

WEST SLAVIC ACCENTUATION

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At the time of the earliest reconstructible dialectal divergences, which belong to the Late Middle Slavic period of my chronology (stages 7.0-8.0 of Kortlandt 1989a, 2003, 2008), the West Slavic languages represented the most conservative part of the Slavic dialects (cf. Kortlandt 1982b: 191 and 2003: 231). They did not share the early simplification of *ś, which had arisen from the second palatalization of *x, to s in South and East Slavic (7.3), e.g. OCS *sěrb* ‘gray’, *vbsb* ‘all’, *vbsa*, *vbsěxb* versus Polish *szary*, *wsz-*, Czech *šerý*, *vš-*. The Pannonian dialect of the Kiev Leaflets belonged to the South Slavic area at this stage. The West Slavic languages also did not share the palatalization of the clusters *kw, *gw, *xw to cv, (d)zv, sv in South and East Slavic (7.4), e.g. OCS *cvěto* ‘flower’, (d)zvězda ‘star’, nom.pl. *vľsvi* ‘magicians’ versus Polish *kwiat*, *gwiazda*, Czech *květ*, *hvězda* (cf. Vaillant 1950: 56). Moreover, the West Slavic languages did not share the loss of *t and *d before l in South and East Slavic (7.5), e.g. SCr. *jéla* ‘fir’, *moliti se* ‘to pray’ versus Polish *jodła*, *modlić się*, Czech *jedle*, *modlit se*. This development affected central Slovak (cf. Krajčovič 1975: 30) and the dialect of the Kiev Leaflets, but did not reach the northern dialects of Slovene (cf. Greenberg 2000: 37) including the dialect of the Freising Fragments, nor some northern Russian dialects (cf. Vaillant 1950: 89).

The spirantization of the ungeminated voiced affricate dz, which had arisen from the second palatalization of *g, to z in the larger part of the Slavic territory (7.7) did not reach the Lekhitic languages (Polish, Pomorian, Polabian), nor some of the Bulgarian dialects, e.g. OCS loc.sg. *no(d)zě* ‘foot’, Polish *nodze*, Czech *noze* (cf. Vaillant 1950: 50). This is the oldest isogloss that cuts the West Slavic area into two parts. The spirantization of the voiced velar stop g to γ, later h in a part of the languages, affected Czech and Slovak, Upper Sorbian, the western dialects of South Slavic (cf. Greenberg 2000: 140), and southern East Slavic, e.g. OCS *gora* ‘mountain’, Czech *hora*. This is the earliest development which has its center in the West Slavic area. It may have spread slowly from west to east. The retraction of initial je- to o- and of ju- to u- (7.10) was limited to East Slavic, e.g. Russian *ózero* ‘lake’, *útro* ‘morning’, Polish *jezioro*, *jutro* (cf. Kortlandt 2006). The dissimilation of the phoneme /j/ in the word *tjūdĵ- ‘foreign’ (7.11) was limited to Serbo-Croatian *tûđ* and Slovene *tûj* and to the Pannonian dialect of the Kiev Leaflets and did not affect West Slavic, e.g. Polish *cudzy*, Czech *cizí*.

The metathesis of liquids (7.12) preceded the rise of the new timbre distinctions (7.13) in South Slavic and Czecho-Slovak. It was accompanied by lengthening in South Slavic, including central Slovak (cf. Krajčovič 1975: 30) and the dialect of the Kiev Leaflets. The lengthening also affected the rest of Czecho-Slovak except word-initially, where the metathesis was early and affected all Slavic languages. The apparent Common Slavic lengthening under the acute tone in word-initial position is a consequence

of the fact that the glottal stop was still a segmental phoneme at the time of the metathesis, e.g. Russian *rálo* ‘plough’, Czech *rádlo* < **ár?dla*, but Ukr. *rilljá* ‘field’, Cz. *role* < **arlěja?*, with Early Slavic loss of the pretonic laryngeal evidently preceding the initial metathesis. Since the territory where *-tl-*, *-dl-* were preserved is larger than the area where we find West Slavic *ro-*, *lo-* for South Slavic *ra-*, *la-*, leaving a transitional belt from western Carinthia through central Savinja and western Slovakia to Orava and back to the south, I am inclined to date the initial metathesis with lengthening in South Slavic before the loss of *t* and *d* before *l* (7.5). On the other hand, the preservation of the initial cluster after the metathesis in SCr. *dlijèto* ‘chisel’ suggests the converse chronology for the metathesis in non-initial position. Thus, I tentatively reconstruct the following chain of events: (1) lengthening before tautosyllabic resonants in South Slavic, (2) word-initial metathesis, (3) lengthening before tautosyllabic resonants in Czecho-Slovak, (4) loss of *t* and *d* before *l* in South and East Slavic, (5) non-initial metathesis in South Slavic and Czecho-Slovak, (6) rise of the new timbre distinctions, (7) lengthening under the stress before tautosyllabic resonants in Polish and Sorbian, (8) non-initial metathesis in Polish and Sorbian, (9) Dybo’s law (8.7), e.g. Polish *bruzda*, Upper Sorbian *brózda*, Cz. Slk. SCr. *brázda* ‘furrow’. All of these developments preceded the loss of the acute tone (9.2) and the more recent lengthening of short rising vowels in Czech *kráva* and Upper Sorbian *kruwa* ‘cow’ (10.6), cf. Slovak *krava*, Polish *krowa*. The early simplification of palatals (7.3, 7.4) can perhaps be identified chronologically with the stages (1) and (2) reconstructed here and the development of syllabic liquids with stage (5).

The rise of the new timbre distinctions (7.13) is the crucial pivot in the development of the Slavic vowel system. As a result of the early loss of glottalization in pretonic and post-posttonic syllables with compensatory lengthening of an adjacent vowel, e.g. in inst.sg. **sūnumì* < **suʔnumì* (5.3), glottalized vowels were limited to stressed and immediately posttonic syllables, where they had the timbre of the corresponding long vowels. When glottalization was lost without compensatory lengthening in posttonic syllables at a later stage (7.13), the timbre distinctions between the short vowels and the acute “long” vowels became phonemically relevant, e.g. **wýdra* ‘otter’, **sěto* ‘hundred’. This development was clearly more recent than the metathesis of liquids in South Slavic and Czecho-Slovak (7.12) but earlier than the non-initial metathesis in Polish and Sorbian, e.g. Czech *kráva*, Slovak *krava*, Polish *krowa*, Upper Sorbian *kruwa* ‘cow’, with secondary lengthening in Czech and Upper Sorbian (10.6).

As a result of the rise of the new timbre distinctions, the quantitative oppositions in pretonic syllables were rephonemicized as timbre differences, e.g. **glawá* ‘head’, **igá* ‘yokes’. All pretonic vowels of this stage are reflected as short vowels in the historical languages, e.g. Czech *ruka* ‘hand’ < **rǫká*, *jazyk* ‘tongue’ < **jězykǫ*, *chladný* ‘cold’, *těžký* ‘heavy’, *suchý* ‘dry’, SCr. *jèzik*, *hlàdnì*, *těškì*, *sùhì*, also *dùžník* ‘debtor’, *gràdskì* ‘urban’, *rùčnì* ‘hand-’, *rùčník* ‘towel’. The length in SCr. *rúka* was introduced from the barytone forms such as acc.sg. *rúku*, while the original short vowel was preserved in the oblique plural form *rúkama*. Long vowels in posttonic syllables were not shortened, e.g. **òsnowā*, inst.pl. **žènamì*, where the long final vowel is reflected by the neo-circumflex tone of Slovene *osnōva*, *ženāmi* (10.9). The alternation between short pretonic and long

posttonic vowels in paradigms with mobile stress was removed by the generalization of the long vowel in Serbo-Croatian and the short vowel in West Slavic, e.g. SCr. *gòlùb* ‘pigeon’, *žělūd* ‘acorn’, *lābūd* ‘swan’, *òblāst* ‘region’, Czech *holub*, *žalud*, *labuť*, *oblast*. The absence of neo-circumflex in Slovene *pámet* ‘intellect’, where accentual mobility was lost and the acute prefix was generalized (cf. Kortlandt 2005: 128), shows that this language sided with its West Slavic neighbors here. The long vowel was retained everywhere if it did not alternate with a short vowel, e.g. SCr. *mješēc* ‘month’, *pēnēz* ‘coin’, *jāstrēb* ‘hawk’, *pāūk* ‘spider’, Czech *měsíc*, *peníz*, *jestřáb*, *pavouk*. These words had fixed stress on the laryngealized vowel of the first syllable. All languages have a short vowel in a suffix which contained a laryngeal, e.g. SCr. *bògat* ‘rich’, *s̀rdit* ‘angry’.

The raising of the low nasal vowels *a*, *ã* to *y*, *ę* in South Slavic, e.g. OCS *nesy(.)* ‘carrying’, *xvalę* ‘praising’, Old Russian *nesa*, *xvalja* (7.14), affected the dialect of the Kiev Leaflets and the dialect of the Freising Fragments but did not reach the northwestern dialects of Slovene. It also did not reach the West Slavic area, as is clear from Czech *nesa*, *řka*, Old Polish *rzeka* ‘saying’ (written *reca* in the Kazania Świętokrzyskie).

As a result of the prothesis, when the hiatus between a word-final and a word-initial vowel was filled with a glide which was **j* if at least one of the vowels was front and **w* if the preceding vowel was back and the following vowel was rounded (7.1), word-initial **j*- lost its status as a phoneme /*j*/ and became a feature of the following vowel, e.g. OCS *ěsti* = *jasti* ‘to eat’, *ěxati* = *jaxati* ‘to ride’, Lith. *ėsti* versus *jóti*. At a later stage (7.15), the phoneme /*j*/ was lost after consonants with compensatory lengthening of the following vowel (Van Wijk’s law), e.g. **píšē* ‘writes’ < **-sje*, **wòlā* ‘will’ < **-lja?*. This development introduced new long vowels in posttonic syllables, such as **-ē* and **-ā* beside **-e* in **dēne* ‘days’ and **-a* in **žēna* ‘woman’. Under the stress, acute vowels were now indifferent with respect to length, e.g. **gorā* ‘mountain’, **igā* ‘yokes’, and yielded short rising vowels at a later stage (9.2), e.g. Slovene *drvā* ‘firewood’. While the distinction between a short unstressed nasal vowel and a long nasal vowel under the stress was preserved in Slovene gen.sg. *lípe* ‘lime-tree’, *goré* ‘mountain’, and in SCr. nom.acc.pl. *glāve* ‘heads’, gen.sg. *glāvē*, Susak gen.sg. *sestrē* (b) ‘sister’ versus *vodiē* (c) ‘water’, endings which did not occur under the stress were shortened in the whole Slavic territory and length was generalized in the unstressed nom.acc.pl. ending of Slovene *lēta* ‘years’, similarly Slovak *mestá* ‘cities’, *dievčatá* ‘girls’, *srdcia* ‘hearts’, Posavian *vrímená* ‘times’, *ímená* ‘names’, *ramená* ‘shoulders’, *telesá* ‘bodies’, inst.pl. (sa) *sinoví* ‘(with) sons’, Czech dial. *chlapý* ‘fellows’, *vratý* ‘gate’, *cestamí* ‘roads’, *namí* ‘us’, Slovincian *xlùopī*, *břegamí* (cf. Kortlandt 2009).

More new long vowels arose after the loss of intervocalic **j* from contractions in posttonic syllables (8.1), e.g. Czech gen.sg. *nového* ‘new’, Čakavian (Novi) *pítā* ‘asks’, Bulg. *píta*, cf. Čak. *kopā* < **kopā(j)e* ‘digs’, Bulg. *kopāe*, Old Polish *kopaje*, Carpathian (Ublja) *byvā^uu*, *bývaš*, *bývat*, *byvā^eeme*, *byvā^eete*, *byvā^uuť* (cf. Broch 1900: 106), with non-initial stress as a result of Dybo’s law (8.7), retraction of the stress according to Stang’s law (9.3) from **-āšb* and **-āt^b* but not from medial syllables, and restoration of the thematic vowel in **-ā(e)me*, **-ā(e)te* on the analogy of **kopāje-*, also inst.sg. **žēnō* versus **gorōō*, with final stress from Dybo’s law in Slovene *goró* and Slovak *horou* < *-ōu*, dial. *-óv* (cf. Stang 1957: 62, Krajčovič 1975: 44, Pauliny 1990: 64). The uncontracted

forms were partly restored after the rise of new /j/, which was early in East Slavic and late in West Slavic (cf. Kortlandt 2006).

New long rising vowels originated from the retraction of the stress from final jers (8.2), e.g. Slovene gen.pl. *gór* < **gorǫ* ‘mountains’, *dán* < **dǫnǫ* < **dnǫ* ‘days’, Polish *rąk* < **rǫkǫ* ‘hands’, Slovincian *mjóun* < **bménǫ* < **bmǫnǫ* ‘names’. Pretonic jers in inner syllables could not receive the stress, e.g. Slovene gen.pl. *óvǫc* < **owǫcǫ* ‘sheep’, *dánas* < **dnǫnsǫ* ‘today’, Russian dat.pl. *détjam* < **dětmǫ* ‘children’ (with *-jam* for Old Russian *-emǫ*). The new length was subsequently introduced analogically in original stem-stressed gen.pl. forms, e.g. Slovene *kónj*, which was originally homophonous with the nom.sg. form *kǫnj* ‘horse’. While the phonetically regular short root vowel has been preserved in Polish *pę̄t* ‘fetters’, *blót* ‘marshes’, Czech *krav* ‘cows’, *děl* ‘works’, Slovincian *lāt* ‘years’ (my transcription, cf. Dunaj 1966: 37f., Trávníček 1935: 263f., Lorentz 1903: 262), the analogical lengthening affected Old Polish *lyaaath*, *ottychmyaasth*, dial. *lāt*, *dotyxcǫs*, Slovincian *potróus* of *pǫotros* ‘mushroom’, *remjóun* of *rǫmjǫ* ‘arm’, *votročǫyt* of *vǫotročǫ* ‘boy’. Conversely we find analogical shortening in Slovincian *rǫk* instead of **rǫuk*, Polish *rąk* < **rǫkǫ*, and in Polish *imion*, as opposed to Slovincian *mjóun* < **bmǫnǫ* of *ímjǫ* < **ǫmę* ‘name’ (c). Slovincian has preserved the phonetically regular short vowel in the suffix of *jǫgnjǫt* ‘lambs’ (a) and *cielǫt* ‘calves’ (b), where Polish has analogical length (cf. Kortlandt 1978b: 283). In Czech, the long vowel in the gen.pl. form of the mobile accent paradigm has been eliminated from the literary language except for the archaic remnant *dokořán* ‘wide open’. In central Slovak, length was generalized in the gen.pl. form, as it was in South Slavic, but at a later stage it was lost after a long vowel in the preceding syllable, e.g. in *záhrad* of *záhrada* ‘garden’.

After the rise of new **ē* and **ō*, raising of *ě* from **ǣ* to **ie* (8.3) affected the whole Slavic territory with the exception of the Lekhitic and eastern South Slavic areas, the latter including the dialect of the Kiev Leaflets, where *ě* merged with fronted **ǣ* < **a* after palatalized consonants (cf. Schaeken 1987: 32, 101), e.g. Polish *biały*, Slovak *biely*, SCr. *bijeli* ‘white’, KL acc.pl. *srǫdǫcě* (2×) = *srǫdǫca* (1×) ‘hearts’. As a result of the merger of palatal fricatives (8.4) and clusters (8.5) **ś*, **śc*, **ždź*, **šč*, **ždž* to *š*, *šč*, *ždž*, the West Slavic reflexes of the first and the second palatalization of **x*, **sk*, **zg* and of the clusters **stj* and **zdj* are identical (cf. Vaillant 1950: 48-51 and 70f.). The second simplification of palatals **ć*, **dź* to *c*, *dz* in West Slavic (8.6) and the subsequent spirantization of *dz* to *z* in Czech and Sorbian yielded new isoglosses, further differentiating West Slavic from South Slavic and separating southwestern West Slavic from Slovak and Lekhitic, e.g. Czech *mez(e)*, Upper Sorbian *mjeza*, Polish *miedza*, Slovak *medza*, SCr. *měda* ‘boundary’. The spirantization also seems to have affected the Pannonian dialect of the Kiev Leaflets, e.g. *dǫzǫ* ‘give!’, *takoze* ‘also’, dat.pl. *tuzǫmǫ* ‘strange’, but this is probably a deceptive feature of the orthography (cf. Oblak 1896: 108, Schaeken 1987: 90-92). The inst.sg. ending of the *u*-stems *-ǫmǫ* was generalized in the paradigm of the *o*-stems in North (West and East) Slavic, including the dialect of the Kiev Leaflets (8.9). It replaced *-a*, which has been preserved in OCS *vbčera* ‘yesterday’ and can be identified with Lith. *-ù* < **-oŕ*. The rise of the South Slavic ending *-omǫ* requires the continued existence of the nom.sg. ending **-os* and must therefore be dated to an earlier stage.

According to Dybo's law (8.7), rising vowels lost the stress to the following syllable, if there was one, e.g. *ženà 'woman', *osnòwā 'base'. Newly stressed long vowels received a falling tone, e.g. *wolā 'will'. Final jers had lost their stressability (8.2) and therefore could not receive the stress, e.g. Slovene *kònj* < *kòŋv 'horse'. Acute (broken, glottalized) vowels did not lose the stress, e.g. *wýdra 'otter', *dým̃ 'smoke', which kept fixed stress throughout the paradigm. Dybo's law restored distinctive vowel length in pretonic syllables, e.g. *nāròd̃ 'people', *q̃tròbā 'liver'. It was obviously posterior to the rise of the new timbre distinctions (7.13), Van Wijk's law (7.15), the contractions in posttonic syllables (8.1), and the retraction of the stress from final jers (8.2). After Dybo's law, short falling vowels in monosyllables were lengthened (8.8), e.g. SCr. *bôg* < *bòg̃ 'god', *kôst* 'bone' < *kòst̃, *dân* 'day' < *d̃ñ < *d̃ñv. This development, which was apparently Common Slavic, eliminated the pitch opposition on short vowels, which had become confined to monosyllables (not counting final jers) as a result of Dybo's law.

Loss of the acute (broken, glottalic) tone yielded a short rising contour (9.2), e.g. *dým̃* 'smoke', *gorà* 'mountain'. This development was more recent than the lengthening of short falling vowels in monosyllables (8.8) because it reintroduced a pitch opposition on short vowels in polysyllables and thereby eliminated the motivation for the latter. After the loss of the acute, the stress was retracted from long falling vowels in final syllables, not counting final jers (9.3), e.g. *w^uòla 'will', Russian dial. *vólja*, Czech *vůle*, Slovak *vôla*, Slovene *vólja*, SCr. *vólja*. This is Stang's law. The long vowel was shortened, except in Lekhitic, where traces of length remain, e.g. Old Polish *wolā* (cf. Stang 1957: 57). The newly stressed vowel received a rising tone. The stress was not retracted from medial syllables, giving rise to such alternations as Russian (*Pëtr*) *kúrit* versus (*vulkan*) *kurítsja* 'smokes', similarly *sádit* versus (*solnce*) *sadítsja* 'sets'. Long falling vowels in medial syllables were shortened, e.g. SCr. *zdrāvī* 'healthy' < *s̃drāwī < *s̃drāwī, *pòvratak* 'return' < *powrāt̃k̃ < *pòwrāt̃k̃, *záslužan* 'deserving' < *z̃aslūž̃ñ < *z̃aslūž̃ñ, *zgrāda* 'building' < *s̃grādā < *s̃grādā, Slovene *zgrāda* (with neo-circumflex at stage 10.9). While jers in medial syllables could receive the stress as a result of Dybo's law, they could no longer receive the stress as a result of Stang's law. This gave rise to an alternation between the originally (pre-Dybo) pretonic short vowel of Czech *sukno* 'cloth' < *suk̃ñ < *suk̃no, also *humno* 'threshing-floor', Slovak *humno*, SCr. *křzno* 'fur', and the long vowel from the plural *súk̃na < *suk̃nā < *suk̃nā (with analogical length as in *mestā*) in Slovak *súkno*, SCr. *súkno*, *gúmno*, also *křzno* (cf. Kortlandt 2005: 127). It also accounts for the retraction of the stress to the prefix in older and dialectal Russian *nájdet*, *pójdet*, *podóždet*, *podójdet*, SCr. *pöčnēm*, *ötmēm*, *pöđēm*, *zäprēm*, Bulg. *dójda*, *zájda*, *ópra*, *pöčna*, Slovak *začneš*, *zatneš* (cf. Stang 1957: 115f.), also *pöjdeš*.

After Stang's law, long falling vowels were shortened (9.4), e.g. Czech *mladost* 'youth', acc.sg. *ruku* 'hand', SCr. *mlädöst* 'youth', gen.sg. *präseta* 'sucking-pig', also *s̃rce* < *s̃rd̃bce, Slovene *srcē* 'heart'. The shortening did not affect monosyllables in Slovene and Serbo-Croatian and the first syllable of disyllabic word forms in the latter language, e.g. SCr. *bôg* 'god', *prāse* 'sucking-pig', acc.sg. *rūku* 'hand'. The dialect of the Kiev Leaflets sides with Serbo-Croatian in this respect (cf. Kortlandt 1980). The rounded nasal vowels **ɔ*, **ö* were raised to **u*, **ü* in Serbo-Croatian, Sorbian, Czecho-Slovak, and East

Slavic (9.6). At the end of the Late Proto-Slavic period, the nasal vowels lost their nasalization in East Slavic and Czecho-Slovak, and later elsewhere except in Lekhitic. The rise of the palatalization correlation probably started in Lekhitic and spread to the other North Slavic languages. The jers merged in Serbo-Croatian, Slovene and West Slavic, with the exception of Polabian and central Slovak. While they were preserved as a separate phoneme /ə/ in Slovene, they merged with **e* in the larger part of West Slavic. Short rising vowels were lengthened in Russian, e.g. dial. *kôń* < **kōňb* < **kòňb* ‘horse’ versus *bog* < **bōgъ* ‘god’, where the vowel was shortened. Short vowels were lengthened in monosyllables in Ukrainian, e.g. *kiń* < **kōň* < **kòňb*, and similarly in Upper Sorbian, e.g. *kóń*.

In Slovene, falling vowels lost the stress to the following syllable, where the newly stressed vowel received a long falling tone (10.7), e.g. *okô* ‘eye’, *mladôst* ‘youth’, acc.sg. *rokô* ‘hand’, also *stô* < **sěto* ‘hundred’, as opposed to *kdô*, SCr. *tkô* ‘who’ with final stress as a result of Dybo’s law. Stressed short vowels were lengthened and received a falling tone in Slovene before a non-final lost jer (10.8) and before a long vowel in the following syllable (10.9), e.g. *bîtkâ* ‘battle’, *lêta* ‘years’, *osnôva* ‘base’, inst.pl. *ženâmi* ‘women’. This is the so-called neo-circumflex. Stressed short vowels in non-final syllables were lengthened and received a rising tone in Slovene (10.11), e.g. *lêto* ‘year’, *vôlja* ‘will’. This development, which was more recent than the rise of the neo-circumflex, did not reach the easternmost dialects of the language. The common view that the epenthetic vowel in *vozâl* ‘knot’ and *rebâr* ‘slope’ received the stress as a result of the progressive accent shift (Ramovš 1936: 55, Jaksche 1965: 39, Kortlandt 1976: 2, Greenberg 2000: 107) must be corrected, as Babik has recognized (2005: 108). These analogical forms replace *(*v*)ôzâl < *ôzlb (a), like (*v*)ôgâl ‘coal’ < *ôglb (cf. Derksen 2008b: 385, 388), and *rêbâr* (Valjavec) < **rèbrъ* (b) beside *rêbâr* (Pleteršnik) with the rising tone of gen. *rêbri* < **rebrî* < **rèbrî*, as in *vôlja* ‘will’. Thus, we have first retraction of the stress from final jers (8.2), e.g. gen.pl. *ôvâc* < *ôvъcb < *ovъcb ‘sheep’, *dânâs* < *dónъsb < *dъnъsb ‘today’, dat.pl. **lûdъmъ* < **ludъmъ* ‘people’, then analogical introduction of the falling tone from other barytone case forms in *ôvъcb and **lûdъmъ* and the accent shift yielding *ovâc* and *ljudêm*, and finally neo-circumflex in *rêbâr* < **rèbrъ*, followed by the analogical accent shift in *rebâr* when the word adopted the mobile accent pattern of *lakât* ‘elbow’ < *ôlkъtb and *nohât* ‘nail’ < *nôgъtb, also (*v*)ogâl (Pleteršnik) ‘corner’ < *ôgъlb (c), Latin *angulus*.

In Czech and Upper Sorbian, short rising vowels in open first syllables of disyllabic word forms were lengthened unless the following syllable contained a long vowel (10.6), e.g. Cz. *kráva* < **krâwa* < **krâwa*, *vûle* < **vôļa* < **w"òļa*, *psáti* < **pvsáti* < **pvsáti* ‘to write’, USo. *kruwa* < **krôwa* < **krôwa* < **kôrwa*, Cz. gen.pl. *krav*, inst.pl. *kravami*. This development was evidently more recent than the loss of pretonic jers. The outdated view that the acute was preserved as a long vowel in Czech cannot be correct for four reasons. First, we find a quantitative alternation in the paradigm of Czech *kráva* ‘cow’, which has a short root vowel in inst.sg. *kravou*, gen.pl. *krav*, dat.pl. *kravám*, inst.pl. *kravami*, loc.pl. *kravách*, similarly *kámen* ‘stone’, gen.sg. *kamene*. This points to lengthening of a Proto-Slavic short rising **â* in an open first syllable of disyllabic word forms which was blocked by a long vowel in the following syllable. Second, the same

lengthening is found in *kůže* ‘skin’, *koží*, *koži*, *kožím*, *kožemi*, *kožích*, also *můžeš* ‘you can’, which never had an acute root vowel. Third, the same lengthening is found in trisyllabic word forms where a jer was lost in the initial syllable, e.g. *lžíce* ‘spoon’, *lžící*, *lžic*, *lžícím*, *lžicemi*, *lžících*, also *psáti* ‘to write’, *psal* ‘wrote’, *psaní* ‘writing’, *spáti* ‘to sleep’, supine *jdi spat* ‘go to sleep’. This puts the lengthening after the loss of pretonic jers. Fourth, the Czech lengthening cannot be separated from the one in Upper Sorbian *kruwa* < *krówa* ‘cow’, which shows that it was more recent than the metathesis of liquids. As Verweij has pointed out (1994: 556), the Czech lengthening must have preceded the shortening of long falling vowels (9.4).

The so-called neo-acute is a heterogeneous category, encompassing all kinds of Proto-Slavic rising vowels. The oldest long rising vowels arose at the end of the Early Middle Slavic period (6.10), e.g. Slovak *tráva* ‘grass’, *národ* ‘people’, *útroba* ‘intestines’, also *pýtať sa* ‘to inquire’, *miešať* ‘to blend’, *stúpať* ‘to mount’. These vowels remained long when they lost the stress to the following syllable in accordance with Dybo’s law (8.7). More recent long rising vowels arose from the retraction of the stress from final jers (8.2), e.g. gen.pl. *nôh* ‘feet’, *rúk* ‘hands’, also *niesol* ‘carried’ < **neslǫ*, 2nd sg. *nesieš* < **nesešb*, later from the retraction of the stress from long falling vowels in final syllables (Stang’s law, 9.3), e.g. *vôľa* ‘will’, 2nd sg. *môžeš* ‘can’, *pôjdeš* ‘will go’, also *pýtaš*, *miešaš*, *stúpaš*, then from the retraction of the stress from non-final jers, e.g. *rúčka* ‘penholder’, *dcérka* ‘little daughter’, and finally from the lengthening of short rising vowels in Czech *kráva* and Upper Sorbian *kruwa* (10.6). Other long vowels originated after the loss of final jers, e.g. Czech *bůh* ‘god’, *dům* ‘house’, *kůň* ‘horse’, *nůž* ‘knife’.

Original (pre-Dybo) pretonic long vowels were shortened when the new timbre distinctions arose (7.13), e.g. Czech *chladný*, *těžký*, *suchý*, *ruka*, *ruční*, *ručník*, *humno*, *sukno*, Polish *sędzia* ‘judge’. Long vowels which became pretonic as a result of Dybo’s law (8.7) remained long, e.g. SCr. *národ* ‘people’, *zákon* ‘law’, *trúba* ‘trumpet’, *zábava* ‘fun, party’, *tráva* ‘grass’, *trávní* ‘grassy’, *trávník* ‘pasture’, *bíjelí* ‘white’, *půtník* ‘traveler’, Czech *bílý*, *poutník*, *tráva*, *trávní*, *trávník*, *národ*, *zákon*, *trouba*, *zábava*, *útroba*, Polish *wątroba* ‘liver’. The long vowels of Czech *plátno* ‘linen’, *vlákno* ‘fibre’, Slovak *súkno* ‘cloth’ were taken from the plural (cf. Kortlandt 2005: 127). At the end of the Late Proto-Slavic period, posttonic long vowels were shortened before an original long vowel in the following syllable in West Slavic, e.g. Czech *peníz* ‘coin’, pl. *peníze* ‘money’, gen. *peněz*, dat. *peněžům*, inst. *penězi*, loc. *peněžích*, Polish *pieniądz*, *pieniądze*, gen. *pieniędzy* < **-i*, inst. *pieniędzmi* < **-mī* replacing **-y̆*.

The short vowel of Czech *havran* ‘raven’, *labuť* ‘swan’, *paměť* ‘mind’, *kaprad* ‘fern’, *jabloň* ‘apple-tree’, SCr. *gävrān*, *läbūd*, *pāmēt*, *pāprāt*, *jāblān*, which originally belonged to accent pattern (a), shows that these words adopted mobile stress at an early stage. This is clearly proven by Russian *lébed* ‘swan’ < **lo-* < **ol-*, with *-e-* < **-o-* before a soft labial as in dat.loc. *tebé* < *tobě* ‘you’ and *tepér* < *topĕrvo* ‘now’ and with loss of the glottal stop in the pretonic reflex of **ol-* as in Czech *role* ‘field’ < **rolbja* < **rolbja*, as opposed to *rādlo* ‘plough’ < **ōr?dlo*, Ukr. *rilljá* versus *ráló*. The accentual mobility in this word is evidently older than the early metathesis of liquids (7.12), after which long vowels in pretonic syllables were shortened (7.13), e.g. in the oxytone case forms of Czech *labuť* and *paměť*. The rise of accentual mobility was more recent than the rise of distinctive

tone (6.10) because we would otherwise expect *lo-* in Czech, as in *loket* ‘elbow’. Thus, we can date this analogical rise of accentual mobility to the Late Middle Slavic period, following the generalization of accentual mobility in the masc. *o*-stems without an acute root vowel, as in SCr. *zûb* ‘tooth’, Gr. *γόμφοσ* ‘bolt’ (6.9). It appears that medial *-lo-*, *-ro-* is also the phonetic reflex of **-ol-*, **-or-* in pretonic syllables in Czech *jabloň* and Slovene *práprot* (also *práprat*) ‘fern’, SCr. *păprăt*. When posttonic **-rā-* was substituted for pretonic **-ro-* in the oxytone case forms of Czech *havran* and *kapradĕ*, the pretonic long vowel was automatically shortened because new pretonic long vowels did not arise before Dybo’s law (8.7). Slovene preserved the original accent pattern (a) in *gâvran* (with neo-circumflex at stage 10.9) beside accent pattern (c) in *gavrân* (with accent shift at stage 10.7) and lost the accentual mobility in *pâmet*, *práprot* and *jáblan*, probably under the influence of derivatives where the mobility never arose. My view that pretonic long vowels were shortened while posttonic long vowels were preserved in Proto-Slavic is corroborated by such derivatives as Czech *pekař* ‘baker’ (c) versus *rybář* ‘fisherman’ (a). Note that Serbo-Croatian has preserved the quantitative distinction between different vowels in suffixes, e.g. *-at*, *-av*, *-ica*, *-ina* versus *-ār*, *-īk*, *-īn*, *-īna* (cf. Dybo 1968). Serbo-Croatian has preserved a trace of the original shortening of pretonic long vowels (7.13) in the numerals *děvet* ‘nine’ and *děset* ‘ten’, where oblique cases had final stress (cf. Stang 1957: 88), and generalized posttonic length elsewhere.

A long time ago I proposed a sound law (1975: 5f., 1989a: 45, 2005: 117) according to which the stress was retracted from final open syllables of disyllabic word forms unless the preceding syllable was closed by an obstruent in Late Balto-Slavic (4.4), e.g. Lith. gen.sg. *vilko* ‘wolf’, dat.sg. *vilkui*, *gálvai* ‘head’, SCr. gen.sg. *vûka*, dat.sg. *vûku*, *glâvi*, *pîlo* ‘(it) drank’, aorist 3sg. *něse* ‘carried’, as opposed to Lith. gen.sg. *aviēs* ‘sheep’, gen.pl. *vilkū* < **-om*, nom.sg. *galvā* < **-a?*, Russian gen.sg. *desjati* ‘ten’, nom.sg. *golová* ‘head’, *pilá* ‘(she) drank’. The retraction did not operate in polysyllabic word forms, e.g. Lith. inst.sg. *sūnumi* ‘son’, adv. *akisù* ‘before one’s eyes’. The retraction was more recent than the loss of final **t/d* (3.7), as is clear from Lith. *vilko* and SCr. *vûka*, *něse*. The stress was regularly retracted from final vowels, as in SCr. *pîlo*, and diphthongs, as in Lith. *vilkui*, *gálvai*, SCr. *vûku*, *glâvi*, but not from syllables which ended in a fricative, a nasal, or a laryngeal, as in Lith. *aviēs*, *vilkū*, *galvā*. It follows that word-final nasals and laryngeals were still ordinary consonants at this stage. The retraction was more recent than Hirt’s law (4.1), according to which the stress was retracted if the vowel of the preceding syllable was immediately followed by a laryngeal, because the accentual mobility in Russian *dalá*, *dálo* ‘(she, it) gave’ must have arisen at this stage (4.4) and presupposes an earlier end-stressed paradigm. If the word had contained a full grade root vowel **o?* at the time of Hirt’s law, retraction of the stress would have prevented the rise of accentual mobility. Thus, we have to assume that the full grade replaced an earlier zero grade between stages 4.1 and 4.4. The retraction was probably more recent than Winter’s law (4.3), according to which (in my formulation) the Indo-European preglottalized stops dissolved into a glottal stop and a voiced obstruent, because the laryngeal feature of the preglottalized stops apparently merged with the reflex of the Indo-European laryngeals between stages 4.1 and 4.4. This can be deduced from the retracted stress of Russian *éla* ‘(she) ate’, *séla* ‘(she) sat down’, which must have arisen from an analogical extension of

Hirt's law, cf. *grýzla* 'gnawed', *strígla* 'cut', present 3pl. *edját*, *gryzút*, *strigút*. The stress was not retracted in the latter forms because they were trisyllabic and had final stress at the stage under consideration. The retraction in *éla* and *séla* cannot have been phonetic in view of Lith. *édāš* 'eating' and *duodāš* 'giving'. The analogical retraction in *éla*, *séla* must have been earlier than the phonetic retraction in *pílo*, *dálo* because the stress was not retracted in *pílá*, *dalá*. In particular, it must have been earlier than the introduction of full grade in the root syllable of the latter form.

The retraction of the stress from final open syllables of disyllabic word forms was blocked by a final obstruent in the preceding syllable, e.g. Russian *neslá*, *nesló* 'carried'. Rick Derksen has rightly concluded that this sound law generated a class of oxytone nouns in stem-final -CCo-, e.g. Lith. *-stas*, *-klas*, Slavic *-dlo* (1995: 166, 1996: 96-128, 229-232, for Slavic 2009a, 2009b). These oxytone nouns belong to accent patterns (2) in Lithuanian and (b) in Slavic with loss of an original acute in the root, e.g. Lith. *aūkštas* 'floor', *tiñklas* 'net', Polish *žadło* 'sting'. After the pretonic acute was lost in Early Slavic (5.3), the end-stressed neuters escaped the shortening of pretonic long vowels (7.13), evidently because the accent had been analogically retracted at that time. This analogical retraction of the stress can be dated to the Late Middle Slavic period because it evidently affected Cz. Slk. *dláto* < **dolbtò* 'chisel', SCr. *dlijèto* (with secondary *e*-grade), Prussian *dalptan*, but did not reach Cz. *vědro*, Slk. *vedro*, SCr. *vjèdro* < **wědrò* 'bucket', where the pretonic long vowel was regularly shortened (but Montenegrin *vijèdro*, cf. Derksen 2008b: 518). The final accentuation of these neuters is supported by the reduced vowel in OCS *žbzľb* 'staff', Russian *žezl*, SCr. *žèzlo*, Cz. Slk. *žezlo*, where original pretonic **e* was raised to **i* at stage 7.9 (cf. Kortlandt 1985).

The alternation between acute tone (a) and mobile stress (c) in SCr. *kràsti* 'to steal', present *krádē-*, Czech *krásti*, *krade-*, preterit *kradl* < **krádlb* resulted from Hirt's law (4.1) and the alternation between desinential (b) and mobile (c) stress in SCr. *trésti* 'to shake', *trésē-*, Czech *třásti*, *třese-*, *třásl* < **trěslb* from the absence of retraction from final open syllables to a preceding closed syllable (4.4) followed by the retraction of the stress from final jers (8.2). Similarly, we have a short vowel in Slovak *mohol* < **mòglb* (b) 'could', which has original root stress, but a long vowel in *niesol* < **néslb* < **neslb* (c) 'carried', Polish *niósł*, also *rósl* 'grew' < **róslb* < **rostlb*, Slovak *rástol*, and Old Czech *šél*, Slovak *šiel* 'went' < **šódlb* < **švdlb* (cf. Bulaxovskij 1953: 26), where the stress was retracted from the final jer. This account has been challenged by Zbigniew Babik (2007), who claims that *mohol* must have replaced earlier *môhol* because the latter form is attested in three peripheral Slovak dialect areas. The argument is mistaken because the analogical length in *môhol* is a trivial development whereas the alleged analogical shortening in *mohol* is quite unmotivated. The analogical introduction of length in *môhol* was supported not only by the other verbs of the same flexion class such as *niesol* 'carried' and *piekol* 'baked' but also by the present stem *môže-*, which is not the case with *nesie-*, *pečie-*, *rastie-*. Conversely, the length in **bôdol* 'pricked' was eliminated on the analogy of the frequent model *mohol*, as happened in Czech *rostl* on the analogy of *kradl* etc.

At the end of the Late Proto-Slavic period, there was a distinction between short **ò*, e.g. in Slovene *kònj* 'horse', long **ō* from the retraction of the stress from final jers (8.2)

and from the lengthening of short falling vowels in monosyllables (8.8), e.g. in gen.pl. *gór* ‘mountains’, analogically also *kónj*, and in *bôg* ‘god’, *kôst* ‘bone’, and diphthongal $*u\grave{o}$ from Stang’s law (9.3), e.g. in *vólja* ‘will’, 2nd sg. *nósiš* ‘carry’, Slovak *vôla*, 2nd sg. *môžeš* ‘can’, *pôjdeš* ‘will go’, cf. Rumanian *coajă* ‘bark’ < Slavic $*k^u\grave{o}ža$ ‘skin’. In Czech and Slovak, $*u\grave{o}$ was shortened to $*\grave{o}$ before a long vowel in the following syllable, as in *nosíš*, where the long vowel was restored on the basis of the other accent classes, e.g. *bavíš* ‘amuse’ (a), *budíš* ‘wake up’ (c). After the raising of *ě* from $*\grave{a}$ to $*ie$ (8.3), e.g. in Czech *vědro* ‘bucket’, Slovak *biely* ‘white’, and the rise of new diphthongal $*i\grave{e}$ from Stang’s law (9.3), e.g. in Slovene *stělja* ‘litter’, 2nd sg. *čěšeš* ‘comb’, $*\bar{o}$ and $*ie$ tended to develop in parallel fashion, either by diphthongization of $*\bar{o}$ to *uo* (as in Czech and Slovak) or by monophthongization of $*ie$ to \bar{e} (as in Slovene), while $*u\grave{o}$ merged with $*\grave{o}$ in Serbo-Croatian and Polish and with both $*\grave{o}$ and $*\acute{o}$ in Russian. The monophthongization of $*ie$ to \bar{e} did not reach the northern and western dialects of Slovene, where the distinction between $*ie$ and $*i\grave{e}$ has been preserved as *ię* versus *iĕ* in the dialect of Soča (cf. Greenberg 2000: 171, Kortlandt 2003: 230). In Kajkavian, the *ę* from *ě* merged with the new front vowel which developed from the jers.

Long falling vowels were mostly shortened (9.4), e.g. Czech *kost* ‘bone’, *květ* ‘flower’. As a result, tonal distinctions were lost in North Slavic. After the loss of final jers, new long vowels developed before devoiced obstruents in Polish, e.g. *bóg* ‘god’, *mógl* ‘could’, and similarly in eastern Slovak. I cannot accept the hypothesis that the lengthening in such instances as Czech *kůň* ‘horse’, *stůl* ‘table’, *nůž* ‘knife’, Slovak *kôň*, *stól*, *nôž* is the result of phonetic conditioning (cf. Van Wijk 1916: 328, Nonnenmacher-Pribić 1961: 94, Verweij 1994: 518) because the number of counter-examples is prohibitive. More probably, the long vowel was adopted from the case forms where the accent had been retracted as a result of Stang’s law, viz. loc.sg. $*kôňi$, inst.pl. $*kôňi$, loc.pl. $*kôňix$, and from gen.pl. $*kôň$, Slovene *kônju*, *kônji*, *kônjih*, *kônj*, so as to yield a regular alternation between stressed $*\acute{o}$ and unstressed $*o$ in the paradigm. After the retraction of the stress in gen.sg. $*koňa$, dat.sg. $*koňu$, inst.sg. $*koňem$, nom.pl. $*koňi$, acc.pl. $*koņę$, dat.pl. $*koňem$, and perhaps after the shortening of $*u\grave{o}$ to $*\grave{o}$ before the new long case endings in gen.pl. *-ôv*, *-í* and loc.pl. *-iech*, *-ích*, the paradigm could be further regularized by generalization of the short root vowel, a process which has been going on in historical times, e.g. Czech *skot* ‘cattle’, Old Czech *skót*.

The pattern with a long vowel in the nom.sg. form and a short vowel in the other cases spread to the other accent classes, e.g. Cz. Slk. *mráz* ‘frost’ (a), Czech *sníh* ‘snow’, *hnůj* ‘dung’, *dům* ‘house’, *sůl* ‘salt’ (c). Interestingly, half of the Slovak examples with a long vowel listed by Nonnenmacher-Pribić (1961: 93) have an initial labial consonant: *bôb* ‘bean’, *bôl* ‘grief’, *bôr* ‘pine’, *môj* ‘my’, *pôst* ‘fasting’, *vôl* ‘ox’, *vôz* ‘car’, similarly Czech *bůh*, *můj*, *půl*, *půst*, *vůl*, *vůz*. Since SCr. *bôg*, *bôl*, *bôr*, *pôl*, *pôst*, *vôz* belong to accent pattern (c), it appears that $*\acute{o}$ is the phonetic reflex of Proto-Slavic long falling $*\acute{o}$ after labial consonants in Czech and Slovak. Counter-examples are *bod* ‘point’, *boj* (but Old Czech *bój*) ‘fight’, *bok* ‘flank’, *moc* ‘power’, *most* ‘bridge’, *pot* ‘sweat’, *vosk* ‘wax’, where the short vowel of the oblique case forms may have been generalized. In Slovak we never find *ô* for Proto-Slavic $*\acute{o}$ after other consonants, e.g. *dol* ‘mine’, *dom* ‘house’, *hnoj* ‘dung’, *loj* ‘suet’, *sol* ‘salt’, *kroj* ‘costume’, *roj* ‘swarm’, *stroj* ‘machine’ for Czech *důl*,

dŭm, hnŭj, lŭj, sŭl, dial. *kruj, ruj, struj*, in contrast with Slovak *kôň* ‘horse’, *kôš* ‘basket’ (Old Czech *kóš*), SCr. *kònj, kòš* (b). The diphthongal character of Slovak *ô* was lost after the initial cluster in *dvor* ‘yard’, *svoj* ‘one’s own’, *tvoj* ‘your’, *tvorca* ‘creator’, cf. Czech *dvŭr, svŭj, tvŭj, tvŭrce* (cf. Nonnenmacher-Pribić 1961: 94, Verweij 1994: 515). The long vowel of Slovak *dážd’* ‘rain’, Czech *děšť*, Polish dial. *děšč* (cf. Topolińska 1968: 77) has a different origin: it represents the type where the stress was retracted from a final jer after a consonant cluster, viz. **dǫždǫb* < **dǫsdjǫ*, like Slovak *niesol*, Polish *niósł* ‘carried’ < **neslǫ* (cf. Derksen 2009b).

Now we turn to Sorbian. Schaarschmidt dates the devoicing of **r* after *p, t, k* (1997: 41f.), e.g. in Lower Sorbian *pši* ‘at’, *tši* ‘three’, *kšidlo* ‘wing’, *pšosys* ‘to ask’, *tšawa* ‘grass’, *kšuška* ‘pear’, Upper Sorbian *při, tři, křidlo, prosyc, trawa, krušwa*, before the metathesis of liquids, e.g. in LSo. *prose* ‘piglet’, *trěš* ‘to rub’, *krowa* ‘cow’, USo. *proso, trěć, kruwa*, where the devoicing did not take place. The argument does not hold because the metathesis left a reduced vowel before the resonant, as is clear from the vocalization of nonsyllabic prepositions in Old Polish, e.g. *we błocie* < **wǫ bǫlotě* ‘in the swamp’, like *we śnie* < **wǫ sǫně* ‘in one’s sleep’ (cf. Stieber 1958: 60, Nahtigal 1961: 14). The assibilation of devoiced **r* can be dated to a later stage (cf. Schaarschmidt 1997: 105f.). The threefold tonal distinction of Late Middle Slavic was preserved under the metathesis of liquids, e.g. acute in Upper Sorbian *radlo* ‘plough’, *dróha* ‘road’, *brěza* ‘birch’, *blóto* ‘swamp’, *klóda* ‘block’, *mlěć* ‘to grind’, rising tone in *brózda* ‘furrow’, *črjóda* ‘crowd’, (dial.) *mlóko* ‘milk’, falling tone in *łochć* ‘elbow’, *hród*, gen. *hroda* ‘castle’, *wrjós*, gen. *wrjosa* ‘heather’, *drjewo* ‘wood’, *črjewo* ‘gut’, *zloto* ‘gold’, pretonic short vowel in *rosć* ‘to grow’, *drohi* ‘dear’, *wrota* ‘gate’, *broda* ‘beard’, *hlowa* ‘head’, *wlec* ‘to drag’, *wrjěćeno* ‘spindle’, also *runy* < (dial.) *równy* ‘even’ < **rowǫny* < **rowǫny*, cf. Polish *droga, brzoza, błoto, kloda, bruzda, łokieć*, gen. *grodu, wrzos, zloto, drogi, wrota, broda, głowa, równy*, Slovak *radlo, draha* (cf. Nonnenmacher-Pribić 1961: 74, 79), *breza, blato, klada, mlet* (cf. Nonnenmacher-Pribić 1961: 68), *brázda, črieda, mlieko, laket, hrad, vres, drevo, črevo, zlato, drahý, brada, hlava*, Czech *rádlo, dráha, břiza, bláto, kláda, mlíti, brázda, třída, loket, hrad, zlato, drahý, vrata, brada, hlava, vléci* (with recent lengthening), *vřeteno*. While Upper Sorbian shared the Czech lengthening of the old acute, Lower Sorbian has only preserved earlier length, e.g. *grěch* ‘sin’, *mězga* ‘sap’, *žrěbje* ‘foal’, dial. *brŭzda* ‘furrow’, *brŭžnja* ‘barn’, *wobróši* ‘turns around’, but *droga* ‘road’, *brjaza* ‘birch’, *blóto* ‘swamp’ (cf. Schaarschmidt 1997: 49), Slovak *hriech, miazga, žriebä*, Polish *obróci*. Lower Sorbian also did not share the Upper Sorbian lengthening in monosyllables as found in *bóh* ‘god’, *měd* ‘honey’, *pěć* ‘stove’, *nóc* ‘night’, *kón* ‘horse’, *nóz* ‘knife’, which did not affect the jers, e.g. *rož* ‘rye’, *woš* ‘louse’, *wjes* ‘village’, *džeń* ‘day’ (cf. Schaarschmidt 1997: 57).

The relative chronology of the earliest Sorbian developments has recently been examined by Rick Derksen (2008a). While the word-initial metathesis of liquids clearly preceded the rise of the new timbre distinctions (7.13) in all Slavic languages, as did the non-initial metathesis in South Slavic and Czechoslovak (7.12), the latter development evidently followed the rise of the new timbre distinctions in Sorbian and Polish, e.g. **kǫrǫwa* < **kǫrwa* ‘cow’, **bǫrǫzda* < **bǫrzda* ‘furrow’, **lǫkǫtb* < **ǫlkǫtb* ‘elbow’. These developments were followed by the retraction of the stress from final jers (8.2), e.g. in

gen.pl. **górǫ* ‘mountains’, and by Dybo’s law (8.7), e.g. in **bǫrǫzdà*, **woǫà* ‘will’. The loss of the acute (9.2) yielded a short rising tone, e.g. **kǫrǫwa*, **gorà*, and Stang’s law (9.3) eliminated long falling vowels in non-initial syllables, as a result of which new rising vowels arose, e.g. **wǫǫà*. Toward the end of the Late Proto-Slavic period, the jers merged and the palatalization correlation became phonemically relevant. Up to this stage, there probably was no structural difference between Sorbian and its Lekhitic neighbors. In the 10th and 11th centuries, however, Sorbian adopted a number of developments from Czech, where they may be dated one or two centuries earlier: the denasalization of the nasal vowels, the raising of *ě* from **ǫ* to **ie*, the merger of the jers with **e*, the spirantization of *dz* to *z* and of *g* to *ɣ*, and the lengthening of short rising vowels in disyllabic word forms.

At the end of the Late Middle Slavic period, there were five nasal vowels (cf. Kortlandt 2003: 221): **ǫ*, **ǫ̃* < **jǫ*, **ǫ̃* < **-onts*, **ǫ̃* = *ę*, and **ě̃* < **-jons*, e.g. Czech *nesa* ‘carrying’ < **nesǫ*, *koně* ‘horses’ < **koǫ̃ě̃*. While **ǫ̃* and **ě̃* merged into *ę* in South Slavic, the latter vowel lost its nasal feature and merged with *ě* in North Slavic, evidently after the raising of *ě* from **ǫ* to **ie* (8.3) but before the raising of **ǫ*, **ǫ̃* to **u*, **ǫ̃* (9.6). When **ǫ̃* and **u* were denasalized in Czecho-Slovak and East Slavic, they yielded **ǫ̃* and **u*, respectively, e.g. Slovak *pät* ‘five’, *pút* ‘pilgrimage’. In Czech, the front vowel merged with *ě* in *pět* but with *a* in *pátý* ‘fifth’. In Upper Sorbian, where *ě* had evidently been raised at an early stage, **ǫ̃* merged with *e* in *pječ* and with *a* in *pjaty*, whereas the Lower Sorbian merger of **ǫ̃* with *ě* in *pěs* and *pěty* suggests a somewhat later date for the raising (cf. Schaarschmidt 1997: 55). The argument is not cogent because Czech *pět* and Slovak *piaty* point to a diphthongized pronunciation of **ǫ̃*, which was therefore more likely to merge with *ě* than with *e*. If we start from an early system with **ie* for *ě* and **ie* < **ǫ̃* for *ę*, as in the Slovene dialect of Soča, the latter vowel may have merged with the former in the north but with palatalizing **e* in the south. However this may be, it appears that the isogloss between Upper and Lower Sorbian dates from this period. The Upper Sorbian lengthening in monosyllables preceded the merger of **e* with the reflex of the nasal vowel, as is clear from *pěc* ‘stove’, *měd* ‘honey’ versus *pječ* ‘five’, *rjad* ‘row’. It also preceded the merger of **e* with the reflex of the jers, e.g. *wjes* ‘village’, *dzeń* ‘day’.

Unlike Schaarschmidt (1997: 75f.), I think that the preservation of the palatal feature in Polish *wilk* ‘wolf’, *wierzch* ‘top’ and the vocalization in *długi* ‘long’, *stup* ‘post’ suffice to prove the earlier existence of syllabic resonants in this language (cf. Topolińska 1989: 62). In a similar vein I assume syllabic resonants to account for the multifarious reflexes of **br*, **br̃*, **bl*, **bl̃* in the central dialects of the Sorbian languages but retention of the original jers in the peripheral areas with *e*-vocalism. I have suggested that the rise of syllabic resonants can be dated to the same period as the metathesis of liquids (2003: 232). It has nothing to do with the rise of epenthetic vowels after the loss of the jers. Unlike Derksen (2008a: 132), I agree with Verweij (1994: 556) that the lengthening of short rising vowels in disyllabic word forms in Czech and Upper Sorbian (10.6) must be dated before the general shortening of long falling vowels (9.4) which eliminated the distinctive opposition between rising and falling tones in North Slavic. Thus, I arrive at the following emendation of Derksen’s chronology (l.c.) for Upper Sorbian: (10) lengthening of short rising vowels, (11) shortening of long falling vowels, (12) lengthening in

monosyllables, (13) split of $*\ddot{a} < *\ddot{a}$ into *je* and *ja*, (14) merger of the jers with *e*, (15) labialization of short *e* after palatalized consonants, (16) diphthongization of $*\bar{e}$ and merger with \bar{e} , (17) labialization of $e < *z$ (cf. Schaarschmidt 1997: 111). I think that the long vowel in *rót* ‘mouth’, *són* ‘dream’, *wrjós* ‘heather’ is analogical.

Outside the Čakavian area, all South and West Slavic languages retracted the stress from final syllables under various conditions. In Bulgarian, the stress was retracted from a final short vowel to a preceding open syllable (cf. Kortlandt 1982a). In Serbo-Croatian, the stress was retracted earlier from a final than from a non-final syllable, earlier from an open than from a closed syllable, earlier from a short than from a long vowel, and earlier to a preceding long than to a preceding short vowel (cf. Ivić 1958: 105). In Slovene, the stress was retracted from a final short vowel to a preceding long vowel, and later also to a preceding short vowel (cf. Kortlandt 1976: 6f., Greenberg 2000: 120, 143). In the Pannonian dialect of the Kiev Leaflets, the stress was retracted from a final open syllable (cf. Kortlandt 1980). In Polabian, the stress was retracted from a short vowel in a final syllable (cf. Kortlandt 1989b). In Slovincian, the stress was retracted first from a final syllable to a preceding long vowel, then from a final syllable in polysyllabic word forms and analogically from medial syllables in paradigms with fixed stress, and later from a final short vowel in disyllabic word forms (cf. Kortlandt 1978a: 77). As a result, final stress in Slovincian was almost limited to disyllabic word forms with a short vowel in the first syllable and a long vowel or final consonant cluster in the second (cf. Kuryłowicz 1952), e.g. *cenjáú* ‘shadow’, *dobàtk* ‘livestock’, *nocní* ‘nocturnal’, inst.pl. *vosmí* ‘axes’, loc.pl. *vosàx*, from where it spread to *koscaní* ‘bony’, *rąkamí* ‘hands’, *břegamí* ‘banks’, etc. The same distribution is found in northern Kashubian (cf. Lorentz 1925: 92-105, Topolińska 1961: 108, 277). Since southern Kashubian has word-initial stress, like Czech and Slovak, this raises the question whether Polish developed penultimate stress by generalization after sharing the Pomoranian retractions or secondarily after a period with initial stress shared with its western and southern neighbors, as is usually assumed (e.g. Stieber 1958: 44).

The principal question regarding the fixation of the stress on the initial syllable in West Slavic languages is whether it resulted from successive retractions of the stress toward the beginning of the word or from the development of an original delimitative accent which became the primary stress in the course of time, perhaps under German or Hungarian influence. There are several indications that the latter view is correct. First of all, the Pannonian dialect of the Kiev Leaflets has a long vowel in *plānъ* ‘captivity’ and *svētý* ‘holy’ but a short vowel in gen.sg. *tālese* ‘body’, which is in agreement with Serbo-Croatian *plijen*, *svēt*, *tjeles-*, also non-initial stress in inst.sg. *tvoéĭ* (2×), gen.pl. *tvoíxъ* (2×) ‘your’, 2nd sg. *veselíši* ‘gladden’, imp. *zašćití ný* ‘protect us’, *sčtvorí ný* ‘make us’, *utvrđí ný* ‘confirm us’, but initial accentuation in *vśemogý*, *vśemogýi* ‘almighty’, pl. *dóstoini*, *dóstoiny* ‘worthy’, inst.sg. *óbrázъmъ* ‘image’, loc.sg. *īnokosti* ‘wandering’, all of which are polysyllabic, rather complex words. It seems probable to me that these are the earliest examples of the initial accentuation which we find in Slovak (cf. Kortlandt 1980). They cannot have arisen from a phonetic retraction of the stress.

The accentual system of the Kiev Leaflets is strongly reminiscent of the Podravian dialects discussed by Hamm (1949, cf. also Ivić 1952) and Klaić (1936), which inciden-

tally have an inst.sg. ending *-em* instead of South Slavic *-om* and preserve original *šč, žď*. In these dialects, which did not share the neoštokavian retraction of the stress, there is a long falling vowel in *grād* ‘city’, *prāvda* ‘justice’, *lāđica* ‘little ship’, *niskē* ‘low’, gen.pl. *svatōvā* ‘wedding guests’, a long rising vowel in *pīšem* (= *pīšem*) ‘I write’, *smejāla* (= *smejāla*) ‘she laughed’, *krālj je došo* (= *krālj*) ‘the king has come’, and a short vowel in *stolīca* (= *stolica*) ‘chair’, *plātīti* (= *plātīti*) ‘to pay’, *rūkà me boli* (= *rūkà*) ‘my hand aches’. When a phrase ends in a syllable with a long rising or short vowel, the last word receives initial stress with a falling tone on a long vowel, e.g. *žēna* ‘woman’, *āntūn* ‘Anthony’, *došo je krālj*, *boli me rūka*, where the accent of *rūka* stands for a falling tone followed by a trace of the original final stress: *rūkà*, similarly imp. *pīši* = *pīši* for *pīši* ‘write’, *krādi* for *krādi* ‘steal’, *pīsmo* for *pīsmō* ‘letter’, also *mūškārāc* for *muškārāc je dōšo*, *ali cīgānka je kāzāla* ‘the man came but the gypsy woman said’ and *svīrāće tāmburāš* for *tamburāš će svīrāti* ‘the mandolinist will play’, with the main stress on the initial syllable of the word. Klaić emphasizes the difference between gen.sg. *sēljāka* for *seljākà* (b) ‘peasant’ and *cīgānka* (a) and between *ù Beničānce* for *u Beničāncē* (b) ‘to B.’ and *u Šljivošēvce* (a) ‘to Š.’. It is clear that the initial accentuation did not arise from a phonetic retraction of the stress but developed as an autonomous word-initial boundary signal.

A similar system with double accentuation is found in southern Polish dialects around Nowy Targ and in the Polish and Slovak dialects along the river Orava (cf. Topolińska 1961: 86-89). These dialects can have both initial and penultimate stress co-occurring in the same word, e.g. *Ždžar na Spiszu òpsadzòne* ‘planted’, *zàrobìla* ‘(she) earned’. Here again, the double accentuation points to two different origins of the stress, the initial accent reflecting a boundary signal and the penultimate accent originating from a general retraction of the stress from final syllables. The similarity with the systems of the Kiev Leaflets and the Podravian dialects can hardly be accidental.

In Polabian we find the following developments (cf. Kortlandt 1989b, also Kuryłowicz 1955 and Lehr-Spławiński 1963). The stress was retracted from a short vowel in a final syllable and a newly stressed short vowel in an open syllable was lengthened, e.g. /tösä/ ‘scythe’ < *kosà, /tāmä/ ‘darkness’ < *tōmà, /voisěk/ ‘above’ < *vysòkǝ, /zafäl/ ‘saw’ < *zbrälǝ, where /ä/ and /ě/ represent reduced vowels. The stress was not retracted from a long vowel, e.g. gen.pl. /büdüv/ ‘gods’ < *bogóvǝ, where the vowel of the final syllable was not reduced. After the retraction of the stress, all vowels were reduced to /ä/ and /ě/ when the preceding syllable contained a long vowel, e.g. /kraidlě/ ‘wing’ < *kriǝdlò, /vilä/ ‘will’ < *vólja, /bjolě/ ‘white’ < *bälǝjǝ, fem. /bjolä/ < *bälaja. Acute and circumflex vowels were short, e.g. /zaitü/ ‘grain’ < *žito, /paivü/ ‘beer’ < *pivo, /jaidü/ ‘yoke’ < *jǝgo, /sāpol/ ‘slept’ < *sǝpalǝ, without vowel reduction in the final syllable. While the retraction of the stress clearly preceded the loss of jers in initial syllables, pretonic jers were subsequently lost, e.g. /celä/ ‘bee’ < *bǝčelä, /cerä/ ‘yesterday’ < *vǝčerä, /srebrü/ ‘silver’ < *svrebrò. However, the evidence also points to fixation of the stress on the initial syllable of polysyllabic word forms, where the vowel was never reduced, e.g. /risetě/ ‘sieve’ < *rešetò, /slüvesä/ ‘words’ < *slovesà, /tülönai/ ‘knees’ < *kolāni, /zilozü/ ‘iron’ < *želāzo, but was rather lengthened under the stress, as is clear from the vowel reduction in the second syllable of /komānai/ ‘oven’ < *kāmēny, /jodādäi/ ‘berries’ < *jāgody, /citvāri/ ‘four’ < *čētvero, /vā xlāde/ ‘in the cool’ < *vǝ xoldä. The lengthening

did not take place before a long vowel in the following syllable, e.g. /jauzaină/ ‘dinner’ < *jūžīna, /zojačă/ ‘hares’ < *zājēce, but it did in /vistăraică/ ‘lizard’ < *jăšćerīca, /aidălonă/ ‘done’ < *ūdălānoje. The fixation of the stress on the initial syllable forestalled the loss of the jer in /pasinaică/ ‘wheat’ < *pυšenīca but not in /celă/ ‘bee’ and /ceră/ ‘yesterday’ and must therefore have been more recent than the retraction of the stress in the latter words. As in the case of the Kiev Leaflets and the Podravian, Slovak and Polish dialects cited above, the rise of initial accentuation in polysyllables was an autonomous development and did not result from a phonetic retraction of the stress in Polabian.

For Slovincian I have established the following relative chronology (1978a: 77f.): (1) retraction of the stress from a final syllable to a preceding long vowel, (2) retraction of the stress from a final syllable in word forms of more than two syllables, which gave rise to the accent patterns of *nagùota* ‘nakedness’, acc. *nàgotq* (cf. Dybo 1968: 162) and *jiezoro* ‘lake’, pl. *jezùora*, (3) analogical retraction of the stress in those forms of polysyllabic words with fixed stress on the syllable preceding the ending where the mobile type stressed the initial syllable, giving rise to the accent patterns of *robùota* ‘work’, acc. *rùobotq* and *kùolano* ‘knee’, pl. *kolàna*, (4) retraction of the stress from short vowels in final open syllables, e.g. *rąka* ‘hand’, *pùola* ‘fields’, *pjila* ‘(she) drank’, *bàla* ‘(she) was’, (5) rise of final -à < *-àla, e.g. *nabrà* ‘(she) gathered’, *darovà* ‘(she) gave’, and rise of final stress in such forms as *břegamí* ‘banks’, (6) analogical retraction of the stress in such forms as *přiepjila* ‘(she) spent on drinking’, (7) generalization of accentual mobility in the *l*-participle of stems in *-i-*, *-a-*, *-nq-*, (8) analogical retraction of the stress in case forms of polysyllabic *a*-stems. This chronology can be compared with the following list of isoglosses from south to north which divide the Kashubian linguistic area into two (cf. Topolińska 1961: 277): A. generalized initial accentuation in the south, B. mobile stress in *celę* ‘calf’, pl. *celęta*, *rëmję* ‘arm’, pl. *remjona* in the north, C. mobile stress in *dàrąję* ‘I give’, 2nd sg. *darąješ*, *pòmogę* ‘I help’, 2nd sg. *pomòžeš* in the north, D. mobile stress in *gòdzana* ‘hour’, inst. *godzànq*, *kòsasko* ‘scythe handle’, pl. *kosaska* in the north, E. mobile stress in *robòta* ‘work’, acc. *ròbotę* in the north, F. mobile stress in *mòřal* ‘harassed’, fem. *mořàla* in the north, G. final stress in such adjectives and adverbs as *nocní* ‘nocturnal’, *koscaní* ‘bony’, *fčorá* ‘yesterday’ in the north, H. final stress in *częzá* ‘weight’, *rolá* ‘field’ in the north, J. mobile stress in imperatives such as *cigní* ‘pull’, pl. *cigníta* in the north, K. mobile stress in *šukàł* ‘sought’, fem. *šukàla*, *cignqł*, fem. *cignęla*, *darovał*, fem. *darovàla* in the north. It appears that the accentual developments spread from the north to the south: the isoglosses B-F originated from the analogical retraction of the stress in polysyllabic words (3), G-J from the retraction of the stress from final short vowels (4) and the accent shift to final long vowels (5), and K from the generalization of accentual mobility in the *l*-participle (7). It follows that the fixation of the stress on the initial syllable of the word did not result from successive retractions of the stress but was an autonomous innovation which came from the south and interrupted the developments which spread from the north. We may therefore assume that at an earlier stage initial accentuation was general in Małopolska, Silesia and Wielkopolska but did not reach Pomerania. Since the penultimate stress of modern Polish can easily be explained by phonetic retractions of the stress from a final syllable to a preceding long vowel (1),

from a final syllable in word forms of more than two syllables (2), and from final short vowels (4), without the analogical extensions found in Slovincian and northern Kashubian, it is attractive to assume that it represents the original Mazovian system and that it spread with the rise of Warsaw as a center of Polish culture. If this is correct, there was an old isogloss separating southwestern Polish, which like Czech and Slovak had adopted initial accentuation, and northeastern Polish, where accentual mobility may have been preserved until the stress was fixed on the penultimate syllable.

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