

LOST IN TRANSLATION: E- AND I-ORNAMENTS

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1 BACKGROUND: SLAVIC AND SERBO-CROATIAN DEGREE ACHIEVEMENTS

Slavic degree achievements are often discussed through the prism of **thematic vowel contrast**: Medová 2013, Caha et al. 2023 for Czech, Jabłońska 2007 for Polish, Simonović & Mišmaš 2022 for Slovenian, Vyhnevska 2025 for Ukrainian, among others

(1) a. *zjasnět* 'to become clear' / *zjasnit* 'to make clear' Czech, Caha et al. 2023
b. *głupieć* 'to get stupid' / *głupić* 'to make stupid' Polish, Jabłońska 2007:109
c. *veselity* 'to become merrier' / *veselyty* 'to make merrier' Ukr., Vyhnevska 2025:174
d. *beleti* 'to turn white(r); be white', *beliti* 'to whitewash, color white' Russian
e. *rumeneti* 'to become yellow' / *rumeniti* 'to make yellow' Slovenian, Marvin 2002:100

In all deadjectival verb pairs in (1):

- *e*-verbs are intransitive (and unaccusative)
- *i*-verbs are transitive

Serbo-Croatian is usually included in this list (Arsenijević & Milosavljević 2021, Milosavljević & Arsenijević 2022, Kovačević et al. 2024, among others):

(2) *beleti* 'to become white(r)', *beliti* 'to color white' Serbo-Croatian

This talk: the loss of the *e/i* contrast in Serbo-Croatian deadjectival verbs:

- non-productive nature of *e*-verbs
- disappearance of one member of the pair (except in the color domain)
- phonological leveling in the non-past paradigm

Main claim: phonological leveling is not a precursor to syntactic neutralization

2 TRANSITIVITY JUXTAPOSITION IN THE COLOR DOMAIN

The juxtaposition between intransitive *e*-verbs and transitive *i*-verbs is maintained in the color domain:

(3) a. *Pobelela* je od straha.
whiten.PTCP.F.SG AUX from fear
'She turned white from fear.'

b. *Izbelila* je zube/papir/košulju.
whiten.PTCP.F.SG AUX teeth/paper/shirt.ACC
'She whitened her teeth/the paper.'

Reflexive marking on *e*-verbs gives rise to essive readings. Traditionally, *e*-verbs are the only ones to do so:

(4) a. *Dan se beleo.*
day SE whiten.PTCP.M.SG
'The day was glisteningly white.'

b. *Šuma se zelenela.*
forest SE green.PTCP.F.SG
'The forest was beamingly green.'

For speakers of modern Serbo-Croatian, the situation has changed (Internet data):

(5) a. Trava se zelenila na brežuljcima i u dolinama.
 grass SE green.PTCP.F.SG on hills and in valleys
 'The grass was startlingly green on hills and in valleys.'

b. Kamen se belio kao sneg.
 stone SE whiten.PTCP.M.SG as snow
 'The stone was shining white as if made of snow.'

As no other *i*-verbs become stative when SE-marked, stativization suggests that color verbs are also losing the distinction between *e*- and *i*-verbs

3 THE LOSS OF THE JUXTAPOSITION OUTSIDE THE COLOR DOMAIN

The Serbo-Croatian *e*-/*i*-distinction has been eroding since at least the 19th century

(6) a. Sedela sam od briga. *e*-verb, intransitive
 gray-haired.PTCP.F.SG AUX from worries
 'I am turning gray from worries.'

b. Brige su me osedele. *e*-verb, transitive
 worries AUX me.ACC gray-haired.PTCP.PL
 'Worries have caused me to became grey.'

(7) a. Ostarila je brzo. *i*-verb, intransitive
 age.PTCP.F.SG AUX fast
 'She aged fast.'

b. Brige su je ostarile. *i*-verb, transitive
 worries AUX.3PL her.ACC age.PTCP.PL
 'Worries aged her.'

Three out of the four possible options are attested:

- (i) the *e*-verb obtains both meanings (6)
- (ii) the *i*-verb obtains both meanings
- (iii) the *i*-verb switches to the intransitive
- (iv) ~~the *e*-verb switches to the transitive~~

Table 1: Serbo-Croatian *e*-/*i*-neutralization

	<i>e</i> -verbs	<i>i</i> -verbs
retained non-causative, acquired causative	<i>oživjeti</i> (alive) <i>osedjeti</i> (gray)	
retained causative, acquired non-causative		<i>oslabiti</i> (weak) <i>ostariti</i> (old) <i>očoraviti</i> (blind) <i>omršaviti</i> (thin)
lost non-causative, acquired causative		
lost causative, acquired non-causative		<i>ozdraviti</i> (healthy/well)

The preference for the retention of the *i*-member of the pair is probably due to the fact that the thematic suffix *-e*- has long been unproductive in Serbo-Croatian.

Serbo-Croatian has thus developed a class of labile verbs whose intransitive members are not marked with the clitic *se*, which functions as a productive way of marking decausatives

4 PHONOLOGICAL VS. MORPHOSYNTACTIC NEUTRALIZATION

The morphosyntactic *e*- and *i*-verb classes exhibit neutralization outside of the change-of-state domain

4.1 The present tense paradigm

With the exception of four roots (WeSoSlav, Arsenijević et al. 2022), Serbo-Croatian *e*-verbs are realized with the vowel *i* in the present tense (see Milosavljević & Arsenijević 2022 for discussion):

These (obligatorily prefixed) roots are *-snabde-* (*snabdeti*, originally from *-bde-*), *-hte-* (*prohteti*), *-me-* (*izumeti*, *smeti*, (*spo*)*razumeti*, *umeti*) and *-spe-* (*dospeti*, *uspeti*, *prispeti*)

(8)	a.	vol- <i>e</i> -ti (love.INF)	vol- <i>i</i> -m (love.PRES.1SG)	<i>e</i> -stative
	b.	ljub- <i>i</i> -ti (kiss.INF)	ljub- <i>i</i> -m (kiss.PRES.1SG)	<i>i</i> -activity
	c.	žut- <i>e</i> -ti (yellow.INF)	žut- <i>i</i> -m (yellow.PRES.1SG)	<i>e</i> -change-of-state
	d.	bel- <i>i</i> -ti (whiten.INF)	bel- <i>i</i> -m (whiten.PRES.1SG)	<i>i</i> -change-of-state

Which means that the present tense paradigms of the two sets look identical:

(9)	a.	Belim od besa.	<i>beleti</i> (inchoative)
		whiten.PRES.1SG from anger	
		‘I am becoming white with anger.’	
	b.	Belim ga kiselinom.	<i>beliti</i> (transitive)
		whiten.PRES.1SG him.ACC acid.INS	
		‘I am whitening it with acid.’	

Forms built on the present-tense base, such as the imperative, also coincide

Segmental identity, however, does not translate into prosodic identity (for some verbs!)

4.2 The neutralization of the accentual pattern

Daničić 1880–1882, Stevanović 1964:612: the present-tense paradigms of *e*- and *i*-verbs have distinct accentuation:

(10) *e*-verb: no difference in the accentuation of the infinitive and the present tense

a.	béle- <i>ti</i> (whiten)	béle- <i>ím</i> (present)
b.	zeléne- <i>ti</i> (green)	zeléne- <i>ím</i> (present)
c.	otúpe- <i>ti</i> (blunt/numb)	otúp- <i>ím</i> (present)

(11) *i*-verb: difference in the accentuation of the infinitive and the present tense

a.	béli- <i>ti</i> (whiten)	béli- <i>ím</i> (present)
b.	zeléni- <i>ti</i> (green)	zeléni- <i>ím</i> (present)

The accentual change in the present tense paradigm in (11) amounts to the shift of the high tone associated with the thematic suffix *-i-* to the preceding syllable; see section A.1 for details

This means that in spoken language (9a) and (9b) were distinct:

(12) a. **Bélim** od besa. beleti (inchoative)
whiten.PRES.1SG from anger
'I am becoming white with anger.'

b. **Bélim** ga kiselinom. beliti (transitive)
whiten.PRES.1SG him.ACC acid.INS
'I am whitening it with acid.'

Such is no longer the case, the stress-shifting pattern in (10) is used for both *e*- and *i*-verbs in the pair

What happened first, semantic neutralization or phonological one?

Strikingly, semantics comes first

4.3 The timing of the neutralization

Two arguments in favor of semantic neutralization happening prior to the accentual leveling

- attested textual data
- constraints on the accentual leveling

4.3.1 Textual sources

Stevanović 1964:612 points out the difference in the accentual patterns of paired *e*- and *i*-verbs, which is thus present in the 20th century

He also reports (p.613-615) instances where the two types of change-of-state verbs are used interchangeably:

Early 19th century onwards:

(13) Te mere su **oživele** narodnu proizvodnju.
those.DEM measures.NOM AUX.PL livened.up.PTCP.F.PL national manufacturing.ACC
'Those measures livened up the national manufacturing.'
(*Beogradski Dnevnik/Belgrade Daily News* 1882, 7, 126)

Mid & Late 19th century:

(14) Ako hoće može **ozdraviti**.
if wishes.PRES.3SG can.PRES.3SG get.well.INF
'If he/she wishes, he/she can get well.'
Vjenceslav Novak (1859-1905) - *Dva Svijeta* (1901, p. 230)

(15) Ja **ostario** ne mogu nikuda.
I got.old.PTCP.M.SG NEG can.PRES.1SG nowhere.
'I got old and cannot go anywhere.'
Stjepan Mitrov Ljubiša (1824-1878), *Pripovijesti* (1875, p.22)

(16) Vidio je da je bila jako **omršavila**.
see.PTCP.F.SG AUX.3SG that AUX.SG be.PTCP.F.SG a.lot got.thin.PTCP.F.SG
'He saw that she got really thin.'
Josip Eugen Tomić (1843-1906), *Melita* (1899, p.148)

(17) **Oćelavio** je, pa se čini još starijim.
got.bald.PTCP.M.SG AUX.3SG so SE seem.PRES.3SG even older
'He got bald, so he looks even older.'

Jakov Ignjatović (1824-1888), *Večiti mladoženja* (1878, p. 129)

The sources provided indicate that the process

- has been ongoing since, at least, early 19th century.
- took place in both directions, but asymmetrically (*i*-verb obtaining both meanings)
- spread areally throughout the Serbo-Croatian continuum (Serbia, Croatia, Montenegro, and Bosnia) & taking place at the same time

The fact that Stevanović reports the accentuation patterns as distinct for *e*- and *i*-verbs while noting the loss of the opposition in their use (section 3) suggests that semantic reanalysis preceded the accentual change (section 4.2) but the evidence is not conclusive

4.3.2 Constraints on accentual leveling

The accentual leveling did not occur in *i*-verbs lacking an *e*-counterpart:

(18) paired *i*-verb: lost difference between the infinitive and the present tense accentuation

a. béliti (whiten.INF) bélím (PRES.1SG old) bélím (PRES.1SG new)
b. zeléni-ti (green.INF) zélením (PRES.1SG old) zélením (PRES.1SG new)

(19) unpaired *i*-verb: retained difference between the infinitive and the present tense

a. krátiti 'shorten.INF' krátim (PRES.1SG old) krátim (PRES.1SG new)
b. hrápaviti 'anger.INF' hrápavim (PRES.1SG old) hrápavim (PRES.1SG new)

The contrast is quite robust: all unpaired transitive deadjectival *i*-verbs retained their distinct present-tense accentual paradigm

The accentual types of their corresponding adjectives do not distinguish between these classes, see section A.2

4.4 Intermediate summary

To a great extent, the original Slavic distinction between *e*- and *i*-verbs is neutralized in Serbo-Croatian, with the color domain being the final one undergoing change.

- In the color domain, essive derivation does not distinguish between *e*- and *i*-verbs
- Morphosyntactic neutralization is accompanied by segmental non-distinctiveness in the present tense
- The neutralization of *e*- and *i*-verbs has led to the loss of their accentual distinctiveness in the present tense
- Unpaired *i*-verbs do not undergo accentual leveling

5 OTHER NEUTRALIZATION CONTEXTS

5.1 Derived event nominals

Event nominals in *-enje*- take the same form for transitive and intransitive interpretations:

(20) žut ‘yellow’ → žuteti ‘to turn yellow, wilt’, žutiti ‘to color yellow’

a. Žućenje lišća je normalan proces. intransitive
yellowing leaves.GEN AUX.SG normal process
‘The wilting/yellowing of leaves is a normal process.’

b. Žućenje jaja za Uskrs je deo tradicije. transitive
yellowing eggs.GEN for Easter AUX.SG part.of tradition
‘Painting eggs yellow for Easter is a part of tradition.’

Complex event nominals in Serbo-Croatian are argued to be derived from PPPs by adding the suffix *-je* (Marvin 2002, Simonović & Arsenijević 2014, Kovačević 2021), which results in the mutation of the final consonant of the PPPs of *i*-verbs: PPPs end in *-n* or *-t* and the sequences *n+j* and *t+j* get fused into *nj* [n] and *ć* [tɛ], respectively

The same iotation process — obligatory for all transitive *i*-verbs (Stevanović 1964:248, but see WeSoSlav database for 3 possible exceptions) — takes place in passive past participles (PPPs)

As inchoative *e*-verbs do not form PPPs, (20a) has to be derived in a different way.

Since the mutation of the final consonant in complex event nominals of *e*-verbs does not happen across the board (21), traditional grammars treat instances of iotation as due to analogy.

(21) a. sèdenje ‘sitting’, sédenje ‘graying (of hair)’ no mutation
b. življenje ‘living’ mutation

The precise derivation of iotated event nouns (20a) falls outside of the scope of this discussion and requires independent investigation.

What is crucial is the surface ambiguity resulting from the segmental identity of *e*- and *i*-complex event nominals.

5.2 Loss of the opposition in Ikavian

Serbo-Croatian is traditionally divided into three major dialect groups—Kajkavian, Čakavian, and Štokavian—named after their respective forms of the interrogative pronoun ‘what’: *kaj*, *ča*, and *što/šta*.

Štokavian is the most geographically widespread of the three groups. It is spoken across Serbia, Bosnia and Herzegovina, Montenegro, and large parts of Croatia, and it provides the dialectal basis for the modern Serbo-Croatian standard language.

Like Kajkavian and Čakavian, Štokavian is internally heterogeneous, comprising numerous sub-dialects that differ along phonological, morphological, and prosodic dimensions. One of the most important and traditionally employed criteria for dialectal subclassification across Serbo-Croatian is the reflex of Common Slavic *jat* (ě).

Common Slavic distinguished a short vowel *ě* (traditionally referred to as *jat*, orthographically ě) from a long ě, with ě serving as the vocalic base for the formation of *e*-verbs. The loss of Common Slavic ě in Serbo-Croatian (13th and 15th c.) resulted in three reflexes across all three major dialect groups: *jat* is reflected as *e* (Ekavian), *i* (Ikavian), or as a complex reflex traditionally described as *(i)je* (Ijekavian).

Within Štokavian, these reflexes show a clear geographic distribution. Ekavian predominates in most Eastern Štokavian dialects, including the majority of dialects spoken in present-day Serbia. Ikavian dialects, characterized by *i* as the reflex of *jat*, are found primarily in certain

north-central and coastal areas. A third group, attested across many central and southern Štokavian areas, including large parts of Croatia, Montenegro, and Bosnia and Hercegovina exhibits a length-sensitive reflex, with *ije* in historically long syllables and *je* in historically short syllables.

(22) a. leteti 'fly', sedeti 'become gray', goreti 'burn', živeti 'live' Ekavian
b. letjeti 'fly', sijedjeti 'become gray', gorjeti 'burn', živjeti 'live' Ijekavian
c. letiti 'fly', sediti 'become/make gray', goriti 'burn', živiti 'live' Ikavian

This distribution shows that the reflex of *jat* functions as a major internal isogloss within Štokavian, structuring its internal variation rather than simply distinguishing Štokavian from Kajkavian and Čakavian.

As is easy to see (22c), the difference between intransitive *ě*-verbs and transitive *i*-verbs would be lost in Ikavian

Due to their areal distribution, an individual speaker would have easily been exposed to more than one reflex of *jat*

5.3 Masculine singular *l*-participle in Ijekavian

In addition, the former *ě* in Ijekavian turned into *i* before *l* in the coda and before *j* (Stevanović 1964:84)

Actually, probably just before glides, with *l* in the coda turning into *w*

The past participle in Serbo-Croatian is formed by the suffix *-l-*, turning to [o] in the coda:

(23) a. sto/stola 'table.NOM/GEN'
b. čitalac/čitaoca 'reader.NOM/GEN'
c. pao/pala 'fall.PTCP.MSG/FSG'

Therefore, all masculine *l*-participles in Ijekavian are subject to this change:

(24) a. gorjeti 'burn.INF' → gorio 'burn.PTCP.MSG'
b. voljeti 'like, love. INF' → volio 'like, love.PTCP.MSG'

Hence *e*- and *i*-verbs cannot be distinguished in perfect and pluperfect (both are formed using *l*-participle)

5.4 Non-neutralization contexts

For paired and unpaired *e*- and *i*-verbs:

- Infinitives are segmentally distinct in Ekavian and Ijekavian.
- Active past participles of *e*- and *i*-verbs are segmentally distinct in Ekavian throughout the paradigm and in Ijekavian everywhere, but masculine singular (section 5.3)

5.5 Intermediate summary

The distinction between *e*- and *i*-verbs is systematically neutralized in:

- present-tense forms (segmentally already in Common Slavic; accentually later)
- derived event nominals and passive past participles (likely also in Common Slavic)
- Ikavian dialects (due to the loss of the *jat* the 13th-15th centuries)
- masculine participles in Ijekavian (following the loss of the *jat*)

Since they apply across the board, they could have served as a trigger for reanalysis

6 SUMMARY AND FURTHER QUESTIONS

Several factors contributing to the reanalysis:

- the non-productive nature of the thematic suffix *-e-* contributed to the vulnerability of the set
- the neutralizations contexts (sections 4 and 5) made *e*- and *i*-verbs indistinguishable in many environments of use
- productive and predictable decausativization mechanism (SE-marking), contrasted with the idiosyncratic relation between *e*- and *i*-verbs (ask for the handout from our other talk today)

The group of labile causative/inchoative verbs was created, where the choice of the thematic suffix carries no semantics

i-verbs in this group do not undergo morphologically marked decausativization, making them distinct from other change-of-state *i*-verbs

Issues for further research:

- What role do prefixes play?
- In cases where its *i*-counterpart is lost, in order to express causative semantics, the shared-root *e*-verb typically needs to be prefixed, e.g. *živ-e-ti* (be alive) and *o-živ-e-ti* (resuscitate), *lud-e-ti* (go mad) and *iz-lud-e-ti* (make mad), *gluv-e-ti* (go deaf) and *o-gluv-e-ti* (make/become deaf).
- Not the case with the *i*-verbs. Both the imperfective and the perfective forms of the shared root *i*-verbs that acquire inchoative semantics can be used to express either of the two meanings.

APPENDIX: ON VERBAL TONE AND STRESS IN SERBO-CROATIAN

Inkelas & Zec 1988 following Jakobson [1937] (1962), Browne & McCawley 1973, Zec 1999, Zec & Zsiga 2010, among others: tone and length are separate properties

Tone and stress are linked (various analyses):

- Tone (H) is a property of a mora and it can be underlying or assigned
- H spreads to the preceding mora
- Stress is assigned to the leftmost syllable containing a High-toned mora in a word (fully predictable from tone)
- In the absence of H, the leftmost syllable is assigned both stress and H

In the surface representation there is one stress per word

Four traditional types of accents and their analysis (underlining indicates the position of the surface stress):

(25) a. Long Falling (ô): zâsta va ‘flag’ (no spreading, word-initial only)
 zâstava $\underline{\mu\mu\mu}$ μ
HLL L

b. Short Falling (ö): jë ze ro ‘lake’ (no spreading, word-initial only)
 jëzero $\mu\mu\mu$
H L L

c. Long Rising (ô): ráz li ka ‘difference’ (H spreads to the preceding long σ)
 rázlika $\mu\mu\mu\mu$
LHH L

d. Short Rising (ò): pàp ri ka ‘pepper’ (H spreads to the preceding short σ)
 pàprika $\mu\mu\mu$
H H L

Stress is assigned to the leftmost syllable bearing H

With rising accents, the underlyingly specified high tone spreads one mora to the left
 And it never happens that a high tone is assigned to both moras of a long vowel

A.1 Preference for stem stress in Neo-Štokavian

Simonović & Kager 2020: Standard Serbo-Croatian is developing a prosodic system in which stressed non-stem material is increasingly avoided and surface stress becomes a property of the word stem

Could the *e*-/*i*-present-tense neutralization (section 4.2) be part of this phenomenon?

(26) paired *i*-verb: lost difference between the infinitive and the present tense accentuation

a. béliti (whiten.INF) bélím (PRES.1SG old) bélím (PRES.1SG new)
 b. zéléní-ti (green.INF) zéléním (PRES.1SG old) zéléním (PRES.1SG new)

The tone/stress interaction in the infinitive indicates H on the thematic vowel:

(27) a. bé li ti b. ze lè ni ti infinitive stress pattern

$\mu\mu\mu$ $\mu\mu\mu\mu$
 | |
 H H

The old present-tense pattern involved the shift of the H tone to the preceding syllable:

(28) a. bê lí m b. zè le ni m old present-tense stress pattern

$\mu\mu\mu$ $\mu\mu\mu\mu$
 | |
 H H

Simonović & Kager’s constraint merely requires stress to fall on the stem

In both present-tense forms in (28) stress is on the stem

Conversely, the accentual leveling in paired *i*-verbs (26) can be straightforwardly analyzed as a case of paradigm uniformity (Faithfulness to the infinitive stem)

A.2 Adjectival roots in neutralized verbal stems

Can the direction of the Serbo-Croatian *e*-/*i*-neutralization in Table 1 be due to the properties of the adjectival bases?

The specific case of *sèdeti* ‘to sit’ in Ekavian having turned into *sjèditi* in Ijekavian (Alexander 2006:48) suggests that segmental phonology is not the driving factor

Stevanović 1964:613 singles out intransitive verbs based on adjectives in *-av-* as having shifted from the *e*-class to the *i*-class

Regarding stress, leveled and non-leveled verb groups contain adjectives of all accentual types

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