

### On Derksen's law and related issues

In his classic treatment of Baltic and Slavic nominal accentuation (1963), Illič-Svityč distinguishes between Indo-European barytona on the one hand and mobilia and oxytona on the other. Since there is no evidence for accentual mobility in the *o*-stems, the absence of a distinction between mobilia and oxytona suggests that the original accentual mobility may have been lost before the rise of the characteristic lateral mobility in Baltic and Slavic paradigms, as it was in Greek and Sanskrit at an early stage. This is indeed Olander's position (2009). However, it appears that there are traces of earlier accentual mobility in Baltic and Slavic nominal and verbal paradigms and participles (cf. Kortlandt 2009: 129-138, 167-179, 275-281, 297-300). In order to avoid circular reasoning, I have reconsidered my earlier account of the rise of Balto-Slavic lateral mobility against the background of a reconstruction of Indo-European mobile accent paradigms on the basis of the apophonic alternations in the most archaic attested paradigms (cf. Kortlandt 2009: 1-3, 103-105). In the revised version, the sequence of developments has not changed but the range of their application is greatly reduced. The analogical barytonesis after Pedersen's law is now limited to the *o*-stems and the oxytonesis may not have affected the nominal paradigms at all.

This raises the question whether the retraction of the stress from medial syllables e.g. in Lith. *dùkterj*, cf. Gr. *θυγατέρα*, which according to Pedersen was limited to mobile paradigms (1933: 25), may have been a phonetic development or, in Saussure's words, if the "obstacles à la transformer en loi phonétique pure et simple" (1896: 163) can be removed. The main obstacle, according to Stang (1957: 12), are words of the type Lith. *aviniñkas*, *dalỹkas*, *degũtas*, *malũnas*, *sidãbras*, *vainikas*, *jaunikis*, *maniškis*, *drabũžis*, *melãgis*, *gyvatã*, *-ãtos*, *lydekã*, *-ẽkos*, diminutives in *-ũkas*, *-ũtẽ*, etc. These instances exemplify two different types, viz. *o*- and *ã*-stems on the one hand and *io*- and *iã*-stems on the other. In order to appreciate their status, we must first look into the developments which disturbed the Early Balto-Slavic lateral mobility of the accent.

The first development which disturbed the lateral mobility was Hirt's law, according to which the stress was retracted from the final to the prefinal syllable e.g. in dat.pl. Lith. *galvõms*, Slovene *gorã* < *\*-aHmũs*. Similarly, Hirt's law gave rise to fixed stress on the suffix e.g. in *taukũotas*, *kraujũotas*, Russ. *mužãtyj*, *bludnĩca*, *domovĩna* (cf. Dybo 1968: 193-195, also 1981: 172-174). The second development was the Late Balto-Slavic retraction of the stress from final open syllables in disyllabic word forms, e.g. in Lith. gen.sg. *vĩlko*, dat.sg. *vĩlkui*, *gãlvai*, SCr. *vũka*, *vũku*, *glãvi*, also *pĩlo*, aor. *nẽse*, which did not affect the lateral mobility but changed the distribution of the stress in the mobile accent paradigms. The stress was not retracted from final closed syllables, e.g. in Lith. gen.sg. *aviẽs*, *galvõs*, inst.pl. *vĩlkaĩs*, also gen.pl. *vĩlkũ* < *\*-õm* with a final nasal consonant and nom.sg. *galvã* < *\*-ãH*, Russ. fem.sg. *pĩlá*, where the final syllable was closed by a PIE laryngeal which had developed into a glottal stop in Balto-Slavic. Moreover, the retraction was blocked by an intervening obstruent, e.g. in Russ. *neslõ*, *vezlõ*, *peklõ* as opposed to *pĩlo*, *žĩlo*, *bỹlo*, also inf. *nestĩ*, etc.

The retraction of the stress from medial syllables in mobile accent paradigms appears to have operated once again both in Slavic and in Lithuanian. In Slavic it gave

rise to stressed prepositions and prefixes, e.g. in Russ. *ná vodu, póvod, pródal*, also *né byl*, which later received a falling tone in Serbo-Croatian. This development was more recent than the generalization of accentual mobility in the masc. *o*-stems which did not have an acute root vowel, e.g. in SCr. *zúb*, Gr. *γόμφορ* (Illič-Svityč's law, cf. Kortlandt 2011: 27f., 165f.). In Lithuanian the accent was not retracted to a preposition but only to the last prefix before the root, e.g. in *nèveda, priveda, prisìmena* (cf. Kortlandt 2009: 9, 107). This retraction was more recent than the lengthening of stressed *e, a*, e.g. in *vēda, nēmiga*, which was limited to the Aukštaitian and a part of the Žemaitian dialects, where it was evidently more recent than the apocope of short endings (cf. Derksen 2011b: 18). Both the different outcomes and the different chronologies of these retractions show that they cannot be identified with the Balto-Slavic retraction of the stress in *dùkterj*.

There are several other retractions of the stress which play a part in the history of Baltic accentuation. First of all, the stress was retracted from a prevocalic *\*i* in East Baltic, giving rise to metatony (cf. Stang 1966: 144-148, Derksen 1996: 36-66, 190-211, Kortlandt 2009: 7, 106), e.g. in Lith. *aūkštis, vilké* < *\*wilkiH-aH, vandēnis*, cf. *áukštas*, Skt. *vṛkís, udaníyas*. Nieminen has argued that the stress was retracted from final *\*-às* in Lithuanian (1922: 155), perhaps to a preceding long vowel or diphthong only (cf. Stang 1966: 171) at a stage before Saussure's law operated but after the univerbation with the enclitic article, which was more recent than the lengthening of stressed *e, a* in open syllables, e.g. in *gēras, gerásis* (cf. Kortlandt 2009: 9-11). It appears that there was another retraction of the stress in Lith. trisyllabic words such as *ėšena, ėdesis, ėdalas, aĩtinas, taũkinas, šĩršinas* (Hjelmslev's law, cf. Kortlandt 2009: 10, 138, Stang 1966: 154, Derksen 1996: 158), cf. *ántis, taukaĩ* (3), *šĩršuõ* (3a), Latvian *ēšana, ēdesis, sĩrsins*, where the broken tone points to non-initial accentuation. Finally, the stress was retracted in Žemaitian and neighboring Aukštaitian dialects, first from a short ending to a preceding long syllable, then from a short ending to any preceding syllable, then from a circumflex ending to any preceding syllable, and then in Žemaitian from any final syllable, including non-acute syllables that had become final as a result of apocope, to the initial syllable (cf. Derksen 2011b: 19). In Slavic we also find a large number of different retractions of the stress in the separate languages (cf. Kortlandt 2011: 55-57, 71-73, 83-86, 111-115, 193-197, 199-205, 247-250, 272-275, 314-316, 323-327, 341-346, 349-352, also Ivić 1958: 105).

Before the Lithuanian retraction of the stress from final *\*-às* (Nieminen's law), the stress was retracted from final *\*-à* in East Baltic, giving rise to metatony (cf. Stang 1966: 151-154, Derksen 1996: 66-128, 211-232). Since the conditions of this retraction have been established by Rick Derksen (1996: 103, 126, 230f.), I have proposed to call it DERKSEN'S LAW (2011: 323). The crucial piece of evidence is supplied by the Slavic oxytone *o*-stems which did not originate from Dybo's law (cf. Derksen 2009, 2011a). Since the Late Balto-Slavic retraction of the stress from final open syllables was blocked by certain consonant clusters, e.g. in Russ. *nesló*, it gave rise to a category of oxytones, predominantly neuters with a stem in an obstruent plus resonant, e.g. *\*bedrò, \*čislò, \*dʒbnò, \*jēdrò, \*krīdlò, \*rebrò, \*stegnò, \*sũknò, \*veslò, \*vēdrò, \*volknò, \*žezlò*. The stress was mostly retracted analogically to a preceding long vowel before Dybo's law (but not always, as is clear from Czech *vědro* and SCr. *vjědro* with pretonic shortening). Derksen's meticulous analysis of the Baltic data has made clear that the retraction of the stress from final *\*-à*, like the retraction from prevocalic *\*i*, yielded both *métatonie douce* and *métatonie rude* in both Lithuanian and Latvian at

the end of the East Baltic period. The main categories involved are original neuters in *\*-tlóm* and *\*-tóm*, Slavic *-dlo* and *-to*, Lithuanian *-klas* and *-(s)tas*, Latvian *-kls* and *-(s)ts*, but also with retraction to a short vowel e.g. Lith. *sidābras*, cf. SCr. *srèbro* < *\*s̄rebrò*, Russ. *serebró*. Both *métatonie douce* and *métatonie rude* spread analogically both in Lithuanian and in Latvian to various nominal and verbal formations (cf. Derksen 1996: 369-376).

After the Early Balto-Slavic barytonesis and oxytonesis (cf. Kortlandt 2009: 3, 105), the stress alternated between the initial and the final syllable of a word form in mobile accent paradigms. This mobility was altered by Hirt's law and by the Late Balto-Slavic retraction of the stress from final open syllables, by the later retractions of the stress from medial syllables in Slavic and in Lithuanian, by the East Baltic retractions of the stress from prevocalic *\*i* and from final *\*-à*, by the later retractions of the stress in Žemaitian and Aukštaitian dialects and in the Slavic daughter languages and their dialects, and by the analogical spread of accent patterns and metatony. In order to simplify the description of the resulting complex system, it has been proposed that the accentuation of a word form can be calculated from the accentual properties of its constituent morphemes (Dybo 1968, Garde 1976, Dybo 1981, Nikolaev 1989, Dybo 2003, 2006, 2008, 2009). This raises the question of how to assign observed accent patterns to the corresponding combinations of morphemes.

For the period immediately after the early barytonesis and oxytonesis, when the stress alternated between the initial and the final syllable in mobile accent paradigms, we may assign an underlying High tone (+) to "dominant" morphemes which have fixed stress and to stressed endings and an underlying Low tone (-) to "recessive" pretonic morphemes and to endings which are never stressed. It follows that morphemes which occur both under the stress and pretonically have a Low tone (-) and that endings which occur both under the stress and posttonically have a High tone (+). Hirt's law can now be reformulated as *\*-+ > \*++* if the former syllable contained a sequence of vowel plus laryngeal (but not when the laryngeal preceded the vowel or followed a diphthong, cf. Kortlandt 2009: 3f.). Note that Hirt's law operated across nonsyllabic morphemes, e.g. Russ. *šila* < *\*siuH-l-áH*. The Late Balto-Slavic retraction of the stress from final open syllables in disyllabic word forms cannot simply be reformulated in the new framework because it was blocked by an intervening consonant cluster e.g. in Russ. *nesló*, *vedró*, *serebró*, which remain *\*-+* while *pílo*, gen.sg. *vólka*, dat.sg. *vólku* should become *\*--*. These examples show that it is rather awkward to reformulate a development which clearly affected syllables in terms of morphemic properties.

The East Baltic retractions of the stress from prevocalic *\*i* and final *\*-à* which gave rise to metatony also require adaptations of the new framework. The retraction from prevocalic *\*i* can be formulated as *\*-+ > \*+* because the *\*i* was lost as a vowel, but it requires a second marking for the metatony. If we denote a rising tone as *-+* and a falling tone as *+-*, the newly stressed syllable requires *\*-+* if it was acute and *\*+-* if it was circumflex in Lithuanian and the opposite markings in Latvian (cf. Kortlandt 2009: 7-12). The retraction from final *\*-à* can be formulated as *\*-+ > \*+-* with the same additional markings for the metatony in the prefinal syllable. It is difficult to disagree with Derksen (1996: 112) that the concept of dominant and recessive morphemes is not particularly useful here. Like the Late Balto-Slavic retraction of the stress from final open syllables, Nieminen's law cannot easily be reformulated in terms of morphemic properties because Lith. *gėras* appears to be *\*--* while *geràs*

requires \*--+ after the retraction of the stress from final \*-às. Further modifications are necessary in order to accommodate the different retractions of the stress to prepositions and prefixes in Slavic and Lithuanian, e.g. by introducing floating Low tones in Slavic and a floating High tone before the root in Lithuanian. Similar complications arise from the later retractions of the stress in Žemaitian, Aukštaitian and Slavic.

While the concept of dominant and recessive morphemes cannot predict the various retractions of the stress in Baltic and Slavic, one may wonder if the converse statement, viz. that the retractions of the stress explain the dominant or recessive character of the morphemes, may be correct. I have claimed that this is largely true (2009: 105-107, also 2011: 323). In particular, Hirt's law accounts for the dominant character of the suffix in Lith. *taukúotas*, *kraujúotas*, Russ. *bludníca*, *domovína*, also dat.pl. Lith. *galvóms*, the retraction from prevocalic \*i for dominance and metatony in the suffixes *-ínis*, *-íškis*, *-ỹbė*, *-ỹstė* (as opposed to *-inas*, *-íškas*, *-ýba*, *-ybà*, *-ýsta*, *-ystà*, cf. Dybo 2006: 119-156), also *-ėlis*, comparative *-ėsnis*, superlative *-áusias*, and such words as *jaunikis*, *drabūžis*, *melāgis*, and the retraction from final \*-à (Derksen's law) for dominance and metatony before the suffixes *-(s)tas* and *-klas* (cf. Dybo 2008: 146-149) and in such words as *sidābras* (cf. also Derksen 2011a: 64). The coexistence of *kabỹklas* and *kabyklà* (2) and of *kratỹklas* and *kratỹklė* also points to original neuters in stressed \*-à. Since the Late Balto-Slavic retraction of the stress from final open syllables did not affect trisyllabic word forms, we also have to reckon with oxytone neuter *o*-stems of more than two syllables without a consonant cluster which blocked the retraction. Here the diminutives in *-ùkas*, *-ikas*, *-ikė*, Slavic *-ьс-* come to mind. The same origin is probable for Lith. *vainikas*, Russ. *ven*, *venéc*, *venók* (Vasmer 1953: 182), and for Slavic abstracts in *-ьство* (cf. Dybo 1981: 171).

We may also assume a neuter origin for such verbal nouns as Lith. *piešimas*, Russ. *pis'mó*, and for abstracts such as Lith. *gerùmas*, *nuogùmas*, where the fixed stress contrasts with accentual mobility in the nomina loci *gerumà*, *nuogumà*. In the case of *gyvatà* (2), the suffix is dominant in Baltic but recessive in Slavic (cf. Dybo 1981: 123-125), which makes it difficult to reconstruct the Balto-Slavic state of affairs. A solution may be offered by such pairs as *naujòkas* (2) 'novice', with retraction and metatony in accordance with Derksen's law, beside *naujókas* 'pretty new', where a reduced form of accentual mobility (viz. between suffix and ending) was introduced after Hirt's law (cf. Dybo 2008: 177). The latter development seems to have been Balto-Slavic already because the suffix appears in Latvian as *-àk-* (with a broken tone) in the comparative and *-àk-* (with metatony) in pejorative diminutives (cf. Seržants 2003: 112f.) and in Slavic as *-àk-* (with loss of the pretonic laryngeal). The new accentual mobility between suffix and ending, which again is difficult to restate in terms of dominant and recessive morphemes, could easily arise by analogy after the Late Balto-Slavic retraction of the stress from final open syllables in disyllabic word forms. Similarly we find Lith. *pagirėika* 'boaster' (with retraction to pretonic \*ei and metatony) beside *prieštariėikas* 'disputatious person' (with original stressed \*ei). As in the oxytone neuters, the stress seems to have been retracted analogically to a preceding non-acute long vowel or diphthong in Slavic *-àk-*, *-ik-* < \**eik-*, *-in-* < \**ein-*, *-ьnik-* < \**ineik-*, which yielded oxytone paradigms as a result of Dybo's law, but not in nouns in *-ina* < \**einaH*, which remained accentually mobile (cf. Dybo 1968: 172-174), while the stress remained fixed on the acute suffixes *-at-*, *-ica* < \**iHkaH*, *-ina* < \**iHnaH* (cf. Dybo 1968: 193-195).

Original stems in *\*-iH-* and *\*-uH-* appear with different suffixes in Baltic and Slavic (cf. Kortlandt 2009: 135), e.g. Lith. *vilkė* < *\*wilkiH-aH*, *liežūvis* < *\*-ùH-ios*, Russ. *volčica* < *\*wilkiH-kaH*, *jazyk* < *\*-ùH-ko-*, Skt. *vṛkís*, *jihvā*, *juhū-*, Avestan *hizū-* (cf. Kortlandt 2009: 132), for which we can reconstruct Balto-Slavic *\*wilkiH*, *\*inzùH*, cf. OPr. *insuwis*. These words evidently received fixed stress on the suffix when the extensions were added in the separate branches of Balto-Slavic. The same can be assumed for Lith. *-tùvas*, *-tùvé* < *\*-tùH-* and e.g. for Russ. *žratvá* < *\*-tùH-aH* (with final stress as a result of Dybo's law). Similarly, I think that the Slavic suffix *-bj-* continues earlier uninflected *\*-iH* and can be identified with the Italo-Celtic gen.sg. ending *-ī* (cf. Kortlandt 2009: 106, 122).

Thus, I conclude that possibly all dominant suffixes in Baltic and Slavic originated from retractions of the stress or later extensions and that some of them arose in the Balto-Slavic period already. If this is correct, the retraction of the stress in Lith. *dùkterī* (Pedersen's law) may have been a phonetic development. However, this is not necessarily true because the retraction may have been conditioned morphologically after all. The latter possibility has a parallel in Slovencian, where the stress was analogically retracted in the singular case forms of polysyllabic *a*-stems when their accentuation differed from that of the acc.sg. and nom.acc.pl. forms (cf. Kuryłowicz 1952: 13f., Kortlandt 2011: 84). There seems to be no way to decide the issue once and for all.

The remaining question is: how did the difference between dominant and recessive roots originate? According to the classic view, PIE accentuation must be reconstructed on the basis of accentual and ablaut patterns in the most archaic attested paradigms (cf. especially Beekes 1985). This leads to the establishment of original paradigms with fixed stress on the root (nominal *o*-stems, sigmatic aorist, stative) or the suffix (nominal *o*-stems, thematic present) and paradigms with accentual mobility between the root and the suffix (proterodynamic nouns) or between the root, the preceding syllable, the suffix and the ending (root nouns, hystero-dynamic nouns, athematic presents, aorists and perfects, cf. Kortlandt 2010: 39-43, 111-120, 125-142, 373-386). The classic view was challenged by Dybo (1961), who claimed that the combined evidence of Italo-Celtic, Germanic and Balto-Slavic points to an older accentual distribution than the one which is found in Greek and Sanskrit (cf. Kortlandt 2007: 25-38). His article provoked a reaction by Illič-Svityč (1962), who stated that the Germanic evidence generally supports the antiquity of the Greek and Sanskrit accentuation and that the agreement between Italo-Celtic and Balto-Slavic where they differ from Greek and Sanskrit can be explained by the assumption of an original tonal distinction on the root syllable. I have argued that this distinction is actually a difference in the segmental root structure (2007: 40-44). However, Dybo has never abandoned the idea of an original tonal distinction in his later publications.

It has long been recognized that a PIE root may not contain a voiced aspirate and a voiceless stop simultaneously, as in *\*\*bheut-* or *\*\*teubh-*, unless it is preceded by *\*s-*, as in *\*steigh-* (e.g. Meillet 1937: 174). If we assume progressive voice assimilation after initial *\*s-*, the distinction between voiceless stops and voiced aspirates was apparently a prosodic feature of the root as a whole. It can therefore be compared with the proposed tonal distinction. If this is a meaningful comparison, we expect a correlation between voiceless stops and High tone on the one hand and between voiced aspirates and Low tone on the other. This hypothesis may predict a distribution which is at variance with the traditional correlation between ablaut and

accentuation. In the case of derivatives of roots with a stop which is contiguous to the syllabic nucleus but without an initial laryngeal, Lubotsky has found that *o*-stems are barytone if the root contains a voiceless stop and oxytone if the root contains a voiced stop whereas *i*- and *u*-stems are oxytone if the root contains a voiceless stop and barytone if the root contains a voiced stop, regardless of the ablaut grade of the root (1988: 169f.). This suggests the possibility that the tonal distinction and the consonantal opposition have a common origin and that the tonal inversion in the *i*- and *u*-stems must be viewed in connection with the development of ablaut. This has led me to the conclusion that Indo-European shared two types of consonant gradation with Uralic before the rise of accentual mobility, vowel reduction and ablaut (cf. Kortlandt 2010: 409-414). Thus, I think that the distinction between fixed and mobile stress (and, consequently, between dominant and recessive roots) originated from Indo-Uralic consonant gradations and was mitigated and largely obliterated by later developments.

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## Summary

Dominant suffixes in Baltic and Slavic originated from retractions of the stress or later extensions and some of them arose in the Balto-Slavic period already. The retraction of the stress in Lith. *dūkterj* may or may not have been a phonetic development.