Is Kabardian a Vowel-Less Language?
Author(s): Morris Halle
Source: *Foundations of Language*, Vol. 6, No. 1 (Feb., 1970), pp. 95-103
Published by: Springer
Stable URL: http://www.jstor.org/stable/25000430
Accessed: 14-04-2018 02:19 UTC

MORRIS HALLE

IS KABARDIAN A VOWEL-LESS LANGUAGE?*

In his monograph *Phoneme and Morpheme in Kabardian* (Mouton, The Hague, 1960) Aert Kuipers concludes that the "most striking characteristic of the Kabardian phonemic system is the absence of an opposition consonant-vowel" (p. 104). This conclusion has been recently reaffirmed by Kuipers in his paper 'Unique Types and Typological Universals', in the volume honoring the Dutch Orientalist F. B. J. Kuiper *Pratidanam* (Mouton, The Hague, 1969), in the course of which Kuipers takes violent exception to the opinion expressed by his former teacher, Roman Jakobson, that there are no vowel-less languages and that, moreover, the minimal vowel system "must at least have a vertical axis ə-a" (p. 70).

It is necessary to outline first what is meant by the claim that there are vowel-less languages. Linguists distinguish between two representations of utterances: of these two, the underlying (or phonemic) representation is more abstract in the sense that it reflects the phonetic properties of an utterance in a less direct, more mediate fashion, whereas the surface (or phonetic) re-presentation is more concrete in that there is a much closer, direct relation-ship between symbols of the representations and the particular phonetic properties of the utterances. The claim that there are vowel-less languages is a claim about the underlying (or phonemic) representation of utterances, not about their surface (or phonetic) representation or about their actual pho-netic implementation, for there do not exist languages where vowels never appear in utterances. If the claim can be substantiated – i.e., if there are, indeed, languages where no vowels appear in the underlying representations – this would mean that underlying representations may differ quite funda-mentally from surface (or phonetic) representations. On the other hand, if Jakobson is correct and there are no vowel-less languages, then the difference between underlying and surface representations is much less radical. Present-day phonological theory would lead us to expect that the latter is the case (cf. e.g., the discussion of the 'naturalness' condition in P. Postal's *Aspects of Phonological Theory*, Harper and Row, New York, 1968). If Kuipers' claim that there are vowel-less languages is shown to be correct this would, therefore, entail a revision of quite fundamental beliefs about the nature of the phonological component of language. To assess the validity of Kuipers'

claim I have reviewed Kuipers' 1960 book in some detail, for it is the only study known to me in which the claim that a language has no vowels is argued in sufficient detail to allow one to render a critical judgment on this far from trivial claim.

Like many other Caucasian languages, Kabardian exhibits a very rich consonant system. The obstruent system of the language is shown in Table I, which reproduces in slightly modified form an analogous table in Kuipers' book (p. 18).

In addition, the language has a liquid [r], the nasals [m, n], and the glides [ʔ, ʔ⁰, h, ʼḥ, y, w], where [ḥ] is "pharyngeal ... comparable to Arabic ع " (p. 21). We assume that the palato-alveolars are [+rounded], because Kuipers describes them as being "characterized by a slight, wide rounding of the lips" (p. 20).

Phonetically there is a great variety of vowels: there appear to be at least 12 short and 5 long vowels. However, these are positional variants of two basic vowels, one [+low] and one [−low], i.e., [a] and [ə].

Kuipers explains on p. 22 that the preceding consonant affects the quality of the following vowel:

[i, e]   appear after laterals, palatalized palatovelars and the glide [j], i.e., after consonants that are $\begin{bmatrix} +\text{high} \\ -\text{back} \end{bmatrix}$

[ɨ[1], a]   appear after plain uvulars, pharyngals, h, ʔ, i.e., after consonants that are $\begin{bmatrix} -\text{round} \\ +\text{back} \end{bmatrix}$

[u, o]   appear after "labialized palatovelars, uvulars and laryngals", i.e., after consonants that are $\begin{bmatrix} +\text{round} \\ +\text{back} \end{bmatrix}$

[ə, æ]   appear after "other consonants", i.e., after consonants that are $\begin{bmatrix} -\text{high} \\ -\text{back} \end{bmatrix}$

There appears thus to be a simple regularity. After [+back] consonants we get [+back] vowels; moreover, if the consonant is [+round], so is the vowel. After [−back] consonants the distribution of vowels is somewhat more complex. After consonants that are $\begin{bmatrix} -\text{back} \\ +\text{high} \end{bmatrix}$ we get [i, e]; after consonants that are $\begin{bmatrix} -\text{back} \\ -\text{high} \end{bmatrix}$ we get [ə, æ].

Further modifications are due to following consonants. "Before labialized

---

[1] Kuipers uses the symbol y to designate the high back vowel symbolized here by ɨ.

TABLE I

	Voiceless		Voiced		Glottalic		Lateral	Anterior	Coronal	High	Back	Round
	stop	cont	stop	cont	stop	cont						
Labial	p	f	b	v	p'	f'	−	+	−	−	−	−
Dental	t/c	s	d/ʒ	z	t'/c'	s'	−	+	+	−	−	−
Alveolopal.		ŝ		ẑ		ŝ'	−	−	+	−	−	−
Pal.-alv.		š		ž			−	−	+	−	−	+
Palatal		ł		l		ł'	+	−	+	+	−	−
Pal.-velar (palatal)	k'	x'	g'		k''		−	−	−	+	−	−
Pal.-velar (labial)	k°	x°	g°		k°'		−	−	−	+	+	+
Uvular (plain)	q	x̄	ǧ		q'		−	−	−	−	+	−
Uvular (labial)	q°	x̄°	ǧ°		q°'		−	−	−	−	+	+

consonants half rounded vowels are found, central ($\ddot{u}$, $\ddot{o}$) or back (v, w) depending on what precedes..." (p. 22).

Thus we can assume that there are two short vowel phonemes which following Kuipers we shall represent as ə $\begin{bmatrix} +\text{back} \\ -\text{high} \\ -\text{low} \\ -\text{round} \end{bmatrix}$ a $\begin{bmatrix} +\text{back} \\ -\text{high} \\ +\text{low} \\ -\text{round} \end{bmatrix}$.

Kuipers points out that "the sequences $əj$, aj, $əw$, aw, when belonging to the same syllable (i.e., when not followed by a vowel), are produced as $\bar{\imath}$, $\bar{e}$, $\bar{u}$, $\bar{o}$, respectively..." (p. 23). This accounts for four of the five long vowels and leaves only the long vowel $\bar{a}$ unanalyzed.

By an exemplary linguistic argument Kuipers proceeds to show that long $\bar{a}$ should be derived from the sequence ha. First, ha occurs only in one morpheme, the plural suffix. Secondly, long $\bar{a}$ is the only syllable initial vowel. "If syllable initial $\bar{a}$ is interpreted as a sequence ha, the defectiveness in the distribution of the phoneme h is reduced, and all Kabardian syllables uniformly have a consonantal initial" (p. 33).

Thirdly, when the stress on Kabardian words is studied, it is found that "the stress falls before the last consonant or consonant cluster of the word, not counting certain grammatical affixes which do not influence the position of the stress" (p. 34). To be precise, Kuipers should have added here that if there is only one vowel in the word, that vowel gets the stress. The stress rule should, therefore, read:

$$V \rightarrow [+\text{stress}] \quad / \ X\text{-}(C_1(V))\#.$$

Kuipers now shows (p. 35) that the stress does not move off a word final $\bar{a}$ as syllables are prefixed to the word. This behavior of the stress would be expected if $\bar{a}$ actually represented ah, for then the h would be the last consonantal sequence in the word before which stress is placed by the rule just stated. This analysis is further supported by the parallel behavior of stress on words ending with other long vowels all of which derive from vowel + glide sequences, as noted above. Since we have postulated, however, that $\bar{a}$ derives from ha we require in addition a metathesis rule $ha \rightarrow ah$. We shall see directly that this metathesis rule applies also to other glide + vowel sequences. But first note that according to Kuipers (pp. 22–23) before pharyngals the opposition between $ə : a$ is neutralized. Since h is a pharyngal, we can expect only one vowel here, say a. But now we can readily explain why there are only five instead of six long vowels. While before j and w we can have $ə$ and a, before h we can have only a.

The analysis of $\bar{a}$ as deriving from $ha \rightarrow ah$ is further confirmed in that it makes it possible to show that the behavior of $\bar{a}$ parallels precisely the behavior

of morphemes of the form *ja* and *wa*. The non-initial prefixes *ja* and *wa* always change to $-aj-$, $-aw-$ (p. 64). Thus we have

já + tx'	'he writes it'
ŝé + tx'	'write it there!'
tx'e	'write!'
ŝáj + tx'	'he writes it there'

This suggests that underlying *ŝáj + tx'* we have

ŝə + ja + tx'ə

there he   writes it

Assuming metathesis of *ja* in noninitial position we get

ŝə + aj + tx'ə

Next as indicated by Kuipers on p. 36 prevocalically a vowel is deleted and we get

ŝ + aj + tx'ə

Next accent is assigned to the vowel followed by the last consonant cluster in the word

ŝ + áj + tx'ə

from which with the deletion of word final unaccented *ə* (see p. 34) we obtain

ŝ + áj + tx'.[2]

We have already noted that the plural morpheme is *ha*. Hence we shall account for the parallel forms

jə + tx'ə́ + nŝ	jā + tx'ə́ + nŝ
he is to write it	they are to write it

by assuming the underlying representation

	jə + tx'ə + nŝ	jə + ha + tx'ə + nŝ
Metathesis	———	jə + ah + tx'ə + nŝ
V→∅/−V	———	j + ah + tx'ə + nŝ
Accent	jə + tx'ə́ + nŝ	j + ah + tx'ə́ + nŝ
Vowel Sandhi	———	j + ā + tx'ə́ + nŝ.

Kuipers has thus shown that in the underlying representations of Kabardian no more than two vowel phonemes – *ə* and *a* – are required, and that the

---

[2] This form is apparently actualized phonetically as [ŝētx'] in view of the vowel sandhi rule stated by Kuipers on p. 23.

17 or more distinct vowel sounds that can be observed in Kabardian ut-
terances can be derived from the two vowels above with the help of reason-
ably simple rules. Kuipers, however, wishes to reduce the vowel inventory
of Kabardian even farther, to zero, in fact. It is, therefore, essential that we
carefully examine Kuipers' demonstration that the vowel inventory of
Kabardian can be reduced, for if this demonstration fails, Kabardian, on
Kuipers' own evidence, would provide a perfect example of Jakobson's
typological universal.

   Kuipers' first move is to show that the vowel ə is predictable in post-stress
position as well as under the stress. To demonstrate the former Kuipers sets
up four classes of consonants: "I: plosives, fricatives and glottalic laryngals;
II: m, n, r; III: w, j; IV: h (as fused in -ah)" (p. 41). This allows him to state
the rule: "The vowel ə appears between two consonants if the first one
belongs to I or II and the second to II or III; otherwise it is absent" (p. 41).
Stressed ə, on the other hand, is predictable because "in the stressed syllable
itself the absence of a implies the presence of ə" (p. 42). From this Kuipers
concludes that "*from the beginning of the stressed syllable down to the end
of the word the vowel ə does not play a distinctive role...* For instance, the
word s'əq̇ərtaʔəm 'I was not weeping' can be unequivocally written
s'q̇rtaʔm" (p. 42).

   The arguments, however, do not go through. We recall that stress in
Kabardian was assigned by means of a rule to the vowel preceding the last
consonant or consonant cluster in the word, not counting certain grammatical
affixes (see p. 98 above). If now we omit ə in the representations beginning
with the stressed syllable as proposed by Kuipers, the following problems
arise. Since the rule inserting ə does not apply in position before the stress,
this rule requires either that the stress rule apply first, or that stress be marked
in the underlying representations. The stress rule, however, cannot apply
before the rule inserting ə, for in that case the stress rule would place the
stress incorrectly in such forms as sq̇rtaʔm. Kuipers must, therefore, give up
the stress rule and mark stress in the underlying representations, and this is
what he does as we have seen in the passage quoted at the end of the pre-
ceding paragraph. In other words, in order to dispense with the symbol ə in
the representations, Kuipers has to introduce the symbol '. Thus, his first
step amounts to no more than a trade-off of one symbol and one rule for a
different symbol and a different rule.

   The situation is considerably less favorable as regards Kuipers' attempt
to eliminate ə under the stress. To do this Kuipers treats ' as a segment
(phoneme), rather than as a feature of a segment. He observes that this
symbol ' (the 'stress phoneme') appears in representations only immediately
before vowels (because, of course, it is a vowel feature, and not an inde-

pendent segment, but Kuipers chooses to disregard this fact); i.e., in the representations ' appears only in the sequences 'ə and 'a, but never in any other context. Kuipers, therefore, declares the ə redundant in the environment after ', and claims thereby to have shown that ə is predictable in stressed syllable. But this is an empty notational trick. By the same argument one can show that in English /ō/ as in *hole* is redundant in the environment after /h/. It is a well known fact that /h/ can appear only prevocalically. Thus when /h/ appears in a phonemic representation of English we know for sure that the next segment must be a vowel. We are now free to choose which vowel to make predictable. Since it is a totally arbitrary matter which vowel is to be made predictable, it is also utterly without interest. It shows that there is something wrong with the principles underlying the analysis, but tells us nothing about English. And the same is true of Kuipers' analysis; it cannot be taken, therefore, as a demonstration that 'ə is not a vowel in Kabardian.[3]

It hardly needs to be said that since Kuipers has not established the predictability of ə in the cases just reviewed he has failed to establish that Kabardian vowels are predictable everywhere, regardless of whether or not his other arguments are valid. I shall, however, analyze his other arguments so as to drive home the point that Kuipers has not even come close to showing that Kabardian violates Jakobson's empirical universal that all languages have at least two vowels.

Kuipers distinguishes two occurrences of ə in preaccentual position; one of these he terms *nonautomatic* (p. 47), and in line with this usage we shall term the other *automatic*. We first examine the automatic cases. Kuipers classifies consonantal features into three separate sets: "(a) features consisting in place and mode of articulation (labial-dental-alveolopalatal, etc.; plosive-fricative-nasal-trill; stop-affricate); (b) features consisting in the general shape of the mouth resonator (plain-palatalized-labialized); (c) laryngeal features, (voiceless-voiced-glottalic)" (p. 25). The set (a) is referred to as *buccal* features, and complexes of these features are symbolized by

---

[3] W. S. Allen bases his case for regarding Abaza, another Caucasian language, as having only one vowel on the same notational misuse (cf. his 'On One-Vowel Systems', *Lingua* 13, 1965, 111–24). Allen states that Abaza appears on first sight to exhibit the same two vowels as Kabardian; i.e., ə and a. "The analysis thus far, however, ignores an important feature of distribution. For on further inspection it is found that there is no contrast between ə and zero. The occurrence of the sounds which form the ə-class are all predictable from (i) the sequences of consonants in terms of number and type, and (ii) *the incidence of stress* (*where absence of /a/ automatically implies* ə). The consonants are phonemic and so have obviously to be stated; but stress is also phonemic... so that this also has to be marked in a phonological analysis. Any statement of the occurrence of ə is therefore redundant, since it is in automatic alternation with zero. There is thus no case for setting up a phoneme /ə/" (p. 117–8. – My italics, M. H.).

capital letters, e.g. *P* stands for the labial plosive element that is common to the phonemes *p*, *b*, *p'* (p. 25), whereas *F* represents the labial fricative element common to the phonemes *f*, *v*, *f'*, and *M* represents the labial nasal element which in Kabardian is uniquely manifested in the phoneme *m*; and analogous interpretations are to be associated with the entities symbolized by *T C S N Ŝ* etc. Kuipers thus views speech sounds as sets or complexes of features. He uses the capital letters to designate particular subsets or subcomplexes of features. His usage is, thus, not unlike that familiar in everyday discourse when we use a term such as 'baseball player' to designate indiscriminately a pitcher, an infielder, an outfielder, or a shortstop. It is important to note that we cannot assert about baseball players anything that would not also be true of pitchers, infielders, outfielders, etc. Thus it is meaningless to say "all baseball players train only during the season, but infielders do not train during the season". A meaningless assertion of precisely this type constitutes a crucial step in this part of Kuipers' demonstration. Kuipers observes that in clusters "the laryngeal articulation of the nonfinal members is not distinctive" (p. 31). He, therefore, suggests that *pŝ*, *bẑ*, etc. can be written as *Pŝ* and *Pẑ* without indication of laryngeal feature in the preconsonantal unit of the cluster since this feature is predictable from the following consonant. Thus, for instance, "the word *bza* 'language' ... is transcribed *Pza*" (p. 31). The fact that the form *Pza* is typographically different from the form *bza* appears to have misled Kuipers into believing that he can assert of *P* things that are not true of *b*, *p*, or *p'*. Thus, he tells us that "the word *pəl'ahŝ* 'it hung' (phonetically *pʿəl'āŝ*) can be unequivocally written *pl'ahŝ*. Note that this word cannot be read "*πl'āŝ*" [i.e., with a word-initial consonant cluster – M.H.] as a cluster *πl* is ... written *Pl*" (p. 43). In order for this to be true *P* cannot be regarded as a cover-symbol for /p b p'/ because in that case any assertion that holds true of *P* would also have to be true of /p b p'/ individually, and clearly it is not the case that /p b p'/ appear only in preconsonantal position. But if *P* in Kuipers' notation is an entity distinct and separate from /p b p'/, then Kuipers is setting up a whole series of additional phonemes, for he requires not only *P* but also T, X, C, etc. It is hardly a great achievement in view of this that his representations can now dispense with *ə*. Moreover, this notational trick has little relevance to the question under discussion, whether Kabardian is a vowel-less language.

The above notational device, however, does not handle all cases of pre-accentual *ə*. There remains the set of cases which Kuipers calls *non-automatic*. To handle these Kuipers proposes a terminological device. He suggests that these non-automatic *ə* be regarded as "the concomitant syllabic feature of the explosive variant of a consonant" (p. 48). He notes further that "by eliminating *ə* from the system of phonemes this difference is reduced to a

matter of *juncture*. We shall speak of *syllabic juncture* between two consonants (or clusters) in case the first is of the explosive type, i.e., where in the old notation ə appears between the two consonants, and of *nonsyllabic juncture* in case the first member is implosive, i.e., where in the old notation ə is absent". It is surely superfluous to point out that what Kuipers has shown is not that ə is predictable in these positions, but rather that one can trivially omit ə, if like Kuipers, one introduces into the transcription a new symbol, *nonsyllabic juncture*, and adds a rule that ə is to be inserted after all consonants except those followed by nonsyllabic juncture.

The final step in Kuipers' demonstration is the elimination of the vowel *a*. Kuipers again has recourse to a purely terminological device. He distinguishes ə from *a* by observing that "the second member of each pair is distinct from the first exclusively by a *feature of openness*" (p. 50). He then goes on to tell us that "in phonemic notation the symbol *a* is retained, but its reference is redefined as 'feature of openness' instead of 'vowel'" (p. 51). It apparently escaped Kuipers' attention that by having recourse to this device it can trivially be shown that all languages are vowel-less, for we can always redefine every 'vowel' as a 'feature of X', where X may stand for 'openness', 'backness', 'roundness', etc. But if Kuipers had noticed what great reliance he is placing on contentless notational devices and terminological readjustments he would have had to conclude that Kabardian has the two vowels *a* and ə, and that it provides, therefore, yet another example in support of the ingenious guess of Kuipers' former teacher that these two vowels are "die einzigen, die nirgends fehlen dürfen".

Massachusetts Institute of Technology