nineteen in number, comprising thirteen consonants /p t k ʔ b d g m n ŋ s j l/, two semi-consonants /y w/, and four vowels /i u o a/. Table I illustrates the segmental phoneme inventory:

			C O N T O I D S				V O C O I D S		
			<i>Bi-labial</i>	<i>Al-veolar</i>	<i>Velar</i>	<i>Glottal</i>	<i>Front</i>	<i>Central</i>	<i>Back</i>
C O N S O N A N T S	<i>Stop</i>	vl.	p	t	k	ʔ			
		vd.	b	d	g				
	<i>Nasal</i>	vd.	m	n	ŋ				
	<i>Fricative</i>	vl.		s					
	<i>Affricate</i>	vd.		j					
	<i>Lateral</i>	vd.		l					
SEMI-CONSONANTS		vd.					y		w
V O W E L S	<i>High</i>						i		u
	<i>Non-high</i>	<i>Mid</i>						o	
		<i>Low</i>						a	

TABLE I

3.1. Phonemes and allophones

The following lists give -

- (1) the phoneme, enclosed in solidi (/ /);
- (2) its allophone or allophones, enclosed in brackets ([]);
- (3) a phonetic description of the allophone(s);
- (4) a statement of the distribution of the allophones if

there are more than one, and

(5) illustrative examples.

3.11. Consonants

- /p/ [p̄] voiceless bilabial unaspirated stop (released); before vowels and clause-initially; /palad/ [p̄álar̄], "palm of the hand", /maɣalap aku/ [máɣálap̄ák̄u] "I will take".
- [p°] voiceless bilabial unaspirated stop (unreleased); before consonants and clause-finally; /maɣalap takaw/ [máɣálap°t̄ák̄áw] "we will take".
- /t/ [t̄] voiceless alveolar unaspirated stop (released); before vowels and clause-initially; /atan/ [át̄an] "what?"; /malaat ilo/ [málá:t̄íló] "they are bad".
- [t°] voiceless alveolar unaspirated stop (unreleased); before consonants and clause-finally; /malaat dalan-ti/ [málá:t°d̄álant̄i] "the road is bad".
- /k/ [k̄] voiceless velar unaspirated stop (released); before vowels and clause-initially; /aku/ [ák̄u] "I"; /nampalakak i tunu/ [namp̄á-lák̄-ak̄-it̄únu] "Tunu burst out laughing".
- [k°] voiceless velar unaspirated stop (unreleased); before consonants and clause-finally; /nampalakak duandu?-i/ [namp̄á-lák̄-ak̄-d̄úánd̄-u?i] "the woman burst out laughing".
- /b/ [b̄] voiced bilabial unaspirated stop; after consonants (except /d, g, ?/) and clause-initially; /mambala?/ [mamb̄á-lá?] "will inform", /mapisok baloy-ti/ [máp̄ísok°+b̄á-löyt̄i] "the house is cramped".
- [b] voiced bilabial fricative; after vowels, semi-consonants and /d, g, ?/, and clause-finally; /nakabala?/ [nák̄áb̄á-lá?] "has informed", /mapisok toojo baloy-ti/ [máp̄ísok°t̄ò:ǰò-+b̄á-löyt̄i] "the house is really cramped".

- /d/ [d^h] voiced alveolar unaspirated stop; after consonants (except /b, g, ʔ/) and clause-initially; /anak di tunu/ [á^hnak^o+d^hit^húnu] "Tunu's child", /indagu/ [ind^hágu] "speak!".
- [ř] voiced alveolar flap; after vowels, semi-consonants and /b, g, ʔ/, and clause-finally; /ama^h di tunu/ [ámá^h+řit^húnu] "Tunu's father", /maṇudad/ [máṇúřař] "will scrub".
- /g/ [g^h] voiced velar unaspirated stop; after consonants (except /b, d, ʔ/) and clause-initially; /lumonḡo^h/ [lumónḡ^hó^h] "will cease", /molondom giti/ [móló^h-nd^hó^h-m+g^hít^hil] "it's dark here".
- [g] voiced velar fricative; after vowels, semi-consonants and /b, d, ʔ/, and clause-finally; /abag/ [áb^hag] "loincloth", /moonsoy giti/ [mó^h:nsöy+gít^hil] "it's good here".
- /ʔ/ [ʔ] voiceless glottal unaspirated stop; /inumo^h gitio/ [inúmó^h +gít^híó] "drink this!".
- /m/ [m] voiced bilabial nasal; /monḡoy/ [mónḡöy] "will go", /maṇinum/ [máṇínU+m] "will drink", /ama^h/ [ámá^h] "father".
- /n/ [n] voiced alveolar nasal; /natok/ [nát^hok^o] "raw sago"; /ina^h?/ [íná^h?] "mother", /inumon/ [inúmó^h-n] "will be drunk".
- /ŋ/ [ŋ] voiced velar nasal; /apat ḡaulun/ [áp^h-at^o ḡá^hilU+n] "four people", /buṇaṇaṇ/ [b^h-uṇáṇaṇ] "dumb".
- /s/ [s] voiceless alveolar grooved fricative; /sodoy/ [sóřöy] "remain", /maasa^h/ [má:sá^h?] "wet", /moonos/ [mó^h:nó^h-s] "musty, stale".
- /j/ [j] voiced alveopalatal grooved affricate; /majajow/ [májájow] "will be disturbed".
- /l/ [l] voiced alveolar lateral; /lumata^h/ [lumát^há^h?] "will split", /baloy/ [b^h-álöy] "house",

/kakabil/ [k̄ ak̄ ábil] "paddle".

NOTE: When one of the phonemes /b, d, g/ occurs adjacent to an identical phoneme, either on both sides of a morpheme- or word-boundary, or because of elision of an intervening vowel (see 3.42.2), both phonemes may be pronounced as a prolonged or doubled stop, i.e. as [b: or bb], [d: or dd] and [g: or gg] respectively. For example, /maṅudad da sulig/ "will scrub the floor" may be pronounced [máṅúřař + řásúli + g] or [máṅúřad + dasúli + g]; /gitio didun/ "this is yours" may be pronounced [ḡít̄=íó+řiřU + n] or [ḡ=ít̄=íó+d:U + n]; /magagabu?/ "will fight each other (three or more people)" may be pronounced [mágágábu?] or [máḡ:ábu?].

3.12. Semi-consonants

- /y/ [y] voiced high front unrounded consonantal vocoid;
 /yawo/ [yáwó] "impervious to pain", /magambay-oy/ [mágamb̄=áyöy] "bullock".
- /w/ [w] voiced high back rounded consonantal vocoid;
 /moowow/ [mó:wow] "smelly".

3.13. Vowels

- /i/ [I+] voiced lower-high front centralised unrounded vocoid; in closed syllables, before velar consonants and /ʔ/; /iṅgonom/ [I + ṅḡ=ónó + m] "six times", /palig/ [p̄=áli + g] "poison for poison for blowpipe-darts".
- [ĩ] voiced high front unrounded non-syllabic vocoid; for distribution see 3.41 2; /maniol/ [mánĩó + l] "clear", /pai?/ [p̄=áĩ?] "don't"; /gitio/ [ḡ=ít̄=íó] "this".
- [i] voiced high front unrounded vocoid; occurs in any situation not covered above; /igondo?/ [iḡó + nd̄=ó?] "once", /palit/ [p̄=álit̄] "substitute".
- /u/ [U+] voiced lower-high back centralised rounded vocoid; before bilabial and alveolar consonants in closed syllables; /maguyum/ [mágúyU + m] "will look for", /maalud/ [má:lU + ř] "far, distant".

- [ũ] voiced high back rounded non-syllabic vocoid; for distribution see 3.41.2; /maduol/ [mãřũ¹l] "painful", /pauʔ/ [p¹ãũʔ] "wild mango".
- [u] voiced high back rounded vocoid; occurs in any situation not covered above; /uyumoʔ/ [uyũm¹oʔ] "look for (it)!", /taluʔ/ [t¹ãluʔ] "egg".
- /o/ [o] voiced higher-mid back rounded vocoid; before /w/ in closed syllables; /bolow/ [b¹ól¹w] "blind man".
- [ö] voiced lower-mid front rounded vocoid; before /y/ in closed syllables; /baloy/ [b¹ál¹öy] "house".
- [o] voiced lower-mid back rounded vocoid; before velar consonants in closed syllables; /limog/ [lí¹m¹og] "dew", /koŋkoŋ/ [k¹óŋk¹oŋ] "tautness".
- [ɔ̄] voiced lower-mid central fronted half-rounded vocoid; before bilabial and alveolar consonants in closed syllables; /onom/ [ón¹ōm] "six", /maduol/ [mãřũ¹l] "painful".
- [ɔ̄] voiced lower-mid central half-rounded vocoid; occurs in any situation not covered above; /limo/ [lí¹m¹ō] "five", /kologoʔ/ [k¹ól¹ó¹g¹oʔ] "chop (it) up!".
- /a/ [a] voiced low front unrounded vocoid; before bilabial and alveolar consonants in closed syllables; /maŋandoy/ [mãŋánd¹öy] "will work", /iŋgalan/ [I¹ŋg¹ãlan] "name".
- [a] voiced low back unrounded vocoid; before velar consonants in closed syllables; /abag/ [ãb¹ag] "loincloth"; /maŋkayaŋ/ [maŋk¹ãyaŋ] "will carry in both hands".
- [ã] voiced low central unrounded vocoid; occurs in any situation not covered above; /nakabalaʔ/ [nãk¹ãbãláʔ] "has informed".
- [æ] voiced higher-low front unrounded vocoid; in free variation with [ã] before /i/ and /y/; /daiti/ [d¹ãít¹i] or [d¹ãít¹i] "just now"; /baŋkay/ [b¹ãŋk¹æy] or [b¹ãŋk¹ãy] "corpse".

[ɔ] voiced higher-low back half-rounded vowel; in free variation with [ǎ] before /u/ and /w/; /pau?/ [p̄bũ?] or [p̄áũ?] "wild mango", /magalaw/ [máǵálpw] or [máǵálpw] "will commit adultery".

3.2. Minimal pairs

The phonemic status of various suspicious segments is confirmed by the following minimal pairs:

- /p/ vs /b/: /bolos/ "voice" and /polos/ "end, destination".
- /t/ vs /d/: /titi?/ "breast" and /didi?/ "act of boiling".
- /k/ vs /g/: /kolok/ "cough (n.)" and /golok/ "shout (n.)" and /kolog/ "act of chopping wood".
- /m/ vs /n/ vs /ŋ/: /mamili?/ "will choose", /manili?/ "will winnow" and /maŋili?/ "will try, taste".
- /d/ vs /j/: /mida?/ "will borrow" and /mija?/ "table"; /napandak/ "broken (limb)" and /napanjak/ "trodden on".
- /d/ vs /l/: /daŋa?/ "act of falling backwards" and /laŋa?/ "flying lemur"; /modondom/ "early" and /molondom/ "dark".
- /s/ vs /j/: /sosokon/ "will be stalked" and /jojokon/ "will be pushed down".
- /ʔ/ vs /k/: /ata?/ "vagina" and /atak/ "hammer".
- /-v/ vs /-vʔ/: /bulu/ "feather, body-hair" and /bulu?/ "bamboo".
- /o/ vs /a/: /takow/ "act of stealing", /takaw/ "first person plural inclusive pronoun (possessive and unemphatic subject)" and /tokow/ "complex pronoun combining second person singular (subject) and first person singular (possessive)".
- /o/ vs /u/: /koŋkoŋ/ "tautness" and /kuŋkuŋ/ "skin".

/i/ vs /y/ and /u/ vs /w/: no strictly minimal pairs have yet been found for these phonemes. The following non-minimal pairs have, however, been discovered: for /u/ vs /w/, /kəuot/ [kǎũót°] "married (woman)" and /bəkəwot/ [bǎqkǎwót°] "fruit-bat"; for /i/ vs /y/, /kadui/ [kǎrui] "porcupine" and /kanuy/ [kǎnuy] "eagle, hawk", /nakaiəŋ/ [nǎkǎiəŋ] "has weeded" and /nakayaŋ/ [nǎkǎyaŋ] "held in both hands". If, as the writer thinks, stress is non-phonemic in Timugon, the last pair of words is in fact a minimal pair. Even in the absence of minimal pairs, however, the syllable and morpheme-structure of the language demands that /i/ and /y/, /u/ and /w/ be treated as distinct phonemes (see 3.3. following).

3.3. Structure

3.31. Syllable structure

As stated in 1., a phonemic syllable consists of a vowel (V) and any consonant (C) preceding it within the word, together with any consonant following it which precedes either a word-boundary or another consonant. Thus, two adjacent consonants always belong to separate syllables. The potential syllable structures are therefore:

- V: /a-ma/ "father", /ba-a/ "embers", /i-o/ "third person pronoun singular (subject)"
 VC: /da-iŋ/ "betel-vine", /iŋ-ga-ad/ "approach!"
 CV: /ba-tu/ "stone", /ka-lo/ "no, not"
 CVC: /baŋ-kay/ "corpse", /pom-pod/ "point, tip"

3.32. Morpheme structure

With the exception of certain particles, all free morphemes contain two phonemic syllables or are derivable from a disyllabic form. It should be noted that phonemic syllables are not always commensurate with phonetic syllables. When two vowels are adjacent (whether within the morpheme or separated by a morphological boundary), they usually constitute a single phonetic syllable, having a single peak of sonority and pronounced with a single breath-pulse. This phenomenon is described in full in 3.41.2. The structure of Timugon free morphemes can be summarised as (C)V([N]C)V(C), in which V = vowel, C = consonant or semi-consonant, and

N = homorganic nasal consonant. This formula produces the following twelve structures, of which VCVC and CVCVC are the most common:

- VV: /io/ "third person pronoun singular (subject)",
/ai/ "eh?, pardon?"
- VVC: /uat/ "vein", /aak/ "act of pulling by the hand"
- CVV: /duo/ "two", /paa/ "thigh"
- VCV: /aku/ "first person pronoun singular (subject)",
/iti/ "this"
- VNCV: /ampu/ "leopard-cat", /onto/ "smell of burnt rice"
- CVVC: /kiin/ "edge", /puok/ "owl"
- VCVC: /adu?/ "grandmother", /ilon/ "look!"
- CVCV: /talu/ "three", /tawa/ "I don't know"
- VNCVC: /ambay/ "mistress, concubine", /ompon/ "obstruction"
- CVNCV: /punsu/ "anthill", /lumbu/ "coconut-shell vessel"
- CVCVC: /sulig/ "floor", /busak/ "flower"
- CVNCVC: /ban/kay/ "corpse", /pom/pod/ "point, tip"

3.33. Irregularities

3.33.1. Irregular stress

A few words, particularly those ending in /-aCa?/, are stressed on the last syllable: /kagá?/ "very", /madadá?/ "dislike", and /masagá?/ "wish" (but cf. /paláka?/ "leprosy", /babáda?/ "shadow" and /mamága?/ "will squeeze").

3.33.2. Irregular structure

There are some morphemes which have three or more syllables and appear to contain no derivational affixes. A few of them are identifiable as loan-words. /aibun/ "kind of fishtrap", /ambiluo/ "soul", /sukapu/ "step-child", /usoso/ "disturbing noise", /kodojo/ "work" (from Malay *kerja*).

3.4. Structural limitations

3.41. Vowels

3.41.1. Single vowels

Single vowels may occur in any position in morphemes,

words and phrases, subject to the following restrictions:

1. /o/ may only occur in non-ultimate syllables of morphemes and words if /o/ also occurs in all following syllables.
2. If /o/ occurs in the last two syllables of a word, /a/ may not occur in preceding syllables of the word.

(See sections 0.4. and 0.5.d-e in the accompanying article "Verbal Inflection in Sabah Murut" for the effect of these restrictions on the morphology of the language.)

3.41.2. Clusters of two vowels

Two-vowel sequences are of the following structure-types:

1. Two identical vowels /ii uu oo aa/;
2. High + non-high /io ia uo ua/;
3. Low + high /ai au/;
4. Mid + high /oi ou/;
5. High + high /iu ui/;
6. Non-high + non-high /oa ao/.

The distributional possibilities of a given two-vowel cluster depend on whether the vowels are -

(a) in the same morpheme and, if so, whether they are in initial, medial or final position; or

(b) in different morphemes and, if so, whether the intervening boundary is an affix-, word- or phrase-boundary (see 1.).

Table II (on page 35) illustrates the distribution of each two-vowel cluster on the basis of these criteria.

VOWEL CLUSTER	IN SAME MORPHEME			IN DIFFERENT MORPHEMES		
	<i>Initial</i>	<i>Medial</i>	<i>Final</i>	<i>Affix- boundary</i>	<i>Word- boundary</i>	<i>Phrase- boundary</i>
ii	+	+	+	+	+	+
uu	+	+	+	(+)	+	+
oo	+	+	+	+	+	+
aa	+	+	+	+	+	+
io	+	+	+	+	+	+
ia	+	+	+	+	+	+
uo	+	+	+	+	+	+
ua	+	+	+	+	+	+
ai	+	+	+	+	+	+
au	+	+	+	+	+	+
oi					+	+
ou					+	+
iu		+	(+)	+	+	+
ui		+	+	+	+	+
oa						+
ao						+

TABLE II

+ indicates that the cluster occurs in that position, (+) indicates that the cluster can probably occur in that position though no example of such an occurrence has been found, and a blank space indicates that the cluster may not occur in that position. It will be seen from Table II that clusters of types 1, 2 and 3 may occur in any position, type 5 clusters in any position except initially in the same morpheme, type 4 clusters only when the vowels are in different words and type 6 clusters only when the vowels are in different phrases.

3.41.21. A type 1 cluster is manifested phonetically as a single lengthened vowel. If one of the members of the cluster is stressed (i.e. is the penultimate vowel of a word), the stress is carried by the resulting long vowel: /uud/ [ú:ř] "source", /buuk/ [b=ú:k°] "rotten egg", /buu/ [b=ú:] "box-turtle", /du ulun/ [d=ú:lU+n] "person (possessive)", /da andu?/ [d=á:nd=u?] "wife (object)", /da ambawan/ [d=a:mb=áwan] "onion (object)".

3.41.22. Except when it occurs in word-final position, a type 2 cluster is realised as a rising diphthong (i.e. one in which stress is strongest at the end). If the first vowel is in stressed position, the stress is transferred to the second vowel: /uok/ [úók°] "exhortation to spirits", /iow/ [iów] "yes", /maduol/ [mářúól] "painful", /piasaw/ [p=iasaw] "coconut", /balion/ [b=álión] "will be bought", /aku ak/ [ák=úák°] "I alone", /i aki/ [iák=i] "Grandfather". The realisation of a type 2 cluster in word-final position depends on its structure:

/-ua/: the one example known forms a rising diphthong, /kua/ [k=úá] "why?".

/-ia/: the two known examples are alike in forming a rising diphthong, but differ in the placing of the word-stress: /kia/ [k=ia] "interrogative particle"; /alia/ [áliá] "probably, possibly".

/-io/: all the known examples occur in morphemes of three or more syllables. The cluster is realised as a rising diphthong but the word-stress is carried by the ante-penultimate syllable, as in /alia/ above: /ginio/ [g=ínió] "that (pronoun)"; /lumbio/ [lU+mb=ió] "sago-palm"; /manampio/ [mánámp=ió] "there is a drought".

/-uo/: the cluster is realised as two distinct phonetic syllables: /kaduo/ [k=ářúó] "second", /tuo/ [t=úó] "tuba-poison", /ambiluo/ [amb=ilúó] "soul".

One word, however, is known which does not conform: /kukuo/ "snake", which is pronounced [k=uk=úó].

3.41.23. A type 3 cluster is always realised as a falling diphthong (i.e. one in which stress is strongest at the

beginning). If the second member of the cluster is in a stressed position, the stress is transferred to the first member. /ait/ [áit°] "rattan carrying-frame", /baug/ [b=áũg] "swiftness (of current)", /ai/ [ái] "eh?, pardon?", /kaganai/ [k=áganái] "nevertheless", /naumpalan/ [náũmp=álan] "widowed", /da ulun/ [d=áũlU+n] "person (object)".

3.41.24. A type 4 cluster is always realised as two phonetic syllables: /logo-i/ [lógói] "the price", /sumindalayo ilo/ [sũmind=álayó iló] "they will go upstream", /maayo ulun/ [má:yó úlU+n] "giant", /maayo ulun-no/ [má:yó'+úlU+nnó] "that person is big".

3.41.25. A type 5 cluster is realised as a rising diphthong, except when it occurs in word-final position, in which case both vowels are syllabic: /gigiul/ [g=igĩU+l] "wóóden spatula", /i upus/ [íúp=U+s] "Orphan", /susuit/ [susúit°] "bird", /du ingalan/ [d=ũl+ng=álan] "name (possessive)", /kuis-kuis/ [k=ũisk=úís] "suffering from diarrhoea", /nansui/ [nansúil] "slanting from the vertical", /kui/ [k=úil] "cake". (No instances of /-iu/ have been found in word-final position.)

3.41.26. A type 6 cluster can only occur when the two vowels are in different phrases, thus: /pinatoy no antit-i/ [p=inát=öynó+ánt=it=i] "he killed the frog", /kua onoy da giu?/ [k=úá+ónöy+řágiú?] "why are you going there?". When /a/ and /o/ occur in adjacent positions within the phrase, the first vowel is assimilated to the second, thus: /da odow/ [d=ó:řow] "day (object)", /sala? ka okow/ [sálá?-+k=ó:k=qw] "not you", /io ak/ [iá:k°] "he alone", /nakakito aku/ [nák=ák=it=á:k=u] "I have seen", /lambaan no akay/ [lamb=á:nná:k=áy] "he will hit us".

3.41.3. Clusters of three or more vowels

Such clusters are comparatively rare in Timugon. No examples have yet been discovered of a three-vowel cluster occurring within a morpheme. Some fifteen cases are known to the writer of three-vowel sequences occurring within the word, i.e. with an intervening affix-boundary. They include /aaa/ in /mapaaak/ [máp=á:k°] "will cause to lead by the hand", /aau/ in /maaug/ [má:ũg] "fast-flowing", /uaa/ in

/kaduaan/ [k[̄]ářúá:n] "for two days", /uoo/ in /piduoon/ [p[̄]ířúó:n] "will be cut in half", /iaa/ in /pipiaasug/ [p[̄]ip[̄]íá:sug] "snack; quick meal", and /auu/ in /nauudan/ [náú:řan] "in flood, from rain which has fallen in the headwaters".

3.42. Consonants

3.42.1. Single consonants

All single consonants, except /ʔ/, may occur initially and medially in morphemes and words. All consonants, except /j/, may occur finally in morphemes and words.

3.42.2. Consonant clusters

In morphemes and words, consonant clusters occur only medially, and are restricted to combinations of homorganic nasal and consonant, i.e. /-mp- -mb- -nt- -nd- -ŋk- -ŋg- -ns- -nj-/. Any two consonants may occur adjacently if separated by a word boundary. In sequences such as C₁V₂C₁V₂ (and occasionally in sequences such as C₁V₂C₁V₃), the first vowel is frequently elided, resulting in a lengthened consonant: /magabu/ [máǵábuʔ] "will fight each other (two people)" and /magagabu/ [máǵ:ábuʔ] "will fight each other (three or more people)"; /nakito/ [nák[̄]ít[̄]ó] "was seen" and /nakakito/ [nák[̄]:ít[̄]ó] "has seen". (See note at the end of 3.11.)

4. SPORADIC SEGMENTS

4.1. Extrasystematic phonemes

These are significant sounds which fall outside the normal phonemic system of the language. In Timugon such sounds are restricted to (a) emotional exclamations, such as / [p[̄]ʔt[̄]úí] /, which expresses disgust; / [w[̄]šéh] /, denoting indignation; / [áđedé:] /, indicating astonishment; and (b) calls to animals, such as / [ŋé:ʔ] / "come here!" (to buffaloes); / [k[̄]řřř...] / "come here!" (to hens); / [hāyōw] / "shoo!" (to buffaloes). In the preceding examples, [p[̄]ʔ] represents a voiceless bilabial affricate, [w[̄]] represents lip-rounding and [đ] represents a voiced retroflex alveolar stop.

4.2. Phonemes in loan-words

The Timugon Muruts, by virtue of their proximity to the Padas Gorge, which provides the only access route to the coast through the Crocker Range, have had more contact with the Malay-speaking peoples of the coast than other sections of the Murut race, and in fact were under the suzerainty of the Malay-speaking Sultanate of Brunei until late in the 19th century. Moreover, Malay now has considerable prestige as the national language of the country, and it is therefore not surprising that the vocabulary of Timugon should include a large number of borrowings from that language. The only other important source of loanwords is English.

In most instances such borrowings present no phonological difficulties, partly because, in the case of Malay, the phoneme inventory of the source-language is very similar to that of Timugon, and partly because Timugon itself has a high degree of adaptability in absorbing loanwords and fitting them into the phonemic and morphemic systems of the language. Thus the word /sikuul/ "school (as an institution)" has produced the following derivatives: /sikuulan/ "school (building)", /sumikuul/ "go to school" and /pasi-kuulon/ "will be sent to school".

The only loanwords that present problems are those which contain the segments [d] or [r]. The problem arises because in both Malay and English [d] and [r] are phonemically distinct, whereas in Timugon they are submembers of the phoneme /d/. In cases where the word has been completely assimilated, the segment is pronounced as if it were the phoneme /d/: /badil/ [b^ářil] "cannon", from Malay *bedil*. More often the situation is unstable and two pronunciations are commonly found: /kaday/ "shop", from Malay *kedai* is sometimes pronounced [k^ářáy] and sometimes [k^ád^ááy]. At the present time the latter form is becoming more usual, presumably because more Murut-speakers are becoming familiar with Malay and are attempting to give the word its "proper" pronunciation. Sometimes a loanword is not assimilated and retains its foreign pronunciation: /bidan/ "midwife", from Malay *bidan*, is always pronounced [b^íd^áan]. If such words as these enter the language in such numbers that they come into conflict with the /d/ phoneme, then separate phonemes /d/ and /r/ will have to be set up. This step is unnecessary

at present, however, because the number of such words is insignificant and none of them forms a minimal pair with an already existing Murut word.

4.3. Segments of uncertain phonemic status

There are about half a dozen words on the basis of which a case for setting up a phoneme /ñ/ could be made. The six examples known to the writer are:

1. The stem [l^óñ^ó] and its derivatives [lum^óñ^ó] "will die down (fire)" and [m^ól^óñ^ó] "smouldering";
2. [múñuk^o] "end, tip";
3. [mát^áñak^o] "bright red";
4. [mát^áñ^u.m] "salty";
5. [t^áñak^o] "a kind of knot";
6. The stem [ñáú] "cry of a cat" and its derivative [mamp^áñáú] "will mew".

At first these words were analysed as containing a sequence /[±]ni-/, as: /[±]lonio muniuk mataniak matanium tampuniak niaw/. However, on this basis, 2, 3, 4, and 5 violated the stress-pattern described in 3.41.22, according to which one would expect the final syllable to be stressed (/[±]-lonio/ and /[±]niaw/ had precedents in /ginio/ [g^íni^ó] and /piaw/ [p^íáw] respectively); 1 and 2 violated the morpheme-structure pattern described in 3.32 (there exist derivative affixes /tv- tvN- pu-/ which would account for 3, 4 and 5, but no affixes /[±] lo- mu- o -uk/ to account for 1 and 2); and 1 violated the limitations on the occurrence of /o/ described in 3.41.1, according to which a sequence /[±] -o-i-o-/ is impossible within a morpheme or word. Of the words containing a possible /ñ/, this left only /[±]niaw/ where its occurrence was not indicated by pressure of the structure of the language. However, an informant who is literate in Malay insisted that in this word, as in the others, ny was an acceptable written representation of the sound under discussion, whereas ni was not. As ny is used in Malay orthography as a digraph to represent the phoneme /ñ/, it can be assumed that a similar phoneme is present in the examples quoted. While the writer is of the opinion that /ñ/ constitutes a phoneme in this dialect of Murut, the

following facts militate against such an interpretation:

1. The phoneme is extremely rare;
2. It does not fit symmetrically into the phonemic system of the language; and
3. There are no minimal pairs which can confirm its phonemic status.

