

NON-LOCAL ALLOMORPHY IN RUSSIAN VERBAL STRESS RETRACTION

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1. INTRODUCTION: THE PHENOMENON

Russian (like a typical Slavic language) has lexical stress: every root or affix is specified in one of the following four ways (Garde 1968, 1998, Halle 1973, Melvold 1990, 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** carry 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.

The transcriptions below closely follow Russian orthography and do not indicate: (a) palatalization before front vowels (/Ci/ → [Ci], /Ce/ → [Ce]), (b) various vowel reduction phenomena in unstressed syllables, (c) voicing assimilation and final devoicing. Stress is marked by an acute accent on the vowel. The yers (abstract high lax unrounded vowels) are represented as /i/ (front, IPA ɪ) and /ũ/ (back, IPA ʊ). The letters ч (IPA tɕ, see Padgett and Žygis 2007), ш (IPA ɕ), ж (IPA ʒ), щ (IPA ɕɕ) are traditionally rendered as č, š, ž, and šč.

1.1. Athematic verbs

Three morphemes: the stem, the tense suffix and the agreement ending

Main generalizations in this section (Halle 1973, Melvold 1990, etc.):

- **past-tense variability indicates a stem with no accentual specification**
- **the present-tense suffix is accented**

Highlighting indicates the positions of the underlying accents

- (2) **Accentual interaction in athematic (√-T-φ) verbs**

		accented PAST-FSG	unaccented PAST-PL	accented PRESENT-3SG
a.	accented: <i>-lez-</i> ‘climb’	<i>lěz-l-a</i>	<i>lěz-l-i</i>	<i>lěz-e-t</i>
b.	post-accenting: <i>-nes-</i> ‘carry’	<i>nes-l-á</i>	<i>nes-l-í</i>	<i>nes-ó-t</i>
c.	unaccented: <i>-klad-</i> ‘put’	<i>kla-l-á</i>	<i>klá-l-i</i>	<i>klad-ó-t</i>

Diagnostics for stem accentuation: accentual invariability across the entire paradigm suggests an accented or post-accenting stem, variable stress is indicative of an unaccented stem

The behavior of stress in the **past** tense indicates that:

- the past-tense suffix carries no accentual specification
- the feminine singular ending -a is accented, all others are unaccented
- we can therefore establish the accentual properties of the stem

Two accentual classes can be detected in the **present**: those with stress on the stem and those with stress on the present-tense suffix, so **the present-tense suffix is accented**

Certain things swept under the rug here: (a) the existence of the fourth class of verbs, with retraction in the past, (b) two roots with variant stress placement in the present (*-mog-* ‘be able’, *-im-/nʲa-* ‘have’), (c) accentuation of the infinitive and passive past participle (PPP) suffixes, which we will return to later; (d) the interaction of the stem-final consonant with the past-tense suffix *-l-*, as in (2b)

1.2. Thematic verbs

Most Russian verbs are not athematic: another suffix appears between the stem and the tense-agreement morphology (TAM)

Result of this section: accentuation of thematic verbs is not predicted by the interaction of the accentual properties of the lexical stem, thematic suffix and TAM

Thematic verbs have only two accentual patterns in the past: stress on the stem and stress on the thematic suffix

This means that the thematic suffix is accented

One exceptional thematic suffix (*-a-* in the past, nothing in the present) is unaccented

(3) Accentual interaction in thematic verbs, illustrated for the thematic suffix *-ē-*

		accented PRES-3SG	accented PRES-1SG	accented PAST-FSG	unaccented PAST-PL
a.	accented: <i>-vid-</i> ‘see’	<i>vid-ē-i-t</i>	<i>viž-ē-ŭ-u</i>	<i>vid-e-l-a</i>	<i>vid-e-l-i</i>
b.	post-stem: <i>-vel-</i> ‘order’	<i>vel-ē-ŭ-t</i>	<i>vel-ē-ŭ-ŭ</i>	<i>vel-é-l-a</i>	<i>vel-é-l-i</i>
c.	variant: <i>-vert-</i> ‘spin’	<i>vért-ē-i-t</i>	<i>verč-ē-ŭ-ŭ</i>	<i>vert-é-l-a</i>	<i>vert-é-l-i</i>

The sequence of two vowels in the present (theme and tense suffixes) is resolved by turning the first vowel into a glide (in 1SG) or deleting it (see section 7.1)

Melvold 1990: the accent of the deleted vowel shifts one syllable to the left. But this only happens in five verbs, elsewhere this accent is not detectable, so the hypothesis must be wrong

The **present tense** of thematic verbs in (3c) deviates from what is expected

(3a) is expected for accented stems: stress is systematically on the stem

(3b) shows what is expected from non-accented (unaccented or post-accenting) stems

Melvold 1990:268ff.: the thematic suffix is accented, so for both unaccented and post-accenting roots there is an accent right after the stem.

The pattern in (3c) is not predicted by the interaction of the accentual properties of the lexical stem, thematic suffix, and tense-agreement morphology

1.3. What is to follow

Proposal: the variant pattern is linked to a diacritic property of the stem Δ , and

- (i) the stem includes the thematic suffix (and sometimes the prefix), and
- (ii) Δ determines whether the present-tense suffix is **unstressable**

In other words, retraction does not depend on the properties of any single morpheme

How we will proceed:

- Empirical overview (see section 7 for the details)
- Intuition: unstressable tense
- Discussion: the trigger for unstressability

Conclusion: a clear improvement on the previous analyses

2. EMPIRICAL OVERVIEW

Retraction is limited to present-tense forms (as opposed to past-tense ones, no one has looked at null-derived verbal nouns from this point of view, but none of them are post-accenting, as far as I can recall)

In the variant pattern stress appears on the thematic suffix in the past finite forms [l], active participle (-vš-) and gerund (-v-)

Retraction **depends on the next suffix after tense**: in variant verbs stress surfaces:

- after the stem in the present (1sg ([u]), gerund ([ja]) and imperative ([i]))
Feldstein 2015: all simple vocalic suffixes
the tense suffix itself is not visible (deleted or turns into a glide before a vowel)
- stem-finally in all other present tense forms (all consonantal)
- active present participles generally pattern with the non-1sg present tense (with some deviations, see, e.g., Zaliznjak 1985:29), the passive past participle (PPP) and infinitive suffixes are special (see Matushansky [to appear])

Section 8: the contrast between unaccented and post-accenting stems is needed for something else (the PPP)

And even if we could appeal to it, the thematic suffix is accented, it would shield tense from anything on the left

Halle 1973:328, Melvold 1990:291, Idsardi 1992:124: **retraction**

The accent assigned to suffixes other than the 1sg [u], the gerund [ja] and the imperative [i] is retracted one syllable to the left of the tense suffix

So the present-tense suffix or feature triggers stress retraction but only if the next suffix is not one of these three and only for some verbs

These consonantal ϕ -suffixes cannot be analyzed as pre-accenting because this would predict stem-final stress for all non-accented verbal stems (and why should only non-vocalic suffixes be pre-accenting?)

3. PROPOSAL: TENSE UNSTRESSABILITY

What happens in retracting verbs can be viewed as **lexically conditioned avoidance of stress on the present-tense suffix** (and stem-final stress is very frequent in derived verbs, cf. 8.1)

An unstressable morpheme is not projected onto line 0 of the metrical grid

Any accent that would be assigned to it will surface on the next syllable

We already know the present-tense suffix (1st conjugation -*o*-, 2nd conjugation -*i*-) is lexically accented (or inherits the accent of the deleted vowel of the thematic suffix):

(4)	a.	ROOT	TH	PRES	1SG	b.	ROOT	TH	PRES	1SG	
			*	*				*	*		
		*	*		*		*	*	*	*	
		lʊb	i	i	u		lʊb	j	u		→ lʊblʊ́ 'love.1SG'

The accent of the present-tense suffix cannot surface on the suffix itself because it is marked to resist stress, but there is a syllable after it and this is where the accent lands

The combination of the final consonant of the stem and the glide that the tense suffix has turned into before the 1sg suffix [u] undergoes mutation known as transitive softening ([bj] → [blʲ])

Non-1sg agreement morphemes after the present-tense suffix are non-syllabic (2SG is *-šŭ-* or *-š-*, depending on the analysis, 3SG is *-tŭ-* or *-t-*, 1PL is *-mŭ-* or *-m-*, 3PL is *-ntŭ-* or *-nt-*; the one exception is the 2PL *-te-* (cf. Halle 1973:327)), for which a special proviso is needed

Since ϕ -suffixes are non-syllabic and cannot bear stress, the accent of the present-tense suffix must surface on the preceding syllable, which is obviously the last syllable of the stem:

- (5) a. $\begin{array}{cccc} & * & * & \\ * & * & & - \\ \text{lub} & i & i & \text{tŭ/t} \end{array}$ b. $\begin{array}{cccc} & * & * & \\ * & * & & - \\ \text{lub} & i & i & t \end{array} \rightarrow \text{lŭbit 'love.3SG'}$

Retraction from a non-syllabic suffix is independently motivated for Russian

With a non-variant verb the present-tense suffix is stressable (and accented):

- (6) a. $\begin{array}{cccc} & * & * & \\ * & * & * & - \\ \text{grub} & i & i & \text{tŭ/t} \end{array}$ b. $\begin{array}{cccc} & * & * & \\ * & * & * & - \\ \text{grub} & i & i & t \end{array} \rightarrow \text{grubít 'be rude.3SG'}$

Thus the variant pattern amounts to **allomorphy of the present-tense suffix**: unstressable vs. stressable variants

For now I retain the hypothesis that the present-tense suffix is accented even when unstressable, but given that the preceding thematic suffix is accented and deleted, some accent will be there anyway

4. FINER DETAILS OF CONDITIONED UNSTRESSABILITY

What is the trigger of this allomorphy?

Given that the thematic suffixes are the same for variant and non-variant verbs, can it be the stem?

Possibility: it is the stem acting across the thematic suffix

Testing: look at verbs with the same root and different themes

More than one accentual pattern may arise

I will not look at the accentual patterns of verbs in *-aj-*: this thematic suffix never triggers the variant pattern and sometimes hides the null allomorph of the secondary imperfective, which further confuses the issue

At any rate, I think stress in *-aj-* verbs and in semelfactives usually do on the same syllable

Methodology: take closed-class verbs (*-a/o/-i-*, *-e-*, the mutative *-nu-*, *-a/-o-*) and manually check if they allow derivatives with other thematic suffixes

Sources: Halle 1973, Sheljakin 1983, Garde 1998, Itkin 2007, Es'kova 2011, Sokolova 2015, own knowledge

Remember, in the past all these **verbs that do not have stress on the stem have stress on the thematic suffix**

4.1. *-e-* as a dominant accented suffix

Stem stress in *-nu-* verbs systematically corresponds to post-stem stress in *-e-* verbs:

- (7) *-krik-* 'shout'
 a. *kriknu/kriknet* 'will give a shout.1SG/3SG' (semelfactive suffix *-nu-*) stem
 b. *kričŭ/kričit* 'shout.1SG/3SG' (suffix *-ē-*) post-stem

- (8) *-pěrd-* ‘fart’ (vulgar)
 a. *píórdnu/píórdnet* ‘will give a fart.1SG/3SG’ (semelfactive suffix *-nu-*) stem
 b. *peržú/perdíť* ‘fart.1SG/3SG’ (suffix *-ě-*) post-stem
- (9) *-molk-* ‘be silent’
 a. *mólknu/mólknet* ‘be silent.1SG/3SG’ (mutative suffix *-nu-*) stem
 b. *molčú/molčíť* ‘be silent.1SG/3SG’ (suffix *-ě-*) post-stem
- (10) *-svist-* ‘whistle’
 a. *svístnu/svístnet* ‘will give a whistle.1SG/3SG’ (semelfactive suffix *-nu-*) stem
 b. *sviščú/svistít* ‘whistle.1SG/3SG’ (suffix *-ě-*) post-stem
 c. *sviščú/svíščet* ‘whistle.1SG/3SG’ (suffix *-a/-i-*) 1sg

I have examined all *e*-verbs that can form semelfactives (16) or mutatives (4), and this pattern is consistent with the thematic suffix *-e-* being accentually dominant

Accentual dominance of *-e-* also explains this contrast: while post-accenting nominal roots systematically give rise to verbs with stem-final stress, *-e-* wins:

- (11) *pizdá/pizdú* ‘cunt.NOM/ACC’
 a. *pizžú/pizdíť* ‘bullshit.1SG/3SG’ (suffix *-ě-*) post-stem
 b. *pížžu/píždít* ‘steal.1SG/3SG’ (suffix *-i-*) stem

Yet *-e-* is not always dominant!

There exist **five *-e-* verbs with stem stress**: *slíšati* ‘to hear’, *zavíseti* ‘to depend’, *vídeti* ‘to see’, *nenavídeti* ‘to hate’, and *obídeti* ‘to offend’. Maybe they have dominant stems

The last three share the root, at least diachronically

And **seven *-e-* variant stems** (*terpéti* ‘to tolerate’, *deržáti* ‘to hold’, *smotrétí* ‘to look’, *vertéti* ‘to turn’, *díšáti* ‘to breathe’, and *gnáti* ‘to chase’)

I would either exclude *gnáti* ‘to chase’ or also include *spáti* ‘to sleep’ because it and *gnáti* ‘to chase’ are the only 2nd conjugation verbs that have accentual variability in the past

4.2. *-a/-i-* and *-nu-* are not the same

The difference between (10a) (accented *-nu-*) and (10c) (accented *-a/-i-*) is unexpected, but also systematic:

- (10) *-svist-* ‘whistle’
 a. *svístnu/svístnet* ‘will give a whistle.1SG/3SG’ (semelfactive suffix *-nu-*) stem: A
 b. *sviščú/svistít* ‘whistle.1SG/3SG’ (suffix *-ě-*) post-stem: A-Dom
 c. *sviščú/svíščet* ‘whistle.1SG/3SG’ (suffix *-a/-i-*) 1sg: A

There are 20+ *-a/-i-* verbs with semelfactive counterparts and they show clear consistency in stress patterns:

- stem stress in *-a/-i-* verbs remains on the stem in *-nu-* verbs
- the variant pattern in *-a/-i-* verbs corresponds to inflectional stress in *-nu-* verbs

Same for the unique *-o/-i-* verb with a semelfactive counterpart, *kolóti* ‘to prick’, *-o-* is an allomorph of *-a-*

Retraction is clearly not the property of the athematic verbal stem

Exceptions: five *-a/-i-* verbs with retraction to the stem in all forms of the present tense

This pattern characterizes five roots, only the first two of which are non-archaic (Gladney 1995:115 lists four: *-koleb-* ‘rock’, *-kolyx-* ‘sway’, *-alk-* ‘crave’, and some archaic derivatives of *-ím-* ‘have’ (e.g., *vnímáti/vněmlu* ‘heed’, *prinímáti/priěmlu* ‘accept’), to which we add the archaic TS variant of *-strad-* ‘suffer’)

Only one of them has a semelfactive counterpart:

(12) *-kolix-* ‘sway’

- a. *kolíšet/kolíšu/kolíxál* ‘rock.PRES.3SG/1SG/MSG’ retracting
 b. *kolíxn’ót/kolíxn’ú/kolíxn’úl* ‘rock.PRES.3SG/1SG/MSG’ post-stem

All these thematic suffixes behave the same way in the past

There are 2 exceptions, where stem(-final) stress in *-a-/-i-* verbs correlates with final stress in their semelfactive counterparts: (1) *plákati* ‘to cry’ vs. the prefixal *vsplaknúti* ‘to shed a few tears’, and (2) *sípati* ‘to pour’ vs. *sípnúti* ‘to pour a little’

4.3. The productive *-i-* suffix and the two *-nu-* suffixes

With the non-productive mutative *-nu-* the results may match or not match:

(13) *-top-* ‘sink’

- a. *topl’ú/tópit* ‘drown.1SG/3SG, tr.’ (suffix *-i-*) 1sg
 b. *ton’ú/tónet* ‘drown.1SG/3SG’ (mutative suffix *-nu-*) 1sg

(14) *-gork-* ‘bitter’

- a. *gorč’ú/gorčít* ‘be bitter.1SG/3SG, tr.’ (suffix *-i-*) 1sg
 b. *górknú/górknét* ‘be bitter.1SG/3SG’ (mutative suffix *-nu-*) stem

This is because the mutative *-nu-* is pre-accenting (cf. *gásnuti* ‘to fade’/*gasít’* ‘to extinguish’, *móknuti* ‘to be/become wet’/*močít’* ‘to make wet’)

With the productive semelfactive *-nu-* the results may match or not match (though stem stress is not an option): final stress in *-nu-* verbs may correspond to the final or the variant pattern in *-i-* verbs:

(15) *-kur-* ‘smoke’

- a. *kur’ú/kúrit* ‘smoke.1SG/3SG, tr.’ (suffix *-i-*) 1sg
 b. *kurn’ú/kurn’ót* ‘take a smoke.1SG/3SG, tr.’ (suffix *-i-*) post-stem

(16) *-tormoz-* ‘brake’

- a. *tormož’ú/tormozít* ‘brake.1SG/3SG, tr.’ (suffix *-i-*) post-stem
 b. *tormozn’ú/tormozn’ót* ‘brake sharply.1SG/3SG, tr.’ (suffix *-i-*) post-stem

So the variant pattern is an exception for *-nu-* verbs... and can be triggered by a prefix:

(17) *-gliad-* ‘look’

- a. (i) *glíanu/glíánet* ‘will glance.1SG/3SG’ (semelfactive suffix *-nu-*) stem
 (ii) *proglíánet* ‘will glance through.3SG, impers.’ (ibid.)
 b. (i) *vzglíanu/vzglíánet* ‘will glance.1SG/3SG’ (ibid.) 1sg
 (ii) *zaglíanu/zaglíánet* ‘will look in on.1SG/3SG’, etc.
 c. *glíaz’ú/glíadít* ‘look.1SG/3SG’ (suffix *-ě-*) post-stem

The stem stress in (17a) turning into post-stem stress in (17c) fits the pattern in (7)-(10): *-e-* is dominant

The behavior of (17b) is unexpected

There is no clear difference in meaning between (17a-i) and (17b-i), except (17a) is slightly archaic

None of the five variant verbs in *-nu-* have counterparts in other thematic classes (except for the secondary imperfective in *-aj-*): even the prefixed verbs in (17b) have no *-e-* counterparts

The verbs *proglíadéti* ‘to look through’ vs. *proglíánuti* ‘to become visible through’ are not an aspectual pair

Accentuation pattern seems to be a property of the entire verbal stem

It is not surprising that the combination of a stem with a thematic suffix is unpredictable from the semantic standpoint, why should it be phonologically predictable?

5. CONCLUSION

If Russian present-tense retraction is viewed as lexically triggered unstressability of the tense morpheme, we obtain the desired behavior: its underlying accent is realized on the following syllable when possible (i.e., when the next morpheme contains a vowel) and on the preceding syllable otherwise

Retraction does not seem to be linked to any obvious morphological, syntactic or semantic property of the stem: not the form of the secondary imperfective, not the retention of *-i-* in the secondary imperfective, not transitivity

This picture is in fact very similar to what Revithiadou 1999 describes as the proper behavior of unaccentable morphemes (except not for Russian)

If retraction is in general due to unstressability (cf. Dubina 2012:153):

- plural retraction in nouns can be accounted for in the same way (on the condition that a whole morpheme that can be unstressable, not only a syllable)
- retraction with unaccented stems (cf. (35) in section 8.2.4) follows if
- an unstressable accented morpheme can be concluded to be possible

Vocalic suffixes provide the location for the accent of the unstressable present-tense suffix

The active present participle does not and requires an additional discussion

6. MORE ON LEXICAL UNSTRESSABILITY AND UNACCENTABILITY

Often unstressability results from independent properties of the segment or morpheme:

- Some vowels are inherently unstressable (e.g., *i* before *y* & schwa in Passamaquoddy (LeSourd 1988:71-74))
- Some prefixes in Squamish are not part of the same prosodic domain as the root and the suffixes (Dyck 2004:165-171)

Bogomolets 2020: unaccented suffixes in Choguita Rarámuri are lexically unstressable and this unaccentability cannot be motivated by the properties of the vowel or of the morpheme

Russian provides **local independent evidence for unstressability**

Russian yers come in two varieties: those that can be stressed when lowered (*ĩ*→*ě*, *ũ*→*ö*) and those that cannot

Background: **Russian has retraction in nouns** (section 8.2.4): the accent introduced by the plural ending surfaces on the syllable before it (Halle 1973, 1975, 1997, Melvold 1990, etc.):

(18) baseline:

- a. unaccented stem: *-zermal-* ‘mirror’: nom.sg: *zérkalo*, nom.pl: *zermalá*
- b. post-accenting stem: *-božestv-* ‘deity’: nom.sg: *božestvó*, nom.pl: *božestvá*
- c. retracting stem: *-koles-* ‘wheel’: nom.sg: *kolesó*, nom.pl: *koliósa*

Sometimes this stem-final syllable contains a yer, which cannot bear stress (and is deleted in the surface representation anyway), and then the accent moves one more syllable to the left:

- (19) a. *-kolíc-* ‘ring’: nom.sg: *kolícó*, nom.pl: *kólíca*
- b. *-pisím-* ‘letter’: nom.sg: *pisímó*, nom.pl: *písíma*

The genitive plural is also a yer, so cannot bear stress and the accent surfaces before it:

- (20) a. -*zeral-* ‘mirror’: nom.sg: *zérkalo*, nom.pl: *zermalá*, gen.pl: *zerkál*
 b. -*božestv-* ‘deity’: nom.sg: *božestvó*, nom.pl: *božestvá*, gen.pl: *božéstv*
 c. -*koles-* ‘wheel’: nom.sg: *kolesó*, nom.pl: *koliósa*, gen.pl: *koliós*

However, the genitive plural yer triggers the lowering of the stem-final yer (ĩ→ě):

- (21) a. -*kolíc-* ‘ring’: nom.sg: *kolícó*, nom.pl: *kólicá*, gen.pl: *koléc*
 b. -*pisím-* ‘letter’: nom.sg: *pisímó*, nom.pl: *písíma*, gen.pl: *písem*

In (21b) the lowered stem-final yer cannot be stressed (for whatever reason) and stress shifts one syllable further to the left

Conclusion: there are lexically determined cases where a syllable cannot bear stress

It is unlikely that the difference between (21a) and (21b) is due to the fact that a potential suffix is detectable in (21b): while both *remesló* ‘trade’ and *polotnó* ‘cloth’ are historically complex, in contemporary Russian they are perceived as underived (and *kolícó* ‘ring’ is actually also historically a derived noun)

6.1. Unaccentability as an issue (more on this in section 8.2)

Matushansky [to appear]: the passive past participle suffix *-ěn-* is unaccentable. Yet when the morpheme after it is assigned an accent and cannot bear it or is pre-accenting, stress surfaces on the PPP suffix:

- (22) a. *v.ľub-i-ěn-a* → *vľublená* fsg
 b. *v.ľub-i-ěn-ŭ* → *vľublión* msg
 c. *v.ľub-i-ěn-aj-a* → *vľubliónnaja* retracting long-form suffix

This unaccentability is different from unstressability

Can post-accentuation be derived from unstressability or unaccentability?

Spoiler: probably not

Possible venue of research: maybe the suffix simply contains a yer that is vocalized (and thus becomes stressable) after accent is assigned to the next syllable

6.2. Further issues

There can be some more refinements on the proposal and further questions:

- (i) Can an unstressable morpheme have an accent? Possible answer: the accent that it avoids is the accent of the preceding verbal stem (on the assumption that deletion of the vowel of the thematic suffix retains the accent)
- (ii) If unstressable morphemes can be accented, what does it say about the encoding of lexical accent? Maybe it is tonal as in Dubina 2012
- (iii) Can unstressability be assigned to an abstract morpheme (present tense in both of its exponents: 1st conjugation *-jo-*, 2nd conjugation *-i-*)? Answer: maybe but maybe unstressability is assigned not to an abstract morpheme but rather to the syllable after the stem
- (iv) What about the variant pattern in two athematic verbs?

6.2.1. The gerund

How to avoid transitive softening before the gerund suffix?

The problem is there if the suffix is underlyingly *-ia-*. However, the underlying representation of this suffix could be *-n-*: Russian has a lexically limited rule of turning a tautosyllabic front vowel plus nasal sequence (e.g., [ěⁿ]) into [a] (see Lightner 1967)

6.2.2. Variant athematic verbs

There are two athematic verbs that exhibit the variant pattern in the present tense (see 8.2.2): *-mog-* ‘be able to’ and *-im-* (historically, ‘have’, but synchronically probably cranberry)

-mog- is easy: it is post-accenting

-im- is problematic because it is unaccented. Either we must assume that it is unaccented only in the past tense or the present-tense suffix has to be accented even when unstressable

At any rate this is a very special verb (the root is *-(n)im-* in the present tense and *-nⁱa-* in the past) and might involve allomorphy

7. APPENDIX I: EMPIRICAL LANDSCAPE (THE FULL PICTURE)

Necessary (although not sufficient) factors for stress retraction to the stem: the presence of an accent on the thematic suffix, a non-vocalic ending, present tense as a feature

7.1. Segmental phonology

The vowel of the thematic suffix is deleted in the present tense:

(23) i-stem (2nd conjugation)

- a. [[[[PFX+√]-TH]₁-PRES]₂-3SG]₃ 3SG
 [[[[v.lub-*i*]₁-*i*]₂-t]₃
 \downarrow cycle 2: VOWEL BEFORE VOWEL DELETION
 [[v.lub-*i*]₂-t]₃
 \downarrow RETRACTION
 [v.lub^uit]
- b. [[[[PFX+√]-TH]₁-PRES]₂-1SG]₃ 1SG
 [[[[v.lub-*i*]₁-*i*]₂-u]₃
 \downarrow cycle 2: VOWEL BEFORE VOWEL DELETION
 [[v.lub-*i*]₂-u]₃
 \downarrow cycle 3: GLIDE FORMATION
 [v.lubl^u]

I assume that the 1sg ending is underlyingly /u/ rather than the original Slavic /m/, *pace* Lightner 1965

It is very tempting to hypothesize (cf. Idsardi 1992:124) that retraction is linked to the fate of the thematic suffix vowel, but this would be empirically incorrect:

- there are verbs (24d) that have glide-formation and transitive softening throughout the present-tense paradigm and retraction in the same cells
- there are some (a few) 1st conjugation verbs with the variant pattern yet no glide-formation in the 1sg
- there is no glide-formation in either the imperative or the present-tense gerund

Potentially important: verb classes that have virtually no variant verbs do not end up with two accents on one syllable

But not all verbs with two accents on one syllable undergo retraction

7.2. The role of the ending

The usual description (1sg vs. all other present tense cells) is empirically inadequate

Feldstein 2015: the imperative (surface *-i* or *-*) and the present tense gerund (surface *-ja*), both based on the “present-tense stem”, have the same stress placement as the 1SG form (e.g., *vert-i* ‘spin!’), and attributes this to them all having a simple vowel ending of the type *-V#*

It is not obvious that all of these suffixes have a vowel in their underlying representation

The active present participle suffix (surface [ũšč] for the 1st conjugation, surface [ašč] for the 2nd, most likely derived from the underlying *-nšč-*) is not stressed in variant verbs

Retraction in active present participle generally patterns with non-1sg, but sometimes doesn’t (e.g., *učúsi/účitsja* ‘study.1SG/3SG’ vs. *učáščijsja* ‘studying.MSG’)

Summary: no retraction for simple vocalic suffixes

Possible alternative: the suffix *-nšč-* is pre-accenting or retracting

7.3. The role of the thematic suffix

It is very tempting to hypothesize that the variant pattern arises from the accentual properties of the athematic stem. Yet the picture is not straightforward:

- verbs with the accented thematic suffixes *-aj-* and *-ej-* or with the pre-accenting mutative suffix *-nu-*: no variant pattern
- 5 verbs with the accented suffix *-ǫ-*: obligatory variant pattern
- athematic verbs and verbs with the unaccented *-a-* thematic suffix that is deleted in the present tense (both closed classes): virtually no variant pattern
- verbs with the accented semelfactive suffix *-nu-*: virtually no variant pattern
- verbs with the accented suffixes *-ē-*, *-i-* and *-a-/i-*: frequent variant pattern

(24) Stress and thematic suffixes

	PRES.1SG	PRES.2SG	INF	gloss	thematic suffixes	retraction
a.	léz-u	léz-e-šj	léz-tj	‘climb’	none or Ø	2/84
b.	čit-áj-u	čit-áj-e-šj	čit-áj-tj	‘read’	a/aj	0/∞
c.	žážd-u	žážd-e-šj	žážd-a-tj	‘thirst’	a/Ø	1?/20 (39)
d.	píš-ú	píš-e-šj	pis-á-tj	‘write’	a/i	60/105 (86)
e.	bel-ěj-u	bel-ěj-e-šj	bel-ě-tj	‘be white’	e/ej	0/∞
f.	gíb-n-u	gíb-n-e-šj	gíb-nu-tj	‘perish’	nu/n (mutative)	0/∞
g.	tolk-n-ú	tolk-n-ó-šj	tolk-nú-tj	‘push’	nu/n (semelfactive)	6/∞
h.	kolj-ú	kól-e-šj	kol-ó-tj	‘stab’	o/i	5/5
i.	smolj-ú	smol-í-šj	smol-í-tj	‘tar’	i	43%
j.	gorj-ú	gor-í-šj	gor-é-tj	‘burn’	e/Ø	6/83

The parentheses in (c) and (d) indicate the uncertain status of 19 *j*-final verbs, which all have stem stress
43% for *i*-verbs is based on the calculation in Slioussar 2012, cf. her 4% for the semelfactive *-nu-*

All three classes are productive for *i*-verbs (Slioussar 2012)

Red'kin 1965, Zaliznjak 1985: no correlation between the thematic suffix and stress

Slioussar 2012, this work: there is!

Apparent generalization: the variant pattern can only arise when an accented vowel is deleted

It is only productive with *-i*-verbs (maybe because the thematic suffix *-i-* and the semelfactive suffix *-nu-* are the only productive suffixes fulfilling these conditions)

I have a database containing all non-productive verbal stems of Russian by class with their accentual properties, anyone is welcome to study it and draw their own conclusions (some knowledge of Cyrillic is needed)

8. APPENDIX II: THE ROLE OF THE STEM

The accentual structure of variant thematic verbs is as follows:

- (25) 1st conjugation: √- nú/á/ó- ě_{PRES}- φ
 2nd conjugation: √- í/ě- í_{PRES}- φ

The thematic suffixes indicated as *-á-* and *-ó-* in the present tense take the form *-i-*

There is no way to discover the underlying accentual specification of the 2nd conjugation present-tense suffix *-i-* because there are no athematic 2nd conjugation verbs

The vowel of the thematic suffix is either deleted or turns into a glide before vocalic suffixes

What happens to its accent?

Suppose the accent is just deleted. Suppose we are then left with just the verbal stem with its accentual properties

8.1. Variable accentuation of the stem

Accentuation of the stem is not constant across the verbal derivation

The relation between the accentuation of a noun and that of the verb that is derived from it is *not* straightforward (Red'kin 1965, Halle 1973:344-347, Zaliznjak 1985:107, Gladney 1995)

- (26) accented nouns
- a. *razžálobl'ú/razžálobit* 'move to pity.1SG/3SG' (cf. *žáloba/žálobu* 'complaint') stem
 - b. *beš'ú/bésit* 'enrage.1SG/3SG' (cf. *bésa/bésami* 'devil.SG.GEN/PL.INS') variant
 - c. *bombl'ú/bombít* 'bomb.1SG/3SG' (cf. *bómba/bómbu* 'bomb') inflection
- (27) post-accenting nouns
- a. *kónčú/kónčit* 'finish.1SG/3SG' (cf. *koncá/koncámi* 'end.SG.GEN/PL.INS') stem
 - b. *žen'ú/ženit* 'marry.1SG/3SG' (cf. *žená/ženú* 'wife.NOM/ACC') variant
 - c. *struj'ú/struít* 'stream.1SG/3SG' (cf. *strujá/strujú* 'stream.NOM/ACC') inflection
- (28) unaccented nouns
- a. *kníážu/kn'ázit* 'reign.1SG/3SG' (cf. *kn'ázja/kn'azj'ámi* 'prince.SG.GEN/PL.INS') stem
 - b. *poruč'ú/porúčit* 'entrust.1SG/3SG' (cf. *ruká/rúku* 'hand.NOM/ACC') variant
 - c. *boron'ú/boronít* 'harrow.1SG/3SG' (cf. *boroná/bóronu* 'harrow.NOM/ACC') inflection

There are generalizations (e.g., verbs derived from nouns containing post-accenting suffixes have stem-final stress), but they are not reliable:

- (29) a. *ribák, ribaká* 'fisher' → *ribáčiti* 'to fish'
 b. *slésari, slésar'ej* 'metalworker.SG.NOM/PL.GEN' → *slesáriti* 'be a metalworker'

Gladney 1995:113 estimates some 60 verbs in this class; it is regular for [P-N]-derived verbs and compound-based verbs

NB: A case of derivation where the position of the stress in a derivative does not coincide with any stress in the base, contra Steriade and Yanovich 2015

Part of these facts can be captured if the suffix *-i-* is dominant, some stems are dominant as well (no apparent generalization) and it is the stem that wins in such circumstances

Four possibilities therefore:

1. dominant stem → inherited stress on the stem
2. recessive stem → stress after the stem (on *-i-*)
3. recessive stem with retraction → stress on the final vowel of the stem
4. recessive stem with present-tense retraction → stress on the final vowel of the stem in the present except 1sg, stress after the stem (on *-i-*) elsewhere

Option 1 is detectable if the stress is before the final syllable of the stem

Option 3 is detectable only for verbs derived from non-accented stems, like (29)

8.2. Constant theme-conditioned root allomorphy

Suppose roots can acquire a specific accentuation pattern in the context of a given theme but afterwards it is constant

Tentative hypothesis:

- unaccented roots give rise to post-stem stress (because the thematic suffix is accented)
- post-accenting roots undergo retraction (cf. Melvold 1990:291)

Retraction could be motivated by clash, but there is still **no explanation why simple vocalic suffixes do not trigger retraction**

Empirical issue: passive past participles

8.2.1. Accentuation of passive past participles (PPPs)

Matushansky [to appear] points out that the accentual behavior of PPPs (and infinitives) of athematic verbs provides evidence for one more distinction between stems: unaccentability

This property is diagnosed by final stress in infinitives and PPPs:

(30) Russian accentual verb types

STEM	accented PRES-3SG	accented PRES-1SG	accented PAST-FSG	unaccented PAST-PL	pre-accenting PPP.PL
a. accented 'climb over'	<i>perelézu</i>	<i>perelézet</i>	<i>perelézla</i>	<i>perelézli</i>	% <i>perelézeni</i>
b. unaccented: 'spin'	<i>sprjadú</i>	<i>sprjadót</i>	<i>sprjalá</i>	<i>sprjáli</i>	<i>sprjádeni</i>
c. post-accenting 'carry away'	<i>unesú</i>	<i>unesjót</i>	<i>uneslá</i>	<i>uneslí</i>	<i>unesenĭ</i>
d. PA with retraction 'steal'	<i>ukradú</i>	<i>ukradjót</i>	<i>ukrála</i>	<i>ukráli</i>	<i>ukrádeni</i>

As the last column in (30) shows, post-accenting athematic stems are characterized by final stress not only in the past but also in PPPs (Feldstein 1986:57, Garde 1998:329-332) (as well as in infinitives, which surface with the ending [tí])

Matushansky [to appear] argues for an additional accentual distinction: unaccentability

The reason is that **the PPP and infinitive suffixes are pre-accenting** and the BAP (1) should give preference to the leftmost accent in the linear sequence:



In (31) the (floating) accents assigned by the root and by the suffix are formalized as an iambic and trochaic feet, respectively. The leftmost head should get priority, but clearly doesn't.

Matushansky [to appear]: to ensure post-stem stress verbs like (30c) should be not only post-accenting, but also unaccentable

Neither dominance nor giving preference to the stem will do the trick

This diagnostic can be extended to thematic verbs

Stress patterns in the present tense and in the PPP are not correlated

Both the post-stem stress pattern and the 1sg stress pattern can cooccur both with final stress in PPPs, as in (32b') and (32c), and with pre-suffixal stress in PPPs, as in (32b) and (32c').

(32) Stress patterns with i-thematic 2nd conjugation verbs: present vs. PPP

STEM	PRES.1SG	PRES.3SG	PAST-FSG	PPP-FSG
a. accented: 'sting'	<i>užáľu</i>	<i>užáľit</i>	<i>užáľila</i>	<i>užáľena</i>
b. PRES-final, PPP-re: 'speak'	<i>govor'ú</i>	<i>govor'it</i>	<i>govor'ila</i>	<i>govórena</i>
b'. PRES-final, PPP-final: 'light up'	<i>osvešč'ú</i>	<i>osvet'it</i>	<i>osvet'ila</i>	<i>osvešč'ená</i>
c. PRES-variant, PPP-final: 'enamor'	<i>vl'ubl'ú</i>	<i>vl'úbit</i>	<i>vl'ubila</i>	<i>vl'ublená</i>
c'. PRES-variant, PPP-re: 'catch'	<i>lov'ú</i>	<i>l'óvit</i>	<i>ulov'ila</i>	<i>ul'óvlena</i>

This means that some of the stems that exhibit variant stress are unaccentable

Unaccentable morphemes can be stressed, but only as a last resort (e.g., the PPP suffix is stressed in MSG PPPs, where it is word-final: *osvešč'ón*, *vl'ubl'ón*)

Revithiadou 1999, Alderete 1999: post-accenting morphemes are actually unaccentable (with the accent assigned by a different mechanism)

My unaccentability is different: there are post-accenting morphemes that are not unaccentable

8.2.2. Unaccentability and the variant pattern

Final stress in PPPs and the variant pattern in the present are independent of each other

An unaccentable unaccented stem and an unaccentable post-accenting stem will produce the same result: "dominant post-accentuation"

So maybe the variant pattern is associated with unaccented stems and the stem-final pattern arises with post-accenting ones, or vice versa?

Problems:

- unaccented/post-accenting athematic stems with no variance
- unaccented/post-accenting athematic stems with variance

There are (only) two athematic stems with the variant pattern:

- (33) a. *-pod.ním-* 'raise':
pod.ním-ú 'will raise.1SG'
pod.ním-e-t 'will raise.3SG'
pod.n'a-l-á 'raised.FSG'
pód.n'a-l-i 'raised.PL'
- b. *-mog-* 'be able':
mog-ú 'am able.1SG'
móž-e-t 'is able.3SG'
mog-l-á 'was able.FSG'
mog-l-i 'were able.PL'

(33a) is unaccented in the past, (33b) is post-accenting

There is only one variant verb in the *-a/-o-* class, *stonáť* 'to moan'. While prescriptive grammars place stress on the ending in the 1sg (*stonú*), it is ineffable, as is the present gerund. The imperative (*stoni*) is okay

Conversely, **no thematic stem exhibits accentual variance in the past**8.2.3. Dominance

Making a root dominant does not help

If it is to get rid of the accent introduced by the thematic suffix, we will just end up with the same accentual classes as athematic verbs have

If it is to get rid of the accent introduced by the present tense morpheme, stem-final stress still needs an explanation

8.2.4. Retraction

Halle 1973, 1975, 1997, Melvold 1990: the so-called **neo-acute stems** require a rule of stress retraction (269 nouns in the plural, some adjectives in the long form, etc.)

Given that all non-nominative plural endings are accented (Halle 1997:282), why are some post-accenting stems stressed on the last syllable of the stem?

(34) unaccented ending	accented ending	(accented) plural ending	
kolbas- ú	kolbas- á	kolbás-ami	a-stem
kazak- ú	kazak- á	kazák-ami	ŭ-stem
koles- ú	koles- á	kolés-ami	o-stem

Melvold 1990:27: there are 20 unaccented nominal stems subject to the same pattern:

(35) unaccented ending	accented ending	(accented) plural ending	
dúš-u	duš- á	dúš-ami	a-stem
ózer-o	—	ozíor-ami	o-stem

Melvold 1990:26-28 discusses post-accenting nouns with retraction in the singular

Also discusses short-form and long-form adjectives and our variant pattern

Analyses also provided in Revithiadou 1999 and Dubina 2012

Key feature: morphological juxtaposition of singular and plural (Alderete 1999, Butska 2002)

There is no obvious contrast here, except for the phonological one, and retraction should not fail before vocalic suffixes, this makes no sense

8.3. **The variant pattern across thematic suffixes**

There are five productive verbal classes in Russian: *-aj-*, *-ej-*, *-a/-i-* (obligatory theme of the suffix *-ow-*), *-nu-* (the semelfactive one), and *-i-*

Only the last two give rise to the variant pattern and only the last one, productively

(36) Accentual interaction with the 2nd conjugation suffix *-i-*

		accented PRES-3SG	accented PRES-1SG	accented PAST-FSG	unaccented PAST-PL
a.	stem (accented): <i>-žal-</i> ‘sting’	žál- <i>u</i>	žál- <i>i-t</i>	žál- <i>i-l-a</i>	žál- <i>i-l-i</i>
b.	post-stem: <i>-govor-</i> ‘speak’	govor- <i>ú</i>	govor- <i>í-t</i>	govor- <i>í-l-a</i>	govor- <i>í-l-i</i>
c.	variant 1sg: <i>-v.lub-</i> ‘enamor’	vľubľ- <i>ú</i>	vľúb- <i>i-t</i>	vľub- <i>í-l-a</i>	vľub- <i>í-l-i</i>

(37) Accentual interaction with the 1st conjugation semelfactive suffix *-nu-*

		accented PRES-3SG	accented PRES-1SG	accented PAST-FSG	unaccented PAST-PL
a.	stem: <i>-top-</i> ‘stomp’	<i>tóp-n-e-t</i>	<i>tóp-n-u</i>	<i>tóp-n-u-l-a</i>	<i>tóp-n-u-l-i</i>
b.	post-stem: <i>-max-</i> ‘wave’	<i>max-n-ⁱó-t</i>	<i>max-n-ú</i>	<i>max-n-ú-l-a</i>	<i>max-n-ú-l-i</i>
c.	variant 1sg: <i>-obman-</i> ‘lie’	<i>obmá-n-e-t</i>	<i>obma-n-ú</i>	<i>obma-n-ú-l-a</i>	<i>obma-n-ú-l-i</i>

The remaining closed verb classes all contain variant verbs

(3) Accentual interaction with the thematic suffix *-ē-* (repeated from above)

		accented PRES-3SG	accented PRES-1SG	accented PAST-FSG	unaccented PAST-PL
a.	accented: <i>-vid-</i> ‘see’	<i>víd-i-t</i>	<i>víž-u</i>	<i>víd-e-l-a</i>	<i>víd-e-l-i</i>
b.	post-stem: <i>-vel-</i> ‘order’	<i>vel-í-t</i>	<i>veli-ú</i>	<i>vel-é-l-a</i>	<i>vel-é-l-i</i>
c.	variant: <i>-vert-</i> ‘spin’	<i>vért-i-t</i>	<i>verč-ú</i>	<i>vert-é-l-a</i>	<i>vert-é-l-i</i>

The thematic suffix *-o/-i-* (an allomorph of *-a/-i-*) only creates variant verbs

The thematic suffix *-a-* has an additional accentual variant (38d) containing five verbs

This pattern characterizes five roots, only the first two of which are non-archaic (Gladney 1995:115 lists four: *-koleb-* ‘rock’, *-kolyx-* ‘sway’, *-alk-* ‘crave’, and some archaic derivatives of *-ím-* ‘have’ (e.g., *vnímáti/vnémlu* ‘heed’, *prínímáti/priémľu* ‘accept’), to which we add the archaic TS variant of *-strad-* ‘suffer’). All are *-a/-i-* verbs

(38) Accentual interaction with the 1st conjugation TS suffix *-a-*

		accented PRES-3SG	accented PRES-1SG	accented PAST-FSG	unaccented PAST-PL
a.	stem (accented): <i>-maz-</i> ‘smear’	<i>máz-e-t</i>	<i>máz-u</i>	<i>máz-a-l-a</i>	<i>máz-a-l-i</i>
b.	post-stem: <i>-smej-</i> ‘laugh’	<i>-smej-ó-t</i>	<i>-smej-ú</i>	<i>smej-á-l-a</i>	<i>smej-á-l-i</i>
c.	variant 1sg: <i>-váz-</i> ‘tie’	<i>váz-e-t</i>	<i>váz-ú</i>	<i>váz-á-l-a</i>	<i>váz-á-l-i</i>
d.	variant present: <i>-koleb-</i> ‘rock’	<i>kolébl̆i-e-t</i>	<i>kolébl̆i-ú</i>	<i>koleb-á-l-a</i>	<i>koleb-á-l-i</i>

Taking variant (38d) as a core case, Melvold 1990 suggests that the accent of a deleted vowel should shift one syllable to the left

Because this doesn’t work for 1sg-variant verbs, she hypothesizes retraction

8.4. Prior proposals

Melvold 1990:291: 1sg-variant roots are post-accenting but marked to undergo retraction in all forms except 1sg (why only there?)

Idsardi 1992:124: retraction is triggered by the present tense marker, which, being deleted in the 1sg, fails to trigger retraction. This means that:

- the imperative (surface [i]) and the present gerund (surface [ja]) suffixes should not contain the present tense suffix
- potential independent evidence: the present gerund (surface [ja]) suffix doesn’t trigger transitive softening (but should it?)

Gladney 1995:114-117 discusses these verbs but does not offer an analysis

Feldstein 2015: retraction happens only with non-vocalic inflectional suffixes (but why?)

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