

A PHONEMIC STATEMENT OF THE OLO LANGUAGE

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CHART OF PHONEMES

Consonants. These are twelve in number as follows:

		Bi-labial	Labio-dental	Alveolar	Velar
Stops	V/s	p		t	k
Fricatives	Flat		f		
	Grooved			s	
Nasals	V/d	m		n	ŋ
Laterals	V/d			l	
Vibrants	V/d			ʀ	
Semi Vowels		w		y	

Vowels. These are seven in number as follows:

	Front	Central	Back
High	i		u
	ɪ		ʊ
Mid	e		ɔ
Low		a	

DESCRIPTION OF CONTRASTIVE FEATURES OF THE PHONEMES

A. Consonants. There is contrast as to the manner of articulation between Stops, Fricatives, Nasals, Laterals and Vibrants and Semi-vowels.

- Stops: These contrast between Bilabial, Alveolar and Velar points of articulation.
- Nasals: These likewise contrast between Bilabial, Alveolar and Velar points of articulation.
- Fricatives: These contrast between Labio-dental and Alveolar points of articulation.
- Lateral: Made at the Alveolar point of articulation.
- Vibrant: Made at the Alveolar point of articulation.

B. Vowels. The contrastive features of the vowels are between front and central unrounded and back rounded positions, with a further contrast between high, mid and low positions.

FORMATIONAL STATEMENT OF THE PHONEMES

A. Consonants. These are all non-vocoids and all non-syllabic vocoids of a vocoid cluster.

Phoneme	Allophone	Description, occurrence and examples
Stops /p/	[b]	Voiced bi-labial stop. Occurs immediately following the [m] and [n], and immediately preceding the lateral [l]. e.g. /mampɛi/ [mam-bei] 'soon' /enpeɪ/ [en-bei] 'move' /epɪi/ [e-bɪi] 'sun'
	[p]	Voiceless unaspirated bi-labial stop. Occurs in all syllable initial positions. e.g. /paɪ/ [paɪ] 'base of bamboo' /tɪpe/ [tɪ-pe] 'water'
	[p ^h]	Voiceless aspirated bi-labial stop. Occurs in free non-contrastive fluctuation with [p] word initially. e.g. /paraku/ [p ^h a-ra-ku]~[pa-ra-ku] 'shield' /pɔɪwɛnɛ/ [pɔɪ-ɾɪ-wa-nɛ]~[p ^h ɔɪ-ɾɪ-wa-nɛ] 'friend'

Phoneme	Allophone	Description, occurrence and examples
/t/	[t]	Voiceless unaspirated alveolar stop. Occurs in all syllable initial positions. e.g. /yɪtal/ [yɪ-tal] 'namesake' /tutul/ [tu-tul] 'snake' /ɛtɛŋkl/ [ɛ-tɛŋ-gi] 'creek'
	[t ^h]	Voiceless aspirated alveolar stop. Occurs in free non-contrastive fluctuation with [t] in all positions. e.g. /ɛtɪf/ [ɛ-t ^h ɪf]~[ɛ-tɪf] 'hand' /tɛplɑɪf/ [t ^h ɛ-blɑɪf]~[tɛ-blɑɪf] 'sky'
	[d]	Voiced alveolar stop. Occurs occasionally in free non-contrastive fluctuation with [t] when following [ŋ]. e.g. /mantɛɪ/ [man-dɛɪ]~[man-tɛɪ] 'male ancestor' /sountɛ/ [soun-dɛ]~[soun-tɛ] 'a name of a hamlet'
/k/	[k]	Voiceless unaspirated velar stop. Occurs in all syllable initial positions, other than immediately following [m] [n] and [ŋ]. e.g. /kɛɪ-kɔɾ/ [kɛɪ-kɔɾ̃] 'birds of paradise' /ɔm-kɑɪ/ [ɔm-kɑɪ] 'stone axe'
	[k ^h]	Voiceless aspirated velar stop. Occurs in free non-contrastive fluctuation with [k] word initially and occasionally in other positions. e.g. /kɪm/ [k ^h ɪm]~[kɪm] 'yam' /kɑflɑf/ [k ^h ɑ-flɑf]~[kɑ-flɑf] 'yellow'
	[g]	Voiced velar stop. Occurs immediately following the nasals [ŋ] [m] and [ŋ]. e.g. /ɔmkɪr/ [ɔm-gɪr̃] 'nipple' /ɔnkɪs/ [ɔn-gɪs] 'pus' /nɑŋkɛ/ [nɑŋ-gɛ] 'name'

N.B. No stops occur either syllable or word final.

Syllable divisions are marked by a hyphen.

Phoneme	Allophone	Description, occurrence and examples
Fricatives		
/f/	[f]	<p>Voiceless labial-dental flat fricative. Occurs in all consonant positions in both syllable and word positions.</p> <p>e.g. /frou/ [frou] 'quickly' /kaflaf/ [ka-flaf] 'yellow'</p> <p>N.B. /p/ and /f/ are separate phonemes, proved by contrast in identical environments.</p> <p>/palɔl/ [pa-lɔl] 'root' and /falɔl/ [fa-lɔl] 'head'</p>
/s/	[s]	<p>Voiceless alveolar grooved fricative. Occurs in all consonant positions in both syllable and word.</p> <p>e.g. /sinaŋɔɔrou/ [si-naŋ-ɔɔ-ou] 'nose ornament' /twasɪs/ [twa-sɪs] 'lung'</p> <p>N.B. /t/ and /s/ are separate phonemes, by contrast in identical environments.</p> <p>/tɪtɪ/ [tɪ-tɪ] 'belonging to' (two objects) /tɪsɪ/ [tɪ-sɪ] 'road'</p>
Nasals		
/m/	[m]	<p>Voiced bi-labial nasal. Occurs in all consonant positions in both syllable and word.</p> <p>e.g. /mɪmɛl/ [mɪm-nɛl] 'new' /wɪnɛm/ [wɪ-nɛm] 'house'</p>
/n/	[n]	<p>Voiced alveolar nasal. Occurs in all consonant positions in both syllable and word.</p> <p>e.g. /naŋkɛ/ [naŋ-ɡɛ] 'name' /fankɪs/ [fan-ɡɪs] 'muddy' /lɪnɛ/ [li-nɛ] 'elder brother' /tɔwɪn/ [tɔ-wɪn] 'dirt'</p>
/ŋ/	[ŋ]	<p>Voiced velar nasal. Occurs only syllable final, and only when the velar /k/ [g] immediately follows it in the next syllable.</p>

Phoneme	Allophone	Description, occurrence and examples
		Hence it never occurs in the final syllable in a word. Note: /n/ [n] may also occur in this position. e.g. /niŋɡli:f/ [niŋ-ɡli:f] 'afternoon' /səŋkɔi/ [səŋ-ɡɔi] 'before (in time)'
		N.B. /n/ and /ŋ/ are separate phonemes proved by contrast in the following identical environments: /ɪŋki:f/ [ɪn-ɡi:f] 'go inside' /iŋki:f/ [iŋ-ɡi:f] 'follow' /Ye ɪŋki:f ki wi-nɛm/ [Ye ɪn-ɡi:f ki wi-nɛm] 'You go inside my house' /Ye iŋki:f ki auɛ wi-nɛm/ [Ye iŋ-ɡi:f ki au-ɛ wi-nɛm] 'You follow me and come to the house'
		The following analogous environments also show /n/ and /ŋ/ to be separate phonemes: /wiŋkɛ/ [wiŋ-ɡɛ] 'younger brother' /wiŋkɛ/ [wiŋ-ɡɛ] 'all men' /twɛŋkɪs/ [twɛŋ-ɡɪs] 'whistle' /twɛŋkɪs/ [twɛŋ-ɡɪs] 'smoke'
		More than twenty words have been noted where the alveolar nasal immediately precedes the velar stop /k/ [g]. In only one word does /n/ fluctuate with /ŋ/.
		/wɛŋkɛsɪl/ [wɛŋ-ɡɛ-sɪl] 'exclamation of joy' /wɛŋkɛsɪl/ [wɛŋ-ɡɛ-sɪl]
Lateral		
/l/	[l]	Voiced alveolar lateral non-fricative. Occurs in all consonant positions in both syllable and word. e.g. /lɪɔm/ [lɪ-ɔm] 'garden' /faɪl/ [fa-lɔɪ] 'head'
Vibrant		
/r/	[r̥]	Voiced alveolar trilled vibrant. Occurs in all consonant positions in syllable and word except word finally.

Phoneme	Allophone	Description, occurrence and examples
		e.g. /řiřim/ [ři-řim] 'evil spirit' /pɔřa/ [pɔ-řa] 'small basket'
	[ř]	Voiceless alveolar trilled vibrant. Occurs finally only. e.g. /tifiř/ [ti-fiř] 'ant' /tɔř/ [tɔř] 'burnt lime'
		N.B. /l/ and /ř/ are separated by contrast in identical environments. e.g. /fřou/ [fřou] 'quickly' /flou/ [flou] 'sweet' /kɔřɔ/ [kɔ-řɔ] 'I dance' /kɔlɔ/ [kɔ-lɔ] 'no'
Semi-vowels. (Vocoids interpreted as consonants, or, non-syllable vocoid)		
/y/	[y][i]	Voiced high close front unrounded vocoid. (Voiced alveolar non-syllable vocoid). Occurs word or syllable initially, and before a full vowel (other than [i]) in the same vocoid cluster. e.g. /yas/ [yas] 'stalk' /yutɛ/ [yu-tɛ] 'a boil' /ɔyɪn/ [ɔ-yɪn] 'hole' /neiyu/ [nei-yu] 'high pitched call'
/w/	[w][u]	Voiced high back close rounded vocoid. (Voiced bi-labial non-syllabic vocoid). Occurs word or syllable initially and before a full vowel (other than [u]) in the same vocoid cluster. It also occurs as the second member of the consonant clusters [pw] [tw] [kw]. e.g. /winɛm/ [wi-nɛm] 'house' /wauwɛs/ [wau-wɛs] 'food scraps' /tɔwa/ [tɔ-wa] 'bush' /pwasiɛ/ [pwa-sɪɛ] 'they give to you' /twamɔ/ [twa-mɔ] 'froth' /kwatu/ [kwa-tu] 'species of yam'

Phoneme	Allophone	Description, occurrence and examples
		Further notes on the interpretation of the high vocoids [y] [i] and [w] [u] are found under 'Consonant Vowel Patterning'.
B. Vowels. These are all syllable vocoids occurring both singularly and in clusters.		
/i/	[i]	Voiced high front close unrounded vocoids. Occurs in all vowel positions in both syllable and word. e.g. /fiɛl/ [fi-ɛl] 'apika shoots' /iɔ/ [i-ɔ] 'yes' /fɪlɪfɪl/ [fɪl-fɪl] 'movement' /wɛɪl/ [wɛ-ɪl] 'fire'
/ɪ/	[ɪ]	Voiced high front open unrounded vocoid. Occurs in all vowel positions in both syllable and word except word finally. e.g. /ɪltɛɪ/ [ɪl-tɛɪ] 'speech' /yɪŋkɪl/ [yɪŋ-gɪl] 'sago thorn'
	[e]	Voiced mid front close unrounded vocoid. Occurs in all vowel positions in both syllable and word, in non-contrastive free fluctuation with [ɪ]. The phoneme is probably mid-way between [ɪ] and [e]. N.B. /i/ and /ɪ/ are separate phonemes, as proved by contrast in identical environments. /fɪlɪfɪl/ [fɪl-fɪl] 'movement' /fɪɪlfɪɪ/ [fɪɪl-fɪɪl] 'wild banana'
/ɛ/	[ɛ]	Voiced mid front open unrounded vocoid. Occurs in all vowel positions in both syllable and word. e.g. /ɛtɪf/ [ɛ-tɪf] 'hand' /tɛɪlɪs/ [tɛ-lɛɪs] 'blood' /pɛɪ/ [pɛ-ɪ] 'dog' /ɛɪpɪl/ [ɛɪ-pɪl] 'pull'

Phoneme	Allophone	Description, occurrence and examples
	[ə]	<p>Voiced low front close unrounded vocoid. Occurs in free non-contrastive fluctuation with [ɛ] syllable initially.</p> <p>e.g. /nɛmpɪs/ [nɛm-bɪs]~[nəm-bɪs] 'yesterday' /kɛɪl/ [kɛ-li]~[kə-li] 'I go' /kɛnkaf/ [kɛn-gaf]~[kən-gaf] 'left hand' /sɛŋkɛ/ [sɛŋ-gɛ]~[səŋ-gɛ] 'pig'</p> <p>N.B. /ɛ/ and /ɪ/ are separated by contrast in identical environments.</p> <p>/yɛɪlɪm/ [yɛ-lɪm] 'stick for turning sago' /yɪɪlɪm/ [yɪ-lɪm] 'sugar' /ɛɾɛɪ/ [ɛ-ɾɛɪ] 'legs' /ɛɾɪɪ/ [ɛ-ɾɪɪ] 'sisters'</p> <p>/i/ and /ɛ/ are separated by contrast in identical environments.</p> <p>/kali/ [ka-li] 'fetch' /kaɛ/ [ka-ɛ] 'clear the ground'</p>
/a/	[a]	<p>Voiced low central open unrounded vocoid. Occurs in all vowel positions in both syllable and word.</p> <p>e.g. /apa/ [a-pa] 'elder sister' /yal/ [yaɪ] 'father' /laulɛ/ [lau-lɛ] 'he comes'</p> <p>N.B. /a/ and /ɛ/ are separated by contrast in identical environments.</p> <p>/allɔ/ [aɪ-lɔ] 'call out' /ɛɪɪɔ/ [ɛɪɪɔ] 'get up' /nampɪs/ [nam-bɪs] 'urine' /nɛmpɪs/ [nɛm-bɪs] 'yesterday' /ra-taɪ/ [ra-taɪ] 'to understand' /ra-tɛɪ/ [ra-tɛɪ] 'to remain' /ka-li/ [ka-li] 'fetch' /kɛ-li/ [kɛ-li] 'I go'</p> <p>There is some fluctuation between the full phonemes /a/ and /ɛ/.</p> <p>e.g. [kən-gaf]~[kɛn-gaf]~[kən-gaf] 'left hand' [a-ɾəu]~[ə-ɾəu] 'stone'</p>

Phoneme	Allophone	Description, occurrence and examples
/u/	[u]	Voiced high back close rounded vocoid. Occurs in all vowel positions in both syllable and word, except when preceded or followed by a high front vocoid. e.g. /umɔ/ [u-mɔ] 'brother' (as called by a sister) /yulum/ [yu-lum] 'round object' /lulu/ [lu-lu] 'chin'
	[ɯ]	Voiced high central close rounded vocoid. Occurs when immediately preceded by, or followed by a high front vocoid. e.g. /nuɯ/ [nɯ-ɯ] 'arrow' /tɛɯɯ/ [tɛ-ɯ-ɯ] 'blood'
/ʊ/	[ʊ]	Voiced high back open rounded vocoid. Occurs in all vowel positions in both syllable and word. e.g. /ʊřu/ [ʊ-řu] 'hair' /kupu/ [ku-pu] 'elbow' /lʊu/ [lʊu] 'sago palm' /ɔruu/ [ɔ-ruu] 'sister'
	[o]	Voiced mid back close rounded vocoid. Occurs in all vowel positions in both syllable and word in free non-contrastive fluctuation with [ʊ]. The phoneme is probably mid-way between [ʊ] and [o]. N.B. /u/ and /ʊ/ are separate phonemes, as proved by contrast in identical environments. /yuf/ [yuf] 'smell of men' /yʊf/ [yʊf] 'wind' /uf/ [uf] 'village' /ʊf/ [ʊf] 'pandanus soup' /uřu/ [u-řu] 'to run away' /ʊřu/ [ʊ-řu] 'hair'
/ɔ/	[ɔ]	Voiced mid back open rounded vocoid. Occurs in all vowel positions in both syllable and word, except immediately preceding [u].

Phoneme	Allophone	Description, occurrence and examples
		e.g. /ɔɔ/ [ɔɔ-ɔɔ] 'no' /wɔm/ [wɔm] 'coconut'
	[ɔʌ]	Voiced mid back close rounded vocoid. Occurs only immediately preceding the high back close rounded vocoid [u]. e.g. /ʊʀɔʊ/ [ʊ-ʀɔʌu] 'leg' /tɔʊŋka/ [tɔʌʊŋ-ga] 'back'
	[ɔʌ]	Voiced low back close rounded vocoid. Occurs in free non-contrastive fluctuation with [ɔ] in all positions. e.g. /sɔŋkɔʊ/ [sɔʌŋ-gou] (or [sɔŋ-gou]) 'pigs' /ɔmkai/ [ɔʌm-gal] (or [ɔm-kai]) 'stone axe'
		N.B. Phonemes /ʊ/ and /ɔ/ are separated by contrast in identical environments. /lum/ [lum] 'eye' /lɔm/ [lɔm] 'enclosure' /tɔm/ [tɔm] 'spittle' /tɔm/ [tɔm] 'bilum' /luu/ [luu] 'sago palm' /lou/ [lou] 'possessive'
		Phonemes /ʊ/ and /a/ are separated by contrast in identical environments. /kɔʀɔ/ [kɔ-ʀɔ] 'noise of an animal' /kara/ [ka-ʀa] 'little finger'

NON-SEGMENTAL PHONEMES

Neither length, stress or intonation are phonemic, but the following have been noted.

Length. Not phonemic. It is noted however that a vowel cluster usually has the same length as a single vowel.

- e.g. /nafle/ [na-fle] 'bird'
/nailɔ/ [nal-ɔ] 'distress call'
/kʊlpɔʊ/ [kʊl-pou] 'ton'
/kʊlɔlpɔʊ/ [kʊlɔl-pou] 'wild limbon'

Stress. Not phonemic. The first syllable in the word usually has slightly more stress than the following syllables. Only in one or two instances has the second syllable more stress than the first.

e.g. /ʊrɔu/ [ʊ-fou] 'leg'

Intonation pattern. Not phonemic. Depends almost entirely on the emotional content of the speech.

Syllable divisions. Not Phonemic. Only when these divisions are determined can the interpretation of the high vocoids [i] [y] and [u] [w] be decided on. A syllable never contains more than one vowel or vowel cluster. It may commence with a consonant or consonant cluster, or vowel or vowel cluster. It may end with a consonant fricative, nasal lateral or vibrant, or vowel or vowel cluster. A syllable may consist of a single vowel.

CONSONANT VOWEL PATTERNING IN RELATION TO THE SYLLABLE

These are as follows: (C = consonant, V = vowel).

Syllables involving no clusters

V	e.g.	/i/	[i]	'yes'
		/niŋkɔ/	[niŋ-gi-ɔ]	'daughter'
VC	e.g.	/ɛm/	[ɛm]	'mother'
		/ɔmkal/	[ɔm-gal]	'axe'
CV	e.g.	/ye/	[ye]	'you'
		/ma/	[ma]	'will'
CVC	e.g.	/lɔm/	[lɔm]	'enclosure'
		/wɛf/	[wɛf]	'goods'

Syllables involving vowel clusters

VV	e.g.	/au/	[au]	'come'
		/ɛi/	[ɛi]	'exclamation'
VVC	e.g.	/ɛiŋkɛyɛi/	[ɛiŋ-ge-yɛi]	'hide'
CVV	e.g.	/lɔu/	[lɔu]	'sago palm'
		/tɛi/	[tɛi]	'superlative'
CVVC	e.g.	/nɔuŋkɔl/	[nɔuŋ-gɔl]	'arrow stick'
		/tɔuŋ-ka/	[tɔuŋ-ga]	'back'

Syllables involving vowel and consonant clusters

CCV	e.g.	/tɛplɔɪf/	[tɛ-plɔɪf]	'sky'
		/ɛpli/	[ɛ-pli]	'sun'
CCVC	e.g.	/nɔmpleɪf/	[nɔm-blɛɪf]	'hole'
		/plɛn/	[plɛn]	'there'

CCVVC	e.g.	/plɛiŋkɪnɪm/	[plɛiŋ-gɪn-ɪm]	'inside'
		/fraiŋ-kɔs/	[fraiŋ-gɔs]	'noise'
CCVV	e.g.	/frɔu/	[frou]	'quickly'

Interpretation of the high vocoids [i] [y] and [u] [w]

[i] [y] is written /y/ when it immediately precedes another vowel in the same vocoid cluster. /y/ is only found syllable initially.

[u] [w] is written /w/ when it immediately precedes a vowel in the same vocoid cluster. /w/ is found syllable initially apart from the cluster /tw/.

Word medially, it is often difficult to determine whether or not [y] or [w] are present, as if the final phoneme in the preceding syllable is [i] or [u], this carries over to the next syllable.

DISTRIBUTIONAL STATEMENT OF THE PHONEMES

A. Consonants.

a. Single

Syllable and word initial.

All consonants except ŋ.

Syllable final, but not word final. /ŋ/.

Word final.

/f/, /s/, /m/, /n/, /l/, /r/. But not the stops or semi-vowels.

b. Clusters

Only clusters of two consonants occur, and these only syllable initially.

c. List of Consonant Clusters

Stop + Lateral	/pl/, /tl/, /kl/	e.g. /plene/	'there'
Stop + Vibrant	/pr/, /tr/, /kr/	e.g. /apri/	'plant'
Flat fricative + Lateral	/fl/	e.g. /flɔu/	'sweet'
Flat fricative + Vibrant	/fr/	e.g. /kafra/	'a bird'
Stop + Bi-labial semi-vowel	/pw/, /tw/, /kw/	e.g. /twamɔ/	'froth'

Many consonant clusters occur between syllables, i.e. a syllable ends in a consonant, and the following syllable in the word commences with a different consonant. Almost any combination of consonants can be found in this position.

e.g.	/wɪnke/	[wɪn-ge]	'younger brother'
	/nɪmpɪl/	[nɪm-bɪl]	'buttocks'
	/tɛlmanɪf/	[tɛl-ma-nɪf]	'beach'
	/yɛɪpu/	[yɛɪ-pu]	'femur'

B. Vowels

a. Single

Syllable and word initial.	All vowels
Syllable medial and final.	All vowels
Word final.	All vowels

b. Clusters

Only clusters of two vowels occur in any one syllable. All vowel clusters end in either /i/ or /u/, and are as follows:

/ɿ/	Occurs in all positions	e.g. /ɿɿyɿf/	[ɿɿ-yɿf]	'light'
/ɛi/	Occurs in all positions	e.g. /ɛiɿɿ/	[ɛi-ɿɿ]	'to arise'
/ai/	Occurs in all positions	e.g. /aɿtɛ/	[aɿ-tɛ]	'to buy'
/ɔi/	Occurs in all positions	e.g. /ɔiŋkɛř/	[ɔiŋ-ɛř]	'holes'
/ui/	Occurs word medially only	e.g. /kuɿɿpɔu/	[kuɿɿ-pɔu]	'wild limbon'
/uu/	Occurs in all positions	e.g. /ɿuu/	[ɿuu]	'sago'
/ɔu/	Occurs in all positions	e.g. /fɔuyɛɿ/	[fɔu-yɛɿ]	'vine'
/au/	Occurs in all positions	e.g. /auɿɛ/	[au-ɿɛ]	'come'

A syllable division never occurs between any of the vowels listed in the clusters above when they are in the order shown.

LIST OF PHONEMES

Technical Orthography	Practical Orthography	Example	Translation
p	p	pau	'small of back'
t	t	topo	'skin'
k	k	kera	'little finger'
f	f	fiu	'white'
s	s	sioko	'arrow head'
m	m	mampeɿ	'soon'
n	n	niɛɿ	'fish'
ŋ	ng	sengke	'pig'
l	l	löm	'eye'
ř	r	rërëm	'evil spirits'
w	w	weɿ	'fire'
y	y	ye	'you'
i	i	ɿfau	'wild fig tree'
ɿ	ë	ëfau	'limbum sheath'
ɛ	e	etëf	'hand'
a	a	alef	'string'
u	u	uf	'village'
ü	ö	önwei	'to climb'
ɔ	o	onom	'heart'

