# 3 OUTLINE OF PHONEMES

## 3.1 Chart of Phonemes

### 3.1.1 Consonants

|            | Labial | Alveolar | Velar |
|------------|--------|----------|-------|
| Obstruants | p      | ɪ        | k     |
| Nasals     | m      | n        | -     |
| Fricatives | -      | s        | h     |
| Semi Vowels| w      | y        | -     |

### 3.1.2 Vowels

|      | Front | Central | Back |
|------|-------|---------|------|
| High | i     | -       | u    |
| Mid  | ɛ     | -       | o    |
| Low  | -     | a       | ɒ    |

### 3.1.3 Glides

|                       |       |       |       |
|-----------------------|-------|-------|-------|
| High Back Offglides   | $o^u$ | $ɒ^u$ | $a^u$ |
| High Front Offglides  | $e^i$ | -     | $a^i$ |

3.2  Description of Contrastive Features

3.2.1  The Abau phonemic system is basically asymetrical.

Consonants contrast as to manner of articulation between obstru-
ants, nasals, fricatives, and semi vowels.  As to points of articula-
tion the obstruants contrast at labial, alveolar, and velar positions,
the nasals and semi vowels at the labial and alveolar positions, and
the fricatives at the alveolar and velar positions.

3.2.2  Vowels

The high and mid vowels both contrast as to front and back posi-
tions.  The low vowels contrast as to central and back positions.

3.2.3  Glides

The high back off glides contrast at the midback, low back, and
low central positions.  The high front offglides contrast as to mid
front and low central positions.


4  INTERPRETATION

4.1  The status of items which may be either consonant or vowel.

4.1.1  All high vocoids are interpreted as vowels when they occur as
the nucleus of the syllable.

|        |          |          |               |
|--------|----------|----------|---------------|
| /í/    | /i/      | [í]      | 'mark on skin' |
|        | /kí/     | [kí]     | 'ground'      |
|        | /ìkà$^u$n/ | [ì.ka$^u$n] | 'spear shaft' |
|        | /lìkmɔ̀n/ | [lìk.mɔ̀n] | 'one'         |
|        |          |          |               |
| /u/    | /ù/      | [ù]      | 'name of river' |
|        | /hǔ/     | [hǎ]     | 'water'       |
|        | /súí/    | [súꞮ]    | 'banana sp.'  |
|        | /ùmɔ̀n/   | [ù.mɔ̀n]  | 'one'         |

4.1.2  They are interpreted as consonants when they occur in the onset
of the syllable.

| /y/ | /yǎ/ | [yǎ] | 'fire' |
|-----|------|------|--------|
|     | /póyàpóyà/ | [pó.yà.pó.yà] | 'many' |
|     | /kǎ$^i$yì/ | [kǎ$^i$.yì] | 'come up' |

| /w/ | /wǎ$^u$/ | [wǎ$^u$] | 'cloud' |
|-----|------|------|--------|
|     | /híwàǐ/ | [hí.wàɼ] | 'to care for |
|     | /kìwàl/ | [kì.wàɼ] | 'seventh day' |
|     | /wǎh/ | [wǎh] | 'friend' |

4.1.3  Non-syllabic high vocoids have been interpreted as consonants
for the following reasons:

4.1.3.1  Being non-syllabic the semi vowels parallel the occurrence of
other consonants.

| /yú/ | 'mosquito' | /kǔ/ | 'axe' |
|------|-----------|------|-------|
| /yǎp/ | 'river' | /nǎp/ | 'old' |
| /ányàp/ | 'uncle' | /ànkìn/ | 'when' |
| /wέn/ | 'trait' | /sὲn/ | 'also' |

4.1.3.2  /w/ /y/ are also distinct from /u/ /i/ in that they are non-
syllabic and have slight friction and are never a unit of tone place-
ment.

4.1.3.3  /w/ /y/ are necessary to establish syllable margins which are
faster and non-syllabic when compared with the syllable nucleus.

|   | /yǔwǎp/ | 'stem of sago palm frond' |
|---|---------|---------------------------|
| . | /ányàp/ | 'father's elder brother' |
|   | /wǎ$^u$wǎl/ | 'morning star' |
|   | /wέ$^i$yɔ́n/ | 'frog sp.' |

4.1.3.4   Tonal patterns on words give clear indication that the sus-
pect vocoids are consonants when non-syllabic and vowels when syllabic.

| | | |
|---|---|---|
| /áⁱì/ | [áⁱ.ì] | 'food' |
| /wíìĭ/ | [wí.ìr] | 'garden' |
| /síàᵘ/ | [sí.àᵘ] | 'bed' |
| /syáᵘ/ | [syáᵘ] | 'penis gourd' |
| /yɛ́n/ | [yɛ́n] | 'mom' |
| /wáᵘ/ | [wáᵘ] | 'cloud' |

4.1.3.5   Interpreting non-syllabic vocoids as consonants parallels
the grammatical structure of the language.  The infix -w- 'something
big' occurs in verbs as labialization.

| | | | |
|---|---|---|---|
| /káᵘk/ | 'to put into' | /kwáᵘk/ | 'to put something big in' |
| /sásò/ | 'to throw' | /swásò/ | 'to throw something big' |

4.1.3.6   Interpreting the non-syllabic high vocoids as vowels would
give rise to undesirable sequences of up to five vowels.

/ĭwíàwì/      'to nestle'      *ĭuiaui

4.1.3.7   Native reaction clearly indicates a preference for the use
of the consonants /w/ /y/ in writing.

4.1.4   The suspect semi vowel /h/ is interpreted as being a voiceless
glottal fricative as it fills only C positions in the various CV
patterns, and is never a unit of syllabicity or tone placement.

| | | |
|---|---|---|
| /hû/ | [hû] | 'water' |
| /yɓh/ | [yɓh] | 'banana' |
| /hóhò/ | [hó.hò] | 'to whistle' |
| /háĭaᵘ/ | [há.ɽaᵘ] | 'short' |
| /míháⁱ/ | [mí.háⁱ] | 'tall' |

4.2  The short unstressed vocoid [t] is interpreted as a non-phonemic transitional vocoid between /m/ and /n/.  It is never a unit of tone placement.

| | | |
|---|---|---|
| /mnóĭ/ | [mtnór] | 'plaiting' |
| /mnù/ | [mtnù] | 'mountain' |
| /sómsómnǎ/ | [sóm.sómtnǎ] | 'cockroach' |

4.3  The status of items which may be either sequence ot unit.

4.3.1  Vocoid Glides

The vocoid glides /o$^u$/, /ɒ$^u$/, /a$^u$/, /a$^i$/, /e$^i$/ are interpreted as units because by their tonal behaviour and timing they pattern as units.

| /ù/ | [ù] | 'river name' | /ɓ$^u$/ | [ɓ$^u$] | 'knot of tree' |
|---|---|---|---|---|---|
| /ó$^u$/ | [ó$^u$] | 'ripe' | /ǎ$^u$/ | [ǎ$^u$] | 'a fight' |
| /é$^i$/ | [é$^i$] | 'sun' | /ɛ̌/ | [ɛ̌] | 'vulva' |
| /í/ | [í] | 'mark on skin' | | | |

| | | |
|---|---|---|
| /ìnà/ | [ì.nà] | 'back of crocodile' |
| /ìnà$^i$/ | [ì.nà$^i$] | 'sister' |
| /ínǎ$^u$/ | [í.nǎ$^u$] | 'single' |
| /ìnɛ̀/ | [ì.nɛ̀] | 'forehead' |
| /ípé$^i$/ | [í.pé$^i$] | 'mother' |

They are not interpreted as VC sequences because they occur in closed syllables where such an interpretation would give rise to a syllable final CC pattern which does not otherwise exist.

| | | |
|---|---|---|
| /kǎ$^u$n/ | 'to break' | *kawn |
| /wùkmǎ$^u$k/ | 'check' | *wukmawk |

4.3.2   Suspect Vowel Sequences

4.3.2.1   Vowel Status

There are a small number of words with suspect sequences of
vowels which, each being a unit of tone placement and therefore syl-
labic, are interpreted as sequences of vowels.  These contrast with
sequences of semivowel plus vowel.  The semivowel by interpretation
forms the second member of syllable initial consonant clusters as it
is not a unit of tone placement and therefore nonsyllabic.

| | | | |
|---|---|---|---|
| /níò/ | [níò] | (ní.ŏ:) | 'boy' |
| /nyɓh/ | [nyɓh] | (nyɓhᴰ) | 'blood' |
| /sfàᵘ/ | [sfàᵘ] | (sf.ăᵘ) | 'bed' |
| /syâᵘ/ | [syâᵘ] | (syâᵘ) | 'penis gourd' |
| /sfùp/ | [sfùp] | (sf.ùpˠ) | 'stomach |
| /syóp/ | [syóp] | (syópˠ) | 'footprint' |
| /ɬúàk/ | [ɬúàk] | (ɬúàkᵃ̆) | 'to sit' |
| /ɬwàk/ | [ɬwàk] | (ɬwàkᵃ̆) | 'to be' |

4.3.2.2   Vowel Length

Where a glide occurs on what sounds phonetically as a single
vowel, that vowel is interpreted on the basis of the tone pattern as
a sequence of two vowels.

| | | | |
|---|---|---|---|
| /ɓòk/ | [ɓòk] | (ɓ:kᴰ̂) | 'the eighth day' |
| /wíiɬ/ | [wíiɬ] | (wɨ:ɬᶠ) | 'garden' |
| /pêèl/ | [pêèɬ] | (pê:ɬᶠ) | 'stone type' |

4.3.3   Consonant Clusters

Non-suspect clusters of two consonants occur only syllable ini-
tial.  Clusters of three consonants are formed across syllable bound-
aries only when a syllable final consonant is followed by a cluster
of two consonants.

On the basis of these frequently occurring non-suspect consonant clusters, other suspect sequences such as palatalization and labialization have been interpreted as sequences of two consonants.

| | | |
|---|---|---|
| /sĬè/ | [sĬè] | 'noise of escaping steam' |
| /snɓĬ/ | [snɓɤ̆] | 'cold' |
| /pĬɓs/ | [pɤ̆ɓs] | 'floor bearers' |
| /Ĭwí/ | [Ĭwí] | 'flower of wild sugar cane' |
| /èĬpɒ$^u$/ | [èt.pɒ$^u$] | 'sweat-fly' |
| /ĬɓkpĬè/ | [Ĭɓk.pĬè] | 'to de-stalk leaves' |
| /nyɓh/ | [n ɓh] | 'blood' |
| /nwɓh/ | [nwɓh] | 'dog' |
| /mnɓĬ/ | [m$^t$nɓɤ̆] | 'plaiting' |
| /hnέ/ | [Nnέ] | 'nest' |
| /hmɔ̀/ | [Mmɔ̀] | 'theirs' |
| /hwɓ̆k/ | [Wwɓ̆k] | 'pig' |

# 6 SUPRASEGMENTAL ITEMS

## 6.1 Tone

The system of register tones is manifest on the word level by two tonemes /ˊ/ /ˋ/, and on the phrase level by three allotones.

Because of the differing tonal systems on nouns and verbs, these two word classes must be described separately.

## 6.1.1 Phrase Level Allotones

The end of a phrase is sygnalled by three allotones occurring on phrase final nouns. Phonetically they are falling [ˆ], rising [ˇ], and low [ˋ].

If the base form of the noun has a final low tone, the phrase final position is indicated by rising tone.

If the base form of the noun has a final high tone the phrase final position is indicated by falling tone.

Where the base form has all low tones the phrase final position is indicated by low tone.

The phrase final contrast between single syllable low tone words and single syllable high tone words is lost. Single syllable low tone nouns also indicate the phrase final position with falling tone.

6.1.1.1  Phrase final allotones are closely bound to and conditioned
by the non-contrastive phrase level feature of vowel releases (Section
7.2).  The vowel releases occur on nouns ending with any consonant ex-
cept nasals.  With the occurrence of the release the falling or rising
allotone is divided between the final syllable of the base form and
the phrase final vowel release.

When the release occurs on a noun with all low tones the vowel
release shares a reduplication of the final low tone.

## 6.1.2  Phonetic Quality

Because of the intonation pattern super-imposed on the utterance,
the relative tones at the end of the utterance are pitched progres-
sively lower.

| BASE | | ISOLATION | PHONETIC | PHONEMIC |
|------|------|------|------|------|
| sú | 'coco- | su$^{1-3}$ | su$^1$ ai$^2$-pi$^4$-hai$^{3-5}$ | sú áipìhái |
| ànìmà | 'bean' | a$^1$-ni$^1$-ma$^{1-3}$ | a$^2$-ni$^2$-ma$^2$ ai$^1$-pi$^3$-hai$^{2-4}$ | ànìmà áipìhái |
| hù | 'flute' | hu$^{3-4}$ | hu$^2$ ai$^1$-pi$^4$-hai$^{3-5}$ | hù áipìhái |

(áipìhái = 'big')

## 6.1.3  Tone Patterns on Nouns

Nouns exhibit lexemic tone, although relatively few examples of
contrastive lexical tone pairs have been discovered so far.

| | | |
|------|------|------|
| /pán/ | [pán] | 'grass' |
| /pàn/ | [pàn] | 'vine sp.' |
| /hú/ | [hú] | 'water' |
| /hù/ | [hù] | 'flute' |
| /ɓmpí/ | [ɓmpí] | 'grass skirt' |
| /ɓmpì/ | [ɓmpì] | 'mountain ridge' |
| /ípé$^i$/ | [ípé$^i$] | 'mother' |
| /ìpè$^i$/ | [ìpè$^i$] | 'tree sp.' |

### 6.1.3.1   Tone Perturbation On Nouns

### 6.1.3.11  According To Position Within The Utterance

Nouns change their tonal patterns (and some their phonetic shape, Sections 7.2, 6.1.1.1) according to their position within an utterance; whether utterance initial, medial or final, or spoken in isolation.

The base form from which all patterns are predictable is the utterance initial form.  These positional perturbations, illustrated in Chart 1, are predicted according to the following six rules:

(1)  When all tones are low, pre-ultimate tone(s) become high in isolation.  Medially and finally in the utterance the penultimate tone becomes high.

(2)  When all tones are high pre-ultimate tones become low, medially, and finally.

(3)  When only final tone is low pre-penultimate syllables become low medially and finally.

(4)  When only final tone is high pre-penultimate syllable becomes high medially and finally.

(5)  With a sequence of similar and dissimilar tones, the initial tone changes medially and finally.

(6)  Where there are no like tones, all positions are unchanging.

### 6.1.3.12  External Perturbation

When base form nouns with all low tones precede grammatical particles kè, sè, mɔ̀n, ultimate low tone becomes high, and penultimate high tone becomes low.

/à$^u$kɪà$^i$yɔ̀/   [à$^u$kɪà$^i$yɔ̀]   (à$^u$kɪá$^i$yɔ̀)       'bird sp.'

[Hàkwè à$^u$kɪá$^i$yɔ̀ páↄↄↄ hɪ̀n]                'I shot an auklaiyo.'

[hàkwè à$^u$kɪà$^i$yↄ́ sè ɪ́ɪ̀à]               'I see an auklaiyo.'

CHART 1

Tone Perturbation On Nouns Conditioned By
Relative Position Within The Utterance

| No. OF SYLLABLES | GROUP | ISOLATION | BASE FORM INITIAL | MEDIAL | FINAL | EXAMPLE |
|---|---|---|---|---|---|---|
| 1 | 1 | ˄ | ˋ | ˋ | ˄ | hə̀$^u$k |
|   | 2 | ˄ | ˏ | ˏ | ˄ | ấ |
| 2 | 1 | ˏ ˋ | ˋ ˋ | ˏ ˋ | ˏ ˋ | àhnàn |
|   | 2 | ˏ ˋ | ˏ ˏ | ˋ ˏ | ˋ ˄ | ấmyə̀$^u$ |
|   | 3 | ˏ ˅ | ˏ ˋ | ˏ ˋ | ˏ ˅ | ấhnè$^i$ |
|   | 4 | ˋ ˄ | ˋ ˏ | ˋ ˏ | ˋ ˄ | wèÍÍn |
| 3 | 1 | ˏ ˏ ˋ | ˋ ˋ ˋ | ˋ ˏ ˋ | ˋ ˏ ˋ | ànìmà |
|   | 2 | ˏ ˏ ˄ | ˏ ˏ ˏ | ˋ ˋ ˏ | ˋ ˋ ˄ | ấmə̀pÍÍ |
|   | 3 | ˏ ˏ ˅ | ˏ ˏ ˋ | ˋ ˏ ˋ | ˋ ˏ ˅ | sə̀pə̀$^u$nə̀n |
|   | 4 | ˋ ˋ ˄ | ˋ ˋ ˏ | ˏ ˋ ˋ | ˏ ˋ ˄ | wə̀nsànè$^i$ |
|   | 5 | ˋ ˏ ˅ | ˋ ˏ ˋ | ˋ ˏ ˋ | ˋ ˏ ˅ | kìkÍsmà |
|   | 5 | ˏ ˋ ˄ | ˏ ˋ ˏ | ˏ ˋ ˄ | ˏ ˋ ˄ | ấnàmpú |
| 4 | 1 | ˏˏˏˋ | ˋˋˋˋ | ˋˋˏˋ | ˋˋˏˋ | àpàÍòwè |
|   | 2 | ˏˏˏ˄ | ˏˏˏˏ | ˋˋˋˏ | [ˋˋˋ˄] | kə̀pÍấk'pÍấ |
|   | 3 | ˏˏˏ˅ | ˏˏˏˋ | ˋˋˏˋ | ˋˋˏ˅ | mấkÍấmấ$^u$wè |
|   | 4 | ˋˋˋ˄ | ˋˋˋˏ | ˋˏˏˋ | ˋˏˋ˄ | ə̀mpə̀$^u$nàwà$^i$ |
|   | 5 | [ˋˏˋ˄] | [ˋˏˋˏ] | [ˋˏˋˏ] | [ˋˏˋ˄] | ---- |
|   | 5 | ˏˋˏ˅ | ˏˋˏˋ | ˏˋˏˋ | ˏˋˏ˅ | ɓyə̀$^u$mấkwò |
|   | 6 | ˋˋˏ˅ | ˋˋˏˋ | ˏˋˏˋ | ˏˋˏ˅ | ìnèmấ$^u$kù |
|   | 6 | ˏˏˋ˄ | ˏˏˋˏ | ˋˏˋˏ | ˋˏˋ˄ | mÍnyấmà$^u$knə̀$^u$ |

Brackets indicate potential systemic patterns not heard yet.

## 6.1.3.2  Distribution And Restrictions Of Tones

The syllable is always the unit of tone placement.  There are

possible patterns that are extra systemic.

(1)  Word initial high tone may not be followed by a sequence of
     low tones.  Following initial high tone, a sequence of high
     tones may not occur after a low tone.

(2)  Word initial low tone may not be followed by a sequence of
     high tones.  Following initial low tone, a sequence of low
     tones may not occur after a high tone.

     Non systemic patterns:

     | 3-syllable | 4-syllable | |
     |------------|------------|------------|
     | ´ ` ` | ´ ´ ` ` | ` ` ´ ´ |
     | ` ´ ´ | ´ ` ` ` | ` ´ ´ ´ |
     |            | ´ ` ` ´ | ` ´ ´ ` |
     |            | ´ ` ´ ´ | ` ´ ` ` |

These restrictions leave unaccounted only one pattern of the
possible sixteen patterns on four syllable words.  It is systemically
probable but as yet undiscovered ['´`´'].

     Some patterns occur more frequently than others.  Single syllable
words are predominantly high tone.  Approximately 6% only carry low
tone, but these include all single syllable word patterns except V, VC.

6.1.4  TONE PATTERNS ON VERBS

     Verbs exhibit grammemic tone.  The supra-segmental items indicate
tense, mood, or aspect.  There are no contrastive phrase level allo-
tones, neither is there tone perturbation.

     In some constructions tone is the minimal difference that indi-
cates past or present tense.

     [hìkwè pɛ́nkìn Yɔ́n ɔ̌]          'What is he doing?'
     [hìkwè nɔ́$^u$ Yɓ$^u$kǔ]          'He is cutting a tree.'
     [hìkwè pɛ́nkìn Yɔ́n sɔ̌]          'What was he doing?'

[hìkwè nɔ́ᵘ Iɓᵘkù]                'He was cutting a tree.'

[hùnkwè pɛ́sè IíYà ɗ]             'You must not look.'

[hùnkwè pɛ́sɛ́ IíYà ô]            'Who are you looking at?'

There is a single tone pattern for all verbs spoken in isolation which is expanded to cover the number of syllables in the particular verb.  The basic pattern is [ˈˇ].  All verbs of one syllable are lengthened to two moras without rearticulation.  Those of more than two syllables pronounce all word medial syllables with low tones.

Other speakers have a different basic pattern for verbs spoken in isolation, but the change is always consistent.

          [ˈ(ˈˈˈ)ˇ]                    [ˈ(ˋˋˋ)ˇ]

/Yǎ/          [Yǎ]          (Yá̌Y)            'to eat'
/nǎkè/        [nǎkè]        (nǎkɛ̀:)          'to bring'
/Yǔnwàk/      [Yǔnwàk]      (Yǔnwàkᵞ)         'to hear'
/mɛ́sɔ̀pɔ̀k/     [mɛ́sɔ̀pɔ̀k]     (mɛ́sɔ̀pɔ̀kᵞ)        'to ask'
/Yǐsìlsìnyɔ̀/  [Yǐsìlsìnyɔ̀]  (Yǐsìlsìnyɔ̌·)     'to hop'

The two verbs /lǔnwàk/ 'to hear', and /mɛ́sɔ̀pɔ̀k/ 'to ask' exhibit the feature of phrase final vowel release (Section 7.2, page 39).  But the vowel release on a verb always camis the rising tone characteristic of the ultimate syllable of every verb spoken in isolation.

### Tense and Aspect Tone Patterns

|       |           |   |                        |
|-------|-----------|---|------------------------|
|       | (ˈˈˈ)ˈ    | è | Imperative             |
| kwà   | (ˋˋˋ)ˈ    | è | Permissive             |
| pɛ́sè  | ˈ(ˋˋˋ)    | ɗ | Negative imperative    |
| pɔ̀    | (ˋˋˋ)ˈ    | Y̌ | Immediate future tense |
| yà    | (ˋˋˋ)ˈ    | Y̌ | Future tense           |
| pá́pɔ̀  | ˈ(ˋˋˋ)ˇ   |   | Past tense             |

6.3  Length

6.3.1  Vowel Length

Phonemic length has been observed as a contrastive feature only in nouns.

A vowel carrying a tone glide is by interpretation phonemically long, and patterns as a sequence of two vowel nuclei, and not as a single or complex vowel nucleus.

| /ɓɔ̀k/ | [ɓɔ̀k] | (n̂ːkᵈ) | 'the seventh day' |
| /ɓk/ | [ɓk] | (ɓkᵈ) | 'talk' |
| /wɨ̂ɨ̀ɨ/ | [wɨ̂ɨ̀ɨ] | (wɨ̂ːɨ) | 'garden' |
| /wɨ̂ɨ/ | [wɨ̂ɨ] | (wɨ̂ɨ) | 'fish sp.' |
| /pɛ̂ɛ̀tsɑ̂/ | [pɛ̂ɛ̀tsɑ̂] | (pɛ̂ːtsɑ̂ː) | 'devil woman' |
| /pɛ̂ɨsà/ | [pɛ̂tsà] | (pɛ̂tsɑ̌ː) | 'first wife' |

# ABAU LANGUAGE
# PHONOLOGY AND GRAMMAR