

Kemtuik Phonology: an overview

1.1. Consonants

1.1.1. Chart

	bilabial	dental-alveolar	palatal	velar
voiceless plosive	<i>p</i>	<i>t</i>		<i>k</i>
voiced plosive	<i>b</i>	<i>d</i>		<i>g</i>
voiceless fricative		<i>s</i>		
nasal	<i>m</i>	<i>n</i>		<i>ŋ</i>
lateral		<i>l</i>		
approximant	<i>w</i>		<i>y</i>	

1.1.2. Evidence

/p/ Bilabial voiceless unaspirated plosive
Occurs syllable initially and finally
(The final release of plosives goes through the nose.)

/puk/ [puk] 'to break'

/pu/ [pu] 'to tell'

/yap/ [yap] 'house'

/b/ Bilabial voiced plosive
Occurs syllable initially only

/bu/ [bu] 'water'

/nebut/ [nəm.'but] 'story'

/m/ Bilabial nasal
Occurs syllable initially and finally

/miam/ [mi.'ǣm] 'many'

/mo/ [mɔ] 'already'

/sruom/ [sru.'ɔm] 'fork'

/w/ Bilabial approximant
Occurs syllable initially and finally

/woy/ [wɔy] 'fire'

/wew/ [wew] 'to make asleep'

/kebew/ [kə.'bew] 'name of village'

/t/ Dental- alveolar voiceless plosive
Occurs syllable initially and finally
(The final release of plosives goes through the nose.)

/ten/	[tɛn]	‘food’
/tuet/	[tũ.'ɛt]	‘to dig’
/tet/	[tɛt]	‘worm’

/d/ Dental-alveolar plosive
[ɖ] Voiced alveolar flap
Occurs only following /s/ (In some dialects: variation /l/ [r])

/usede/	[u.sə.'ðe]	‘to dance’
/sedue/	[sə'ðö]	‘man’
/sedek/	[se.'ðek]	‘to sleep’

Compare:

/usle/	[u.'sre]	‘to dance’
/slue/	[srö]	‘man’
/slek/	[srek]	‘to sleep’

[d] Dental-alveolar voiced plosive
Slightly imploded, occurs syllable initially

/don/	[dɔn]	‘power’
/deng/	[dɛŋ]	‘dry’
/dok/	[dɔk]	‘to tie’
/di/	[di]	‘tree’
/da/	[da]	‘times’
/duk/	[duk]	‘obey’

/s/ Dental-alveolar fricative
Occurs syllable initially

/sa/	[sa]	‘rain’
/sua/	[su.'a]	‘leave’
/iseng/	[i.'sɛŋ]	‘pain’
/suk/	[suk]	‘skin’
/sik/	[sik]	‘from’
/sak/	[sɬk]	‘dry’

/n/ Dental-alveolar nasal
[n] Occurs syllable initially and finally

/nan/	[nan]	‘soil’
/namon/	['na.mɔn]	‘two’
/nu/	[nu]	‘stomach’
/nim/	[nim]	‘calm down’

[n] syllabic dental-alveolar nasal

Occurs syllable initially, preceding dental plosives

/ndop/	[<u>n</u> .dɔp]	‘smoke’
/ntrui/	[<u>n</u> .trui]	‘to brush’
/ndruim/	[<u>n</u> .drum]	‘wrist’

/l/ Dental-alveolar lateral

[ɾ] Trilled syllabic vibrant

Occurs preceding retroflexed lateral

/lelam/	[ɾ.lam]	‘to play’
/lelu/	[ɾ.lu]	‘to insist’
/lelui/	[ɾ.lui]	‘to stir’
/lelo/	[ɾ.lo]	‘to move’

[r] Flapped vibrant

Occurs following dental alveolar plosives and fricatives /t,d,s/

/dlop/	[drɔp]	‘to drink’
/tla/	[tra]	‘to suffer/ to call’
/sloim/	[srɔm]	‘swollen’

[ɭ] Retroflexed lateral

Occurs following labial and velar plosives

/klaya/	[klæya]	‘one’
/blo/	[blo]	‘above’
/ple/	[ple]	‘bow’

[ɭ] Flapped retroflexed voiced continuant

Occurs syllable initially

/luagit/	[lu.ʔa.git]	‘leech’
/isuali/	[i.su.ʔa.li]	‘cassowary’
/lo/	[lo]	‘through’
/lek/	[lek]	‘washed away’
/la/	[la]	‘relief’

/y/ Palatal approximant

Occurs syllable initially and finally

/yap/	[yap]	‘house’
/woy/	[woy]	‘sun’

/k/ Velar voiceless plosive
 Occurs syllable initially and finally
 The final release of plosives goes through the nose.

/ku/	[ku]	‘time/day’
/klak/	[klɔk]	‘to raise’
/koy/	[kɔy]	‘fire’
/ke.bui/	[‘ke.bü]	‘something that brings peace’
/king/	[ki ŋ]	‘to follow’
/kebong/	[kə.‘bɔŋ]	‘to die’

/g/ Velar voiced plosive
 Occurs syllable initially

/guon/	[gü.‘ɔn]	‘name of tree’
/gemang/	[gə‘mɔŋ]	‘to exist there’
/gum/	[gum]	‘fog’
/gamung/	[‘ga.muŋ]	‘to call together’
/git/	[git]	‘to sharpen’

/ŋ/ Velar nasal
 Occurs syllable initially and finally

/ŋoy/	[ŋɔy]	‘brideprice beads’
/ŋe. ŋam /	[‘ŋe.ŋɔm]	‘to live in peace’
/ŋuok/	[ŋü. ‘ɔk]	‘to teach’
/ŋap/	[ŋɔp]	‘to shine’
/ŋit/	[ŋit]	‘dizzy’
/keŋ/	[keŋ]	‘to follow’
/kiŋ/	[kiŋ]	‘to fill’

1.2. Vowels

1.2.1. Chart

	Front	Central	Back
High	i		u
Mid	e		o
Low		a	

1.2.2. Evidence

/i/ Front high vowel

[ü] High front rounded vowel

Occurs syllable nucleus following a rounded vowel.

/uɗui/	[u.'d̥ü]	‘banana’
/ului/	[u.'l̥ü]	‘to prepare pepeda’
/unuik/	[u.'n̥ük]	‘to fold’
/unuim/	[u.'n̥üm]	‘spirit/zest’

Compare [üi] syllable initial:

/wisi/	[üi.'si]	‘to stand’
/dewi/	[d̥ɛ. üi]	‘prayer’

Compare also [üi] with [u] :

/usi/	[ü'si]	‘to call, ask’
/wisi/	[üi.'si]	‘to stand’
/imuik/	[i.'m̥ük]	‘raspberry’
/ibui/	[i.'b̥ü]	‘to stiffen/ blind’
/alui/	[a.'l̥ü]	‘wave’
/suiŋ/	[s̥üŋ]	‘to sit’

Compare:

/siŋ/	[siŋ]	‘seedling/to take out’
/suŋ/	[suŋ]	‘ashes, trash’
/puit/	[p̥üt]	‘to burn’
/buit/	[b̥üt]	‘pain’
/nuik/	[n̥ük]	‘tree trunk’
/kui/	[k̥ü]	‘animal droppings’

[ɪ] High front lower rounded vowel

Occurs in unstressed closed syllables.

/banim/	[ba.nɪ m]	‘old’
/demeniŋ/	[d̥ə'm̥ɛ.nɪ ŋ]	‘new’

[i] High front upper unrounded vowel

Occurs in all other contexts

/besik/	[bə.'sik]	‘drooping’
/ip/	[ip]	‘to stand’
/iti/	[i.'ti]	‘to take, to get’

/e/ Front mid vowel

Occurs only rarely, word finally following /l/ .

/ple/	[ple]	‘bow’
/damle/	['dʌm.le]	‘name of tree’
/daley/	['da.ley]	‘rank of soldiers’
/ikle/	[i.'kle]	‘gossip’
/ide/	[i.'de]	‘heavy’

[ɛ] Lower mid front vowel (see the main discussion on stress pattern)

Occurs occasionally in word final unstressed syllables, with [a] or [ɛ] in the preceding stressed syllable.

/gabe/	['ga.bɛ]	‘exist here’
/yense/	['yɛn.sɛ]	‘kind of vegetable’
/nase/	['na.sɛ]	‘must’

Occurs occasionally also, word initially in stressed position.

/yense/	['yɛn.sɛ]	‘kind of vegetable’
/keli/	['kɛ.li]	‘kind of fruit/rose apple’
/kelui/	['kɛ.lui]	‘juicy’
/mekui/	['mɛ.kü]	‘to fold’
/belui/	['bɛ.lü]	‘panic’

[ö] Mid front rounded vowel

Occurs following a rounded high back vowel

/blue/	[blö]	‘magic’
/nue/	[nö]	‘leave it’
/pluep/	[plöp]	‘gather’
/pue/	[pö]	‘untie’
/ulue/	[u.'lö]	‘to empty’
/tuep/	[tũ.'ɛp]	‘stump of tree’
/tuen/	[tũ.'ɛn]	‘to slant’
/tuet/	[tũ.'ɛt]	‘to dig’

Compare [e] [u] and [ü] in same positions:

/ble/	[ble]	‘name of woman’
/plet/	[plet]	‘to dislocate’
/pu/	[pu]	‘to talk’
/pui/	[pü]	‘to fall’
/tup/	[tup]	‘to hear’

/a/ Central low vowel

[ʌ] Upper low short central vowel

Occurs in closed syllables

/mlap/	[mlʌp]	‘name of language’
/sat/	[sʌt]	‘tail’
/sak/	[sʌk]	‘dry’
/nan/	[nʌn]	‘earth’
/kay/	[kʌy]	‘to forget’
/kuat/	[kũ.'ʌt]	‘frog’

Compare:

/yatap/	['ya.tʌp]	‘door’
/bauk/	['ba.uk]	‘porch’

[æ] Front low long vowel

Occurs following [l] and preceding [y] or following [ũ] [i] and [e].

/naklay/	[na.kl'æy]	‘all’
/klaya/	['klæ.ya]	‘one’
/blay/	[blæy]	‘diarroeā’
/mlay/	[mlæy]	‘oil’
/pīam/	[pi.'æm]	‘wrong’
/teguan/	[tə'gũæn]	‘stomach’

Compare:

/dlang/	[drʌŋ]	‘wealth/bride price’
/bla/	[bla]	‘hut/cottage’
/semlea/	[sə'mlɛa]	‘pepeda’
/mea/	[mɛa]	‘will’

[a] Lower long vowel

Occurs in stressed syllables

/mla/	[mla]	‘rest’
/banom/	['ba.nɔm]	‘self’
/kadiŋ/	['ka.dɪ ŋ]	‘behind’

/u/ Back high vowel

[ũ] High centralized and compressed rounded vowel

/tuep/	[tũ.'ɛp]	‘stump of tree’
/tuen/	[tũ.'ɛn]	‘slant’
/tuet/	[tũ.'ɛt]	‘dig’
/utep/	[ũ.'tɛp]	‘tomorrow’
/usi/	[ũ.'si]	‘ask’

Compare: [ũ'e] and [ö]

/suey/	[sũ'ey]	‘good’
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/ulue] [u.'lö] ‘empty’

[u] Back high rounded vowel

Occurs elsewhere

/babu/	[ˈba.bu]	‘grandfather/mother/ swollen’
/napu/	[ˈna.pu]	‘day after tomorrow’
/banu/	[ˈba.nu]	‘moon/month’
/yangu/	[ˈya.ŋu]	‘yellow’
/wosu/	[ˈwɔ.su]	‘tree kangaroo’
/su/	[su]	‘worm’
/mu/	[mu]	‘hole’
/ku/	[ku]	‘day/time/earth’
/ulue/	[u.'lö]	‘empty’
/u/	[u]	‘to sing’
/kabuŋ/	[ˈka.buŋ]	‘woman’

/o/ Back mid vowel

[o] Upper mid rounded vowel

Occurs very rarely and only in an open syllable, following [r] and [ɾ.l]

/kaysruo/	[ˈkay.srũo]	‘eel’
/sruo/	[srũo]	‘earthenware crock’
/rlo/	[ɾ.lo]	‘to move’

[ɔ] Lower mid rounded vowel

Occurs in all other positions.

/so/	[sɔ]	‘intention/inessive’
/sok/	[sɔk]	‘take off’
/klong	[klɔŋ]	‘to go’
/koy	[kɔy]	‘fire’
/wosu/	[ˈwɔ.su]	‘tree kangaroo’
/blo/	[blɔ]	‘above’
/sluakuon/	[sru.'a.kũɔn]	‘name of tribe’

1.3. Word structure and stress

The phonological word (PW) provides a useful construction for specifying underlying stress and syllable patterns. PW- s are of two general contrastive classes: ultimate stress and penultimate stress and are basically constructed of 1 to 3 syllables. As follows:

Ultimate stress PW > CVC . 'CCVC

Penultimate stress PW> 'CCVC . CVC

Stress is predictable and is not written. The ‘shewa’ [ə] is interpreted as /e/. Consider the following examples:

LOW VOCOID [a] [ʌ] [ɛ] [ə] Stressed penultimate syllable (CV). 'CV(C). CV(C) No centralization	HIGH VOCOID [i] [e] [u] [ó] Stressed ultimate syllable CV(C). 'CV(C) Centralization [ə]	English gloss	HIGH VOCOID Stressed ultimate syllable V. 'CV(C) No centralization	English gloss
/damoy/ ['dá.mɔy]		full	/use/ [u.'se]	afternoon
/banim/ ['bá.nim]		old	/uui/ [u.'dü]	banana
/gabe/ ['gá.be]		exist here	/utep/ [u.'tep]	tomorrow
/katui/ ['ká.tü]		axe	/iseng/ [i.'sɛŋ]	pain
/kama/ ['ká.ma]		ear		
/kemtui/ ['kɛm.tük]		name of tribe		
/kebal/ [kə.'ba.li]		work		
/demening/ [de.'mɛ.niŋ]		new		
/betodop/ [be.'tɔ.dɔp]		again		
/betedon/ [be.'tɛ.dɔn]		younger sibling		
/demanon/ [de.'ma.nɔn]		older sibling		
	/meduim/ [mɔ.'dūm]	hill		
	/nebo/ [nɔm.'bɔ]	pig		
	/nebut/ [nɔm.'but]	story		
	/gemang/ [gə.'mʌŋ]	exist there		
	/nebit/ [nɔm.'bit]	wind		

	/kebet/	[kə.'bet]	finish		
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1.4. Syllable

The syllable (S) functions in the PW in accordance with the existing stress patterns as described above. A vowel (V) functions as obligatory nucleus of the syllable, preceded by one or more non-obligatory consonants (C). Syllables in KemtuiK have the *basic* shape:

CVC . 'CVC. CVC

The underlined *basic* CV combination is obligatory.

The following words are illustrative:

1 syllable	[bu]	‘water’
	[tɛn]	‘food’
	[u]	‘song’
	[i]	‘count’
2 syllables	[mə.'nɔ]	‘other’
	['wa.lɔp]	‘feast’
	['da.bü]	‘heart’
	[i.'ti]	‘give, take’
3 syllables	[tʌn.'da.li]	‘again’
	[kə.'ba.li]	‘to work’
	[wɔŋ.'ka.bü]	‘head’
	[wʌ.'la.ka]	‘lobster’
	[ku.'na.la]	‘thinking’

1.5. Consonant and vowel distribution

1.5.1. Consonant distribution

The following numbering of the basic CV- string will help us to specify the set of consonant members in a numbered class, as follows:

C V C . 'C C V C. C V C (underlined CV pattern is obligatory)
1 2 3 4 5 6 7

C1 > Includes all consonants

C2 > Includes all nasal consonants

C3 > Includes all consonants

C4 > Includes only /l/

C5 > Includes voiceless plosives, nasals, and semivowels

C6 > Includes all consonants

C7 > Includes voiceless plosives, nasals, and semivowels

The co-occurrence may be stated in the following set of conditions:

Condition 1: Only one consonant cluster can be formed: C + /l/

Condition 2: In the case of C1 being a nasal, and C3 is a voiced plosive, there will be assimilation (printed bold in examples) to the point of articulation of the following C3.

Consider these examples:

/nebut/	[nə m .'but]	'story'
/nebo/	[nə m .'bɔ]	'pig'
/meduim/	[mə n .'düm]	'mountain'

Condition 3: Syllabic consonants are interpreted as CV sequences. They consist of continuant consonants (r, s, m, n, ŋ) and occur in a pre-stressed syllable position.

Consider these examples:

/ndop/	[<u>n</u> .'dɔp]	'grasshopper'
/nson/	[<u>n</u> .'sɔn]	'to cough'
/ngga/	[<u>ŋ</u> .'ga]	'there'
/rlam/	[<u>r</u> .'lam]	'play'
/ntaton/	[<u>n</u> .'taton]	'brother'
/mtam/	[<u>m</u> .'tam]	'sago trail'
/semlea/	[s.'mlea]	'sago porridge'

Condition 4: If C2 is a syllabic nasal, the point of articulation of C2 will be predicted by the following C3.

1.5.2. Vowel distribution

Two PW-types were described in 1.3 based on stress and contrast. Observing those PW-types, vowel occurrences are stated below in terms of monosyllabic, disyllabic and occasionally trisyllabic PW's.

- Monosyllabic PW Vowels : C C 'V C includes all vowels or diphthongs

- Disyllabic PW Vowels: C V C . C C 'V C
1 2

V1 > obligatory unstressed centralized vowel /e/ [ə]

V2 > obligatory stressed vowel; includes all vowels or diphthongs.

- Trisyllabic PW Vowels: V. C C 'V C. C V C

1.5.3. Vowel centralization

There is an interesting contrast between HIGH centralized [ə] vocoid and the LOW vocoids [a] [ɛ]. They form two contrasting PW-classes.

For example: /damoy/ ['da.moy] 'full' versus /demu/ [də.'mu] 'stone'

In two and three syllable PW's, a vocoid in stressed position is preceded by a neutralized vocoid: CV(C). 'CV(C). It is neutralized towards the vocoid [ə], with a slight 'coloring' of the vocoid in the following stressed syllable.

Consider the following examples:

/ne.'but/	[nəm.'but]	'story'
/ge.'mang/	[gə.'mʌŋ]	'being there'

If that syllable string (occasionally) occurs as: V. 'CV, the vocoid in unstressed position is not centralized.

Consider the following example:

/i.'seng/	[i.'sɛŋ]	'pain'
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LOW vocoids (mainly [a], sometimes [ɛ] or [ò]) in stressed position require NOT centralized vocoids in the following not stressed syllables.

Consider the following examples:

/da.moy/	['da.moy]	'full'
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1.5.4. Reduplication

All word initial consonants and vowels can be reduplicated to indicate continuing action.

suang - susuang	[su.'sũʌŋ]	'long – longing'
klong - koklong	[kɔ.'klɔŋ]	'go – going'
iti - iiti	[i.i.'ti]	'give – giving'
suing - susuing	[sü.'sũŋ]	'sit – sitting'

1.6. Diphthongs

/ui/	[üi] [ü]
/ue/	[üe] [ö]
/uo/	[üo]
/ua/	[üΛ]
/ea/	[εæ]
/ia/	[i Λ]

	Example (verb)	English gloss
[ü]	<i>duing</i>	think
[üi]	<i>wim</i>	swell
[ü]	<i>truik</i>	chase
[üe]	<i>suey</i>	good
[syö]	<i>sue</i>	swim
[üo]	<i>nguok</i>	teach
	<i>bluot</i>	mix
[ü-Λ]	<i>suang</i>	long
	<i>suali</i>	afraid
[i-Λ]	<i>miam</i>	plenty
[ε-æ]	<i>mean</i>	chip
	<i>meam</i>	disappear

1.7. Alphabet

The Kemtuik alphabet contains 19 symbols, 14 consonants and 5 vowels:

- Consonants: t, k, p, d, g, b, s, n, ng, m, l, r.
- Semi-consonants: y, w

The following pairs contrast an initial approximant with initial full vowels:

yay	‘care’	iyay	‘caring’
wet	‘seek’	uwet	‘seeking’

- Vowels: i, e, a, u, o
- In borrowed words: /c/ --- [tʃ]; /j/ --- [dʒ] ; /h/ --- [h]

Examples from the national language: *coklat*, *baca*, *Jayapura*, *huruf*.

Dialectal influence from the Gresi (Klesi) language causes the use of [h] in a few cases. E.g. Kemtuik *sogo sogo so* ‘why’ is also being expressed with a different stress pattern as: [sɔgɔ.'hɔ gɔsɔ]. There are a few other isolated examples where [h] is used in stead of /s/.

