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DYNAMIC INTERACTIONS IN PHONOLOGICAL SYSTEMS: PARTIAL PRODUCTIVITY

ДИНАМІЧНІ ВЗАЄМОДІЇ У ФОНОЛОГІЧНИХ СИСТЕМАХ: ЧАСТКОВА ПРОДУКТИВНІСТЬ

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This article investigates the phenomenon of partial productivity within a phonological system, focusing on the alternation of mid vowels [ɔ] and [ɛ] with [i] in specific morphological contexts. Traditionally regarded as a historical remnant with limited relevance to contemporary grammatical competence, this study reexamines the phenomenon, emphasizing its partial productivity in modern phonological systems. Adopting a synchronic perspective, the analysis proposes that this alternation functions as a cyclic lexical transformation governed by specific morpho-phonological conditions, including underlying [ɔ] or [ɛ], a derived "jer" environment, and the presence of a closed syllable. The alternation, however, is not uniformly applied across all contexts, revealing distinct patterns of productivity and constraint. The study explores both systematic instances of the alternation and notable exceptions, suggesting that while the process is active in certain linguistic environments, it is restricted in others due to lexical, morphological, and phonological factors. This partial productivity reflects its integration within contemporary phonological competence, shaped by dynamic interactions between historical legacies and modern linguistic rules. The article provides a detailed analysis of these patterns, offering a framework that accounts for variability and encourages further empirical research to deepen understanding. By synthesizing synchronic and diachronic perspectives, this study contributes to a more comprehensive understanding of phonological alternations and their role in shaping complex linguistic systems.

Keywords: *generative linguistics, phonology, autosegmental phonology, phonological alternations, partial productivity*

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Ця стаття досліджує явище часткової продуктивності у фонологічній системі, зосереджуючись на чергуванні середніх голосних [ɔ] та [ɛ] із [і] у специфічних морфологічних контекстах. Традиційно вважане історичним залишком із обмеженим значенням для сучасної граматичної компетентності, це явище переглядається у дослідженні з акцентом на його часткову продуктивність у сучасних фонологічних системах. Приймаючи синхронний підхід, аналіз показує, що це чергування функціонує як циклічна лексична трансформація, зумовлена специфічними морфофонологічними умовами, такими як базові [ɔ] або [ɛ], похідне середовище "єра" та наявність закритого складу. Однак чергування не застосовується однаково у всіх контекстах, виявляючи чіткі моделі продуктивності та обмежень. У дослідженні розглядаються як систематичні випадки чергування, так і помітні винятки, що свідчить про те, що цей процес активний у певних мовних середовищах, але обмежений в інших через лексичні, морфологічні та фонологічні чинники. Ця часткова продуктивність відображає її інтеграцію у сучасну фонологічну компетентність, сформовану динамічною взаємодією між історичними залишками та сучасними мовними правилами. Стаття пропонує детальний аналіз цих моделей, пропонуючи рамковий підхід, який враховує варіативність і заохочує подальші емпіричні дослідження для глибшого розуміння. Синтезуючи синхронні та діахронні перспективи, це дослідження сприяє більш всебічному розумінню фонологічних чергувань і їхньої ролі у формуванні складних мовних систем.

***Ключові слова**: генеративна лінгвістика, фонологія, автосегментна фонологія, фонологічні чергування, часткова продуктивність.*

I. INTRODUCTION

Understanding how language functions require exploring the cognitive mechanisms that enable speakers to produce and comprehend an infinite number of linguistic constructions. The generative nature of language, the ability to generate an infinite number of linguistic structures from a finite set of memory-stored resources—is a cornerstone of modern linguistic theory. One of the primary objectives of linguistic research is to identify and explain the underlying mechanisms that allow us to distinguish between well-formed and ill-formed constructions. In some cases, investigations uncover elegant, optimal systems, while in others, explaining a phenomenon necessitates examining a range of heterogeneous factors that collectively shape what appears to be a single linguistic phenomenon. The current project falls into the latter category, as it seeks to integrate both diachronic and synchronic linguistic evidence to elucidate the generative mechanisms that underlie the phonological competence of language speakers.

Partial productivity represents a linguistic phenomenon in which certain rules or patterns are not universally applicable but are instead restricted to specific contexts, subsets of words, or structural environments. In contrast to fully productive rules, which can be applied broadly to generate novel forms (such as the addition of *-ed* to regular English verbs to indicate the past tense), partially productive rules function within more narrowly defined boundaries. For example, the English suffix *-en* (as in *widen* or *shorten*) exhibits partial productivity because it cannot be consistently attached to all adjectives (*fasten* or *bluen* are not standard formations).

This phenomenon is particularly significant as it illustrates how language operates at the intersection of systematicity and usage patterns. Partial productivity often emerges as a result of historical developments, irregularities, or constraints imposed by phonology, morphology, or semantics. Analyzing partial productivity provides valuable insights into the evolution of language, the cognitive processes underlying the internalization and application of linguistic rules, and the

mechanisms through which exceptions are maintained within a linguistic system. Despite its significance, partial productivity in phonology remains a largely under-researched area of study.

This paper addresses one such underexplored phenomenon that is widely considered characteristic of grammar. Specifically, I present a preliminary phonological analysis of the alternation between [ɔ], [ɛ], and [i]. The data in (1) illustrate this phenomenon, which, in general terms, can be described as the alternation of [ɔ] and [ɛ] in open syllables with the segment [i] in closed syllables.

(1) Nominative Sg.	Genitive Sg.	
r'ik	rɔku	'year'
pɔt'ik	pɔtɔku	'stream'
pɔp'il	pɔpɛlu	'ash'

This phonological alternation occurs in a limited set of lexical items, primarily nouns and verbs. Moreover, it exhibits a wide range of exceptions. In traditional descriptive grammar, this alternation is often viewed as a fossilized historical remnant, lacking any synchronic phonological motivation (Shevelov, 1965, 2002). It is typically characterized as a language-specific reflex, resulting from the loss of word-final vowels in Late Common Slavic (LCS) lexemes. For example, the LCS words [stɔlЪ] ('table') and [rɔkЪ] ('year'), each containing a word-final vowel (represented by the Cyrillic grapheme "Ъ"), evolved into [st'il'] ('table') and [r'ik] ('year') following the loss of the "Ъ."

However, this historical explanation offers little insight into the grammatical competence of a native speaker. At best, it can be interpreted as a proposal that an encapsulated subset of the lexicon undergoes this alternation. In this paper, I challenge the "encapsulation hypothesis" as the default explanation for the [ɔ], [ɛ] → [i] alternation, and instead propose an alternative hypothesis that seeks a synchronic generalization of the pattern. I will refer to this phenomenon as "ikavism," the term traditionally used to describe this phonological process. To begin the discussion, I present an informal exposition of the target alternation, accompanied by a list of exceptions as outlined in Press and Pugh (1999).

II. RESULTS AND DISCUSSION

The [ɔ], [ɛ] → [i] alternation: A traditional grammar perspective

Press and Pugh (1999) presented the following description of "ikavism" stating that "we have **i** before a single consonant which belongs to the same syllable" (p. 35). Also, they listed number of cases where this alternation does not happen. These exceptions include:

(i) –ɔrɔ-,-ɛrɛ-, -ɔlɔ-, -ɛlɛ- between consonants:

mərɔz	'frost'	mɔlɔt	'hammer'
bɛrɛx	'bank, shore'	ʃɛlɛst	'rustling
hɔlɔd	'famine'		

(ii) –ɔr-, ɛr-, -ɔv between consonants:

hɔrb	'hump'
vɔvk	'wolf'

(iii) Where there is vowel-zero alternation:

sɔn	(Nom.Sg.)	snu	(Gen.Sg)	‘dream’
zɛml’a	(Nom.Sg.)	zɛmɛl’	(Gen.Pl.)	‘land’
dɛn’	(Nom.Sg.)	dn’a	(Gen.Sg.)	‘day’

(iv) In some words of a ‘bookish’ or formal nature:

narɔd	narɔdu	‘people’
zakɔn	zakɔnu	‘law’

(v) In prefix vɔz- and suffix –tɛl’:

vɔzvɛlɨčɨtɨ	‘to extol’
včɨtɛl’	‘teacher’

(vi) In genitive plural of deverbal nouns in – ɛnn’a:

značɛnn’a	značɛn’

(vii) In the second-person singular non-past and the imperative

idɛʃ	‘You go’
dɔzvɔl’tɛ	‘Allow’
prɨxɔd’	‘Come’

(viii) In many suffixes:

ʃɛvčɛnkɔ	‘family name’
malɛn’kɨj	‘small’
hɔlubɔn’kɔ	‘pretty little dove’

(ix) In foreign words:

pɛdahɔh	‘pedagogue’
ɔrdɛn	‘order, decoration’

Unless they are older and have been absorbed, for example:

ʃkɔla	(Nom.Sg.)	ʃk’il	(Gen.Pl.)	‘school’
kɔl’ir	(Nom.Sg.)	kɔl’ɔru	(Gen.Sg.)	‘color’

(x) In non-Ukrainian surnames and other proper names in -ɔv, ɛv, -jɛv, and in words formed from them:

prohɔrɔv	‘surname’
lukjanɔv	‘surname’

The informal account of the "ikavism" alternation offered by Press and Pugh (1999) provides a broad but occasionally inaccurate description of the phenomenon. Their straightforward rule – that the alternation occurs in closed syllables with a single consonant in the coda – fails to capture the complexity of the pattern, as demonstrated by the data in (2). In these examples, words with two consonants in the coda still exhibit the "ikavism" alternation, contradicting the rule proposed.

(2)

[m’ist]	[mɔstu]	‘bridge’ (Nom.Sg./Gen.Sg.)
[zr’ist]	[zrɔstu]	‘height’ (Nom.Sg./Gen.Sg.)
[zl’ist]	[zlɔsti]	‘anger’ (Nom.Sg./Gen.Sg.)

Furthermore, the list of exceptions, comprising numerous overlapping and often tangled patterns, is challenging to interpret coherently. For instance, the exception categories in (v) and (vi), which refer to specific affixes, could naturally be subsumed under the broader, albeit vague, category of "many suffixes" in (viii). Similarly, cases (iv), (ix), and (x) all suggest types of lexical exceptions that are not easily distinguishable. Despite the informal nature of Press and Pugh's (1999) presentation of "ikavism," it provides essential groundwork for theoretical refinement. In the following sections, I take the first steps toward such refinement by focusing on instances of "ikavism" in nouns, identifying the morphological contexts where this alternation occurs, and then examining key exceptions listed by Press and Pugh (1999) in (i), (ii), and (iii).

Morphological sites of [ɔ], [ɛ] →[i] alternation

Nouns have grammatical gender, number, and are declined for 7 cases. There are four declension types. The "ikavism" alternation nouns happens only in the following morphological contexts:

(a) Masc. Nom. Sg., Second Declension
(b) Fem. Gen. Pl., First Declension
(c) Fem. Nom./Acc./Voc. Sg., Third Declension
(d) Neut. Gen. Pl., Second Declension

(3) Morphological sites of Ikavism in nouns

(a)

[p'ip]	[pɔp+a]	('priest')
[b'ib]	[bɔb+u]	('bean')
[d'im]	[dɔm+u]	('house')

(b)

[si'l']	[sɔl'+i]	('salt')
[b'il']	[bɔl'+i]	('pain')
[ɔs'in']	[ɔsɛn+i]	('autumn')
(c) [n'ig]	[nɔg+a]	('foot'/'leg')
[k'iz]	[kɔz+a]	('goat')
[k'is]	[kɔs+a]	('braid')

(d)

[kɔl'is]	[kɔlɛs+a]	('wheels')
[pl'ič]	[plɛč+ a]	('shoulders')
[s'il]	[sɛl+a]	('villages')

Data in (3) illustrate the above listed morphological sites, respectively. What is common to all cases where the segments [ɔ], [ɛ] alternate with [i] is that the null case marker is added to the stems ending in consonants.

(4) Ikavism: ɔ, ɛ → i /____C^n $0]_{syllable}$ {ø}

Examining the dataset in (3), an initial generalization of "ikavism" can be expressed by the rule in (4): [ɔ] and [ɛ] alternate with [i] in closed syllables followed by a null suffix. Essentially, this generalization refines the informal account presented in the introduction, underscoring the importance of analyzing contexts in which "ikavism" does not occur.

Cases in which [ɔ], [ɛ] →[i] alternation does not occur

Words undergoing vowel-zero alternation

A large class of words, despite meeting all the necessary conditions in (4), does not undergo the [ɔ], [ɛ] → [i] alternation. The data in (5) provide a representative sample of these lexical items. What these words have in common is that the vowels [ɔ] and [ɛ], which appear in grammatical forms marked by a null suffix, disappear when vowel suffixes are added to the stems. To understand why these words do not follow the "ikavism" alternation, we must examine the phonological mechanisms underlying the vowel-zero alternation more closely. Two competing hypotheses for these "fleeting vowels" are discussed in the literature: (a) epenthesis, as proposed by Szpyra (1992), and (b) the presence of abstract underlying vowels, which appear only in specific phonological contexts, as suggested by Rubach (1984, 1986).

(5) Words with vowels-zero alternation escaping "ikavism"

(a)

dɛn'	dn'+a	('day')
sɔn	sn+a	('dream')

(b)

vɛsɛn	vɛsn'+a	('spring')
bɔčɔk	bɔčk+a	('barrel')

(c)

v'ikɔn	v'ikn+ɔ	('window')
v'idɛr	v'idr+ɔ	('pail')

Data in (6) and (7) make the point against the epenthetic explanation and, in such way, lend support for the abstract underlying vowels.

(6) Admissible Consonant Clusters (Mac. Gen. Sg.- Nom. Sg)

(a)

[pask+u]	[pasɔk]	('belt')
[spɨsk+u]	[spɨsɔk]	('list')

(b)

[blɨsk+u]	[blɨsk]	('glamour')
[tɨsk+u]	[tɨsk]	('pressure'

(7) Unpredictability of [ɔ] and [ɛ]

[sɔn]	[sn+a]	'dream'	vs.	[vɛsɛn]	[vɛsn+a]	'spring'

The words in (6a) and (6b) do not differ in the Genitive Singular, as both end in the consonant cluster [sk] followed by the Genitive suffix [u]. However, in the Nominative Singular, the words in (6a) acquire a vowel [ɔ] to break up the [sk] cluster, whereas the phonological structure of the lexemes in (6b) remains unchanged. The presence of consonant clusters that sometimes attract a hypothetical epenthetic vowel and sometimes do not challenge the epenthesis-based explanation for the vowel-zero alternation.

The example in (7) further underscores this point. Unlike in Polish and Slovak, where a single vowel—[ɛ] or [a], respectively—participates in vowel-zero alternation (see Rubach, 1984), Ukrainian features two distinct phonemes, [ɔ] and [ɛ], in this role. Thus, although the words in (7) share the consonant cluster [sn], the clusters are broken by different vowels ([ɔ] or [ɛ]). Together, the data in (6) and (7) provide evidence that resists an epenthesis-based account. The differences observed

cannot be attributed merely to epenthetic insertions; rather, they suggest underlying contrasts in the phonological representations of the examples.

The hypothesis of underlying abstract vowels (traditionally called "jers") has been a central topic in Slavic phonology. Lightner's (1965) dissertation marked the beginning of synchronic analysis of these segments, proposing, for primarily theory-internal reasons, that Slavic words undergoing vowel-zero alternation contain abstract vowels in their underlying representation. According to Lightner, these vowels vocalize when followed by other "jers" and delete elsewhere. In his framework, the front [ĭ] and back [ŭ] "jers" are characterized as [high, front, centralized, lax] and [high, back, centralized, lax], respectively. The vocalization rule, termed Lower, and the rule for "jer" deletion are presented in (8).

(8) Lower : ĭ, ŭ → ɛ, ɔ /_____C_0 { ĭ, ŭ}
Jer Deletion: Elsewhere, ĭ, ŭ → ø

This discussion also suggests a minor correction of the "Ikavism" rule in (4), as the null case suffixes are now considered to be "jer". An updated version of the Ikavism rule:.

Updated Ikavism: ɔ, ɛ → i /____$C^n{}_0]_{syllable}$ {Jer}

With an independent explanation for the vowel-zero alternation, it is plausible to assume that these "fleeting segments" avoid "ikavism" because they vocalize after the [ɔ], [ɛ] → [i] alternation has already occurred. To confirm this, we need to establish the precise ordering of these rules within the lexical derivation. Two defining characteristics of these rules—Structure Preservation and the Derived Environment Condition (Kenstowicz, 1994)—indicate that both are part of the cyclic lexical stratum of Ukrainian phonology. The data in (9) support this hypothesis.

(9)

[p'isn'+a]	(Nom.)	/p'isYn'+a/	('song')
[p'isɛn']	(Gen.Pl.)	/p'isYn' + Y/	
[pisɛn'k+a]	(Nom. Dim.,)	/p'isYn' +Yk+a/	
[p'isɛn'ɔk]	(Gen, Pl. Dim.)	/p'isYn' + Yk+Y/	

As shown in (9), to produce the correct surface form [p'isɛn'ok], the rule vocalizing "jers" must apply cyclically to the underlying representation /p'isYn' + Yk + Y/. If this rule does not apply, the ungrammatical form [p'isn'ɔk]* would result on the surface (here, as in subsequent examples, "jers" are represented by the capital Y). Synthesizing these details, the derivation in (10) illustrates how words with "fleeting vowels" circumvent the "ikavism" alternation.

(10)

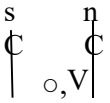
UR	/rɔk/+/Y/ ('year')	/sYn/+/Y/ ('dream')	
Cyclic			
	rikY	N/A	Ikavism: ɔ, ɛ → i /____$C_0]_{syllable}$ {Y}
	N/A	sɔnY	Lower : ĭ, ŭ →: ɛ, ɔ /_____C_0 { ĭ, ŭ}
Postcyclic			
	r'ik	sɔn	Jer Deletion
SR	r'ik	sɔn	

Although this derivation yields correct surface forms for underlying /rɔk/ and /sYn/, it also reveals some unique properties of "jers." First, consider that the "jer" appended to the stem [rɔk], being a vowel, should ideally trigger resyllabification of the sequence [[rɔk]Y] into [rɔ.kY]. This resyllabification, however, would contradict our earlier generalization that the [ɔ], [ɛ] → [i] alternation occurs only in closed syllables. To address this inconsistency, one might propose that the closed-syllable condition of "ikavism" is merely epiphenomenal and thus unnecessary—suggesting that the presence of a following "jer" alone suffices to trigger the [ɔ], [ɛ] → [i] alternation.

Another notable property of "jers" is their seemingly contradictory phonological effects: while they prompt mid vowels to raise in the [ɔ], [ɛ] → [i] alternation, they simultaneously cause preceding high vowels (i.e., "jers") to lower when vocalized. This contradiction, unlike the previous resyllabification issue, cannot be reconciled through straightforward stipulation.

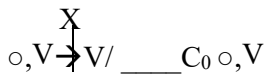
Reinterpreting "jers" within the framework of Autosegmental Phonology (Kenstowicz, 1994) offers a more coherent account. Following Rubach (1986), "jers" can be viewed as floating feature matrices that lack corresponding metrical slots. Example (11) illustrates the autosegmental representation of the word /sYn/ ("dream").

(11)



Correspondingly, "jer" vocalization can be understood as a V-slot insertion which occurs in the context of the following "jer". The Autosegmental "Lower" is offered (12)

(12) Autosegmental "Lower":



Reinterpreting "jers" and the rule of their vocalization within an autosegmental framework resolves all the peculiarities noted above, while preserving the derivational process outlined in (10). In this view, "jers" do not lower high, lax vowels; rather, they solely raise the mid vowels [ɔ] and [ɛ] in the context of "ikavism." Moreover, because they lack a V-slot, "jers" do not participate in syllabification. This non-syllabic characteristic eliminates the need for the previous stipulation suggesting that the closed syllable condition might be irrelevant to "ikavism." In fact, the data in (13) clarify that syllable structure must indeed be referenced to account for the [ɔ], [ɛ] → [i] alternation.

(13)

/ɔrYl/	[ɔrɛl]	(Masc. Nom. Sg)	[ɔrl+a]	(Gen.Sg.)	'eagle'
/ɔsYl/	[ɔsɛl]	(Masc. Nom. Sg)	[ɔsl+a]	(Gen.Sg.)	'donkey'
/vɛsYn/	[vɛsɛn]	(Fem. Gen.Pl.)	[vɛsn+a]	(Nom.Sg.)	'spring'
/vɛsYl/	[vɛsɛl]	(Neu. Gen. Pl.)	[vɛsl+ɔ]	(Nom.Sg.)	'oar'

The words in (13) are all disyllabic items containing "jers" in their underlying representations. Crucially, their first vowels are [ɔ] or [ɛ], which, before the vocalization of "jers" (i.e., when the "ikavism" rule applies), appear to be in closed syllables but do not undergo alternation. To account for this lack of raising, we need to examine their syllable structure at the intermediate derivational stage. For example, the sequence [vɛsn] might appear to have two consonants in its coda but actually follows the Sonority Sequencing Principle and is syllabified as {vɛs}<n>. Thus, the extra-syllabic

nasal in this case, as well as the final liquid [l] in other cases in (13), prevents the rule that raises [ɔ], [ɛ] to [i] from applying. This observation reinforces the importance of syllable structure for "ikavism," which occurs only when [ɔ] and [ɛ] are situated in a fully closed syllable.

In sum, this detailed examination of the first exception pattern to "ikavism" reveals that words undergoing vowel-zero alternation consistently escape vowel raising due to their distinct underlying representations. All these words contain "jer" vowels that vocalize after the application of the [ɔ], [ɛ] → [i] rule.

This analysis also refines our understanding of "ikavism" itself. The rule that raises [ɔ] and [ɛ] to [i] is a cyclic lexical rule, applying only in a derived morpho-phonological environment when "jer" suffixes are added. Additionally, "ikavism" only operates if [ɔ] and [ɛ] are part of a fully closed syllable—that is, when the syllable has a coda and is not followed by an extra-syllabic segment. The class of exceptions discussed here thus serves as evidence that "ikavism" takes place only within the derived environment created by "jer" suffixes. At certain stages of derivation, these words receive [ɔ] or [ɛ] in closed syllables but do not alternate, indicating that a "jer"-derived environment is essential for the alternation to occur.

Words containing –ɔrɔ-,-ɛrɛ-, -ɔlɔ-, -ɛlɛ- sequences

A second, somewhat smaller class of words in which [ɔ] and [ɛ] in closed syllables do not typically alternate with [i] consists of those incorporating the sequences [ɔrɔ], [ɛrɛ], [ɔlɔ], and [ɛlɛ] within their stems. Data in (14) presents a representative sample of these lexemes, arranged according to the morphological sites of the "ikavism" alternation discussed in section 1.

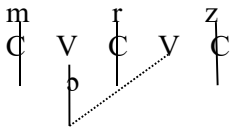
(14)

(a)		
[mɔrɔz]	[mɔrɔz'+iv]	('frost')
[bɛrɛh]	[bɛrɛh'+iv]	(river bank')
(b)		
[kɔrɔn+a]	[kɔrɔn]	('crown')
[pɛlɛn+a]	[pɛlɛn]	('edge of a skirt')
(c)		
[zɛlɛn']	[zɛlɛn'+i]	('green grass')
[molod']	[molod+i]	('youth')
(d)		
[mɔlɔk+ɔ]	[mɔlɔk]	('milk')
[dɛrɛv+ɔ]	[dɛrɛv]	('tree')

Upon examining the data in (14), it becomes immediately apparent that the second instances of [ɔ] and [ɛ] in these words are neither "jers" nor fully realized vowels [ɔ] or [ɛ] in their underlying representation. For instance, if the underlying representation of [mɔrɔz] were /mɔrYz/, it would derive the correct Nom.Sg. form [mɔrɔz], but would be incorrectly represented in the Gen.Pl. as [mɔrz'iv]*. Similarly, none of these words can have fully articulated vowels in the second syllable of their underlying forms; if they did, they would follow the "ikavism" alternation.

A possible resolution to this issue can be found within the framework of autosegmental phonology. Specifically, we might propose that the vowels in the second syllables of these words occupy underlyingly empty V-slots, and receive their phonological specification via feature spreading from the preceding vowels. Example (15) illustrates this hypothesis.

(15)



At this stage, I am not aware of independent empirical evidence that definitively proves the second vowel in the sequences [ɔrɔ], [ɛrɛ], [ɔlɔ], and [ɛlɛ] is an empty V-slot receiving its phonological specification via feature spreading. However, several lines of theoretical reasoning suggest this hypothesis. First, it can be inferred from the theory itself: if our previous assumptions are correct, and these segments are neither underlyingly "jers" nor fully realized vowels, it logically follows that they must occupy empty V-slots. Second, the identical features on both sides of the liquids seem too symmetrical to be the result of mere chance, making feature spreading a plausible explanation for this phonological pattern. Finally, this phenomenon aligns well with the historical process of pleophony, which has been well-documented in the diachronic study of East Slavonic languages. According to this account, Late Common Slavonic lexemes containing "vowel + liquid" clusters between consonants (traditionally labeled as TORT) evolved in East Slavonic languages into sequences of "vowel + liquid + (identical) vowel" (Townsend & Janda, 1996). An example of this historical phonological transformation is presented in (16).

(16)

	LCS	Ukrainian	
TORT:	sɔlma	sɔlɔma	‘hay’
	kɔrlь	kɔrɔl’	‘king’
	gɔrxъ	hɔrɔx	‘pea’
	bɛrgъ	bɛrɛh	‘bank of a river’

T= non-liquid consonant; R= liquid; O= [ɔ] or [ɛ]

Given that the second vowels in the sequences [ɔrɔ], [ɛrɛ], [ɔlɔ], and [ɛlɛ] are underlyingly represented as empty V-slots that receive their phonological specification through feature spreading, there are two plausible explanations for how these structures escape “ikavism.” First, they might be viewed as instances of multiply linked segments, which often exhibit resistance to alternation (Hayes, 1986). In this scenario, feature spreading occurs prior to "ikavism," thereby blocking the second vowel from undergoing the phonological transformation. Alternatively, one might propose that feature spreading takes place after vowel raising. Historical evidence lends support to this second hypothesis. While “ikavism” is a language-specific phenomenon, pleophonic transformations are a common feature across all East Slavonic languages. Therefore, if language-specific rules apply at earlier stages of lexical derivation, it is possible that “ikavism” precedes feature spreading in the derivational order. At this point, a clear resolution between these two hypotheses is not apparent and should be the subject of further investigation. However, it is evident that feature spreading occurs within the lexical stratum of derivation, as a small class of exceptions clearly points to this conclusion. Data in (17) illustrate these exceptions.

(17)

[kɔrɔv+a]	[kɔr’iv]	or	[kɔrɔv]	(‘cow’)
[dɔrɔh+a]	[dɔr’ih]	or	[dɔrɔh]	(‘road’)
[hɔlɔv+a]	[hɔl’iv]	or	[hɔlɔv]	(‘head’)
[bɔrɔd+a]	[bɔr’id]	or	[bɔrɔd	(‘beard’)
[bɛrɛz+a]	[bɛr’iz]	or	[bɛrɛz]	(‘birch’)

In sum, similarly to the previously discussed case, the words containing –ɔrɔ-,-ɛrɛ-, -ɔlɔ-, -ɛlɛ- sequences are likely to escape "ikavism" due to their specific representation in the lexicon, which at the point of derivation when the "ikavism" rule applies does not allow them to undergo vowel raising.

Words containing –ɔr-, ɛr-, -ɔv - sequences

The final class of words which do not undergo "ikavism" consists of the members containing [ɔr], [ɛr], [ɔv] sequences. The representative example of this group is given in (18).

(18) (a)

[hɔrb]	[hɔrb'+iv]	('hump')
[hɛrb]	[hɛrb'+iv]	('coat of arms')

(b)

[vɔvn+a]	[vɔwn]	('fleece')
[mɔv+a]	[mɔw]	('language')

(c)

[l'ubɔv]	[l'ubɔv+i]	('love')
[krɔv]	[krɔv+i]	(blood'

(d)

[hɔrl+ɔ]	[hɔrl]	('throat')
[čɔrnɨl+ɔ]	[čɔrnɨl]	('ink')

At present, this class of words is the least understood and can only be discussed in a highly speculative manner. One possible hypothesis is that, unlike the previous cases, this pattern does not constitute a homogeneous class of lexemes. Historically, these words may have evolved from distinct Late Common Slavic (LCS) ancestors. Data in (19) provides insight into the etymological origins and the contemporary lexemes that belong to this class of exceptions to "ikavism." In this representation, the symbols "ъ" and "ь" denote back and front "jers," "T" indicates non-liquid consonants, and "R" stands for liquid consonants. As such, it seems unlikely that a single, unified explanation can account for this pattern; instead, this case should be examined more thoroughly and addressed in a more nuanced and disjunctive manner.

(19)

	LCS		
TRъT:	sъmьrtь	smɛrt'	'death'
T ъRT:	krъvь	krɔw	'blood'

A common feature of most words in this group is that the vowels [ɔ] and [ɛ] in the surface representations are located within tri-consonantal clusters. One possible explanation for the inalterability of these vowels is to propose that they are underlyingly "jers," which are vocalized regardless of whether a following "jer" is present. In this scenario, their vocalization could serve to break up unacceptable consonant combinations. Alternatively, the surface vowels [ɔ] and [ɛ] may be underlyingly the same, but their alteration is blocked by the presence of extra-syllabic consonants, as is likely the case in words like [vɔvn] and [hɔrl]. Lastly, it is conceivable that these forms are lexical exceptions, stored as part of the lexicon and thus exempt from alternation. All of these possibilities are plausible and warrant further investigation to disentangle the underlying mechanisms.

III. CONCLUSION

In this paper, I presented a preliminary phonological analysis of the [ɔ], [ɛ] → [i] alternation, a phenomenon that, to my knowledge, has not been previously addressed in the literature and is often considered a historical artifact. I focused on nouns, defining the morphological contexts in which this alternation occurs. I then analyzed three major patterns where the [ɔ], [ɛ] → [i] alternation does not take place.

Several conclusions can be drawn from this analysis. First, it is possible to account for the [ɔ], [ɛ] → [i] alternation in synchronic terms. The data suggests that "ikavism" is a cyclic lexical transformation that occurs under a specific set of conditions. These conditions, which are both individually necessary and jointly sufficient, include: (a) underlyingly represented segments [ɔ], [ɛ]; (b) a derived morpho-phonological environment involving "jers"; and (c) a closed syllable. However, this conclusion should be regarded as provisional, subject to confirmation or revision through further empirical investigation.

Of the three major cases where the alternation does not occur, only the first has received more or less comprehensive treatment. Therefore, it is essential to continue this line of research and, if possible, gather independent empirical evidence to refine or constrain the hypotheses and speculations presented in this paper.

Finally, to fully understand "ikavism", a more comprehensive approach is needed, one that examines all the exceptions in detail. Only by examining the various local phenomena and integrating them into a coherent framework will we gain a more complete understanding of this alternation.

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