On the Nature of Jaz'va Stress

Word stress in Komi Jaz'va (KJa) has in recent years been frequently cited as evidence in support of various types of formal explanation in phonology (cf. especially Kiparsky 1972. 190—191, 1973. 101; Halle 1975. 532). The special interest in KJa stress stems from two considerations: (1) a putative relationship between vowel quality (or 'weight') and stress position by which stress falls on the first 'heavy' vowel of a word (an, in the absence of a heavy vowel, on the last syllable); and (2) the KJa rule, thus interpreted, represents 'a perfect mirror image' (Howard 1973. 61) of the Eastern Mari stress rule, which operates on the basis of full versus reduced vowels (cf. Sebeok and Ingemann 1961).

A closer inspection of the facts of KJa, however, reveals no consistent phonetic support for the putative dichotomy of light and heavy vowels.[1] Further, a deeper understanding of the phonological structure of KJa is not to be found in its superficial formal similarity to the E. Mari rule, but rather in a complex of historical, areal, and, above all, functional considerations.

To begin, let us consider the synchronic phonetic and phonological structure of KJa. The contrastive vowel targets of KJa are presented in the following table.

	FRONT UNROUNDED		CENTRAL ROUNDED	BACK
HIGH	i		$\dot{u}$	u
MID	e	θ	$\dot{o}$	o
LOW		a		

(The vowel (ө) is a low-mid central [ʌ], but is not a 'reduced' vowel.) The KJa word typically consists of a root, most often monosyllabic, possibly followed by one or more suffixes. Whereas all vowels occur in roots (in word-initial syllables), native suffixes are restricted to the three unrounded vowels (i ө a).

The relationship between vowel quality and stress in polysyllabic words leads us to recognize three sets of roots:

      I. Roots with a high vowel (/i u ú/), which must be lexically specified as either 'stress attracting' ([+ SA], or 'heavy') or 'stress-repelling'

([—SA], or 'light'). [+ SA] roots receive initial stress *(giz-jəz* 'ropes', *tús-jəz* 'beards', *vúr-jəz* 'forrests'). [—SA] roots are not stressed initially, stress being shifted to a folowing affix where possible *(giž-né* 'to write', *ur-jéz* 'squirrels', *rúč'-jéz* 'foxes', *tulés* 'spring', *tuləs-jéz* 'springs').[2]

  II. Roots with first-syllable /ə/, which are always light ([—SA]) *(šər-lé* 'to a mouse').

  III. Roots with the other nonhigh vowels (/a e o ȯ/), which are always heavy ([+ SA]) *(vá-is-lə* 'to the water', *kérku* 'hut', *kók-jəz* 'feet', *ȯt'ik* 'one').

When more than one suffix follows a light root, stress normally falls on the first suffix vowel of the sequence: *ur-jéz-kət* 'with squirrels', *ur-jéz-ə-lə* 'to my squirrels', *ur-jéz-is-lan* 'of his squirrels', *vur-ét-nə* 'to embroider', *mun-i-nis* 'they went', *mun-óma-s* 'they have gone'. Only three verbal affixes appear to be marked as light ([—SA]): -*əšt*, -*əl*, and -*inə (tuləs-y-iné* 'to spend the spring', *sul-əš(t)-né* 'to stand awhile' [cf. *sul-ál-nə* 'to stand'], *vund-əl-né* 'to cut up', *vund-əl-l-iné* 'to cut up repeatedly' [cf. *vund-iné* 'to cut']) —but the vowels in these forms may well be epenthetic (cf. Harms 1968).

To give a somewhat different perspective of the sort of word-stress structures the KJa system provides, a survey of the stress types in a short text (Lytkin 1955. 54—56) was made. The results (for 411 words, excluding obvious Russian loans of more than two syllables, monosyllabic pronouns and particles) reveal, not surprisingly in view of the above constraints on root structures and stress, that stress is generally restricted to the first or the second syllable of polysyllabic forms.

The revised formal rule for KJa stress—stress the first [+SA] syllable in the word (and in the absence of a [+SA] morpheme, stress the last syllable) — fails to provide any insight into the workings of the KJa phonological

| Number of syllables (percent of words)	Stress occurs on		
	Initial syllable	Second syllable	Third syllable
1 (12%)	(50)	—	—
2 (65%)	143 [54%]	123 [46%]	—
3 (20%)	35	45	3
4 (3%)	3	8	0
5 (0.2%)	1	0	0
	182 50%	176 49%	3 = 361 polysyllabic 1% words

[2] Since light [ù]'s are historically derived from lax *u, the source of light [u]'s, adjacent to a palatalized consonant (Lytkin 1964. 205), speakers could predict the [ù]'s not in a palatalized environment as stress-attracting; or one might even interpret the secondary [ù]'s as underlying /u/, thus allowing all underlying /ù/ roots to be heavy. I consider both of these possibilities improbable, the significant generalization for the learner being that high vowels must be lexically specified for stress attraction. The extent to which high vowels, apart from their etymological origin, are problematic for KJa speakers may be seen in the rather strange stress patterns cited for *ki* 'hand' (Lytkin 1955. 125): *ki-én* 'by hand', *ki-iš* 'from a hand', *ki-əs* 'hand (acc.)', *ki-śi-m* 'out of my hand'.

system. The rule works, but the arbitrary formal relationship between the diacritic feature [+ SA] and stress position remains a puzzle. Three obvious questions arise here : (1) Why are only the high vowels indeterminate as to stress attraction? (2) Why is (ǝ) the only light nonhigh vowel? (3) Why does the stress-attraction diacritic function differently with roots than with affixes?

A partial answer to the first two questions is apparent once we consider the Proto-Komi sources for the root vowels of KJa, presented in the following table of correspondences for KJa, Old Permic (OP) and Komi-Zyrjan (KZ) :

Proto-Komi	KJa	OP	KZ
*i	i[− SA]	i	i
*u	u[− SA] / ü[− SA]	u	u
*i̇	ǝ[− SA]	i̇	i̇
*ī	i[+ SA]	e	e
*ū	u[+ SA] / ü[+ SA]	o	o
*ī̇	ü[+ SA]	ǝ	ǝ
*ǝ	ȯ	ǝ	ǝ
*e	e	ɛ	e
*o	o	o	o
*a	a	a	a

All light roots, both with high vowels and with /ǝ/, are reflexes of roots with Proto-Komi high lax vowels. Further, the original Permic tense : lax opposition, maintained only for high vowels in the Proto-Komi period, has thus been partially retained in both KJa and OP—tied to the stress of poly-syllabic words in KJa, and by means of vowel quality, at least for e : ɛ and o : ɔ in OP, as shown in the following diagram :
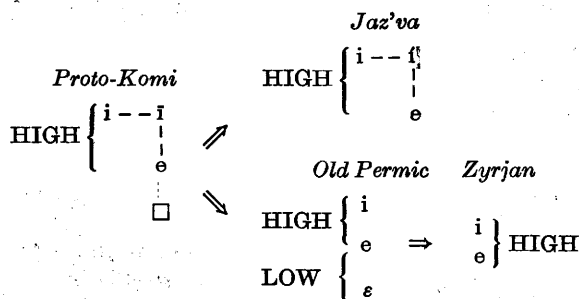
The stress-attraction of original nonhigh vowels in KJa lead us to assume that they too were 'tense', whatever the phonetic manifestation of tenseness at that period.

Given the areal context of the Permic languages, i. e. Turkic and Russian, the loss of the tense : lax opposition is not at all surprising. However, of the two possible types of simple merger — (1) of high (tense and lax) vowels or (2) of tense (high and mid) vowels — only one type occurs, type (2), as in all

dialects other than KJa. This avoidance of an outright merger of high vowels is best understood on functional grounds.

From a functional perspective we should expect, other things being equal,[3] a tendency toward a balanced lexical exploitation of phoneme targets. A rough index of the relative lexical roie of the vowels of Proto-Komi mays be seen in the following table, which indicates the number of Permic roots attested for each Proto-Komi vowel (of a total 738 roots, based on Lytkin 1964. 231—233):

	High vowels			Non-high vowels	
	No. of			No. of	
	roots	percent		roots	percent
i	67	9%	*e*	37	5%
ī	21	3%	*o*	70	9%
u	114	15%	*ə*	81	11%
ū	65	9%	*a*	118	16%
i̇	121	16%			
ī̇	44	6%			
Totals	432	58%		306	41%

Most striking is the relatively high functional burden of the high vowels. If the root examples indicated in Lytkin 1964 are representative, some half of the Proto-Komi roots had high vowels. The merger of either $*u : *\bar{u}$ or $*i̇ : *\bar{i̇}$ would yield an extremely high exploitation of these vowel targets—well over 20% for each. If, on the other hand, we assume a lowering with eventual merger with the mid series, a much more balanced distribution of the vowels results: $i - 9\%, e - 8\%, i - 16\%, ə - 17\%, a - 16\%, u - 15\%, o - 18\%$.

In KJa, which did not lower tense high vowels, it was just this imbalance among the high-vowel roots that led to its rather unique stress shift. From its onset the stress shift operated only on a root basis, since it had no functional role beyond distinguishing the two sets of high-vowel roots.[4] Even at the Proto-Komi period, affix vowels were restricted to unrounded vowels unopposed in tenseness. The lax high vowels in roots, by virtue of their opposition to the tense vowels, may well have been phonetically more reduced than their post-tonic counterparts (in affixes), and thus an equivalent phonetic basis for the rule would have been possible. However, a more phonologically based rule,

[3] The relative ease of articulation and perception of phonemes must also be considered. We should expect fewer long vowels than short in a quantitative system. Sociolinguistic forces are often counter-functional in effect.

[4] The exceptional burden of the high central vowels led to yet further, later, polarizing shifts—the labialization of tense $*i̇$ to u and the lowering of lax $*i̇$, these undoubtedly also reflecting external, Turkic and Russian, influence (cf. Harms 1981. 87—88). Of some interest here is the Permjak On'kovskij dialect, which combines the typical Permjak merger of the high-tense and mid series with a Jaz'va-type stress shift that tends to avoid stressing high root vowels. But even here the available evidence (Lytkin 1955. 49—50) ppints to a similarly morphologized stress system (cf. e. g., *ič'it'-ik* 'small').

one that identified the affix high vowels with either the tense or the lax root vowels, such as the rules positied by Itkonen 1966 and Kiparsky 1972, seems unlikely. This would involve a later stress-retraction, contrary to the expected pressure toward final stress in the Turkic areal context of eastern Permic (as in Udmurt).

The different treatment of suffix stress also offers clear functional advantages. The normal morphological structure of nouns is :

Noun (plural) (possessive) case

With verbs we find :

Verb (aspect)$_0$ (tense) subject agreement

Consequently a rule which stresses the first available affix will tend to place stress on that category which carries the greatest context-independent information.

One final note concerning the configuration of stressed and unstressed vowels in KJa word structures from an areal perspective. Typologically viewed, the resulting word shapes bear a remarkable similarity to Russian words. By virtue of the system of vowel reduction in Russian all full vowels are restricted to stressed syllables, which are lexically determined. Unstressed syllables, with a few exceptions, require reduced [i, u] and a mid central vowel [ə]-[ʌ] — i. e., just those vowels which can occur in pre-stress position in KJa — and, for the most part, in post-stress position (/i u ə/ and /a/). One obvious consequence of this typological similarity is that any given polysyllabic Russian loanword in KJa is free to retain the original Russian stress pattern ; e. g., *gəlub'ič'a* 'bilberry' < *golubíka* [gʌlub'íkə].

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