

Keith Langston
University of Georgia

The Neocircumflex in Western South Slavic

Novi cirkumfleks so po mnenju večine raziskovalcev povzročile fonetične okoliščine; razumejo ga kot nadomestno podaljšanje v zameno za izgubo notranjega šibkega polglasnika ali za skrajšanje prvotnega dolgega samoglasnika v naslednjem zlogu. V pričujočem prispevku avtor razčlenjuje dejstva, ki nasprotujejo temu nazoru, in zagovarja razlago, da je novi cirkumfleks nastal kot rezultat delovanja oblikoslovnih in fonetičnih dejavnikov.

The neocircumflex has most often been described as being phonologically conditioned and is usually understood to represent lengthening in compensation for the loss of an internal weak jer or the shortening of an original long vowel in the following syllable. This article examines evidence that calls this explanation into question and argues that the neocircumflex does not represent compensatory lengthening, but should be attributed to a combination of morphological and phonological factors.

In Slovene and Kajkavian dialects original acute vowels are reflected with a long falling accent, traditionally referred to as the neocircumflex, before certain grammatical endings as well as in individual lexical items in a syllable before an internal weak jer or a historically long vowel in the stem. In other environments vowels with an original acute accent are short in Kajkavian and other South Slavic dialects, while in Slovene they are reflected as short in final syllables, but with a long rising accent elsewhere; the latter is usually considered to represent the result of a later lengthening. As can be seen in the examples in (1), Slovene and Kajkavian generally exhibit the neocircumflex in the same forms.¹

(1) Reflexes of the Common Slavic acute accent²

a. Neocircumflex environments (partial list)

	Slovene	Kajkavian	Štokavian		
Present tense	<i>mîsliš</i>	<i>mîsliš</i>	<i>mîslīš</i>	<i>*mýslīšb</i>	‘think’
fem. 1-pple.	<i>krâla</i>	<i>krâla</i>	<i>kràla</i>	<i>*krála (-ā?)</i>	‘steal’
I sg. fem.	<i>krâvo</i>	<i>krâvu(m)</i>	<i>krävōm</i>	<i>*krávojq</i>	‘cow’

¹ Both Slovene and Kajkavian have analogically extended the neocircumflex to some forms that did not have an original acute accent; e.g., Kajkavian *vôlja* vs. Slovene *vôlja* ‘will’, reflecting an original neoacute accent.

² In the examples here and below the traditional symbols are used for the pitch accents in the various standard languages and dialects; the Common Slavic acute is indicated by a double acute accent, and the neoacute by a tilde.

L sg. masc.	<i>brātu</i>	<i>brātu</i>	<i>brātu</i>	* <i>brātu</i> (-ū?)	‘brother’
L pl. masc./neut.	<i>brātih</i>	<i>brātih</i>	—	* <i>brātēxъ</i>	
NA pl. neut.	<i>mēsta</i>	<i>mēsta</i>	<i>mjēsta</i>	* <i>mēsta</i> (-ā?)	‘place’
Def. adj.	<i>bogāti</i>	<i>bogāti</i>	<i>bogātī</i>	* <i>bogātъjъ</i>	‘rich’
before internal weak jer before a long stem vowel	<i>hrūška</i>	<i>hrūška</i>	<i>krūška</i>	* <i>xrūška</i>	‘pear (tree)’
	<i>jāstreb</i>	<i>jāstreb</i>	<i>jāstrēb</i>	* <i>jāstrēbъ</i>	‘hawk’

b. Non-neocircumflex environments

Slovene	Kajkavian	Štokavian		
<i>brāt</i>	<i>brāt</i>	<i>brāt</i>	* <i>brātъ</i>	‘brother’
<i>krāva</i>	<i>krāva</i>	<i>krāva</i>	* <i>krāva</i>	‘cow’
<i>mīsliti</i>	<i>mīsliti</i>	<i>mīsliti</i>	* <i>mýsliti</i>	‘think’

Previous attempts to account for the neocircumflex can be divided into two broad groups. Some linguists have proposed that the neocircumflex is primarily the result of morphological and analogical processes (e.g., Kuryłowicz 1960, Jaksche 1965³), while the more widely held opinion is that the development of the neocircumflex was due to phonological factors in most instances, and that it is probably connected with the loss of a weak jer or the shortening of the vowel in the following syllable (e.g., Stang 1957: 34, Sovrè 1958, Stankiewicz 1966: 34, Kortlandt 1976).⁴ In many of the grammatical categories where the neocircumflex is attested, the ending was clearly long in Common Slavic (CS) or developed length as the result of contraction, and in others the occurrence of the neocircumflex has been used to argue that the length of original final vowels in grammatical endings was preserved under certain conditions, contrary to the traditional view that all final long vowels were shortened in CS (e.g., Dybo et al. 1990). Kortlandt (1976: 6) goes so far as to assert that Slovene represents “our main source of knowledge about post-tonic quantity in Proto-Slavonic.”

Although not all authors state this explicitly, the general assumption underlying most phonological explanations for the neocircumflex seems to be that this phenomenon reflects some type of compensatory lengthening process (see Kortlandt 1975: 11, Vermeer 1984: 366ff.); in other words, vowels with an acute accent were either short already in CS or were shortened in dialectal late CS (depending on the reconstruction), then were lengthened in compensation for the loss of a weak jer or the shortening of a long vowel in the following syllable in Slovene and Kajkavian.⁵

³ Jaksche considers the neocircumflex to be phonological in origin only in syllables before an internal weak jer.

⁴ The same phonological explanation is also given in Greenberg’s authoritative survey of historical Slovene phonology (2000: 110), but in a more recent work (to appear) he offers a different view of the development of the original acute in Slovene, which implies a different interpretation of the neocircumflex, as discussed below.

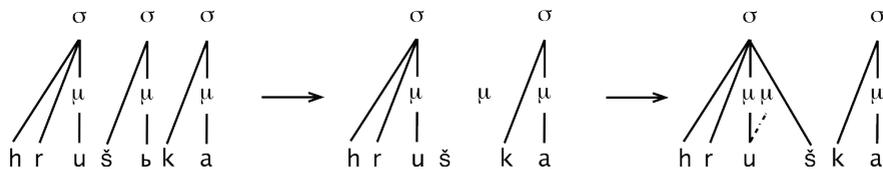
⁵ Sovrè (1958), on the other hand, assumes that the shortening of the original acute, the loss of weak jers, and the shortening of unstressed vowels were contemporaneous processes, and suggests that any sequence of two syllables could be reduced by no more than one mora. Therefore, if a mora was lost because of the deletion of a weak jer or the shortening of an un-

On closer examination, however, it becomes clear that there are some significant problems with this explanation.

Compensatory lengthening (CL) due to the loss of a vowel in the following syllable (which corresponds to one of the environments for neocircumflex lengthening) is attested in a number of languages, although it is much less common than lengthening due to the loss of a coda consonant. CL due to the loss of weak jers has also been cited to explain other examples of lengthening in Slavic, such as the lengthening of original short circumflex vowels in final stem syllables or the lengthening of short vowels before syllables closed by a sonorant consonant in Čakavian and (to a lesser extent) Štokavian dialects. However, my research to date has yielded no other examples of lengthening that is said to occur in compensation for the *shortening* of a vowel in the following syllable. For example, in a comprehensive survey of CL phenomena given by Kavitskaya (2002), she lists only examples of CL through consonant loss and vowel loss. Since the shortening of unaccented long vowels, particularly in final or post-tonic position, is very common cross-linguistically, one would expect that if this shortening could in principle trigger compensatory lengthening, there would be some other examples attested in the literature. However, this does not appear to be the case.

Phonological analyses of CL are typically based on the concept of the preservation of some type of phonological timing unit, either a skeletal slot or a mora, when a feature set representing a consonant or vowel is deleted. Lengthening in compensation for the loss of a weak jer could therefore be analyzed as follows:

(2) Moraic analysis of CL due to vowel loss

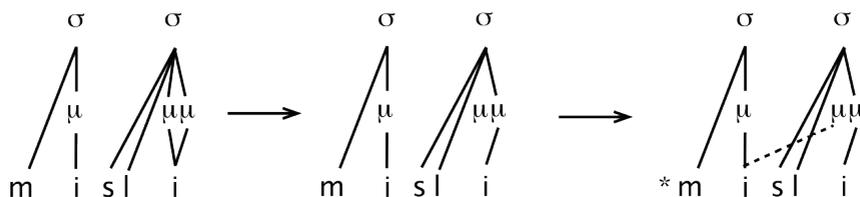


This type of moraic analysis has been proposed for other languages (e.g., Hayes 1989 for Middle English); the assumption is that the deletion of the nucleus of the second syllable automatically results in the deletion of the associated syllable structure, although the timing unit (the mora) remains. The nucleus of the preceding syllable will spread to occupy this empty mora, and the delinked consonant is resyllabified as a coda. However, an attempt to apply this same analysis to lengthening in compensation for the shortening of the following syllable nucleus fails. There is no reason to assume that the shortening of a vowel in a syllable would force resyllabification, but as a result the stranded mora would not be able to link to the preceding syllable because this would violate the prohibition against crossing of association lines, as shown below:⁶

stressed vowel, an original acute in an adjacent syllable would remain long.

⁶ Note also that an analysis based on skeletal slots rather than moras would encounter the same difficulties here.

(3) Moraic analysis of CL due to vowel shortening



The convention that association lines may not cross is considered to be a universal constraint on autosegmental representations (Goldsmith 1976, Pulleyblank 1986), and is supported by data from a wide range of languages. Even if one does not accept the formalism of this approach, this constraint nevertheless appears to capture a true generalization about the way in which the phonologies of languages operate. Any attempts to rescue the analysis of lengthening as compensation for the shortening of a following vowel within this framework would require arbitrary stipulations for the resyllabification of the forms in question. I would suggest that the ill-formedness of representations like the one in (3) may in fact explain why we do not find similar examples of CL from vowel shortening in other languages.

Other analyses of CL rely on phonetic explanations. Kavitskaya (2002) argues that phenomena traditionally referred to as CL are not, in fact, compensatory in nature. Appealing to the notion of listener-oriented sound change, she claims instead that they represent a process of phonologization of pre-existing phonetic differences in length. For CL through vowel loss, she notes that vowels in open syllables are typically longer than those in closed syllables and hypothesizes that this phonetically longer duration can become phonologically distinctive when an open syllable becomes closed through the loss of a following vowel as shown in (4), where the box underneath the vowel is intended to be a graphic representation of its phonetic duration:

(4) Phonologization of phonetic vowel length: CL through vowel loss

	a. Stage 1 (before vowel loss)	b. Stage 2 (loss of V2)	c. Phonologization
CVCV	C V C V □	C V C □	CV:C
CVC	C V C □	C V C □	CVC

(Kavitskaya 2002: 10)

While this analysis could provide a plausible explanation for neocircumflex lengthening in a syllable before an internal weak jer, it obviously cannot be applied to lengthening in a syllable before a historically long vowel. In the latter case the

syllable that is the target of lengthening remains open and there is consequently no motivation for a phonological reinterpretation of its inherent phonetic duration.

Timberlake (1983) offers a phonetic explanation of CL through vowel loss for Slavic in terms of isochrony. His account is based on the assumption that weak jers were reduced in duration before they were lost and that this phonetic reduction in length was compensated by increasing the phonetic duration of the preceding syllable nucleus by the same amount, in order to maintain the timing of the word as a whole. At some point in this process the reduced vowels were phonemically eliminated, and if the added duration of the preceding syllable had exceeded a certain threshold, the vowel would be reinterpreted as phonemically long. The different outcomes seen in various Slavic languages and dialects are attributed to the relatively earlier or later loss of the weak jers, combined with other phonetic factors influencing vowel duration.

- | | |
|---|--|
| (5) Phonetic duration at time of
loss of weak jers (where 1 = the
base duration of a short vowel) | Phonemically reinterpreted
after the loss of weak jers
as: |
|---|--|

[CV ^{1.2} Cǣ ⁻²]	/CVC/
[CV ^{1.4} Cǣ ⁻⁴]	/CVC/
[CV ^{1.6} Cǣ ⁻⁶]	/CV:C/
[CV ^{1.8} Cǣ ⁻⁸]	/CV:C/

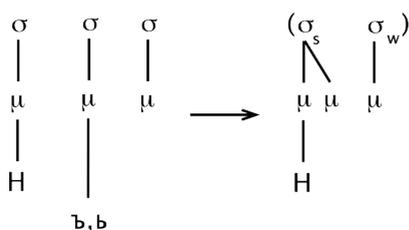
(Timberlake 1983: 299)

Unlike the approaches considered above, this explanation would work equally well for neocircumflex lengthening before an originally long vowel, and Timberlake's analysis has a further advantage in that it takes into consideration other factors influencing the occurrence of CL in Slavic, such as the nature of the accent, the intervening consonant, and the position in the word, by associating these factors with additional variations in phonetic duration. As a result, this model can account for the restriction of neocircumflex lengthening to original acute vowels and the absence of lengthening in syllables before a final weak jer. But while this type of phonetic explanation has a certain intuitive appeal, it is unlikely that it represents a realistic model for this type of phonological change. Acoustic studies have shown little or no evidence for strict isochrony in language. Contrary to what the notion of isochrony would lead one to expect, in languages that have been described as stress-timed, the average duration of interstress intervals has been shown to be directly proportional to the number of syllables that these intervals contain, and in so-called syllable-timed languages the duration of syllables is also not constant, but rather depends on the number and type of segments in the syllable as well as other factors (see Lehiste 1977, Couper-Kuhlen 1993, and Ramus, Nespors, and Mehler 1999 for surveys of previous work). Isochrony appears instead to be a perceptual phenomenon that has little to do with absolute duration, which calls this type of phonetic explanation for CL into question. Even if one assumes that CL is due to isochrony, it is unclear how it is possible to make a distinction between the phonetic reduction of a vowel, which in Timberlake's model is compensated by increasing the phonetic duration of the preceding syllable, and the phonemic loss of this reduced vowel, which according

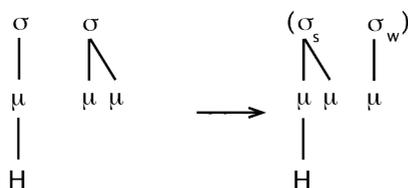
to his account does not affect the phonetic duration of the preceding syllable. If one assumes that isochrony functions in the manner illustrated schematically in (5), there seems to be no obvious reason why the phonetic duration of the preceding vowel is not further increased by an amount equal to the remaining duration of the reduced jer vowel when this jer vowel is deleted; this would lead one to expect CL everywhere that a vowel is deleted, because the increment to the preceding vowel would always be equal to 1.⁷

Bethin (1998: 139) adopts a somewhat different approach to explain neocircumflex lengthening. While she also describes it as the result of the reassociation of a mora from one syllable to the next, as in the moraic conservation analysis in (2) and (3) above, she does not treat it as compensatory lengthening, but rather as a redistribution of syllable weight in order to create a strong-weak trochaic foot.

(6) Neocircumflex before internal weak jer



Neocircumflex before long vowel



where H represents high tone, i.e., an acute vowel

(Bethin 1998: 139)

However, this analysis leaves some issues unexplained. Based on cross-linguistic evidence it appears that an optimal trochaic foot is one in which the two syllables are equal in weight, rather than having a long first syllable and a short second syllable, as posited in (6). The typical associations between quantity and rhythmic organization have been referred to as the Iambic/Trochaic Law:

⁷ This is somewhat of an oversimplification, because Timberlake assumes that other phonetic factors are associated with a reduction in the base duration of the jer vowel or the vowel in the preceding syllable. Nevertheless, it appears that the increment to the preceding vowel should still be large enough for it to be reinterpreted as phonemically long, given the durational values assumed by Timberlake.

- (7) Iambic/Trochaic Law
 a. Trochaic systems have durationally even feet
 b. Iambic systems have durationally uneven feet

(Kager 1993: 382)⁸

Based on this pattern and the requirement that feet should be binary at either the syllabic or moraic level, one can establish hierarchies of preferred foot structures in trochaic and iambic systems:

- (8) Trochaic Rhythmic Harmony Scale
 $\{LL, H\} > HL > L$

Iambic Rhythmic Harmony Scale
 $LH > \{LL, H\} > L$

where H = heavy syllable, L = light syllable

(Prince 1990: 363)

While a preference for trochaic foot structure could have played a role in the development of the Slovene prosodic system, and could in particular help account for later stress retractions, trochaic foot structure alone is not sufficient to explain neocircumflex lengthening. Although a LH grouping (the input to the second change illustrated in (6) above) is obviously not consistent with trochaic foot structure, it is unclear why this would be repaired by lengthening the first syllable and shortening the second to create a HL grouping, instead of simply shortening the second syllable. The latter would result in an optimal LL trochaic foot while at the same time involving a minimal change. A number of languages with trochaic stress systems actually shorten long accented vowels in order to optimize the foot structure; this process is common enough that it is referred to as Trochaic Shortening (see Hayes 1995: 145–149).⁹ Likewise, the loss of an internal weak jer in the first example in (6) would result in a well-formed trochaic foot, with no adjustment needed to the length of the first syllable.

Data from Čakavian dialects also indicate that the neocircumflex may not actually be the result of compensatory lengthening or some other prosodic restructuring connected with the length of the following syllable. Northwestern Čakavian (NWČ)¹⁰ dialects also exhibit a long falling accent on syllables with an original acute, but only

⁸ See also Prince (1990: 359) and Hayes (1995: 80), who give slightly different formulations of the same principle.

⁹ Lengthening of stressed syllables is attested in some languages with trochaic foot structure, but here it appears to be either a purely phonetic phenomenon or else the result of the interaction of other constraints (such as Head Prominence or Weight-To-Stress) with the trochaic rhythmic organization (see Hayes 1995: 84, Mellander 2003). It does not appear to be possible to account for the Slovene patterns of lengthening with their associated differences in pitch accent in this manner without positing additional novel constraints.

¹⁰ I follow Vermeer's (1982) classification of the Čakavian dialects into a northwestern (NWČ), central (CČ) and southeastern (SEČ) group.

in the present tense of verbs with endings in *-e* and in definite adjective forms. In a number of these dialects the lengthening in type (a) adjectives is limited to a few lexical items.¹¹

(9) Neocircumflex in NWČ

a. Present tense

Novi (Belić 1909)	<i>plâkat</i>	3 sg.	<i>plâče</i>	‘cry’
	<i>gîñūt</i>	2 sg.	<i>gîneš</i>	‘perish’
	<i>kupovât</i>	2 sg.	<i>kupûješ</i>	‘buy’

Orbanići (Kalsbeek 1998)	<i>mâzat</i>	1 pl.	<i>mâžemo</i>	‘smear’
	<i>čût</i>	2 sg.	<i>čûješ</i>	‘hear’

vs. Novi 3 sg. *oprâvî* ‘repair’, *dêlâ* ‘work’, etc.

b. Definite adjective

Kastav (Belić 1914)	<i>dûg</i> def.		<i>dûgî</i>	‘long’
	<i>sît</i>		<i>sîî</i>	‘full’
	<i>slâb</i>		<i>slâbî</i>	‘weak’

Grobnik (Lukežić 1988)	<i>bogât</i>	def.	<i>bogâtî</i>	‘rich’
	<i>čitovât</i>		<i>čitovâtî</i>	‘whole’
	<i>dûg</i>		<i>dûgî</i>	‘long’

cf. Novi *dûgî*, *slâbî*, etc.

In addition to forms such as those in (9), Stang (1957: 27) also mentions lengthening in certain nouns in Čakavian that correspond to forms with the neocircumflex in Slovene or Kajkavian (Cres *kâmik* ‘stone’, *kâvran* ‘raven’, from Tentor 1909), but the examples he cites actually represent a different phenomenon. Dialects on Cres lengthen the vowels *e*, *o*, *a* in all accented open internal syllables, and these vowels carry a Čakavian acute accent; cf. the forms from Orlec on Cres given by Houtzagers (1985): *kâmik*, *kâvran*. Stang (and other linguists following him) failed to note that the source of their citations (Tentor 1909) indicates only stress and quantity, not pitch. There appears to be no evidence in Čakavian for lengthening before a historically long vowel in nouns.

Although the neocircumflex is much more limited in NWČ, one must assume that it is connected with the similar developments in the neighboring Slovene

¹¹ However, in these same dialects we may also find the analogical extension of the neocircumflex to syllables with an original short neoacute in the definite forms of type (b) adjectives; e.g., Novi *visôkî* ‘high, tall’, *zelênî* ‘green’.

and Kajkavian dialect zones. But as shown in the examples above, many of these Čakavian dialects maintain posttonic length. In the adjective the neocircumflex occurs before synchronically long vowels, while in the verb it occurs only before the *-e* endings, which are short. With respect to the verb, Stang (1957: 27) suggests that the neocircumflex in the *e*-presents in Slovene is analogical to the lengthening in the other types of verbs, where all the evidence clearly points to a long vowel in the grammatical endings. However, it is not possible to appeal to this type of analogy to explain the Čakavian forms, since the type (a) verbs with present tense endings in long *-ī* and *-ā* have no neocircumflex accent, as shown in (9).

The original length of the present tense endings in *-e* has been the subject of some debate. Central and southeast Čakavian dialects, like Štokavian, usually have a long *-ē* in the present tense endings, but there are some exceptions, such as Hvar and Brač. Some dialects have a long *-ē* only in the 3 sg. form (e.g., Susak, Vrgada). There are also a few NWČ dialects where this is attested, and here it seems that the 3 sg. ending is long only when unaccented (e.g., Grobnik).

(10) Čakavian present tense endings in *-e*

a. Length in all forms:

CČ
Pag 2 sg. *donešēš* ‘bring’, 1 pl. *pletēmō* ‘braid, knit’
(Houtzagers 1987)
Ugljan (Kali) 2 sg. *pletīš*, 3 sg. *pletīē* (Houtzagers and Budovskaja 1996)

SEČ
Pašman (Banj) 1 pl. *pletēmō* (DAQ)
(vs. Hvar 2 sg. *cvatēš*, 1 pl. *cvatemō* ‘bloom’, Hraste 1935)

b. Length only in 3 sg.:

NW
Grobnik 3 sg. *čūjē* ‘hear’, *ščīpjē* ‘pinch’ (unaccented) vs. *cvatē*
(accented)
(Lukežić 1988)

CČ
Susak 3 sg. *krad'ê* vs. 2 sg. *kradēš*, 1 pl. *krademō* ‘steal’
(Hamm, Hraste, and Guberina 1956)

SEČ
Vrgada 3 sg. *bērē* vs. *bēreš*, *bēremo* ‘gather’
3 sg. *pletē* vs. *pletēš*, *pletēmō* (Jurišić 1966, 1973)

Length of the present-tense thematic vowel *e* is also attested in some other Slavic dialects (see Vermeer 1984: 364), and some linguists maintain that this represents a Common Slavic development, at least in certain forms. For example, Dybo et al. (1990: 18) state that while the source of the length of the thematic *e* is unclear, it

seems to be a late CS development. They point out that the neocircumflex occurs only in dialects where length is absent in the *-e* endings of the present tense, in other words, where the *e* has subsequently been shortened in their view. Other scholars have posited a phonologically regular lengthening of these endings in two types of forms: those with the retraction of the stress from a final short jer (e.g., **neseš^{1b}* > **nesěš^b* ‘carry’), and in forms where “Van Wijk’s law” operated, according to which the simplification of a consonant cluster supposedly caused compensatory lengthening of the following vowel (e.g., **pláčješ^b* > **pláčěš^b* ‘cry’; Vermeer 1984: 362). However, there is no evidence for the lengthening of short vowels under the neoacute accent in other forms in most Čakavian dialects.¹² The process of lengthening posited in Van Wijk’s law also seems unlikely. In moraic theory, onset consonants do not contribute to syllable weight, so this approach would predict that compensatory lengthening cannot result from the loss of an onset consonant. A few examples of such lengthening are in fact attested (in Romanesco Italian, where it affects only the definite article, and in Samothraki Greek and Onondaga), all of which involve the deletion of an *l* or *r* in onset position. Kavitskaya (2002: 101) interprets this as a perceptual phenomenon: the vowel-like qualities of *r* and the long transitions between *l* and an adjacent vowel may lead to a perception of increased vowel duration, which is then phonologized when the liquid consonant is deleted. It is possible that the deletion of *j* in Slavic after a palatal consonant could have resulted in a similar lengthening, although this type of development appears to be extremely rare.

We should still note, however, that almost all NWČ dialects, which are generally the most conservative in the Čakavian group with respect to inherited prosodic features, have a short *e* in the present tense endings. It seems more likely that the lengthening of present tense endings in *-e* is analogical, as it has been described by many scholars. Given the fact that some dialects exhibit lengthening only in the 3 sg. ending, it is possible that lengthening may have occurred here first under influence of the 3 pl. form (or possibly in compensation for the loss of the final *-t*), and was later extended by analogy to other present tense forms. Even if one posits the earlier existence of long vowels in these endings, there is no obvious explanation for why long vowels would have been shortened only in the present tense endings in *-e* and not in other environments in the Čakavian dialects that have preserved posttonic length (e.g., Novi 3 sg. *plāče* vs. *oprāvī*).¹³ Taken together with the presence of the neocircumflex before synchronically long vowels in the definite adjective, one must conclude that the neocircumflex in Čakavian cannot be explained as compensation for the shortening of a following long vowel.

¹² A few NWČ dialects do lengthen vowels in the plural forms of neuter nouns with a retracted accent; e.g., Orbaníci *selò*, NA pl. *sⁱěla* ‘village’ vs. Novi NA pl. *sěla*. In all other forms the short neoacute is regularly reflected as a short falling accent; e.g., Orbaníci pres. t. *donešěš* ‘bring’, G pl. *stòli* ‘table’, *vòlja* ‘will’.

¹³ One could argue that the shortening was due to analogical leveling with those pres. t. forms in *-e* which were not lengthened by either of the processes mentioned above, e.g., **bōdeš^b* ‘be (fut.)’, Novi *būdeš*. But the CL explanation of the neocircumflex presumes that the analogy actually worked in the opposite direction, with the length of the endings extended to verbs where Van Wijk’s law did not operate and there was no retraction of the stress from a final weak jer; cf. Novi *čūje* ‘hear’, *ubīje* ‘kill’, *sījēn* ‘sew’.

If there is no entirely plausible phonological motivation for neocircumflex lengthening, then perhaps we should reconsider whether this phenomenon represents lengthening at all. Kuryłowicz (1960) dates the rise of the neocircumflex to a period in which the original acute was still long, and connects it with changes to the Common Slavic accentual system triggered by the rise of the neoacute accent. Although Kuryłowicz's explanation has generally been rejected by other scholars (e.g., Stankiewicz 1966), I believe that this hypothesis is essentially correct.

If we exclude the G pl., where the occurrence of a long falling accent on original acute vowels probably represents a different development from the neocircumflex proper (see Stang 1957: 25, Kortlandt 1976: 5), two important facts about the neocircumflex can be observed: it is limited to dialects where the neoacute on long vowels is preserved as a rising pitch, and it is characteristic of forms in which the original acute was opposed to the neoacute accent, but where the long circumflex accent did not occur or is only marginally attested.

One of the sources of the neoacute was the retraction of the accent from a long circumflex vowel to the preceding syllable. In the grammatical categories where this occurred, there could be no circumflex accent on the syllable preceding the long vowel, since circumflex stems had a final accent in these forms; e.g.,

(11) Neoacute resulting from the retraction of a non-initial falling accent

	Slovene	NWČ	
L pl. masc./neut.			
type (a) *brátěx̄b	<i>brātih</i>	<i>brātīh</i>	'brother'
type (b) *brēstěx̄b > *brēstěx̄b	<i>brēstih</i> (anal.)	<i>brēstīh</i>	'elm'
type (c) *mōžīx̄' b > *mōžīx̄b ¹⁴	<i>mōžēh</i>	<i>mūžīh</i>	'husband'
def. adjective			
type (a) *sý'rbj b	<i>sīti</i>	<i>sīti</i>	'full'
type (b) *bēl'rbj b > *bēlī	<i>bēli</i>	<i>bēlī</i>	'white'
type (c) *sūx'rbj b > *sūx'rbj b > *sūhī	<i>sūhi</i>	<i>sūhī</i>	'dry'
pres. t.			
type (a) *mý'slīš b	<i>mīslīš</i>	<i>mīslīš</i>	'think'
type (b) *bēlīš b > *bēlīš b	<i>bēliš</i>	<i>bēlīš</i>	'whiten'
type (c) *būdīš b > *būdīš b	<i>budīš</i>	<i>būdīš</i> ¹⁵	'wake'

The same pattern may have also occurred in some forms derived with a suffix containing a long (presumably circumflex) vowel:

(12) Forms derived with a suffix containing a long (circumflex) vowel

base form	deriv.	Slovene	Štokavian
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¹⁴ For the sake of consistency, length is indicated in ante-pretonic position in the examples here and below, although these vowels may have been shortened in ČS.

¹⁵ The accentuation of this form is secondary; type (c) *i*-presents with a long stem vowel have shifted to type (b) in Čakavian.

type (a) * <i>kráva</i>	* <i>krávā̃rjъ</i>	<i>krâvar</i> ; <i>krâvarja</i>	<i>krāvār</i> ; <i>krāvāra</i>	‘cowherd’
type (b) * <i>rūd'a</i>	* <i>rūdārjъ</i>	<i>rûdar</i> ; <i>rûdarja</i> (anal.)	<i>rûdār</i> ; <i>rudāra</i>	‘miner’
type (c) * <i>mĕso</i>	* <i>mĕsārjъ</i> , - <i>1a</i>	<i>mesár</i> ; <i>mesárja</i>	<i>mĕsār</i> ; <i>mesāra</i>	‘butcher’

(Dybo 2000: 136–138)

It was also characteristic of present-tense forms in *-e*, where the neoacute accent is probably morphological in origin,¹⁶ rather than representing a shift of the accent from a lengthened *e* as some linguists have proposed:

(13) Present tense in *-e*

	Slovene	NWČ	
type (a) * <i>māžešъ</i>	<i>māžeš</i>	<i>māžeš</i>	‘smear’
type (b) * <i>pīšešъ</i>	<i>pīšeš</i>	<i>pīšeš</i>	‘write’
type (c) * <i>trĕšešъ</i>	<i>trĕšeš</i>	<i>trĕšeš</i>	‘shake’

The other primary phonological source of the neoacute was the retraction of the accent from a weak jer vowel. Retraction from an internal weak jer to a preceding vowel occurred in derived forms, and here as well the neoacute was opposed to an original acute accent, but usually not to a circumflex, since forms derived with jer suffixes from circumflex stems often had a final accent.

(14) Neoacute resulting from the retraction of stress from an internal weak jer

base form	deriv.	Slovene	
type (a) * <i>brát(r)ъ</i>	* <i>brátъstvo</i>	<i>brâtstvo</i>	‘brotherhood’
type (b) * <i>gospodārjъ</i> , - <i>1a</i>	* <i>gospodārjъstvo</i>	<i>gospodârstvo</i> (anal.)	‘economy’
type (c) * <i>mōžъ</i>	* <i>mōžъstv'1o</i>	<i>mošt'vò</i>	‘manliness’
(Dybo 2000: 128–129)		(or <i>móštvo/môštvo</i>)	
type (a) <i>klīnъ</i>	* <i>klīnъje</i>	<i>klînje</i>	‘spikes’
type (b) <i>gřmъ</i> , - <i>1a</i>	* <i>gřmъje</i>	<i>gřmje</i> (anal.)	‘bushes’
type (c) <i>klās</i>	* <i>klāsъje</i>	<i>klasjè</i> (or <i>klásje</i>)	‘ears (grain)’
(Dybo 2000: 106–112) ¹⁷			

This may not have been the case with some productive adjective-forming suffixes; for example, Dybo (1981: 72ff., 2000: 154ff.) reconstructs the accentual pattern **dǫlžъnъ*, **dǫlžъnà*, **dǫlžъno* for adjectives derived from circumflex stems with the suffix *-ъn-*. However, in the adjective we have to contend with the interplay of the accentuation of indefinite and definite forms, and the modern Slavic languages exhibit widespread analogical levelings and the elimination of distinctions between

¹⁶ See Stankiewicz (1993: 14, 25), who attributes the retraction in the present tense in all types of verbs to morphological factors.

¹⁷ Štokavian dialects have generalized the same accent for all derivatives in *-ъje*, probably representing an earlier neoacute; e.g., type (a) *zřno*: *zřnje* ‘grains’; type (b) *gřm*, *gřma*: *gřmlje* ‘bushes’; *snòp*, *snòpa*: *snòplje* ‘sheaves’; type (c) *klās*: *klásje* ‘ears (of grain)’; *gòra*: *gòrje* ‘mountains’. Čakavian dialects have also apparently generalized the neoacute on the stem for types (b) and (c), although a few examples with final stress are attested: Novi type (c) *pīčĕ* ‘drink’; Vrgada type (c) *oružjĕ* ‘weapon(s)’, type (b) *snopljĕ* ‘sheaves’; Hvar type (b) *lozjĕ* ‘vines’.

the different accentual types; compare Slovene *dolžân/dôlžen*, Štokavian *dúžan* ‘in debt, owing’. As a result, it is difficult to be certain about the accentuation of these forms in the dialects in question at the time of the development of the neocircumflex. Furthermore, there is evidence that initial circumflex vowels may have been shortened in forms of three or more syllables already in CS; e.g., **mlâdъ* ‘young’, **mladostъ* ‘youth’ (see Stang 1957: 41, Shevelov 1964: 512–513).¹⁸ If this is correct, we may assume that there was no three-way pitch opposition on long initial syllables in any of these forms at the time of the development of the neocircumflex.

Unlike the environments illustrated in (11) through (14), in original disyllabic forms ending in a jer vowel there was a three-way opposition between the acute, circumflex, and neoacute:

(15) Forms with a three-way pitch opposition

<i>*dŷmъ</i>	Slovene <i>dîm</i>	NWČ <i>*dîm > dîm</i>	‘smoke’
<i>*kljûčъ</i>	<i>kljúč</i>	<i>kljûč</i>	‘key’
<i>*dîxъ</i>	<i>dûh</i>	<i>dûh</i>	‘spirit’

As proposed originally by Kuryłowicz,¹⁹ I would suggest that in the environments where the rise of the neoacute resulted in a three-way pitch opposition on long vowels, acute: neoacute: circumflex, the acute was shortened.²⁰ In other environments where there was only a two-way opposition, acute vs. neoacute, the acute could maintain its length by becoming falling. If we think of these as two competing and overlapping processes that were originally connected with specific morphological environments, we can explain the limitation of the neocircumflex to the *e*-presents and definite adjectives in Čakavian. In these dialects the shortening of the original acute, which was obligatory in monosyllables, was extended to most other environments as well. In Slovene and Kajkavian the change of the acute to long falling triggered by the rise of the neoacute was carried through much more consistently in the environments where only these two accents were opposed, but the remaining acute vowels were ultimately shortened. In both of these areas the neocircumflex was extended analogically to other forms, on the basis of phonological similarity or morphological patterns. In Slovene this constitutes part of a general tendency to associate stress with length in non-final syllables, which resulted in the later lengthening of the shortened acute, the short neoacute, and the newly retracted accent on short vowels.

¹⁸ According to Kortlandt, long falling vowels were shortened in all forms in late CS, except in monosyllables in Slovene and in monosyllables and the initial syllable of disyllabic forms in Bosnian/Croatian/Serbian (1994: 108). Greenberg (2000: 91, 105ff.) posits lengthening of the following syllable in Slovene in compensation for this shortening, and explains circumflex advancement as the reinterpretation of the longer second syllable as bearing the accent.

¹⁹ Johnson (1981) also follows Kuryłowicz in his explanation of the neocircumflex, although I would disagree with other elements of his analysis.

²⁰ This was reinterpreted as applying to all final syllables in Slovene and Kajkavian, even though there was only a two-way opposition, acute vs. neoacute, in forms of three or more syllables with an accent on the syllable before the final weak jer.

In a recent article, Greenberg (to appear) proposes that a posited glottal stop reflecting the merger of the PIE laryngeals was maintained relatively late in Common Slavic, and that different dialects eliminated it in different manners. For eastern Slovene and Bosnian/Croatian/Serbian, the glottal stop was deleted, resulting in a short vowel with H tone which is reflected by the short falling accent. In central and western Slovene he posits the development of a laryngealized vowel resulting in a long syllable with low tone, which corresponds to the phonetic realization of the contemporary rising accent in these dialects as well as standard Slovene. On this interpretation of the historical developments in Slovene, there would be no shortening and relengthening of originally acute syllables, as has traditionally been assumed. Greenberg does not specifically mention the neocircumflex here, but this hypothesis would be compatible with the proposal that the neocircumflex does not represent lengthening, but rather the preservation of earlier length, with a change in the pitch accent that must be motivated by other factors.

The failure of the neocircumflex to undergo the progressive shift of the circumflex accent in Slovene is one of the factors that has led scholars to posit a general shortening of the original acute, encompassing Slovene and other South Slavic dialects, followed by the circumflex advancement specific to Slovene and then the development of the neocircumflex accent on original acute vowels. However, it is not necessary to assume that the neocircumflex must have developed in all categories after the circumflex advancement. Circumflex stems can be understood as stressless, receiving an initial falling accent by default in the forms that were not accented on the grammatical endings. The falling pitch represented by the neocircumflex, on the other hand, occurs in paradigms with a fixed accent. The different accentual characteristics of circumflex and acute stems are sufficient to explain why the neocircumflex would not be subject to the same progressive shift as the original circumflex (see Kuryłowicz 1960: 83, Bethin 1998: 138). The fact that that circumflex advancement has a more limited geographical distribution than the neocircumflex may also indicate that the former is a later development (cf. also Greenberg 2000: 107–108).

Although the explanation suggested here for the neocircumflex does not provide a neat account for its occurrence in all the forms in which it is attested, the same criticism applies to attempts to attribute it to CL or some other purely phonological process. If the neocircumflex represents a process of lengthening conditioned by an original long vowel in the following syllable, it is puzzling why we find reflexes of the neocircumflex in the L sg. of masculine nouns (e.g., Slovene *brâtu*) but not in the N sg. of most feminine nouns (e.g., Slovene *kráva*). Dybo et al. (1990: 31–34) hypothesize that endings that were accented in the mobile paradigm preserved their length, and they specifically cite the neocircumflex in masc. L sg. forms as evidence that this ending was long. However, both the *a*-stem N sg. ending and the *u*-stem L sg. ending would have originally had a long vowel and they were both accented in mobile stems, so on this interpretation one would expect the same neocircumflex accent in both cases in Slovene and Kajkavian. On the other hand, the neocircumflex does occur regularly in the fem. I-participle and the neuter NA pl., both of which continue the same *-aH ending as the fem. nouns in -a.

In the reconstruction of the CS accentual system elaborated by Kortlandt in numerous publications, he suggests that the same case endings occurred as either short or long in different types of stems, depending on the relatively earlier or later loss of the laryngeals in different positions in the word and the development of new long vowels as the result of Van Wijk's law (1994: 105). This theory predicts the occurrence of long *-ā* in the N sg. of two specific groups of nouns: prefixed deverbal nouns that were originally accented on the first syllable, according to this reconstruction, and monosyllabic acute stems with the suffix *-j*, both of which exhibit the neocircumflex; e.g., Slovene *zabāva* 'amusement', *krāja* 'theft' (Kortlandt 1976: 4). However, the accentuation of these types of nouns varies to some extent (cf. *zābava* [Jaksche 1965: 26], *krāja* [SSKJ]), and they were clearly subject to analogical levelings. In standard Slovene we find a neocircumflex in nouns of the first type regardless of whether the vowel in question was originally acute or not (e.g., *nagrāditi*: *nagrāda* 'prize', *zabloditi*: *zablōda* 'error'), and the accentuation in Čakavian and Štokavian varies; compare Slovene *navāda*, Čakavian (Novi) *nāvada* 'habit', standard Croatian *zābava/zābava*, *nāgrada/nāgrada* (see Babić 1991: 69 for additional examples). As a result, it is difficult to be certain whether the neocircumflex in these forms can be attributed to the posited length of the ending, or whether they represent later analogical developments. In order to explain the regular occurrence of the neocircumflex in the fem. I-participle and NA pl. neut. as the result of compensatory lengthening, one must assume that the long ending that was originally present only in some forms according to this reconstruction was generalized by analogy to other types of stems, while no such analogy occurred in the *a*-stem nouns (see Vermeer 1984: 369–379).

Although the phonological mechanism of CL which has been invoked to explain the neocircumflex is intuitively appealing, it is debatable whether the lengthening of a vowel in compensation for the shortening of a long vowel in the following syllable represents a natural phonological process, given the lack of attested instances of CL in this environment in other languages. As shown above, it is difficult to account for the neocircumflex in the framework of theoretical models that have been proposed to handle more common CL phenomena. Finally, the NWČ dialects exhibit the neocircumflex in forms where it cannot be attributed to lengthening in compensation for the shortening of the following vowel. The limitation of the neocircumflex in Čakavian to two specific morphological environments is also difficult to explain if one assumes that the neocircumflex was primarily phonological in origin. While the combination of phonological and morphological factors suggested here as a motivation for the development of the neocircumflex represents only a tentative solution, the complicated picture presented by the neocircumflex does not seem to be reducible to a purely phonological explanation.

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Novi cirkumfleks v zahodni južni slovanščini

Novi cirkumfleks so po mnenju večine raziskovalcev povzročile fonetične okoliščine; razumejo ga kot nadomestno podaljšanje v zameno za izgubo notranjega šibkega polglasnika ali za skrajšanje prvotnega dolgega samoglasnika v naslednjem zlogu. V pričujočem prispevku avtor razčlenjuje dejstva, ki nasprotujejo temu nazoru. Čeprav je fonetični vzrok, tj. nadomestno podaljšanje, za nastanek novega cirkumfleksa na prvi pogled privlačen, pa je trditev, da je nadomestno podaljšanje v zameno za skrajšanje dolgega samoglasnika v naslednjem zlogu naraven proces, sporna glede na to, da pojav ni izpričan v drugih jezikih. Predlaganih je bilo več modelov za najpogostejše izpričane vrste nadomestnega podajšanja, vendar pa nobeden ne daje zadovoljive razlage za ta pojav. Poleg tega se v severozahodni čakavščini novi cirkumfleks pojavlja tudi tam, kjer ga ne moremo pripisovati podaljšanju v zameno za skrajšanje naslednjega samoglasnika. Tudi omejitve v čakavščini na oblike v dveh posebnih oblikoslovnih okoljih je težko razložiti, če predpostavljamo, da je pojav nastal zaradi fonetičnih vzrokov. V skladu z razlago Kuryłowicza (1960) avtor zagovarja stališče, da novi cirkumfleks ni posledica podaljšanja kratkega, prvotno akutiranega samoglasnika, temveč ohranjanja prvotne dolžine praslovanskega akuta v določenih oblikoslovnih okoljih, kjer je bil prvotni akut v nasprotju z novim akutom in ne s cirkumfleksom.

The Neocircumflex in Western South Slavic

The neocircumflex has most often been described as being phonologically conditioned and is usually understood to represent lengthening in compensation for the loss of an internal weak jer or the shortening of an original long vowel in the following syllable. This article examines a variety of evidence that calls this explanation into question. Although the phonological mechanism of compensatory lengthening (CL) which has been invoked to explain the neocircumflex is intuitively appealing, it is debatable whether the lengthening of a vowel in compensation for the shortening of a long vowel in the following syllable represents a natural phonological process, given the lack of attested instances of CL in this environment in other languages. Various phonological models that have been proposed to account for more common types of CL are unable to provide a satisfactory explanation for this phenomenon. Furthermore, the Northwest Čakavian dialects exhibit the neocircumflex in forms

where it cannot be attributed to lengthening in compensation for the shortening of the following vowel. The limitation of the neocircumflex in Čakavian to two specific morphological environments is also difficult to explain if one assumes that the neocircumflex was primarily phonological in origin. Following Kuryłowicz (1960), the author argues that the neocircumflex does not represent lengthening of a short, originally acute vowel, but rather preservation of the original length of the Common Slavic acute in specific morphological environments where the original acute accent was opposed to the neoacute but not the circumflex accent.