

NOTES ON THE EVOLUTION PATTERNS OF THE COMMON SLAVIC * $g > \gamma$ AND $-g > -x$ IN SLOVENE DIALECTS

V razvoju $-g > -x$ imamo v slovenščini tri možne stopnje: (1) g se nasploh zamenja z γ v delu slovenskih in čakavskih narečij; (2) zvonečnostna korelacija se nevtralizira ali pa uresničuje v nasprotju fortis – lenis, kolikor ne ostane ohranjena (*bog* > /bokl/, /boxl/, /bog/); $\gamma - h > x - \chi$, tj. počasi se zmanjšuje področje splošnega γ .

There are three possible stages in the evolution of the $-g > -x$ change in Slovene: (1) $g > \gamma$ as a general change in one part of Slovene and Čakavian dialects; (2) neutralization in voicing or fortis vs. lenis realization or no change at all (*bog* > /bokl/, /boxl/, /bog/); (3) $\gamma - x > x - \chi$, i.e. a slow recession of the general γ area.

1.0 The present paper is an attempt to draw attention to a problem of Slovene dialectology before which Jakob Rigler so modestly stopped his argument, refraining from engaging in speculation when he said: »Prehod končnega $-g > -x$ pa morda ni povezan z razvojem $g > \gamma$, kajti končni $-g > -x$ poznajo tudi govori, ki nimajo g (ne γ) /.../. Vendar se za eno ali drugo možnost ni mogoče odločiti, ker za zdaj ni mogoče določiti relativne kronologije med prehodom $g > \gamma$ in izgubo zvonečnosti v izglasju /.../« (Rigler 1963: 170). This paper does not aim at solving this thorny problem either; its purpose is to direct attention once again to several familiar evolutions in the Eastern Alpine Slavic consonantal system which may provide answers to the questions raised by Rigler.

We should like to call attention to three typologically related consonantal features concerning the character of the obstruent system in a number of contiguous dialects found in the NW part of central dialects, the dialects of Carinthia and Režija, and all the SW dialects of the contemporary Slovene speech area.¹ Two of these involve the loss of the abrupt character of the original occlusives in this system and the evolution of a series of spirants, formed by a slit-shaped construction; the third entails the process known as the neutralization in voicing in Slavic languages. These three features have been traditionally recognized as, (1) $g > \gamma > h$ ($> \#$) change; (2) the absence of the neutralization in voicing in a number of Slovene dialects; and (3) the so-called spirantization of original voiced occlusives in a number of dialects. Peripheral though they are in the synchrony of Slovene dialects today, however, these three features have never before been formally or causally considered together.² At least one of them, the spirantization

¹ The abbreviations used in this paper are: CS = Common Slavic; CSS = Contemporary Standard Slovene; f. = feminine (gender); g. = genitive (case); d. = dative (case); NE = northeastern; NW = northwestern; pl. = plural (number); sg. = singular (number); Sle. = Slovene; SW = southwestern.

² Cf., for instance: ad (1) Ramovš 1924: 233–237, 245–248; Isačenko 1934: 56–63; Isačenko 1938: 1–10; Isačenko 1939: 86–87; Rigler 1963: 169–170; Neweklowsky 1970: 104–111; Zdovc 1972: 138–146; Logar 1975: 5–15, 87, 90–91; Priestly 1977: 120–164; Lenček 1982: 111–113. – ad (2) Baudouin de Courtenay 1875; 1877: 91–98; Ramovš 1924: 189, 217, 234–235; Lenček 1982: 118–119. – ad (3) Ramovš 1914: 329–337; Ramovš 1924: 189, 217, 234–235; Tesnière 1930–1931: 353–358; Isačenko 1939: 34–39; Rigler 1972: 372–373; Lenček 1982: 126–127.

of original voiced occlusives – a variable and changeable phenomenon that has been in a state of recession – has as yet never been associated either typologically or both spatiotemporally – to account for the evolution of the $g > \gamma$ and $-g > -x$ changes in the Slovene speech area as a whole. To assert just this may seem a bold hypothesis to which objections can be raised.

2.1 The changes of the CS voiced velar occlusive in the present Slovene speech area are more or less known (see our Figures 1 and 4). The dialectal bases of Štajersko, NE Štajersko, the larger part of the central dialects of Gorenjsko and Dolenjsko, and the easternmost edge of Koroško, retained the voiced velar occlusive g . In word-final position this $-g$ changes to $-k$. This is the situation of the CSS where we have: *gora, sneg /snek/* vs. *snega* (g.sg.), *grabiti, bogat, noga, roga* (g.sg.) vs. *rog /rok/, boga* (g.sg.) vs. *bog /bok/, praga* (g.sg.) vs. *prag /prak/*.

The Notranjsko dialects, a major section of the dialects of Rovte, the entire Primorsko dialectal base – including Beneška Slovenija, the valleys of Ter, Rezija and the Kanalska dolina dialects –, the westernmost Carinthia dialect of Zilja, the Upper Soča dialects, the dialects of Kras and Istria, have a voiced velar fricative γ . In word-final position this $-\gamma$ alternates with $-x$. Only a tiny spot of the NW border of Rezija, the Bela-Fella dialect, and on the SW edge of the Slovene Istria dialects (Ramovš 1935:74), still retain the voiced velar occlusive g which does not change to γ . E.g., in the dialects of Kras: *γora, γrāx, γrābit, bōyat, nōya, rōya* vs. *rūx, bogā* vs. *būx, prāya* vs. *prāx*.

By and large in the Carinthian dialects of Rož and Podjuna the reflex of the CS * g is a voiceless laryngeal fricative h ; in eastern Rož and NW Podjuna a breathed h or $\#$; in western Podjuna also a voiced laryngeal fricative h (Isačenko 1938, Zdovc 1972). In word-final position these reflexes of $-g$ alternate with $-x$. E.g., in the dialect of Rož: *hōra, snīāx* vs. *snīāha, hrābāt, bohāt, nōha, ruāha* vs. *ruāx, bōha* vs. *buāx*. A voiceless laryngeal fricative h is found also sporadically in the Ter dialects and in most dialects of Rezija; e.g., for Rezija: *hōra, hrāh, snoēh, hrābit, bohāt, nōha, rōha* vs. *rūx, bōha* vs. *būx*. One community of Rezija (the village of Bella-Fella) also seems to have $g > h$ (voiced laryngeal constrictive) (Hamp 1989); an other community (the village of Stolbica-Stolvizza), has $\gamma > \#$ change. E.g. for intervocalic position in the dialects of Rezija: *rāa* (g.sg. of *rāh*, CSS *grah*), *bāt* < *boāt* (CSS *bogat*), *drūzaa* (CSS *drugega*). A general impression is that the laryngeal fricative h in Slovene dialects is an unstable sound and tends to disappear.³

2.2 There is no linguistic testimony to support the claim that the dialects in the Eastern Alps inherited a voiced velar fricative γ from CS, as all the documentation of its existence comes from a much later period. Territorially restricted to the extreme northwest of the South Slavic continuum, and separated from the West Slavic dialects which know the $g > \gamma$ change (Slovak, Czech, Upper Sorbian), the South Slavic $g > \gamma$ evolution may well represent an isolated Slovene-Čakavian dialectal event of a later period.

³ The problem of the laryngealization of $\gamma > h$ will be not discussed in this paper. See, Ramovš 1924: 233–235; Baudouin de Courtenay 1875: 31–44; Isačenko 1939: 86–88; Neweklowsky 1970: 104–111; Zdovc 1972: 138–140; Lencek 1982: 111–112; cf. also Priestly 1977: 123 ff.

It is reasonable to assume, however, that the Slovene speech area was divided by a $g : \gamma$ isogloss early in its independent historical evolution. For centuries this isogloss must have linked the western Slovene dialects with the Čakavian territory. How far it extended in a northeasterly direction in the Eastern Alps, we do not know. It also stands to reason that before the neutralization in voicing of consonants took place in the Eastern Alpine Slavic (see below), the assumed $g > \gamma$ change in these dialects must have been phonemically nondistinctive. The earliest renderings of Slavic names in Eastern Alpine area, use spellings with g or its Latin and Old Bavarian equivalents (e.g., for Old Bavarian: k - initially, $-k$ and $-k_x$ in Auslaut). E.g., in personal names recorded in Carinthia: *Karastus* (Gorazd) ab. 750; *Godemus* (Godemyslъ) 864; *Tichodrah* (Tixodragъ) ab. 975; *Zebedrach* (Sebidragъ) 864; or in old Friulian west of Udine: *Dragouit* (Dragovitъ) 1170–1190; *Dragozlau* (Dragoslavъ) 1170–1190; or in recorded early Slovene river and place names, e.g.: *Gozlindorf* (today Goselna vas, Germ. Gösselsdorf in Carinthia) ab. 1000; *Clieue* (rivulet Glina) 1140, or Glin 1150 for today Glinje (Germ. Glainach) in Carinthia; *Ztoygoystorf* (Stojgojdorf, today Stegendorf in Carinthia) 1140.⁴

It is usually assumed that after the neutralization of velar fricatives, the voiced γ was structurally correlated with the voiceless x , while the voiced velar stop g became paired with the voiceless k . In the absence of a reliable documentation of these changes – the oldest records of a $g > \gamma$ change appear relatively late in the texts (e.g., *hreh* for *γrex*), attested in 1691,⁵ this argument is the only one we possess to support the proposition that the $g > \gamma$ change must have preceded the positional neutralization of voice in $g > \gamma$ dialects.

2.3 Two additional observations on the nature of the Slovene voiced velar fricative $[\gamma]$ and on its precise territorial extent today and in the past are in order at this point. In his description of the pre World War I Ljubljana dialect pronunciation of velar occlusive g , Olaf Broch noted a vacillation in the pronunciation of this sound between distinct g and a clear γ , a “ g mit lockerem Verschluss”: a more frequent γ in the Inlaut (e.g., *zγúbu*, *stríγu* for *zgúbil*, *strígel*), an oscillation in the speech of the same speaker between g and γ (e.g., *grâd* vs. *z γrâdom*), a general tendency toward the γ type pronunciation in general (Broch 1911:94). The phonetic reality of the Slovene γ in the central Kras dialect has been similarly described by Karel Štekelj: γ here “is a voiced fricative sound in contrast with h [= ‘tonlose Kehlkopfs spirans’, i.e., a voiceless laryngeal spirant]; however different from the Czech h $[\gamma]$ in *hora* by the fact that our h $[\gamma]$ seems to be closer to g than

⁴ Cf., Bezljaj 1976, 1982; Kos F. 1906; Koštiál 1914; Miklosich 1860, 1884.

⁵ For the dialects of Notranjsko, in Janez Svetokriški's *Sacrum promptuarium I* (1691). – The evidence on the $g > \gamma > h$ change in Slovene texts seems to be no older than the end of the 16th century. The occasional spellings of g with h appear in texts which originated in dialects knowing this change, viz. the dialects of Koroško, Primorsko, Gorenjsko and Notranjsko. We find $-h < -g$ notations (here $-h$ stands for $-x$) attested in the Mss. of Stapleton Gospel (1591–1612), of the Slovene Oath texts (1600–1650), and of A. Skalar's *Shulla tiga premishluana* (1643); and $-h < -\gamma$ notations in the texts based on Notranjsko, Vipavsko and Koroško literary traditions. E.g., *terh* = CSS *trg*, *dolh* = CSS *dolg*, in Stapleton Gospels; *sneh* = CSS *sneg*, *noh* = CSS *nog* (g. pl.), in A. Skalar; *vrah* = CSS *vrag*, *druhdi* = CSS *drugdi*, *nihdar* = CSS *nikdar* /*nigdar*/, in M. Kastelec's *Bratovske Buguice* S. Roshenkranza (1678); *hreh* = CSS *greh*, *dolh* = CSS *dolg*, *dolhu* = CSS *dolgu* (d.sg.), *obohatit* = CSS *obogatiti*, in J. Svetokriški's *Sacrum promptuarium I* (1691).

the corresponding sound in Czech. 'Dem unsrigen gibt *g* den Grundcharacter und an diesen tritt *h* [γ] als in das *g* umformendes Nebenelement hinzu' ... (Štrekelj 1886:381). Similarly Jakob Rigler speaks of this sound in his description of the South Notranjsko dialect: "the γ sound here is very often a transitional sound between *g* and γ (Rigler 1963:170), in Rigler's notation: *blay^{*}û*, *drûg^γig^γa*, *mÿz^γÿa*. Similar, and still more reduced, are the Čakavian γ , *g^γ*, γ sounds, which in modern phonemic descriptions function as allophones of the phoneme /*g*/. Cf. Belić 1909:192 (*drûg^γōmu* for Novi); cf. also Houtzagers 1985:14, for the dialect of the island Cres.

On the other hand, it should be stressed that the isogloss of the *g* > γ change in Slovene dialects, referring to a line connecting the source of the Soča River, Cerklno, Poljane, Škofja Loka, Horjul with Logatec and Postojna (the so-called Ramovš isogloss; cf. Ramovš 1924:233), in no way represents an absolute boundary of the *g* > γ feature in Slovene dialects. Olaf Broch already pointed out that the pronunciation of γ is a normal pattern of the pronunciation of the occlusive *g* in central dialects also beyond this line (Broch 1911:94). Tine Logar found this pronunciation pattern extended into SE Gorenjsko dialect (Logar 1975:13), and Jože Toporišič even in Dolenjsko dialect (Toporišič 1976: 80–81). In word-final position, the central dialects participate in the -*g* > -*x* change far beyond the Ramovš isogloss; e.g., /*snex*/ vs. *snega* (g.sg.), *noga* vs. /*nox*/ (g.pl.), /*rox*/ vs. *roga* (g.sg.), /*prax*/ vs. *praga* (g.sg.), whereas in Rezija and a part of the Ter dialect, -*x* changes to -*h*.

3.0 The CSS and a part of Slovene dialects undergo neutralization in the voicing of obstruents in consonantal clusters and in word-final position (see our Fig. 2.5). The phenomenon, traditionally known as devoicing of voiced consonants in these two positions and, as a rule, acting at the contact and regressively, affects the pairs *b-p*, *d-t*, *g-k*, *z-s* and (*z-c*), *ž-š* and (*ž-č*). E.g., for CSS: *zob* /*zop*/ vs. *zoba* (g.sg.), *led* /*let*/ vs. *ledu*; *sladək* vs. *sladka* /*slatka*/ (f.sg.); *rog* /*rok*/ vs. *roga* (g.sg.); *sneg* /*nek*/ vs. *snega* (g.sg.).

3.1 The neutralization in voicing is not a uniform or even, nor a general phenomenon in the dialects of the Slovene language. Its distribution and the direction of its isogloss are by and large in agreement with the distribution and direction of the bundle of isoglosses across the Slovene speech area, which are perhaps the oldest in the landscape (Lencek 1988:202–203). This is our isogloss -*g* > -*k*, which limits the neutralization in voicing in the defined positions, including the word-final -*g* > -*k* change on the west. In some dialects east and west of this line, the pairs *v-f*, *g-x* and γ -*x* are also affected; e.g., for *v-f* in Eastern Styrian dialects: *nov* /*nof*/ vs. *nova* (f.sg.), *ovca* /*ofca*/; for *g-x* in central dialects, for word-finally only: *rox* : *roga*, *snex* : *snega*; for γ -*x* in the SW dialects, again only in word-final position: *rux* : *roγa*, *snex* : *sneγa*. On the other hand, a small group of central and NW dialects does not participate in neutralization in voicing at all, while in another group of central and NW dialects phonetic spirantization type changes in word-final or/and in intervocalic positions take place.

As known, the neutralization in voicing of obstruents regulates the voiced-

voiceless correlation of consonants which after the loss of the weak jers became exposed to the influence of a pause or of a following obstruent at morpheme and word-boundaries. The oldest traces of the phonetic loss of such weak jers are recorded already in the Freising fragments, e.g. *Iuzem zelom bošiem* (I 5) = *i vьsemъ zьlomъ božiemъ; *od zih poštenih greh* (I 22) = otъ sixъ роcьtenyixъ грѣхъ – for a time, however, the expected neutralization in voicing could not have been operative, coming, as it did, from an area which very probably never knew this change (see below). The oldest Latin and Old Bavarian notations of Slavic personal names, e.g., *Zebedrach* (= Sebidragъ) 864; *Tichodrah* (= Tixodragъ) 945, *Stoidrag* (= Stojdragъ) 1002–1018, *Stoidrah* 1050–1065, of the time, are inconsistent and inconclusive as well.⁶ Those coming from the SW dialects, e.g., *Golop* for *Golob* 1377, or *ad villa de Lok* ~ *villa de Loch* ~ *villa de Log* 1377, for Log at the Soča River, however, more definite though still inconsistent, are rather late. We could take them as convincing proof that neutralization in voicing in dialects knowing this change, could be dated rather late, perhaps from the end of the 15th century on.⁷

3.2 The area west of the -g > -k isogloss, in dialects exhibiting the g > γ change in the system of velar sounds, a territorially limited word-final -g > -x change and phonetic spirantization of voiced occlusives, has today the following pattern of phonetic phenomena corresponding to neutralization in voicing (see our Figure 3):

A number of dialects with the neutralization in voicing of the type: *b-p, d-t, γ-x, z-s, ž-š*. Here belong Rezija, the entire SW dialectal area, including its South Notranjsko dialect, but excluding the Obsoško and Rovte area. E.g., South Notranjsko: *zûop, lêit, rûx*. – A cluster of dialects not knowing word-final devoicing: Črni vrh, Poljanska dolina, Logaški dialect, the dialect of Selca, Škofja Loka and Horjul. E.g., Črni vrh: *zûab, lîad*. – A group of dialects knowing an incipient neutralization in voicing of obstruents (devoiced at the stage of the Stimmgleitenden Mediae; see below!), with [ɸ] and [ɖ] in all positions; and -g > -x word-finally. This group is represented by the Zilja and Remšenik area in Carinthia, the NE part of the Upper Soča region, Škofja Loka and Horjul dialect. – A cluster of dialects with originally voiced occlusive finals at the stage of weakly aspirated sound [-pʰ], [-tʰ], [-x]. Tolmin, Cerkno, locally and sporadically as well Gorenjsko, are part of this cluster. E.g., Cerkno: *zûopʰ, lîetʰ, rûox*. – Dialects knowing devoicing at the stage of phonetically slit spirants: -ɸ, -p, -x. Here belong the core of the NW Gorenjsko dialect, the eastern Rož and northern Podjuna, part of Tolmin and a segment of the Rovte dialects. The Rož and Podjuna areas have in non-word-final position [ɸ] and [ɖ] sounds. E.g., Gorenjsko: *zɸɸ, lɸp, rɸx*. – Dialects knowing devoicing with maximal intensity of spirantization, with word-final voiced obstruents at the stage of -f, -s, -x. Here belong the Gorjanski dialect of NW Gorenjsko, and the NE Upper Soča dialects. E.g., Gorenjsko: *zɸf, lɸs, rɸx*.

⁶ These notations follow the pattern of the Old Bavarian spellings of Bavarian word-final -g as -ch and -c; e.g., *Uolfkanch* 893, and *Uuolkanc*, ab. 1000, for Wolfgang. Cf., Schatz, 1907; cf. also our note 2 above.

⁷ Cf., Kos M. 1948–1954.

4.0 In a broader spectrum of the NW dialects of the Slovene speech area, the final voiced occlusives *-b*, *-d*, *-g* tend to be changed to corresponding homorganic fricatives: a voiceless bilabial spirant *ɸ*, a voiceless interdental spirant *ɬ*, and a postvelar fricative *z*. This phenomenon, in the Slovene linguistic tradition known as the spirantization of voiced occlusives,⁸ sets off a series of evolutive phonetic changes in dialects, essentially gradual in character, which did not generate new phonemes in the consonantal systems of individual dialects and yet represent definite dialectal patterns of their evolution. Let us add at this point that while in some regions knowing this process, the spirantization does not seem to be limited positionally – in Zilja and Upper Soča dialects, for instance, intervocalic voiced occlusives *b*, *d*, *g* also tend to become [ɸ] [ɬ] [g],⁹ while more generally this change takes place only word-finally and on the morphemic boundaries.

As shown (Fig. 5) the gradual spectrum of spirantization of word-final obstruents in Slovene dialects contains the following pattern of phonetically distinguishable stages: voiced *-b*, *-d*, *ɣ*; stimmgleitende occlusives *-ḃ*, *-ḋ*, *-ɣ*;¹⁰ slightly aspirated voiceless obstruents *-p'*, *-t'*, *-x*; voiceless slit spirants of the type *-ɸ*, *-ɬ*, *-x*; and voiceless fricatives of the type *-f*, *-s*, *-x* (see Figures 3,5). There is no special evolution in the non-typical reflexes of the voiced velar occlusive *g* in this series; while its voiced velar fricative *ɣ* represents the initial stage of the early Eastern Alpine Slavic **g > ɣ* change in the dialects with spirantization, the word-final postvelar *-x* stands for the spirantized *-ɣ* after complete abandoning of its velar constriction. Note that this *-x* is a slit rather than a groove spirant, i.e. a homorganic partner in the pattern of voiceless slit spirants *ɸ*, *ɬ* [and *x*].¹¹

It is easy to see that the so-called spirantization of obstruents and the rise of neutralization in voicing do in fact represent just two sides of one and the same process which was triggered by the loss of the early Slovene *z*. After this event there must have been in the history of the early Alpine Slavic two phonetic tendencies at work modifying consonants in neutralization positions: one through an energetic release and aspiration, the other by way of a nonvigorous release without aspiration accompanying their pronunciation. It is known that on the basis of such differences some obstruents act as strong or tense (fortis), others as weak or non-tense (lenis). It is the voiceless consonants which in this opposition require a higher intensity and these are phonetically fortes; while the voiced demand a lower intensity and are phonetically lenes. This situation preceding the rise of phonological neutralization in voicing, might have been preventing the opposition voicing-voicelessness from functioning in the consonantal system of a dialect or in a number of dialects for some time, or might even have developed into an alternative speech habit of the speakers of a dialect or of a part of a speech area of a language in statu nascendi. We do not know why, when and how these two tendencies

⁸ Cf., Ramovš 1924, Isačenko 1939. – Jespersen 1913³: 102–112, discusses this change in the paragraphs devoted to *tenuis* and *mediae*; Heffner 1960: 120, as strong-fortes vs. weak-lenis in the release of occlusions; Andersen 1969 & 1972, simply as tense vs. lax features in consonants and as lenition changes.

⁹ Cf., Logar 1981: 185.

¹⁰ Cf., Ramovš 1924: »na pol zveneče medije« *-bb*, *-dd*.

¹¹ Cf., Ramovš 1924: 234; Heffner 1960: 153.

divided the late common Slovene speech area; they must have been part of the earliest innovations in the Eastern Alpine Slavic base and must have been taking place in a number of generations before the neutralization in voicing in one part of its dialects became phonemic.

It should be clear (Fig. 5) that our hierarchical spectrum of spir. of voiced occlusives suggests a rather orderly progression of this change in terms of phonetic patterns in dialects which did not know neutralization in voicing. A gradual process on its time axis, this was a process whose evolutionary stages seem to be clear. There is, however, also an other aspect of the progression of this change which may be defined in terms of isoglosses of individual types of sounds in the geographical space of dialects which do not know neutralization in voicing. A gradual process on its spatial axis, this was a process whose evolutionary stages may help us to formulate a realistic hypothesis about the way in which $g > \gamma$ and $-g > -x$ change progressed in the Slovene dialects.

4.1 Commenting on Ramovš 1942's treatment of spirantization of voiced occlusives in Slovene dialects, Lucien Tesnière already pointed to the fact that the spirantization of the word-final voiced velar $-g$ in Slovene dialects covers a much broader area than the spirantization of the voiced dental and labial $-d$ and $-b$, whose center seems to be located somewhere in the Upper Carniola and the Trenta valleys (Tesnière 1930–1931: 353–358, see our Figure 6!). What this means is that the Gorenjsko and the Trenta valleys must represent the epicenter of the spirantization process in Slovene speech area, and that the $-\gamma > -x$ change in Slovene dialects may have started here as well.

Secondly, looking closer at the territorial distribution of spirantization data, Tesnière observes that the spirantization of one and the same sound, in the same position, may not have always the same isogloss in Slovene dialects. Thus, the isogloss of the reflex of $-g$ in the word *bog* /*box*/ extends much farther to the east across the $-g > -k$ line than the isogloss of the spirantized $-g$ in any other word (e.g., *sneg*). Drawing the $-\gamma > -x$ and the $-g > -x$ isoglosses of this change for every single word with word-final $*-g$, one would find that these individual isoglosses are not identical, although they are concentric, covering different extents of space, therefore have been produced by different magnitudes, strength or persistence of the spirantization impulses.

5.0 CONCLUSIONS. This concludes our discussion of the $*-g > -x$ problem in Slovene dialects as far as we wished to complete and complement Jakob Rigler's restrained position on this question. In an attempt to provide a plausible explanation for the evolution of the $-g > -x$ alternation, we interrelated this development with three other evolutions within the system of Slovene consonantal sounds: the dialectal $g > \gamma$ change in its velar system; the absence of neutralization in voicing; and the presence of spirantization of voiced occlusive tendencies in some Slovene dialects.

Three developments have been suggested as possible stages in the evolution of the $-g > -x$ change in Slovene in our paper: (1) A general loss of the abrupt character of the original voiced velar occlusive g in one part of Slovene and

Čakavian dialects in the northwestern-most South Slavic speech area ($g > \gamma$ change). The area of this change in Slovene speech territory stretched to some extent beyond the isogloss of this change in today's dialects. – (2) Two different treatments of the obstruents after the loss of CS word-final jers in the Eastern Alpine Slavic dialects: one through the neutralization in voicing in the new closed positions, the other through the tense (fortis) vs. non-tense (lenis) realization of consonants in the new neutralization positions. In both cases the new word-final *-g or - γ yielded three different types of reflexes: the voiceless velar occlusive -k in the dialects with the neutralization in voicing (type /bok/ for *bog*); the voiceless velar fricative -x in dialects undergoing the fortis-lenis realization of word-final consonants (type /box/ for *bog*); and no change in the dialects which did not undergo any change in word-final obstruents. – (3) A slow recession of the general γ area in Slovene dialects toward the west, – still in process – marked by the advancement of the neutralization in voicing in word-final position for all obstruents – except for the final voiceless velar or postvelar x or χ of the prior γ -x binary opposition.

One final word on the chronology of these changes. As shown, there is no linguistic testimony to support the claim that Slavic dialects in the Eastern Alpine area inherited from CS more-than an embryonic tendency for the evolution of a voiced velar fricative γ , which characterizes western Slovene dialects today; and since all the reliable graphic documentation of the discussed change is rather late, no absolute chronology of these phonetic events in the Slovene speech area is possible. The chronological order of their occurrence, however, can be read, we submit, in the geographic distribution of their recorded reflexes. In other words, their chronology must be reflected geographically in the gradation of phonetic events. This is the rationale of our relative chronology, suggested in our Conclusions.

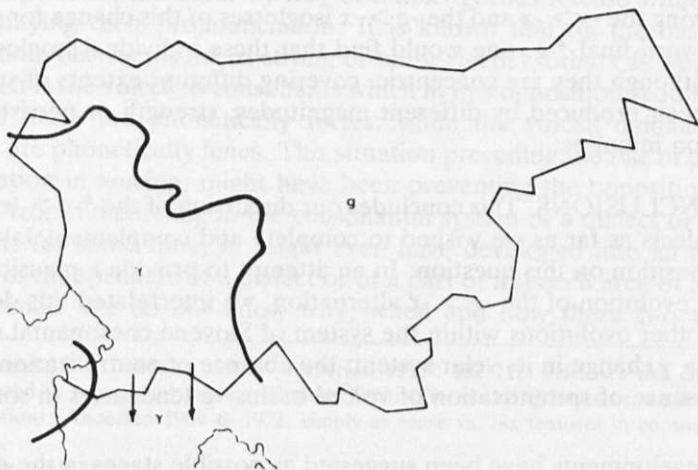


FIGURE 1. The g vs. γ isogloss in Slovene

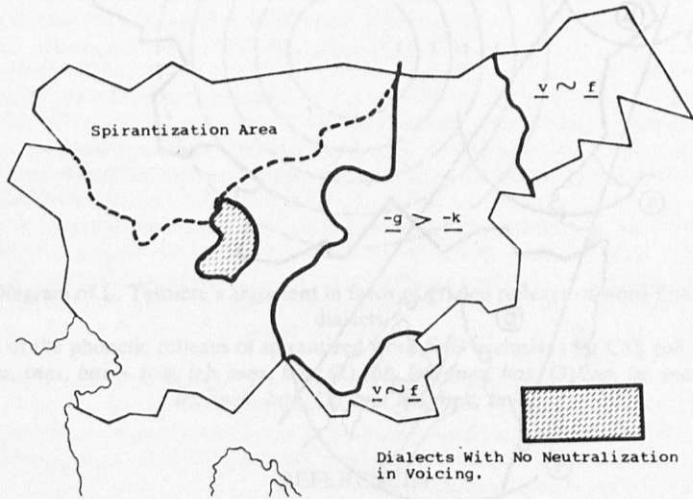


FIGURE 2. Neutralization in voicing of consonants in Slovene

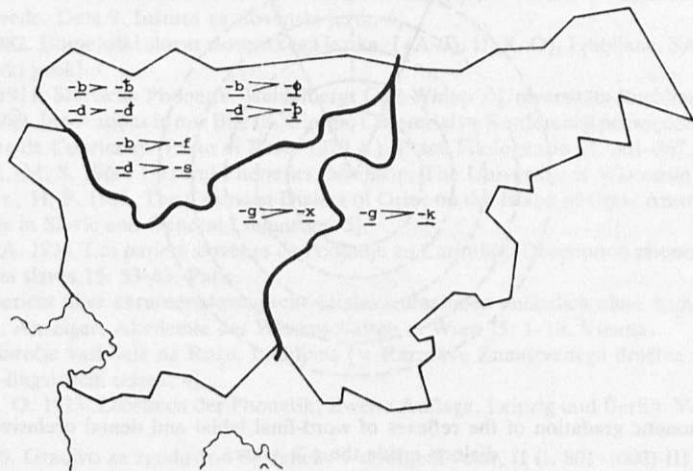


FIGURE 3. Spirantization of Voiced Occlusives in Slovene

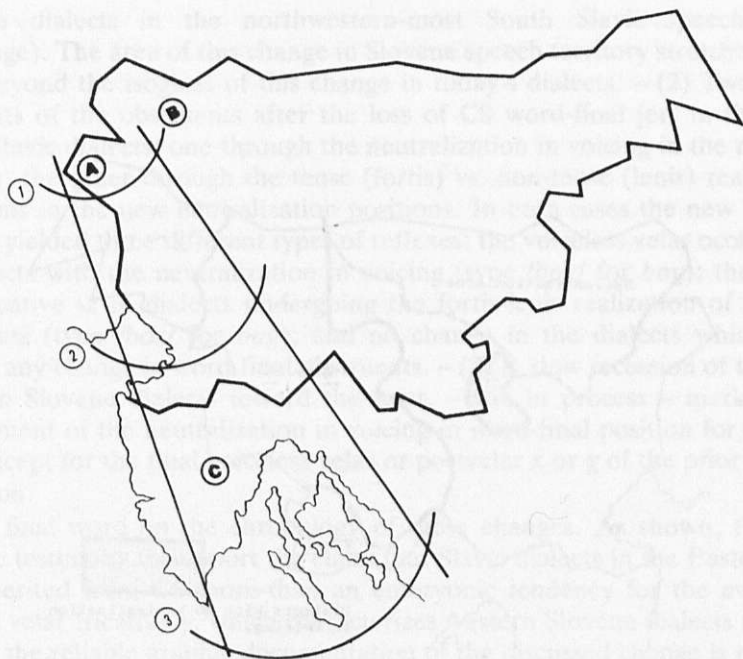


FIGURE 4. Phonetic gradation of the reflexes of *g in Slovene and NW Čakavian dialects.

- (1) reflex is a voiceless [h], sometimes breathed, often [ʃ], in some places also voiced laryngeal [ɦ]; A = Resia; B = Rož, North-West Podjuna dialects.
 (2) reflex is a voiced velar [ɣ].
 (3) reflex is "neutral with respect to the opposition fricative-occlusive".

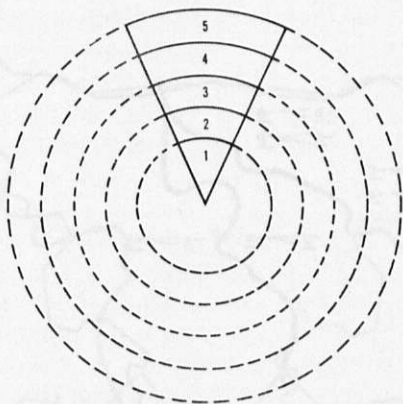


FIGURE 5. Phonetic gradation of the reflexes of word-final labial and dental occlusives in Slovene dialects inside the $g > y$ area.

The word-final $-y > -x$ is everywhere; the reflexes of occlusives are: (1) not devoiced occlusives [-b, -d]; (2) *Stimmgleitende* occlusives [-b̥], [-d̥]; (3) weakly aspirated voiceless occlusives [-pʰ], [-tʰ]; (4) voiceless spirants of the type [-ɸ], [-β]; (5) voiceless fricatives of the type [-f], [-s].

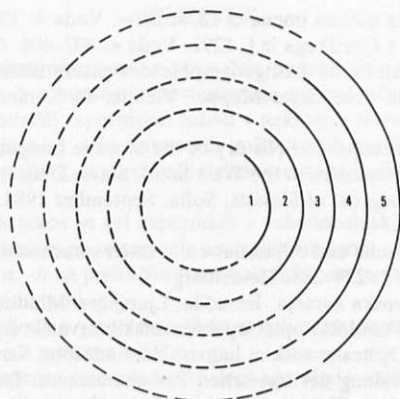


FIGURE 6. Diagram of L. Tesnière's argument in favor of graded reflexes of word-final *-g in Slovene dialects.

The examples of the phonetic reflexes of spirantized word-final occlusives for CSS *zob*, *led*, *sneg*, *bog*, are: (1) *zof*, *leš*, *snex*, *box* ~ *zoφ*, *leφ*, *snex*, *box*; (2) *zoḡ*, *leḡ*, *snex*, *box*; (3) *zop*, *let*, *snex*, *box*; (4) *zop*, *let*, *snək*, *box*; (5) *zop*, *let*, *snək*, *bok*.

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POVZETEK

Sprejemljivo razlago za razvoj premene $-g > -x$ daje povezovanje tega razvoja s tremi drugimi: z narečno spremembo $g > \gamma$, z odsotnostjo nevtralizacije po zvanečnosti v določenih položajih in s prisotnostjo spirantizacije zvanečih zaporniških teženj v nekaterih slovenskih narečjih.

(1) g se na splošno zamenja z γ v delu slovenskih in čakavskih narečij na najbolj severozahodnem južnoslovanskem področju; ta pojav je zasedel večji del slovenskega jezika, kakor je izpričan v sedanjih narečjih.

(2) Po izgubi šibkih polglasnikov se pri zapornikih v vzhodnoalpskih slovanskih narečjih pojavlja nevtralizacija zvanečih zapornikov ali pa se zamenja z nasprotjem fortis – lenis. V obeh primerih je $-g$ ali γ dobil tri različne odraze: $-k$ oz. $-h$ na področjih z nevtralizacijo oz. lenizacijo izglasnega prvotnega $-g$, na nekaterih področjih pa se je ohranil $-g$.

(3) Področje splošnega prehoda $g \rightarrow \gamma$ se zmanjšuje zaradi nevtralizacije po zvanečnosti, pri tem pa se prvotno dvojico nasprotje $\gamma - x$ zamenjuje s $x - \chi$.

Sprememba $g > \gamma$ je sorazmerno zelo mlada (15. stol.) torej ni v zvezi s takim prehodom v češčini, slovaščini, lužiščini.