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Russian phonological desinences as a conditioning factor in accentual paradigms

This paper presents a morphophonemic method for Modern Russian stress paradigms, with a comparison to Common Slavic. I proceed from Zaliznjak's notion of Russian “trivial” and “non-trivial” stress, where trivial refers to constant paradigmatic stem-stress. Trivial stress (historically, AP A) can be marked on the given syllable and is not of special interest to this paper, where the emphasis is on representing non-trivial stress.

Non-trivial stress has its basic mark on one of the extreme stem syllables, either stem-initial or stem-final (recalling a system once devised for Serbian and Croatian by Ivić). It is subject to only one rule: stress movement to the first desinential syllable. Stem-final stress can be identified with historical AP B; initial stress with AP C. There is a single mark for either B or C in any subparadigm (subparadigms refer to number for nouns and tense for verbs). For nouns, the variant of B or C stress is predicted on the basis of the desinence in nominative/genitive cases. Type B is correlated with the genitive: a zero genitive implies no movement from basic stem-final. Type C is correlated with the nominative: desinences unmarked for height (zero or mid) imply no movement from basic stem-initial; type C high-vowel nominative predicts oblique case desinential stress, and low-vowel nominative predicts full subparadigmatic desinential stress. Thus, stress movement to the desinence is correlated with direct case sonority.

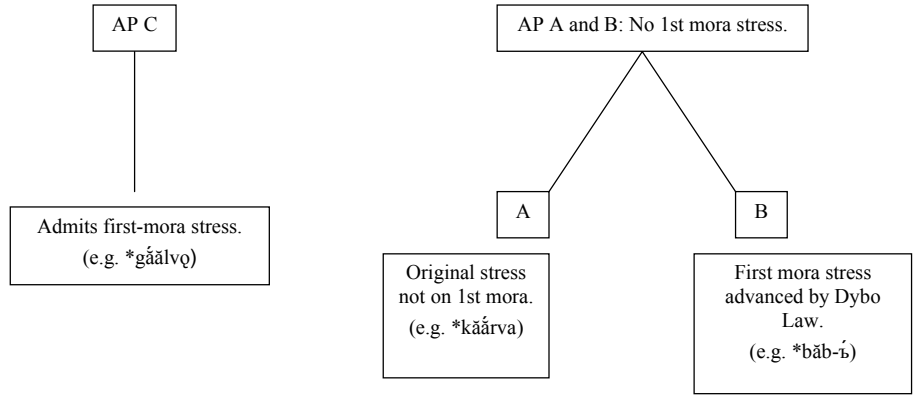
In verbs, non-trivial stress has the B vs. C opposition only in non-past; B moves stress to single-vowel desinences; C generalizes desinential stress. The B vs. C opposition is neutralized in the past, predictable based on stem size and stem-final consonant.

AP B has had the major change, compared to Common Slavic: it was first closer to A, but now joins C as non-trivial, in joint opposition of B/C to trivial A.

I. Binary split in the period of Dybo’s Law.

I assume that the original situation which caused the Dybo Law was the fact that the recessive stress paradigm could have stress on the first mora of the word. In the case of a short non-recessive paradigm, there was a threat of merger, which meant that AP A and B became marked for the absence of mora-initial stress, as opposed to AP C, which could receive mora initial stress. In other words, AP A and B were in complementary distribution in opposition to AP C, as is well known (see table 1).

Table 1. Original distribution of AP A, B, and C.



II. Modern Russian Trivial and Non-Trivial Stress.

In Modern Russian, the modern reflexes of B and C paradigms are structurally related as non-trivial, in opposition to the trivial stress of AP A, to use Zaliznjak’s term. Trivial stress is the term applied to immobile stress across the entire paradigm. It can be morphophonemically represented as a simple stress mark on the vowel and is the Modern Russian reflex of AP A. In Modern Russian, AP B and C have non-trivial accentual paradigms as their reflexes. If we divide accentual paradigms into their two component subparadigms (e.g. of number for nouns, tense for verbs, and attributive/predicative for adjectives), it turns out that AP B and C often experience paradigmatic interference.

The main goal of this paper is to show that the Modern Russian reflex of AP B can be morphophonemically represented as underlying stress on the stem-final syllable; AP C stress is best represented as underlying stress on the stem-initial syllable. Both AP B and AP C are then subject to a single type of phonological rule, which moves the stress from the stem (either stem-initial or stem-final) to the first syllable of the desinence. The conditions for this forward movement will be demonstrated both for noun and verb paradigms.

III. Summary of conditioning factors for Russian forward stress shift.

A. Noun.

In both singular and plural subparadigms of the noun, the major determining factor for AP B is the desinence of the **genitive case**; for AP C it is the **nominative case** desinence. More

precisely, for AP C there is a somewhat complex interplay between the form of the nominative and the rest of the paradigm.

The rule for AP B is rather simple and depends on the genitive case of the subparadigm. As seen in table 2, a zero genitive conditions no movement of stress in the subparadigm, while a non-zero genitive causes a forward shift in the entire subparadigm. Thus, it can be seen that a sonority difference in the genitive case desinence is correlated with the stress of AP B.

Table 2. Examples of AP B, in which a **non-zero genitive conditions stress advance** to the desinence.

Base accent: AP B	**Genitive Singular**	**Predicted Singular Stress**	**Genitive Plural**	**Predicted Plural Stress**
kaban'-(Ø)	Non-zero: **kaban-á**	Advance to end-stress.	Non-zero: **kaban-óv**	Advance to end-stress.
dolot'-(o)	Non-zero: **dolot-á**	Advance to end-stress.	Zero: **dolót-Ø**	No advance to end-stress.
kolbas'-(a)	Non-zero: **kolbas-ý**	Advance to end-stress.	Zero: **kolbás-Ø**	No advance to end-stress.

There is an important exception for a series of foreign loan words which have a zero genitive in the plural, but which, nevertheless, shift stress to the end in all subparadigmatic forms, e.g. **tamadá**.

The rule for AP C is more complex. In this case, the form of the **nominative desinence** is the major factor. The sonority (i.e. vowel height) of the nominative desinence is the major factor, but instead of there being only only one conditioning factor for stress shift (i.e.a non-zero genitive, in the case of AP B), there are two paradigmatic possibilities for AP C, based on the high or low vowel sonority of the nominative case, as follows:

1. A **low** vowel nominative desinence (**-a**) is correlated with stress shift to the ending in **both the nominative and oblique** cases (i.e. all forms, except a non-syncretic (independent) accusative, if one occurs).
2. A **high** vowel nominative (**-i**) is correlated with stress shift to all **oblique** cases.

When the nominative desinence is neither high nor low (e.g. zero or mid vowel **-o**), there is no stress advance, and the stress remains on its underlying word-initial position. Table 3 illustrates the three possibilities of high vowel, low vowel, and other nominative desincences.

Table 3. Examples of AP C: high-vowel nominative conditions stress advance to oblique cases and low-vowel nominative conditions advance to both nominative and oblique.

Base accent: AP C	**Nominative Singular**	**Predicted Singular Stress**	**Nominative Plural**	**Predicted Plural Stress**
'volos-(Ø)	Non-high/Non-low	No advance.	High: **vólos-y**	Advance to oblique.
'zerkal-(o)	Non-high/Non-low	No advance.	Low: **zerkal-á**	Advance to nominative/oblique.
'golov-(a)	Low: **golov-á**	Advance to nominative/oblique. (No advance to non-syncretic accusative: **'golov-u**.)	High: **gólov-y**	Advance to oblique.

The similar behavior of both AP B and AP C non-trivial types can be seen in the fact that mixed AP B/C or C/B paradigms can occur, with an AP B singular and AP C plural, or with an AP C singular and AP B plural, as illustrated in table 4. Since singular and plural subparadigms operate independently, each subparadigm can have its own underlying B or C representation.

Table 4. Examples of mixed AP B/C and AP C/B, combining the principles of pure AP B and AP C in the different numbers.

A. AP B/C.

Base accent: AP B/C	**Genitive Singular**	**Predicted Singular Stress**	**Nominative Plural**	**Predicted Plural Stress**
gvozd'-(Ø); **'gvozd'-(i)**	Non-zero: **gvozd'-á**	Advance to end-stress.	High-vowel: **gvózd'-i**	Advance to oblique endings.
suščestv'-(o); **'suščestv-(a)**	Non-zero: **suščestv-á**	Advance to end-stress.	Low-vowel: **suščestv-á**	Advance to nominative/oblique.
gub'-(a); **'gub-(i)**	Non-zero: **gub-ý**	Advance to end-stress.	High-vowel: **gúb-y**	Advance to oblique endings.

B. AP C/B.

Base accent: AP C/B	**Nominative Singular**	**Predicted Singular Stress**	**Genitive Plural**	**Predicted Plural Stress**
'dar-(Ø); **dar'-(y)**	Non-high/Non-Low	No advance to end-stress.	Non-zero: **dar-óv**	Advance to end-stress.
'ozer-(o); **ozer'-(a)**	Non-high/Non-low	No advance to end-stress.	Zero: **ozër-Ø**	No advance to end-stress.
'vod-(a); **vod'-(y)**	Low: vod-á	Advance to nominative/oblique.	Zero: **vód-Ø**	No advance to end-stress.

B. Verb

In the case of the verb, AP B vs. AP C are opposed only in the present tense subparadigm. The past tense (l-participle) experiences a complete neutralization of AP B and AP C stress, in which stress is predictable, based on the phonological form of the stem. In the present tense, the phonological composition of verbal desinences determines the nature of the stress shift. In the case of the AP B present, the shift occurs whenever the desinence consists of a single vowel: e.g. in the present subparadigm of **проси-**, the shift occurs in the 1sg (**прошу́**), the imperative (**проси́**), and the gerund (**прося́**); otherwise, stress remains on the stem-final (**про́сишь**, **про́сит**). AP C has the shift in all present forms (**говорю́**, **говори́т**).

In the past tense, in which the non-trivial (AP B vs. C) stress opposition is neutralized, two factors are of most importance for the prediction of stress. The first criterion, related to the stem's syllabic weight, predicts an immobile stress in the past-tense subparadigm for longer and obstruent stems (e.g. **говори-** and **нёс-**, but a mobile past-tense stress for shorter and sonorant stems (e.g. **рва-** and **жив-**). The second criterion, related to the suffixed or non-suffixed property of the stem, predicts generalization of AP B for suffixed stems (e.g. **говори-** and **рва-**) and AP C for non-suffixed (e.g. **нёс-** and **жив-**). In other words, in the past tense, the stem's weight is correlated to mobility, while its suffixed/non-suffixed property is correlated to AP B/C.

Since the only accentual opposition in the verb occurs in the present, a single morphophonemic mark can be placed on AP B verbs at the stem-final position (**mog´-**) and on AP C verbs in stem-initial position (**´n'os-**). (This may be criticized for indicating an

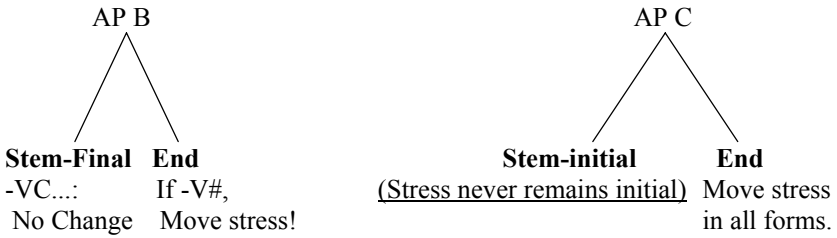
initial underlying mark where no initial stress actually occurs.) The past tense needs no mark to differentiate AP B and C, since the non-trivial past stress is largely predictable.

In comparison with the noun, the rules for the the verb's stress shift are rather different. The most striking difference is that the noun's two subparadigms are comparable and both observe the same rules of stress. Since only the present tense of the verb is conjugated into persons, its stress pattern is not comparable to that of the past subparadigm. This lack of correlation may have contributed to the absence of any AP B vs AP C opposition in the past tense.

Another major difference between noun and verb is the greater complexity of noun stress. In the noun, AP B is split into two types, depending on zero or non-zero genitive and AP C is split into three types, based on high, low and other nominative; in the verbal present, there is only one AP B type and one AP C type, while the verbal past has no non-trivial stress opposition at all, since stem phonology can predict the stress.

The accentual relationships of the verb are shown in tables 5 and 6.

Table 5. Verbal Present Tense Stress Opposition of AP B vs. C.



E.g.

проси´-:		**´говори-:**	
про́сишь	прошу́/проси́/прося́	----------	говорю́/говори́шь/...

Table 6. Verbal Past Tense Subparadigm (non-trivial AP B and C merge and stress is predictable).

Longer, heavier stems. (Bisyllabic or ending in obstruent: **no stress mobility** with past subparadigm.)		Shorter, lighter stems. (Monosyllabic and end in vowel or sonorant: **stress mobility** in past subparadigm due to shift to -a desinence.)	
Non-suffixed	Suffixed	Non-suffixed	Suffixed
Obstruent stems (with mid-vowel root): e.g. мо́гла, мо́гло; вела́, вело́.	1. Syllabic suffixed stems: e.g. говори́ла, говори́ло;проси́ла, проси́ло. 2. Obstruent Stems (with non-mid-vowel root): стриг-, крад-.	Sonorant Stems: e.g. жив-, -ч/н-.	Non-syllabic root plus suffix: e.g. бра-, рва-, спа-, гна-.
Generalization of same **AP C pattern** as in present tense: stress shift to all desinences.	Generalization of **AP B stress** on stem-final syllable: no stress shift from stem-final.	Generalization of **AP C**, with rule that shifts stress to -a desinence (жила́). Before other endings, stress generalizes AP C stem-initial: за́жило, за́жили.	Generalization of **AP B**, with rule that shifts stress to a-desinence (рвала́). Before other endings, stress generalizes AP B stem-final: порва́ло, порва́ли.

Table 6a. Summary of table 6.

Stem	Long or Obstruent Stem	Suffixed Stem	Resulting Past Stress
mog-	+	–	End-stress in all forms. (Equated with AP C.)
govori-	+	+	Stem-final in all forms. (Equated with AP B.)
živ-	–	–	Initial with shift to **-a**. (Equated with AP C.)
rva-	–	+	Stem-final with shift to **-a.** (Equated with AP B.)

Table 7. Summary of rules for movement of stress to desinence in AP B and AP C. If no movement to desinence, AP B stress remains on stem-final and AP C stress remains on stem-initial.

	AP B	AP C
Noun	Gen. non-zero: Subparadigm → end-stress (stol'-)	1. Nom. high-vowel: Oblique → end-stress ('golov-i) 2. Nom. low-vowel: Nom./Oblique → end-stress ('zerkal-a)
Verb Present	Desinence -V# → end-stress (prosi'-u)	All desinences → end-stress ('govori-at)
	AP B/C Neutralized (remarked)	
Verb Past (l-part.)	Suffixed stems remarked as AP B: Non-syllabic suffixed: Desinence -a → end-stress (porva'-la)	Unsuffixed stems remarked as AP C. Obstruent stems*: All desinences → end-stress. ('mog-lo) Sonorant stems: Desinence -a → end-stress. ('zaživ-lo)

Most unsuffixed obstruent stems with high and low root vowels are remarked as AP B, rather than AP C:
e.g. strig-, klad-, krad-, pad-.

Note: the extra length of a -sja particle can change the stem from a “short” category II to a “long” category I, causing the stress to change from stress shift only to -a to stress shift in all past forms:

spat’sja: spalós’
rvat’sja: rvalás’ and rvalós’, but rvat’, rválo, rvalá