

Frederik KORTLANDT

Leiden University

PEDERSEN'S LAW AND THE RISE OF DISTINCTIVE TONE IN BALTIC AND SLAVIC

Abstract. According to Pedersen's law, the accent was retracted in Lith. acc. sg. *dùkterj* 'daughter' < **duktèrim*, Greek θυγατέρα, and similar word forms. A reconsideration of the Balto-Slavic accent laws opened the way to explain the origin of Dybo's "dominant" suffixes on the basis of Derksen's end-stressed paradigms. Generalization of the Low tone of pretonic syllables to barytone forms of mobile accent paradigms gave rise to Olander's "unaccented word-forms" with distinctive Low tone on the initial syllable. The rise of distinctive tone in Slavic originated from the extension of Pedersen's law. In East Baltic, tonal contours came into being when the stress was retracted from pre-vocalic *-i- and final *-à, yielding a rising tone that caused metatony in the preceding syllable. The rise of tonal contours in East Baltic has an interesting parallel in the development of the Franconian tone accents. Unlike Lithuanian and Latvian, Prussian had a quantitative but no tonal distinction in the vowel system.

Keywords: Balto-Slavic; historical accentology; Pedersen's Law.

According to Pedersen's law, the accent was retracted in Lith. acc. sg. *dùkterj* 'daughter' < **duktèrim*, Greek θυγατέρα, and similar word forms (cf. Olander 2009, 17–23 for the historical background). According to Jasanoff (2017, 122–126), the newly accented syllable received a (rising-)falling tonal contour. Both Olander and Jasanoff start from the assumption that Indo-European accentual mobility had been lost before the rise of Balto-Slavic accentual mobility. This is a peculiar assumption because the latter is the earliest development we can reconstruct for Balto-Slavic. One would rather expect that the original system was very close to what we can reconstruct for Proto-Indo-European. At that time, the *H-*, *i-* and *u-*stems still belonged to the mobile accent paradigms (cf. Beekes 1985). Moreover, 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).

Following Holger Pedersen (1933, 22), I originally started from the assumption that Proto-Indo-European accentual mobility had largely been eliminated at the beginning of the Balto-Slavic period. This is not only because the loss of PIE accentual mobility also affected Vedic and Greek, but especially because Illič-Svityč (1963) did not distinguish between mobile and oxytone paradigms and because I wanted to avoid circular reasoning when directly comparing Balto-Slavic with Indo-European accentual mobility. Dropping the assumption that accentual mobility had been lost at an early stage, I reconsidered the Balto-Slavic accent laws against the background of an independent reconstruction of Proto-Indo-European accent patterns on the basis of the apophonic alternations in the most archaic attested paradigms (Kortlandt 2009, 103–105; cf. Beekes 1985, 150). This enabled me largely to remove the barytonesis and the oxytonesis from my chronology. 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. It also opened the way to explain the origin of Dybo’s “dominant” suffixes on the basis of Derksen’s end-stressed paradigms (Kortlandt 2009, 105f.) and thereby to reformulate Pedersen’s law as a phonetic development, eliminating Stang’s counter-examples (1957, 12). This does not, however, prove that Pedersen’s law was indeed a phonetic development, and I do not think that it was. When we look at accent retractions in South and West Slavic languages, we see that they are always part of a gradual process. In Bulgarian, the stress was retracted from a final short vowel to a preceding open syllable (cf. Kortlandt 1982). In Serbian/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 1989). 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 1978,

77). The fixation of the stress on the initial syllable in West Slavic languages first affected polysyllabic word forms in Polabian, Kashubian, Polish and Slovak dialects and the Pannonian dialect of the Kiev Leaflets, and end-stressed word forms in Podravian and in Karelian dialects of Russian (cf. Kortlandt 2011, 349–352). After the fixation of the stress on the initial syllable, it may look like this was the result of a single phonetic process, but this conclusion is clearly wrong. In view of the attested retractions of the stress in West and South Slavic languages, it seems to me that a retraction of the stress from medial syllables can more easily have been an analogical than a phonetic development and I therefore stick to the term “Pedersen’s law”.

While retractions of the stress can often be described as phonetic developments, the fixation of the stress on the initial syllable requires the existence of a morphosyntactic unit with an initial syllable. This renders the distinction between sound law and analogy disputable. Olander finds it “difficult to see the motivation behind” the Slavic extension of Pedersen’s law (which he calls “Šaxmatov’s Law”, 2009, 130, 211). In my view, generalization of the Low tone of pretonic syllables to barytone forms of mobile accent paradigms gave rise to Olander’s “unaccented word-forms” with distinctive Low tone on the initial syllable (my stage 6.10). This introduction of a distinctive Low tone is an essentially syntactic development with a perfect analogue in Vedic. It created the possibility of lexical clitics, e.g. Russian *četyrnadcat’* ‘fourteen’, (byliny) *belý grudi* ‘white breasts’, Slovincian *jáu robjā* ‘I work’, Bulgarian *Černo more* ‘Black Sea’ (cf. already Kortlandt 1978, 74), also Slovene gen. sg. *lahkegà*, dat. sg. *lahkemù* ‘light’ (Dolobko’s law, my stage 7.2), where the final stress marks the end of the “phonological word”, as Olander calls it. The Low tone had a falling contour after a preceding High tone, as a result of which the High tone received a rising contour after a preceding Low tone. At a later stage (8.7), the rising contour shifted the High tone to the following syllable (Dybo’s law). Suppression of the contour could probably be used for a contrastive interpretation, as in modern Serbian/Croatian *od bràta* (Low-High-Low) ‘from the brôther’ as opposed to regular *òd brata* (rising-falling) ‘from the brother’ (cf. Ivić, Lehiste 1967, 75f.). In Slovene, the distinctive Low tone became High when the falling contour shifted to the right while the High tone became Low, e.g. in *kôst* (High) ‘bone’ versus *pôt* (Low) ‘way’ (cf. Greenberg 2007, 77; Pronk 2009, 20). The rise of a distinctive Low tone was not an automatic consequence of the

retraction of the stress to a preposition or prefix, as is clear e.g. from Russian *ottúda* ‘from there’, *donél’zja* ‘as can be’, cf. *tudá, nel’zjá*, also S/Cr. *nà vrāta* beside *vrāta* (b) ‘door’, all of which received non-initial stress as a result of Dybo’s law, similarly in the personal pronouns (cf. Kortlandt 2013) and in the verb, e.g. *nàlomīm, slòmīm* beside *lòmīm* (c) ‘I break’. The latter accentuation recalls the Vedic loss of accent on finite verb forms in main clauses, e.g. *á gamat* ‘may he come’. Note that Vedic has a full-fledged tone system with any sequence of High and Low tones, e.g. RV 1.1.6 *távét tát satyám* on one hand and 10.75.5 *imám me gaṅge yamune sarasvati sútudri* on the other (cf. Kortlandt 1986, 156).

There is an essential difference between Baltic and Slavic accentual mobility. Baltic mobility is between the root and the ending of a word form, like the Indo-European “amphikinetic” type, whereas Slavic mobility is between the initial and the final syllables of a phrase, including clitics. The retraction of the stress to the pre-radical vowel in Lith. *nèveda* ‘does not lead’ and *prisimena* ‘remembers’ is evidently more recent than the lengthening of stressed **e* in open syllables, e.g. in *vēda* ‘leads’, which is limited to Lithuanian (cf. Kortlandt 2009, 9). Jasanoff’s attribution of the short vowel to “the morphologized character of the lengthening rule in the modern language” (2017, 116 fn.) is a desperate attempt to suppress fatal counter-evidence to his theory. The enclitic particles *n(a)* of the illative and *p(i)* of the allative were never stressed originally (cf. Kortlandt 2009, 91f.). In Slavic, the scope of lateral mobility was enlarged so as to include prepositions, prefixes and enclitic particles, e.g. Russian *ná vodu* ‘onto the water’, *né byl* ‘was not’, *pródal* ‘sold’, Slovene *lahkí* ‘light’, gen. *lahkegà*, dat. *lahkemù*. This development can be identified with the rise of distinctive tone in what I have called the Middle Slavic period. In the case of Dolobko’s law, according to which barytone forms of mobile accent paradigms lost the accent to a following clitic, the High tone of the enclitic element became the accent of the preceding phrase that had Low tones only.

Paradigms with fixed stress on a non-acute syllable (b) remained essentially unchanged up to the end of the Proto-Slavic period except for the operation of Dybo’s law and Stang’s law. The major development before these accent shifts was the generalization of accentual mobility in masculine *o*-stems which were stressed on a non-acute root vowel (Illič-Svityč’s law, my stage 6.9), e.g. S/Cr. *zûb* ‘tooth’ < acc. sg. **zôbu*, earlier **zôbu*, cf. Greek γόμφοϛ ‘bolt’. As a result of this development, which may

not have reached some of the Čakavian dialects (but cf. Langston 2007; Kortlandt 2007), underived masc. *o*-stems with a non-acute root vowel are original masculines if they belong to accent paradigm (c) but original neuters if they belong to accent paradigm (b). Original stem-stressed neuter *o*-stems joined the masculine gender in the singular in Balto-Slavic times already (cf. Kortlandt 2008, 13) but evidently preserved their distinct plural forms in the separate branches of the family, like Italian *l'uovo fresco* 'the fresh egg', plural *le uova fresche*. It is difficult to see how accentual mobility could spread in the masculine *o*-stems unless the barytone forms of the fixed and mobile accent paradigms were prosodically identical. Illič-Svityč's law did not affect words with an acute root vowel, evidently because accentual mobility had been eliminated by Meillet's law in this category. It did not affect original neuters because these had a distinct ending in the nominative and accusative plural. It did affect trisyllabic words with a non-acute root vowel such as S/Cr. *izlēt* 'excursion' < **izlētu*, as opposed to *ùlet* 'flying in' < **ùletu* (with progressive accent shift in accordance with Dybo's law, cf. Kortlandt 2011, 67). Following an ill-advised suggestion by Holzer, Jasanoff posits (2017, 163) an ad hoc sound change eliminating a High tone before the pre-Slavic nom. sg. ending *-as, e.g. **zôbb̆* < **zâmbas* < **zám̆bas* (replacing Jasanoff's idiosyncratic transcription by the normal notation), followed by analogical loss of the High tone in the other singular forms of the paradigm and introduction of final stress in the plural forms. All this is totally arbitrary and highly unlikely, especially because the paradigms of **dvòr̆* and **pèro*, which were almost identical, were not affected. Both the idea that the nom. sg. ending *-as would cause metatony in the preceding syllable and the idea that the metatony would spread throughout the paradigm and shift the accent in the plural to the endings are quite unreasonable.

Thus, I think that the rise of distinctive tone in Slavic originated from the extension of Pedersen's law. In East Baltic, tonal contours came into being when the stress was retracted from prevocalic *-i- and final *-à, yielding a rising (Low-High) tone that caused metatony in the preceding syllable (cf. Kortlandt 2012). This may be compared with the rise of the independent svarita in Vedic, e.g. in *vīryàm* < *vīríàm* 'manliness', where the grave accent mark indicates a falling (High-Low) contour. When the newly stressed syllabic nucleus was acute, the glottalization was lost in Lithuanian, but not in Latvian, where it was weakened and developed into creaky voice quality, resulting in a

falling (High-Low) tone (cf. Kingston 2005, 154 on Athabaskan). This is the origin of the tone reversal under “*métatonie douce*”, which yielded a rising tone in Lithuanian but a falling tone in Latvian (cf. Derksen 1996). When the newly stressed syllable was not acute, the rising tone was preserved in Latvian but developed into a “middle” (level) tone in Lithuanian (cf. Kortlandt 1977, 325). The latter was evidently less prominent than the rising tone on earlier acute syllables, which points to a raising effect of the glottalic feature. In Latvian and in the Žemaitian (northwestern) dialects of Lithuanian, originally stressed non-acute syllables received a falling tone in opposition to the metatonical rising tones. The fourfold tonal distinction between rising tone, middle tone, falling tone and “broken” tone (glottalization) has been preserved in a limited dialectal area, where it was strengthened by further retractions of the stress (cf. Aleksandravičius 1957; Zinkevičius 1966, 40). In the Aukštaitian dialects of Lithuanian, on which the standard language is based, the glottalization of originally stressed acute syllables was weakened and developed into creaky voice quality, resulting in a falling tone and merging with the metatonical middle tone, which had become falling in this area. Originally stressed non-acute syllables developed a rising tone which merged with the metatonical rising tone in opposition to these falling tones. As a result, the standard language has lost glottalization as a distinctive feature. In Latvian, the loss of glottalization in originally stressed acute syllables eventually yielded a “stretched” (long High) tone which merged with the metatonical rising tone. The retraction of the stress to the initial syllable in this language gave rise to a threefold opposition between stretched tone, falling tone and broken tone because distinctive glottalization had been preserved in unstressed syllables. The threefold opposition was eventually lost by the merger of the stretched with the falling tone in East Latvian and the merger of the falling with the broken tone in West Latvian but preserved in the central dialects on which the standard language is based.

The rise of tonal contours in East Baltic has an interesting parallel in the development of the Franconian tone accents (cf. Kortlandt 2010, 255–257). Unlike Lithuanian and Latvian, Prussian had a quantitative but no tonal distinction in the vowel system (cf. Kortlandt 2009, 265–267). This is strongly reminiscent of modern spoken Lithuanian, where distinctive tone has mostly been lost and preserved as a quantitative distinction in the first component of diphthongs only (cf. Buch 1967; 1970; Zinkevičius 1966, 33).

PEDERSENO DĒSNIS IR DISTINKTYVINIO TONO ATSIRADIMAS BALTŲ IR SLAVŲ KALBOSE

Santrauka

Dėl Pederseno dėsnių kirtis buvo atitrauktas tokiose formose kaip acc. sg. *dùkterj* ‘daughter’ < **duktèrim* (plg. gr. θυγατέρα) ir pan. Baltų-slavų kirčio dėsnių persvarstymas leido paaiškinti Dybo „dominacinių“ priesagų kilmę remiantis Derkseno galinio kirčio paradigmomis. Prieškirtinių skiemenų žemo tono apibendrinimas mobiliojo kirčio paradigmų baritoninėse formose nulėmė Olanderio „bekirčių formų“ su distinktyviniu žemu tonu pirmajame skiemenyje atsiradimą.

Distinktyvinis tonas slavų kalbose atsirado išplėtus Pederseno dėsni. Rytų baltų kalbose tonų kontūrai atsirado atitraukus kirtį iš prevokalinio *-ì- ir galinio *-à, dėl ko susiformavo aukštas tonas, sukėlęs metatoniją prieš tai einančiame skiemenyje. Tonų kontūrų atsiradimas rytų baltų kalbose turi įdomią paralelę Frankonijos priegaidžių raidoje. Prūsų kalboje, kitaip nei lietuvių ir latvių, būta kiekybinės, o ne toninės priešpriešos balsių sistemoje.

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Frederik KORTLANDT
Cobetstraat 24
NL-2313 KC Leiden
The Netherlands
[f.kortlandt@hum.leidenuniv.nl]