

Phonemic Statement of Tagabawa

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0. INTRODUCTION

The Tagabawa language belongs to the Manobo subfamily of Philippine languages. The Tagabawa people also refer to themselves as Bagobo, a designation also applied to and used by speakers of Guiangan (Jangan or Dyangan), a different language not belonging to the Manobo subfamily

This study is an attempt to define the phonology of the Tagabawa spoken by those residing in Malasila, Makilala, Cotabato. It is also assumed to be the phonology of the entire language spoken throughout a roughly semicircular area southwest and southeast of Mount Apo extending from Kidapawan on the west to Toril on the east, including parts of Cotabato and Davao del Sur provinces and Davao City. Some regional variation exists in the choice between the /l/ and /r/ phonemes in given words, /l/ predominating in the western area of the language, and /r/ predominating in the central and eastern areas.

The data in this description was collected throughout the years 1987 and 1988 in Sitio Lambac, Malasila, Makilala, Cotabato, by the authors under the auspices of the Summer Institute of Linguistics. The principal language assistant was Miss Peligrina E. Lambac, 34 years old at the time.

1. PHONEMES

The phonemic inventory of Tagabawa consists of twenty-two segmental phonemes, of which sixteen are consonants and six are vowels. These phonemes are summarized in the following chart.

1.1. Chart of Phonemes

CONSONANTS				
	BILABIAL	ALVEOLAR	VELAR	GLOTTAL
STOPS				
vl.	p	t	k	ʔ
vd.	b	d	g	
FRICATIVES		s		h
NASALS	m	n	ŋ	
LATERAL		l		
FLAP		r		
	BILABIAL	PALATAL		
SEMIVOWELS	w	j		

VOWELS			
	FRONT	CENTRAL	BACK
HIGH	i		
MID	e	ə	o
LOW		a	ɔ

1.2. Description of Phonemes

1.2.1. Consonants

The phonemes /p/, /t/, /k/ and /ʔ/ are voiceless stops articulated respectively at the bilabial, alveolar, velar and glottal positions. Each has a released allophone, [p], [t], [k] and [ʔ], occurring in syllable onsets, as in:

- [ˈpaʔa] /ˈpaʔa/ ‘foot, leg’
- [ˈpaɡoɖ] /ˈpaɡoɖ/ ‘effort’
- [ˈpeŋkʔ] /peŋk/ ‘to climb’
- [ˈpiɖ] /ˈpiɖ/ ‘to bring, carry’
- [ˈpɔkɛʔ] /pɔkɛʔ/
- [ˈʔapaŋ] /ʔapaŋ/ ‘kind of grasshopper’

[ʔipən'noʔ] /ʔipən'noʔ/ 'to fill'
 [ʔɔpos] /ʔɔpos/ 'a kind of squash'
 [ʔaba] /ʔaba/ 'an answer, to answer'
 [ʔemməs] /ʔemməs/ 'to arrange, tidy up'
 [ʔiʔaŋ] /ʔiʔaŋ/ 'to carry on shoulder'
 [ʔəkʰtəkʰ] /ʔəkʰtəkʰ/ 'to peck holes in fruit'
 [ʔatəd] /ʔatəd/ 'to take, deliver'
 [ʔətəp] /ʔətəp/ 'human speech, animal call'
 [ʔmata] /ʔmata/ 'eye'
 [ʔitis] /ʔitis/ 'to pour a liquid'
 [ʔotaŋ] /ʔotaŋ/ 'debt'
 [ʔkagʰpa] /ʔkagʰpa/ 'chest'
 [ʔkedo] /ʔkedo/ 'mercy'
 [ki'lala] /ki'lala/ 'recognize'
 [ʔkɔmbəŋ] /ʔkɔmbəŋ/ 'Jew's harp'
 [ʔkodaʔ] /ʔkodaʔ/ 'horse'
 [ʔakar] /ʔakar/ 'to trick'
 [ʔabas] /ʔabas/ 'measles'
 [ʔedət] /ʔedət/ 'to bounce'
 [ʔbɛŋkɔgʰ] /ʔbɛŋkɔgʰ/ 'crooked'
 [bi'toka] /bi'toka/ 'intestines'
 [ʔibaŋ] /ʔibaŋ/ 'left side or hand'
 [ʔɔgət] /ʔɔgət/ 'cloth yardage'
 [ʔobad] /ʔobad/ 'to untie'
 [ʔolo] /ʔolo/ 'one's head'
 [ʔlaʔas] /ʔlaʔas/ 'to cut off'
 [liŋ'kɔʔɔd] /liŋ'kɔʔɔd/ 'to kneel'
 [ʔol'laʔɔ] /ʔol'laʔɔ/ 'to scream, shout'
 [ʔbaʔe] /ʔbaʔe/ 'a kind of yam'

Each also has an unreleased allophone, [p̚], [t̚], [k̚] and [ʔ̚], occurring in word-final position and before stops, as in:

[ʔatəp̚] /ʔatəp̚/ 'roof'
 [ləkʰkəp̚] /ləkʰkəp̚/ 'eclipse'
 [sagʰkɔp̚] /sagʰkɔp̚/ 'twilight'
 [ʔawat̚] /ʔawat̚/ 'receive'
 [bət̚tɔd] /bət̚tɔd/ 'to uproot'
 [ma'ɲit̚təŋ] /ma'ɲit̚təŋ/ 'dark, obscure'
 [ʔawak̚] /ʔawak̚/ 'waist'
 [sək̚da] /sək̚da/ 'to ask about'
 [bək̚kəŋ] /bək̚kəŋ/ 'strength'
 [bək̚kɔgʰ] /bək̚kɔgʰ/ 'one's back'
 [ba'haʔ̚] /ba'haʔ̚/ 'chin'

[¹dap¹dap¹] /¹dapdap/ ‘a kind of tree’

[¹bit¹bit¹] /¹bitbit/ ‘to dangle’

[¹bak¹bak¹] /¹bakbak/ ‘bullfrog’

[bak¹layan] /bak¹layan/ ‘sand’

The phonemes /b/, /d/ and /g/ are voiced stops articulated respectively at the bilabial, alveolar and velar positions. All three also have released and unreleased allophones found in the same environments as their voiceless counterparts, as in:

[¹baboj] /¹baboj/ ‘pig’

[¹bet¹təd¹] /¹bettəd/ ‘to uproot’

[¹bək¹kər] /¹bəkkər/ ‘strength’

[¹bək¹kəg¹] /¹bəkkəg/ ‘one’s back’

[bi¹najo] /bi¹najo/ ‘to pound in a mortar’

[¹bobon] /¹bobon/ ‘one’s thigh’

[¹ʔəb¹bəl] /¹ʔəbbəl/ ‘smoke’

[ko¹rab¹kab¹] /ko¹rabkab/ ‘of a domestic fowl, to flap it’s wings together’

[¹dalid¹] /¹dalid/ ‘root’

[¹ʔən¹daso] /¹ʔən¹dasu/ ‘and when, and then’

[¹dələk¹] /¹dələk/ ‘small’

[¹dila¹ʔ] /¹dilaʔ/ ‘one’s tongue’

[¹dəgə] /¹dəgə/ ‘a short period of time’

[¹dogaŋ] /¹dogaŋ/ ‘to add more to’

[¹ʔindəs] /¹ʔindəs/ ‘to defecate’

[¹kəbed¹] /¹kəbed/ ‘crooked, skewed’

[ma¹rəd¹dəg¹] /ma¹rəddəg/ ‘rotten, decayed’

[¹pad¹pad¹] /¹padpad/ ‘to shake off something clinging’

[¹gət¹tək¹] /¹gəttək/ ‘abdomen’

[¹gaga] /¹gaga/ ‘to be able to do, to achieve’

[¹gena] /¹gena/ ‘awhile ago’

[¹git¹] /¹git/ ‘to step on’

[¹gərə] /¹gərə/ ‘ability, character’

[¹maŋga¹ʔ] /¹maŋgaʔ/ ‘mango tree or fruit’

[bəg¹gas] /bəg¹gas/ ‘rice’

[¹ʔiləb¹] /¹ʔiləb/ ‘saliva’

[¹kilid¹] /¹kilid/ ‘side’

[¹ʔikog¹] /¹ʔikog/ ‘tail’

[¹dab¹dab¹] /¹dabdab/ ‘ignite’

[bo¹rid¹bid¹] /bo¹ridbid/ ‘twist’

[¹kag¹pa] /¹kagpa/ ‘chest’

[¹big¹kas] /¹bigkas/ ‘to separate two persons’

The phoneme /s/ is a voiceless alveolar fricative as in:

[¹sabat] /¹sabat/ 'to sample food'
 [səb¹'bad¹] /səb¹'bad/ 'one'
 [¹sed¹'dɔp¹] /¹seddɔp/ 'to suck up'
 [¹sida] /¹sida/ 'silky cloth'
 [¹sɔsɔk] /¹sɔsɔk/ 'next, adjacent'
 [¹sobaʔ¹] /¹sobaʔ/ 'to travel uphill or upstream'
 [da¹sal] /da¹sal/ 'to pray, worship'
 [¹soɔsɔr] /¹soɔsɔr/ 'splinter'
 [¹bosbos] /¹bosbos/ 'to pour'
 [¹ʔabas] /¹ʔabas/ 'measles'

The phoneme /h/ is a voiceless glottal fricative, as in:

[¹lohaʔ¹] /¹lohaʔ/ 'a tear'
 [¹ʔaho] /¹ʔaho/ 'enter'
 [¹pihit¹] /¹pihit/ 'to turn, rotate'

This phoneme occurs word initial only in borrowed words, as in:

[ha¹pon] /ha¹pon/ 'Japanese'
 [¹hosaj] /¹hosaj/ 'legal arbitration'
 [¹howis] /¹howis/ 'a judge'

The phonemes /m/, /n/ and /ŋ/ are voiced nasals articulated at the bilabial, alveolar and velar positions respectively, as in:

[¹madat¹] /¹madat/ 'bad, evil'
 [¹mɛlɔ] /¹mɛlɔ/ 'of fruit, unripe'
 [¹mənnɔ] /¹mənnɔ/ 'how'
 [¹mi¹nelɔ] /mi¹nelɔ/ 'orphan'
 [¹momo] /¹momo/ 'food particles, crumbs'
 [¹ʔəm¹maʔ¹] /ʔəm¹maʔ/ 'father'
 [¹ʔinəm] /¹ʔinəm/ 'drink'
 [¹əmbɔ] /¹əmbɔ/ 'a rat'
 [¹nanaʔ¹] /¹nanaʔ/ 'pus'
 [nəŋ¹ŋaʔ¹] /nəŋ¹ŋaʔ/ 'correct, proper, enough'
 [¹nidaʔ¹] /¹nidaʔ/ 'honeycomb'
 [¹nɔnɔɾ] /¹nɔnɔɾ/ 'to provoke a landslide'
 [¹nonog¹] /¹nonog/ 'to consent'
 [¹bolan] /¹bolan/ 'moon'
 [ba¹lagəŋ] /ba¹lagəŋ/ 'rattan'
 [¹ŋadan] /¹ŋadan/ 'one's name'
 [¹ŋiŋi] /¹ŋiŋi/ 'saliva'
 [¹pəŋŋa] /¹pəŋŋa/ 'finish'

[¹posoŋ] /¹posoŋ/ ‘heart’
 [¹doŋgoʔ¹] /¹doŋgoʔ/ ‘to arrive, reach’

The phoneme /l/ is a voiced alveolar lateral, as in:

[la¹laŋ] /la¹laŋ/ ‘plan’
 [¹lemas] /¹lemas/ ‘to bail water out of’
 [ləb¹bag] /ləb¹bag/ ‘to swell’
 [ma¹lomet¹] /ma¹lomet/ ‘weak’
 [¹lobog¹] /¹lobog/ ‘to wallow’
 [¹libəd¹] /¹libəd/ ‘to coil, wrap around’
 [ʔal¹lid¹] /ʔal¹lid/ ‘to avoid’
 [ʔəl¹laŋ] /ʔəl¹laŋ/ ‘a slave’
 [ʔa¹bol] /ʔa¹bol/ ‘one’s knee’
 [¹tolda] /¹tolda/ ‘tent, awning’
 [¹kəl¹kəl] /¹kəl¹kəl/ ‘to tremble’

The phoneme /r/ is a voiced alveolar flap, as in:

[ma¹raraŋ¹] /ma¹raraŋ/ ‘yellow’
 [ma¹rentək¹] /ma¹rentək/ ‘small’
 [¹rimət¹] /¹rimət/ ‘to grind finely’
 [¹rəŋ¹rəŋ¹] /¹rəŋrəŋ/ ‘a flame’
 [¹rəŋ¹gon] /¹rəŋgon/ ‘while’
 [¹rob¹bad] /¹rob¹bad/ ‘one’s descendants’
 [¹boraʔ¹] /¹boraʔ/ ‘froth’
 [¹sag¹bər] /¹sag¹bər/ ‘cut grass’
 [kadigər¹ran] /kadigər¹ran/ ‘one’s desire’

The phonemes /w/ and /j/ are voiced nonsyllabic vocoids (semivowels) articulated at the bilabial and palatal positions respectively, as in:

[¹wak¹wak¹] /¹wakwak/ ‘witch’
 [¹wiʔid¹] /¹wiʔid/ ‘be sad at parting’
 [¹wajig¹] /¹wajig/ ‘water, river’
 [so¹we] /so¹we/ ‘to turn aside’
 [¹dowən] /¹dowən/ ‘there is, there are’
 [¹lawod¹] /¹lawod/ ‘deep ocean, far out at sea’
 [¹bəwwə] /¹bəwwə/ ‘top surface’
 [¹jawjaw] /¹jawjaw/ ‘scold’
 [¹baji] /¹baji/ ‘female’
 [¹lajjo] /¹lajjo/ ‘infertile’
 [ʔəp¹pəj] /ʔəp¹pəj/ ‘snake’

1.2.2. Vowels

The phoneme /i/ is a voiced high close front unrounded vocoid, as in:

[ʔisiʔ] /ʔisiʔ/ ‘urine’
 [bitʔbitʔ] /bitbit/ ‘to dangle’
 [gitʔ] /git/ ‘to step on’
 [kita] /kita/ ‘to meet, find, see’
 [lima] /lima/ ‘numeral five’
 [ʔamin] /ʔamin/ ‘to consume’
 [nito] /nito/ ‘a familiar spirit’
 [pidʔ] /pid/ ‘to bring, carry’
 [rimətʔ] /rimət/ ‘finely ground corn’
 [sibot] /sibot/ ‘a netted picking pole’
 [tiʔaŋ] /tiʔaŋ/ ‘to carry on shoulder’
 [wiʔidʔ] /wiʔid/ ‘to be sad when parting’
 [wayigʔ] /wayig/ ‘water’
 [dini] /dini/ ‘here’
 [ʔadi] /ʔadi/ ‘younger sibling’

The phoneme /e/ has two allophones. The voiced mid open front unrounded vocoid allophone [ɛ] occurs only in syllables closed by voiceless stops, [pʔ], [tʔ], [kʔ], or [ʔʔ], as in:

[ʔətɛpʔ] /ʔətɛp/ ‘noise’
 [lɛppa] /lɛppa/ ‘a dry branch of a coconut tree’
 [betʔbetʔ] /betbet/ ‘lift’
 [berɛtʔ] /berɛt/ ‘cross-eyed’
 [kɔʔwɛkʔ] /kɔʔwɛk/ ‘squeel’
 [pɛkʔpɛkʔ] /pɛkpek/ ‘to pat someone’
 [dɔpʔpɛʔʔ] /dɔppeʔ/ ‘to apply compress to a wound or boil’
 [ʔɛrɛʔʔ] /ʔɛrɛʔ/ ‘to sharpen a bamboo knife’

The voiced mid close front unrounded vocoid allophone [e] occurs elsewhere, as in:

[ʔeʔbɔʔʔ] /ʔeʔbɔʔ/ ‘so that’
 [ʔelle] /ʔelle/ ‘to reject, refuse’
 [gena] /gena/ ‘earlier today’
 [kɛdo] /kɛdo/ ‘mercy’
 [kɛŋʔkɛŋ] /kɛŋkɛŋ/ ‘to hop on one foot’
 [laʔgenot] /laʔgenot/ ‘to do quietly, carefully’
 [dɛlɔkʔ] /dɛlɔk/ ‘small’
 [ʔɔmɛŋ] /ʔɔmɛŋ/ ‘to cook’
 [bale] /bale/ ‘house’
 [kɛdʔ] /kɛd/ ‘we(excl) will now’

The phoneme /ə/ is a voiced mid open central unrounded vocoid, as in:

[¹bənnəs] /¹bənnəs/ ‘grassy’
 [¹ʔabəl] /¹ʔabəl/ ‘to weave’
 [¹ʔadək^ʔ] /¹ʔadək/ ‘to smell, kiss’
 [gəb^ʔbaʔ^ʔ] /gəb^ʔbaʔ/ ‘to raze, dismantle’
 [¹kəb^ʔbəŋ] /¹kəbbəŋ/ ‘to test ripeness’
 [ʔən¹da] /ʔən¹da/ ‘where’
 [ʔək^ʔŋanni] /ʔək^ʔŋanni/ ‘at the present time’
 [ʔəs¹sa] /ʔəs¹sa/ ‘different’
 [bəg^ʔgas] /bəg^ʔgas/ ‘husked rice’
 [¹bəlləs] /¹bəlləs/ ‘to borrow’

The phoneme /a/ is a voiced low open central unrounded vocoid, as in:

[dəp^ʔpa] /dəp^ʔpa/ ‘one fathom’
 [ma¹dita] /ma¹dita/ ‘many’
 [¹ʔikam] /¹ʔikam/ ‘a mat’
 [¹baba] /¹baba/ ‘carry on back’
 [¹dakəl] /¹dakəl/ ‘large’
 [¹gakəd^ʔ] /¹gakəd/ ‘one’s relative or relatives’
 [¹manok^ʔ] /¹manok/ ‘bird, chicken’
 [ʔək^ʔnami] /ʔək^ʔnami/ ‘us, our’
 [ʔadan] /ʔadan/ ‘name’
 [¹ʔaŋat^ʔ] /¹ʔaŋat/ ‘wait’
 [¹ʔawat^ʔ] /¹ʔawat/ ‘receive’
 [¹laʔas] /¹laʔas/ ‘a homeless person, vagabond’

The phoneme /o/ is a voiced mid close back rounded vocoid, as in:

[¹ʔapog^ʔ] /¹ʔapog/ ‘lime, calcium oxide’
 [¹ʔantog^ʔ] /¹ʔantog/ ‘throw away’
 [¹ʔato] /¹ʔato/ ‘fight back’
 [¹ʔabo] /¹ʔabo/ ‘ashes’
 [¹dogan] /¹dogan/ ‘add more, increase’
 [go¹laj] /go¹laj/ ‘vegetables’
 [gi¹mokod^ʔ] /gi¹mokod/ ‘one’s soul’
 [¹laŋon] /¹laŋon/ ‘all’
 [¹linog^ʔ] /¹linog/ ‘earthquake’
 [to^ʔo] /to^ʔo/ ‘very’
 [¹ʔolo] /¹ʔolo/ ‘head’
 [¹bosbos] /¹bosbos/ ‘pour’

The phoneme /ɔ/ is a voiced low close back rounded vocoid, as in:

[ˈpɔnɔŋ] /ˈpɔnɔŋ/ ‘descend a ladder or stairway’

[ˈtɔkˈtɔk] /ˈtɔktɔk/ ‘to peck holes in fruit’

[ˈkɔ] /ˈkɔ/ ‘you(plural)’

[ˈbɔŋbɔŋ] /ˈbɔŋbɔŋ/ ‘caries’

[ˈʔɔdˈdɔʔ] /ˈʔɔddɔʔ/ ‘dwell’

[ˈgɔ] /ˈgɔ/ ‘indeed, surely’

[ˈʔɔmmɔ] /ˈʔɔmmɔ/ ‘mute’

[ˈʔɔnnɔ] /ˈʔɔnnɔ/ ‘wake up, get up’

[ˈlɔŋɔ] /ˈlɔŋɔ/ ‘a housefly’

2. STRESS

The analysis of stress is based on a corpus of more than 2,600 Tagabawa words. An additional 600 words were excluded from analysis as being borrowed from Spanish, English or Cebuano Visayan.

Stress consists of an increase in intensity and a raising of pitch. Stress also consists of vowel length in open (CV) syllables.

Of the Tagabawa corpus of polysyllabic words, stress occurs as follows: on penultimate syllables: 92% (approximately 2400 words) on ultimate syllables: 8% (approximately 200 words) on antepenultimate syllables: less than 1/2 of 1% (8 words)

Although stress is predominantly penultimate, it is phonemic, as evidenced by the following minimally and nearly minimally contrastive pairs of words.

[ˈʔa:tod] /ˈʔatod/ ‘look at’

[ʔaˈtod] /ʔaˈtod/ ‘stump’

[ˈka:pi] /ˈkapi/ ‘hawk’

[kaˈpi:] /kaˈpi/ ‘coffee’

[taˈga:naʔ] /taˈganaʔ/ ‘prepare’

[tagaˈnaʔ] /tagaˈnaʔ/ ‘orig.people’

[ˈpa:lad] /ˈpalad/ ‘palm of hand’

[paˈlad] /paˈlad/ ‘while’

[ˈʔa:tiŋ] /ˈʔatiŋ/ ‘sweat’

[ʔaˈtin] /ʔaˈtin/ ‘if’

[ˈba:taʔ] /ˈbataʔ/ ‘child’

[baˈtad] /baˈtad/ ‘corn’

[ˈta:baŋ] /ˈtabaŋ/ ‘help’

[taˈbag] /taˈbag/ ‘somewhat’

[ˈʔɔnda] /ˈʔɔnda/ ‘where’

[ʔɔnˈdaʔ] /ʔɔnˈdaʔ/ ‘didn’t’

Vowel length occurs only in open (CV) stressed syllables. There are no word pairs that differ only by vowel length. Length in penultimate stressed syllables:

[ˈʔa:bo] /ˈʔabo/ ‘ashes’

[ˈma:ja] /ˈmaja/ ‘ricebird’

[kaˈsɔ:kɔ] /kaˈsɔkɔ/ ‘anger’

Length in ultimate stressed syllables:

[kaˈni:] /kaˈni/ ‘this’

[kaˈpi:] /kaˈpi/ ‘coffee’

[baˈʔe:] /baˈʔe/ ‘yam tuber’

[daˈŋe:] /daˈŋe/ ‘cook cassava’

3. DISTRIBUTION

3.1. Distribution of Syllables

There are four syllable patterns: CV, CVC, CCV and CCVC. The CCV and CCVC syllable patterns occur only in borrowed words (see section 3.2.1 below).

The following tables show the syllable distribution statistics (see note 1). They are based on analysis of a wordlist of 2303 unique words extracted from a corpus of 36,405 words (108 pages) of text.

One Syllable Words (88 words = 3.8%)

Syllable	Total	Percent
CV	18	20.5%
CVC	68	77.3%
CCV	0	0.0%
CCVC	2	2.3%

Total 88

Two Syllable Words (586 words = 25.4%)

Syllable	1 st	2 nd	Total	Percent
CV	388	139	527	45.0%
CVC	196	443	639	54.5%
CCV	2	2	4	0.3%
CCVC	0	2	2	0.2%

Total 1172

Three Syllable Words (899 words = 39.0%)

Syllable	1 st	2 nd	3 rd	Total	Percent
CV	590	587	216	1393	51.6%
CVC	309	277	670	1256	46.6%
CCV	0	27	1	28	1.0%
CCVC	0	8	12	20	0.7%

Total 2697

Four Syllable Words (549 words = 23.8%)

Syllable	1 st	2 nd	3 rd	4 th	Total	Percent
CV	352	416	416	139	1323	60.2%
CVC	196	122	128	405	851	38.8%
CCV	1	6	5	1	13	0.6%
CCVC	0	5	0	4	9	0.4%

Total 2196

Five Syllable Words (164 words = 7.1%)

Syllable	1 st	2 nd	3 rd	4 th	5 th	Total	Percent
CV	81	131	115	117	55	499	60.9%
CVC	83	29	47	43	109	311	37.9%
CCV	0	2	1	4	0	7	0.9%
CCVC	0	2	1	0	0	3	0.4%

Total 820

Six Syllable Words (16 words = 0.7%)

Syllable	1 st	2 nd	3 rd	4 th	5 th	6 th	Total	Percent
CV	7	15	12	13	12	7	66	68.8%
CVC	9	1	4	3	4	9	30	31.2%
CCV	0	0	0	0	0	0	0	0.0%
CCVC	0	0	0	0	0	0	0	0.0%

Total 96

All Words Combined

Syllable	Total	Percent
CV	3832	54.1%
CVC	3163	44.7%
CCV	52	0.7%
CCVC	36	0.5%

Total 7083

Total Number of Words = 2303

Average Number of Syllables per Word = 3.1

3.2. Distribution of Phonemes

3.2.1. Consonants

All consonants occur in syllable onset position and word initial position. However, /h/ occurs in word initial position only in borrowed words, as in:

/ha'pon/ 'Japanese'

/'hariʔ/ 'king'

/'hirap/ 'difficult'

/ho'wis/ 'judge'

The second consonant of a complex syllable onset (i.e., C₂ of C₁C₂V or C₁C₂VC₃) is limited to the phonemes /l/, /r/, /w/ and /j/, as in:

/kompli'janjo/ 'birthday'

/pro'blema/ 'problem'

/li'trato/ 'photograph'

/'poltri/ 'chicken cage'

/pa'sinsja/ 'forgive'

/'swildo/ 'wages'

All consonants except /h/ occur in syllable coda position, with the following restriction. The only observed occurrence of /ʔ/ as syllable coda in word medial position is in the verb stem /'ŋaʔ'ŋaʔ/ 'to intersperse one's speech with meaningless fillers (such as *na* or *a*) while deciding how to continue'. Other than this, the consonant /ʔ/ occurs in syllable coda position only when it is simultaneously word final.

All consonants occur in word medial position. There are few apparent restrictions on the potential occurrence of bi-syllabic consonant clusters. The phonemes /h/ and /ʔ/ never occur in any consonant cluster. All consonants except /h/ and /ʔ/ have been observed to occur in homorganic (bi-syllabic) consonant clusters.

Not all combinations of heterorganic consonant clusters have been observed. Other than the total absence of clusters including either /h/ or /ʔ/, the only apparent restrictions of possible significance are these:

- (1) No clusters of /l/, /r/ and /w/ with each other (except homorganic) in any order;
- (2) No clusters of /m/ /n/ and /ŋ/ with each other (except homorganic) in any order;
- (3) No clusters of /p/ and /b/ with each other (except homorganic) in either order; and
- (4) No clusters of /p/ or /b/ with a following /g/.

Other apparent lacunae are assumed to be due to the limited data rather than to inherent restrictions. For example, although the nasal phonemes /m/, /n/ and /ŋ/ have not been observed to follow /t/, /ŋ/ does follow /d/, as in /la'ŋədʒəd/ 'crunch'. Likewise, although the nasal phonemes have not been observed to follow /b/, /n/ does follow /p/, as in /'napnəp/ 'kind of bamboo'.

The phoneme /w/ in syllable coda position has only been observed to occur following the vowel /a/. The phoneme /j/ in syllable coda position has only been observed to occur following the vowels /a/, /o/ and /ɔ/.

3.2.2. Vowels

The phoneme /ə/ occurs only in closed syllables (CVC). Therefore it never occurs either word final or preceding a single, word-medial consonant. It never occurs preceding /ʔ/, and never occurs adjacent to (either preceding or following, i.e. in the same syllable with) the phonemes /h/, /w/ and /j/.

The following chart displays all sequences of VC in the corpus of data.

Character Clusters in All Positions:

(I/F = Initial/Final; left column/top row)

I/F	b	d	g	h	k	l	m	n	ŋ
i	22	42	434	1	83	37	63	149	43
ε	2	27	2	0	21	16	22	27	4
ə	35	30	203	0	65	54	49	204	43
a	119	184	266	22	280	258	121	636	127
o	24	47	67	1	78	104	134	121	47
ɔ	13	45	21	0	34	13	23	36	26
Total	215	375	993	24	561	482	412	1173	290

I/F	p	ʔ	r	s	t	w	j	Total
i	29	41	30	56	103	1	60	1194
ε	3	5	12	1	5	8	7	162
ə	16	0	22	53	52	0	0	826
a	130	183	117	182	212	52	96	2985
o	36	128	46	64	24	88	38	1047
ɔ	4	35	18	2	5	6	0	281
Total	218	392	245	358	401	155	201	6495

Total Words = 2303

Total Characters = 17438

Long consonants occur only in intervocalic word medial position, and are interpreted as bi-syllabic geminate consonant clusters. The following word pairs illustrate contrast between short and long consonants.

[ʔamotʔ] /ʔamot/ ‘assessment’	[ʔam:otʔ] /ʔammot/ ‘fragrant’
[ʔababʔʔ] /ʔababʔ/ ‘downstream’	[ʔabab:aʔʔ] /ʔababbaʔ/ ‘mouth’
[baʔliŋ] /baʔliŋ/ ‘instead’	[balʔ:iŋ] /balʔliŋ/ ‘reversed’
[koʔlago] /koʔlago/ ‘owl’	[kolʔ:agɔ] /kolʔlagɔ/ ‘instead’
[ʔlajaŋ] /ʔlajaŋ/ ‘fly’	[laʔʔ:aŋ] /laʔʔjaŋ/ ‘lie face up’
[ʔpipitʔ] /ʔpipitʔ/ ‘whip’	[ʔpip:iʔʔ] /ʔpippiʔ/ ‘laundry’
[ʔsalagʔ] /ʔsalagʔ/ ‘nest’	[ʔsal:agʔ] /ʔsallagʔ/ ‘dry roast’
[soʔnodʔ] /soʔnodʔ/ ‘next’	[ʔson:odʔ] /ʔsonnodʔ/ ‘very’
[ʔtabaŋ] /ʔtabaŋ/ ‘help’	[ʔtab:aŋ] /ʔtabbaŋ/ ‘bland’
[ʔtoli] /ʔtoli/ ‘earwax’	[ʔtol:i] /ʔtolli/ ‘take out’

4. PHONEME CONTRASTS

Phonemic markers are assumed for all examples. Minimal pairs are shown wherever known. Abbreviations used include the following:

adj.	adjective
adv.	adverb
aff.	affix
Ceb.	Cebuano
conj.	conjunction
demo.	demonstrative part.
excl.	exclamation
exis.	existential

int. interrogative
 k.o. kind of
 n. noun
 neg. negative
 neut. neutral
 num. numeral
 ppart. postparticle
 pron. pronoun
 temp. temporal
 v. verb

p/b

'pakpak n. 'wing'	'bakbak n. 'bullfrog'
'palo n. 'heel'	'balo n. 'widow'
'ʔapog n. 'lime'	'ʔabog n. (Ceb.) 'dust'
'ləppoʔ n. 'coconut'	'ləbbot n. 'mound'
'dapdap n. 'k.o.tree'	'dabdab n. 'set fire to'

t/d

'tabtab v. 'graze'	'dabdab v. 'set fire to'
'toktok v. 'peck'	'dokdok v. 'pound'
ʔa'lat n. 'basket'	'ʔalad n. 'fence'

k/g

'kajo n. 'tree'	'gajo v. 'shine'
'kətkət v. 'wear away'	'gətgət v. 'cut with knife'
ʔa'bok n. 'piece'	ʔa'bog n. (Ceb.) 'dust'
ʔək'niko n. 'you(sg.)'	'nigo n. 'today'

glottal/none

'soloʔ n. 'lamp'	'solo n. 'fingernail'
ʔəb'boʔ v. 'disembowel'	ʔəb'bo v. 'bark'
ʔən'daʔ neg.exis. 'none'	'ʔənda int. 'where?'
'mamaʔ v. 'chew betel'	'mama n. 'male'

k/glottal

'kalit v. 'flick'	ʔa'lit v. 'entertain'
'koto n. 'lice'	'ʔoto v. 'step up'
'kapok n. 'capok'	ka'poʔ conj. 'for example'

g/glottal

'gatos n. 'hundred'	'ʔatos v. 'go alone'
go'lonan n. 'pillow'	ʔo'lon n. 'direction of head'
'ʔapog n. 'lime'	ʔa'poʔ n. 'grandrelation'

h/glottal

ha'pon n. 'Japanese'	ʔa'pon n. 'fur'
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s/t

'sapo v. 'rub'	'tapo n. 'testicle'
'ʔasin n. 'salt'	ʔa'tin conj. 'if'
'pista n. 'fiesta'	'pitsa n. 'date'
'boson n. 'diversion'	bo'ton n. 'immature coconut'
'bosbos v. 'pour'	'botbot n. 'base of tree'

n/ŋ

ʔək'nami pron. 'us'	ʔək'ŋanni temp. 'now'
'lanɔ n. 'lake'	'laŋɔ n. 'housefly'
'bobon n. 'thigh'	'boboŋ n. 'ridgepole'

g/ŋ

'gasgas n. 'scratchmark'	'ŋaʔ'ŋaʔ v. 'hesitate in speech'
'dorog v. 'put parallel'	'doroŋ v. 'praise, admire'

l/t

'lalis v. 'disagree'	'talis v. 'lack sense'
'ʔalin v. 'move'	ʔa'tin conj. 'if'
'balon n. 'trailfood'	'baton v. 'ascend'

l/d

'lajaʔ n. 'bamboo'	'daja n. 'upstream'
lo'waʔ n. 'exterior'	'dowa num. 'two'
'bəlləs v. 'borrow'	'bəddəs adj. 'pregnant'
'kedo n. 'pity'	pa'kelo n. 'poison'

l/w

lalo'wadan n. 'joints'	'walo num. 'eight'
ʔa'lat n. 'basket'	'ʔawat v. 'receive'
'ʔolaʔ v. 'spill'	ʔo'waʔ v. 'reduce'

l/j

'lawa n. 'body'	'jawjaw v. 'scold'
'dilaʔ n. 'tongue'	di'jaʔ v. 'depart'
'balo n. 'widow'	'kajo n. 'tree'

h/g

ba'haʔ n. 'chin'	'bagaʔ n. 'lungs'
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h/k

ba'haʔ n. 'chin'	'bakaʔ v. 'squeeze sugarcane'
'ʔaho v. 'enter'	'ʔakop v. 'scoop with hand'

h/w

'maho v. 'enter'	'mawoʔ adj. 'stinky'
'lohaʔ n. 'tear'	lo'waʔ n. 'exterior'

m/n

ʔəm'maʔ n. 'father'	ʔən'naʔ neg. 'not, denial'
ma'nama n. 'God'	ma'nana int. 'why?'

p/m

pa'mojoʔ v. 'ask (neut.)'	ma'mojoʔ v. 'ask (future)'
'səlləp v. 'grow'	'səlləm n. 'morning'
'sapo v. 'rub'	'samok n. 'trouble'

b/m

'basa adj. 'generous'	'masa v. 'will read'
sa'baw n. (Ceb.) 'soup'	'samaʔ n. 'residue'
'bɛŋkɔg adj. 'crooked'	'mɛŋkɔʔ n. 'cat'
'bajaʔ v. 'ignore'	'maja n. 'ricebird'

l/r

'lokot v. 'hurry'	'rokot v. 'disarrange'
'lanɔ n. 'lake'	'rano n. 'sadness'
'lablab n. 'boar'	'rabrab v. 'singe'

w/j

'ʔiwaʔ v. 'depart'	'ʔijaʔ demo. 'that'
'lawa n. 'body'	'lajat adj. 'tall'
'lawaj v. 'protrude'	'lajaj v. 'fly'

i/e

'biko n. 'sticky rice'	'bəkɔŋ n. 'coconut shell'
'bitbit v. 'dangle'	'bətβət v. 'lift'
'bibig n. 'lower lip'	'bɛbɛ n. 'seashore'
'dogi n. 'thorn'	'doŋɛ int. 'how long?'
'bəlli v. 'purchase'	'bəlle v. 'fatigue'
'bali n. 'value'	'balɛ n. 'house'

ə/a

ʔət'təp n. 'doubt'	'ʔəttap v. 'winnow'
-ən aff. object focus	-an aff. direction focus
ʔi'nəmmən v. 'drink all'	ʔinəm'man v. 'drink from'

o/ɔ

'ʔoliʔ v. 'go home'	'ʔoliʔ v. 'get well'
'ʔoʔot n. 'rice stems'	'ʔoʔo excl. 'yes'
'sodoʔ v. 'rest'	sɔ'doʔ v. 'carry on head'
'sonnod adv. 'very'	'sənnɔd n. 'hemp skirt'
'lətto v. 'jump over'	'lətto v. 'appear'
ko pron. 'my'	kɔ pron. 'you(pl)'

5. NOTES

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