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THEMATIC NON-UNIFORMITY OF RUSSIAN VOCALIC VERBAL SUFFIXES
Theme vowels in V(P) Structure and beyond (ThV2021), University of Graz, April 22-23, 2021

1. BETWEEN STEM AND TENSE

The Russian verb may contain additional morphology between the lexical stem and tense:

(1) a. [[[[[PRFX + [stem + v]] + ASP]+ THEME] + TENSE] + AGR]

b.
pere-	-start-	ov-	ɨv-	a-	e-	t
over	start	V	IMPF	TH	PRES	3SG

is restarting

c.
lez-					e-	t
climb					PRES	3SG

is climbing/climbs

Most Russian verbs are not athematic: the stem ends in a vowel, which can be seen in the past tense forms and in the infinitive:

(2)
	PRES.1SG	PRES.2SG	PAST.FSG	INF		
a.	léz-u	léz-e-š'	léz-l-a	léz-t'	'climb'	Ø
b.	čit-áj-u	čit-áj-e-š	čit-á-l-a	čit-á-t'	'read'	a(j)
c.	bel-éj-u	bel-éj-e-š	bel-é-l-a	bel-é-t'	'be white'	e(j)
d.	to-n-ú	tó-n-e-š'	to-nú-l-a	to-nú-t'	'sink'	(n)u
e.	kol'-ú	kól-e-š	kol-ó-l-a	kol-ó-t'	'stab'	o
f.	smol'-ú	smol-í-š'	smol-í-l-a	smol-í-t'	'tar'	i
g.	gor'-ú	gor-í-š'	gor-é-l-a	gor-é-t'	'burn'	e

All these verbal classes except (a), (e) and (g) are productive

The attribution of various suffixes to *v*, aspect or theme is contentious

Hypothesis: *v* and Asp^0 introduce event arguments, TH has no semantics and appears between the verb and tense (or participial suffixes)

2. PATTERNS OF VERB-FORMATION

For some suffixes (*-iz-*, *-ir-*, *-iz-ir-* + *-ov-*) there is no issue:
Though Jabłońska 2004 and Svenonius 2004 treat the Polish *-owa-* as a single complex theme suffix

(3) a. kiks-ov-á-t' 'to produce a false musical note' (from *kiksá* 'a false note')
b. kipeš-ev-á-t' 'to make a fuss' (from the noun *kípeš* 'fuss, noise')
c. kislót-stv-ov-a-t' 'to lead the life of a raver' (from *kislotá* 'rave')
d. kis-ov-á-t'-sja 'to kiss (each other)' (from 'kiss')

(4) a. programm-ír-ov-at' 'to program'
b. social-iz-ír-ov-at' 'to socialize'
c. real-iz-ov-á-t' 'to realize'

If the suffix *-ov-* is a verbalizer, then the suffix *-a-* that follows it is a theme
We know this, because in the present tense the suffix *-ov-* is followed by another theme, *-i-* or *-j-*, see Melvold 1990 (contra Lightner 1965, 1967, who just inserts the extra [j] in these cases and postulates some readjustment rules)

2.1. The glide-forming -*a*- theme

-*a*- can be a theme for non-derived verbs, too
This -*a*- is not the same as the one in (3)-(4). More on this below

(5) a. rɨd-a-t' 'to sob'
   b. meš-a-t' 'to mix, to bother'

And in secondary imperfectives:

(6) a. ob-liz-<u>iv</u>-**a**-t' 'to lick all over' _{IMPF} ⇐ ob-liz-a-t' 'to lick all over' _{PRF}
   b. pod-taj-<u>iv</u>-**a**-t' 'to begin to melt' _{IMPF} ⇐ pod-taj-a-t' 'to begin to melt' _{PRF}

Characterizing property: glide-insertion in the present tense (before a front vowel):

(7) a. ob-liz-<u>iv</u>-**aj**-e-t' 'licks all over' _{IMPF} ob-liz-<u>iv</u>-**a**-l 'licked all over' _{IMPF.MSG}
   b. pod-taj-<u>iv</u>-**aj**-e-t' 'begins to melt' _{IMPF} pod-taj-<u>iv</u>-**a**-l 'began to melt' _{IMPF.MSG}

There is no obvious semantic contribution associated to this -*a*- and it follows Asp

2.2. Stems in -*nu*-

These suffixes are not vocalic

There are two classes of verbs with stems ending in -*nu*-. One is unproductive and contains some 40 verbs (Garde 1998:368), which are for the most part **inchoative** (indicating a change of state) and imperfective. In the other class, the phonological sequence -*nu*- is productively used to form **semelfactive** verbs:

(8) a. pere dox n ú t'
     over breathe **SMLF** TH INF
     to take a breather

   b. pere dóx n u t'
     over breathe **INCH** TH INF
     to all die/croak

Importantly, the two suffixes are **phonologically distinct in at least three ways**:

 i. The inchoative -*nu*- is pre-accenting and dominant (stress always falls on the syllable before the suffix), while the semelfactive -*nu*- is accented (stress falls on the suffix unless the verbal stem is accented)

 ii. The semelfactive -*nu*- has the colloquial or dialectal variant -*anu*-; sometimes with one and the same stem (e.g., *pleskanut'/plesnut'* 'to splash', see Plungjan 2000, Gorbova 2016)

 iii. The inchoative -*nu*- may disappear in some cells of the past tense and sometimes in the infinitive (see Es'kova 2011, Nesset and Makarova 2012)

(9) a. pere dox n u l i
     over breathe SMLF TH PAST PL
     they took a breather

   b. pere dox   l i
     over breathe INCH TH PAST PL
     they all died/croaked

Markman 2008 argues that the two suffixes compete for the same position (*v*):
  ➢ complementary distribution
  ➢ both highly regular
  ➢ can both occur with Aktionsart prefixes

It is unclear whether the sequence *-nu-* represents one or two morphemes, and if one, which one

Possibility: *-n-* is a suffix and *-u-* is the theme that it selects for

For: inchoative *-nu-* deletion can be handled by hypothesizing theme deletion (better than *v* or Asp deletion)

Against: a theme selected by just two morphemes (but then *-o-* is selected by 5 roots)

As observed by Garde 1998:368, some *-nu-* verbs are perfective without being semelfactive (e.g., *vernút'* 'to return'); four are imperfective while clearly not containing the inchoative *-nu-*, as shown by their semantics (*gnút'* 'to bend', *l'nút'* 'to cling', *tonút'* 'to drown' and *t'anút'* 'to pull'); in at least two (*obmanút'* 'to cheat' and *mínut'* 'to pass'), *-n-* is synchronically part of the stem

Still the [nn] sequence is degeminated in Modern Russian

2.3. The deadjectival suffix *-e-*

Unlike the suffix *-(a)nu-*, the deadjectival suffix *-e-* is imperfective (i.e., not specified for aspect, since imperfective is the default verbal specification in Russian). It is productively used to form **deadjectival activity** verbs, which become inchoative in the perfective (formed via a prefix). All of them belong to the first conjugation:

(10) a.   krasn-é-l 'be red-TH-PAST.MSG' ← krás-n-ɨj 'red'
     b.   bel-é-l 'be white-TH-PAST.MSG' ← bél-ɨj 'white'
     c.   al-é-l 'be scarlet-TH-PAST.MSG' ← ál-ɨj 'scarlet'
     d.   prav-é-l 'be rightwing-TH-PAST.MSG' ← práv-ɨj 'right'

Triggers glide-insertion in the present tense:

(11) a.   krasn-éj-et 'be red-TH-PRES.3SG' ← krás-n-ɨj 'red'
     b.   bel-éj-et 'be white-TH-PRES.3SG' ← bél-ɨj 'white'
     c.   al-éj-et 'be scarlet-TH-PRES.3SG' ← ál-ɨj 'scarlet'
     d.   prav-éj-et 'be rightwing-TH-PRES.3SG' ← práv-ɨj 'right'

It seems rather obvious that the suffix *-e-* is semantically non-empty

Further confirmation of this hypothesis comes from the fact that the suffix *-e-* **can also be detected in secondary imperfectives**, where *-e-* verbs appear with the suffix *-va-* instead of the common allomorphs *-ɨv-* and *-a-* (Garde 1998:383, 387):

(12) a.   bol-éj-et 'be sick-TH-PRES.3SG'
           → za-bol-**e**v-áj-et 'become sick-IMPF-TH-PRES.3SG'
     b.   slab-éj-et 'grow weaker-TH-PRES.3SG'
           → o-slab-**e**v-áj-et 'become weak-IMPF-TH-PRES.3SG'

Thus *-e-* is different from *-(a)nu-* in at least two respects:

   ➢   *-e-* c-selects an adjective (unlike *-(a)nu-*, which only combines with verbal stems)

   ➢   *-e-* has the default imperfective aspect (unlike *-(a)nu-*, whose contribution is perfective and purely aspectual, with no change in the argument structure)

   ➢   *-e-* verbs can form secondary imperfectives, whereas *-(a)-nu-* verbs cannot (Markman 2008).

It is similar to inchoative *-nu-* verbs, though

We conclude that the status of *-e-* must be different from that of *-(a)-nu-* and suggest that while *-(a)-nu-* spells out an aspectual node in the extended VP projection, *-e-* is a verbalizing suffix (*v*)

The suffix is also productively used as part of the **circumfix *o-…-e-***:

(13) a. o-   [bez-   úm]- ej-   e-   t
         PFX   without mind v   PRES   3SG
         [he] will become crazy

     b. [bez-   úm]- n-   aj-   a
         without mind ADJ LF   FSG
         crazy

And possible in [ničát'] verbs sharing the semantics of a **habitual characterizing activity**:
The surface [a] would result from a productive phonological process. There is an alternative, that it is the combination of *-i-* with the secondary imperfective *-a-*, but it's less likely

(14) a. nérv -n   -ič -aj -e   t
         nerve -ADJ -N -TH -PRES   3SG
         is (being) nervous

     b. nérv -n   -yj
         nerve -ADJ -LF
         nervous

In both of these uses *-e-* is accented (but non-dominant). With purely adjectival roots it seems to be accented and dominant

2.4. Intermediate summary

Three suffixes with a clear semantic contribution:
- semelfactive *-(a)nu-* (likely deverbal)
- inchoative *-nu-*: disappears in some forms
- deadjectival *-e-*

If *-u-* is a theme, it is a theme selected by two suffixes (+ maybe verb-final [n], yet alternative takes are possible)

One productive denominal verbalizer (*-ov-*) with unclear semantics (often biaspectual)
The suffix *-a-* brings no obvious semantic contribution

Possible diagnostics for non-theme: retention in the secondary imperfective

3.   SECONDARY IMPERFECTIVES

Vinogradov 1952, Forsyth 1970, Švedova 1970, Smith 1991, Garde 1998, among others: the vast majority of Russian verbal stems are imperfective by default

Adding an Aktionsart-changing prefix produces a perfective verb, which can be rendered imperfective again by the **secondary imperfective suffix**, which has three allomorphs:
The distribution of the three allomorphs (*-ɨv-* (15), *-v-* (16), or zero (17)) cannot be attributed to any of the self-evident factors (Harrington 1967). See Matushansky 2009 for a common underlying representation

(15) root -pis- 'write' + *-aj-*   *-ɨv-*
      a.   pis-á-t' 'to write'
      b.   pod-pis-á-t' 'to sign-PRF'
      c.   pod-pís-ɨv-a-t' 'to sign-IMPRF'

(16) root -bol'- 'pain' + *-e-*   *-v-*
      a.   bol-é-t' 'to be sick'
      b.   za-bol-é-t' 'to become sick-PRF'
      c.   za-bol-e-v-á-t' 'to become sick-IMPRF''

(17)   root -sɨp- 'pour' + -*a*-   -Ø-
    a.   síp-a-t' 'to pour (a non-liquid)'
    b.   ras-síp-a-t' 'to strew-PRF'
    c.   ras-sɨp-á-t' 'to strew-IMPRF' (note the stress shift)

3.1.   Second conjugation themes

Standard take: Russian has two conjugations defined by the realization of the present tense:
- 1st: -*ě*- (after stems ending in a consonant or a(j), e(j), (n)u, o
- 2nd: -*i*- (after stems ending in i or e)

Most **second conjugation** verbs undergo **transitive softening** in the secondary imperfective:

(18)   root -korm- 'feed'   (19)   root -gruz- 'freight'
    a.   korm-í-t' 'to feed'   a.   gruz-í-t' 'to load'
    b.   ot-korm-í-t' 'to fatten.PRF'   b.   raz-gruz-í-t' 'to offload.PRF'
    c.   ot-kárml-iv-a-t' 'to fatten.IMPF'   c.   raz-gruž-á-t' 'to offload.IMPF'
(20)   root -vert- 'twist'   (21)   root -obid- 'offense'
    a.   vert-é-t' 'to twist, rotate'   a.   obíd-e-t' 'to offend.PRF'
    b.   na-vert-é-t' 'to twist onto.PRF'   b.   obiž-á-t' 'to offend.IMPF'
    c.   na-vérč-iv-a-t' 'to twist onto.IMPF'

Transitive softening (Jakobson 1948, Halle 1963, Coats and Lightner 1975, etc.) results from the presence of a glide between the verbal stem and the secondary imperfective-suffix

The glide comes from the "thematic suffixes" of the 2nd conjugation

- -*i*- verbs (open class) have 12 exceptions: бросить, хватить, ступить, купить, пустить, -ложить, -кусить, -глотить, -ломить, катить, -скочить, тащить. 10 of them have non-prefixed -*a*- variants that the secondary imperfectives can be based on, 1 has a suppletive imperfective, 1 is perfective without being prefixed

- -*e*- verbs (ca. 80): 7 clearly show transitive softening, 15 (+5) don't, others have no relevant forms. **Probably, not *v***

> The two 2nd conjugation "themes" do not have the same status

No first conjugation verb triggers transitive softening

3.2.   First conjugation themes

Hiatus resolution: the vowel preceding the present-tense suffix -*ě*- is deleted (Jakobson 1948, Lightner 1965, 1967, Melvold 1990, etc.) or **a glide is inserted**:

(22)   a.   to[p]-nú-l-a   (23)   a.   kol-ó-l-a
           sink-INCH-PAST-FSG   prick-TH-PAST-FSG

    b.   tó[p]-n-e-š'   b.   kól-e-š'
           sink-INCH-PRES-2SG   prick-TH-PRES-2SG

(24)   a.   sos-á-l-a   **(25)   a.   čit-á-l-a**
           suck-TH-PAST-FSG   **   read-TH-PAST-FSG**

    b.   sos-ë-š'   **   b.   čit-áj-e-š'**
           suck-TH-PRES-2SG   **   read-TH-PRES-2SG**

Verbs in -*e*- show the same behavior in the present and in secondary imperfective: a glide (j or v, respectively) appears:
A contentious issue: is the underlying form -*ej*- (Jakobson 1948, Lightner 1965, 1967, etc.) or -*e*-?

(26) a.   bol-é-l-a   b.   bol-éj-e-t
           sick-INCH-PAST-FSG   pain-V-PRES-3SG
           is sick (of a female)   *is sick*

(27) a.   za-bol-é-t' 'to become sick-PRF'
      b.   za-bol-e-<u>v</u>-á-t' 'to become sick-IMPRF''

The suffix *-e-* appears before the secondary imperfective allomorph *-v-* (underlyingly /w/)
Same for the two special athematic roots in [-a]: *-da(d)-* 'give' and *-sta(n)-* 'become', as well as in *-zna[j]-*

> Thematic verbs in *-a-* systematically lose it in the secondary imperfective

(28) a.   ot-čit-á-t' 'to tell off.PRF'
      b.   ot-čít-<u>ɨv</u>-at' 'to tell off.IMPRF'

(29) a.   pod-ɨgr-át' 'to play along.PRF'
      b.   pod-ɨgr-<u>ɨv</u>-at' 'to play along.IMPRF'

A contentious issue: is the underlying form *-aj-* (Jakobson 1948, Lightner 1965, 1967, etc.) or
-a-?

If it is *-aj-*, there is no phonological reason for it to disappear if it is underlyingly there
Coats 1974, Feinberg 1980: the *-ɨv-* allomorph is underlyingly *-aj-*

If it is *-a-*, can it be deleted before a vocalic suffix?
In principle, yes

The same *-a-* suffix systematically follows the secondary imperfective suffix, and so it cannot
be *v*:

(30) a.   ob-liz-<u>ɨv</u>-**aj**-e-t' 'licks all over' IMPF   ob-liz-<u>ɨv</u>-**a**-l 'licked all over' IMPF.MSG
      b.   pod-taj-<u>ɨv</u>-**aj**-e-t' 'begins to melt' IMPF   pod-taj-<u>ɨv</u>-**a**-l 'began to melt' IMPF.MSG

It is a more parsimonious hypothesis that there is only one TH to a verb (in the absence of any
evidence against this view)

Possible counter-evidence: can the *-anu-* allomorph of the semelfactive *-nu-* consist of a theme and the suffix?
Answer: most likely, no; the aspectual pairs may involve imperfective verbs without *-a-*, e.g., *gazanut'* 'to step
on the gas' vs. *gazovat'* (*-ov-a-*, imperfective), *dolbanut'* 'to chisel' vs. *dolbit'* (*-i-*, imperfective), *skrebanut'* 'to
scrape' vs. *skresti* (athematic imperfective). The a-variants of the latter two verbs are secondary imperfectives

4.   VARIATIONS ON *-A-* THEME

1st conjugation verbs with the suffix [a] in the past tense fall into three different classes:
(31d) is distinguished from (31b) and (31c) by being unaccented. All others are accented

(31) a.   'read' (productive):   čita-l   čitaj-e-t
      b.   'write' (60 verbs, knows as TS verbs):   pisa-l   piš-e-t (< pisj-e-t)
      c.   'suck' (15 verbs):   sosa-l   sos-ë-t
      d.   'take' (one verb):   bra-l   ber-ët

There are also 2nd conjugation verbs with the suffix [a] in the past tense:

(32) a.   'chase' (2 verbs):   gna-l   gon-i-t
      b.   'hear' (≥ 30 verbs):   slyša-l (< slyx-e-l)   slyš-i-t

(32b) has the underlying *-e-* theme, but all of these verbs behave the same with respect to PPP
formation (the *-n-* allomorph)
(32a) is unaccented, like (31d) and unlike (32b)

5.   WHAT ABOUT PRODUCTIVITY?

Semelfactives in *-(a)nu-* and degree achievements in *-e-* are (semi)productive, but these are not themes

Both conjugation classes are productive: 1st with *-a-*, 2nd with *-i-*

Complication: a-verbs may fall into two different classes: alternating with [aj] (productive) and alternating with [j] in the present tense (productive in virtue of *-ov-*)

5.1.   Non-semantic suffixes

Novel verbs derived with the suffix *-a[j]-* do not seem to share any semantic common core:

(33)   *-a[j]*-final: directly on borrowed stems or with a verbalizing suffix   Nikitina 2003:272-301

   a.   kiks-ov-á-t' 'to produce a false musical note' (from *kiksá* 'a false note')
   b.   kil'-á-t' 'to kill (of computer processes and programs)'
   c.   kil'-á-t'-sja 'to keel over (of a boat)'
   d.   kipeš-ev-á-t' 'to make a fuss' (from the noun *kípeš* 'fuss, noise')
   e.   kir'-á-t' 'to drink alcohol, to be an alcoholic' (from *kir* 'alcohol')
   f.   kís-a-t' 'to kiss' (also *kisovát'sja* as a variant of the reciprocal *kísat'sja*)
   g.   kislót-stv-ov-a-t' 'to lead the life of a raver' (from *kislotá* 'rave')
   h.   klem-á-t' 'to drink alcohol (as a recreational activity)'
   i.   klík-a-t' 'to click (as a computer term)'
   j.   klɨk-a-t' 'to perform a sexual act with (transitive)' (from *klɨk* '*vulg.* penis')
   k.   kníž-nič-a-t' 'to drink (as a generic activity)'
   l.   kompil'-á-t' 'to compile'

Most *-a[j]-* verbs appear with some morphological material in denominal derivation:

   ➢   in (33e) this additional material presumably takes the form of *-i-*, as the nominal stem from which the verb is derived is not palatalized (but cf. the semelfactive variant *kirnut'*), potentially the same for (33b, c), and (33l) might be a secondary imperfective, cf. (34l)

   ➢   none of the suffixes involved in the construction of *-aj-* verbs in (33) is limited to verbalization (*-ov-* (*-ev-*) is a suffix used to form possessives, *-nik-* (*-nič-*) derives agentive nouns, etc.)

   ➢   for the majority of thus created verbs no corresponding noun or adjective without *-a[j]-* exists

None of the novel second conjugation verbs involve additional suffixes between the stem and the suffix *-i-*:

(34)   2nd conjugation *-i-*   Nikitina 2003:272-301
   a.   kipiš-í-t'-sja 'to make a scandal, a fight' (from *kípiš* 'a scandal, a row')
   b.   kifir-í-t' 'to perform fellatio'
   c.   klín-i-t' (1) impers. 'to block someone's mental activity', (2) 'to be temporarily out of it as a result of drug or alcohol abuse' (from *klin* 'wedge')
   d.   klub-í-t'-sja 'to actively participate in a club activity'
   e.   kob'án-i-t'-sja 'to behave haughtily'
   f.   kozl-í-t' 'to ride a motorcycle on the back wheel only' (from *koz'ól* 'goat')
   g.   kóks-i-t' 'to snort cocaine' (from *koks* 'cocaine')
   h.   kolbás-i-t' (1) 'to enjoy onself', (2) 'to entertain the public', (3) 'to stroll around', (4) 'to drink alcohol', (5) impers. 'to be experincing hangover', (6) impers., 'to feel the effects of a drug', (7) impers. 'to be depressed' (from *kolbasá* 'sausage')

  i. koles-í-t' 'to use drugs under the form of pills' (also *kolesmán-i-t'*, from *kol'ósa* 'drugs under the form of pills' from the singular *kolesó* 'wheel')
  j. komatóz-i-t' 'to understand (the situation) poorly' (cf. *komatóznyj* 'comatose')
  k. kommunízd-i-t' (1) 'to beat up', (2) 'to steal' (cf. *kommunízm* 'communism')
  l. kompil-í-t' 'to compile'
  m. kóndor-i-t' 'to visit another camp to get food (transitive)' (from *kóndor* 'condor')

There doesn't seem to be any semantic component distinguishing one list from the other:
 ➢ for instance, 'to compile' appears in both
 ➢ both lists contain statives (33g)/(34c, j) and actives, transitives and intransitives
 ➢ both suffixes can be used to create verbs from loans (here, verbs)

 ➢ impersonals are only -*i*- (so far)

There was some discussion of unaccusativity of -*i*-verbs. Are unaccusative verbs even an open class?

But the **-*i*- verbs seem to be root-derivations** (in current derivation, not historically)

To check this hypothesis, let's look at more verbs (Nikitina 2003:15-110, letters а, б, в)
 ➢ novel verbs derived from nouns ending in -*an*- are all in the -*i*- conjugation (35), (34e), yet none of these nouns seem to be morphologically complex
 ➢ there are further nominal roots (36), but are any of them derived?
 ➢ the same root can be a source for both conjugation types (36b)

(35) a. alkán-i-t' 'to drink a lot' (cf. alk-á-t')
  b. bazlán-i-t' 'to speak' (cf. bazl-á-t'; bazl 'a conversation', by back-formation)
  c. baklán-i-t' (1) 'to eat' (cf. baklán 'food' (naval, from baklán 'cormorant')), (2) 'to talk' (cf. 'a worthless person' (criminal))

(36) a. baragoz-í-t' 'to behave like a hooligan' (from baragóz 'a hooligan')
  b. bašl-í-t' 'to give money, to finance', bašl'-á-t' (from bášli 'money.PL')
  c. bukvar-í-t' 'to study assiduously, to cram' (from bukvár' 'a primer', from búkva 'a letter')
  d. volokúš-i-t' 'to use drugs' (from volokúša 'a state of being high on drugs' from the root *volok*- 'to drag')

In addition, Zaliznjak 1980 contains a few -*i*-verbs with stems ending in [an] (morphemic or not), but no -*a[j]*- verbs with such stems:

(37) a. barabán-i-t' 'to play a drum' (from barabán 'a drum')
  b. gorlopán-i-t' 'to bawl, yell' (from gorlopán 'a yeller', cf. górlo 'a throat')

The sequence [an] can be a human-creating suffix, but doesn't have to be and in all the novel cases that I have seen [an] can be argued to be non-suffixal
The human-creating suffixes -*ak*-, -*jag*-, -*ar'*-, -*ec*- also can give rise to -*i*-verbs, but not to -*a[j]*- verbs

This correlation seems to be phonological rather than morphological

5.2. The causative/inchoative alternation

Russian has it too

Yet it is not as productive as often claimed:

(38) a. xoroš-e-t'
    good-INCH-INF
    to become prettier

  b. *xoroš-i-t'
    good-V-INF
    intended: *to make prettier*

       c.   u-lučš-i-t'
            PFX-better-V-INF
            to improve

(39) a.   sed-e-t'
            gray.haired-INCH-INF
            to grow gray-haired

       b.   *-sed-i-t'
             gray.haired-V-INF

(40) a.   leg.č-a-t'
            light-INCH-INF
            to grow lighter

       b.   leg.č-i-t'
             light-V-INF
            to lighten

(41) a. *mjag.č-a-t'
            soft-INCH-INF
            ok as secondary imperfective of (41b)

       b.   mjag.č-i-t'
             soft-V-INF
             to soften

So it is not the case that *-i-* is causative, it is just that *-e-* is more specific

(42) gor.č-i-t'
      bitter-V-INF
      to taste bitter

6. CONCLUSION

From the semantic standpoint there seems to be no difference between *-a-* suffixes and *-i-* suffixes (as opposed to *-e-* and *-nu-*), but:
  ➢   one *-a-* appears after verbalizing suffixes
  ➢   another *-a-* appears after the secondary imperfective suffix
  ➢   a third *-a-* appears in 2nd conjugation verbs
  ➢   only one *-a-* is retained in the present tense

Morphologically, *-a-* suffixes are undetectable before the secondary imperfective, like the non-productive 2nd conjugation *-e-*, while *-i-* and the inchoative *-e-* trigger transitive softening

Syntactically, if a suffix remains in secondary imperfective, it is likely to be *v*. If it appears after secondary imperfective, it cannot be *v*

So *-i-* seems to be *v*, and *-a-* does not seem to have the same status (and at any rate we have already seen that the 2nd conjugation *-e-* is different from *-i-*, so there is no uniform treatment in sight
I disregard here the ugly option of a null *v* and an overt theme on it

What I haven't looked at: **truncated deverbal nouns** (e.g., *prixod* 'arrival (on foot)', *zvon* 'tolling (of bells)', etc.)

7.   APPENDIX: WHY NOT *-AJ-*

7.1.   Realization of past passive participles

The past passive participle suffix is thought to have three allomorphs (e.g., Halle 1973, Garde 1998, Feldstein 2015):

(43)   *-t-* for athematic stems ending in a sonorant or stems ending in a round vowel:

   a.   otkryt' [kryw] – otkry-t-aja
   b.   kolot' [kolo] – kolo-t-aja
   c.   teret' [ter] – tër-t-aja
   d.   m'at' [mĭn] – m'a-t-aja
   e.   razvernut' [vĕr-nu] – razvërnu-t-aja

(44)   *-n-* for stems ending in *-a-* in the infinitive no matter what the source of the surface *-a-*:

   a.   second conjugation, theme *-e-*: slyšat' [slyx-ē] – slýš-an-y
   b.   second conjugation, athematic: razognat' [gŭn] – razógn-an-y
   c.   first conjugation, athematic: razobrat' [bĭr] – razóbr-an-y
   d.   first conjugation, regular: risovat' [ris-ow] – risóv-an-y

(45)   *-ĕn-* otherwise

   a.   second conjugation, theme *-i-*: obvinit' [ob-vin-i] – obvin-en-ý
   b.   second conjugation, theme *-e-*: obidet' [obid-ē] – obíž-en-y
   c.   first conjugation, athematic: prinesti [nĕs] – prines-en-ý

Setting *-t-* aside for now, how to relate the other two allomorphs?
   ➤   not dependent on the conjugation class: (44a-b) vs. (44c-d)
   ➤   *-n-* not derivable from the underlying *-ĕn-* by Halle-Jakobson's vowel truncation rule if the theme suffix in (46) is *-a-* and totally unexpected if the theme suffix in (46) is *-aj-*

(46)   čit-a-n-o
       read-TH-PPP-NSG
       read

Surface-sensitive allomorphy?

7.2.   Stress in past passive participles

Garde 1998:341: *-ĕn-* is post-accenting when used after an unaccented morpheme (°) and pre-accenting if used after a post-accenting morpheme:

(47) a.   pri-°nĕs-ĕn-°y → prinesený
      b.   za-kolot-ʹi-ĕn-°y → zakolóčeny (cf. the past tense neuter singular: *zakolotílo*)

Garde's description seems incorrect: the second conjugation marker *-i-* is accented (which is what he claims on p. 334 anyway). The same is true for the most productive [a] theme (the putative *-aj-*), which suggests that *-n-* can be treated as accentually identical to *-ĕn-*

Actually, *-ĕn-* is unaccentable (I have work on this)

All [a]-PPPs are accented in the penultimate syllable of the stem, irrespective of the type of the [a] suffix (unless the stem itself is accented, in which case the leftmost stress wins, as is expected in the Russian phonology)

The accentual behavior of *-ĕn-* (unaccentable) and *-n-* (pre-accenting) can be unified if the [ĕ] of the suffix is deleted after [a] and the newly created syllable is still unaccentable but has the accent of the thematic suffix (*-a-* is accented)

7.3. Secondary imperfectives of [a] stems

Mazon 1908, Halle 1963, Harrington 1967, Flier 1972, Coats 1974, Levin 1977, Feinberg 1980, Matushansky 2009, etc.: different treatments of the three allomorphs of the secondary imperfective suffix -*ɨv*- (15), -*v*- (16), or zero (17).

(15) root -pis- 'write' + -*aj*-   -*ɨv*-
    a. pis-á-t' 'to write'
    b. pod-pis-á-t' 'to sign-PRF'
    c. pod-pís-ɨv-a-t' 'to sign-IMPRF'

(16) root -bol'- 'pain' + -*e*-   -*v*-
    a. bol-é-t' 'to be sick'
    b. za-bol-é-t' 'to become sick-PRF'
    c. za-bol-e-v-á-t' 'to become sick-IMPRF''

(17) root -sɨp- 'pour' + -*a*-   -Ø-
    a. sɨ́p-a-t' 'to pour (a non-liquid)'
    b. ras-sɨ́p-a-t' 'to strew-PRF'
    c. ras-sɨp-á-t' 'to strew-IMPRF' (note the stress shift)

Crucial for us: no trace of -*aj*-:

(48) stem -igr- 'play'   -*ɨv*-
    a. igrát' 'to draw': igraju 'I play'
    b. podɨygrát' 'to play along.PRF'
    c. podɨ́grɨvat' 'to play along.IMPRF'

Coats 1974, Feinberg 1980: the -*ɨv*- allomorph is underlyingly -*aj*-
Matushansky 2009 options: theme replacement/deletion (-*aj*- → Ø) or the theme is -*a*-

Other [a]-suffixes disappear as predicted by Halle-Jakobson's vowel truncation rule

7.4. Summary

If the default first-conjugation suffix is -*aj*-:
    ➢ This underlying representation replaces the thematic vowel with a thematic suffix
    ➢ Systematic disappearance of [a] in the secondary imperfective is not predicted if it is sometimes -*aj*-
    ➢ Its retention in the passive past participle is unexpected if the suffix is -*ěn*-

Could the transitive softening arise from the same source as the [j] of the default -*aj*- theme (cf. Micklesen 1973)?

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