

PRELIMINARY STATEMENT OF PHONEMES IN BESLERI

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Introduction I was privileged to work with Fr. Adrian Edwards, who is stationed at Hina-Marbak and who invited me to consider with him the problems posed by vowel and consonant sounds of Besleri. Working for two days with a language helper, we arrived at the following provisional statement of phonemes in Besleri. This paper also notes various other phonological observations.

Besleri, a member of the Chadic group of languages, also known as Hina, is listed as language number 251, in Dieu and Renaud (1983). It is spoken in the Département of the Mayo-Tsanaga in the Far North Province. To the best of my knowledge, no research has been hitherto done in Besleri, apart from the taking of wordlists. This is also the opinion of Dieu and Renaud (1983:160). In Harvey and Harvey (1992), it is asserted that the speakers of Besleri refer to their language as Mina; Harvey and Harvey recommend that the language be referred to as Mina by outsiders as well.

1.0 The vowels We have adduced the following vowels:

CHART OF VOWELS

i	u u:
ɛ ɛ:	ɔ
ə	
a a:	

That is to say, six short vowels and three long vowels. The shwa appears as a full vowel in many words; in other cases, it may be suspected as having primarily an epenthetic status. Whether these two modes of shwa co-exist in one system remains to be seen.

1.1 The vowels

1.1.0 The short vowels

1.1.1 The vowel /a/ is realized as [a], a low, central vocoid. We establish it in contrast with other vowels as follows:

/a/ - /ɔ/:

/vɛlak/	'give me'	-	/dɔk/	'horse'
/san/	'me'	-	/hɔŋ/	'you'
/kɛdar/	'dance'	-	/ntsɔr/	'nose'
/ákəhaŋ/	'here'	-	/ŋəvɔŋ/	'charcoal'

(NB: we assume a tonal system of HIGH and LOW tones; we mark HIGH with ['] and leave LOW tone unmarked. For further remarks, see section 4.0.)

/a/ - /ə/:
 /kénas/ 'throw away' - /dəməs/ 'belly'
 /vədaŋ/ 'kind of tree' - /zəđéŋ/ 'marrow'
 /vaŋ/ 'rain' /nvan/ 'pebble'
 /a/ - /ε/:
 /kébás/ 'laugh' /məfés/ 'very small'

1.1.2 The vowel /ə/ is realized as [ə], a mid, central vocoid. We note contrasts with other vowels as follows:

/ə/ - /ɔ/:
 /səkəŋ/ 'thing' /nɔkɔŋ/ 'we'
 /ə/ - /ε/:
 /tsətsélém/ 'wood' /kélém/ 'build'
 ([cécélém])
 /ɛrme/ ? /kéβə/ 'put on a hat'
 /ə/ - /a/: see 1.1.1.
 /ə/ - /i/:
 /təβəl/ 'fatigue' /típíd/ 'ant'
 /ə/ - /u/:
 /kéfək/ 'permit' /duk/ 'short'

1.1.3 The vowel /ɔ/ is realized as a low, back vocoid [ɔ]. Contrast with other vowels is established as follows:

/ɔ/ - /u/:
 /kátsoɔkɔɔ/ 'undress' /kuhu/ 'fire'
 /ɔ/ - /ə/: see 1.1.2.
 /ɔ/ - /a/: see 1.1.1.
 /ɔ/ - /ε/: /nɔkɔŋ/ 'we (incl.)' /nenɛŋ/ 'we (excl.)'

1.1.4 The vowel /u/ has a principal allophone of [u], which is quite high and back: [kuhu] 'fire'; [luh] 'hunt'; [gidúrí:] 'casserole'; [báakwúla] 'skin'; [kéguβak] 'scold'; [guzáku] ???; [sekula] 'kind, sort'

We adduce another allophone of /u/: [u]--more central than [u] but still rounded; it appears in closed syllables before alveolar consonants: [salád] 'two'; [rəkwád] or [rukwád] 'clothes'; [mɔgwáda] 'tail'; [ŋwáɪ] 'boy'; [gwádzagwád] 'hair'; [kakwádkukwád] 'gentle'; another possible way of describing this allophone's environment might be: 'in closed syllables other than those ending in /h/, and in word-internal open syllables followed by a complex consonant--i.e., fricative, affricate, or a labialized consonant.

We establish /u/ in contrast with other vowels as follows:

/u/ - /i/: /kuhu/ 'fire' /hidi/ 'person'
 /dəruk/ 'goat' /dərif/ 'song'
 /u/ - /ə/: see 1.1.2.
 /u/ - /ɔ/: see 1.1.3.

1.1.5 The vowel /i/ has as its principal allophone a vocoid [i] which is actually not very high or forward--it resembles very much the 'lazy' English [i]! This allophone is found principally in absolute word final, and also before /y/: [ʃé:ri] 'cord'; [káʃi] 'run'; [wíya] 'deaf'; [pípí] (?) 'when'; [hidi] (?) 'person'.

/i/ presents another allophone [i̯]--more central than [i], but still unrounded, and noticeably higher than [ə]: this allophone appears generally word-internally, i.e., not in absolute word final: [pic] 'sun'; [tsítsíβ] ??? 'hedgehog'; [kémíŋ] 'be left over'; [típíd] 'ant'; [kíʃkil] 'guinea corn'; [híʒíd] 'blade of grass'.

Let us consider the following representative list of nouns:

[kíʃkil]	'guinea corn'	[dəməs]	'belly'
[tsítsíβ]	'hedgehog'	[zəðəŋ]	'marrow'
[ʃíʃíŋ]	'seed'	[kərəm]	'dry season'
[híʒíd]	'blade of grass'	[mələβ]	'salary'
[típíd]	'ant'	[wəzəm]	'work'
[birtək]	'dust'	[gəzəd]	'work'
[bígín]	'tooth'	[dəwəŋ]	'work'
[míʃíl]	'thief'	[məzəd]	'buttock'
[mibíŋ]	'door'	[tsəbən]	'five' [dzəbən] ???
[midigid]	'entry-way'	[təbəl]	'fatigue'
[bizim]	'claw'	[bəmbəz]	'blood'
[tíŋgiɪ]	'hearth-stone'	[məsəm]	'enemy'
[mítíʃ]	'hunger'		
[vítíd]	'leaf (spec.?)'		
[dígíd]	'thorn'		
[jɪwid]	'a fly'		

We find that the vocalic system of Besleri refuses to mix /i/ and /ə/ in the same noun. In the few bi-syllabic verb roots which we have found, it is also true that /ə/ does not mix with /i/:

[dərəd]	'eat sweet potatoes without sauce'
[tsəkəβ]	'chew'

It should be noted, however, that /ə/ is found preceding /i/ in many verb infinitives, where the infinitival prefix is /ké/. Thus:

/kémits/	'die'
/kémíŋ/	'be left over'
/kédzi/ ??	'kill'
/kəbiz/ ([kəbiʒ])	'pull'
/kəziŋ/ ([kəziŋ])	'return'
/kəgiz/ ([kəgiʒ])	'say'
/kəŋgiz/??	'urinate'

We have noted above in 1.1.2 a contrastive pair of nouns /təbəl/ 'fatigue' and /típíd/ ([típíd]) 'ant'. We are thus constrained to establish [ə] and [i] as belonging to separate vowels. However, the evidence cited above suggests that [i̯] may have developed as an allophone of /ə/, and then got reassigned to the vowel /i/.

Examples of the contrast between /i/ and /ɛ/ are as follows:

/kədis/	[kədiʃ]	'cultivate'	/dəs/	[dəʃ]	'a ring'
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Examples of contrast between /i/ and the other vowels are given above.

1.1.6 The vowel /ɛ/ is principally realized as a low, front vocoid [ɛ]; we remark an occasional realization as [æ], as in:

[vəlæk] 'give me' (compare [gəžæk] 'tell me')
[kútúlæk] 'fear (noun)'

We note that /ɛ/ is often realized as a higher vowel, more like [e], before the velar nasal consonant /ŋ/. Thus:

/hínɛŋ/ [hínêŋ] 'you (pl.)'
/mbɛŋ/ [mbêŋ] 'he'
/nɛnɛŋ/ [nêneŋ] 'we (excl.)'

Contrasts between /ɛ/ and the other vowels have been cited above.

We hypothesize a neutralization of contrast between /i/ and /ɛ/ in nouns in the absolute word-final position. Thus:

/beli/ or /bɛɛ/ 'a slave'
/mbé:lí/ or /mbé:lé/ 'a greeting'

At the same time, we note the word /mbé/ 'near'. It remains to be seen whether word-final /ɛ/ always loses its contrast with /i/, and whether this phenomenon holds true for long vowels as well--but we hypothesize no /i:/ (!). Words such as /ndzɛ/ [njɛ] 'eye'--for which no variant has been observed, will have to be examined more closely than possible up until now.

1.2 The long vowels We hypothesize the following series of long vowels: /ɛ:/, /a:/, and /u:/.

/mbé:lí/ 'greeting'
/káne:ket/ 'lick (verb)'
/ndzɛ/ [njɛ] 'eye'
/sé:rí/ [ʃé:rí] 'cord'

/zá:du/ 'night'
/bá:kula/ 'skin'

/gidú:rí/ 'pot'

This hypothesis of long vowels is very tentative and must be examined further in the future.

1.3 Diphthongs Besleri displays what we take to be several phonetic diphthongs, which we interpret as VC sequences: /aw/, /ay/, /ɛw/, /iy/ and /uw/. Examples follow:

/kádzaw/ 'attach, knot' /fɛw/ 'a fly'
/dzawdzaw/ 'a drum' /kóngɛw/ 'attach'
/kákəɖaw/ 'burn'

/ŋgáziy/ 'feet' (pl. of /ŋgaz/)
/bəmbəziy/ 'bloods' (pl. of /bəmbəz/)

/gáy/ exclamation /kəluw/ 'say'
/gugway/ 'feast'
/vakáy/ 'which?'
/bá:mbay/ 'a stick'

/aw/ is realized more as [ao] than as [au], and /ay/ more as [ai] than [ai]. The pluralizer /-iy/ is realized as [íiy]--very long, with a tension at the end of it which I attribute to the presence of a /y/. /uw/ has as well a tension at the end which I would guess is really due to the presence of /w/.

2.0 The consonants We hypothesize the following consonants in Besleri:

	LABIALS	ALVEOLARS	PALATALS	VELARS	GLOTTAL
(stops)					
voiceless	p	t		k	ʔ
voiced	b bw	d		g	gw
implosive	ɓ	ɗ			
(fricatives)					
voiceless	f	s			h
voiced	v	z			
(affricates)					
voiceless		ts			
voiced		dz			
nasal	m	n		ŋ	
(pre-nasalized)					
	mp	nt		ŋk	ŋkw
	mb	nd		ŋg	ŋgw
	nv (mv??)				
		nts			
		ndz			
liquids					
		r			
		l			
(lateral fricatives)					
		ɬ			
		ɮ			
semi-vowels	w		y		

2.1 The following contrasts have been noted:

/p/ - /b/	/píts/ [píc]	'sun'	/biz/ [biž]	'pull!'
/p/ - /b/	/kégap/	'be fat'	/gəb/	'ten'
	/kénəp/	'breathe'	/mélóβ/	'salary'
	/ndáp/	'solely'	/gəb/	'ten'

These examples of syllable-final contrast between /p/ and /b/ need more study. Syllable-final /p/ appears to be optionally released; if it is not released, it can be difficult to distinguish from syllable-final /b/, which is never released. In such a case, it is helpful to observe phrases which contain these examples followed by a word beginning with a vowel: the implosive quality of /b/ shows up then more clearly.

	/típíd/	'ant'	/kóbas/	'laugh'
/p/ - /f/	/típíd/	'ant'	/kéfəd/	'shave'
	/kógap/	'be fat'	/wələf/	'blind'
	/pits/	'sun'	/few/	'a fly'
/p/ - /v/				
/p/ - /mp/	Examples of /mp/ have been mislaid.			
/p/ - /mb/	/pits/	[pic] 'sun'	/mbíts/	[mbíc] 'dust off!'
/b/ - /bw/	/kóbas/	'allume'	/kóbwaha/	'change'
/b/ - /b/	/kóbas/	'allume'	/kóbas/	'laugh'
/b/ - /f/	/kóbas/	'allume'	/kéfəd/	'shave'
/b/ - /v/	/kóbas/	'allume'	/kévəl/	'give'
/b/ - /mp/	Examples of /mp/ lacking in my data.			
/b/ - /mb/	/kóbas/	'allume'	/kómbíts/	[kómbíc] 'dust off'
/b/ - /f/	/kóbáŋ/	'think'	/kéfəd/	'shave'
	Syllable-final /b/ is unreleased, as opposed to syllable-initial /b/.			
	/málóǔ/	'salary'	/wələf/	'blind'
/b/ - /v/	/kóbáŋ/	'think'	/kévəl/	'give'
/b/ - /mb/	/kóbáŋ/	'think'	/kómbíts/	[kómbíc] 'dust off'
/f/ - /v/	/kéfəd/	'shave'	/kévəl/	'give'
	/késíftaŋ/	[késíftaŋ]	'stir porridge'	
	/kéfəd/	'shave'		
	/kéfək/	'leave'		
	/məfés/	'small'		
	/dərif/	'song'		
	/wələf/	'blind'		
	/few/	'a fly'		
	/kafkay/	'padlock'		
/v/ - /nv/	/vaŋ/	'rain'	/nvən/	'pebble'
			/nvá/	'faeces'
/m/ - /mp/	Our data on /mp/ are mislaid.			
/m/ - /mb/	/málóǔ/	'salary'	/mbé:lé/	'greeting'
	/med/	'swear!'	/mbé/	'near'
/m/ - /n/	/miməŋ/	'panther'	/nenəŋ/	'we (excl.)'
/m/ - /ŋ/	/míndéŋ/	'other'	/nenəŋ/	'we (excl.)'
/w/ - /h/	/wizíy/	[wižíy] 'children'	/hízíd/	[hížd] 'sekko'

/w/ - /y/	/dzawdzaw/	'a drum'	/malway/	'iron'
/t/ - /d/	/teles/ [tɛlɛʃ]	'partridge'	/dərif/	'song'
/t/ - /d/	/mítis/ [mítif]	'hunger'	/kédís/ [kédif]	'cultivate'
/t/ - /n/	/tɔkɔŋ/	'your (s)'	/nɔkɔŋ/	'we (incl.)'
/t/ - /nt/	/tɛ/	'and'	/nta/	?
/t/ - /nd/	/tɛ/	'and'	/ndáp/	'solely'
/t/ - /r/	/tɛ/	'and'	/ra/	'hand'
/t/ - /ts/	/kétɔs/	'assemble'	/kétɔk/	'undress, take off'
/t/ - /dz/	/kétɔs/	'assemble'	/kédza/	'beat'
/t/ - /ndz/	/kétɔs/	'assemble'	/kéndza/	'sit'
/d/ - /d/	/des/ [dɛʃ]	'ring'	/dis/ [dif]	'cultivate!'
	/kédar/	'dance (verb)'	/kákədaw/	'burn'
/d/ - /n/	/dók/	'horse'	/nɔkɔŋ/	'we (incl.)'
/d/ - /nt/	Our date on [nt] are mislaid.			
/d/ - /nd/	/kédəm/	'marry'	/kéndɛd/	'button (verb)'
/d/ - /r/	/kédəm/	'marry'	/kərəm/	'dry season'
/d/ - /ts/	/dɛmɛs/	'stomach'	/tsəbɔŋ/	'five'
/d/ - /dz/	/kédəm/	???	/kédzɛl/	'leave'
/d/ - /ndz/	/kédəm/	???	/kéndza/	'sit'
/d/ - /r/			/kərəm/	'dry season'
/d/ - /ts/				
/d/ - /dz/	/kédís/ [kédif]	'cultivate'	/kédzɛl/	'leave'
/d/ - /ndz/				
/d/ - /ʔ/	/kédís/ [kédif]	'cultivate'	/kíʔis/ [kíʔif]	'blow'
/n/ - /nt/	/nas/	'throw!'	/nta/	?
/n/ - /nd/	/kánas/	'throw'	/kéndɛd/	'button (verb)'
/n/ - /ndz/	/kánas/	'throw'	/kéndza/	'sit'
	/nɛkɛd/	'drop!'	/ndzɛ/ [njɛ]	'eye'
/n/ - /ŋ/	/nvən/	'pebble'	/vaŋ/	'rain'
/l/ - /r/	/mbé:lí/	'greeting'	/gidúrí/	??

/z/ - /ndz/ /kázəm/ 'eat' /kándza/ 'sit'
 /ɬ/ - /β/ /ɬəm/ 'onion' /βəm/ 'name (noun)'

We hypothesize that [ts] and [tʃ] (i.e., [ç]) stand in complementary distribution, and as such both belong to the phoneme /ts/, under the following rule:

/ts/ ⇒ [tʃ] / contiguous to V,
 [+ front] (i.e., /i/ and /e/)
 or in a syllabic reduplication of such a syllable.

/ts/ ⇒ [ts] / contiguous to V, given that its occurrence
 [- front]
 is not in a syllabic reduplication of a syllable containing a front vowel.

Examples:

[pítʃ]	'sun'	[kótʃəkɔβ]	'chew'
[kémβítʃ]	'dust off'	[kótʃəkɔhɔ]	'take off'
[tʃátʃélém]	'wood'	[kɔkartsa]	'cough (verb)'

Note that in the example [tʃátʃélém] 'wood', the first syllable is evidently a reduplication of the second. We may hypothesize that the [tʃ] is thus retained.

/ts/ - /dz/ /kátsəkɔβ/ 'chew' /kádzək/ 'flatter'

/ts/ - /nts/ /tsátsáb/ 'hedgehog' /ntsáf/ 'a lie'
 /tsɔβəŋ/ 'five' /ntsɔr/ 'nose'

/ts/ - /ndz/

We hypothesize that [dz] and [dž] ([j]) stand in complementary distribution, and that both are allophones of the phoneme /dz/, under the rule:

/dz/ ⇒ [dž] / contiguous to V
 [+ front] (i.e., /i/ and /e/)
 /dz/ ⇒ [dz] / contiguous to V
 [- front]

Examples:

[jívíd]	'a fly'	[kádzək]	'flatter'
[jájɪŋ]	'mortar'	[kádzaw]	'attach'
[híjē]	'sickle'	[kádzə]	'sing'
[jɪŋ]	'long'	[gwádzugwéd]	'skin'

Counter-examples which have been found:

[kádzɪ] 'kill'
 [kádzəl] 'leave'

More work will resolve this dilemma and will either confirm or disconfirm our hypothesis of [dz] and [dž] standing in complementary distribution.

/dz/ - /ndz/ /kédza/ 'strike' /kándza/ 'sit down'

We hypothesize that [ndz] and [ndž] stand in complementary distribution, and that they are both allophones of the phoneme /ndz/, under the rule:

/ndz/ ⇒ [ndž] / contiguous to V
 [+ front]
 /ndz/ ⇒ [ndz] / contiguous to V
 [- front]

Examples:

[ndzəɾɔŋ] 'squirrel' [wənjɪd] 'intestine'
 [nje] 'eye'

/k/ - /g/	/kazá/	'here'	/gəzəd/	'work'
/k/ - /ŋ/	/dɔk/	'horse'	/sɔŋ/	'I'
/k/ - /ŋk/	/kuhu/	'fire'	/ŋkuwa/	'goat'
			/ŋkuh/	'six'
/k/ - /ŋg/	/kazá/	'here'	/ŋgaz/	'foot'
/k/ - /kw/	/kódəm/	'marry'	/kwədék/	'white'
/k/ - /gw/				
/k/ - /ʔ/	/kískil/	[kíʃkil] 'guinea corn'	/ʔis/	[ʔif] 'blow!'
/k/ - /h/	/káyak/	'village'	/háyak/	'ground'
/g/ - /ŋk/				
/g/ - /ŋg/	/bígín/	'tooth'	/tíngiɪd/	'hearth'
	/gəzəd/	'work'	/ŋəvɔŋ/	'charcoal'
/g/ - /kw/				
/g/ - /gw/	/gáy/	'exclamation'	/gugway/	'feast'
/g/ - /h/			/kuhu/	'fire'
			/luh/	'hunt (noun)'
			/hidi/	'person'
			/hóŋ/	'you (s)'
			/bɔhɔk/	'??'
/kw/ - /gw/	/mawəkək/	'a fool'	/mɔgwuda/	'tail'

NOTES

The few spaces left blank for examples of contrast above indicate often that satisfying examples have not yet been found, but that we expect them.

We have noted a lengthened [mm] in the case of [mma] 'mouth', and duly note it here for future reference.

3.0 Syllable structure We hypothesize the following syllable types: V, CV, CVC. Whether the type CCVC may be said to exist remains to be seen. Doubtful examples include:

[dərək] - [drək] 'male goat'
 [dərɪf] - [drɪf] 'song'

We can also cite the ideophones [préwpréw] 'hard', but we should be wary of relying on such examples for our main analysis.

3.1 Consonant-occurrence as to position in syllable The following chart summarizes our findings to date as to the positions in a syllable which each consonant is observed to fill.

C	V	C	C	V	C
p		p	l		l
b			r		r
bw			s		s
ɸ		ɸ	z		z
f		f	ɬ		ɬ
v			ʒ		
m		m	ts		ts
mp ?			dz		
mb			ndz		
nv			y		y
w		w	k		k
			kw		
			g		
			gw		
t		t	ŋk		ŋ
d			ŋg		
ɖ		ɖ	ŋgw ?		
n		n	h		h
nt ?			?		
nd					

It will be seen from the above chart that any consonant may begin a syllable. Generally, a syllable may be closed only by a consonant characterized by simple articulation, as opposed to one featuring complex articulation, e.g., /nv/ or /gw/. The only apparent exception to this rule is that /ts/ may close a syllable.

4.0 Observations on Tone We note minimal tonal pairs as follows:

/kádám/ 'make enter' /kádəm/ 'marry'
 /míd/ 'after, well then' /míd/ 'wind (noun)'

We see every suggestion in our data of a tonal system of two level tones, HIGH and LOW. A falling tone glide occurs habitually utterance-final from a HIGH tone: e.g.,

[nvâ] 'faeces' [hidíy] 'persons' [máfês] 'little'

which so far we would interpret as /nvá/, /hidíy/, and /máfês/. We find no evidence thus far of any tone glides word-internally.

5.0 Conclusion This study is provisional and preliminary to any future study. It is to be hoped that such a study will be made in the future.

ABBREVIATIONS

excl.	exclusive
incl.	inclusive
pl.	plural

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