Saniyo Hiyewe Phonemic Statement - Revised*

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1. Introduction

Saniyo Hiyewe is spoken south of the Sepik River in the East Sepik Province of Papua New Guinea. It is a member of the Sepik Hill language family (Dye, Townsend, and Townsend, 1968), which consists of fourteen culturally homogeneous and related languages in the foothills of the Central Range from the Karawari River tributary of the lower middle Sepik to the Leonard Schultze River tributary of the upper middle Sepik. Approximately 1000 people speak the two major dialects of Saniyo Hiyewe, scattered along the banks and foothills of the April, Wogamous and Leonard Schultze drainages. Saniyo is spoken along the lower reaches of the Wogamous River and its tributaries and the upper reaches of the April River. The Hiyewe dialect is spoken along the upper reaches of the Wogamous River and its tributaries.

2. Outline of Phonemes

Consonants

	labial	alveolar	velar	glottal
stops	p [p b]	t	k	?
fric	f	s		h

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* I wish to express my thanks to Dorothy Price for her valuable consultant help in the preparation of this paper. The field work for this paper was done in the village of Wourei on the Wogamous River in the Hiyewe dialect, 1978-1979, but the basis for the study was the phonemic statement of Saniyo Hiyewe produced by Ron Lewis, who has worked in the same village since 1968.

	labial	alveolar	velar	glottal
nasal	m	n		
vibrant		ɾ		
		[ɾ l]		
semivow	w	y		
	[w v]			

Vowels

	front	central	back
high	i		u
mid	ɛ	ɑ	o
	[ɛ ə]		[o ɔ]

3. Interpretation

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

Syllable patterns which occur in Hiyewe are as follows:

V	/o/	['o]	'negative prohibitive'
CV	/nɛ/	['nɛ]	'you'
	/tu/	['tu]	'first'

3.1.1. [i] and [u] are interpreted as vowels for they carry the peak of syllabicity.

/ini/	['i.ni]	'tail'
/unɛrɛ/	['u.nɛ.'lɛ]	'breadfruit tree'

3.1.2. [w] and [y] semivowels are interpreted as consonants for the following reasons:

1. they are distinct from /u/ and /i/ in that they are non syllabic, have slight friction and are never a unit of stress placement.
2. Being non-syllabic the semivowels parallel the occurrence of other consonants.

/wɛwɛ/	['wɛ.'wɛ]	'betelnut tree'
/iyɑpɛ/	[i.'yɑ.pɛ]	'name'
/yɛsi/	[ʔyɛ.si]	'fireplace'

3.1.3. [h] is interpreted as a consonant because it fills only C positions in the CV patterns, and is never a unit of syllabicity or stress placement.

/hɑru/	['hɑ.ru]	'reptile'
/tɑhɛ/	['tɑ.hɛ]	'skin, outside covering'

3.2. The status of items which may be either sequence or unit

3.2.1. Vowel sequences [ɑj], [ɐj], [ɔj], [ɑɯ], and [ɔɯ] are interpreted as single phonetic complex nuclei. See syllable level.

Reasons supporting this decision are as follows:
1. They bear one placement of stress.
2. They have equal length as a syllable with a single vowel.
3. There are no final consonants in the language.
4. There are no non-suspect VV or CVV syllable patterns.

examples of /ɑi/

/ɑi/	['ɑj]	'sharp'
/mɑiyu/	[mɑj.'yu]	'kind of reptile'[1]
/sɑrɑpɑi/	['sɑ.rɑ.'pɑj]	'kind of tree'

examples of /ɛi/

/ɛiyɛ/	['ɛj.yɛ]	'armband'
/uwɛitɛ/	[u.'wɛj.tɛ]	'kind of tree'
/mɛnɛi/	[mɛ.'nɛj]	'kind of fish'

examples of /oi/

/oirɑi/	['ɑj.'lɑj]	'came down'
/kohoi/	[ko.'hɑj]	'cough'

examples of /ɑu/

/ɑuwɛ/	['ɑɯ.wɛ]	'grandfather'
/nɑutɑrɛ/	[nɑɯ'tɑ.lɛ]	'kind of tree'
/kɑmiyɑu/	['kɑ.mi.'yɑɯ]	'kind of tree'

examples of /ou/ - to date examples have not been found word initially

/sou/	['sɑɯ]	'frog'
/pɛsɛrouwɛ/	['pɛ.sɛ.'lɑɯ.wɛ]	'kind of bird'

3.2.2 Glottal stop is interpreted as a consonant, because it parallels the occurrence of other consonants. Glottal however has not been found to occur initially, but only word medially.

/ro?u/	['lo.?u]	'red, ripe fruit'
/ɑhitɑ?o/	[ɑ.'hi.tɑ.²?o]	'lid, top'

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[1] ED: Forms like this could also be analysed as having a simple vowel followed by a semivowel, with the off-glide being inserted by a rule similar to the one discussed in section 8.4. There are apparently no contrasts between VSV and VGSV (S=semivowel, G=off-glide). This would also help explain the fact that /y/'s seem to occur predominantly after front vowels, while /w/'s occur after back vowels.

4. Description of Phonemes

4.1. Consonants

/p t k/ Voiceless unaspirated stops occur word initially and medially. Bilabial [p] fluctuates word medially in noncontrastive free variation with [b], a voiced bilabial unaspirated stop, in somespeakers.

/papu/	['pa.pu]	'inside'
/apou/	[a.'bɒɯ] ~ [a.'pɒɯ]	'like this'
/taunɛ/	['tɒɯ.nɛ]	'woman'
/sato/	['sa.to]	'here'
/karou karou/	[ka.'rɒɯ ka.'rɒɯ]	'wretched, useless'
/iyako/	[i.'ya.ko]	'dance'

/ʔ/ [ʔ] Voiceless unaspirated glottal stop occurs word medially.

/saʔi/	['sa.ʔi]	'water'
/foroʔo/	['fɔ.lɔ.'ʔo]	'dry'

/f s h/ Voiceless fricatives, occur word initially and medially.

/fɛ/	['fɛ]	'pig'
/pɛfinɛ/	[pɛ'fi.nɛ]	'true'
/sɛnarɛpɛ/	[sɛ.'na.rɛ.ˀpɛ]	'grass'
/waso/	['wa.so]	'insect'
/hi/	['hi]	'down below'
/ahowa/	['a.ho.'wa]	'no'

/m n/ Voiced nasals, occur word initially and word medially.

/mai/	['mɑj]	'mother'
/omo/	['o.mo]	'village, hill'
/nau/	['nɒɯ]	'sago'
/taunɛ/	['tɒɯ.nɛ]	'woman'

/r/ [ɾ] Voiced alveolar flapped vibrant
[l] Voiced alveolar flapped lateral occurs word medially and initially in occasional non-contrastive free variation.

/rau masɛ/	['ɾɒɯ'masɛ] ~ ['lɒɯ 'masɛ]	'hungry'
/ɛrasi/	[ɛ.'ɾa.si] ~ [a.'la.si]	'large, great'

/w y/ Voiced semivowels, occur word initially and word medially. [v], voiced labio-dental fricative, occurs very occasionally in non-contrastive variation with [w]. To date only found to occur in a small set of interrogative words.

/wɛwɛ/	['wɛ.'wɛ]	'betelnut'
/mowa?i/	[mo.'wa.?i]	'grub'
/ɛwɛrai/	['ɛ.wɛ.'lɑj] ~ ['ɛ.vɛ.'lɑj]	'who?'
/yamɛ/	['ya.mɛ]	'month'
/riyɛwɛ/	['li.yɛ.'wɛ]	'yesterday'

4.2. Vowels

/i/ [i] Voiced high close front unrounded vocoid occurs word initially, medially and finally.

/ipo/	['i.po]	'bush, jungle'
/ɛnitɛ/	['ɛ.'ni.tɛ]	'wound'
/ini/	['ini]	'tail'

/ɛ/ [ɛ] Voiced mid close front unrounded vocoid occurs word initially, medially and finally.
[ə] Voiced mid close central unrounded vocoid, occurs as a non-contrastive variation of [ɛ].

/ɛnɛ/	['ɛ.nɛ]	'sago jelly'
/wɛrɛsɛ/	['wɛ.lɛ.'sɛ] ~ ['wə.lɛ.'sɛ]	'all, everyone'

When /ɛ/ is followed by /i/ in the complex vowel nucleus /ɛi/, this /ɛ/ vowel becomes more like [e], the voiced mid front close unrounded vocoid.

/a/ [a] Voiced low open central unrounded vocoid occurs word initially, medially and finally.

/amou/	[a.'mɑu]	'forbidden'
/amɛramɛ/	['a.mɛ.'ra.mɛ]	'clear'
/nɛifa/	['nɛj.fa]	'long ago'

/u/ [u] Voiced high close back rounded vocoid occurs word initially, medially and finally.

/u/	['u]	'sickness'
/wahu/	[wa.'hu]	'limbum basket'
/nohuwɛ/	[nɔ.'hu.wɛ]	'married couple'

/o/ [o] Voiced mid close back rounded vocoid occurs before bilabials and word finally.
[ɔ] Voiced low close back rounded vocoid occurs elsewhere.

/oso/	['ɔ.so]	'small'
/otowɛ/	['ɔ.to.'wɛ]	'sago thatch'
/soro/	['sɔ.lo]	'upriver'
/opaiyɛ/	[o.'pɑj.yɛ]	'cook with hot stones
/onɛ/	['ɔ.nɛ]	'banana'

Very occasionally /ai/ occurs as a non-contrastive variant of /ɛi/.

/ɛiwawɛ/	[ɛj.'wa.wɛ] ~ [ɑj.'wa.wɛ]	'with, enough'

4.3. Supra-segmental items

4.3.1. Pitch

To date, on word level two basic relative pitches have been observed high and low, and no contrasts have been found. High pitch occurs on stressed syllables, low on unstressed syllables, except in the last syllable of a sentence where the final syllable, if stressed, also occurs with low pitch.

The standard pitch and stress pattern for a word is found when the word does not occur finally in a phonological phrase. Phonological phrase intonation overrides the standard pitch and stress on word level.

4.3.2. Lengthening of vowels

This occurs for emphasis, e.g.:

/ɛɾɑsi/ [ɛ.'lɑ··si] 'big'

4.3.3. Stress

To date no minimal pair contrast has been found. Some generalisations that seem to hold most of the time have been found (see section 6.2), but no principle has been discovered to account for all the occurrences of stress. Therefore the phonemic status of stress is uncertain.

5. Distribution

5.1. Consonant

There are no consonant clusters in Saniyo Hiyewe.

5.2. Distribution of CV patterns

The syllable consists of a single vowel as nucleus with an optional consonant onset. The following CV patterns occur in the syllable:

V	/u/	'sickness'
	/ɑi/	'sharp'
CV	/hi/	'down below'
	/you/	'dog'

6. The Phonological Word

6.1. Distribution of CV patterns in the phonological word

The pattern V occurs only word initially. CV occurs word initially, medially and finally.

V /ɑ.nɛ/ 'I, me'

CV	/pɑ.pu/	'inside'
	/wi.yɑ.wi/	'work'

The phonological word may consist of from one to five syllables, when unaffixed, and according to the number of syllables they are characterised by different stress patterns.

V	/ɑi/	'sharp'
V.CV	/ɑ.nɛ/	'I, me'
V.CV.CV	/ɑ.pɛ.ri/	'tomorrow'
V.CV.CV.CV	/ɑ.mɛ.rɑ.mɛ/	'clear'
CV	/pi/	'tooth'
CV.CV	/yɑ.mɛ/	'month'
CV.CV.CV	/tɑ.pi.yɛ/	'stone'
CV.CV.CV.CV	/sɛ.nɑ.rɛ.pɛ/	'grass'
CV.CV.CV.CV.CV	/kɛ.rɛ.si.yɑ.nɛ/	'kind of vine'

6.2. Stress patterns in the phonological word

Where there is more than one stress in a word, one of these is primary and the other is secondary, marked here by 'ˀ'.

6.2.1. Monosyllabic words carry one primary stress

/ru/	['ˀlu]	'man'
/nɑu/	['ˀnɑu]	'sago'

6.2.2. Bisyllabic Words

There are strong vowels and weak vowels, and strong ones usually bear the heavier stress. There is a strong tendency in bisyllabic words for the stress to fall on the stronger of the two vowels or on the the first of the vowels if they are both identical. Only a few examples have been found where this is not so.

The hierarchy of strong and weak vowels is as follows:

/ɑ/ is strongest, then /i/, /u/, /o/, /ɛ/.

Where /i/ and /ɑ/ occur in the same bisyllabic word the stress falls on the first vowel in the word, whether /i/ or /ɛ/. Where a double vowel nucleus occurs in a bisyllabic word, the stress usually falls on it.[2]

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[2] ED: The general principle seems to be that given the word-final sequence VCV(CV)#, the first syllable receives primary stress unless the second is 'stronger' than the first. Secondary stress is assigned to alternate syllables both preceding and following the syllable with primary stress. According to the author, this accounts for over 80% of all forms. The other 20% apparently includes loan words, compounds, and so on.

6.2.2.1. Bisyllabic words - stress on the first syllable, secondary stress on the second syllables.

/mɑto/	['mɑ.²to]	'head'
/hirɛ/	['hi.²lɛ]	'on top, above'
/hotɛ/	['ho.²tɛ]	'egg'
/mɛni/	['mɛ.²ni]	'man'
/momo/	['mo.²mo]	'pawpaw'
/ini/	['i.²ni]	'tail'
/sɛwi/	['sɛ.²wi]	'grass skirt'

6.2.2.2. Bisyllablic words - stress on the second syllable:

/ɑmou/	[ɑ.'mɑu]	'forbidden'
/ɛrɛi/	[ɛ.'lɐj]	'pangal torch'
/moku/	[mo.'ku]	'owl'
/kohoi/	[ko.'hɑj]	'cough'
/no?u/	[no.'?u]	'noise'

6.2.3. Trisyllabic words

There are two stress patterns possible on these words.

6.2.3.1. Stress on the middle syllable. There is a strong tendency for the stressed vowel to be higher in the hierarchy spoken of in bisyllabic words than the final vowel in the same word.[3]

/nihɑri/	[ni.'hɑ.ri]	'face'
/tɛripɛ/	[tɛ.'ri.pɛ]	'handle'
/nɛmɑiyɛ/	[nɛ.'mɑi.yɛ]	'white cockatoo'
/ɑhipi/	[ɑ.'hi.pi]	'mouth'
/mowɑ?i/	[mo.'wɑ.?i]	'grub'

6.2.3.2 Stress on the first and final syllable. Primary stress is on the first, and secondary stress is on the final syllable. There is a tendency for the vowel bearing primary stress to be higher in the vowel hierarchy than the vowel bearing secondary stress.

/ɑwiyɛ/	['ɑ.wɐj.².yɛ]	'furry mammal'
/rowɑhi/	['lo.wɑ.²hi]	'firewood'
/tɑpiyɛ/	['tɑ.pi.²yɛ]	'stone'
/ɑimɛsi/	['ɑj.mɛ.²si]	'kind of snake'

6.2.4. Quadrisyllabic Words

Fewer words belong to this group than the previous three groups. Two stress patterns are found.

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[3] ED: On the basis of the generalisation made in footnote 2, the crucial factor in stress assignment here should be the relative strength of the first and second syllable. The relative strength of the first and third syllable would seem to be immaterial.

6.2.4.1. Primary stress on the second syllable and secondary stress on the final syllable. Especially in these forms there is a tendency for the primary stressed vowel to be higher in the hierarchy than the secondary stressed vowel.

/sɛnarɛpɛ/	[sɛ.'na.rɛ.²pɛ]	'grass'
/apaniyɛ/	[a.'pa.ni.²yɛ]	'ear'
/ahita?o/	[a.'hi.ta.²?o]	'cover, top'
/rɛkakuwa/	[lɛ.'ka.ku.²wa]	'white ash'

6.2.4.2. Primary stress on third syllable and secondary stress on first syllable.

/mɛ?iyɛni/	[²mɛ.?i.'yɛ.ni]	'back'
/pɛsɛrouwɛ/	[²pɛ.sɛ.'lɑu.wɛ]	'kind of bird'
/tapɛ?iyɛ/	[²ta.pɛ.'?i.yɛ]	'headband'
/ɛrɛsɛnɛ/	[²ɛ.lɛ.'sɛ.nɛ]	'secretly, carefully'

6.2.5. Quinsyllabic Words

These are the least frequent, few non-affixed words of five syllables having been found to date. The stress pattern appears to be primary stress on the fourth syllable and secondary stress on the second.

/kɛrɛsiyanɛ/ [kɛ.².rɛ.si.'ya.nɛ] 'kind of vine'

6.3. Phonological evidence for division into phonological words:

-- One primary stress in a non-affixed word, and stress patterns according to standard stress patterns.

/ɛrasi a?i/	[ɛ.'ra.si 'a.?i] (both primary stresses)	'big + limiter'
/sɛnarɛpɛ sɛ/	[sɛ.'na.rɛ.pɛ 'sɛ]	'grass + instrument'
/wai ma?ɛ/	['wɑj 'ma.?ɛ]	'canoe + locative'

-- CV patterns.
-- usually juncture, but not always, especially in verbs, where phrase intonation overrides this.
-- potential pause.

7. Phonological Phrase Level

A phonological phrase is a stretch of speech which may be very brief and bounded by a small pause, especially sentence-medially. At the boundaries of a phonological sentence these pauses are longer. Phonological phrases occurring nonfinal in the phonological sentence have nonfinal intonation. Those occurring finally have final intonation.

The phonological sentence corresponds to the grammatical sentence.

From one to nine phonological phrases have been found to occur in one sentence, and they may consist of only one word or a whole clause. The end of the clause corresponds with the end of a phonological phrase though

several of these may occur in one clause. Usually the phonological phrase does not divide within a grammatical phrase, but if it does, it is for the purpose of highlighting some point within that phrase.

['hɑ.rɛ 'to.mo ɛ.'rɑ.si] 'plenty of fish'
fish plenty

This is a short stative clause, being used as a short emphatic sentence at a climax of the story. It is divided into two brief phonological phrases separating the modifier, 'plenty' from the noun head to give extra emphasis that there really were a great number of fish.

The features marking the end of a phonological phrase differ as to whether the phonological phrase occurs finally or elsewhere in the sentence. Further grammatical, sememic and phonological analysis may suggest that some of these phonological phrase features are features of a higher level.

Features when occurring finally in the sentence:

1. Fall in intonation on the last syllable of the last word. This results in
2. Change of pitch of the last syllable of the last word to low pitch falling below the level of low pitch. These two features probably result from the influence of intonation at sentence level.
3. There is no change in stress pattern of the last word.

Features marking the end of a phonological phrase not occurring sentence finally:

1. Rise in intonation on the last syllable of the last word in the phonological phrase. This results in
2. High pitch on the last syllable of the last word, and depending on the standard stress and pitch pattern of that word, it may cause a change.
3. The final syllable of the last word bears stress, which, like pitch, may cause a change in the standard pattern of that word.

7.2 Intonation

The intonation over a sentence is carried by the phonological phrase(s) within that sentence, and in all except the last phonological phrase in a sentence the intonation rises finally. Hence, because a phonological phrase never crosses a clause boundary, the intonation rises at the end of each clause, except the final clause in a sentence, when the intonation falls. If there are several phonological phrases within a clause the intonation over that clause will have a wave effect of several successive rises, and if there are several clauses in a sentence the same wave effect occurs throughout the sentence terminating in the final fall of intonation.

Downdrift of intonation over several clauses has been observed. Observations to date show that this downdrift occurs in repetetive clauses leading to the end of the sentence, and in a numerical phrase at the end of

a sentence when each element within the phrase forms a phonological phrase with downdrift of intonation between each. It also seems to be a feature of numerals that the phonological phrases do not have a rise of intonation, but a fall, phrase-finally.

There seems to be no change of intonation pattern for questions, either polar or content questions.

7.3. Rhythm

Rhythm is a feature of the phonological phrase. Some phonological phrases consist of only one word, others of many words. Although the time taken in speech to utter these phrases does vary, it is found that the speech is considerably slower over the short phonological phrases and very much faster over the longer ones.

8. Morphophonemics

There is a strong tendency towards the following.

8.1. Phoneme /ɛ/ deletes before /i, ɛi, ɛ, ai, a, au, u, o/

However, /ɛ/ does not reduce if:
a) it is in a monosyllabic word
b) it comes finally in a phonological phrase
c) the speaker wants to emphasise that word.

/rɛ wɛi hoiyɛ awɛrɛ, piya ɛtɛ awɛrɛʔ/ sounds like:
[rɛ wɛ̨j hɑ̨jyawɛrɛ, piyɛtawɛrɛʔ] 'Is he still sleeping or not?'

/fɛnɛ wai sɛ iyɛi nɛ atahɛiwa/ sounds like:
[fɛnɛ wɑ̨j siyɛ̨j nɛ atahɛ̨jwa] 'You are about to leave by canoe'

/asɛiyɛ osɛiya/ sounds like:
[asɛ̨jyosɛ̨jya] 'He grooved for sago grubs'

/harɛ umasi wiyɛ/ sounds like:
[harumasi wiyɛ] 'He went up following the fish'

BUT:

/mɛ owɛ/ [mɛ owɛ] 'he cut wood' (monosyllabic word)

/anɛ ɛtɛrowa/ [anɛ ɛtɛlowa]
'I will buy it' (final in phon. phr.)

/ɛnɛ ayɛi nɛ atahɛiwa/ [ɛnayɛ̨j nɛ atahɛ̨jwa]
'you are about to eat'

and:

/ɛnɛ ayɛ/ [ɛnɛ ayɛ]
'you ate sago jelly' (when sago jelly is emphatic)

8.2. Phoneme /ɑ/ deletes before /ɑ, ɑi, ɛ/

/nɛ fɑ ɑiyɑ/	[nɛ fɑjyɑ]	'you must come'
/hɛtɑ ɑpɛ/	[hɛtɑpɛ]	'this one'
/piyɑ ɛtɛ ɑwɛrɛʔ/	[piyɛtɑwɛrɛʔ]	'...or not?'

8.3. Phoneme /i/ deletes before /i/ with rules for exceptions as in 1.

/sɑʔi itowɑ/ [sɑʔitowɑ] 'it is raining'

/sosu notosi nowɛ pɑsi iyɛirowɑ su, wɛsi irowɑ/
[sosu notosi nowɛ pɑsiyɛjrowɑ su, wɛsi irowɑ]
'then, when night comes, we will go home'

8.4. If a verb stem ends in /ɛ/, this vowel becomes /ɛi/ before verbal suffixes /-yɛ/ and /-yɛi/, past and future tense respectively.

/sutɛ/ 'carry!' (verb stem),	[sutɛjyɛ]	'carried'
	[sutɛjyɛj]	'will carry'
/totɛ/ 'think' (verb stem),	[totɛjyɛ]	'thought'
	[totɛjyɛj]	'will think'

8.5. Except for a few exceptions, /y/ occurs after front vowels and /w/ elsewhere in verbal tense suffixes.[4]

/onuwɛ/	'sat'	/onuwɛi/	'will sit'
/hoiyɛ/	'slept'	/hoiyɛi/	'will sleep'

8.6. Morphophonemic changes are not represented in written material, and the original phonological form is maintained, e.g.:

aseiye oseiya and not aseiyoseiya 'groove for sago grubs'

Reasons for this:

1. In some cases the morphological changes are optional.
2. If the original form is not maintained, long and unfamiliar words are produced, which could hinder new readers.

9. Pronunciation of Loan Words

Most of the following loan words are Pidgin, as pronounced by those who do not know Pidgin. Those who have learnt some Pidgin manage to pronounce the consonant clusters and extra phonemes without much difficulty.

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[4] ED: It appears from further data that the past and future tense suffixes may begin with /y/'s which become /w/ after a round vowel. Thus, a /y/ occurs after /ɑ/ (as in /ɑyɛ/ 'ate' and /ɑyɛi/ 'will eat'). In addition, the present tense always begins with /w/ as in /onuwɑ/ 'sits' and /hoiwɑ/ 'sleeps'.

gris	'fat'	['kɑ'risɛ] or [gris]
rais	'rice'	['lɑjsɛ]
sop	'soap'	['somɛ]
sol	'salt'	['sotɛ]
mama	'mother'	['mɑmɑ]
papa	'father'	['pɑpɑ]
balus	'airplane'	[bɑ'lusɛ]
Jisas	'Jesus'	['sisɑs] or ['sisɑsɛ]
Jon	'John'	['siyon]
helicopter		['hɛli'kopɑtɑ]
pumpkin		['pɑmɛ'ki]

10. Orthography

Phonemes	Allophones	Orthographic Symbols
/p/	[p] [b]	p P
/t/	[t]	t T
/k/	[k]	k K
/ʔ/	[ʔ]	' '
/f/	[f]	f F
/s/	[s]	s S
/h/	[h]	h H
/r/	[r] [l]	r R
/m/	[m]	m M
/n/	[n]	n N
/w/	[w] [v]	w W
/y/	[y]	y Y
/i/	[i]	i I
/ɛ/	[ɛ] [ə]	e E
/ɑ/	[ɑ]	a A
/u/	[u]	u U
/o/	[o] [ɔ]	o O
/ɑi/	[ɑj]	ai Ai
/ɛi/	[ɛj]	ei Ei
/oi/	[ɔj]	oi Oi
/ɑu/	[ɑu̯]	au Au
/ou/	[ɔu̯]	ou -

Appendix

Contrasts

Consonants

/t/ and /s/

/taʔi/	['ta.ʔi]	'one'
/saʔi/	['sa.ʔi]	'water'
/pati/	['pa.ti]	'kind of tree'
/pasi/	['pa.si]	'night'

/k/ and /ʔ/

/moku/	[mo.'ku]	'owl'
/moʔu/	[mo'ʔu]	'breast'

/h/ and /ʔ/

/ahi/	['a.hi]	'mouth'
/aʔi/	['a.ʔi]	'limit'
/nohuwɛ/	[no.'hu.wɛ]	'married couple'
/noʔu/	['no.ʔu]	'noise'

/w/ and /y/

/wai/	['wɑj]	'canoe'
/yai/	['yɑj]	'sister-in-law'
/wɛnɛ/	['wɛ.nɛ]	'bole of a tree'
/yɛnɛ/	['yɛ.nɛ]	'young of an animal'

Word medially, /w/ tends to follow low vowels, and /y/ follows high vowels:

/wiyawi/	['wi.ya.'wi]	'work'
/uwahu/	['u.wa.'hu]	'limbun'
/siyɛ/	['si.yɛ]	'coconut'

but

/siwɛri/	['si.wɛ.'li]	'kind of tree'
/siwɛi/	['si.wɛj]	'drain'

Vowels

/i/ and /ɛ/

/inɛ/	['i.nɛ]	'centipede'
/ɛnɛ/	['ɛ.nɛ]	'sago jelly'
/ani/	['a.ni]	'take!'
/anɛ/	['a.nɛ]	'I, me'

/ɑ/ and /ɛ/

/ɑrɛmɛ/	['ɑ.rɛ.'mɛ]	'kind of bird'
/ɛrɛmɛ/	['ɛ.rɛ.'mɛ]	'nose'
/ɑnɛ/	['ɑ.nɛ]	'I, me'
/ɛnɛ/	['ɛ.nɛ]	'sago jelly'

/u/ and /o/

/u/	['u]	'sickness'
/o/	['o]	'prohibitive'
/ro?u/	['lo.?u]	'fruit'
/ro?o/	['lo.?o]	'fence'
/potu/	[po.'tu]	'wide, big'
/poto/	[po.'to]	'emphatic particle'

/ɛ/ and /ɛi/

/ɛinɛ/	['ɐj.nɛ]	'spear'
/ɛnɛ/	['ɛ.nɛ]	'sago jelly'
/ɑwɛi/	[ɑ.'wɐj]	'ground'
/ɑwɛ/	['ɑ.wɛ]	'tanget plant'

/ou/ and /o/

/you/	['yɑu]	'dog'
/yo/	['yo]	'way, opening, door'
/sou/	['sɑu]	'frog'
/so/	['so]	'seed'