

MT. KOIALI PHONEMICS

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2.

Introduction. Mountain Koiali is a language spoken by some 2,000 people living along the Kokoda Trail in the Central District of Papua. It is a sub-family of the Koialian family of languages. There are four dialects which evidence only minor variations. In addition, there are at least two other dialects which lie on the language boundaries and have not been surveyed.

The corpus for this paper consists of approximately 800 lexical items which were obtained at Efogi, located about half-way between Kokoda and Owens Corner. The principal language helpers were Gea Ladive, age 20, and Ebe Gaibili, age 18, both residents of Efogi. A total of six months was spent in the village gathering data.

3. Chart of Phonemes.

3.1. Contrastive Feature Chart.

Consonants

	Labial	Alveolar	Palatal
Stops vl.		t	k
vd.	b	d	g
Fricatives	v	s	h
Lateral		l	
Nasals	m	n	

Vowels

	Front	Back
High	i	u
Mid	e	o
Low	a	

For simpler phonemic symbolization throughout this paper, the phonetic norm has been abbreviated in the following cases: /v/ for /β/, /s/ for /ʂ/, /h/ for /χ/, and /e/ for /ɛ/.

3.2. Description of Contrastive Features.

3.2.1. Consonants. There is contrast as to manner of articulation between voiced and voiceless stops, fricatives, nasals, and a lateral. The stops contrast as to voiced and voiceless articulation as well as to labial, alveolar, and palatal points of articulation. The fricatives contrast as to labial, alveolar, and palatal points of articulation. The nasals contrast as to labial and alveolar points of articulation.

3.2.2. Vowels. Vowels contrast vertically as to high, mid, and low tongue positions. The high and mid vowels contrast as to front and back tongue positions.

4. Interpretation.

4.1. The status of items that may be either consonant or vowel. The phonetic items (u) and (i) have been interpreted as vowels for the following reasons:

- 1) There are no non-suspect consonant clusters.
- 2) The syllable pattern would be complicated by the addition of a CVC and VC, as well as a CCV pattern.
- 3) The interpretation of labialized consonants as unit phonemes would add at least nine consonant phonemes since they contrast with their non-labialized counterparts as in:

/tualiho/	(tu'aligo)	'to fight'
/taliho/	(ta'ligo)	'to go'

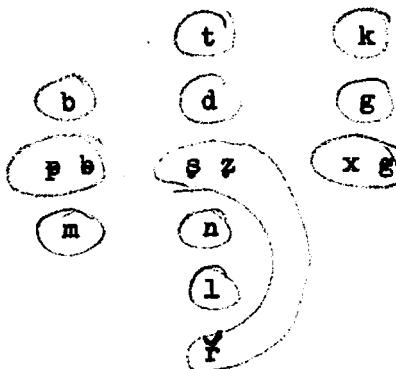
- 4) They are both units of stress placement. The rhythmic pattern is the same in a CVVCV as in a CVCVCV pattern, that is, each is a three-syllable word with stress/pitch on the second syllable. For example:

/heinu/ (xe'inu) 'cut'
/dabanu/ (da'banu) 'cold'

5. Description of Phonemes.

5.1. Consonants.

5.1.1. Work Chart.



5.1.2. Description. All consonants are produced with egressive lung air. Stress is not indicated phonemically as it is predictable.

5.1.2.1. Stops.

/t/ (t) Voiceless alveolar stop
/tana/ ('tana) 'mountain'
/to/ (to) 'dog'
/gutumo/ (gu'tumo) 'afternoon'
/bevate/ (be'vetə) 'yellow'

/k/ (k) Voiceless velar stop

/kina/	('kina)	'head'
/kulu/	('kulu)	'kunai'
/anaka/	(a'naka)	'steps'
/oako/	(o'ako)	'butterfly'

/b/ (b) Voiced bilabial stop

/baluga/	(ba'luga)	'big'
/dabanu/	(da'banu)	'cold'
/vabuti/	(va'buti)	'calf' of leg'
/boto/	('boto)	'bush'

/d/ (d) Voiced alveolar stop

/duave/	(du'abe)	'good'
/didi/	('didi)	'star'
/haduanu/	(xa'duanu)	'snore'
/dabanu/	(da'banu)	'cold'

/g/ (g) Voiced velar stop

/golema/	(go'lama)	'ear'
/doga/	('doga)	'today'
/guluba/	(gu'luba)	'spear'
/nigi/	('nigi)	'grass skirt'

5.1.2.2. Fricatives.

/v/ (p) Voiceless bilabial fricative occurs
word initially.

/vani/	('pani)	'sun'
/vene/	('peñe)	'firewood'

/vugeve/	(pu'gebe)	'short'
/vio/	('pio)	'spit'

(b) Voiced bilabial fricative occurs word medially.

/eseve/	(ɛ'zεbɛ)	'little'
/ive/	('ibɛ)	'seed'
/vavia/	(pa'bia)	'grandmother'
/uvuve/	(u'bubɛ)	'inside'

/h/ (x) Voiceless velar fricative occurs word initially.

/heluka/	(xɛ'luka)	'wind'
/hade/	('xadɛ)	'post'
/hoho/	('xogo)	'younger sibling'
/humaha/	(xu'maga)	'road'

(g) Voiced velar fricative occurs word medially.

/moheho/	(mo'gogo)	'boy'
/mahina/	(ma'gina)	'wife'
/vahoto/	(pa'goto)	'sweat'
/hohavonu/	(xo'gabonu)	'call'

/s/ (s) Voiceless retroflexed alveolar grooved fricative occurs word initially.

/siga/	('siga)	'knife'
/sibuta/	(si'buta)	'already'
/soe/	('sɔɛ)	'axe'
/sisu/	('sizu)	'banana leaf'

(z). Voiced retroflexed alveolar grooved
fricative occurs word medially.

/isivianu/	(i'zibɪ'anu)	'to like'
/esoanu/	(ɛ'zoanu)	'wet'
/bese/	('bezɛ)	'family'
/kosive/	(ko'zibɛ)	'headman'

(r) Voiced alveolar flapped vibrant occurs
in non-contrastive free fluctuation with
(z) during rapid speech.

/ese/	('ɛzɛ) ~ ('ɛrɛ)	'little'
/kosive/	(ko'zibɛ) ~ (ko'ribɛ)	'headman'
/komusaka/	(Ko'mužaka) ~ (Ko'muřaka)	'ankle'
/hosidinu/	(xo'židinu) ~ (xo'rividinu)	'miss target'

5.1.2.3. Nasals.

/m/ (m) Voiced bilabial nasal

/malaha/	(ma'laga)	'man'
/mami/	('mami)	'old'
/matama/	(ma'tama)	'place'
/moaga/	(mo'aga)	'many'

/n/ (n) Voiced alveolar nasal

/munana/	(mu'nana)	'shadow'
/neme/	('nɛmɛ)	'tongue'
/hanianu/	(xa'nianu)	'doze'
/nova/	('nobə)	'today'

5.1.2.4. Lateral.

/l/ (1) Voiced alveolar lateral

/lovi/	('lobi)	'food'
/luti/	('luti)	'abdomen'
/heluka/	(xε'luka)	'wind'
/holinu/	(xo'linu)	'touch'

5.1.3. Contrasts.

5.1.3.1. Stops.

/d/ and /t/

/ada/	('ada)	'hand'
/ata/	('ata)	'people'
/dana/	('dana)	'I?'
/tana/	('tana)	'mountain'
/debanu/	(do'banu)	'falldown'
/tobalu/	(te'balu)	'wild dog'
/ti/	(ti)	'rafter'
/di/	(di)	'I'

/g/ and /k/

/ikoko/	(i'koko)	'nail'
/inogo/	(i'nogo)	'thorn leaf'
/devuka/	(dε'buka)	'tadpole'
/baluga/	(ba'luga)	'big'
/koianu/	(ko'ianu)	'tear down'
/goianu/	(go'ianu)	'burnt'
/ego/	('ego)	'cloth'
/okolo/	(o'kolo)	'fruit bat'

5.1.3.2. Stops and Fricatives.

/b/ and /v/

/bata/	('bata)	'moon'
/vata/	('vata)	'ground'
/bobo/	('bobo)	'var. of grass'
/vovo/	('vovo)	'ripe'
/sibuta/	(s̥i'buta)	'already'
/uvuve/	(u'vuv̥e)	'inside'
/libianu/	(li'bianu)	'cold'
/ivianu/	(i'bianu)	'scrape'

/h/ and /k/

/homo/	('xomo)	'roofing leaf'
/komo/	('komo)	'here'
/homedo/	(ho'mədo)	'fly'
/komeve/	(ko'məve)	'knee'
/haivunu/	(xa'ibunu)	'teach'
/kainu/	(Ka'ianu)	'surprise'
/hove/	('xoh̥e)	'chest'
/kove/	('koh̥e)	'here'

/h/ and /g/

/valaha/	(pa'laga)	'down there'
/baluga/	(ba'luga)	'big'
/lahanu/	(la'ganu)	'sleep'
/vagana/	(pa'gana)	'wet season'
/humaha/	(xu'maga)	'road'
/moaga/	(mo'aga)	'many'

/boho/	('bogo)	'var. of greens'
/ogo/	('ogo)	'cloth'

/s/ and /t/

/sisu/	('šizu)	'banana leaf'
/tivu/	('tibu)	'mud'

/sava/	('šaba)	'wet'
/tava/	('taba)	'tree trunk'

/soleka/	(šo'lëka)	'fast'
/teleima/	(to'lëima)	'write'

/tasa/	('taza)	'go'
/tata/	('tata)	'older sister'

/s/ and /d/

/isi/	('izi)	'and'
/idi/	('idi)	'tree'

/osisi/	(o'zizi)	'var. of bird'
/didi/	('didi)	'star'

/sisima/	(ši'žima)	'var. of tree'
/idima/	(i'dima)	'make twine'

/kelosa/	(kë'loza)	'personal name'
/elodo/	(ɛ'lodo)	'var. of sweet potato'

5.2. Vowels.

5.2.1. Work Chart.

i	u
ɛ	ɔ
a	

5.2.2. Description. All vocoids are voiced and are produced with egressive lung air.

/i/ (i) High close unrounded front vocoid

/heinu/	(hɛ'iu)	'cut'
/iu/	('iu)	'eat'
/di/	(di)	'I'
/ivi/	('ibi)	'name'

/e/ () Mid open unrounded front vocoid

/goe/	('goɛ)	'cloud'
/eteka/	(ɛ'teka)	'side of body'
/egete/	(ɛ'getɛ)	'long'
/eno/	('ɛno)	'neck'

/a/ (a) Low open unrounded central vocoid

/abata/	(a'bata)	'hole'
/vanu/	('panu)	'make'
/vavimo/	(pa'bimo)	'night'
/igai/	(i'gai)	'one'

/o/ (o) Mid close rounded back vocoid

/kove/	('kɔβɛ)	'here'
/homo/	('xomo)	'roofing leaf'
/oako/	(o'ako)	'butterfly'
/to/	(to)	'dog'

/u/ (u) High close rounded back syllabic vocoid

/vabuti/	(pa'buti)	'calf of leg'
/ugu/	('ugu)	'bird'
/uvuanu/	(u'buau)	'sad'
/humaha/	(xu'maga)	'road'

5.2.3. Contrasts.

/i/ and /e/

/ive/	('ibɛ)	'seed'
/ivi/	('ibi)	'name'
/isi/	('izi)	'and'
/ese/	('ɛzɛ)	'child'
/veni/	('pəni)	'rain'
/vene/	('pəne)	'firewood'
/vilo/	('pilo)	'var. of pumpkin'
/vele/	('pəlo)	'foot'

/i/ and /u/

/ive/	('ibɛ)	'seed'
/uve/	('ubɛ)	'banana'
/ima/	('ima)	'eat'
/uma/	('uma)	'to be'
/ivi/	('ibi)	'name'
/uvu/	('ubu)	'room'
/vani/	('pani)	'sun'
/vanu/	('panu)	'make'

/e/ and /a/

/vate/	('pate)	'skin'
/vata/	('pata)	'ground'
/vani/	('pani)	'sun'
/veni/	('pani)	'rain'
/hale/	('xale)	'stop'
/hala/	('xala)	'fence'
/male/	('malf)	'get'
/mala/	('mala)	'var. of tree'

/e/ and /o/

/eno/	('eno)	'neck'
/ono/	('ono)	'what'
/te/	(tə)	'go!'
/to/	(tə)	'dog'
/keve/	('kəbe)	'there'
/kove/	('kobe)	'here'
/bene/	('bəne)	'negative'
/beno/	('bəno)	'ridge pole'

/a/ and /o/

/bata/	('bata)	'moen'
/boto/	('boto)	'bush'
/dabunu/	(da'banu)	'cold'
/dobunu/	(do'banu)	'fall down'
/mahoho/	(ma'gogo)	'girl'
/mohoho/	(mo'gogo)	'boy'
/laha/	('laga)	'string bag'
/loho/	('logo)	'come!'

/u/ and /o/

/uvu/	('ubu)	'room'
/ovo/	('obo)	'pig'
/ugu/	('ugu)	'bird'
/ego/	('ogo)	'cloth'
/tu/	(tu)	'var. of greens'
/to/	(to)	'dog'
/guluba/	(gu'luba)	'spear'
/goloba/	(go'loba)	'var. of tree'

/i/, /e/, /a/, /o/, /u/

/i/	(i)	'eat!'
/e/	(ɛ)	'water'
/a/	(a)	'you'
/o/	(o)	'house'
/u/	(u)	'stay!'

5.3. Supra-segmental items.

5.3.1. Length. The stressed syllable is usually slightly lengthened and the final syllable is slightly shortened. Otherwise, each syllable, i.e., each vowel, tends to exercise its full value.

5.3.2. Stress. Stress is non-contrastive and occurs as follows:

Two-syllable words, always on first syllable.

/ata/	('ata)	'people'
/vani/	('pani)	'sun'
/gee/	('goε)	'cloud'

Three-syllable words, always on second syllable.

/tummanu/	(tu'manu)	'scratch'
/meaga/	(mo'aga)	'many'
/otego/	(o'tego)	'sky'

Four-syllable words, always on second syllable.

/evudenu/	(ɛ'budenu)	'hold on lap'
/tumuuanu/	(tu'muanu)	'hurt'
/bolekava/	(bo'lɛkaba)	'green python'

Five-syllable words, always on second and fourth syllables. There is no recognizable difference between the two stresses.

/kubilianu/	(ku'bili'anu)	'to be dull'
/evutivanu/	(ɛ'buti'banu)	'mix together'
/galasianu/	(ga'laži'anu)	'dive'

5.3.3. Intonation. Mt. Koiali intonation does not have the high and low pattern which characterizes English. Typically, on the word level, the first syllable is a level tone, the middle syllable(s) slightly higher, and the final syllable slightly lower. Phonological phrase groupings tend toward a monotone with a slight rise at the end of a dependent clause and a slight fall at the end of a complete thought. Interrogative clauses are characterized by the final syllable maintaining the tone of the middle syllable(s) accompanied by a lengthening of the final syllable.

6. Distribution.

6.1. Syllables. A syllable consists of a nucleus of one vowel with an optional consonant onset. The single V pattern can occur four times in succession, but usually no more than three. Words of up to eight syllables have been observed which may be formed by any combination of V and CV.

6.2. Consonants. Any consonant may occur in word initial or word medial positions, but never word final. Consonant clusters do not occur.

6.3. Vowels. Any vowel may occur in word initial, medial or final positions. Vowel clusters of as many as four vowels have been observed. See chart which follows, 6.3.1.

6.3.1. Vowel Cluster Distribution.

	<u>Initial</u>	<u>Medial</u>	<u>Final</u>
ie	X	X	X
ia	X	X	X
io	X	X	X
iu		X	X
ei	X	X	X
ea	X	X	X
eo		X	X
eu	X	X	X
ai	X	X	X
ae	X	X	X
ao		X	X
au	X	X	X
oi		X	X
oe	X	X	X
oa	X	X	X
ou	X	X	X
ui	X	X	X
ue	X	X	X
ua	X	X	X
uo	X		

Clusters of three consecutive vowels are common. The following have been observed: aia, aie, aea, aoi, aoe, aea, iae, iai, iau, ioi, ioa, eai, eia, eau, oea, oia, oai, oeu, oua, uai, uia, uie.

Clusters of four consecutive vowels are rare. The following have been observed: oeaau, ioai, oiai, aiaai, aeai, oiau.

7. Orthography.

7.1. A suggested orthography.

/t/	(t)	t
/k/	(k)	k
/h/	(x) (g)	h
/b/	(b)	b
/d/	(d)	d
/g/	(g)	g
/v/	(p) (b)	v
/m/	(m)	m
/n/	(n)	n
/l/	(l)	l
/s/	(§) (z)	s
/i/	(i)	i
/e/	(ε)	e
/a/	(a)	a
/ə/	(o)	o
/u/	(u)	u

7.2.

List of English words as spoken by Mt. Koialis.

1. shirt	sieti
2. saucepan	sosibani
3. recorder	lekoti
4. kerosene	kelosini
5. week	vuiki
6. truck	talaka
7. boat	boutu
8. shoe	su
9. bicycle	basikolo
10. flower	valavala
11. book	buka
12. tomato	tomato
13. grass	galasi
14. pump	bamu
15. soap	sebo
16. coffee	kobe
17. paper	beba
18. box	bokisi
19. sheet	siti
20. bucket	baketa
21. pipe	baiba
22. basket	basiketi
23. plane	beleini
24. lumber	lameba

Sample Text.

Phonetic transcription: di 'nibu pa'bita

Proposed orthography: di nivu vavita

Literal translation: I yesterday morning

ɛ 'babae 'timu ti'niale 'ogo to'toanu

ebavae tinu tiniale ogo totoanu

water-edge go went-when cloth wash

xo'ila'gai lo'gonu xo'ila'gai lo'goni'ale

hoilahai lehonu hoilahai lohoniale

return come return come-when

'ugu 'mole elehai xa'mai 'mai 'og lo'gonu

ugu mole elehai hamai mai oe lohonu

bird unit see hit get house-to come

I went to the river yesterday and washed
 clothes. Coming back, I saw a bird which I
 killed and brought home.

20 February, 1973

To: Orthography committee FROM: Roger Garland by phone to Alan Healey
Re: Suggestions of committee which met 31 July, 1972 to consider Mt. Koiali.
Purpose: Approved orthography status.

The suggestion was made by the orthography committee to use 'f' for /v/ rather than 'v'.

This was tested with Motu readers, interchanging 'f' and 'v' in single words as well as in sentences. The readers stumbled repeatedly over 'f' but had no trouble with 'v'. There is no 'f' in Motu except for a few loan words, which explains the acceptance of 'v' by the Motu readers. Motu is widely known and used in Koiali villages. So the 'v' would naturally fit in better with their knowledge of that system.

As for teaching illiterates, it is felt that they will adapt to the 'v' as readily as the 'f' since they don't know the sound value of either.

Literacy is quite high in our area. Nearly all of the children go to school for at least 2 or 3 years. Most of the people up to age 30 can read and write Motu. It has been found that they can transfer quite readily to Koiali, assuming they already know Motu.

After reanalyzing the tentative orthography, no other changes seem necessary.