

RUSSIAN ATHEMATIC VERBS, WITHOUT STRESS (AND WITH)

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1. INTRODUCTION

1.1. The structure of the Russian verb

Borrowing from prior work by Halle 1963, Lightner 1967, self, and Tatevosov:

- | | | | |
|-----|----|--|-------------------|
| (1) | a. | [[[[[PFX + stem] + v] + ASP] + THEME] + TENSE] + AGR] | finite forms |
| | b. | [[[[[PFX + stem] + v] + ASP] + THEME] + TENSE] + PRT] + AGR] | participial forms |
| | c. | [[[[[PFX + stem] + v] + ASP] + THEME] + TENSE] + GER] | gerund forms |
| | d. | [[[[[PFX + stem] + v] + ASP] + THEME] + TENSE] + IMP] | imperative |
| | e. | [[[[[PFX + stem] + v] + ASP] + THEME] + INF] | infinitive |

Illustration:

- (2) [[za-_{PFX} + [[bol-_{pain} + e-_v] + v-_{IMPV}] + aj-_{THEME}] + e-_{PRES}] + m-_{1PL}] ‘we are getting sick’

To be disregarded here:

- Prefixes: can be iterated, unaccented with the exception of the accented *vy-* ‘out’
- Aspectual suffixes: the secondary imperfective *-yv-/-v-/-Ø-* and the semelfactive *-nu-* (both accented, but see Matushansky 2009 on the former)
- Themes: all accented, subject for future work
- Verbalizing suffixes: *-e-*, *-ov-*, etc.

Reason: the fewer pieces, the easier it is to determine what happens with inflection

1.2. Russian yers

Slavic is famous for its abstract vowels (Halle 1959, Lightner 1972, Pesetsky 1979, Halle and Vergnaud 1987, etc.):

- | | | | | |
|-----|----|------------------------|----------------------|-----------|
| (3) | a. | túrk-a ‘Turk.GEN’ | túrok ‘Turk.NOM’ | back yer |
| | b. | osl-á ‘donkey.GEN’ | os’ól ‘donkey.NOM’ | front yer |
| (4) | a. | párk-a ‘park-SG.GEN’ | párk ‘park-SG.NOM’ | |
| | b. | rósl-a ‘stalwart.F.SG’ | rósl ‘stalwart.M.SG’ | |

Russian has two: the front one ([ĩ]) and the back one ([ũ], some people think: [ĩ])

Their vocalization is mostly governed by the yer-lowering rule (cf. Lightner 1965):

- (5) $V_{[+hi, -ATR]} \rightarrow [-high]/__ [\sigma V_{[+high, -ATR]}]$ YER LOWERING

A yer is vocalized if there is a yer in the next syllable. Non-vocalized yers are deleted

Table 1: Russian vowel system

	[i]	[ĩ]	[u]	[e]	[a]	[ĩ]	[ũ]	[ɛ]	[o]
ATR	+	+	+	+	+	-	-	-	-
back	-	+	+	-	+	-	+	-	+
round	-	-	+	-	-	-	+	-	+
high	+	+	+	-	-	+	+	-	-

The ATR distinction (non-contrastive in Modern Russian) is known to correlate with vowel length (also not a feature of Modern Russian)

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1.3. Russian stress

Russian has lexical stress: every morpheme is accentually specified (Garde 1968, Halle 1973, Melvold 1990, Gladney 1995, Garde 1998, Alderete 1999, Feldstein 2015, etc.):

- pre-accenting: e.g., the secondary imperfective suffix *-yv-*, the comparative suffix *-e-* (see Garde 1968:124), the nominalizing suffixes *-stv-*, *-ost'*, *-nik-* (see Dubina 2012:79) etc. (see Lavitskaya 2015:73)
- accented: e.g., most roots, the nominative feminine singular ending *-a-*
- unaccented: e.g., the root *ruk-* 'hand', the accusative feminine singular ending *-u-*
- post-accenting: e.g., the root *korol'* 'king', the actor suffix *-ec-*

(6) 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.

Exceptions to this generalization: a sequence of post-accenting suffixes or multiple dominant suffixes; there the rightmost wins (Garde 1998:126)

Morphemes can also be **dominant**, determining the accent on the stem irrespective of other (preceding) accents (Garde 1968:124, Melvold 1990, Garde 1998:122-124, Alderete 1999)

Pre-accenting morphemes cannot be dominant

Illustration: Russian nominal declension:

	accented nominative feminine singular	unaccented accusative feminine singular
unaccented: <i>zima</i> 'spring'	<i>zim-á</i>	<i>zim-u</i>
accented: <i>lužá</i> 'puddle'	<i>luž-a</i>	<i>luž-u</i>
post-accenting: <i>zar'a</i> 'dawn'	<i>zar'-á</i>	<i>zar'-ú</i>

There are no pre- or post-accenting case endings

1.4. The basic verbal paradigm

Setting aside participles and gerunds

Table 2: Surface forms, first conjugation, zero theme, stress on the stem: *lézt'* 'to climb'

		singular-M/F/N	plural
present	1	<i>léz-u</i>	<i>léz'-em</i>
	2	<i>léz'-eš</i>	<i>léz'-ete</i>
	3	<i>léz'-et</i>	<i>léz-ut</i>
past		<i>léz/léz-l-a/léz-l-o</i>	<i>léz-l-i</i>
infinitive		<i>lézt'</i>	
root		<i>léz-</i>	

The present-tense first-conjugation suffix *-ě-* triggers obligatory palatalization and is realized as [o] under stress

The peculiarities of 1SG and 3PL do not interest us now, see Melvold 1990:83-86

2. RUSSIAN ATHEMATIC VERBS

Closed class (ca. 75 roots)

Standard description of the Russian verbal inflection: **two derivational bases**:

- the present-tense base: present (finite, participles and gerunds), imperative
- the infinitive base: past (finite, participles and gerunds), infinitive

Jakobson's insight (1948 and later work): **the suffixes in the present-tense series are vowel-initial, those in the infinitive series begin with a consonant**

Matushansky 2017: the two series do not differ just in the first segment of the suffix:

- ablaut: both series can trigger ablaut
- an additional vocalic suffix can appear in both series, accounting for certain stress shifts, transitive softening verbs, the behavior of the passive past participle

Irrelevant for now

Because there are no themes between the verbal stem and the inflection, we can determine the underlying accentual properties of the **inflection (all non-dominant)**

2.1. Accented morphemes in the Russian verbal inflection

Some cases are clear (see Garde 1998:333ff, Melvold 1990)

The feminine past-tense suffix (-a-) is accented (identical to the feminine nominative)

Evidence: verbs with variant stress in the past: only the feminine form has final stress)

- (7) *náčal* 'began.MSG', *náčalo* 'began.NSG', *náčali* 'began.PL'
načalá 'began.FSG'

The first-conjugation present-tense suffix (-ě-) is accented

Evidence: verbs with variant stress in the past systematically have stress on the inflection in the present

The reflexive postfix (-sja-/s'-) is accented (behaves like the feminine past-tense suffix, see Garde 1998:338)

Evidence: non-reflexive counterparts with variant stress in the past place the stress on *-sja-* in the masculine forms (retraction in the neuter and plural because of the yer)

For all these verbs there exist variants where non-feminine forms are stressed just before the reflexive suffix

- (8) *načalsjá* 'started.MSG', *načalós'* 'started.NSG', *načalís'* 'started.PL'
načalás' 'started.FSG'

Why the vowel is dropped is a separate issue and probably is not phonological

2.2. Unaccented morphemes in the Russian verbal inflection

Present-tense agreement endings are all unaccented

Natural question: what if it is not the present tense suffix that is accented but rather the agreement endings that are pre-accenting? Evidence to the contrary: stress in the present active and passive participles, present gerunds and the imperative is the same as in the finite forms (barring instances of allomorphy and the effects of a yer)

Verbs with variant stress in the past are unaccented: both alternatives lead to fixed stress

Further evidence: the **retraction of the stress to the prefix** can occur with these verbs and in two special cases: the *-nim-* stem with a consonantal prefix (e.g., *snjat'* (*-sũ.nim-*) 'take off') and the suppletive *-bud-/by-* 'be':

The **retraction of the stress to the preposition** is also the hallmark of unaccented nouns (see Halle 1975, Ukiah 1998, Blumenfeld 2012)

- (9) a. *píl* 'drank.MSG', *pílo* 'drank.NSG', *píli* 'drank.PL'
pílá 'drank.FSG'

- b. *zápil* ‘started drinking heavily.MSG’, *zápilo*.NSG, *zápili*.PL’
zopilá.FSG’

Retraction of the stress to the prefix can be optional and may depend on the prefix (a lexical property of the combination)

The non-feminine past-tense suffixes (-o-, -i- and -Ø-) are unaccented (identical to gender defaults for nominative)

So far so good, these cases are clear. But then we see less clear cases

2.3. Intermediate summary

We now have the diagnostic tools necessary for determining the accentual properties of stems and suffixes in the Russian conjugation:

- the past tense: the feminine suffix *-a-* is accented and all other agreement suffixes are unaccented, allowing the diagnosis of unaccented material to the left
- uniform stress on the inflection in the past tense can only be caused by a post-accenting stem
- because the present-tense suffix *-ě-* is accented, uniform stress on the stem can only be caused by an accented stem

All suffixes examined so far are non-dominant (Melvold 1990: general property of Russian inflection)

Remaining suffixes : the past-tense *-l-*, the infinitive [ti]/[t’], the imperative suffix [i]/[i’]

3. ACCENTUAL VERB CLASSES: RULES AND DEFAULTS

So far our composition has been mechanical. Yet sometimes the accentual behavior of the whole does not directly follow from the accentual behavior of the parts

Four observable stress patterns for athematic stems (cf. Halle 1973:326, Melvold 1990:80):

- (i) stem stress in the present and past series (**accented**, Melvold’s class A)
- (ii) inflection stress in the present, shifting stress (on the stem except with *-a-*) in the past (**unaccented**, Melvold’s class C)
- (iii) inflection stress in the present, stem stress in the past/infinitive (**post-accenting with retraction in the infinitive series**, Melvold’s class B’)
- (iv) inflection stress in the present and infinitive series, two sub-kinds:
 - a. the infinitive in *-ti-* (not discussed by Melvold)
 - b. the infinitive in *-t’-* (**post-accenting**, Melvold’s class B)

Some exceptions, but they all involve ablaut or suppletion

3.1. The simple cases: (i), (ii)

Accented stems are easy to diagnose: they have stem stress in the entire paradigm

- nine glide-final stems (class 12 of Zaliznjak 1980, with the exception of *gnit’* ‘to rot’ and *pet’* ‘to sing’ (*-pěj-*),): *brit’* ‘to shave’ (*-brīj-*); *vīt’* ‘to howl’ (*-vīj-*), *dut’* ‘to blow’ (*-duj-*); *krīt’* ‘to cover’ (*-krīj-*); *mīt’* ‘to wash’ (*-mīj-*), *nīt’* ‘to whine’ (*-nīj-*), *obút’* ‘to shoe’ (*-obuj-*), *póčīt’* ‘to pass away’ (*-počij-*), *rīt’* ‘to dig’ (*-rīj-*);
- four nasal-final stems: *det’* ‘to get’ (*-de-n-*), *stat’* ‘to become’ (*-sta-n-*), *-strjat’* ‘to stick’ (*-strja-n-*), *stīt’* ‘to be cold’ (*-stī-n-*). Could be *-nu-* final and non-athematic
- two obstruent-final stems: *lezt’* ‘to climb’ (*-lez-*), *sest’* ‘to sit down’ (*-sēd-*)

Garde includes in this class also *bit'* 'to beat' (-*bĭj*-), *šit'* 'to sow' (-*šĭj*-), *teret'* 'to rub' (-*tĭr-ě*-), *mjat'* 'to knead' (-*mĭn*-), *raspjat'* 'to crucify' (-*ras.pĭn*-), *prosteret'* 'to extend' (-*pro.s.tĭr-ĭ*-), *žat'* 'to reap' (-*žĭn*-), *žat'* 'to press' (-*žĭm*-), but these have stress on the inflection in the present tense (perhaps because they contain a yer)

Unaccented stems can be recognized by having inflection stress in the present (because the present-tense suffix is accented) and variant stress in the past (on the accented feminine suffix -*a*- and on the leftmost syllable of the stem for all non-feminine forms):

- six glide-final stems: *pit'* 'to drink' (-*pĭj*-), *lit'* 'to pour' (-*lĭj*-), *žit'* 'to live' (-*zĭw*-), *gnit'* 'to rot' (-*gnij*-), *plit'* 'to swim' (-*plĭw*-), and *slit'* 'to be known as' (-*slĭw*-)
- nasal-final stems: *načat'* 'to begin' (-*na.čĭn*-), *donjat'* 'to irritate' (-*do.nĭm*-), *vzjat'* 'to take' (-*vz.jĭm*-), *kljast'* 'to curse' (-*klĭn*-)
- two liquid-final stems: *umeret'* 'to die' (-*u.mĭr-ĭ*-), *zaperet'* 'to lock' (-*za.pĭr-ĭ*-)
- two obstruent-final stems: *klast'* 'to put' (-*klad*-), *prjast'* 'to spin' (-*prjad*-)

Garde has a much larger class, including here almost everything that I consider post-accenting

No apparent phonological regularities separating these classes

3.1.1. The past-tense suffix -l-

The systematic distinction between feminine and non-feminine endings in the past argues that **the past-tense suffix -l- is unaccented** (assuming BAP). Confirmed by Melvold 1990

Garde 1998:333: the past-tense suffix is unaccented after sonorant stems and post-accenting after non-sonorant ones.

This can be only checked with unaccented stems ((i), Melvold's class A), and there it behaves as if it is unaccented irrespective of the final consonant (e.g., -*gnij*- 'rot' (*gnijú*.PRES.1SG, *gníli*.PAST.PL, *gnílá*.PAST.FSG) vs. -*klad*- 'put' (*kladú*.PRES.1SG, *kláli*.PAST.PL, *klalá*.PAST.FSG))

Conversely, the verbs that behave as if -*l*- is pre-accenting (inflection stress in the present, stem stress in the past) have both sonorant-final (e.g., -*šĭj*- 'sow': *šjú*.PRES.1SG, *šĭli*.PAST.PL, *šĭla*.PAST.FSG) and obstruent-final (e.g., -*strig*- 'cut (of hair)' (*strigú*.PRES.1SG, *strígli*.PAST.PL, *strígla*.PAST.FSG) stems

3.1.2. The imperative [i]/[ĭ]

The underlying representation is -*i*- and it is underlyingly accented

Halle 1973:329: -*i*-. However, it never triggers transitive softening (Morris Halle, p.c.)

Evidence: the stress is on the stem only with accented stems, so no yer-retraction

The non-accented verbs with stress on the stem in the imperative are:

- unaccented: *lit'* 'to pour' (-*lĭj*-), *pit'* 'to drink' (-*pĭj*-)
- others: *bit'* 'to be' (-*bud*-/-*bĭ*-), *vit'* 'to weave' (-*vĭj*-), *dat'* 'to give' (-*dad*-/-*da*-), *leč'* 'to lie down' (-*ljag*-/-*leg*-), *šit'* 'to sow' (-*šĭj*-),

These verbs fall into two classes: (i) verbs where the stress on the imperative suffix would give rise to the sequence [Cjĭ] (i.e., glide-final stems) and (ii) three exceptional verbs where the present-tense stem is subject to allomorphy (-*bud*-/-*bĭ*-, -*dad*-/-*da*-) or ablaut (-*ljag*-/-*leg*-) and shows heteroclite behavior

For all non-accented athematic verbs not in this list, the imperative suffix is realized as [ĭ] and bears stress

For accented thematic stems see Halle 1973:329, Garde 1998:317, Antonenko 2012: the suffix is realized as [i] if the phonological zero would have resulted in a sonority-violating consonant cluster

The accented prefix *-vi-* bears surface stress but does not affect the imperative form

3.2. Post-accenting stems

Expected: stress on the inflection in the entire paradigm (class (iv)-a, cf. Halle 1973:326):

- 17 dental-final stems: *bljustí* 'to guard' (*-bl'ud-*), *brestí* 'to plod' (*-brěd-*), *vezťí* 'to transport' (*-věz-*), *vestí* 'to lead' (*-věd-*), *gnestí* 'to oppress' (*-gnět-*), *mestí* 'to sweep' (*-mět-*), *obrestí* 'to find' (*-ob-rět-*), *plestí* 'to weave, braid' (*-plět-*), *nestí* 'to carry' (*-něs-*), *pastí* 'to shepherd' (*-pas-*), *polztí* 'to crawl' (*-polz-*), *rassvestí* 'to dawn' (*-ras.svět-*), *rastí* 'to grow' (*-ros-*), *trjastí* 'to shake' (*-tr'as-*), *cvestí* 'to bloom' (*-cvět-*), *grjastí* 'to approach' (*-grjad-*), *gustí* 'to drone' (*-gud-*)
- 3 labial-final stems: *jetí* 'to fuck (archaic)' (*-jěb-*), *grestí* 'to row' (*-grěb-*), *skrestí* 'to scrub' (*-skrěb-*)
- 1 suppletive dental-final stem: *idtí* 'to go' (*-jíd-/šěd-/xod-*)

All of these stems are obstruent-final

The phonological change responsible for the transformation of various consonants into [s] will be discussed later

Being obstruent-final, however, does not entail belonging to this class

Final stress in the entire paradigm (class (iv)-b), but the infinitive is in *-t'*:

- 8 velar-final stems: *tolóč'* 'to pound' (*-tolŭk-*), *beréc'* 'to protect' (*-bereg-*), *vleč'* 'to attract' (*-vlěk-*), *volóč'* 'to pull' (*-volok-*), *žec'* 'to burn' (*-žig-*), *peč'* 'to bake' (*-pěk-*), *seč'* 'to flog' (*-sěk-*), *steréc'* 'to guard' (*-stereg-*)
- 1 dental-final stem: *čest'* 'to respect' (*-čīt-*)

They are all but one velar-final and class (iv)-a contains no velar-final verbs

Halle 1973: one class (iv), includes a few verbs that have the theme *-a-* in the infinitive series

To understand what is going on it is necessary to determine the underlying properties of the infinitive suffix:

- the underlying accentuation: accented (see Melvold 1990)
- the underlying representation: /ti/ or /tī/

Observed: two classes in function of the infinitive

To understand the situation we need to learn about stress retraction in Russian

4. STRESS RETRACTION PHENOMENA IN RUSSIAN INFLECTION

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?

(10) unaccented ending	accented ending	(accented) plural ending	
kolbas- <i>ú</i>	kolbas- <i>á</i>	kolbás-ami	a-stem
kazak- <i>ú</i>	kazak- <i>á</i>	kazák-ami	ŭ-stem
koles- <i>ú</i>	koles- <i>á</i>	kolěs-ami	o-stem

Melvold 1990:27: observes 20 unaccented stems subject to the same pattern:

(11) unaccented ending	accented ending	(accented) plural ending	
dúš-u	duš- <i>á</i>	dúš-ami	a-stem
ózer-o	—	ozěr-ami	o-stem

Also discusses short-form and long-form adjectives and **second conjugation verbs**

Analyses also provided in Revithiadou 1999 and Dubina 2012

Russian is hypothesized (since Halle 1973, 1975, 1997, Melvold 1990) to have another stress retraction process related to yers: when a yer is accented, the accent shifts to the left (taken as evidence for trochaic feet by Revithiadou):

- (12) a. korol'-ŭ → kor^ól' 'king.NOM' post-accenting stem with a yer
 korol'-a → korol'^á 'king.GEN'
- b. polotín-o → polotn^ó 'sheet of fabric.NOM' same, with stress retraction in the plural
 polotín-ŭ → pol^óten 'sheet of fabric.PL.GEN'

Contrary to the description in Halle 1997, (12b) should involve yer-related stress retraction followed by plural-related stress retraction, because in other cases (in derivation) a vocalized yer does not trigger stress retraction, viz., dín'-ŭ → d^{én}' 'day', dín'-ŭk-ŭ → den'^{ók} 'day-DIM', dín'-ŭk-ŭk-ŭ → den'^{óček} 'day-dim-DIM'. Halle himself discusses the case of the post-accenting /l'ubŏv'/ 'love', which surfaces as l'ubv^í with the unaccented genitive ending -i- but as l'ub^{óv}' with the unaccented nominative ending -ŭ- rather than *l'úbov', as would be expected if the yer of the stem triggered further stress retraction, similarly to (12b). However, for the accented instrumental plural ending -ami- the opposite order of rule application is both described and necessary. So something strange is going on

Unquestionable: in all cases of a word-final yer post-accenting stems surface with final stress

The existence of a lexically triggered stress retraction process permits an explanation of what happens in Melvold's classes B and B' (our (iii) and (iv)-b)

4.1. The infinitive [ti]/[t']

The underlying representation is -tŭ- (see also Halle 1973)

Evidence: yer-lowering in yer-containing stems:

- (13) a. -tolŭk- 'pound': tol^{kú} 'pound.1SG' vs. tol^{óč}' 'to pound'
 b. -žŭg- 'burn': ž^{gú} 'burn.1SG' vs. ž^{ěč}' 'to burn'
 c. -čŭt- 'respect': č^{tú} 'respect.1SG' vs. č^{est}' 'to respect'
 d. -tŭr-ŭ- 'rub': tr^ú 'rub.1SG' vs. ter^{ét}' 'to rub'

This doesn't happen in the imperative, so their vowels should be underlyingly different:

- (14) a. -tolŭk- 'pound': tol^{kí} 'pound.IMP' vs. tol^{óč}' 'to pound'
 b. -žŭg- 'burn': ž^{gí} 'burn.IMP' vs. ž^{ěč}' 'to burn'
 c. -čŭt- 'respect': č^{tí} 'respect.IMP' vs. č^{est}' 'to respect'
 d. -tŭr-ŭ- 'rub': tr^í 'rub.IMP' vs. ter^{ét}' 'to rub'

The suffix is accented, yet the yer triggers stress retraction (Halle 1973, 1975, 1997, Melvold 1990, Garde 1998:321)

Evidence: unaccented stems all have final stress in the infinitive (if -tŭ- were unaccented, the stress would be initial sometimes; if it were post-accenting, the postfix [sja]/[s'] would always be stressed; if it were pre-accenting, it would never bear stress itself)

And there is no stress retraction to the prefix in the infinitive for verbs that are subject to it in the past:

- (9) c. z^ápil 'started drinking heavily.MSG', z^ápilo.NSG, z^ápili.PL'
 zap^{ít}' 'to start drinking heavily'

The expected picture for the infinitive is then the surface [t'] ending and the accent shifted to the preceding syllable, i.e., verbs in (iv)-a are exceptional

4.2. Stress retraction in verbs

Melvold 1990 argues that verbs in (iii) with inflection stress in the present and stem stress in the past/infinitive have underlyingly **post-accenting stems that undergo stress retraction in the infinitive series**:

- 4 glide-final stems: *bit'* 'to beat' (-*běj*-), *vit'* 'to weave' (-*věj*-), *pet'* 'to sing' (-*pěj*-), *šit'* 'to sow' (-*šěj*-),
- 4 nasal-final stems: *žat'* 'to reap' (-*žin*-), *žat'* 'to press' (-*žim*-), *mjat'* 'to knead' (-*mīn*-), *raspjat'* 'to crucify' (-*ras.pīn*-),
- 1 -*nu*-stem: *gnut'* 'to bend' (-*gūb.nu*-, Garde lists it as athematic but it likely isn't)
- 3 dental-final stems: *grīzt'* 'to gnaw' (-*grīz*-), *krast'* 'to steal' (-*krad*-), *past'* 'to fall' (-*pad*-)
- 2 liquid-final stems: *teret'* 'to rub' (-*tīr-ī*-), *prosteret'* 'to extend' (-*pro.s.tīr-ī*-)
- 1 velar-final stem: *strič'* 'cut (of hair)' (-*strig*-)

Halle 1973 includes *idīf* 'to go' (-*jīd*-/-*šēd*-/-*xod*-) here

These are lexically marked to undergo stress retraction in the infinitive series, no underlying phonological generalization about them

4.3. Infinitival lengthening

Given that the infinitive is underlyingly -*tī*-, (iv)-b is what is expected to be the default.

(15) What is special about (iv)-a?

- no verb in (iv)-a ends in a velar, the [st'] consonant cluster is created
- all verbs in (iv)-b end in a velar, where the [Ct] complex is converted into a single segment (č). One exception: *čest'* 'to respect' (-*čīt*-)

The infinitival sequence [st'] is not prohibited:

- two accented stems in (i): *lezt'* 'to climb' (-*lez*-), *sest'* 'to sit' (-*sēd*-)
- two unaccented stems in (ii): *klast'* 'to put' (-*klad*-), *prjast'* 'to spin' (-*prjad*-)
- three stems in (iii): *grīzt'* 'to gnaw' (-*grīz*-), *krast'* 'to steal' (-*krad*-), *past'* 'to fall' (-*pad*-)
- **one stem in (iv)-b: *čest'* 'to respect' (-*čīt*-)**

(iv)-b is what is expected in the post-accenting class

The question then must be asked in the opposite way: **why is the yer lengthened in (iv)-a?**

This is not a random lexical lengthening rule: none of these stems ends in a velar (15)

Vague intuition: they are characterized by two sources of accent on the infinitive suffix: from the suffix itself (it is accented) and from the post-accenting stem

- no lengthening when the [Ct] complex is converted into a single segment (č)
- or when the stem contains a yer (the timing slot of the infinitive suffix is attached to the stem yer? Cf. Slovak lengthening phenomena discussed in Kenstowicz and Rubach 1987)

What happens to the final consonant of the stem before -*tī*- and how does it affect stress?

4.4. Intermediate summary

Four accentual classes for verbs: the three expected suspects and the post-accenting stem with stress retraction in the past

To determine the accentual properties of an athematic verb stem compare three forms: PRES, PAST-F (accented) and PAST-PL (unaccented). If the accented PRES and PAST-F forms behave differently, there is stress retraction

Table 3: Athematic verb accentual classes

example	PRES.1SG	PAST.F	PAST.PL	accentual class
<i>lezt'</i> 'to climb' (-lez-)	stem: lézu	stem: lézla	stem: lézli	accented
<i>klad'</i> 'to put' (-klad-)	inflection: kladú	inflection: klalá	stem: kláli	unaccented
<i>vestí'</i> 'to lead' (-věd-)	inflection: vedú	inflection: velá	inflection: velí	post-accenting
<i>krast'</i> 'to steal' (-krad-)	inflection: kradú	stem: krála	stem: králi	PA + retraction

Stress retraction in the past is a lexical property of the stem

Temporarily suspended issues:

- What happens to the infinitive yer in the post-accenting class?
- How do consonantal changes affect accent placement?

How is stress retraction achieved formally and how does it happen with yers?

Why is stress retraction unattested with unaccented or accented verbal stems? (Perhaps, not enough place to retract the stress: they are all monosyllabic)

5. THE SECOND CONJUGATION AND NON-1SG RETRACTION

Halle 1973, Melvold 1990: the present tense accentuation is not uniform for some verbs

- Halle 1973: *moč'* (-mog-) 'be able to', *gnat'* (-gŭn-) 'chase', *srat'* (-sŭr-) 'shit' (in its non-standard conjugation variant with the stem [ser]), *stlat'* (-stěl-) 'spread the bed', *porot'* (-poro-) 'unstitch/whip', *molot'* (-molo-) 'grind', *kolot'* (-kolo-) 'stab'

For all of these verbs the 1SG form is accented on the inflection and the rest, on the ending

In the past all of these verbs but the first contain a theme vowel that clearly affects the accentuation, so we will set it aside for now

Second conjugation verbs can also be subject to stress retraction in all persons of the present tense, except 1SG

5.1. The second conjugation paradigm

Unlike in the first conjugation, where the present tense suffix is -ě-, in the second conjugation it is -i-

How do we know?

There are two types of verbs in the second conjugation: those with an infinitive in [it'] and those with an infinitive in [et'] (turning into [at'] after sibilants)

Table 4: Surface forms, second conjugation: *dojít'* 'to milk' vs. *gorét'* 'to burn'

		singular-M(F/N)		plural	
present	1	doj-ú	gor'-ú	dój-i-m	gor-í-m
	2	dój-i-š	gor-í-š	dój-i-te	gor-í-te
	3	dój-i-t	gor-í-t	dój-a-t	gor'-á-t
past		doj-í-l(a/o)	gor-é-l(a/o)	doj-í-l-i	gor-é-l-i

Setting stress aside: -i- is uniform in the present tense, -i- vs. -e- in the infinitive series

Lots of interesting things happening:

- the fate of the theme vowel (-i- vs. -e-) in the present tense
- the fate of the present tense suffix in the 1SG and 3PL
- the stress contrast between 1SG and everything else
- the accentual properties of -i- (strange) vs. -e- (uniformly accented)

Two accentual patterns in the past tense: stress on the stem or stress on the theme vowel

The lack of the variant pattern in the past tense (F.SG vs. other) shows that second conjugation theme vowels are accented

(16) Three accentual patterns in the present tense (vs. other):

- | | | |
|----|---|-------------------|
| a. | stress on the stem | stem stress |
| b. | stress on the inflection in the 1SG, stress on the stem elsewhere | variant stress |
| c. | stress on the inflection | inflection stress |

They are all attested for (the closed class of) -e- verbs (Garde 1998:372):

- | | | |
|---------|---|-------------------|
| (17) a. | <i>vídel</i> 'see.PAST.M' / <i>vížu</i> 'see.1SG' / <i>vídít</i> 'see.3SG'
also: <i>obídet</i> 'offend.INF', <i>zavíset</i> 'depend.INF', <i>slíšat</i> 'hear.INF' | stem stress |
| b. | <i>vertél</i> 'turn.PAST.M' / <i>verčú</i> 'turn.1SG' / <i>vértít</i> 'turn.3SG'
also: <i>deržát</i> 'hold.INF', <i>smotrét</i> 'look.INF', <i>terpét</i> 'suffer.INF' | variant stress |
| c. | <i>zven'él</i> 'ring.PAST.M' / <i>zven'ú</i> 'ring.1SG' / <i>zven'ít</i> 'ring.3SG'
the rest of the verbs in this group | inflection stress |

For (the open class of) -i- verbs all these patterns are productive (see Red'kin 1965, Zaliznjak 1985:106-108)

5.2. The derivation of the present tense

Melvold 1990:270: the theme vowel remains in the present tense

Also discusses a sub-class of a-verbs with transitive softening, which we set aside for now

Table 5: present, underlying forms, second conjugation

		stem-theme-PRES-AGR.SG	stem-theme-PRES-AGR.PL
present	1	√-ē/i-i-u	√-ē/i-i-mĕ
	2	√-ē/i-i-šĕ	√-ē/i-i-te
	3	√-ē/i-i-tĕ	√-ē/i-i-nt

The 1SG ending differs from all others in being vocalic and [+back]

The 1SG ending is historically -m- (still observable in two irregular verbs, -jed- 'eat' and -dad- 'give'), but this is irrelevant for now. The transformation of the PRES-3PL suffix into [at] can be independently motivated

Melvold 1990: for vowels not sharing the feature [back] (as in 1SG) vowel hiatus resolution involves glide formation (independent evidence) as opposed to vowel deletion, which affects accentuation differently

5.2.1. Transitive softening

Transitive softening, a.k.a. iotation in Slavic languages and in Russian in particular (Jakobson 1929, Meillet 1934, Kortlandt 1994, Townsend and Janda 1996, among others; see Halle 1963, Lightner 1972, Coats and Lightner 1975, Bethin 1992 and Brown 1998 for generativist

analyses of the phenomenon) is the term used for a special type of consonant alternation, as illustrated below:

- (18) a. lov-*í*-t' → lov[*l'*]-*ú*
 catch-V-INF → catch-PRES.1SG
to catch *I catch*
- b. raz-gruz-*í*-t' → raz-gruz[*ž*]-*ú* → raz-gruz[*ž*]-*á*-t'
 PRF-offload-V-INF PRF-offload-1SG PRF-offload-V.IMPRF-INF
to offload-PRF *I will offload (PRF)* *to offload-IMPRF*

Historically transitive softening ensues from the mutation of the sequence [Cj] (see Lightner 1972, Bethin 1992, etc.)

The alternation is highly idiosyncratic and consonant-specific:

- velar and alveolar obstruents alternate with the post-alveolar /š, ž, č/
- labials are augmented with a palatalized /l'/
- the palatal glide j is unchanged
- all other consonants alternate with their palatalized counterparts

Table 6: Transitive softening

C	transitive softening	infinitive	1SG
s, z	š, ž	<i>pros-í-t'</i> 'to beg'	<i>proš-ú</i> 'beg-1SG'
t, d	č, ž	<i>bud-í-t'</i> 'to awaken'	<i>buž-ú</i> 'awaken-1SG'
x, k, g	š, č, ž	<i>druž-í-t'</i> 'to be friends' (- <i>drug</i> -)	<i>druž-ú</i> 'am friends'
p, b, m, v	pl' bl', ml', vl'	<i>l'ub-í-t'</i> 'to love'	<i>l'ubl'-ú</i> 'love-1SG'
l, r, n	l', r', n'	<i>bel-í-t'</i> 'to whiten, tr.'	<i>bel'-ú</i> 'whiten-1SG'

The high vowel of the theme:

- turns into a glide before a back vowel in 1SG (she assumes null PRES in 1SG)
- is deleted before another front vowel in all other cells

For Halle and Melvold this does not affect stress placement; the accentual pattern in (16b) is derived via stress retraction in the context of a post-accenting stem

5.2.2. Theme-present interaction

There are no second-conjugation verbs that exhibit stress alternation in the past, as in (ii)

In the present tense only two patterns are expected: (16a) (where the lexical stem is accented) and either variant (16b) or inflectional (16c) stress

(16b) can be derived from (16c) by assuming retraction, but **retraction must be triggered by the lexical stem – locality is violated** because there is the theme suffix

Two alternatives:

- no theme suffix in the present tense
- the theme suffix is systematically deleted and its accent is deleted with it

Evidence against the former: stress shifts in denominal verbs

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

(19) accented nouns

- a. *razžálobl'ú razžálobit* 'move to pity' (cf. *žáloba* 'complaint') stem

- b. *bešú/bésit* ‘enrage.1SG/3SG’ (cf. *bésa/bésov* ‘devil.SG.GEN/PL.GEN’) variant
 c. *otozdestvl’ú/otozdestvít* ‘identify.1SG/3SG’ (cf. *tózdestvo* ‘identity’) inflection
- (20) post-accenting nouns
- a. *jéžžu/jéždit* ‘ride.1SG/3SG’ (cf. *jezdá/jezdú* ‘ride.NOM/ACC’) stem
 b. *žen’ú/žénit* ‘marry.1SG/3SG’ (cf. *žená/ženú* ‘wife.NOM/ACC’) variant
 c. *strujú/struít* ‘stream.1SG/3SG’ (cf. *strujá/strujú* ‘stream.NOM/ACC’) inflection
- (21) unaccented nouns
- a. *kn’ážu/kn’ážit* ‘reign.1SG/3SG’ (cf. *kn’áža/kn’azěj* ‘harrow.SG.GEN/PL.GEN’) S
 b. *poručú/porúčit* ‘entrust.1SG/3SG’ (cf. *ruká/rúku* ‘hand.NOM/ACC’) R
 c. *boron’ú/boronít* ‘harrow.1SG/3SG’ (cf. *boroná/bóronu* ‘harrow.NOM/ACC’) I

Of the unproductive classes above the most widespread is the variant one (b)

Stress shifts either to the ending (dominant *-i-*) or to the **final vowel of the stem** (Zaliznjak’s Deox, specifically for nouns containing post-accenting suffixes):

- (22) a. *ribák, ribaká* ‘fisher’ → *ribáčit* ‘to fish’
 b. *slésar’, slésaréj* ‘metalworker.SG.NOM/PL.GEN’ → *slesárit* ‘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

Summary: the suffix *-i-* is accented. Derivation can give rise to four events:

- accent faithfulness: productive, with subsequent S or I patterns
- dominance: pre-accentuation by *-i-* (not the same as retraction!)
- dominance: accentuation of *-i-*
- dominance: variant accentuation of *-i-*

Sporadic accentual dominance is not a special property of *-i-*, Halle 1973:346 notes the same for the accented deadjectival inchoative suffix *-ej-*

6. THEORETICAL ISSUES TO RESOLVE

6.1. Russian yer analyses

Lightner 1972: no theory of why

Rubach 1986, Kenstowicz and Rubach 1987: stable vowels are linked to an X-slot in their underlying representation, whereas yer vowels are unlinked

Szpyra 1992: yers are timing slots without features. Impossible for Russian

Yearley 1995: same, a yer is not vocalized, unless its vocalization eliminates a coda cluster

Melvold 1990 divides yers into three types: X-slots without features, features without an X-slot, and features and an X-slot not linked to each other

Scheer 2001, 2005, 2006, 2011, 2019: in the framework of government phonology

Gouskova 2012: it is not yers that are special, but the morphemes that contain them

Also a lot of work on Polish yers, which are different (there is only one; there is epenthesis): Gussmann 1980, Czaykowska-Higgins 1988, Szpyra 1992, Jarosz 2006, Rysling 2016, etc.)

6.2. Hiatus resolution and associated accents

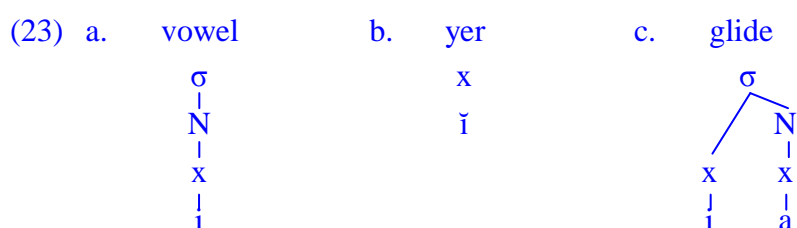
Whatever causes dominant stress shifts must remain in the present tense

Variant accentuation only happens in the present tense in non-1SG, where there is no glide formation: **stress remains on the inflection when a glide is formed, and is retracted when its segmental support is deleted altogether**

Varieties of hiatus resolution:

- glide insertion (irrelevant here)
- glide formation: the first vowel turns into a glide
- deletion: the first vowel is deleted
- coalescence

Accepted view (Selkirk 1982, Kaye and Lowenstamm 1984, Steriade 1984, Levin 1985, Rosenthal 1994, etc.): glides are vowels parsed as non-nuclei (but see Levi 2008, Nevins and Chitoran 2008, Padgett 2008):



If yers are non-moraic, how can there be feet associated to yer-containing morphemes?

Possible answers:

- foot structure is linked to a morpheme (cf. Gouskova 2012 for yers as exceptional morphemes)
- foot structure can be linked to featural specification without the intermediary of a mora, maybe even to a consonant (which could force pre- or post-accentuation in function of syllabification)

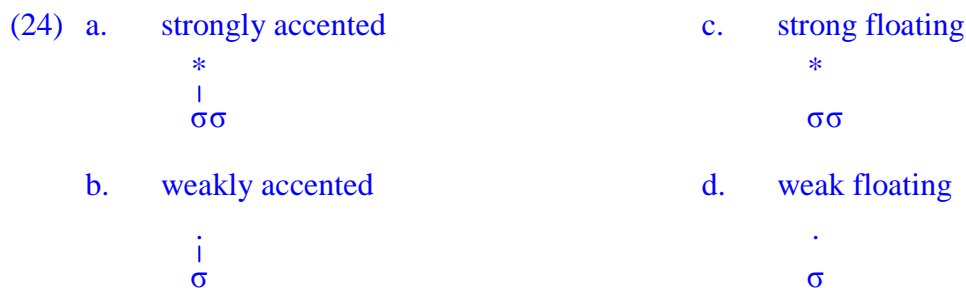
Glide formation means that the skeletal slot (mora) associated with this featural specification becomes an onset of the next syllable → the accent should become associated to that syllable

Vowel deletion means that the skeletal slot (mora) associated with it disappears altogether

6.3. Pre- and post-accentuation

How is accent associated to a suffix?

Revithiadou 1999:49: strong or weak accent association or floating:



Where a floating lexical accent attaches depends on the core foot structure in the language (in Greek, it is trochaic, a pre-accenting suffix is specified as weakly accented, and so the head of the foot lands on the root). But then the issue of morphological headedness comes in...

Revithiadou 1999 assumes that Russian has no pre-accenting morphemes, which is wrong

Is it possible to assume that what is associated to a morpheme (or a segment) is the entire foot (linked via its head or its tail)?

Or else: is it possible to assign floating accents to one direction while obtaining the opposite direction via weak accentuation (i.e., e.g., weak accentuation entails post-accentuation, but when a weak accent is floating this leads to pre-accentuation)? What happens then to a strong floating accent?

Is the resulting system too powerful?

6.4. Retraction theories

Halle 1997: a set of 269 specially marked stems acquire an additional accent just before the plural non-nominative ending (no retraction, simply another accent is inserted)

Melvold 1990: Technically, a rule shifting the stress one syllable to the left

Yet Melvold 1990:27 observes 20 unaccented stems subject to the same pattern. Is it incidental that the suffix is accented? For verbs PRES is not...

Revithiadou 1999:235ff.: certain post-accenting or unmarked roots become accented in the plural (and the accent is obligatorily root-final because Russian has the default trochaic foot) due to head-attraction: the need to align stress with the morphological head

From the POV of syntax or morphology, it is not the root that is the head. Maybe she means toot-faithfulness

Plausible hypothesis: non-segmental or, better still, yer-containing stem augment in the plural – but what about verbs?

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