

**RUSSIAN DECLENSION AS A MORPHO-PHONOLOGICAL CONSTRUCT**  
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**1 INTRODUCTION: RUSSIAN NOMINAL DECLENSION**

Russian has four declension classes, mostly aligned with gender and partially syncretic:  
 Highlighting indicates cross-declension syncretism

**Table 1: Nominal declension classes (after Corbett 1982)**

#	CASE	O	C	HETERO	Ī	A
		N(/M)	M	N (11)/M (1)	F	F(/M)
SG	NOM	božestv-ó	stól	pútĭ	bolĭ	čert-á
	ACC	ACC/[αHUMAN]	ACC/[αANIM]	ACC=NOM		čert-ú
	GEN	božestv-á	stol-á	put-í	bólĭ-i	čert-í
	DAT	božestv-ú	stol-ú	put-í	bólĭ-i	čert-é
	LOC	božestv-é	stol-é	put-í	bólĭ-i	čert-é
	INS	božestv-óm	stol-óm	putĭ-óm	bólĭ-ju	čert-ój(u)
PL	NOM	božestv-á	stol-í	put-í	bólĭ-i	čert-í
	ACC	ACC/[αANIM]				
	GEN	božéstv-Ø	stol-óv	put-ěj	bólĭ-ej	čért-Ø
	DAT	božestv-ám	stol-ám	putĭ-ám	bólĭ-am	čert-ám
	LOC	božestv-áx	stol-áx	putĭ-áx	bólĭ-ax	čert-áx
	INS	božestv-ámi	stol-ámi	putĭ-ámi	bólĭ-ami	čert-ámi
		'deity'	'table'	'way'	'pain'	'line'

Halle 1994, Bailyn and Nevins 2008: declensional endings consist of the thematic suffix and a case ending, and a noun can be specified for both gender and declension class or either:

- (1) a. júnoša 'a youth' (*a*-declension, masculine)
- b. putĭ 'way' (*ĭ*-declension, masculine)
- c. podmastérĭje 'apprentice' (*o*-declension, masculine)
- d. ditá 'child' (mixed *ĭ/o*-declension)

Corbett's generalization: Russian gender is predictable from semantics (for animate nouns) and from the declension class (for inanimate ones), with some listed exceptions:

12 nouns are real exceptions, all others are either animate or expressive (diminutive or augmentative)

- (2) declension → formal gender
  - a. inanimate nouns of the C-declension are masculine
  - b. inanimate nouns of the *a*- and *ĭ*-declensions are feminine
  - c. inanimate nouns of the *o*-declension are neuter

However, declension class itself (a property of a noun or an adjective determining the choice of its case endings and, unlike gender, lacking any syntactic effects) is an odd notion

Declension class as an epiphenomenon:

- Nessel 1994, Müller 2004a, b, Alexiadou and Müller 2008: two abstract features
- Privizentseva 2023: one of the two relevant features is gender ([αF])
- Caha 2021: declension class as the root size
- Spaelti 2004, Emonds and Spaelti 2005: Latin declension class as the final vowel of the stem

Present work: declensional endings decompose into number and case, the rest is phonology and gender

Why decomposition?

## 2 CROSS-DECLENSION SYNCRETISM

Baerman, Brown and Corbett 2005: syncretism can be accidental or systematic

**Table 2: Singular nominal declension**

#	CASE	O	C	HETERO	Ī	A
		N(/M)	M	N (11)/M (1)	F	F(/M)
SG	NOM	božestv-ó	stól	pút <sup>i</sup>	bol <sup>i</sup>	čert-á
	ACC	ACC/[αHUMAN]	ACC/[αANIM]	ACC=NOM		čert-ú
	GEN	božestv-á	stol-á	put-í	ból <sup>i</sup> -i	čert-í
	DAT	božestv-ú	stol-ú	put-í	ból <sup>i</sup> -i	čert-é
	LOC	božestv-é	stol-é	put-í	ból <sup>i</sup> -i	čert-é
	INS	božestv-óm	stol-óm	put <sup>i</sup> -óm	ból <sup>i</sup> -ju	čert-ój(u)

Uncontroversial singular declensional syncretism:

- (i) accusative syncretism except for *a*-nouns: ACC=GEN for [+α], ACC=NOM for [-α]  
α=ANIMATE for C-nouns and plurals, =HUMAN for *o*-nouns, =N for *ĭ*-nouns
- (ii) [-F] syncretism: no declension class distinctions for C-nouns and *o*-nouns in non-direct (oblique) cases
- (iii) zero nominative syncretism: C-nouns and *ĭ*-nouns have a null singular nominative

Also, **plural syncretism**: no declension class distinctions in the plural for non-structural cases

DM: systematic syncretism indicates either shared features or an Elsewhere case

Russian declension syncretism as double decomposition:

For a detailed presentation see Appendix A

- Jakobson 1958/1984, Müller 2004a, b: decomposition of case, cf. also Caha (2021 and prior work)
- Nessel 1994, Müller 2004a, b, Alexiadou and Müller 2008: decomposition of the declension class into abstract sub-features

Privizentseva 2023: one of these abstract sub-features is a gender sub-feature ([±F]):

**Table 3: Gender-based decomposition of Russian declension classes: [±F][±α]**

	-F	+F
-α	C-declension: stol ‘table.M’, drózd ‘thrush.M’	ĭ-declension: ljubóv <sup>i</sup> ‘love.F’
+α	o-declension: božestvó ‘deity.N’	a-declension: čertá ‘line.F’

[±F] is a formal gender feature, since animate and human nouns may have semantic gender

Outside this system:

- accusative syncretism (determined by ±animate, ±human or declension class)
- indeclinable nouns (marked by a diacritic)
- productivity and categorial specificity

No independent motivation for the  $\beta$ -feature has been provided

### 3 NON-NOMINAL DECLENSION, PRODUCTIVITY AND INDECLINABILITY

The decompositional approach does not explain the asymmetries among the four declensions

#### 3.1 Productivity

Two declensions (the *o*-declension and the *ī*-declension) have limited productivity in Modern Russian: all new nouns in them are derived (cf. Chuprinko, Magomedova and Slioussar 2023):

- *o*-declension:  $[-F][+\beta]$
- *ī*-declension:  $[+F][-β]$

Nothing in their feature specification explains why this should be the case

Furthermore, the neuter gender itself *is* productive: nearly all inanimate indeclinables are neuter (Unbegaun 1947, Murphy 2000, Wang 2014, Baranova 2016, Chuprinko et al. 2023)

#### 3.2 Non-nominal declension classes

All *ī*-declension lexical items are nouns

The nominative endings of the C-, *a*-, and *o*-declensions are used also for the M, F, and N forms of past-tense verbs (which are historically participles), adjectives, and functional items:

Adjectives also share some non-nominative endings

- (3) a. Naš-a                    zavedujušč-aj-a                    byl-a                    talantliv-a.  
           our-FSG.NOM   responsible-ADJ.FSG.NOM-FSG.NOM   was-FSG   talented-FSG  
           *Our (female) manager was clever.*
- b. Naš                    zavedujušč-ij                    byl                    talantliv.  
           our.MSG.NOM   responsible-ADJ.MSG.NOM   was.MSG   talented.MSG  
           *Our manager was clever.*

This neither explains different productivity nor is explained by it

#### 3.3 Indeclinability

**Indeclinable nouns** form an open class with primarily semantic gender assignment (inanimate ones are mostly neuter, see Chuprinko et al. 2023)

Two (potentially related) issues:

- Why is indeclinability productive in Russian?
- What makes a noun indeclinable?

Usual answer: the wrong phonological shape (ending in a wrong vowel)

- (4) a. *kengurú* ‘kangaroo’, *šimpanzé* ‘chimpanzee’, *grizli* ‘grizzly’                    animate  
       b. *avenú* ‘avenue’, *pensné* ‘pince-nez’, *viski* ‘whisky’                    inanimate

Isačenko 1974, Thomas 1983: declinable in other Slavic languages, with glide insertion, hiatus or other strategies, all examples from Thomas 1983:

- (5) a. *dandy/dandyho* ‘dandy-NOM/GEN’                    Czech (adjectival declension)  
       b. *viski/viskia* ‘whisky-NOM/GEN’                    Serbo-Croatian (hiatus)  
       c. *poni/ponija* ‘pony-NOM/GEN’                    Polish (glide insertion)

Completely excluded in contemporary Russian, though previously available:

- (6) xokkej ‘hockey’, lakej ‘lackey’ Russian, Isačenko 1974

Borrowed feminine nouns ending in a palatalized consonant (proper names only in Modern Russian) remain indeclinable, again unlike prior stages:

- (7) vanilʲ ‘vanilla’, kadrilʲ ‘quadrille’

Finally, how come there exist indeclinable nouns ending in *-a* and *-o*?

- (8) a. *Dumá* ‘Dumas’, *ára* ‘Ara (a macaw type)’, *máya* ‘Maya’ *a*-final non-feminine  
 b. *bra* ‘sconce’, *kinóa* ‘Quinoa’  
 c. *šva* ‘schwa’, *fua-grá/fuá-grá* ‘fois gras’
- (9) a. *kinó* ‘cinema’, *avokádo* ‘avocado’ *o*-final inanimate neuter  
 b. *dezabiljé* ‘deshabillé’, *kófe* ‘coffee’, *rokokó* ‘Rococo’

There should be no semantic clash for human-denoting *a*-nouns (8a) or mass-denoting neuter nouns (9b):

- (10) a. *gromila* ‘a thug’ male-denoting *a*-declension  
 b. *júnoša* ‘a youth’
- (11) a. *čisló* ‘number’  
 b. *oknó* ‘window’

And inanimate *a*- and *o*-final loanwords can turn **declinable**

Sometimes phonological adjustments occur (the root /o/ in (12b) is due to hypercorrection of an unstressed vowel)

- (12) a. *fuagrú* ‘fois gras.ACC’, *shvu* ‘schwa.ACC’, *kinvú* ‘quinoa.ACC’  
 b. *pal’tó* ‘coat’ (indeclinable, cf. colloquial *pal’tóm*, *pólta* ‘coat.SG.INS/PL.NOM’)

So why don’t they always? What’s the difference between a schwa and a sconce?

What happened to *schwa* to make it declinable?

Standard analysis: a diacritic feature [ $\pm$ declinable]

I don’t know how Caha’s approach can handle indeclinable nouns. An indeclinable noun can be hypothesized to have a very large root, up to the last KP, but what would it do with the plural?

Problem: why does this feature correlate with the phonological shape of indeclinable nouns?

#### 4 DECLINABILITY VIA PHONOLOGY

A phonological approach to declinability: **only consonant-final roots are declinable** (i.e., all indeclinable roots are assumed to end in a vowel, including cases like *madam* ‘Madame’)

Proposal: a nominal stem consists of the lexical root combined with a number node:

NB: A root here is not necessarily underived or acategorical

- (13) a. 
- b. 

Is the distinction between declinable and indeclinable roots structural?

Spoiler: no

The phonological difference between declinable and indeclinable nouns occurs at the level of the root:

- declinable roots end in a consonant
- indeclinable roots end in a vowel

Corollary: the final vowel does not have the same status in (the citation form of) declinable and indeclinable nouns: in the former it is an exponent of number:

- (14) a. kino<sub>N</sub> (or [kino<sub>N</sub> + Ø<sub>SG</sub>]) ‘quinoa’  
 b. [kin<sub>V</sub><sub>N</sub> + a<sub>SG</sub>]
- (15) a. palit<sub>N</sub> (or [palit<sub>N</sub> + Ø<sub>SG</sub>]) ‘coat’  
 b. [polit<sub>N</sub> + o<sub>SG</sub>]

The “nominative ending”, aka “thematic suffix”, not part of the root:

- it is shared with non-nominal inflection
- it is not declension- or gender-dependent in the plural (oblique)

Zero inflection with indeclinable nouns could be the Elsewhere case or result from phonology

## 5 DECLENSION CLASS AS GENDER + PHONOLOGY

Proposal: the three productive declension classes are directly linked to gender:

- (16) formal gender → declension first take

[SG] ⇔ -a- / [+F]	<i>a</i> -declension
-o- / [-F][-M]	<i>o</i> -declension
Ø / [+M]	C-declension

Exceptions (besides **animate** masculine nouns in the *o*- and *a*-declensions):

- the closed class of 12 non-feminine nouns (**heteroclite nouns**)
- **expressives** (diminutives and augmentatives) derived from masculine nouns with suffixes of the *o*- and *a*-declensions

Derived masculines can be argued to have inherited syntactic gender while having morphological gender

What about the *ĭ*-declension?

Proposal: the *ĭ*-declension is defined by a floating stem-final consonant

The only purely nominal declension class, non-productive, uniquely feminine (12 exceptions)

Independent evidence: 14 nouns with a detectable floating final consonant (all belonging to the *ĭ*-declension)

### 5.1 A floating nasal

The ten heteroclite nouns in *-mja* with an [n] lost in the nominative singular:

- (17) a. vrém'ia/vrémeni/vrem'ón 'time.NOM/GEN=DAT=LOC/INS'  
 b. sém'ia/sémeni/semián 'seed.NOM/GEN=DAT=LOC/INS'

Lightner 1965:59-62, 1967:1187, 1969:49-50, Kayne 1967, Melvold 1989:237, Halle 2004: the nouns in (17) have consonant-final roots:

- (18) a. /vremen/ +  $\emptyset$  <sub>SG.NOM</sub> → [vr'émjə]; /vremen/ + /i/ <sub>SG.GEN</sub> → [vr'émjin'i]  
 b. /dit-ent/ +  $\emptyset$  <sub>SG.NOM</sub> → [diti'á]; /dit-ent/ + /i/ <sub>SG.GEN</sub> → [diti'áti] (obsolete)

The [iNV]/[aC] alternation is attested in 6 verbal roots of modern Russian:

- (19) a. so.žn<sup>i</sup>-o-t 'reap-PRES-3SG' pre-vocalic  
 b. s.ž[a]-t' 'reap-INF' pre-consonantal  
 c. sžinat' 'reap.IMPFV.INF' after tensing, pre-vocalic  
 (20) a. so.žm<sup>i</sup>-o-t 'press-PRES-3SG' pre-vocalic  
 b. s.ž[a]-t' 'press-INF' pre-consonantal  
 c. sžimat' 'press.IMPFV.INF' after tensing, pre-vocalic

Historically, tautosyllabic VN sequences underwent nasalization (\*iN, \*eN → \*ę (traditional spelling, actually probably [ɛ̃]), \*oN, \*aN → \*ǫ ([ɔ̃])) in pre-Proto-Slavic (Kim 2018:1979, Collins 2018) and were then denasalized becoming *a* and *u* (in East Slavic for sure)

The reason why this doesn't happen to other *n*-final words is that the nominative singular suffix is normally a back yer:

- (21) a. /gen/ 'gene' + /ǔ/ <sub>SG.NOM</sub> → [gen]  
 b. /ten/ 'shadow' + /ǔ/ <sub>SG.NOM</sub> → [tenʲ]

My proposal: **the relevant nasal is a floating one**, which explains (1) why it is realized before a vowel and deleted before a consonant, (2) why this only happens in a handful of cases

A floating nasal in (17)-(20) divorces the issue from other surface tautosyllabic VN instances

The nominative singular ending can therefore be the same for all *ǐ*-declension nouns ( $\emptyset$  or *ǔ*, henceforth, Y)

## 5.2 Other stem-final floaters (4)

The nouns *dit'á* 'child' and *tel'á* 'calf' (both obsolete, the latter has a defective paradigm):

- (22) a. dit'á/dit'áti 'child.NOM/GEN=DAT=LOC'  
 b. tel'á/tel'áti 'calf.NOM/GEN'

Proposal: a floating stem-final consonant:

- (23) /dit'a/ + Y <sub>SG.NOM</sub> → [diti'á]; /dit'a/ + /i/ <sub>SG.GEN</sub> → [diti'áti]  
 where Y is either a yer or a zero

**The two animate ǐ-declension nouns** with an [r] lost in the nominative singular:

- (24) a. mat/má[er]i/mat[er]ám 'mother.SG.NOM/{SG.GEN/PL.NOM}/PL/INS'  
 b. doč'/dóč[er]i/doč[er]ám 'daughter.SG.NOM/{SG.GEN/PL.NOM}/PL/INS'

The floating stem-final consonant is deleted in the coda (i.e., in the nominative singular) and retained elsewhere:

- (25) a. /mate<sup>r</sup>/ + Y <sub>SG.NOM</sub> → [matʲ]  
 b. /mate<sup>r</sup>/ + /i/ <sub>SG.GEN</sub> → [materʲ]

The realization of the second stem vowel depends on the realization of the floating [r]: if [r] is not realized, nor is the vowel (no formal analysis yet)

Derivation is with the full stem when category-changing (*doč'érnij*, *udoč'erít'*, *mater'it'sja*, *mater'inskij*) and without when diminutive (*dóčka*, *dóčen'ka*, *mátuška*); diminutive formation applies pretty high

The only evidence for floating root-final segments in nouns comes from the *ŷ*-declension

Which makes it logical to propose that the *ŷ*-declension is the declension of floating stem-final consonants

The hypothesis that *ŷ*-declension nouns have a floating stem-final consonant explains why this declension class is closed for loanwords

Remaining issues:

- Where does stem-final palatalization (the *ŷ*) in the *ŷ*-declension come from?
- Why are the floating stem-final consonants realized in all other *ŷ*-declension nouns?

Reply: the “theme vowel” *-ŷ-*

### 5.3 Final palatalization in the *ŷ*-declension

The stem-final palatalization of *ŷ*-declension nouns cannot uniformly be a feature of the root or be attributed to some *n* (cf. Itkin 2007:106–118):

- (26) a. *sel'd* ‘herring’ → *sel'ódočka* ‘herring.DIM.DIM’  
 b. *kis't* ‘brush’ → *kis'očka* ‘brush.DIM.DIM’  
 c. *karamélj* ‘caramel’ → *karamél'ka* ‘caramel.DIM’, *karaméliečka* ‘caramel.DIM.DIM’

Halle 1994:45: the nominal theme suffix *-o-* turns into *-ŷ-* with *ŷ*-declension nouns (35)

Prediction (false): yer vocalization throughout the paradigm

Amendment: the suffix is post-cyclic (cf. also (26a) and Itkin 2007:226)

Itkin 2007:112: the *ŷ*-declension theme is a null palatalizing suffix ( $\approx$  a floating [–back], or *-i-*)

Proposal: the *ŷ*-declension “theme” is the realization of the singular number (SG):

- may be absent in derivation (cf. (26a))
- may be absent in the plural (for the ten nouns with a floating stem-final *-n-*)
- fits perfectly with treating the other (cross-categorical) “themes” as number/gender, including the plural nominal theme *-a-*)

I will assume that the suffix in question is a floating [–back] vowel (i)

I leave it open for now if it is different from the front yer, often assumed to be a floating *e* (°)

A floating stem-final consonant is normally anchored when followed by a vowel

Except for the 14 nouns discussed above, see Appendix B

### 5.4 Intermediate summary

Declinability is defined by the root-final segment: only **C-final roots** form declinable nouns

Indeclinable nouns have V-final roots:

- no [±declinable]
- the lack of C-final indeclinable nouns (except C-final female-denoting ones)
- only *o*-final and *a*-final nouns can be reanalyzed (root-final V as a SG)

The *ŷ*-declension can be defined phonologically **by the floating stem-final consonant**:

- non-productive
- purely nominal
- contains all nouns with a deficient stem-final consonant



The remaining Russian declension classes can be defined by the **formal gender feature**

- productive
- cross-categorial
- exceptionless (except for animates and derived expressives)

Declension class is eliminated as an ontological category: case realization is determined by the realization of the number node

This could be due to morphologically or phonologically driven allomorphy

Or to pure phonology

## 6 THE NATURE OF THE STEM-FINAL VOWEL

Assuming that all the theme vowels are floating permits a unified approach to [+F] declension classes:

(27) formal gender → declension

final take

[SG] ⇔	$i- / C\# \_$	$\check{i}$ -declension
	$-^a- / [+F]$	$a$ -declension
	$-^o- / [-F][-M]$	$o$ -declension
	$\emptyset / [+M]$	C-declension

Assuming that some case suffixes are floating vowels or features, **case endings of the  $a$ - and  $\check{i}$ -declensions can be derived from the same underlying forms**

**Table 4: [+F] declension classes**

#	CASE	UR	$\check{i}$		A	
SG	NOM	$\emptyset$	$b\acute{o}lj$	$j + \emptyset \rightarrow j$	$\check{c}ert-\acute{a}$	$a + \emptyset \rightarrow a$
	ACC	$[+hi][+rd]$	$b\acute{o}lj$	$j + [+hi][+rd] \rightarrow j$	$\check{c}ert-\acute{u}$	$a + [+hi][+rd] \rightarrow u$
	GEN	$\check{i}$	$b\acute{o}lj-\check{i}$	$j + \check{i} \rightarrow \check{i}$	$\check{c}ert-\check{i}$	$a + \check{i} \rightarrow \check{i}$
	DAT	$i$	$b\acute{o}lj-i$	$j + i \rightarrow i$	$\check{c}ert-\acute{e}$	$a + i \rightarrow e$
	LOC	$i$	$b\acute{o}lj-i$	$j + i \rightarrow i$	$\check{c}ert-\acute{e}$	$a + i \rightarrow e$
	INS	$\check{u}ju$	$b\acute{o}lj-ju$	$j + \check{u}ju \rightarrow ju$	$\check{c}ert-\acute{o}j$	$a + \check{u}ju \rightarrow oj$

Necessary assumption: the combination of a floating stem-final consonant and a floating front vowel yields a palatalized anchored stem-final consonant

Most of these realizations can be supported by independently attested processes

### 6.1 Nominative case

To ensure that the nominative case behaves appropriately, final floating vowels and consonants should be realized

Assuming that the nominative case marker is null,  $a + \emptyset \rightarrow a$

If floating vowels are the same as yers, their realization at the right edge would be governed by the same principles as yers' in frameworks that do not assume a yer in the nominative singular of C-nouns (cf. Scheer 2005, 2019)

The hypothesis that the nominative singular is a yer would run into problems with the floating nasals and rhotics. In  $\check{i}$ -declension nouns the final consonant is floating, as is their singular suffix (<sup>i</sup>)



Assuming that a yer is a melody not associated to its skeletal slot (Hyman 1985: 58–59, Rubach 1986), its skeletal slot can be coopted to realize the floating final consonant of an *ī*-declension noun:



This means that the floating melody can no longer be realized *even if final yers normally are*  
The melody of a front yer without a skeletal slot is just palatalization of the preceding consonant

The failure of yer vocalization is predicted

Yer vocalization in cases like *l**u**bó**v**i* ‘love’ and *l**o**ž**i*** ‘lie’ could be brought about by phonotactics

## 6.2 Accusative case

Two potential issues: surface identity to the nominative in the *ī*-declension and the realization as *-u-* in the *a*-declension

The exponent of the accusative case is not a floating vowel, it is a floating feature (bundle)

### 6.2.1 “Merged” accusative in the *a*-declension

It would be okay for a back vowel to merge with the features [+high][+round] and yield [u]

### 6.2.2 “Zero” accusative in the *ī*-declension

The yer exponent of SG in the *ī*-declension is now a floating melody ([–back][+high]) without a skeletal slot

The exponent of the accusative case ([+high][+round]) has no skeletal slot either

The [+high][+round][–back] bundle cannot be realized as a vowel: the [–back] feature will be realized as palatalization of the preceding consonant, and the rest of the features will not be realized at all

### 6.2.3 Why not use allomorphy?

Two reasons:

- phonologically conditioned allomorphy (accusative realization as zero) would miss the nominative-accusative syncretism
- phonologically conditioned impoverishment of the accusative would have different conditions in other declension classes (syncretism conditioned by animacy for the C-declension and by humanness for the o-declension)

One way or another an empirical generalization would be missed

## 6.3 Dative and locative cases

Syncretic in both declensions: *-e-* in the *a*-declension and *-i-* in the *ī*-declension:

- (29) a.  $j + i \rightarrow i$  (where  $j$  is the melody of a floating  $i$  without a skeletal slot)  
 b.  $a + i \rightarrow e$

In the  $\check{i}$ -declension: as the case exponent introduces a skeletal slot, its floating vowel is realized

In the  $a$ -declension: in a sequence of two floating vowels only one skeletal slot can be realized (a variant on Jakobson's vowel-before-vowel deletion)

The Latin genitive singular of the  $a$ -declension ( $ai \rightarrow ae \rightarrow e$ ) exhibits the same behavior:

Emonds and Spaelti 2005 consider treating the genitive ending as involving a latent segment but find this analysis too problematic, since they do not expect the sequence  $u+(i)s$  to be realized as  $\bar{u}s$  (I don't understand why not)

- (30) genitive singular allomorphs (Emonds and Spaelti 2005):

final low vowel (a, o)	-i (servo-i $\rightarrow$ servī 'slave')
final e	-ī
final u	-Vs
final i	-s
final consonant	-is

If the dative and the locative are syncretic for [+F] nouns, there can be no syncretism with the locative of [-F] nouns (also a surface  $-e-$ )

#### 6.4 Genitive case

The genitive case marker is a surface  $-i-$  for the  $a$ -declension, and a surface  $-i-$  (actually,  $-i-$  after a palatalized consonant) for the  $\check{i}$ -declension

Melvold 1989:21: there is a difference in accentuation; I think I have a solution for this

To circumvent the merger issues for the  $a$ -declension ( $o$  predicted), I assume that the genitive case marker is a full vowel, triggering the deletion of the floating vowel before it

I think this can be nicely extended to verbal conjugation, which offers the primary evidence for Jakobson's vowel-before-vowel deletion

#### 6.5 Instrumental case

Two issues: the declensional distinction and the gender one:

- (31) a. čertá/čert[ó]j/čert[ó]ju 'line.SG.NOM/INS/INS POETIC'  $a$ -declension [+F]  
 b. pašá/paš[ó]j/paš[ó]ju 'pasha.SG.NOM/INS/INS POETIC'  $a$ -declension [-F]  
 c. bolí/ból[ju] 'line.SG.NOM/INS'  $\check{i}$ -declension [+F]  
 d. putí/put[óm] 'way.SG.NOM/INS'  $\check{i}$ -declension [-F]  
 e. lomót/lomt[óm] 'chunk (of bread).SG.NOM/INS' C-declension  
 f. čúdo/čúd[óm] 'miracle.SG.NOM/INS'  $o$ -declension [-F]

Hypothesis: instrumental case realization is sensitive to the presence of  $[\pm M]$  feature, which is not generally absent from [+F] nouns (including the semantic masculines like (31b))

For the [+F] nouns of the [+F] declensions the surface forms look different:

- (32) a. čertá/čert[ó]j/čert[ó]ju 'line.SG.NOM/INS/INS POETIC'  $a$ -declension [+F]  
 b. bolí/ból[ju] 'line.SG.NOM/INS'  $\check{i}$ -declension [+F]

Accepted view: the same underlying representation  $-ǔju-$ , the difference is due to phonotactics

The realization of the feminine instrumental: surface [ju] for the  $\check{i}$ -declension, surface [oj] for the  $a$ -declension (archaic [óju]), underlying  $-ǔj-$  +  $-u-$ :

Potential evidence for a yer: The surface [ju] cannot be stressed even with the post-accenting nouns like *ľubóvju*. But cf. *dev'atjú*, it is stressed in numerals

- final vowel deletion in the *a*-declension is due to (optional) apocope (independently motivated)
- yer vocalization in the *a*-declension is to break up the consonant cluster

Somewhat problematic: the [Cj] cluster arising from an underlying [Cj̯] is attested elsewhere in Russian (e.g., *sudjá/súdej* 'judge.SG.NOM/PL.GEN)

Alternative: the final *u* of the instrumental singular as a floating vowel

More work is needed

## 6.6 Intermediate summary

The desirable behavior of floating vowels is:

- realization at the end of the word for the *a*-declension: <sup>a</sup># → a (like stem-final yers in theories where the nominative singular marker is null)
- inactive for the nominative of the *ř*-declension: <sup>C</sup> + <sup>i</sup> # → C<sup>i</sup> (in the nominative)
- deletion before a full vowel: <sup>V</sup>-V (in the genitive)
- feature coalescence for two floating vowels: <sup>a</sup> + <sup>i</sup> → e in the dative and locative of the *a*-declension

A desideratum not discussed: hiatus resolution in the verbal conjugation

The two [+F] declension classes can be regarded as one

The nominative “thematic suffix” is given a morphosyntactic status as a number marker  
Overt singular is also needed for stress

And there is also the question of stress: *a*-declension endings are mostly accented, *ř*-declension endings are unaccented

Can this be derived from the properties of the <sup>a</sup>? The only unaccented ending of the *a*-declension is the accusative, which is also non-syllabic under this view

## 7 [-F] DECLENSIONS

Assuming that the [SG] of the *o*-declension is a floating vowel means that all case endings can contain full vowels:

**Table 5: [-F] declension by gender**

#	CASE	UR	C	o
SG	NOM	∅	č'órt-∅	čúd- <sup>o</sup> -∅ → čúdo
	GEN	a	č'órt-a	čúd- <sup>o</sup> -a → čúda
	DAT	u	č'órt-u	čúd- <sup>o</sup> -u → čúdu
	LOC	e	č'órt-e	čúd- <sup>o</sup> -e → čúde
	INS	om	č'órt-om	čúd- <sup>o</sup> -om → čúdom

A floating vowel would also work

## 8 CONCLUSIONS AND QUESTIONS

The adoption of floating vowels gives us:

- independently motivated declension classes
- a formalization of indeclinable nouns
- a nicer treatment of the hypothetical underlying VN alternations ( $ja/iN$ ,  $ja/eN$ ,  $ja/iN$ ) in the terms of floating nasals (which retains their exceptionality yet makes them less arbitrary)
- the nominative/accusative syncretism in the  $\check{i}$ -declension is not structural

Gender is derived from the declension class (unless explicitly specified) and vice versa, gender determines the declension class (in certain derived diminutive nouns)

There is no need for the declension class decomposition or variable root size

Not discussed here: the plural (mostly syncretic) and the few  $o$ -declension animate masculine nouns (a closed class)

### Appendix A PRIOR TAKES ON CROSS-DECLENSION SYNCRETISM

Baerman et al. 2005: syncretism can be accidental or systematic

DM: systematic syncretism indicates either shared features or an Elsewhere case

**Table 6: Singular nominal declension**

#	CASE	O	C	HETERO	ĭ	A
		N(/M)	M	N (11)/M (1)	F	F(/M)
SG	NOM	božestv- <b>ó</b>	st <b>ól</b>	put <b>í</b>	bol <b>í</b>	čert- <b>á</b>
	ACC	ACC/[ $\alpha$ HUMAN]	ACC/[ $\alpha$ ANIM]	ACC=NOM		čert- <b>ú</b>
	GEN	božestv- <b>á</b>	stol- <b>á</b>	put- <b>í</b>	ból <b>í</b> -i	čert- <b>í</b>
	DAT	božestv- <b>ú</b>	stol- <b>ú</b>	put- <b>í</b>	ból <b>í</b> -i	čert- <b>é</b>
	LOC	božestv- <b>é</b>	stol- <b>é</b>	put- <b>í</b>	ból <b>í</b> -i	čert- <b>é</b>
	INS	božestv- <b>óm</b>	stol- <b>óm</b>	put <b>í</b> -óm	ból <b>í</b> -ju	čert- <b>ój(u)</b>

Uncontroversial singular declensional syncretism:

- (iv) accusative syncretism except for  $a$ -nouns: ACC=GEN for [ $+\alpha$ ], ACC=NOM for [ $-\alpha$ ]  
 $\alpha$ =ANIMATE for C-nouns, =HUMAN for  $o$ -nouns, =N for  $\check{i}$ -nouns
- (v) [ $-F$ ] syncretism: no declension class distinctions for C-nouns and  $o$ -nouns in non-direct (oblique) cases
- (vi) zero nominative syncretism: C-nouns and  $\check{i}$ -nouns have a null singular nominative

Also, **plural syncretism**: no declension class distinctions in the plural for non-structural cases

The genitive case realization contrasts the two [ $-F$ ] classes with the other two

### A.1 Declension class as a primitive

Halle 1994: the realization of the theme node and of the case node depend on the declension class and gender (and number, and animacy):

(33)  $\sqrt{N}$ , decl, GENDER + TH + Q, NUMBER.CASE

noun structure



Cases are decomposed in a Jakobsonian manner (cf. Jakobson 1958/1984):

- nominative: [+subject][−governed][−oblique]
- accusative: [−subject][+governed][−oblique]
- genitive: [+subject][+governed][+oblique]
- dative: [−subject][+governed][+oblique]
- locative: [−subject][−governed][+oblique]
- instrumental: [+subject][−governed][+oblique]

**Muller’s exponence rules** (based on the case decomposition argued for by Roman Jakobson):

Accentuation is not taken into consideration: the nominative singular *-a* of the *a*-declension is accented, while the genitive singular *-a* of the *C*- and *o*-declensions is not. Conversely, the apparent syncretism between the locative singular forms of the *a*-, *o*- and *C*-declensions is correctly avoided in favor of the dative-locative syncretism in the *a*-declension: this ending is accented, unlike the locative ending of the *o*- and *C*-declensions.

(39) a.	/oj/ ↔ { [+N], [−α, +β], [+subj, −gov, +obl] }	INS	Müller 2004b
b.	/ju/ ↔ { [+N], [−α, −β], [+subj, −gov, +obl] }	INS	
c.	/om/ ↔ { [+N], [+α], [+subj, −gov, +obl] }	INS	
d.	/e/ ↔ { [+N], [−α, +β], [−subj, +obl] }	<i>a</i> -decl, LOC, DAT	
e.	/e/ ↔ { [+N], [+α], [−subj, −gov, +obl] }	<i>C</i> - and <i>o</i> -decl, LOC	
f.	/o/ ↔ { [+N], [+α, +β], [−obl] }	neuter, direct cases	
g.	/Ø/ ↔ { [+N], [−β], [−obl] }	<i>C</i> - and <i>ī</i> -decl, direct cases	
h.	/i/ ↔ { [+N], [−α], [+obl] }	+F genitive; <i>ī</i> -decl, oblique	
i.	/u/ ↔ { [+N], [−subj, +gov] }	<i>a</i> -decl, ACC; <i>C</i> - and <i>o</i> -decl, DAT	
j.	/a/ ↔ { [+N] }	<i>a</i> -decl, NOM; <i>C</i> - and <i>o</i> -decl, GEN	

Syncretism is handled by underspecification and impoverishment (ACC syncretism)

Privizentseva 2023: [±α] is a gender sub-feature ([±F]):

**Table 8: Gender-based decomposition of Russian declension classes: [±F][±β]**

	−F	+F
−β	<i>C</i> -declension: <i>stol</i> ‘table.M’, <i>drózd</i> ‘thrush.M’	<i>ī</i> -declension: <i>l’ubóvj</i> ‘love.F’
+β	<i>o</i> -declension: <i>božestvó</i> ‘deity.N’	<i>a</i> -declension: <i>čertá</i> ‘line.F’

[αF] is a formal gender feature, since animate and human nouns may have semantic gender

#### A.4 Intermediate summary

Decomposition of declension class features and of case features handles syncretism, with two problems:

- no independent motivation for the β-feature has been provided
- no independent evidence has been given for the three case sub-features

Issue: which instances of syncretism are accidental?

**Table 9: Singular nominal syncretism after Müller**

#	CASE	O	C	HETERO	Ī	A
		N(/M)	M	N (11)/M (1)	F	F(/M)
SG	NOM	božestv-ó	stól	pút <sup>i</sup>	bol <sup>i</sup>	čert-á
	ACC	ACC/[αHUMAN]	ACC/[αANIM]	ACC=NOM		čert-ú
	GEN	božestv-á	stol-á	put-í	ból <sup>i</sup> -i	čert-í
	DAT	božestv-ú	stol-ú	put-í	ból <sup>i</sup> -i	čert-é
	LOC	božestv-é	stol-é	put-í	ból <sup>i</sup> -i	čert-é
	INS	božestv-óm	stol-óm	put <sup>i</sup> -óm	ból <sup>i</sup> -ju	čert-ój(u)

Additional issue: the accentuation of some segmentally identical suffixes is not the same  
While all [-F] suffixes are unaccented, all *a*-declension suffixes are accented, except accusative

The β-feature is as unmotivated as the declension class feature was

### A.5 Declension class as root size

Caha 2021: different structure for different roots and suffixes

(40)	NP	RefP	ClassP	FemP	IndP	KP
		↑	↑		↑	↑
		<i>o</i> -decl	C-decl		<i>a</i> -decl	<i>ĭ</i> -decl

Root size determines the choice of the case allomorphs

But there are also **theory-external issues with the decompositional approaches**

### A.6 Declension as a phonological construct (Latin)

Spaelti 2004, Emonds and Spaelti 2005: Latin declension classes can be (partially) reduced to the interaction of the stem-final vowel and the inflectional ending:

**Table 10: Some Latin case endings**

	SG.NOM	SG.ACC	SG.ABL	PL.ABL	traditional declension class
<b>-a stems</b>	—	-am	-ā	-ās	I
<b>-o stems</b>	-us	-um	-ō	-ōs	II
<b>-u stems</b>	-us	-um	-ū	-ūs	IV
<b>-e stems</b>	-ēs	-em	-ē	-ēs	V
<b>-i stems</b>	-is	-im	-ī	-īs	III
<b>C stems</b>	-s	-em	-e	-ēs	III
<b>case ending</b>	-s	-m	-V	-us	

V, μ correspond to an empty vowel/mora without a quality specification

Additional phonological processes:

- raising: /o/ → [u] in an unstressed closed syllable (general rule)
- epenthesis: Ø → e / C \_\_ C
- deletion (*orātiō* ← *orātiōn-s*, *ars* ← *art-s*) vs. epenthesis (*clavis* ← *clav-s*) in the consonant cluster of the nominative singular



Additional morphological processes for neuters: impoverishment of the accusative, /i/ → [e] in the singular, dative/ablative singular syncretism

Emonds and Spaelti 2005 try to extend this syncretism to the entire paradigm, not very successfully, to my mind

Other case realizations are argued to be subject to phonologically conditioned allomorphy:

(41) dative/ablative plural allomorphs:

final low vowel (a, o)	-is
final non-low vowel (i, e, u)	-bus
final consonant	-ibus (epenthetic <i>i</i> )

(42) genitive singular allomorphs:

final low vowel (a, o)	-i
final e	-ī
final u	-Vs
final i	-s
final consonant	-is

Some stem-final vowels are assumed to be floating (Emonds and Spaelti 2005:15), so a proper analysis might adopt this option

## Appendix B FURTHER Ĩ-DECLENSION ISSUES

I have glossed over a number of issues:

- the phonology of the stem-final consonant of heteroclite nouns
- the full picture of yer vocalization in the ĩ-declension
- the ĩ-nominalizer
- palatalization in the plural

### B.1 Yer vocalization in the ĩ-declension

The [SG] of the ĩ-declension is not a yer → no vocalization of the stem yer expected (correct)

The NOM.SG of the ĩ-declension is also not a yer → no vocalization of the stem yer expected

Itkin 2007:224: only six ĩ-nouns with a contrast in yer vocalization in declension:

- (43) a. *ľubóvʲi/ľubvʲi/ľubóvʲju* ‘love.SG.NOM/SG.GEN/SG.INS’ yer vocalization, labial  
 b. *rožʲi/ržʲi/rožʲju* ‘rye.SG.NOM/SG.GEN/SG.INS’ yer vocalization, monosyllabic  
 c. *selʲdi/séľdi/séľdju* ‘herring.SG.NOM/SG.GEN/SG.INS’ yer vocalization failure

All others either have (e.g., *méľočʲ* ‘small things’, cf. *méľkij* ‘small, petty’) or do not have (43c) a vocalized yer throughout the paradigm

Systematic yer vocalization is due to a derivational nominalizing suffix consisting of a yer:

- (44) *žestʲ* ‘brutality’ (cf. *žestokij* ‘cruel’), *krutʲ* ‘cool’ (cf. *krutoj* ‘cool’), *dvižʲ* ‘activity’ (cf. *dvigatʲ* ‘to move’), *merzʲ* ‘loathsomeness’ (*merzkiy* ‘loathsome’)

Question: if the ĩ-declension amounts to a floating stem-final consonant, what does this suffix do? Can it make the stem-final consonant latent or are all these stem reanalyzed to always have a latent final consonant?

## B.2 Exceptional *ř*-nouns

If the *ř*-declension is characterized by a floating stem-final consonant, which is realized due to the singular suffix, how come it remains floating in the nominative singular of some nouns?

- (45) a. /te<sup>n</sup>/ ‘shadow’ + <sup>i</sup><sub>SG.NOM</sub> → [ten<sup>j</sup>] default  
 b. /ko<sup>r</sup>/ ‘measles’ + <sup>i</sup><sub>SG.NOM</sub> → [kor<sup>j</sup>]  
 c. /skor<sup>b</sup>/ ‘sorrow’ + <sup>i</sup><sub>SG.NOM</sub> → [skorb<sup>j</sup>]
- (46) a. /vreme<sup>n</sup>/ ‘time’ + <sup>i</sup><sub>SG.NOM</sub> → [vr<sup>j</sup>ém<sup>j</sup>ə] exceptional  
 b. /mate<sup>r</sup>/ ‘mother’ + <sup>i</sup><sub>SG.NOM</sub> → [mat<sup>j</sup>]  
 c. /dit<sup>a</sup>t<sup>a</sup>/ ‘child’ + <sup>i</sup><sub>SG.NOM</sub> → [d<sup>j</sup>it<sup>a</sup>]

The default is the final consonant being realized

Two possible explanations: phonology and allomorphy

### Phonology

The exceptional cases all involve a floating consonant inside a spetial consonant cluster:

- (47) a. /vrem<sup>n</sup>/ ‘time’ + <sup>i</sup><sub>SG.NOM</sub> → [vr<sup>j</sup>ém<sup>j</sup>ə]  
 b. /mat<sup>r</sup>/ ‘mother’ + <sup>i</sup><sub>SG.NOM</sub> → [mat<sup>j</sup>]

A yer is epenthesized and vocalized only when the consonant is realized

This can even be extended to *d<sup>j</sup>it<sup>a</sup>* ‘child’ on the assumption that its underlying representation is the historically motivated *-dit<sup>m</sup>*-, but this noun is obsolete anyway

There are no [NN<sup>j</sup>] or [Cr<sup>j</sup>] stem-final clusters in the *ř*-declension

### Allomorphy

In exceptional cases the theme is realized as a floating feature ([–back]) rather than a floating vowel, which precludes the realization of the stem-final consonant in the NOM.SG

In other cases the stem-final consonant is realized before a vowel

## B.3 The plural of *ř*-nouns

If the floating *i* (yielding stem-final palatalization) is the realization of the singular, how come stem-final palatalization persists in the plural?

- (48) a. ten<sup>i</sup>/ten<sup>i</sup>ámi ‘shadow.SG.NOM/PL.INS’  
 b. sel<sup>i</sup>d<sup>i</sup>/sel<sup>i</sup>d<sup>i</sup>ámi ‘herring.SG.NOM/PL.INS’

The 14 exceptional nouns do not behave uniformly:

- (49) a. put<sup>i</sup>/put<sup>i</sup>ámi ‘way.SG.NOM/PL.INS’  
 b. vremen<sup>a</sup>/vremen<sup>a</sup>ámi ‘time.SG.NOM/PL.INS’  
 c. doč<sup>i</sup>/doč<sup>i</sup>er<sup>a</sup>ámi ‘way.SG.NOM/PL.INS’

Two options: allomorphy of the plural suffix or a different status for the floating *i*

Note: there’s evidence that the plural declension is sensitive to gender (Matushansky 2025)

## Appendix C THE SEMANTIC BASE OF GENDER FEATURES

The formal feminine corresponds to the semantic ‘female-denoting’

What about the formal masculine and the formal neuter?

- masculine ≈ ‘human-denoting’ or ‘animate’
- neuter ≈ ‘inanimate’

Clues from the *o*-declension:

- human-denoting *o*-final nouns (50): never decline, even when they are (near-)native (the same is true for *o*-final toponyms)
- maximally two declinable nouns in the *o*-declension with no nominative/accusative syncretism ([+human])

(50) a. *májko* ‘maiko (an apprentice geisha)’

b. *kápo* ‘prisoner functionary in a Nazi camp’, *Lukašénko* ‘Lukashenko’

The *o*-declension is excluded for humans

The only exception, *podmastérje* ‘apprentice’, can have the same status as masculine *a*-nouns, but why is the latter class semi-productive (e.g., *maxarádža* ‘maharaja’ is relatively new)?

## 9 REFERENCES

- Alexiadou, Artemis, and Gereon Müller. 2008. Class features as probes. In *Inflectional Identity*, ed. by Asaf Bachrach and Andrew Nevins, 101–155. Oxford: Oxford University Press.
- Baerman, Matthew, Dunstan Brown, and Greville G. Corbett. 2005. *The Syntax-Morphology Interface: A Study of Syncretism*. Cambridge Studies in Linguistics 109. Cambridge: Cambridge University Press.
- Bailyn, John, and Andrew Ira Nevins. 2008. Russian genitive plurals are impostors. In *Inflectional Identity*, ed. by Asaf Bachrach and Andrew Ira Nevins, 237–270. Oxford: Oxford University Press.
- Baranova, Anna S. 2016. Отражение вариативности родовой характеристики несклоняемых существительных в современных словарях [Gender variation of indeclinable nouns in dictionaries]. *Вестник Санкт-Петербургского Университета. Язык и литература* [Vestnik of Saint Petersburg University. Language and Literature] 9(1), 45–57. <https://doi.org/10.21638/11701/spbu09.2016.105>.
- Caha, Pavel. 2021. Modeling declensions without declension features. The case of Russian. *Acta Linguistica Academica* 68(4), 385–425. <https://doi.org/10.1556/2062.2021.00433>.
- Chuprinko, Kirill, Varvara Magomedova, and Natalia Slioussar. 2023. Gender variation in indeclinable inanimate nouns and gender markedness in modern Russian. *Acta Linguistica Academica* 70(3), 317–338.
- Collins, Daniel. 2018. The phonology of Slavic. In *Handbook of Comparative and Historical Indo-European Linguistics*, vol. 3, ed. by Klein Jared, Joseph Brian and Fritz Matthias, 1414–1538. Berlin, Boston: De Gruyter Mouton. <https://doi.org/10.1515/9783110542431-002>.
- Corbett, Greville G. 1982. Gender in Russian: an account of gender specification and its relationship to declension. *Russian Linguistics* 6(2), 197–232. <http://www.jstor.org/stable/40160034>.
- Emonds, Joseph E., and Philip Spaelti. 2005. Fully distributing morphology: the phonology and syntax of Latin case inflections. *Theoretical and applied linguistics at Kobe Shoin: トークス* 8, 1–20. <https://shoin.repo.nii.ac.jp/record/173/files/t2005spaelti.pdf>.
- Halle, Morris. 1994. The Russian declension: An illustration of the theory of Distributed Morphology. In *Perspectives in Phonology*, ed. by Jennifer Cole and Charles Kisseberth, 29–60. Stanford: CSLI Publications.
- Halle, Morris. 2004. Russian phonology: the core. Ms., MIT.

- Halle, Morris, and Andrew Nevins. 2009. Rule application in phonology. In *Contemporary Views on Architecture and Representations in Phonology*, vol. 48, ed. by Eric Raimy and Charles E. Cairns, 355–382. The MIT Press. <https://doi.org/10.7551/mitpress/7997.003.0025>.
- Hyman, Larry M. 1985. *A theory of phonological weight*. Dordrecht: Foris.
- Isačenko, Aleksandr V. 1974. Иноязычные основы на *-e, -i* в русском языке [Borrowed stems in *-e, -i* in Russian]. *Russian Linguistics* 1(3), 277–293. <https://doi.org/10.1007/BF02551679>.
- Itkin, Ilja B. 2007. *Русская морфология [Russian morphonology]*. Moscow: Gnozis.
- Jakobson, Roman. 1958/1984. Morphological observations on Slavic declension (the structure of Russian case forms). In *Roman Jakobson: Russian and Slavic Grammar, Studies, 1931-1981*, ed. by Linda R. Waugh and Morris Halle, 105–133. Berlin: Mouton de Gruyter.
- Kayne, Richard S. 1967. Against a cyclic analysis of Russian segmental phonology. Ms., MIT.
- Kim, Ronald I. 2018. The phonology of Balto-Slavic. In *Volume 3 Handbook of Comparative and Historical Indo-European Linguistics*, ed. by Klein Jared, Joseph Brian and Fritz Matthias, 1974–1985. Berlin, Boston: De Gruyter Mouton. <https://doi.org/doi:10.1515/9783110542431-036>.
- Lightner, Theodore M. 1965. Segmental Phonology of Contemporary Standard Russian. Doctoral dissertation, MIT.
- Lightner, Theodore M. 1967. On phonetic nasal ~ *a* alternations in modern Russian verb forms. In *To Honor Roman Jakobson III: Essays on the Occasion of his 70th Birthday, 11. October 1966*, vol. 2, 1183–1187. The Hague: Mouton. <https://doi.org/10.1515/9783111349121-032>.
- Lightner, Theodore M. 1969. On the alternation *e~o* in Modern Russian. *Linguistics* 54, 44–69.
- Matushansky, Ora. 2025. Russian plural declension and gender change. In *Syntax in Uncharted Territories: Essays in Honor of Maria Polinsky*, ed. by Lauren Clemens, Vera Gribanova and Gregory Scontras, 433–460. <https://doi.org/10.7280/S9PV6HDV>.
- Melvold, Janis. 1989. Structure and stress in the phonology of Russian. Doctoral dissertation, MIT.
- Müller, Gereon. 2004a. A Distributed Morphology approach to syncretism in Russian noun inflection. In *Formal Approaches to Slavic Linguistics 12: The Ottawa Meeting*, ed. by Olga Arnaudova, Wayles Browne, Maria-Luisa Rivero and Danijela Stojanovic, 353–374. Ann Arbor, Michigan: Michigan Slavic Publications.
- Müller, Gereon. 2004b. On decomposing inflection class features: syncretism in Russian noun inflection. In *Explorations in Nominal Inflection*, ed. by Gereon Müller, Lutz Gunkel and Gisela Zifonun, 189–227. Berlin: Mouton de Gruyter.
- Murphy, Dianna L. 2000. The gender of inanimate indeclinable common nouns in Modern Russian. Doctoral dissertation, Ohio State University. [http://rave.ohiolink.edu/etdc/view?acc\\_num=osu1488194825666262](http://rave.ohiolink.edu/etdc/view?acc_num=osu1488194825666262).
- Nesset, Tore. 1994. A feature-based approach to Russian noun inflection. *Journal of Slavic Linguistics* 2(2), 214–237, <http://www.jstor.org/stable/24599327>.
- Privizentseva, Mariia. 2023. Semantic agreement in Russian: Gender, declension, and morphological ineffability. *Natural Language & Linguistic Theory*. <https://doi.org/10.1007/s11049-023-09587-0>.
- Rubach, Jerzy. 1986. Abstract vowels in three dimensional phonology: the yers. *The Linguistic Review* 5, 247–280.
- Scheer, Tobias. 2005. Slavic vowel-zero alternations and government phonology: two approaches, one solution. In *Formal Approaches to Slavic Linguistics 13: The South Carolina Meeting*, ed. by Steven Franks, Frank Y. Gladney and Mila Tasseva-Kurkchieva, 300–311. Ann Arbor: Michigan Slavic Publications.

- Scheer, Tobias. 2019. On the difference between the lexicon and computation (regarding Slavic yers). *Linguistic Inquiry* 50(1), 197–218.
- Spaelti, Philip. 2004. Some phonological and morphological patterns in the Latin noun declension system. *Theoretical and applied linguistics at Kobe Shoin: トークス 7*, 131–137.
- Thomas, George. 1983. A comparison of the morphological adaptation of loanwords ending in a vowel in contemporary Czech, Russian, and Serbo-Croatian. *Canadian Slavonic Papers / Revue Canadienne des Slavistes* 25(1), 180-205, <http://www.jstor.org/stable/40868105>.
- Unbegaun, Boris Ottokar. 1947. Les substantifs indéclinables en russe. *Revue des Études Slaves*, 130–145, [https://www.persee.fr/doc/slave\\_0080-2557\\_1947\\_num\\_23\\_1\\_1454](https://www.persee.fr/doc/slave_0080-2557_1947_num_23_1_1454).
- Wang, Qiang. 2014. Gender assignment of Russian indeclinable nouns, MA thesis, University of Oregon. <https://core.ac.uk/download/pdf/36692535.pdf>.