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DOWN WITH THE THEMES!
FOR A CLASSLESS DECLENSION IN RUSSIAN MORPHOLOGY
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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		ĭ	A
		N(/M)	**M**	**N (11)/M (1)**		**F**	**F(/M)**
SG	**NOM**	božestv-ó	stól	pútʲ	bolʲ		čert-á
	ACC	ACC/[αHUMAN]	ACC/[αANIM]	ACC=NOM			čert-ú
	GEN	božestv-á	stol-á	put-í	bólʲ-i		čert-ɨ
	DAT	božestv-ú	stol-ú	put-í	bólʲ-i		čert-é
	LOC	božestv-é	stol-é	put-í	bólʲ-i		čert-é
	INS	božestv-óm	stol-óm	putʲ-óm	bólʲ-ju		čert-ój(u)
PL	**NOM**	božestv-á	stol-ɨ	put-í	bólʲ-i		čert-ɨ
	ACC	ACC/[αANIM]					
	GEN	božéstv-Ø	stol-óv	put-éj	bólʲ-ej		čért-Ø
	DAT	božestv-ám	stol-ám	putʲ-ám	bólʲ-am		čert-ám
	LOC	božestv-áx	stol-áx	putʲ-áx	bólʲ-ax		čert-áx
	INS	božestv-ámi	stol-ámi	putʲ-ámi	bólʲ-ami		čert-ámi
		'deity'	'table'	'way'	'pain'		'line'

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

(1) 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

Halle 1994, Bailyn and Nevins 2008: declensional endings consist of case and the theme, and a noun can be specified for both gender and declension class or either:
In fact, only 12 nouns are real exceptions, all others are either animate or expressive (diminutive or augmentative)

(2) a. júnoša 'a youth' (*a*-declension, masculine)
    b. putʲ 'way' (*ĭ*-declension, masculine)
    c. podmastérje (*o*-declension, masculine)

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:
➢ Nesset 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

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

1 PRIOR TAKES ON CROSS-DECLENSION SYNCRETISM

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

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

Table 2: Singular nominal declension

#	CASE	O	C	HETERO	ĭ	A
		N(/M)	M	N (11)/M (1)	F	F(/M)
SG	NOM	božestv-ó	stól	pútʲ	bolʲ	čert-á
	ACC	ACC/[αHUMAN]	ACC/[αANIM]	ACC=NOM		čert-ú
	GEN	božestv-á	stol-á	put-í	bólʲ-i	čert-ɨ
	DAT	božestv-ú	stol-ú	put-í	bólʲ-i	čert-é
	LOC	božestv-é	stol-é	put-í	bólʲ-i	čert-é
	INS	božestv-óm	stol-óm	putʲ-óm	bólʲ-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, =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

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

1.1 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):

(3) $\sqrt{}_{\text{N, decl, GENDER}}$ + TH + Q, NUMBER.CASE   noun structure

Vocabulary insertion rules (excerpt):

(4) TH → /o/ in env. __]$_N$ adapted from Halle 1994:45

(5) $o \rightarrow$
$\begin{cases} e \text{ in env.} \begin{bmatrix} -\text{back} \\ +\text{cons} \end{bmatrix} + \text{\_\_}]_N + & Q, \text{PL.GEN (cond)} \\ \check{u} \text{ in env. } \check{\iota}] \qquad\qquad + \text{\_\_}]_N + & \begin{cases} Q, \text{SG.INS} \\ Q, \text{PL.INS (list, 5±2 nouns)} \end{cases} \\ a \text{ in env.} \qquad\qquad\quad + \text{\_\_}]_N + & \begin{cases} Q, \text{PL.DAT} \\ Q, \text{PL.LOC} \\ Q, \text{PL.INS} \end{cases} \end{cases}$

(6) $Q \rightarrow$ /a/ in env. $\begin{cases} [C,o]_N + \dots \text{\_\_} \text{PL.NOM (cond.)} \\ [C,o]_N + \dots \text{\_\_} \text{SG.GEN} \\ [a]_N + \dots \text{\_\_} \text{SG.NOM} \end{cases}$

/o/ in env. $[o]_N + \dots$ __ SG.NOM

…

A sequence of two vowels is resolved by the deletion of the first one

(7) *-rabot-*$_{a, F}$ + TH + Q, SG.NOM → *-rabot-*$_{-a-, F}$ + o + Q, SG.NOM →
   → *-rabot-*$_{-a-, F}$ + o + a, SG.NOM → *-rabot-*$_{-a-, F}$ + a

The empirical strength of this proposal lies in handling the prevalence of *-o-* as the main vowel in the singular declension, and of *-a-* in the plural

Syncretism is achieved by enumeration

1.2 Declension class as the choice of the theme

Bailyn and Nevins 2008: apparent nominative singular endings are actually theme suffixes:

(8) a. knig-a-Ø   b. čud-o-Ø
      book-TH-SG.NOM   miracle-TH-SG.NOM

   c. dver^j-Ø-Ø (*ĭ*-declension)
      door-TH-SG.NOM

   d. kazak-Ø-ŭ (C-declension)   e. zver-Ø-ĭ (C-declension)
      cossack-TH-SG.NOM   beast-TH-SG.NOM

The theme suffix is deleted before vocalic case endings (see also Halle and Nevins 2009)

Advantage: null nominative singular… but only in a subset of cases

1.3 Declension class as a combination of features

Nesset 1994, Müller 2004a, b, Alexiadou and Müller 2008: abstract declension sub-features:

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

	+α	−α
−β	C-declension: *stol* 'table.M', *drózd* 'thrush.M'	*ĭ*-declension: *lʲubóvʲ* 'love.F'
+β	*o*-declension: *božestvó* 'deity.N'	*a*-declension: *čertá* 'line.F'

Exceptions: **12 non-feminine nouns in -*ĭ*- (the heteroclite declension)**

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.

(9) 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]}   *a*-decl, LOC, DAT
   e. /e/ ↔ {[+N],[+α],[−subj,−gov,+obl]}   C- and *o*-decl, LOC

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f. /o/ ↔ {[+N],[+α,+β],[−obl]}   neuter, direct cases
g. /Ø/ ↔ {[+N],[−β],[−obl]}   C- and ĭ-decl, direct cases
h. /i/ ↔ {[+N],[−α],[+obl]}   +F genitive; ĭ-decl, oblique
i. /u/ ↔ {[+N],[−subj,+gov]}   *a*-decl, ACC; C- and *o*-decl, DAT
j. /a/ ↔ {[+N]}   *a*-decl, NOM; C- and *o*-decl, GEN

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Syncretism is handled by underspecification and impoverishment (ACC syncretism)

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

Table 4: Gender-based decomposition of Russian declension classes: [±F][±β]

	−F	+F
−β	C-declension: *stol* 'table.M', *drózd* 'thrush.M'	ĭ-declension: *lʲubóvʲ* 'love.F'
+β	*o*-declension: *božestvó* 'deity.N'	*a*-declension: *čertá* 'line.F'

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

1.4   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 5: Singular nominal syncretism after Müller

#	CASE	O	C	HETERO	ĭ	A
		N(/M)	M	N (11)/M (1)	F	F(/M)
SG	NOM	božestv-ó	stól	pútʲ	bolʲ	čert-á
	ACC	ACC/[αHUMAN]	ACC/[αANIM]	ACC=NOM		čert-ú
	GEN	božestv-á	stol-á	put-í	bólʲ-i	čert-ɨ
	DAT	božestv-ú	stol-ú	put-í	bólʲ-i	čert-é
	LOC	božestv-é	stol-é	put-í	bólʲ-i	čert-é
	INS	božestv-óm	stol-óm	putʲ-óm	bólʲ-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

1.5   Declension class as root size

Caha 2021: different structure for different roots and suffixes

(10)   NP   RefP   ClassP   FemP   IndP   KP
             ↑   ↑   ↑   ↑
        o-decl C-decl   *a*-decl ĭ-decl

Root size determines the choice of the case allomorphs

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

2 NON-NOMINAL DECLENSION, PRODUCTIVITY AND INDECLINABILITY

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

2.1 Productivity

Two declensions (the *o*-declension and the *ĭ*-declension) have limited productivity in Modern Russian: all new nouns in them are derived (cf. Chuprinko, Magomedova and Slioussar 2023):
  ➢   *o*-declension: [–F][+β]
  ➢   *ĭ*-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)

2.2 Non-nominal declension classes

All *ĭ*-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

(11) 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

2.3 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)

(12) a. *kengurú* 'kangaroo', *šimpanzé* 'chimpanzee', *grízli* 'grizzly'   animate
     b. *avenʲú* 'avenue', *pensné* 'pince-nez', *víski* 'whisky'   inanimate

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

(13) 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:

(14) 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:

(15) vanilʲ 'vanilla', kadrilʲ 'quadrille'

Why?

Standard analysis: a diacritic feature [±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?

3   DECLENSION CLASS AS GENDER + PHONOLOGY

A purely phonological approach to declension:
  (i)   class: the declension class is determined by the final segment of the stem
  (ii) declinability: only consonant-final stems are declinable (i.e., all indeclinable nouns are assumed to end in a vowel, including cases like *madam* 'Madame')

Crucial question: how come there exist indeclinable nouns ending in *-a* and *-o*?

(16) a.   *Dʲumá* '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'

(17) a.   *kinó* 'cinema', *avokádo* 'avocado'   *o*-final inanimate neuter
       b.   *dezabilʲjé* 'déshabillé', *kófe* 'coffee', *rokokó* 'Rococo'

Answer: native stem-final vowels are phonologically special (underspecified)

3.1   The phonology of the *ĭ*-declension

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

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

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

3.1.1   A floating nasal

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

(18) a.   *vrémʲa/vrémeni/vremʲón* 'time.NOM/GEN=DAT=LOC/INS'
       b.   *sémʲa/sémeni/semʲán* '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 (18) have consonant-final roots:

(19) a.   /vremen/ + Ø $_{SG.NOM}$ → [vrʲémʲə]; /vremen/ + /i/ $_{SG.GEN}$ → [vrʲémʲinʲi]
       b.   /dit-ent/ + Ø $_{SG.NOM}$ → [dʲitʲá]; /dit-ent/ + /i/ $_{SG.GEN}$ → [dʲitʲátʲi] (obsolete)

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

(20) a. *so.žnʲ-o-t* 'reap-PRES-3SG' — pre-vocalic
   b. *s.žʲa-tʲ* 'reap-INF' — pre-consonantal
   c. *sžinatʲ* 'reap.IMPFV.INF' — after tensing, pre-vocalic

(21) a. *so.žmʲ-o-t* 'press-PRES-3SG' — pre-vocalic
   b. *s.žʲa-tʲ* 'press-INF' — pre-consonantal
   c. *sžimatʲ* '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:

(22) a. /gen/ 'gene' + /ŭ/ SG.NOM → [gen]
   b. /tenʲ/ 'shadow' + /ŭ/ SG.NOM → [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 (18)-(21) divorces the issue from other surface tautosyllabic VN instances

The nominative singular ending can therefore be the same for all *ĭ*-declension nouns (Ø or *ŭ*, henceforth, Y)

3.1.2 Other stem-final floaters (4)

The nouns *ditʲá* 'child' and *telʲá* 'calf' (both obsolete, the latter has a defective paradigm):

(23) a. *ditʲá/ditʲáti* 'child.NOM/GEN=DAT=LOC'
   b. *telʲá/telʲáti* 'calf.NOM/GEN'

Proposal: a floating stem-final consonant:

(24) /ditʲaᵗ/ + Y SG.NOM → [dʲitʲá]; /ditʲaᵗ/ + /i/ SG.GEN → [dʲitʲátʲi]
   where Y is either a yer or a zero

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

(25) a. *matʲ/máteri/materʲám* 'mother.SG.NOM/{SG.GEN/PL.NOM}/PL.INS'
   b. *dočʲ/dóčeri/dočerʲám* '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:

(26) a. /mateʳ/ + Y SG.NOM → [matʲ]
   b. /mateʳ/ + /i/ SG.GEN → [materi]

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 (*dočérnij, udočerítʲ, materítʲsja, materínskij*) and without when diminutive (*dóčka, dóčenʲka, mátuška*); diminutive formation applies pretty high

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

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

> The hypothesis that *ĭ*-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 *ĭ*) in the *ĭ*-declension come from?
- ➤ Why are the floating stem-final consonants realized in all other *ĭ*-declension nouns?

Reply: the "theme vowel" -*ĭ*-

3.1.3   Final palatalization in the *ĭ*-declension

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

(27) a.   *selʲdʲ* 'herring' → *selʲódočka* 'herring.DIM.DIM'
      b.   *kistʲ* 'brush' → *kístočka* 'brush.DIM.DIM'
      c.   *karamélʲ* 'caramel' → *karamélʲka* 'caramel.DIM', *karamélʲečka* 'caramel.DIM.DIM'

Halle 1994:45: the nominal theme suffix -*o*- turns into -*ĭ*- with *ĭ*-declension nouns (5)
        Prediction (false): yer vocalization throughout the paradigm
        Amendment: the suffix is post-cyclic (cf. also (27a) and Itkin 2007:226)

Itkin 2007:112: the *ĭ*-declension theme is a null palatalizing suffix (≈ a floating [–back], or -^{j}-)

Proposal: the *ĭ*-declension "theme" is the realization of the singular number (SG):
- ➤ may be absent in derivation (cf. (27a))
- ➤ may be absent in the plural (for the ten nouns with a floating stem-final -*n*-)
- ➤ fits perfectly with treating the other (cross-categorial) "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* (^{e})

A floating stem-final consonant is normally anchored when followed by a vowel
Except for the 14 nouns discussed above, see the appendix

3.2   "Themes" as NUMBER

Once the *ĭ*-declension is out of the way, the choice of the "theme" is predicted by gender (for
inanimate nouns):

(28)   formal gender → declension   first take

       [SG] ⇔ -^{i}- / ^{C}# __   *ĭ*-declension
              -*a*- / [+F]   *a*-declension
              -*o*- / [–F][–M]   *o*-declension
              Ø / [+M]   C-declension

Exceptions (besides **animate** masculine nouns in the *o*- and *a*-declensions):
- ➤ the closed class of 12 non-feminine nouns in -*ĭ*- (**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

Consequences:

➢   declension classes are not primitive (being gender- and phonology-determined)
➢   a cross-categorially appropriate function for the "nominal" theme
➢   [±β] could be [±vocalic]

The distinction between the morphological (formal) and the syntactic gender seems to be the matter of the module, but both should be accessible to morphology

Potential extensions:

➢   indeclinable nouns can be handled by realizing NUMBER as a zero post-vocalically or by deleting it (if impoverishment can be sensitive to phonological features)
➢   [PL] ⇔ -*a*- (with *pluralia tantum* nouns specified underlyingly for a morphological feature)

So far indeclinable nouns are not predicted or accounted for:

(29) a. *Dʲumá* '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'

(30) a. *kinó* 'cinema', *avokádo* 'avocado'   *o*-final inanimate neuter
       b. *dezabilʲjé* 'déshabillé', *kófe* 'coffee', *rokokó* 'Rococo'

Options:

➢   the vocabulary insertion rules (28) can be adjusted to apply only after a consonant
➢   the vowels in (28) can be deleted after a vowel (contrary to the usual Jakobsonian vowel-before-vowel deletion)

There's some evidence for the latter

4   THE NATURE OF THE STEM-FINAL VOWEL

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

(31) formal gender → declension   final take

$$[\text{SG}] \iff \text{-}^{i}\text{-} / \text{ }^{C}\#\text{ \_\_} \qquad \text{ĭ-declension}$$
$$\text{-}^{a}\text{-} / [+\text{F}] \qquad a\text{-declension}$$
$$\text{-}^{o}\text{-} / [-\text{F}][-\text{M}] \qquad o\text{-declension}$$
$$\varnothing / [+\text{M}] \qquad \text{C-declension}$$

Assuming that some case suffixes are floating vowels or features, **case endings of the *a*- and *ĭ*-declensions can be derived from the same underlying forms**

Table 6: [+F] declension classes

#	CASE	UR	ĭ		A	
SG	NOM	Ø	bólʲ	j + Ø → j	čert-á	ᵃ + Ø → a
	ACC	[+hi][+rd]	bólʲ	j + [+hi][+rd] → j	čert-ú	ᵃ + [+hi][+rd] → u
	GEN	ɨ	bólʲ-i	j + ɨ → i	čert-ɨ́	ᵃ + ɨ → ɨ
	DAT	ⁱ	bólʲ-i	j + ⁱ → i	čert-é	ᵃ + ⁱ → e
	LOC	ⁱ	bólʲ-i	j + ⁱ → i	čert-é	ᵃ + ⁱ → e
	INS	ŭju	bólʲ-ju	j + ŭju → ju	čert-ój	ᵃ + ŭju → 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

4.1 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 *ĭ*-declension nouns the final consonant is floating, as is their singular suffix (^{i})

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 *ĭ*-declension noun:

(32) a.   root   SG   NOM   b.   root   SG   NOM

        x   x   + x   ⇨   x   x   +   x
        | | | |
        n   o   č   i   n   o   č   i

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'ubóv'* 'love' and *lož'* 'lie' could be brought about by phonotactics

4.2 Accusative case

Two potential issues: surface identity to the nominative in the *ĭ*-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)

4.2.1 "Merged" accusative in the *a*-declension

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

4.2.2 "Zero" accusative in the *ĭ*-declension

The yer exponent of SG in the *ĭ*-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

4.2.3   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

4.3   Dative and locative cases

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

(33) 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 *ĭ*-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 → ae → 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 *ūs* (I don't understand why not)

(34) genitive singular allomorphs (Emonds and Spaelti 2005):
       final low vowel (a, o)   -i (servo-i → 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-*)

4.4   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 *ĭ*-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

4.5   Instrumental case

Two issues: the declensional distinction and the gender one:

(35) a.   čertá/čertój/čertóju 'line.SG.NOM/INS/INS POETIC'   *a*-declension [+F]
      b.   pašá/pašój/pašóju 'pasha.SG.NOM/INS/INS POETIC'   *a*-declension [–F]
      c.   bolʲ/bólʲju 'line.SG.NOM/INS'   *ĭ*-declension [+F]
      d.   putʲ/putʲóm 'way.SG.NOM/INS'   *ĭ*-declension [–F]
      e.   lomótʲ/lomtʲóm 'chunk (of bread).SG.NOM/INS'   C-declension
      f.   čúdo/čúdom 'miracle.SG.NOM/INS'   *o*-declension [–F]

Hypothesis: instrumental case realization is sensitive to the presence of [±M] feature, which is not generally absent from [+F] nouns (including the semantic masculines like (35b))

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

(36) a.   čertá/čertój/čertóju 'line.SG.NOM/INS/INS POETIC'   *a*-declension [+F]
      b.   bolʲ/bólʲju 'line.SG.NOM/INS'   *ĭ*-declension [+F]

Accepted view: the same underlying representation -*ŭju*-, the difference is due to phonotactics

The realization of the feminine instrumental: surface [ju] for the *ĭ*-declension, surface [oj] for the *a*-declension (archaic [óju]), underlying -*ŭj*- + -*u*-:

Potential evidence for a yer: The surface [ju] cannot be stressed even with the post-accenting nouns like *lʲubóvʲju*. But cf. *devʲatʲjú*, 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 [Cĭj] is attested elsewhere in Russian (e.g., *sudʲjá/súdej* 'judge.SG.NOM/PL.GEN)

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

More work is needed

4.6   Intermediate summary

The desirable behavior of floating vowels is:

➢   realization at the end of the word for the *a*-declension: $^{a}\# \rightarrow$ a (like stem-final yers in theories where the nominative singular marker is null)

➢   inactive for the nominative of the *ĭ*-declension: $^{C} + ^{i} \# \rightarrow C^{i}$ (in the nominative)

➢   deletion before a full vowel: ^{V}-V (in the genitive)

➢   feature coalescence for two floating vowels: $^{a} + ^{i} \rightarrow$ 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, ĭ-declension endings are unaccented

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

5   [–F] DECLENSIONS

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

Table 7: [–F] declension by gender

#	CASE	UR	C	O
SG	**NOM**	Ø	čʲórt-Ø	čúd-ᵒ-Ø → čúdo
	GEN	a	čʲórt-a	čúd-ᵒ-a → čúda
	DAT	u	čʲórt-u	čúd-ᵒ-u → čúdu
	LOC	e	čʲórt-e	čúd-ᵒ-e → čúde
	INS	om	čʲórt-om	čúd-ᵒ-om → čúdom

A floating vowel would also work

6   CONCLUSIONS AND QUESTIONS

The adoption of floating vowels gives us:

➢ independently motivated declension classes (Muller's [±β] is whether the root ends in a consonant, [±α] is just gender)

➢ a formalization of indeclinable nouns

➢ a nicer treatment of the hypothetical underlying VN alternations (*ʲa/ĭN*, *ʲa/eN*, *u/aN*, *u/oN*) in the terms of floating nasals (which retains their exceptionality yet makes them less arbitrary)

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: FURTHER Ĭ-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 ĭ-declension
➢ the ĭ-nominalizer
➢ palatalization in the plural

A.1   Yer vocalization in the ĭ-declension

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

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Down with the themes! For a classless declension in Russian morphology (January 30, 2025)

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

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

(37) a.   *lʲubóvʲ/lʲubví/lʲubóvʲju* 'love.SG.NOM/SG.GEN/SG.INS'   yer vocalization, labial
        b.   *rožʲ/rži/rožʲju* 'rye.SG.NOM/SG.GEN/SG.INS'   yer vocalization, monosyllabic
        c.   *selʲdʲ/sélʲdi/sélʲdʲju* 'herring.SG.NOM/SG.GEN/SG.INS'   yer vocalization failure

All others either have (e.g., *méločʲ* 'small things', cf. *mélkij* 'small, petty') or do not have (37c) a vocalized yer throughout the paradigm

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

(38) žestʲ 'brutality' (cf. žestokij 'cruel'), krutʲ 'cool' (cf. krutoj 'cool'), dvižʲ 'activity' (cf. dvigatʲ 'to move'), merzʲ 'loathsomeness' (merzkij 'loathsome')

Question: if the *ĭ*-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?

A.2 Exceptional *ĭ*-nouns

If the *ĭ*-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?

(39) a.   /te^n/ 'shadow' + ^{i} SG.NOM → [tenʲ]   default
        b.   /ko^r/ 'measles'+ ^{i} SG.NOM → [korʲ]
        c.   /skor^b/ 'sorrow'+ ^{i} SG.NOM → [skorbʲ]

(40) a.   /vreme^n/ 'time' + ^{i} SG.NOM → [vrʲémʲə]   exceptional
        b.   /mate^r/ 'mother' + ^{i} SG.NOM → [matʲ]
        c.   /ditʲa^t/ 'child' + ^{i} SG.NOM → [dʲitʲá]

> The default is the final nasal being realized

Two possible explanations: phonology and allomorphy

6.1.1 Phonology

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

(41) a.   /vrem^n/ 'time' + ^{i} SG.NOM → [vrʲémʲə]
        b.   /mat^r/ 'mother' + ^{i} SG.NOM → [matʲ]

A yer is epenthesized and vocalized only when the consonant is realized
This can even be extended to *dʲitʲá* 'child' on the assumption that its underlying representation is the historically motivated -*dit^{jnt}*-, but this noun is obsolete anyway

There are no [NNʲ] or [Crʲ] stem-final clusters in the *ĭ*-declension

6.1.2 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

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A.3   The plural of *ĭ*-nouns

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

(42)   a.   tenʲ/tenʲámi 'shadow.SG.NOM/PL.INS'
          b.   selʲdʲ/selʲdʲámi 'herring.SG.NOM/PL.INS'

The 14 exceptional nouns do not behave uniformly:

(43)   a.   putʲ/putʲámi 'way.SG.NOM/PL.INS'
          b.   vremʲa/vremenámi 'time.SG.NOM/PL.INS'
          c.   dočʲ/dočerʲámi '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)

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