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STRESS ASYMMETRIES IN RUSSIAN NOMINAL DECLENSION

Dutch Annual Linguistics Day, February 2, 2024

1. INTRODUCTION: RUSSIAN STRESS

Russian has **lexical stress**: every root or affix is accentually specified in one of the following four ways (Garde 1968a, b, 1998, Halle 1973, Zaliznjak 1985, Melvold 1989, Gladney 1995, Alderete 1999, Feldstein 2015, etc.):

- **Accented morphemes** carry an accent on themselves (open class)
- **Post-accenting** and **pre-accenting morphemes** set accent on the next or previous syllable correspondingly: while there are no pre-accenting roots, the class of post-accenting roots is large (Halle 1973:316 asserts that there are more than 2000 of them) but closed
- **Unaccented morphemes** have no accentual specification of their own (closed class estimated to contain more than 400 roots)

If none of the morphemes is dominant:

(1) **The Basic Accentuation Principle** (Kiparsky and Halle 1977):

Assign stress to the leftmost accented vowel; if there is no accented vowel, assign stress to the initial vowel.


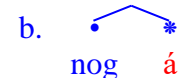
To check the accentual properties of a suffix one needs to start with an unaccented stem. For *a*-declension nouns it is easy: compare nominative and accusative singular:

Number of words in each class given by Zaliznjak 2010, excluding compounds and negations



Table 1: Accentual interaction in the *a*-declension (basic patterns)



suffix/accent stress position	accented SG.NOM	unaccented SG.ACC	unaccented PL.NOM	accented PL.INS	Zaliznjak- class
stem: <i>lúž-</i> ‘puddle’	<i>lúž-a</i>	<i>lúž-u</i>	<i>lúž-i</i>	<i>lúž-ami</i>	a (∞)
post-stem: <i>čert-</i> ‘line’	<i>čert-á</i>	<i>čert-ú</i>	<i>čert-í</i>	<i>čert-ámi</i>	b (435)
variant: <i>nog-</i> ‘leg’	<i>nog-á</i>	<i>nóg-u</i>	<i>nóg-i</i>	<i>nog-ámi</i>	f' (21)

Representing accent as an associated iambic foot (Revithiadou 1999):

- (2) a.  b. 

The leftmost accent wins, there is no clash:

- (3) a.  b. 

- (4) a.  b. 

The accentual paradigm of a Russian *a*-declension noun is defined by four cells:

In other declension classes all singular endings are unaccented (and in the neuter, all plural endings are accented)

- unaccented: ACC.SG and NOM.PL
- accented: all others (e.g., NOM.SG and INS.PL)

The two unaccented endings and the two accented ones are expected to pattern the same (as in Table 1), but they don't

2. A BRIEF EXCURSUS INTO NOMINAL ACCENTUAL CLASSES

Zaliznjak 1963, 1967, 1977, Brown et al. (1996): 6 main accentual types, some of which have subclasses and some are clearly more productive than others

Halle 1973, 1975, Mustajoki 1981: 9 accentual classes (defined differently)

Melvold 1989, Brown et al. 1996, Halle 1997, Alderete 1999, Revithiadou 1999, Butska 2002 (Ukrainian, Russian), Dubina 2012 (Belarusian) and Osadcha 2019 (East Slavic): focusing on 5-6 patterns

Feldstein 2006: three main non-accented patterns (Zaliznjak's *b*, *c=f'*, *d*), hypothesized to align in a principled way with declension classes

Feldstein disregards the patterns of *a*-nouns that do not fit his theory, claiming that their *b*-pattern is exceptional (263 stems) and missing their *f*-pattern (35 stems)

Osadcha 2019: 6 patterns (one minor present, two more numerous absent: *d'*-feminine and *f* (also *a*-declension only))

d'-neuter analyzed as plural-triggered stress shift to the right, wouldn't extend to the *d'*-feminine (14 nouns, e.g., *vodá/vódu/vódi/vódami* 'water.SG.NOM/SG.ACC/PL.NOM/PL.INS')

3. PATTERN D: RETRACTION IN THE PLURAL

The **retracting** pattern (pattern D in Zaliznjak 1963, 1967, 1977, Halle 1973, 1975, Melvold 1989, Brown et al. (1996) and Dubina 2012, among others, Osadcha's Pattern 4): unexpected **stem-final stress in the plural**

Two varieties, show that singular and plural accentuation patterns may fail to match:

Table 2: Retraction in the plural (*a*-declension), Zaliznjak's pattern *d*

case/number \ Accentual pattern	NOM.SG post-stem	ACC.SG	NOM.PL stem-final	INS.PL
PA-sg, stem-final-pl: <i>zmej-</i> 'snake'	<i>zmej-á</i>	<i>zmej-ú</i>	<i>změj-i</i>	<i>změj-ami</i>

Nouns in Table 2 behave as post-accenting in the singular and accented in the plural

But retraction in the plural may also co-occur with an unaccented singular:

Table 3: Variant singular, stem-final plural, Zaliznjak's pattern *d'*

case/number \ accentual pattern	NOM.SG post-stem	ACC.SG stem-initial	NOM.PL stem-final	INS.PL
V-sg, SF-pl: <i>zim-</i> 'winter'	<i>zim-á</i>	<i>zim-u</i>	<i>zim-i</i>	<i>zim-ami</i>

This pattern is restricted to 14 monosyllabic *a*-nouns

4. INTERMEDIATE SUMMARY AND TENTATIVE PROPOSAL

Table 1 provides the bottom line for the accentual properties of various *a*-declension suffixes

Table 2 and Table 3 show that singular and plural accentuation patterns may fail to match

Possibility: autosegmental number

Russian has overt singular (-*in-*) and plural (-*ij-*) suffixes:

Although the suffix -*in-* could be a singulative (Geist and Kagan 2023), rather than a semantically null augment

- (5) a. *graždanin/graždane* ‘citizens.SG/PL’ singular -*in-*
 b. *muž/mužjǎ* ‘husband.SG/PL’ plural -*ij-*

So one obvious and straightforward way of resolving such mismatches as in Table 2 and Table 3 is to appeal to **autosegmental number augments**

For both patterns, a **pre-accenting null plural suffix** would do the trick, but...:

- (i) plural retraction is quite frequent with *a-* and *o-*nouns, but occurs with maybe 7 C-nouns and no *i-*nouns, why?
- (ii) a pre-accenting plural suffix does not explain other patterns where the singular and the plural exhibit different stress patterns
- (iii) Melvold 1989, Alderete 1999, etc.: lexically conditioned retraction is also attested in the adjectival and verbal domains (for the latter see Matushansky [to appear]-a)

And in other patterns, how odd would it be to have both a singular and a plural augment?

Alternative: juxtaposing the singular and the plural paradigms

Alderete 1999, Butska 2002, Feldstein 2006, 2017, Dubina 2012, Steriade and Yanovich 2015, Osadcha 2019: the choice of the appropriate plural form is driven by dissimilarity

Stress in short-form adjectives offers unexpected insight into the matter

5. RUSSIAN ADJECTIVAL STRESS

Russian adjectives come in two forms:

On the syntactic and semantic distinctions between the two see Babby 1973, 1975, 2010, Siegel 1976a, b, Bailyn 1994, Geist 2010, Borik 2014, among many others

- the short form (SF) is **purely predicative** (and even then, only with the copula *be*) and shows **number and gender agreement only**
- the long form (LF) is both predicative and attributive

Historically, the long form corresponds to the combination of the short form with the definite (or specific) article

Table 4: Adjectival inflection and declension, Zaliznjak’s type *a/c*’

<i>strog-</i> ‘strict’	FEMININE	NEUTER	MASCULINE	PLURAL	STRESS
SF	<i>strog-á</i>	<i>stróg-o</i>	<i>strog</i>	<i>stróg-i</i>	variant
CASE					
NOM	<i>stróg-aja</i>	<i>stróg-oje</i>	<i>stróg-ij</i>	<i>stróg-ije</i>	stem
ACC	<i>stróg-uju</i>	=NOM for inanimates or =GEN for animates			
GEN	<i>stróg-oj</i>	<i>stróg-ovo</i>		<i>stróg-ix</i>	
DAT	<i>stróg-oj</i>	<i>stróg-omu</i>		<i>stróg-im</i>	
INS	<i>stróg-oj</i>	<i>stróg-om</i>		<i>stróg-imi</i>	
LOC	<i>stróg-oj</i>	<i>stróg-om</i>		<i>stróg-ix</i>	

The endings of SF adjectives are identical to the nominative ones for *a*- (feminine), *o*- (neuter), *C*- (masculine), and the *i*-plural declensions

The feminine ending is accented, all others are not (just like in nouns or past-tense verbs)

5.1. The LF/SF opacity

Segmentally LF-adjectives are transparently related to the short forms: the long form contains a suffix (*-Vj-*) not present in the short form (see Halle and Matushansky 2006, Enguehard 2017 for some discussion)

Accentually, the relation between the long forms and the short forms is not obvious (Halle 1973, Levin 1975, Melvold 1989, etc.)

LF stress does not predict SF stress:

Zaliznjak's type *a* means consistent stress on the stem, type *b* is consistent post-stem stress, and type *c* is variant

Table 5: Adjectival inflection, Zaliznjak's type *b/c'*

<i>nag</i> - 'naked'	FEMININE	NEUTER	MASCULINE	PLURAL	STRESS
SF	nag-á	nág-o	nag	nág-i	variant
LF.NOM	nag-ája	nag-óje	nag-ój	nag-íje	post-stem

Table 6: Adjectival inflection, Zaliznjak's type *b (b/b)*

<i>smešn</i> - 'funny'	FEMININE	NEUTER	MASCULINE	PLURAL	STRESS
SF	smešn-á	smešn-ó	smešn	smešn-í	post-stem
LF.NOM	smešn-ája	smešn-óje	smešn-ój	smešn-íje	post-stem

Table 7: Adjectival inflection, Zaliznjak's type *a/b*

<i>mal</i> - 'minor'	FEMININE	NEUTER	MASCULINE	PLURAL	STRESS
SF	mal-á	mal-ó	mal	mal-í	post-stem
LF.NOM	mál-aja	mál-oje	mál-ij	mál-ije	stem

Most adjectives are in the productive *a/a* class

Not attested: stem stress in the SF, stem-final or variant stress in the LF (i.e., **accented stems remain accented**)

And there are no variant LF-adjectives, which means that the LF-suffix *-Vj-* must introduce an accent

Table 8: Summary of SF-LF relations

stress in	LF-stem (a)	LF-post-stem (b)	LF-variant I
SF stem (a)	productive	absent	absent
SF post-stem (b)	75	7	absent
SF variant I	259	55	absent

Whether an LF-adjective has post-stem stress or stem-final stress is unpredictable

Minimal pairs:

- (6) a. *vrémennij* ‘temporary’, *vremennój* ‘temporary’
 cf. *vrém’ia* ‘time’ (plural *vremená*)
- b. *čúdnij* ‘marvelous’, *čudnój* ‘odd, strange’
 cf. *čúdo* ‘marvel, miracle’ (plural *čudesá*, cf. *čudésnij* ‘wonderful’)

Usage variations (the tendency is towards retraction):

- (7) a. *razvitój/rázvitij* ‘developed’
 b. *obščezavodskój/obščezavódskij* ‘common for factories or a factory’

Halle 1973, Melvold 1989: the LF-suffix *-Vj-* is accented (yielding post-stem stress), but LF adjectives can be subject to retraction conditioned by the stem

LF-adjectives therefore provide support for retraction processes
 Although it is strange that the more productive variant is lexically conditioned

SF adjectives have also been argued to undergo retraction (obscuring their relation to their LFs)

5.2. Stress in variant SF adjectives

Stress in variant SF adjectives with unaccented endings need not be stem-initial:

The accentual type *a'* means that the feminine form may also have stem-final stress, corresponding to the reanalysis of the adjectival stem as accented

Table 9: Adjectival SF/LF accentuation, Zaliznjak’s type *a'*

<i>žestok-</i> ‘cruel’	FEMININE	NEUTER	MASCULINE	PLURAL	STRESS
SF	<i>žestok-á</i>	<i>žestók-o</i>	<i>žestók</i>	<i>žestók-i</i>	variant
LF.NOM	<i>žestók-aja</i>	<i>žestók-oje</i>	<i>žestók-ij</i>	<i>žestók-ije</i>	stem

This pattern is not discussed in Halle 1973, Melvold mentions it in a footnote (p.216)

The other four adjectives with the suffix *-ok-* (an augment disappearing in the comparative, cf. Vanden Wyngaerd et al. 2020 for Slovak, Vyshnevskaja 2022 for Ukrainian) exhibit variation in the neuter and plural forms:

The accentual type *c''* means that the neuter and plural forms may also have post-stem stress, corresponding to the reanalysis of the adjectival stem as post-accenting

Table 10: Adjectival SF/LF accentuation, Zaliznjak’s type *a/c''*

<i>glubok-</i> ‘deep’	FEMININE	NEUTER	MASCULINE	PLURAL	STRESS
SF	<i>glubok-á</i>	<i>glubók-ó</i>	<i>glubók</i>	<i>glubók-í</i>	variant
LF.NOM	<i>glubók-aja</i>	<i>glubók-oje</i>	<i>glubók-ij</i>	<i>glubók-ije</i>	stem

Melvold 1989:186-187: they are **post-accenting with optional retraction in the neuter and the plural**

In the Russian National Corpus (<https://ruscorpora.ru/>) the neuter form is overwhelmingly stress-final, but almost all instances are adverbial rather than adjectival. The plural form exhibits variation

5.3. The SF stress patterns, primary and secondary

The stem is indicated by ■, inflection by ○, stress by filling, lack thereof by emptyness

Table 11: SF accentuation by Zaliznjak’s types

	a	a'	b	b'	c	c'	c''
M	■(○)	■(○)	□(●)	□(●)	■(○)	■(○)	□(●)
F	■○	■○/□●	□●	□●	□●	□●	□●
N	■○	■○	□●	□●	■○	■○	□●/■○
PL	■○	■○	□●	□●/■○	■○	■○/□●	□●/■○
stress:	stem-final (– feminine)		post-stem (– plural)		initial (– plural) + (– neuter)		

Two secondary patterns match what we already know:

- $b'+$ is b with plural retraction
- $c'+$ is c with plural retraction

Melvold 1989:186-187: $c''+$ is post-accentuation with retraction in the neuter and the plural (no independent evidence for retraction in the neuter)

Alternative: reduction to the variant c pattern:

- $c''+$ looks like $a'+$ (because with a null ending ■(○) and □(●) both yield stem stress)
- $a'+$ looks like c : stem stress everywhere except in the feminine

But this is an illusion: $a+ \neq c$

5.4. The unexpected SF stress pattern

Stem-stress on a monosyllabic stem can correspond to stem-initial stress or stem-final one

Table 12: SF patterns a' and c for disyllabic stems

	a' (accented+)	c (unaccented)
masculine	□■(○) žestók ‘cruel’	■□(○) vésel ‘joyous’
feminine	□■○/□□● žestók-á	□□● vesel-á
neuter	□■○ žestók-o	■□○ vésel-o
plural	□■○ žestók-i	■□○ vésel-i
stress:	a or stem-final except in the feminine	unaccented

Zaliznjak’s type a' includes a stress pattern that is not predicted: **stem-final stress except with an accented ending**:

(1) **The Basic Accentuation Principle** (Kiparsky and Halle 1977):

Assign stress to the leftmost accented vowel; if there is no accented vowel, assign stress to the initial vowel.

Endings other than feminine are unaccented:

- if *žestok* is unaccented, stress is expected on the first syllable in non-feminine
- if *žestok* is accented, stress is expected to remain on the same (stem-final) syllable

There is no adjective that has a secondary stress pattern only, they always co-occur with their primary patterns, and they are newer (Zaliznjak 1985)

5.5. Red herrings

There are very few disyllabic adjectives in these types: 2 in a' , 2 in c' , 5 in c , and 4 in c''

All non-monosyllabic b' adjectives are derived from passive past participles, which were analyzed as involving unaccentable stems in Matushansky [to appear]-b, but would benefit from a closer look

However, stem-final stress in combination with final feminine is non-minor

5.5.1. The *a+* pattern as the second accentual default

Gouskova 2010: Russian has two accentual defaults, PW-initial and PW-final, with the latter corresponding to post-accentuation

The *a+* pattern is stem-final, not PW-final

5.5.2. The *a+* pattern as a particular property of the augment *-ok-*

The augment *-ok-* disappears in comparatives (cf. Vanden Wyngaerd et al. 2020 for Slovak, Vyshnevskaya 2022 for Ukrainian)

What is this property? What does it do? Can it render the stem it combines with unaccentable?

5.5.3. The *a+* pattern as retraction

There exist four nouns exhibiting a similar stress pattern:

Table 13: Stem-final singular, *a+* plural, Zaliznjak's pattern *e*

case/number accentual pattern	NOM.SG post-stem	ACC.SG post-stem	NOM.PL stem-initial	INS.PL post-stem
PS-sg, V-pl: <i>derevñⁱ</i> - 'bedsheet'	<i>derévnⁱ-a</i>	<i>derévnⁱ-u</i>	<i>derévnⁱ-i</i>	<i>derévnⁱ-ámi</i>

It seems very unlikely that the nominal pattern *e* can be derived via retraction

6. SUMMARY AND QUESTIONS FOR FUTURE RESEARCH

Russian accentual system is now changing (Zaliznjak 1985, Comrie, Stone and Polinsky 1996, Osadcha 2019, etc.)

Zaliznjak 1985: the plural/singular opposition, direct/oblique case opposition

Alderete 1999, Butska 2002, Feldstein 2006, 2017, Dubina 2012, Steriade and Yanovich 2015, Osadcha 2019: the plural/singular opposition drives all variant patterns

Adjectival accentuation somewhat supports the plural/singular opposition (plural retraction in types *b'* and *c'*)

But the (*a+* component of) the *a'* pattern is inexplicable in either of these terms (though might be, in the terms of opposing [+F] to [-F] and lack of gender, which seems... accidental)

The mechanism deriving the stem-final stress with unaccented endings in adjectives would be very useful in nouns

7. APPENDIX: DISYLLABIC ADJECTIVES

2 in *a'*: жестокий, удалый (with a caveat)

5 in *c*: дорогой, дешёвый, молодой, развитой, холостой

2 in *c'*: весёлый, зелёный, солёный (with the allomorphic SF солон), удалой, занятый

4 in *c''*: далёкий, глубокий, широкий, высокий

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