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A PROBLEM IN THE HALLEAN APPROACH TO THE RUSSIAN VERB

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1. INTRODUCTION: THE INFLECTIONAL PARADIGM OF THE RUSSIAN VERB

Standard description: **two derivational bases**: the present-tense base and the infinitive base

Table 1: surface forms, first conjugation, regular (-aj-): *čitat* ‘to read’

		singular-M(F/N)	plural
present	1	čitaj-u	čitaj-em
	2	čitaj-eš	čitaj-ete
	3	čitaj-et	čitaj-ut
past		čit-a-l(a/o)	čit-a-l-i
imperative	exclusive	čitaj	čitaj-te
	inclusive	čitaj-em	čitaj-em-te
gerund	present	čitaj-a	
	past	-čit-a-v	
participle	passive past	čit-a-nn-aja	
	passive present	čitaj-em-aja	
	active past	čit-a-vš-aja	
	active present	čitaj-ušč-aja	
root		čit- (cf. <i>čitka</i> ‘a reading’)	

Table 2: surface forms, first conjugation, semelfactive -nu-: *doxnUt* ‘to exhale’

		singular-M(F/N)	plural
present	1	doxn-U	doxn’-Om
	2	doxn’-Oš	doxn’-Ote
	3	doxn’-Ot	doxn-Ut
past		doxnU-l(a/o)	doxnU-l-i
imperative	exclusive	doxn’-I	doxn’-I-te
gerund	past	doxnU-v	
participle	passive past	-doxnu-t-aja	
	active past	doxnU-vš-aja	
root		dox- (cf. <i>vzdox</i> ‘a sigh’)	

The direction of derivation is not uniform.

2. THE TWO-STEM SYSTEM EXPLAINED: JAKOBSON'S INSIGHT

Core insight (Jakobson 1948 onward): **the suffixes in the present-tense series are all vowel-initial, those in the infinitive series begin with a consonant**

Acknowledgments: This work has started in collaboration with Morris Halle, to whom I owe everything I know in phonology and a lot elsewhere and otherwise. Part of the analysis proposed here has been developed together with him (see Halle and Matushansky 2004), but we have never managed to resolve our disagreement regarding the proper treatment of the 60 verbs undergoing transitive softening in the present tense and ensuing issues.

Russian doesn't like vowel clusters and glide-consonant sequences

Hence **vowel-before-vowel and consonant-before-consonant deletion rules** shortening the underlying verbal stem

Starting assumption: deletion of [j] rather than its insertion. Reason: v-final roots:

- (1) a. 'read': čita-l čitaj-et
 b. 'rot': gni-l gnij-ët
 c. 'swim': ply-l plyv-ët

Assuming intervocalic *j*-insertion in (1a-b) does not explain the appearance of *v* (underlyingly *w*, see Andersen 1969, Coats 1974, Flier 1974, Padgett 2002, etc.) in (1c)

Hence a rule **deleting glides before consonants** (Jakobson 1948:159, Kayne 1967):

- (2) [+V, -syll] → Ø / __ [+ cons] GLIDE TRUNCATION

Environments where this happens: before the semelfactive suffix *-nu-*, before the past tense suffix *-l-*

What about other first conjugation stems?

- (3) a. 'suck' (15 verbs): sosa-l sos-ët
 b. 'howl': reve-l rev-ët
 c. 'gasp': oxnu-l oxn-et

Assuming that the present tense first-conjugation marker is *-ě-*, the stem-final vowel must be deleted in the present tense:

- (4) V → Ø / __ V VOWEL TRUNCATION

As a result, we have the present tense suffix *-ě-* for the first conjugation, *-i-* for the second

Further rules: VN-resolution, yer-lowering, yer deletion, etc.

3. THE SOURCE OF [J] IN THE PRESENT-TENSE SERIES

The two other first-conjugation [a]'s distinct from the putative default *-aj-* theme are

- present only in the infinitive series (before a consonantal suffix)
- absent in the present-tense series and in the secondary imperfective (i.e., before a vocalic suffix)

Two strategies for the present-tense series:

- Table 3: [a] replaced by a tense front vowel (some 60 verbs) triggering transitive softening
- Table 4: deleted [a] (some 15 verbs): unaccented *-a-* (Garde 1998:361-362)

Both sets: same passive past participles and secondary imperfectives

Table 3: Surface forms, first conjugation, transitive softening: *pisát'* 'to write'

		singular-M(F/N)	plural
present	1	piš-ú	píš-e-m
	2	piš-e-š	píš-e-te
	3	piš-e-t	píš-u-t
past		pis-á-l (a/o)	pis-á-l-i
participle	active past	pis-á-vš-aja	
	active present	píš-ušč-aja	
root		pis- (cf. <i>pisúl'ka</i> 'a note, a short missive')	



Resolution: unclear. Options:

- Halle: glide formation from any tense vowel before a lax one (a → j)
- Alternative: **different themes in the two series**. This totally removes Jakobson's insight about the phonological nature of the two series

Table 4: Surface forms, first conjugation, theme -a-: *sosát'* 'to suck'

		singular-M(F/N)	plural
present	1	sos-ú	sos'-ó-m
	2	sos'-ó-š	sos'-ó-te
	3	sos'-ó-t	sos-ú-t
past		sos-á-l (a/o)	sos-á-l-i
participle	active past	sos-á-vš-aja	
	active present	sos-úšč-aja	
root		sos- (cf. <i>sóska</i> 'pacifier')	

Resolved straightforwardly with Halle-Jakobson's vowel truncation rule (4)

- (5) [sos-a-ě-t]

 [sos-ě-t]

 [sós'ot]
- VOWEL TRUNCATION (4)
- Ě-FORMATION, PALATALIZATION, etc.

Problematic if any tense vowel turns into a glide before a lax one

Verbs with stems ending in [j] (15 verbs) can belong to either of the two classes, as transitive softening is undetectable. In the verbs of this group (Garde 1998:359) stress never falls on the inflection and the imperative never ends in a vowel, but both these properties are available in both groups above

The source of the problem is the assumption that the [a] present in the past tense/infinite series must be present in the present-tense series

4. DESCRIPTIVE FALLACY: THE THEME DETERMINES THE CONJUGATION CLASS

Simple standard description: stems ending in -i- and -ě- belong to the second conjugation, all others belong to the first conjugation

Well-known exceptions: *brit'* 'shave' (not really), *stelit'* 'spread the bed'

Less-known exceptions: *ušibit'* 'to bruise' and *revet'* 'to howl' (Garde 1998:374)

Also second conjugation: *gnat'* 'chase', *spat'* 'sleep' and the phonologically opaque *bojat'sja* 'be afraid', *stojat'* 'stand', etc. (could involve [ě], cf. fist-conjugation -ej-):

- (6) a. 'read' (productive): čita-l čitaj-et
 b. 'write' (60 verbs): pisa-l piš-et (< pisj-e-t)
 c. 'suck' (15 verbs): sosa-l sos-ět
 d. 'hear' (≥ 30 second conjugation verbs): slyša-l (< slyx-e-l) slyš-it

Bottom line: three first-conjugation [a]-suffixes and one exceptional second-conjugation [a]-suffix (the suffix in (6d) is underlyingly -ě-). Ways to capture this:

- The identity of the verbal root can determine the conjugation class, overriding the choice triggered by the final vowel of the stem: locality problem!
- The conjugation class is determined by the suffix; there are potentially two -a- suffixes, one for the first conjugation and one for the second; the same is true for -i- (exceptional first conjugation *ušibit'* 'to bruise') and for -ě- (*revet'* 'to howl')

Issue: how many [a]'s in the first conjugation?

4.1. Puzzle 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):

- (7) *-t-* for athematic stems ending in a sonorant or stems ending in a round vowel:
- otkryt' [kryw] – otkry-t-aja
 - kolot' [kolo] – kolo-t-aja
 - teret' [ter] – tēr-t-aja
 - m'at' [mɨn] – m'a-t-aja
 - razvernūt' [vēr-nu] – razvērnu-t-aja
- (8) *-n-* for stems ending in *-a-* in the infinitive no matter what the source of the surface *-a-*:
- second conjugation, theme *-e-*: slyšat' [slyx-ē] – slýš-an-y
 - second conjugation, athematic: razognat' [gŭn] – razógn-an-y
 - first conjugation, athematic: razobrat' [bŭr] – razóbr-an-y
 - first conjugation, regular: risovat' [ris-ow] – risóv-an-y
- (9) *-ěn-* otherwise
- second conjugation, theme *-i-*: obvinit' [ob-vin-i] – obvin-en-ý
 - second conjugation, theme *-e-*: obidet' [obid-ē] – obíz-en-y
 - first conjugation, athematic: primesti [nēs] – prines-en-ý

Setting *-t-* aside for now, how to relate the other two allomorphs?

- not conditioned by the surface vowel *per se*: (7d) vs. (8)
- not dependent on the conjugation class: (8a-b) vs. (8c-d)
- *-n-* not derivable from *-ěn-* by Halle-Jakobson's vowel truncation rule (4) if the theme suffix in (6c) is *-a-* and totally unexpected if the theme suffix in (6a) is *-aj-*

So aren't there two independent suffixes really?

4.2. Puzzle 2: stress in past passive participles

The accentual behavior of *-ěn-* is inconsistent; *-n-* is pre-accenting

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

- (10) a. pri-°nēs-ěn-°y → prinesený
 b. za-kolot-'i-ěn-°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 *-ěn-*

Weirder still: the long form suffix *-oj-* makes *-ěn-* pre-accenting:

- (11) a. obvinit' [ob-vin-i] – obvin-en-ý – obyin-énn-aja
 b. primesti [nēs] – prines-en-ý – prines-énn-aja

Feldstein 2015: stress in the participle can be identical to the stress in the present tense form or to the stress in the past tense form (in function of the conjugation class):

- (12)
- | | PAST-NSG | PRESENT-3SG | PPP-SF.NSG | |
|----|------------|-------------|------------|-----------|
| a. | ukrálo | ukradět | ukrádeno | = past |
| b. | zagorodílo | zagoródit | zagoróženo | = present |

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)

4.3. Puzzle 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 *-iv-* (13), *-v-* (14), or zero (15).

- (13) root *-pis-* ‘write’ *-iv-*
 a. *pisAt* ‘to write’
 b. *podpisAt* ‘to sign PRF’
 c. *podpisyvat* ‘to sign IMPRF’
- (14) root *-bol-* ‘pain’ *-v-*
 a. *bolet* ‘to be sick’
 b. *zaboleT* ‘to become sick PRF’
 c. *zaboleyAt* ‘to become sick IMPRF’
- (15) root *-syp-* ‘pour’ *-Ø-*
 a. *sypAt* ‘to pour (a non-liquid)’
 b. *rassypat* ‘to strew PRF’
 c. *rassypat* ‘to strew IMPRF’ (note the stress shift)

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

- (16) stem *-igr-* ‘play’ *-iv-*
 a. *igrát* ‘to draw’: *igraju* ‘I play’
 b. *podygrát* ‘to play along.PRF’
 c. *podygryvat* ‘to play along.IMPRF’

Coats 1974, Feinberg 1980: the *-iv-* allomorph is underlyingly *-aj-*

Matushansky 2009 options: theme replacement/deletion (*-aj-* → *Ø*) or the theme is *-a-*

Other [a]-suffixes disappear as predicted by (4)

4.4. Summary

Conflicting evidence for the default first-conjugation suffix:

- Evidence for the glide-deletion rule makes the *-aj-* underlying representation most likely, but replaces the thematic vowel with a thematic suffix
- Systematic disappearance of [a] in the secondary imperfective is not predicted
- Its retention in the passive past participle is unexpected if the suffix is *-ě-*

The hypothesis that the non-default first-conjugation [a]-suffixes are underlyingly *-a-* does not explain their behavior

The puzzle of [a] in the infinitive series: the vowel truncation rule (4) does not explain the **transitive softening in the present-tense series for the write-type verbs**

Could the transitive softening arise from the same source as the [j] of the default *-aj-* theme?

5. ALTERNATIVE: FIN°

Starting with another set of facts regarding **all instances of the infinitive series [a]**:

- a. systematically absent before the secondary imperfective suffix (underlyingly *-ǔ-*, following Matushansky 2009)

- b. systematically present before the passive past participle suffix (assuming that it is underlyingly uniform and therefore, at the very least *-ě-*, though its accentual behavior suggests *-ĩ-*)

Hypothesis: [a]-final stems are a-final and hiatus in Russian can be resolved by deletion of the first or the second vowel

5.1. The passive past participle suffix

Underlying representation: post-accenting *-ĩ-*, yer-lowering morphologically conditioned

Post-accenting:

- (10) a. *pri-°nēs-ě-°y* → *prinesený*

When preceded by a front vowel, triggers glide formation (with stress retraction):

- (17) a. *kupít' – kúpl'en*
 b. *obídet' – obížen*
 c. *prigotóvit' – prigotóvlen*

The reason for stress retraction: the second-conjugation suffix *-i-* is accented, yet when it is converted into a glide, the accent of the syllable ends up on the passive past participle suffix whose yer triggers stress retraction (Ivšić's law, see Lightner 1972, Halle 1994)

Alternative: when an accented vowel is deleted, its accent is shifted to the left (Melvold 1990 following Halle and Vergnaud 1987). This proposal, however, does not account for the stress shift in (11):

- (11) a. *obvinit' [ob-vin-i] – obvin-en-ý – obvin-ěnn-aja*
 b. *primesti [nēs] – prines-en-ý – prines-ěnn-aja*

Assuming the *-oj-* suffix is itself stress-resistant (underlying *-ǔj-?*), it bounces the accent onto the passive past participle suffix, whose yer triggers further stress retraction

When the passive past participle suffix is preceded by a non-front vowel, it (undergoes glide-formation and) deletes:

- (18) a. *sosa-ĩn-a* → *sosa-jn-a* → *sosana*
 b. *pisa-ĩn-a*
 c. *čita-ĩn-a*

Why assume glide-formation?

All *-a-* suffixes are underlyingly accented, just like the second-conjugation suffix *-i-*, yet all become pre-accenting in passive past participles. If the inability of the passive past participle suffix to bear stress is retained after the transformation of its yer, this is explained

5.2. The exponent of the present-tense series

Evidence for the featural uniformity of the present-tense series: ablaut

Table 5: surface forms, various ablaut stems

	infinitive <i>-tĩ</i>	1sg <i>-u</i>	past.msg <i>-l-Ø</i>	imperative <i>-ĩ</i>
<i>-bĩr-</i> 'take'	<i>brat'</i>	<i>berú</i>	<i>bral</i>	<i>berí</i>
<i>-rũt-</i> 'dig'	<i>rĩt'</i>	<i>róju</i>	<i>rĩl</i>	<i>rój</i>
<i>-pěj-</i> 'sing'	<i>pet'</i>	<i>pojú</i>	<i>pel</i>	<i>pój</i>
<i>-měl-</i> 'grind'	<i>molót'</i>	<i>mel'ú</i>	<i>molól</i>	<i>melí</i>

Ablaut is not triggered by phonological properties of the suffix, nor does it involve the same phonological change throughout

Core idea: the present-tense series is not characterized only by having a vocalic suffix, it has its own structural representation

Hypothesis: it is a functional head related to **finiteness** (the Russian past tense is historically participial, therefore non-finite)

It can be argued that the imperative form is a finite form, since it can be inflected for plural:

- (19) a. *pomog-í* ‘help-IMP’ \Rightarrow *pomog-í-te* ‘help-IMP-PL’
 b. *piš-í* ‘write-IMP’ \Rightarrow *piš-í-te* ‘write-IMP-PL’

The existence of the first person plural inclusive imperative, homophonous with the 1PL of the present tense, provides additional support for the hypothesis:

- (20) a. *posmótr-im* ‘look.PRF-1PL’, ‘let’s look!’ \Rightarrow *posmótr-im-te* ‘let’s look-PL’
 b. *spoj-óm* ‘sing.PRF-1PL’, ‘let’s sing!’ \Rightarrow *spoj-óm-te* ‘let’s sing-PL’

Proposal: **two realizations of FIN: -i- and -Ø-**; no way of determining which for the second conjugation, but most likely -Ø- (the default)

5.3. The structural realization of the infinitive series

Natural question: is the infinitive series simply the lack of FIN? If so, how to explain the different behavior of various [a] suffixes in the present-tense series?

Is there ablaut in the infinitive series? Seems superfluous, since it should always be possible to assume the opposite ablaut in the present-tense series

Zaliznjak’s class 11: **5 stems in -ij- surfacing as -i- before consonantal suffixes and as -j- before vocalic ones**: *bit’* ‘to beat’, *vit’* ‘to weave’, *lit’* ‘to pour’, *pit’* ‘to drink’, *šit’* ‘to sew’: tensing in the past tense, triggers yer-lowering in yer-containing prefixes in the present-tense series, undergoes yer-lowering in the imperative (but not in the present tense)

- alternative: become [-ATR] in the present-tense series

Double ablaut verbs: **5 stems in -ij- alternating with -oj-**: *vit’* ‘to howl’, *mit’* ‘to wash’, *nit’* ‘to whine’, *rit’* ‘to dig’, *krit’* ‘to cover’; **1 stem in -ej- alternating with -oj-**: *pet’* ‘to sing’ (all included in Zaliznjak’s class 12)

- non-minimal difference between the two series: the features [round] and [ATR]
- naturally explained by an underlying back or front yer, with two ablauts

Very circumstantial evidence, which does not entail the structural presence of Fin° in both the present-tense and the infinitive series. But:

- the place for [a]
- **no conjugation class differences in the infinitive series**

5.4. Analysis

A more complex morphological structure for the Russian verb:

- (21) [LEX.ASP + [stem + v]] + ASP + FIN + TENSE + AGR

Two potential realizations for Fin in both series:

- the present-tense series: -i- (for certain roots and suffixes) vs. Ø (default)
- the infinitive series: -a- (for certain roots and suffixes) vs. Ø (default)

The present-tense series -i- always triggers the first-conjugation T

The two realizations of Fin are independent of each other

Table 6: Non-trivial 1st conjugation classes

	root	v/ASP/TH	Fin	T	AGR	surface
a)	pek		Ø	ě	t	<i>pečět</i>
			Ø	ĭn	a	<i>ispečena</i>
b)	kolo		Ø	ě	t	<i>kolet</i>
			Ø	t	a	<i>kolota</i>
c)	tūk	nu	Ø	ě	t	<i>tknet</i>
			Ø	t	a	<i>tknuta</i>
d)	del	a	i	ě	t	<i>delaet</i>
			Ø	ĭn	a	<i>delana</i>
e)	spros-i	yv-a	i	ě	t	<i>sprašivaet</i>
			Ø	l	a	<i>sprašivala</i>
f)	pis		i	ě	t	<i>pišet</i>
			a	ĭn	a	<i>pisana</i>
g)	sos		Ø	ě	t	<i>sosět</i>
			a	ĭn	a	<i>sosana</i>
h)	jed		Ø	—	t	<i>jest</i>
			Ø	ĭn	a	<i>-jedena</i>
i)	du		i	ě	t	<i>dujet</i>
			a	l	a	<i>dula</i>
j)	bel	ē	i	ě	t	<i>beleet</i>
			Ø	l	a	<i>belela</i>
k)	legōk	ē	i	ě	t	<i>legčajet</i>
			Ø	l	a	<i>legčala</i>

Table 7: Non-trivial 2nd conjugation classes

	root	v/ASP/TH	Fin	T	AGR	surface
l)	gŭn		Ø	i	t	<i>gonit</i>
			a	ĭn	a	<i>izgnana</i>
m)	frend	i	Ø	i	t	<i>frëndit</i>
			Ø	ĭn	a	<i>zafrenžena</i>
n)	slyx-	ē	Ø	i	t	<i>slyšit</i>
			Ø	ĭn	a	<i>slyšana</i>

Summary:

- (i) the default exponent of Fin^o is invisible for conjugation class (on the transparency of phonological zeros for contextual allomorphy see Embick 2010, among others)
- (ii) if realized as *-i-* in the present tense, obligatory first conjugation
- (iii) if realized as *-a-* in the infinitive series, systematically accented (triggering stress shift to the left in the passive past participle)
- (iv) the passive past participle suffix [t] can be regarded as the [-sonorant] allomorph of *-ĭn-* (its accentual properties are the same)

5.5. Extension: the-*ova*-/*uj*- alternation

The most productive verbalizing suffix of Russian with unclear semantics and unexpected phonology:

- (22) a. ris-ov-a-l/risujet ‘draw.PAST.M/PRES.3SG’
 b. kov-a-l/kujot ‘forge.PAST.M/PRES.3SG’ (+7 more verbs)
 c. da-v-a-l/dajot ‘give.IMF.PAST.M/PRES.3SG’ (+2 more verbs)

Not about [ATR]: -ov- in secondary imperfectives before the underlying -ǔ- (or the surface -i-) (N/A for (22c))

Not about consonantal suffixes: -uj- before the semelfactive -nu- (*sovat’/sunut’*)

Potential solution: these are verbs of the *write*-class, with the unexpected [j] appearing in the present-tense series

6. CONCLUSION AND FURTHER QUESTIONS

Introducing an additional morpheme into the Russian verb resolves the following issues:

- present-tense and infinitive ablauts
- the lack of a conjugation class for the infinitive series

Varying Vocabulary Insertion into this morpheme accounts for:

- the present-tense transitive softening in the *write*-verbs
- the alternation in -ov-/-u- verbs
- glide insertion after the productive first-conjugation suffixes -a- and -e-

Is the price worth it?

- a structural distinction between the present-tense series and the infinitive series is required for the ablaut
- some account of the *write*-verbs is necessary; a readjustment rule might be pricier than contextually conditioned allomorphy

6.1. The theme suffix as the realization of an entailed feature

Intuition: even if Fin° is only **syntactically** present in the present-tense series, the presence of the **morphosyntactic feature** [-FIN] (entailed by the absence of Fin°) in the infinitive series is still possible

When the functional head and its feature are realized independently, we have what is known as the theme suffix

Evidence for the realization of features that do not have structural representation: agglutinative agreement/case

6.2. Thoughts for future research

The interaction between vowel deletion, glide formation and lexically given accentuation:

- assumed here: the inability to bear stress is retained after deletion – how?

The morphosyntactic status of -a-:

- assumed: a thematic vowel as opposed to v° or Asp° on the basis of its behavior in the secondary imperfective (cf. Matushansky 2009)
- perhaps: the same for [e] in the exceptional four verbs in [re]

6.3. Potential alternative solutions

(I) epenthetic [ě] in the first conjugation present tense and in the passive past participle. But:

- no grounds for epenthesis in the second-conjugation passive past participle

(II) the intervocalic [j] inserted between a [+ATR] vowel and a [-ATR] vowel, making verbs of the *write*-class truly exceptional. But:

- -nu- vs. -ov/u-: no glide insertion in the former case

- -yv-: no glide insertion before the suffix and after the stem [a] (if the -a- of the row (d) remains in the secondary imperfective)
- the exceptional four verbs in [re] (-meret' 'die', teret' 'rub', peret' 'drag', -steret' 'extend'): no glide insertion before the final [ē] (perhaps also revet' 'howl')

(III) Halle's (readjustment) rule: $a \rightarrow j$

- totally ad hoc; wrong predictions for suck-verbs

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