

Nominal Prosodic Paradigms and their Synchronic Reflexes in West Slavic  
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I. Introduction

In speaking of the evolution of the Common Slavic accentual system in West Slavic, it has often been stated, by Jakobson and others, that there has been a recoding of the older pitch accents into quantitative oppositions. Jakobson (1971:692) wrote that Czech shortened “low-pitched length” (i.e. paradigm C), while the “old high pitch,” pretonic, and neo-acute lengths (AP A and B) were maintained as long. In contrast, Polish and Lekhitic are said to have maintained length only in the pretonic/neo-acute paradigm B, with shortening in both old acute and recessive forms. One may argue about whether or not this depiction by Jakobson and others is true, as seen in recent articles by both Kortlandt and Kapović, but that is not the focus of my paper for today. I will start by accepting the traditional argument about the Czech retention of length in paradigm A, and its shortening in Slovak and Lekhitic. My comments will focus primarily on non-derived nouns of West Slavic. I will recall that in a 1975 paper, I suggested that the differential development of Czech vs. Slovak/Lekhitic might be explained by the progress of tonal loss, since the common denominator for the root vowels of Czech long A and B paradigms is rising pitch (whether under ictus or pretonic), as contrasted to the recessively stressed forms of paradigm C (see table 1 and Appendix).

**Table 1. Presumed Phonological Reflexes of Common Slavic Pitch Accents****A. Czech: Phonemic pitch still exists at the time of the change and is the basis for retention of length on rising syllables.**

<p>AP A (cf. Czech <i>kráva</i>) Long stressed rising stays long.</p> <p>Gpl may have been stressed falling (<i>kráv</i>).</p> <p>Forms with two-syllable desinences (<i>kravou, kravách, kravách, kravami</i>) may have shortened in Common Slavic.</p> <p>Only the Gpl short remains as obligatory for most nouns of this type.</p>	<p>AP B (cf. Czech <i>brázda</i>) Long pretonic rising stays long. Until final stress retraction in *<i>brazď</i>, the root vowel was also a long pretonic.</p>	<p>AP C (cf. Czech <i>strana~stranu</i>) Long stressed falling (recessive) shortens, but this is only one subset of AP C.</p> <p>Long pretonic rising subset (<i>strana</i>) phonetically retained length, later shortened non-phonetically.</p>
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**B. Slovak and Polish: Phonemic pitch has been lost and converted to stress at the time of the change. Non-tonal stress accent is the basis for retention of length on pretonic syllables.**

<p>AP A (cf. Slovak <i>krava</i>, Polish <i>krowa</i>) Stressed long shortens.</p>	<p>AP B (cf. Slovak <i>brázda</i>, Polish <i>bruzda</i>) Long pretonic rising stays long. Until final stress retraction in *<i>brazď</i>, the root vowel was also a long pretonic.</p>	<p>AP C (cf. Slovak <i>strana~stranu</i>, Polish <i>strona~strone</i>) Long initial-stressed syllables (recessive) shorten, but this is only one subset of AP C.</p> <p>Long pretonic rising subset (<i>strana</i>) must have first retained length phonetically, later shortened non-phonetically.</p>
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Of course, the continuing presence of phonemic pitch is necessary for the assumption of this common property of Czech paradigms A and B. In the case of Slovak and Polish, the common property should be considered not as rising pitch, but as stress placement, which must have replaced pitch accent after the loss of tone; stem-stress would have occurred in paradigm A and the recessively stressed forms of paradigm C, in contrast to the end-stress of paradigm B. This would

imply that the changes of Slovak and Polish occurred before the completion of the retraction of stress from final jers, since the position counted as one of end-stress.

However, Jakobson's treatment of the situation has one very important omission. He speaks of individual members of paradigms A, B, and C, even when there are important differences between the assumed prosodic evolutions of different members of a single accentual paradigm. This is most obvious in the case of paradigm C, in which the Modern Russian accentual alternations *golová/gólovu/golóv* indicate that there was an alternation between recessive stress and end-stress. Yet, Jakobson's famous 1963 paper only refers to the **recessively** stressed members of paradigm C, **not the end-stressed type**. In fact, the end-stressed forms of paradigm C, with the exception of the genitive plural in Slovak and Polish, are generally reflected not as are the phonetically identical end-stressed forms of paradigm B but, rather, just like the recessive forms. In other words, in Czech, Slovak, and Polish, we get a short root reflex not only in the accusative case of the word for 'side' (Czech/Slovak *stranu*/Polish *stronę*); remarkably, the pretonic nominative is also uniformly short *strana/strona* in West Slavic. This does not appear to fit in with Jakobson's strong comments about the role of pretonic stress in the evolution of West Slavic quantity. (Anecdotally, I might recall that after presenting a paper on this subject, at a 1973 conference in Chicago, the well-known scholar of Slovak, Elisabeth Nonnenmacher-Pribić, immediately approached me and asked me a single question about how I explained the short quantity of all the paradigm C forms (like *strana*), which were originally pretonic. I told her that I could only think of analogy to the recessive forms as the explanation, and she said that she agreed with this.)

In his 2001 paper on West Slavic prosodic features, Morris Halle attempted to explain the shortening of paradigm C pretonics by considering that these pretonics have a different underlying

prosodic marking on their root morphemes than do the pretonics of paradigm B. The paradigm B pretonics (e.g. *brázda*) are said to have root morphemes that are “post-stressing,” while the paradigm C pretonics (e.g. *strana*) are said to have prosodically “unaccented” root morphemes.

However, if they were phonetically identical at the time of the quantity changes in West Slavic, I would argue that it is totally irrelevant that *brázda* was post-stressing and *strana* was unaccented.

These are morphophonemic categories that do not determine regular sound-changes. One may use these concepts in a synchronic theory, but they should not be used as historical explanations.

Halle (2001:16) states, “Slovak shortening treats accented (class A) and unaccented (class C) stems alike,” and the implication is that the rule is phonetic. Thus, although Jakobson just omitted mentioning the pretonic forms of paradigm C, which do not preserve length, I would surmise that he could never attribute such a development to a regular phonological change and he probably omitted this subject since he had nothing better to offer than the vague notion of analogy.

Halle seeks to explain this as if it were a regular historical change, and I would argue that it is not.

## II. The meaning of AP C pretonics and related phenomena.

I would like to look at this issue in a different way. We can safely assume that the pretonic forms of paradigm C did indeed follow the accepted notions of regular phonological change. Trávníček’s historical grammar of Czech and Slovak, in fact, gives many Old Czech and dialect examples in which the pretonic root vowels of paradigm C are indeed represented with long vowels, e.g. (1935:262), *dúha*, *dúše*, *páta*, *řása*, *stiena*, *strána*, *strieda*, *úzda*, *zíma*. Of course, these forms alternated with shorts in the Asg (e.g. *stranu*), much as Russian has the stress alternation *storoná/stóronu*. If we look at the prosodic reflexes of nominal paradigms in Czech, Slovak, and Polish, we find that quantitative alternation is represented, but only with some very significant

restrictions: the most important tendency is to have a paradigm in which the zero-form differs in quantity from all others. Czech has another minor type, where in addition to the zero-form, the most peripheral cases (Isg and DLIpl) also can alternate, but in today's language this pattern tends to be just a free variant of the type where only the zero-form stands out from all the others (see Townsend 1990: 55); also, when the alternating pattern spreads to a new class of words, it is the more productive pattern of the zero-form quantity vs. all of the others in the paradigm. Why would West Slavic have rejected the ancient paradigm C prosodic alternation of various cases, such as the accusative *stranu*, in favor of a pattern which restricts prosodic morphophonemic opposition to the zero-forms? I will suggest two possible reasons and then survey the structures that are found in the major West Slavic languages.

1. The first reason I would suggest is based on the difference between stress as a culminative feature, which is limited to one unit per word, as opposed to quantity, which is not so limited. A stressed two-syllable word can have only two different places of stress; i.e. a binary opposition. A stressed monosyllable has a single accentual possibility. Yet, each vowel may have two quantitative representations. Therefore, by limiting the opposed paradigmatic form to the zero-form, the language insures that this key form will have only two possible representations, rather than four, which would obtain if it had two syllables, a root plus a vowel ending. Therefore, in a sense, a monosyllabic quantitative alternation equals a bisyllabic alternation of ictus. It should also be noted that quantity eventually did acquire a type of culminative property in Slovak, due to the Rhythmic Law, at least in two-syllable sequences, which limits the number of long syllables to one (cf. Feldstein 1990).

2. Secondly, jer-fall and the morphophonemic development of vowel~zero alternations served as a model for the morphophonemic quantitative alternations of West Slavic, which

turned out to be structurally very similar to vowel~zero alternations. Since jer-fall and its morphophonemic readjustments were occurring just about at the same time as the readjustments of quantity alternations, it is easy to see how the zero vs. non-zero positions came to play a leading role in both jer and quantitative alternations. One could explore to what extent they eventually overlapped in all the West Slavic languages.

In fact, the loss of jers and prosodic changes were intimately linked in many ways, not just the similarity of their morphophonemic pattern. One of the major historical reasons for the West Slavic changeover from a pitch system to a strictly quantitative system was the development of jer-weakening and then jer-fall, which eventually led to the loss of phonemic pitch (due to the avoidance of phonological overload, which would have ensued if phonemic vowel tonality had been allowed to accompany the new potential tonality oppositions of hard vs. soft consonants, which became phonemic as a result of the loss of front and back jers; see Jakobson's "Remarques sur l'évolution phonologique du russe comparée à celle des autres langues slaves," 1971). Thus, the new vowel~zero opposition, caused by fallen jers (e.g. *senъ/sъnu* > *sen/snu*) became the most dynamic new morphophonemic pattern in the language and the use of zero~non-zero forms spread to the prosodic system.

Therefore, it can be said that paradigm C took on short quantity and abandoned its old mobility in conformity with a new structural principle of quantity alternation, which now required the participation of zero-forms. The recessive forms represented the only truly distinctive feature of this paradigm, in opposition to the others, and it was their short reflex that was generalized for the paradigm as a whole. Thus, the oppositional factor led to the generalization of short quantity in paradigm C, but the loss of the old mobility and the failure to simply recode the old mobility into quantity can be attributed to the new morphophonemic productivity of newly closed syllable

zero-forms, which had just entered the language with the fall of the jers. Insofar as quantitative alternation exists in paradigm C, as in modern Slovak, it is based on a long vowel in the feminine/neuter zero-form as opposed to all other forms.

III. Czech modern QP's and their oppositions.

I have attempted to depict the modern Czech quantitative alternations in terms of the evolution of entire paradigms, rather than individual word-forms. See tables 2, 3, and 4.

**Table 2. Czech Quantity Paradigms:**

<b>Alternating QP</b>	<b>Constant QP</b>
<b>Short in Zero-form</b> kráva (<AP A with zero Gpl)	<b>All long</b> brázda, soud (<AP B-long)
<b>Long in Zero-form</b> mráz (<AP A with zero Nsg) núž, bůh, sůl (AP <B/C short with certain stem-final cons.)	<b>All short</b> hlava, prach (<AP C) bob/roh (<AP B/C short with certain stem-final cons.)

Note: kráva and some other nouns of this type can have variant shorts in Isg and DLlpl, but when this spreads to AP B nouns (e.g. *trouba, chvála*), the only alternating form is the zero Gpl.

**Table 3. Czech Quantitative Paradigm reflex system**

<p>A Nsg zero: mráz zero=long non-zero=short</p> <p>Gpl zero: krav zero=short non-zero=long</p>	<p>B Nsg zero: býk zero=long non-zero=long</p> <p>Gpl zero: brázd zero=long non-zero=long</p>	<p>C Nsg zero: prach M: zero=short non-zero=short</p> <p>Gpl zero: stran zero=short non-zero=short</p>
<p>AP B/C Shorts Nsg zero: núž; bůh zero=long non-zero=short</p> <p>-----</p> <p>bob, vosa, žena; rok, hora, voda zero=short non-zero=short</p>		

**Table 4. Czech zero/non-zero oppositions. (Plus refers to long root and minus to short root. A, B, and C refer to the Common Slavic original paradigms.)**

	A: Nsg zero para- digm	A: Gpl zero para- digm	B: Nsg/Gpl zero para- digm	B/C: Nsg zero short paradigm	B/C: Gpl zero short paradigm	C: Nsg/Gpl zero short paradigm
zero	+	–	+	±	–	–
non- zero	–	+	+	–	–	–
	mráz	kráva	býk/brázda	nůž/bůh bob/rok	žena/voda	prach/strana

The modern distinctive paradigmatic reflexes of accentual paradigms are quantity alternations for original acute AP A, and constant length or shortness for paradigms B and C, respectively. Of course, there have been many changes of paradigm which apply to individual words, but table 2 represents the continuation of the A/B/C opposition, insofar as it survives in such examples as AP A *mráz/kráva*, AP B *soud/brázda*, AP C *prach/hlava*. Many other paradigm A words have merged with either paradigm B or C (e.g. *sláva/bříza/dým/sýr* merge with the AP B reflexes, while *ryba/cesta/děd/kraj* merge with paradigm C). On the other hand, certain AP B *a*-stems have joined the paradigm A type, with an alternation to short in the zero-form Gpl (e.g. *trouba/chvála*).

In spite of the fact that the alternating quantity paradigm may be in decline, it represents a system in which zero and non-zero form quantity are clearly opposed.

#### IV. Slovak quantitative paradigms.

If we examine Slovak quantity paradigms, in contrast to Czech, we see that they have the same basic three-part structure of:

1. A quantity alternation, with the zero-form quantity opposed to that of the other paradigmatic forms.
2. Two constant quantitative paradigms, one long and one short.

There are two major differences that can be pointed out:

1. In Slovak paradigms with a quantitative alternation, the zero form is predictably long, whether it represents the Nsg (e.g. *kôň*) or Gpl (e.g. *kráv*). In Czech, the zero-form in a paradigm with quantity alternation has a redundant signal about whether the zero-form is Nsg (long, e.g. *mráz*) or Gpl (short, e.g. *krav*).
2. Czech nouns of different gender types (masc. with zero Nsg and fem./neuter with zero Gpl) can remain together in their paradigmatic evolution to the alternating type (both *mráz* and *kráva*) or the constant short type (*prach* and *strana*). In Slovak (table 5), the gender types prefer to group together, due to the separate paradigmatic status of the morphologized length of the zero Gpl: the alternating paradigm shows the merger of feminine AP A and C *krava/strana*, while the constant short type has the merger of masculine AP A and C *hrach/prach*.

**Table 5. Slovak Quantity Paradigms:**

<b>Alternating QP</b>	<b>Constant QP</b>
<b>Long in Zero-form</b> krava, strana (<AP A/C-long with zero Gpl) osa, voda (<B-short/C-short with zero Gpl)  kôň (<B-short with zero Nsg)	<b>All long</b> brázda, súd (<AP B-long) (implies long>short in long endings by Rhythmic Law)
	<b>All short</b> hrach, prach, roh (<AP A/C with zero Nsg)

Slovak reflexes of paradigms A/C	Slovak reflexes of paradigm B
Merged A/C paradigms with zero genitive plural: Alternation = long Gpl vs. other	AP B long subtype: constant long.
Merged A/C paradigms with zero nominative singular: all short with no quantitative alternation.	Short subtype: long zero-form vs. other.

Note that long roots of paradigm B were immune from quantitative alternation, since they remained long, although Slovak does have an alternation of desinential quantity in the LDpl of paradigm B, due to the Rhythmic Law. Paradigm A developed a quantitative alternation in both

Czech and Slovak, especially important in the zero Gpl form of the feminine/neuter type paradigm. When the non-zero forms retained length (as in Czech), the zero Gpl took on the opposite value of shortness (often attributed to the reflex of a neo-circumflex). When paradigm A shortened its root vowels and merged with paradigm C, as in Slovak, its non-zero forms stayed short, but the opposite quantitative value of length was generalized to the zero Gpl of the merged A/C paradigm. The Polish evolution recalls that of Slovak in its merger of paradigms A and C, but there are only sporadic reflexes of length in zero Gpl forms, either reflecting later change or meaning that Polish never generalized length in the zero Gpl to the extent seen in Slovak. For example, if we take the paradigm A cognates of Russian *soróka*, we see Slovak *straka* and long Gpl *strák*. However, Polish has short reflexes in the whole paradigm, *sroka/srok*. An analogous paradigm A noun with a voiced stem-final consonant, such as Polish *krowa*, does have the length reflex in the Gpl, which indicates that the Polish system has been reconstituted with the stem-final consonant as the main determinant of the length reflex in all zero forms, both Nsg and Gpl, in contrast to Slovak, which has the zero-form itself as the conditioning factor. This was clearly stated by Dunaj (1966:80): “Analiza materialu...wykazała, że zanik wygłosowych jerów spowodował wzdłużenie poprzedzającej samogłoski tylko w położeniu przed spółgłoskami dźwięcznymi.” [The analysis of the data...demonstrated that that the loss of final jers caused the lengthening of the preceding vowel only in the environment before voiced consonants.--RF]

The Polish situation has been depicted in Table 6.

**Table 6. Traces of Polish Reflexes of Quantity Paradigm**

<b>Reflexes of Alternating QP</b>	<b>Reflexes of Constant QP</b>
<b>Long reflex only in Zero-form</b> <b>A. &lt;Long AP A/C with certain stem-final consonants:</b> Zero Gpl: krowa~krów, głowa~głów księga~ksiąg, ręka~rąk Zero Nsg: mróz~mrozu, wróg~wroga  <b>B. &lt;Short AP B/C with certain stem-final consonants:</b> Zero Gpl siostra~sióstr, woda~wód Zero Nsg: nóż, bóg, sól	<b>All long</b> bruzda, sąd (<AP B-long)  <b>All short</b> <b>A. (&lt;Long AP A/C with certain stem-final consonants:)</b> Zero Gpl: sroka, strona  Zero Nsg: groch, młot  <b>B. &lt;Short AP B/C with certain stem-final consonants:</b> Zero Gpl osa, kosa Zero Nsg: kot; rok, kość

Since quantity itself is lost in Polish, we are dealing with a small number of unproductive and sporadic vowel alternations, which do not approach the productivity of such alternations as Slovak length in the zero genitive plural. Yet, a typical West Slavic structure can still be discerned, with the remnants of a single alternating quantitative paradigm, alongside both long and short constant quantitative types.

#### V. Conclusion

Thus, the clear direction of evolution was in the direction of a single basic alternating type, opposing one quantity in the zero-form to another in the non-zero forms, alongside a constantly long paradigm and a constantly short one. The major split between Czech and Slovak concerns whether paradigms A and C can remain opposed as integral wholes, or whether they split along the lines of A/C nouns with zero Nsg vs. zero Gpl, as seen in Slovak. In Russian, the zero form, especially of the Gpl, plays a major role in reforming the accentual characteristics of paradigm

B, particularly its change from plural end-stress to plural stem-final (e.g. *kolbásy/kolbás*, etc.).

However, it would seem that the role of the zero forms in quantitative alternations came to play an even more prominent role in the various West Slavic languages.

## Appendix

Modern Czech quantity reflexes are listed horizontally, across the top. The left vertical column refers to the presumed Common Slavic origin.

	<b>Constant long:</b>	<b>Short~Nsg long:</b>	<b>Constant short:</b>	<b>Long~Gpl short:</b>
<b>AP A&gt; M:</b>	sýr, dým, mák, raj, štír, jíl, klín	mráz, hrách chléb, vítr, práh (mák-Trávníček)	čas, bratr, děd, had hněv, jih, kraj, pluh, rak, rys	-----
<b>F/N:</b>	bouře, bříza, sláva, mříže  bláto, místo, máslo, sádlo, stádo, rádlo, síto, mýdlo, jídlo, dílo, vřídlo, místo, síto, mýdlo, lýko, pouto, roucho	-----	pěna, ryba, muka, huba, cesta, něha, pěna, řepa, saze, kaše, hnida, straka  bidlo, jitro, dělo, město, žito, řadra	kráva, lípa, míra, hrouda, houba, jáma, víra, vrána, žaba, žíla  dílo, místo
<b>(AP A-short&gt; F:</b>	nůše, vůle, kůže, vůně			
<b>AP B-long&gt; M:</b>	štít, býk, klíč, troud, kout, šíp smích, hřích, kříž, háj, kloub, soud, král, plášt', louh, sloup		um	
<b>F/N:</b>	brázda, jízda, krása, svíce, třída, díra křídlo, dláto, víno, mléko, rouno	----- -	vina, hvězda, duha  sukno	trouba, tráva, chvála, bída, blána, bouda, brána, kroupa, chvilé jádro, (vrata-pl.)
<b>AP B-short&gt; M:</b>	půst	kůň, nůž, déšť', kůl, vůl, stůl, (půst-variant), dvůr	bob, koš	
<b>F/N:</b>	péro		vosa, sestra, žena slovo, okno	
<b>AP C-long&gt; M:</b>	řád, žár, žír	sníh	prach, břeh, hrad zvěř, řad, běh, běs, blud(~bloud), dar, dluh, dub, duch, druh, hlas, chlad, chlap, jez, kruh, kvas, květ, muž, sad, strach, sud, trup, vlas, vrah, (ha)vran, znak, zub, klas, mlat, plaz	
<b>F/N:</b>			ruka, strana, brada, cena, duha, duše, hlava, hřada, pata, řasa, hvězda, řeka, snaha, stěna, střela, zima, řada maso, seno, těsto	jméno
<b>AP C-short&gt; M:</b>		bůh, vůz důl, dům, hnůj, hůl, lůj	boj, bok, brod, krov, led, lev, lov, most, nos, pes, plot, rod, rok, vosk  moc, noc, pec, kmet, bor, lom	
<b>F/N:</b>		sůl	kost voda moře, pole	

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