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**THE ACCENTUAL TYPE \**vedō*, \**vedeti* AND THE ORIGIN  
 OF MOBILITY IN THE BALTO-SLAVIC VERB\***

*In memory of Edith Jasanoff (1913–2007)*

§1. As every beginning student of Indo-European knows, Balto-Slavic is one of the IE branches that theoretically preserves information about the position of the Proto-Indo-European (PIE) accent. As every student discovers a little later, however, the gulf between theory and practical reality in this case is huge. There are more “laws” relating to Baltic and Slavic accentuation than in any other domain of IE phonology,<sup>1</sup> yet major aspects of the behavior of the accent in these languages remain completely opaque. Particular obscurity surrounds the origin and development of accentual mobility in the verbal system, the problem that will concern us here.<sup>2</sup>

The strangeness, vis-à-vis Greek or Sanskrit, of the Balto-Slavic accentological landscape reflects a complex series of Balto-Slavic innovations.

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<sup>1</sup> Fourteen such (Dolobko’s, Dybo’s, Ebeling’s, Fortunatov’s, Hartmann’s, Hirt’s, Hjelmslev’s, Illich-Svitych’s, Meillet’s, Nieminen’s, Pedersen’s, Saussure’s, Shakhmatov’s, Stang’s) are listed by Collinge (1985, 271) — about a third of his total inventory of named sound laws for the whole of the IE family. There is, of course, no reason in principle why an uncommonly large number of unobvious (and hence named) accent laws could *not* have figured in the transition from late PIE to Balto-Slavic. What is striking is how much remains to be explained even with this number.

<sup>2</sup> In view of the programmatic nature and limited goals of the present study, only very selective reference can be made to the enormous literature on Balto-Slavic accentuation. The basic framework adopted here is that of Stang and the Moscow School, which can fairly be characterized as “mainstream.” See the literature survey by Hock (2005, 1–11) and the introduction by Lehfeldt (2001), especially chs. 1–3.

These can be classified under three headings: a) the rise of the acute : circumflex contrast; b) the retraction of the accent from its inherited location on certain word-internal and final syllables; and c) the introduction, partly linked to the retractions in b), of accentual mobility into historically columnar (immobile) paradigms. A brief summary of these changes follows. It will form a necessary preface to our discussion of the verb, which begins in §12.

§2. Proto-Balto-Slavic had a synchronic distinction between “acute” and non-acute, or “circumflex,” long vowels and diphthongs. The prosodic feature of acuteness, which was independent of the accent, was probably realized phonetically as a *stød* or similar glottal feature; where relevant, it will be indicated here by underlining ( $*\bar{e}$  = acute  $*\bar{e}$ ,  $*\underline{e}$  = accented acute  $*\bar{e}$ , etc.). An obviously cognate distinction, though restricted to final syllables, is found in Germanic, where “bimoric” long vowels, mostly derived from  $*-VH-$  sequences, correspond etymologically to Balto-Slavic acutes, and “trimoric” long vowels, mostly derived from  $*-VHV-$  sequences, correspond to Balto-Slavic circumflexes. The bimoric : trimoric contrast must once have been present in the prehistory of Balto-Slavic as well. In Balto-Slavic there was a reversal of markedness: the former hyperlong trimoric vowels became unmarked longs, while the ordinary bimoric long vowels acquired the clipped or “checked” quality that we know as acute. A fuller account is given in Jasanoff 2004a, 249 ff.<sup>3</sup>

§3. Two accent retraction rules can be dated to the Balto-Slavic period. The later in point of time, and the easier to discuss, was Hirt’s Law, which drew the accent onto the preceding syllable in cases like Lith. *dūmai* (= Russ. *dým*, gen. *-a*) ‘smoke’ <  $*dhuH-mó-$ , Lith. *pilnas* (= SC *pùn*) ‘full’ <  $*plh_1-nó-$ , and Latv. *diēveris* (= Russ. *déver’*) ‘brother-in-law’ <  $*deh_2i-uér-$ . Tautosyllabic sequences of vowel + laryngeal served as the “magnet” or at-

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<sup>3</sup> In essence, this is a phonological reformulation of the standard view that acuteness arose historically in non-contracted long vowels, both those long by nature and those produced by laryngeal lengthening. A notable dissenter from this position is Kortlandt, whose polemical response to my article (Kortlandt 2004), together with his subsequent rejoinder (Kortlandt 2005a) to my reply to him (Jasanoff 2005), restates his conviction, rooted in the now largely discredited glottalic theory, that PIE lengthened-grade vowels received circumflex intonation. This is not the place to continue the discussion.

tracting force in this process; there was no comparable effect with sequences of the type *\*-VRH-*.<sup>4</sup>

Older than Hirt's Law, and more important in its ultimate effect, was the retraction posited by Ferdinand de Saussure (1922 [1896], 533 ff.) to account for the accentual pattern of words like "daughter":<sup>5</sup>

|          |   |
|----------|---|
| nom. sg. | <i>*duktē</i> Lith. <i>duktē</i> ) < <i>*dhugh<sub>2</sub>-tē(r)</i>  |
| acc. sg. | <i>*dūkterin</i> (Lith. <i>dūkterī</i> ) for expected <i>*duktērīn</i> < <i>*dhugh<sub>2</sub>-tēr-ṛ</i>    |
| gen. sg. | <i>*duktrēs</i> (OLith. <i>dukterēs</i> ) < <i>*dhugh<sub>2</sub>-tr-ēs</i>                                 |
| nom. pl. | <i>*dūkteres</i> (OLith. <i>dūkteres</i> ) for expected <i>*duktères</i> < <i>*dhugh<sub>2</sub>-tēr-es</i> |

The historically "correct" position of the accent in the trisyllabic forms can be seen in Ved. acc. sg. *duhitāram*, nom. pl. *duhitārah*. Saussure did not attempt to specify the conditions under which the accent moved leftward from a medial syllable, remarking merely that "il est malheureusement difficile de dire le caractère qu'aurait cette loi, car il y a des obstacles à la transformer en loi phonétique pure et simple." Later opinion has been divided. Pedersen (1933) offered a teleological interpretation, under which the retraction was motivated by a perceived need on the part of speakers to maximize the difference between the end-stressed and non-end-stressed forms in mobile paradigms; this formulation, known as Pedersen's Law (cf. Collinge 1985, 147), has been favored by a number of modern scholars, including Kortlandt (2005b, 117 and earlier publications) and Rasmussen (1992, 173). But the possibility of an ordinary sound law has been defended as well, e.g., by Kurylowicz (1958, 163 f.) and (in a recent change of position) Kortlandt (2006b, 1 ff.). The exact nature of the "Saussure-Pedersen retraction," as we may call it, will figure importantly in the discussion below.

<sup>4</sup> So correctly Illich-Svitych 1963, 80 f. (= 1979, 138 f.). As can be seen from the example of *diēveris* < *\*deh<sub>2</sub>i-ūr-*, sequences of the type *\*-VHi-* and *\*-VHu-* were treated as *\*-VHī-* and *\*-VHū-* in Balto-Slavic, with the high vowel behaving as a glide.

<sup>5</sup> Here and below, the position of the ictus is marked in the usual way with an acute accent (´) in PIE, Russian (Old and Modern), and other languages where no confusion would result from this notation. In early (Proto-)Balto-Slavic, (Proto-)Baltic, and (Proto-)Slavic, where the acute symbol might misleadingly suggest rising intonation, the ictus is marked with a vertical stroke (˘). Lithuanian and Latvian forms are cited with the standard Baltic diacritics (˜, ˆ, ˝, ˘); Slavic forms, where intonational properties need to be expressly indicated, are noted with the usual Slavistic symbols (ˊ, ˆ, ˋ, etc.). The use of the grave (˘) to indicate the Balto-Slavic retracted accent is introduced in §7.

§4. For Saussure himself, the importance of the retraction in forms like \**dūkterin*, \**dūkteres*, etc. < \**duktèrin*, \**duktères*, etc. was that it set the stage for the most characteristic of all Balto-Slavic noun-related innovations — the extension of paradigmatic mobility to the historically immobile *ā*-, *o*-, *i*-, and *u*-stems. Mobility in the Balto-Slavic nominal system is a sign of former oxytonicity: as a general rule, when the nom. sg. of a noun was accented on the ending in Proto-Indo-European, the paradigm became mobile in Balto-Slavic.<sup>6</sup> Saussure saw this as an analogical development. The pattern \**duktē̄* : \**dūkterin* : \**duktṛēs* : \**dūkteres*, etc., he theorized, led *all* final-accented animate nominal stems to shift their accent to the left margin of the word in the acc. sg., nom. pl., and other relevant case forms — in short, to become “mobile.” Thus, in the case of the originally end-stressed *ā*-stem \**zéimā̄* ‘winter’,<sup>7</sup>

|          |                                |  |                         |
|----------|--------------------------------|--|-------------------------|
| nom. sg. | * <i>zéimā̄</i> remained       | * <i>zéimā̄</i> (cf. Lith. <i>žiemà</i> , Russ. <i>zimá</i> )  | [ : * <i>duktē̄</i> ]   |
| acc. sg. | * <i>zéimā̄n</i> was remade to | * <i>zéimān</i> (cf. Lith. <i>žiēmą</i> , Russ. <i>zímu</i> )  | [ : * <i>dūkterin</i> ] |
| gen. sg. | * <i>zéimās</i> remained       | * <i>zéimās</i> (cf. Lith. <i>žiemōs</i> , Russ. <i>zimý</i> ) | [ : * <i>duktṛēs</i> ]  |
| nom. pl. | * <i>zéimās</i> was remade to  | * <i>zéimās</i> (cf. Lith. <i>žiēmos</i> , Russ. <i>zímy</i> ) | [ : * <i>dūkteres</i> ] |

— and similarly in *i*-, *u*-, and (less clearly) *o*-stems.

This account is surely correct in principle. It is unclear, however, to what extent the process of “mobilization” was phonological and to what extent analogical. Saussure apparently believed, and Pedersen stated explicitly, that the retraction in \**dūkterin*, \**dūkteres*, etc. was a morphologically conditioned event confined to columnarly accented hysterokinetic consonant stems. But it is also possible, as just noted, that the retraction was purely phonological — a sound change that targeted, say, all word-internal short syllables (so Kurylowicz, *ibid.*). In the latter case, stems of the type \**dukt(è)r-* would not have been the only locus of phonologically regular mobility. Under a

<sup>6</sup> The correlation was decisively established by Illich-Svitych (1963), who, however, took the extreme step of projecting the mobility associated with end-stress in the nom. sg. back to the parent language. Like Stang, another scholar who operated with Balto-Slavic-like mobile paradigms in PIE (cf., e.g., §§9, 16 below), he was thus able — albeit at a price few would now be willing to pay — to dispense with the Saussure-Pedersen retraction entirely.

<sup>7</sup> Here and elsewhere, acuteness is only marked where relevant to the discussion. The *ā*-stem nom. sg. ending was in fact acute \**-ā̄* < \**-eh<sub>2</sub>*; the nom. pl. was non-acute \**-ās* < \**-eh<sub>2</sub>es*; etc.

“sound law” interpretation of the Saussure–Pedersen retraction, the root accentuation seen, e.g., in the nom. pl. of mobile nouns would have been regular not only in consonant stems (*\*dūkteres* < *\*duktères*), but also in originally oxytone *i*-stems of the type *\*mirti-* ‘death’ (nom. pl. *\*mirtejes* < *\*mirtējes*; cf. Lith. nom. sg. *mirtis*, pl. *miřtys*), *u*-stems of the type *\*sūnū-* ‘son’ (nom. pl. *\*sūneues* < *\*sūnēues*; cf. Lith. *sūnūs*, pl. *sūnūs*), and even perhaps *ā*-stems (nom. pl. *\*žėimās* < *\*-āHes* < PIE *\*-éh<sub>2</sub>es*?). Only in the acc. sg. would there have been no phonological source for root accentuation other than the consonant stems (cf. *\*žėimān* for *\*žėimān̄*, *\*mirtin* for *\*mirtin̄*, *\*sūnun* for *\*sūnun̄*, etc., all following *\*dūkterin* < *\*duktērin*).<sup>8</sup>

An important corollary of Saussure’s identification of mobility with former oxytonicity, especially in the wake of the documentation provided by Illich-Svitych, is that there were no nominal stems with consistent inherited end stress in Proto-Balto-Slavic. The Slavic words that exhibit this pattern (e.g., Russ. *žená*, *ženú*, *žený*, etc. ‘wife’) are historically cases where the accent has been displaced one syllable rightwards by the important inner-Slavic rule known as Dybo’s Law (see below).<sup>9</sup>

§5. In the aftermath of the developments just described, all Balto-Slavic noun stems were either mobile or non-mobile (= immobile). In immobile stems the accent rested stably on a non-final syllable, while in mobile stems it alternated between the initial syllable and a morphologically defined set

<sup>8</sup> In the gen. sg. the final position of the accent would have been phonologically regular in *i*- and *u*-stems (Lith. *mirtiēš* < PIE *\*-éis*, *sūnaūs* < *\*-éus*) as well as consonant stems (Lith. *duktēr(ė)s* < *\*-trés*), but possibly analogical in *ā*-stems (Lith. *žiemōš* for regular *\*žīēmos* < *\*-éh<sub>2</sub>es*?). Note that under the sound law approach, one of the conspicuous mini-patterns of Balto-Slavic declension — the persistent root accent of the dat. sg. vs. final accent of the loc. sg. (cf. Lith. dat. sg. *žīēmai*, *miřčiai*, *sūnui* : loc. sg. *žiemojė*, *mirtyjė*, *sūnujė*; PSlav. dat. sg. *\*zimě*, *\*m̄rti*, *\*s̄ynovi* : loc. sg. *\*zimě*, *\*m̄rti*, *\*synú*) — could have originated in the *i*- and *u*-stems, where leftward movement of the accent would have been proper to the dat. sg. in *\*-ėjei*, *\*-ėuei*, but not to the loc. sg. in *\*-ėi*, *\*-ėu*.

In considering mobility-related phenomena in Balto-Slavic, it is important to remember that a synchronic accent system is not simply the product of a sequence of Neogrammarian sound changes, but a set of internalized rules constructed by juvenile speakers in the course of an exceedingly rapid acquisition process. The role of what we loosely call “analogy” is obviously crucial to this kind of learning.

<sup>9</sup> The name of the rule is notoriously unsettled; Gardē (1976, 16) calls it Illich-Svitych’s Law, while Kortlandt, following Ebeling (1967) attributes it to Dybo. The Dutch practice, as the older, is followed here.

of declensional endings. In both cases, the non-final syllable on which the accent rested could be acute or non-acute; it is thus possible to classify stems as immobile acute, immobile non-acute, mobile acute, or mobile non-acute. Within Balto-Slavic proper, accent and acuteness were completely independent variables; a mobile acute  $\bar{a}$ -,  $o$ -,  $i$ -, or  $u$ -stem had exactly the same pattern of “strong” and “weak” case forms as a non-acute stem of the same type. In the post-Balto-Slavic period the symmetry of this arrangement was disturbed. In Lithuanian, historically acute endings drew the accent rightwards from a preceding non-acute, but not from a preceding acute syllable; this rule, known as Saussure’s Law, introduced an important secondary difference between acute and non-acute stems (cf., e.g., nom. sg. *kója* < \**kājā* ‘leg’ (immobile acute; accent class 1) vs. nom. sg. *rankà* ‘hand’ < \**rānkā* (immobile non-acute; accent class 2)). In Slavic, the contrast between mobile acute and mobile non-acute stems was neutralized in favor of the non-acute type (= Stang’s type c), and the difference between the acute and non-acute immobile types was transformed by Dybo’s Law into a difference in the place of the accent (e.g., \**vórna* ‘crow’ (acute) = type a; \**ženà* (non-acute) = type b). In both Baltic and Proto-Slavic, accented acute syllables acquired contrastive intonational properties which, though important for many purposes, will not concern us here.<sup>10</sup>

The descriptive repartition of all nominal stems into mobile and immobile types, each with acute and non-acute subtypes, is also found in other grammatical categories, notably the verb. Here, in contrast to the noun, the historical source of the mobile : immobile contrast remains to be discovered. Yet the overall “look” of mobility in nominal and verbal stems is the same. In verbs as in nouns, the accent alternates between the left and right margins of the inflected word, skipping over internal syllables in words of three syllables or more (cf. pre-Slavic 1 sg. \**védq* ‘I lead’, 2 sg. \**vedeši*, exactly like Lith. *duktė*, *dùkterį*).<sup>11</sup> Other points of similarity will appear below.

<sup>10</sup> It is important to emphasize that although intonational expressions like “long rising,” “short falling,” etc. play a key role in the descriptive accentology of Slavic and to some extent Baltic, the tonal contours denoted by these terms were, at least at the phonological level, a post-Balto-Slavic innovation. The history of mobility in the pre- and inner-Balto-Slavic period is preeminently a story of the movement of the accent (ictus), and only secondarily about length, pitch, and other prosodic features.

<sup>11</sup> For the skipover effect in a four-syllable word, cf., e.g., Lith. *panemunė* ‘shore of the Niemen River’ (nom.) vs. *pānemunę* (acc.).

§6. Since Jakobson (1963) and Gardé (1976), it has been common to characterize the left-accented forms in Slavic mobile paradigms — forms such as the acc. sg. *\*zimǫ* and 1 sg. *\*vèdǫ* — as underlyingly unaccented. The Moscow School terms such forms “enclinema,” opposing them to inherently accented “orthotonic” forms with accented endings (e.g., nom. sg. *\*zimà*, 2 sg. *\*vedeši*). In the tradition of generative phonology, as seen in such works as Kiparsky / Halle 1977, the surface accent in *\*zimǫ*, *\*vèdǫ* is default-assigned by a mechanism that places the accent on the leftmost syllable of a phonological word when no other syllable is marked as accented. The appeal of this approach, regardless of the formalism employed, is that it accounts in an intuitively satisfying way for the fact that the left-accented forms in mobile paradigms “throw back” the accent onto a preceding preposition or preverb (cf. SC 2, 3 sg. aor. *vède*, *ìzvede*, *přivede*, etc.; Russ. acc. *góru* ‘mountain’ (: nom. *gorá*), but *ná goru* ‘uphill’, *pód goru* ‘downhill’). Moreover, since the same effect can be observed in preverb + verb combinations in Lithuanian (though not in preposition + noun combinations), the analysis of forms like *\*zimǫ*, *\*vèdǫ*, etc. as unaccented can be advanced for Balto-Slavic as well.<sup>12</sup>

If the Balto-Slavic or early Slavic precursor of acc. sg. *\*zimǫ* was in fact “really” unaccented, there would have been three major differences between early Proto-Slavic *\*zimǫ* and a form like acc. sg. *\*žènǫ*, the pre-Dybo’s Law counterpart of late Proto-Slavic *\*žènǫ* (Russ. *ženú*; type b): 1) in *\*žènǫ*, unlike *\*zimǫ*, the surface accent was underlying, not default-assigned; 2) the accent of *\*žènǫ*, unlike that of *\*zimǫ*, was not thrown back onto a preceding preposition; and 3) the accent of *\*žènǫ* was subsequently advanced onto the following syllable by Dybo’s Law. The difference in behavior with respect to Dybo’s Law, which never operated in mobile stems, must have been linked

<sup>12</sup> Indeed, Kiparsky and Halle claim that a rule of default left-marginal accent assignment was synchronically operative in Sanskrit, Greek, and PIE as well. The facts of the older IE languages certainly *can* be described in these terms; whether they are best so described is a question for theoretical phonologists. This much, however, is clear: many of the particular surface phenomena that make the “zero accent” analysis appealing and even obvious for Slavic (skipover effects, retraction onto prepositions and preverbs, Vasil’ev-Dolobko’s Law (see below), etc.) are less salient in Baltic and altogether absent in Sanskrit and Greek. See further note 64.

Entirely separate from the question of whether forms like *\*zimǫ* were phonologically unaccented is the question of whether they were originally unaccented *phonetically*. Kiparsky and Halle make no such claim, but others do; see below.

to the difference in phonological status. But how? A recent discussion of these facts by Halle (2001, 802-3) implicitly assumes the “abstract” answer: Dybo’s Law was an accent shift, and as such could not apply to the underlyingly accentless form *\*zimŏ*. This observation is unexceptionable as a statement of synchronic fact, but as a historical explanation it embodies a fundamental inversion of cause and effect. The juvenile language learner in whom change originates cannot be assumed to have access to the underlying representations of the adult speaker’s grammar. Something more tangible than an abstract lexical marking must have caused *\*žěnŏ* to be misperceived as *\*ženŏ* without causing *\*zimŏ* to be misperceived as *\*zimŏ*.<sup>13</sup>

As an alternative explanation for why the accent moved forward historically in *\*žěnŏ* but not *\*zimŏ*, one might ponder the possible role of a “polarity principle” — a felt need on the part of speakers to maintain the first syllable : last syllable accentuation pattern in mobile paradigms, and to block an incipient sound law (Dybo’s Law) that would have caused the principle to be violated. But while morphological considerations have certainly been known to inhibit or reverse sound changes on occasion, it is simply not credible that young learners of Proto-Slavic would have succeeded, across many thousands of examples, in unerringly identifying the cases where a surface accent was “mobile” and blocking Dybo’s Law in just those instances.<sup>14</sup> In any case, the supposed polarity principle, which recalls the motivation adduced by Pedersen for the retraction in *\*dükterin* < *\*duktèrin*, is much overrated. Following the Saussure-Pedersen retraction, but earlier than Dybo’s Law in the history of Slavic, came Hirt’s Law (§3), which systematically undermined polarity in the mobile *ā*-stems (cf. PSlav. loc. pl. *\*-ǎxъ*, instr. pl. *\*-ǎmi*, etc. < *\*-ah<sub>2</sub>-sú*, *\*-ah<sub>2</sub>-mí-*, etc.), unhindered by any regard for past canons of accentual well-formedness.

§7. The obvious explanation for why the left-marginal accent in *\*zimŏ* etc. was unaffected by Dybo’s Law is that it was *phonetically*, as well as phonologically, different from the accent in *\*žěnŏ*. The reason speakers “knew” to apply Dybo’s Law in the latter case but not the former was, quite simply, that

<sup>13</sup> The role of underlying forms in sound change has been discussed and debated almost since the advent of generative phonology. To my mind, convincing examples of the type envisaged here — sound changes conditioned by an abstract environment with no associated phonetic trigger — have yet to be found. A good recent account of the mechanism of sound change is Halle 2007, 51 ff.; see also Jasanoff 2004c.

<sup>14</sup> Otherwise Rasmussen 1989, 182.



they could *hear* the difference. *What* exactly they heard, in phonetic terms, is irrelevant for our purposes: if the first syllable of \*ž'énŋ was rising, that of \*zimŋ may have been falling, and vice versa; alternatively, the first syllable of \*zimŋ could have had a more or less level tone, with nothing but an accent of intensity.<sup>15</sup> In the discussion that follows, we will avoid committing ourselves to any specific phonetic scenario. The notation *á*, *é*, *ì*, etc. will continue to be used for vowels with “underlying” accent; vowels with left-marginal or “mobile” accent — the kind that resisted Dybo’s Law but was subject to leftward displacement onto a preverb — will now be notated *à*, *è*, *ì*, etc. The acc. sg. form that we have thus far been citing as \*zimŋ will henceforth be written \*zìmŋ in pre-Dybo’s Law contexts;<sup>16</sup> its nom. sg. was \*zimá. Prior to Dybo’s Law, the contrasting word for “wife” was nom. \*ž'ena, acc. \*ž'énŋ; Dybo’s Law converted this to \*žená, \*ženŋ.

§8. The suggestion that the left-marginal accent of mobile paradigms was phonetically different from the initial accent of non-mobile forms is not altogether new.<sup>17</sup> The consequences of making this claim explicit, however, have never been fully explored. No discoverable principle could have led to the split of one phonological accent into two within Slavic proper. The distinction between \*zìmŋ and \*ž'énŋ must therefore go back to the Balto-Slavic period, where the corresponding forms would have been \*ž'èimān (: nom. \*ž'èimā) and \*g'énān (: nom. \*g'énā), respectively. Trisyllabic words like \*dùk-terin (: nom. \*dùktē; mobile) beside \*s'éserin (: nom. \*s'ésō; immobile)<sup>18</sup> ‘sister’ would have exhibited both accent types as well. It is in forms like these that

<sup>15</sup> As will be seen in §22, there are reasons to believe that the retracted accent may have been less robust phonetically than its unshifted counterpart. But there is no real support for the position of Gardé (1976 *passim*), whose theoretically-driven assumption that forms like \*zimŋ (read \*zìmŋ) were absolutely unaccented obliges him to posit a series of gratuitous “reaccentuations” in the daughter languages.

<sup>16</sup> There should be no confusion between this use of the grave in pre-Slavic forms and its use to denote a short rising accent in the later Slavic dialects.

<sup>17</sup> Specifically, Dybo himself (1962, 8) argues for a “neutralization circumflex” in mobile paradigms, i.e., a special intonation that contrasted with the ordinary circumflex and resisted rightward movement by Dybo’s Law. See further Hock 2005, 6 ff. and the references there cited. Perhaps because of Illich-Svitych’s views on the origin of mobility, however (cf. note 6), the Moscow School seems never to have considered the possibility of a direct link between the non-advanceability of the left-marginal accent and its phonetic properties *qua* retraction product.

<sup>18</sup> Lith. *sesuõ* is secondarily mobile (accent class 4).

we can see the *origin* of the contrast. The “grave” first syllable of *\*dùkterin* had retracted stress, drawn leftward by the Saussure–Pedersen retraction from earlier *\*duktèrin* (= PIE *\*dhugh<sub>2</sub>-tér-ṃ*), while *\*sèserin* preserved the stress in its original location, unchanged from PIE *\*sùésor-ṃ*. Retracted accents are typologically often associated with distinctive tonal contours — a phenomenon especially well known to Slavicists from the Serbo-Croatian (Neo-Štokavian) retraction that produced the contrast between nom. sg. *vòda* ‘water’ (rising intonation, retracted from PSlav. *\*vodà*) and acc. sg. *vòdu* (falling intonation, continuing PSlav. *vòdǫ*). In Balto-Slavic a distinction of this kind evidently arose between *\*sèserin*, where the accent had “always” been on the first syllable, so to speak, and *\*dùkterin*, where it was a retraction product. Once established in the language, the contrast between the two types gained in importance and saliency as mobility spread in the manner described in §4. When left-marginal stress was introduced into paradigmatic positions where it was historically unexpected — e.g., the acc. sg. of originally oxytone *ā-*, *i-*, and *u-*stems — the newly left-accented forms (*\*žèimān*, *\*mìrtin*, *\*sùnun*, etc.) naturally copied the tonal contour of the retracted forms on which they were modeled (*\*dùkterin* < *\*duktèrin*, etc.).

§9. There is an extremely important corollary to all this. The reason why, crosslinguistically, a retracted accent is apt to contrast with an accent that remained stationary is that retractions commonly arise as an intonational *anticipation* of the accented syllable immediately following. Thus, e.g., in a language where accented syllables are low or falling, the pre-accented syllable may acquire a contrastive high or rising tone to prepare for the intonational fall in the next syllable; if the high or rising tone is then subsequently phonologized, the result may be a contrast between low/falling and high/rising intonational contours. This was precisely the history of the *vòda* : *vòdu* distinction in Serbo-Croatian. Outside the Balto-Slavic domain, a pre-phonologized situation of the same type is implicit in Pāṇini’s description of the Vedic accent, according to which an unaccented (*anudāṭṭa* ‘unraised’) syllable is specifically lower (*sannatara*) than other unaccented syllables when the following syllable is accented (*udāṭṭa* ‘raised’). It is significant that the notational system for indicating the position of the accent in the Rigveda employs a diacritic to indicate the lowered syllable, while the accented syllable proper is left unmarked.<sup>19</sup>

<sup>19</sup> Cf. Halle 1997, 286 f., with references.

Such cases lead to a clearer understanding of the Saussure-Pedersen retraction. Pedersen's morphological conception of the retraction process (cf. §3), under which the accent was relocated to the first syllable of the word for the purpose of emphasizing or underscoring the principle of mobility, could conceivably (though not very probably, in my opinion) have led to the replacement of *\*duktèrin* by *\*dùkterin*, with accent movement to the leftmost syllable. But the initial accent produced by such a process would have been the same as the inherited accent in words of the type *\*sèserin*. It is impossible to believe that a retraction that was basically analogical, undertaken to extend an existing mobile accentuation pattern (e.g., the first syllable : last syllable alternation in root nouns), could have led to outputs like *\*dùkterin*, with a new, phonetically contrastive kind of accent previously unknown to the language.

We must conclude, then, that Pedersen's understanding of the leftward shift in *\*dùkterin* was incorrect. *The Saussure-Pedersen retraction must originally have been a sound change that moved the accent one syllable to the left, producing a contrastive intonation on the newly accented syllable.* Under a phonetically conservative interpretation, the retraction *qua* sound change would have been limited to the acoustically weakest and typologically least "accentable" cases — short open syllables like the *\*-tè-* of *\*duktèrin* and the corresponding CV sequences in the forms discussed in §4 (*\*mirtèjes* > *\*mìrtejes*, *\*sūnèjes* > *\*sūnejes*, *\*zéimàHes* > *\*zèimaHes*, etc.). As a working hypothesis, a restriction to short open syllables will be assumed here; in actual fact, the rule has been so completely morphologized that its original shape is hard to determine. An overview of the apparent exceptions to what we may now call Saussure-Pedersen's "Law" is given by Stang (1966, 132 ff.). Despite his own resistance to a medial syllable retraction in any form,<sup>20</sup> Stang was quite prepared to concede that the problematic cases on the Baltic side — mainly late and productively formed stems in *-ùmas*, *-inis*, and the like — could be secondary. For him it was the Slavic evidence, and in particular the numerous trisyllabic stems of the type Russ. *Petróv*, *-óva*, *-óvo* (his example), that con-

<sup>20</sup> Notwithstanding his seminal contributions to every aspect of Balto-Slavic accentology, Stang remained committed throughout his career to the view that the bipolar mobility of Balto-Slavic *ā-*, *o-*, *i-*, and *u-*stems, and of thematic and other derived verbal stems, was an inheritance from PIE (cf. §16). He thus had no reason to favor a retraction-based account of stems like *\*dukt(e)r-*, which for him required no explanation at all.

stituted the real stumbling block to acceptance of the retraction as a sound law. But forms of this type are now routinely explained by Dybo's Law, which Stang, for understandable reasons, was reluctant to accept in the final decades of his career. In the last analysis, there do not seem to be *any* exceptions to Saussure-Pedersen *qua* sound law that cannot be explained by analogy or by appeal to the productive synchronic rules that govern the accentuation of complex morphological strings in Baltic and Slavic.<sup>21</sup>

§10. The developments surveyed in §§2–9 — the Saussure-Pedersen retraction, the analogical extension of mobility, Hirt's Law, and the creation of the acute : non-acute contrast — left Proto-Balto-Slavic with a prosodic system very different from that of Proto-Indo-European. Before venturing into the *terra incognita* of the verbal system, let us briefly review the range of phonologically possible Balto-Slavic nuclei in initial syllables:

- $\check{V}$ - = short nucleus with inherited (“*in situ*”) accent in original position; associated with immobility in nouns. Ex.: nom. sg. \* $\check{g}\acute{e}n\bar{a}$ , acc. \* $\check{g}\acute{e}n\bar{a}n$  (> PSlav. \* $\check{z}en\grave{a}$ , \*- $\check{\phi}$ , with Dybo's Law).

- $\check{V}$ - = short nucleus with “left-marginal accent,” i.e., accent retracted by the phonological version of Saussure-Pedersen's Law or its analogi-

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<sup>21</sup> It is trivially easy, of course, to find apparent exceptions to Saussure-Pedersen's Law in the numerous Lithuanian and Slavic derived nouns and adjectives where the (pre-Dybo's Law) accent rests on a word-internal open syllable. But the creation of such forms would have been inevitable in a branch of the family where the Saussure-Pedersen retraction was followed — perhaps over a timespan of millennia — by the generalization of mobility and the creation of complex derivational patterns mapping stems and suffixes into a handful of possible surface configurations. The medial accent of a word like Lith. *sūnukas*, gen. -*ūko* ‘son (dimin.)’ or Slavic \**synvkb* < \*-*vk̆v*, gen. \**synvká* < \*-*vka* ‘id.’ does not challenge the validity of the rule; it merely shows that at the time when the mobile stem \**sūnu-* came to be provided with a diminutive in \*-(*u*)*ko-*, the synchronic rules then in place determined that its accentuation pattern would be \**sūnuko-*, rather than \**sūnuko-* or (mobile) \**sūnuko-*.

Of the very rare cases where a genuinely old medial accent seems to have been retained on a short open syllable, the most difficult is Slavic \**vdová* ‘widow’ (< \*-*ova*; cf. Ved. *vidhāvā*). In view of the trisyllabicity of Go. *widuwo* (< \*-*uh<sub>2</sub>*), I would provisionally reconstruct the preform as \**Huidhéuh<sub>2</sub>-o-*, with \*-*éu-*, not \*-*é-*, as the syllabic nucleus; the complex as a whole is perhaps to be interpreted as a *vṛddhi*-type derivative of an underlying abstract in \*-*u-h<sub>2</sub>*. It is gratifying to see that Kortlandt has now also recognized Saussure-Pedersen's Law as a Neogrammarian sound change (2006b, 1–6).

cal extension; associated with mobility in nouns. Ex.: acc. sg. \**dùkterin* < \**duktèrin*, \**vàdān* < \**vadān* (> PSlav. \**vòdǫ*, with non-application of Dybo's Law).

- $\check{V}$ - = unaccented short nucleus with accent on another syllable. Ex.: nom. sg. \**vadā́* (> PSlav. \**vodà*).

- $\bar{V}$ - = long non-acute nucleus with *in situ* (i.e., unmoved) accent; associated with immobility in nouns. Ex.: nom. sg. \**lānkā́*, acc. \**lānkān* 'bend in a river' (> PSlav. \**lǫkà*, \*-ǫ, with Dybo's Law).<sup>22</sup>

- $\tilde{V}$ - = long non-acute nucleus with left-marginal (i.e., retracted) accent; associated with mobility in nouns. Ex.: acc. sg. \**zèimān* < \**zéimān* (> PSlav. \**zimǫ*, with non-application of Dybo's Law).

- $\bar{V}$ - = unaccented long non-acute nucleus with accent on another syllable. Ex.: nom. sg. \**zéimā́* (> Lith. *žiemà*, PSlav. \**zimà*).

- $\underline{V}$ - = long acute nucleus with *in situ* accent, either by direct PIE inheritance or by Hirt's Law;<sup>23</sup> associated with immobility in nouns (but see below). Ex.: nom. sg. \**vārnā́* 'crow' (> Lith. *várna*, Latv. *vārna*, PSlav. \**vōrna*; inherited barytone); nom. sg. \**grīvā́* 'mane' (> Latv. *grīva* 'river mouth', PSlav. \**grīva*; shifted from \**griH- $\underline{v}$ éh<sub>2</sub>* by Hirt's Law).

- $\underline{V}$ - = long acute nucleus with left-marginal accent; associated with mobility in nouns. Ex.: acc. sg. \**gālvān* < \**galvān* 'head' (> Lith. *gálvą*, Latv. *galvu*, PSlav. \**gōlvǫ*).

- $\bar{V}$ - = unaccented long acute nucleus with accent on another syllable. Ex.: nom. sg. \**galvā́* (> Lith. *galvà*, PSlav. *golvà*).

Nothing in this surface-oriented presentation should be seen as bearing on the question of whether the left-marginal/retracted accent — the accent of forms like acc. sg. \**vàdān*, \**zèimān*, and \**gālvān* — was underlyingly "real" or default-assigned in Proto-Balto-Slavic (cf. §6). Nor should any inference be drawn about the nature of the phonetic difference between the left-marginal and *in situ* accents, other than that such a difference existed, and that a speaker of Proto-Balto-Slavic, hearing the forms \**vàdān*, \**zèimān*, or \**gālvān*, could identify them by their phonetic contour as mobile.

<sup>22</sup> Secondarily mobile in Lith. *lankà* (4) 'swamp'.

<sup>23</sup> Since the retracted accent in Hirt's Law-affected forms was not of the left-marginal type, but identical with the *in situ* accent of old acute barytones, I use the term "*in situ*" to cover the accent in such cases as well.

§11. Our decision to reconstruct two surface accents at the Balto-Slavic level was motivated in the first instance by the fact that pre-Slav. \*žēnq, but not \*zīm̄q, was subject to Dybo's Law (§7). The distinction, however, turns out to have other uses as well. Three of them deserve to be mentioned explicitly:

- 1) In Latvian, which has obligatory initial stress, formerly immobile acute stems appear with "level tone" (e.g., *vārna*, acc. *vārnu* = Lith. *várna*, *várnaq*), while formerly mobile acute stems show "broken tone" (e.g., *gal̄va*, *gal̄vu* = Lith. *galv̄à*, *gal̄vq*). Under the standard view, represented by Stang (1966, 140 f.) and Derksen (1995), the broken tone was proper only to the forms with originally accented endings; the expected Latvian "paradigm" of a mobile noun would thus have been *gal̄va* : \**gālvu*, with analogy subsequently generalizing the intonation of the first variant. But the broken tone was *always* generalized in mobile paradigms in Latvian, pointing to the need for something more systematic than a purely analogical explanation. In our present framework, the broken tone can be seen as the phonologically regular intonation in acute nuclei with left-marginal accent (- $\check{V}$ -). The putative acc. sg. \**gālvu* never existed; BS acc. sg. \**gālvān* gave Latv. *gal̄vu* directly. Only nuclei of the type - $\check{V}$ -, which never occurred in mobile paradigms, gave up their *stød*-like glottal component and emerged with the level tone (\**vārnā*, \**vārnān* > *vārna*, *vārnu*).<sup>24</sup>
- 2) In Slavic too, immobile and mobile acute stems show dramatically and non-overlappingly different treatments: immobiles have rising ("acute") intonation on the initial syllable (PSlav. \**vōrna*, \**vōrnq*, Russ. *voróna*, *vorónu*); mobiles fall together with the corresponding non-acute type ("Meillet's Law") and show falling ("circumflex") intonation in the root-accented forms when the initial syllable is long (PSlav. \**golvā*, \**gōlvq*, Russ. *golová*, *gólovu*). The standard view (to which I myself earlier subscribed; cf. Jasanoff 2004a, 254) assumes phonological loss of acuteness in unaccented syllables (BS \**galvā* > pre-Slav. \**golvā*), followed

<sup>24</sup> A similar point is made by Young (1994), who, however, follows Garde's practice of referring to syllables with the left-marginal/retracted accent as "unaccented." Whether or not such syllables were unaccented in Garde's uncompromising sense (cf. note 15), the descriptive-historical fact is that acute syllables bearing the *in situ* accent gave up their glottal component and were realized with the level tone, while other acute syllables did not.

by analogical loss elsewhere (i.e., analogical replacement of expected *\*gálvān/\*gólvo* by *\*gálvān/\*gólvo*). But here, as in Latvian, the invocation of analogy is unnecessary. The Slavic acute or rising intonation arose only in those cases where the corresponding Balto-Slavic acute (i.e. “checked” or *stød*-endowed) nucleus bore an *in situ* accent — precisely the environment in which the level tone arose in Latvian. In all other situations the glottal component of acuteness was lost without a trace:  $-\underline{V}$ - and  $-\bar{V}$ - became  $-\check{V}$ - and  $-\bar{V}$ -, respectively, thus bringing about the merger of all mobiles into a single non-acute type.

- 3) Hirt’s Law, by drawing the accent from final syllables onto root syllables containing a *\*-VH-* nucleus,<sup>25</sup> usually converted stems that might have been expected to be mobile into immobiles (cf. pre-BS *\*p̥h<sub>1</sub>-no-* (barytone/immobile) < *\*p̥h<sub>1</sub>-nó-* (oxytone/mobile), *\*griH-ua<sub>2</sub>-* (barytone/immobile) < *\*griH-ue<sub>2</sub>-* (oxytone/mobile), etc.). But there are troublesome lexical exceptions. Thus, e.g., PIE *\*suH-nú-* ‘son’ and *\*g<sup>h</sup>ih<sub>3</sub>-uó-* ‘alive’ are mobile in both Baltic (Lith. *gývas*, fem. *gyvà*; *sūnus*, *sūnu*) and Slavic (*\*žīvъ*, fem. *\*živá*; *\*sŷnъ*, gen. *\*synù*), despite satisfying the condition for Hirt’s Law. The present framework offers a principled way of dealing with such cases. Since Hirt’s Law was later than the Saussure-Pedersen retraction and the analogical extension of mobility, there would have been a time prior to the operation of Hirt’s Law when both stems were mobile, with nom. sg. *\*suHnús* and *\*gih<sub>3</sub>uás*, but acc. sg. *\*sùHnun* and *\*gìh<sub>3</sub>uan*. Hirt’s Law had no effect on the latter forms, but converted end-stressed *\*suHnús*, *\*gih<sub>3</sub>uás* to *\*sùHnus*, *\*giHuas*. The resulting prosodic pattern was an anomaly, with the accent fixed on the initial syllable, but alternating between the specifically “mobile” (*\*sùHnun*, *\*gìh<sub>3</sub>uan* > *\*sùnun*, *\*gìvan* (whence in principle Slavic *\*žīv-*, *\*sŷn-*)) and “immobile” (*\*sùHnus*, *\*giHuas* > *\*sūnus*, *\*gīvas* (whence in principle Slavic *\*žív-*, *\*sŷn-*)) tonal contours. Analogical repair, when it came, took the form of re-establishing “mobile” *\*sūnus*, *\*gīvas* alongside mobile *\*sùnun*, *\*gìvan*. The majority of other words, including *\*pilnas*, *\*grīvā*, etc., generalized the immobile pattern.<sup>26</sup>

<sup>25</sup> Including *\*-VHi-* and *\*-VHu-*; cf. note 4.

<sup>26</sup> For some of the extraordinary proposals that have been made in connection with these forms, see Hock 2005, 11. Kortlandt (2006a, 365) suggests that mobility was restored to *\*sūnu-* and *\*gīva-* from the trisyllabic case forms, which, being accented on the ending, would not have been subject to Hirt’s Law.

§12. We are now at last in a position to turn to the verb. Here, as is generally the case with the Balto-Slavic verbal system, it is Slavic, rather than Baltic, that provides the most convenient point of departure.

Stang's accentual types a (immobile acute), b (immobile non-acute), and c (mobile), which we have met in nouns, are also clearly distinguishable in verbs.<sup>27</sup> Stems of type a have a stable initial acute accent; a typical example is PSlav. \*pláčǫ, \*pláčeši, \*pláčetb, etc. 'weep', continued in Russian by the columnarly accented *pláču, pláčeš', pláčet*, etc. In type b the facts are more complicated. Here pre-Slav. \*pròšǫ, \*pròsiši, \*pròsitb, etc. 'ask' first became \*prošǫ, \*prosiši, \*prositb, etc. by Dybo's Law, but the effects of this advancement were mostly reversed by a later change ("Stang's Law") that retracted the ictus from a word-internal (but not word-final) circumflex or non-acute(?) syllable, producing a "neo-acute" accent on the first syllable (1 sg. \*pròšǫ > \*prošǫ, 2 sg. \*pròsiši > \*prosiši > late PSlav. \*pròsiši, 3 sg. \*pròsitb > \*prositb > late PSlav. \*pròsitb; cf. Russ. *prošú, prósiš', prósit*).<sup>28</sup> Type c presents a still more complex picture. Mobile presents in (post-Dybo's Law) Slavic are characterized by two groups of finite forms:

- 1) the 1 sg., with left-marginal accent and retraction onto a preverb or preverbal particle if such an element is present (e.g., \*vèdǫ, \*né vedǫ 'I (do not) lead'; cf. ORuss. *vèdu, né vedu*);<sup>29</sup> and
- 2) the 2, 3 sg. and 1-3 du. pl., with underlyingly accented endings; these later mostly gave up their accent to the preceding thematic vowel through a combination of sound change and analogy (e.g., 2 sg. \*vedeši > Russ. *veděš'*, 3 sg. \*vedetb > *vedët*, 2 pl. \*vedetè > Russ. *vedëte* (analogical), 3 pl. \*vedǫtb > Russ. *vedút*).<sup>30</sup>

<sup>27</sup> Here and below, "verbs" will for the most part be understood to mean present stems; extra-presential forms, which tend (at least in Slavic) to derive their accentual properties from the present, will be brought into the discussion as needed.

<sup>28</sup> The precise form of Stang's Law is one of the most discussed topics in Slavic accentology, with opinions sharply divided over whether the rule applied only to long vowels with falling intonation (so originally Stang), all non-acute vowels (Rasmussen 1999, 472), or some other definable class of nuclei (cf. Hock, *op. cit.*, 4 ff.). The retracted accent was of the neoacute type, here indicated by a grave (*pròs-*). Though confined to Slavic, Stang's Law can be seen as a typological *reprise* of Saussure-Pedersen's Law, which it also recalls in the uncertainty surrounding its exact formulation.

<sup>29</sup> Modern Russ. *vedú* has taken its accent from the rest of the paradigm.

<sup>30</sup> Retraction onto the thematic vowel was phonologically regular when the ending contained a yer; elsewhere it was analogical. The 2 pl. in *-té* is dialectally well-attested; cf. Lehfeldt 2001, 90 f.



The forms of the present participle in *\*-qt(j)-/\*-et(j)-*, which also display characteristics of mobility, will be discussed below (§19) in the wider context of Balto-Slavic as a whole.

§13. In Lithuanian, as described by Stang (1966, 449 ff.), mobility is no longer straightforwardly recoverable from the position of the accent; all finite uncompounded forms bear the ictus on the root syllable, subject only to the action of Saussure's Law.<sup>31</sup> There is thus no outward difference, accentologically speaking, between the simple present of *vèsti* 'lead' (*vedù, vedì, vèda, vèdame, -ate, -ava, -ata*), which is "mobile," and that of *sakýti* 'say' (*sakaũ, sakaĩ, sãko, sãkome, -ote, -ova, -ota*), which is "immobile." Yet there is an underlying distinction, which is manifested in two ways: 1) underlyingly mobile forms, unlike immobile forms, give up their accent to a preverbal particle (cf. *nèveda* but *nesãko*); and 2) the active participles corresponding to underlyingly mobile presents are overtly mobile, with surface movement of the accent (cf. *vedq̄s*, acc. *vèdanti*, but *sãkqs*, acc. *sãkanti*). Elsewhere in Baltic, Latvian, with fixed initial accent, presents no major surprises vis-à-vis Lithuanian. Old Prussian, however, shows the interesting peculiarity that immobile stems double their root-final consonant (e.g., 3 p. *imma(ts)* 'take(s)', 1 pl. *immimai*, 2 pl. *immati*), while mobile stems, at least in a critical subset of forms, double the consonant of the ending (e.g., 2 sg. *giwassi* 'you live', 1 pl. *giwammai*).<sup>32</sup> Stang (1966, 452 f.) interprets *giwassi* and *giwammai* as *\*gīvā-sei* and *\*gīvāmai*, respectively, tracing these to earlier *\*gīvasēi*, *\*gīvamāi* and identifying them with pre-Slavic *\*živeši*, *\*živetb*, *\*živemb* (-mò), etc. Kortlandt (1974, 300 f.) reads *giwassi* and *giwammai* as oxytone from the outset (cf. note 40).

§14. In verbs as in nouns, mobility in Baltic and mobility in Slavic are clearly cognate. The kinds of presents that are mobile in Baltic are for the most part mobile in Slavic as well, and vice versa. Thus, simple full-grade thematic presents of the type *\*vede/a-* are mobile in both branches, while full-grade thematic presents in *\*-je/o-* are immobile (cf. PSlav. (pre-Stang's Law) *\*ližq̄*, *\*-ěši* 'lick' (type b) = Lith. *liẽžia, neliẽžia*).<sup>33</sup> Other characterized thematic formations, especially the nasal-suffixed presents in *\*-C-ne/o-*

<sup>31</sup> Excluded from consideration, of course, are stems containing a complex suffix, such as the presents in *-oju, -uojū*, etc.

<sup>32</sup> But cf. also 2 sg. *gīwu, gīwasi*, 3 p. *giwa*.

<sup>33</sup> Here and below, I follow the common practice of listing Slavic type b forms in their pre-Stang's Law (i.e., unretracted) form: *\*ližěši, \*prosiši*, etc.

(Slavic) and nasal-infixed presents in *\*-n-C-e/o-* (Baltic), are likewise immobile in both branches (cf. PSlav. *\*vbz-bv(d)nǫ*, *-nėši* ‘wake up’ (type b); Lith. *buñda*, *nebuñda* ‘id.’). The oldest group of *o*-grade iterative presents in *\*-ī-* (< *\*-eje/o-*)<sup>34</sup> with infinitives in *\*-ītei* are immobile in Slavic (cf. *\*prošǫ*, *-siši*; type b), as are the corresponding forms in Baltic, albeit with substitution of *\*-ā-* for *\*-ī-* in the finite paradigm (cf. Lith. *prāšo*, *neprāšo*, inf. *prašyti*). The “stative” presents in *\*-ī̃-* with infinitives in *\*-ētei* (Lith. *-i-*, inf. *-ėti*; Slavic *\*-i-*, inf. *\*-ěti*)<sup>35</sup> are partly mobile and partly immobile in both branches, with no obvious principle governing the assignment of individual verbs to the one type or the other (cf. PSlav. *\*gǫrjǫ*, *\*goriši* ‘burn’ = Lith. *gāri*, *nėgari* (mobile) vs. PSlav. *\*dvržǫ*, *\*-iši* ‘hold’, Lith. *tūri*, *netūri* ‘have’ (immobile)).

At the Balto-Slavic level, then, some presents must be assumed to have been mobile and others immobile; within the mobile paradigm, some forms had left-marginal accent (e.g., *\*vėd̄* > PSlav. *\*vėdǫ*), while others were accented on the endings. In Lithuanian, final accentuation was lost through leveling, while in Slavic it was maintained and, at least in some forms in some languages, generalized. Old Prussian took yet a different path, which will not be explored in detail here.

<sup>34</sup> Pace Stang, Kortlandt, and other scholars who continue to operate with Meillet’s “semithematic” present suffix *\*-ī̃-* ~ *\*-(i)io-* or one of its purported athematic congeners (*\*-(e)i-*, *\*-ēi-*, etc.), there is no basis for taking the *\*-i-* of the Slavic *o*-grade iteratives from anything but the familiar PIE iterative-causative suffix *\*-eje/o-*. The only datum that stands in the way of assuming a general Balto-Slavic contraction of *\*-eje-* to *\*-ī-* is the nom. pl. in *-bje* of masculine *i*-stems in Slavic (cf., e.g., *gostbje* ‘guests’), contrasting with the *-i* of feminine *i*-stems (*kosti* ‘bones’) and the *-ys* of *i*-stems of both genders in Lithuanian (e.g., *širdys* ‘hearts’). The problem of uncontracted *-bje* is easily surmountable. The contraction that took 3 sg. *\*-ejeti* to *\*-īti* in verbs need not have gone further than *\*-ījes* in the nom. pl. in *\*-ejes*, where there was no flanking final syllable; or *\*-ejes* could have gone to *\*-īs* in normal *i*-stems but remained as *\*-bje* in the ultrashort form *\*trejes* ‘three’ (OCS *trbje*), whence it spread to longer forms in a specifically masculine-marking function; or *\*-bje* might even have been reconstituted from scratch in Proto-Slavic by adding *\*-e* (< *\*-es*) to phonologically regular *\*-i* < *\*-ejes*. No particular scenario needs to be chosen.

<sup>35</sup> See Jasanoff 2004b, 149 ff. and note 60 below for a recent view of this greatly transformed verbal class. The short *\*-ī̃-* of the Baltic forms is original; in Slavic the statives in *\*-ī̃-* and the iteratives in *\*-ī-* (< *\*-eje/o-*) have merged into a single paradigm in which the forms in *\*-ī-* predominate.

§15. No remotely satisfactory explanation for these facts has ever been discovered. Indeed, the most striking thing about the accentuation of verbs in Balto-Slavic is the “disconnect” with the other IE languages. The famously stable PIE *e*-grade thematic presents, which are apophonically and accentually invariant in Indo-Iranian, Greek, and Germanic, seem actually to have been a *locus* of mobility in Balto-Slavic, while athematic root presents are mostly immobile in Balto-Slavic (see below). Even where immobility is historically predictable, as, e.g., in the thematic nasal presents (type *\*bunde/a-* ~ *\*budne/a-*), the position of the ictus on the initial syllable in Balto-Slavic is not where the comparative evidence suggests it should have been.

The object of the discussion that follows will be to outline an approach to the problem of verbal mobility that holds some promise of accounting for this confusion. It is not a fully-formed theory. No attempt will be made to survey all the tense-aspect categories of Balto-Slavic in order to show how the accentual properties of every reconstructible Proto-Baltic or Proto-Slavic form can be derived from a familiar-looking PIE prototype. What we *will* try to show is, first, how the present tense forms of a representative mobile verb and of a representative handful of immobile verbs can be explained within the proposed framework; and second, how the framework can be extended to cover an encouraging assortment of more problematic forms. If the approach lives up to its initial promise, a longer and more systematic investigation will be called for. That, however, will be a task for the future.

§16. The record of past attempts to explain the mobility of full-grade thematic stems in Balto-Slavic — the type *\*vede/a-* — does not make edifying reading. Stang (1966, 451) sets up a Balto-Slavic paradigm with left-marginal accent in the singular (*\*vèdō̄*, *\*vèdesi*, *\*vèdeti*, in the notation used here) and accented endings in the plural (*\*vedamè* (*vel sim.*), *\*vedetè* (*vel sim.*), *\*vedanti*); the accented root, he says, was generalized in Lithuanian and the accented endings (outside the 1 sg.) in Slavic. As we shall see below, this specific distribution of root- and ending-accented forms is contrary to the evidence of the actual forms and is unlikely to be correct. But the key further component of Stang’s theory, and the part that can be rejected almost *a priori*, is his claim that the hypothetical Balto-Slavic pattern *\*vèdō̄*, *\*vèdesi*, *\*vèdeti* : *\*vedamè*, *\*vedetè*, *\*vedanti* goes back directly to Proto-Indo-European. Mobile thematic presents have a system-internal plausibility in Stang’s overall accentological framework, since he also posits mobile thematic stems (along with mobile *ā-*, *i-*, and *u-*stems) in nouns and adjectives. But since the

work of Illich-Svitych, Dybo, and the Moscow school, it is impossible to see mobility in vocalic nominal stems as anything but the reflex of former oxytonicity (cf. §4). Deprived of the morphological support of mobile thematic nouns, the possibility of PIE mobile thematic verbs, improbable from the start, loses whatever appeal it might have had.

Nor can anything be said for what might naively be thought to be the unmarked alternative — that mobility in thematic presents was analogically extended from its “home” in ablauting athematic presents. Here the decisive objection is the fact, just mentioned, that the overwhelming majority of athematic presents in Balto-Slavic are conspicuously *non-mobile*. In Lithuanian, where athematic inflection is well attested in the sixteenth and seventeenth centuries, the list of immobile presents includes (*inter alia*) 3 p. *ēiti* ‘go(es)’, *ēsti* ‘(there) is/are’, *dēsti* ‘put(s)’ (stem *ded-*), and the remade perfect *liēkti* < *\*(le)loik<sup>h</sup>-* ‘is/are left’. The only two athematic presents that can safely be assumed to have been mobile in Old Lithuanian are 3 p. *ésti* ‘eat(s)’ (stem *\*ēd-*; ptcp. nom. sg. masc. *édq̄s*) and *dúosti* ‘give(s)’ (stem *\*dōd-*; ptcp. nom. sg. masc. *duodq̄s*).<sup>36</sup> Neither of these, it will be noted, was mobile in Proto-Indo-European. *\*h<sub>1</sub>ed-* ‘eat’ made a “Narten” present in the parent language (cf. LIV 14, type 1b), with lengthened grade in the singular (3 sg. *\*h<sub>1</sub>éd-ti* [-tst-]), full grade in the plural (3 pl. *\*h<sub>1</sub>éd-nti*), and accent on the root throughout. *\*deh<sub>3</sub>-* ‘give’ made a present of the familiar type with *e*-reduplication (LIV 16, type 1g), *\*e : zero* (or *\*o : zero?*)<sup>37</sup> ablaut of the root and stable accent on the reduplication syllable (3 sg. *\*dédeh<sub>3</sub>-ti*, 3 pl. *\*dédh<sub>3</sub>-nti*; cf. Ved. *dádāti*, *dádati*).

The facts from the other Baltic languages and Slavic confirm the picture that emerges from Lithuanian. In Latvian, the broken tone in *duōmu* ‘I give’ and *ēmu* ‘I eat’ points unmistakably to former mobility.<sup>38</sup> On the Slavic side, the forms of *\*dad-* ‘give’ and *\*jad-* ‘eat’ are accented on the endings (SC (Čakavian) 2 sg. *dáš*, 1 pl. *dāmò*, etc.), exactly as in mobile thematic presents.

<sup>36</sup> Cf. Stang 1966, 451 f. and Senn 1966, 286 ff., where the older accented forms are listed. The mobility of *ded-* ‘put’ in Modern Lithuanian (ptcp. *dedq̄s*, etc.) is secondary, probably borrowed from *duod-* ‘give’.

<sup>37</sup> The uncertainty over the vocalism, which is irrelevant to the present discussion, is discussed in Jasanoff 2003, 66–67, with note 8.

<sup>38</sup> Also in agreement with Lithuanian is the root accent in OPr. *perēit* ‘comes’, which suggests (though does not prove) that *ei-* ‘go’ was immobile in West as in East Baltic (Stang, *ibid.*).

From these inherited cases, the mobile pattern spread to \**věd-* ‘know’ and \**jbma-* ‘have’, both of which, *qua* presents, were inner-Slavic creations. The only other athematic present in Slavic is the copula, which owes its oxytone forms (e.g., SC 2 sg. *jěsi*, Ukr. *jesí*, etc.) to Dybo’s Law. The inescapable conclusion, surprising though it may seem, is that \**ēd-* and \**dōd-*, neither of which “should” have been mobile, were the only athematic presents for which mobility can be reconstructed in Proto-Balto-Slavic. The rest were immobile.

§17. The origin of mobility in the Balto-Slavic verbal system is so challenging a problem that not many scholars have been willing to confront it explicitly. One of the few who have tried is Rasmussen (1992, 184 ff.). Rasmussen’s account begins with the standard (and correct) assumption, *contra* Stang, that the PIE ancestor of the mobile thematic type had fixed accent on the root (\**uédhoh*<sub>2</sub>, \**uédhesi*, etc.). He then posits a non-canonical inner-Balto-Slavic version of Saussure’s Law, which took \**vedō* to \**vedō̇* in the 1 sg. and induced an analogical shift in all the other forms (\**vedesi* → \**vedèsi*, \**vedeti* → \**vedèti*, etc.). The result, he says, was a paradigm with constant stress on the second syllable (\**vedō̇*, \**vedèsi*, \**vedèti*, etc.), which he takes as his point of departure for separate explanations of mobility in Baltic and Slavic. In Baltic, Rasmussen successively assumes loss of the 3 sg. ending \**-ti* (\**vedèti* > \**vedè(t)*), generalization of *o*-timbre of the thematic vowel (\**vedè(t)* > \**vedà*), and leftward movement of the accent from a final syllable containing the vowel *-a-* (“Nieminen’s Law”; cf. Nieminen 1922, 151 ff.); the resulting 3 p. *věda* then supposedly triggered analogical retraction in the dual and plural (1 pl. \**vedàme* → *vědame*, etc.), yielding the attested Lithuanian paradigm (*vedù(o)*, *vedì(e)*, *věda*, *vědame*, etc.). In Slavic, he assumes an early rightward shift of the accent by Dybo’s Law (\**vedèsi* > \**vedešb̆*, \**vedèti* > \**vedetb̆*, etc.); this, he says, produced a kind of incipient mobility, in which the 1 sg. \**vedō̇*, with its accent on the second syllable, was perceived as being opposed to \**vedešb̆*, \**vedetb̆*, etc., which were accented on the third. “Polarization” then did the rest, taking \**vedō̇* to *vèdō̇* (Rasmussen’s notation) in order to maximize the distance between the disyllabic 1 sg. and the “true” end-accented forms that made up the rest of the paradigm.

It would be pointless to attempt a detailed critique of this account, in which individual improbabilities jostle awkwardly against the yet more improbable backdrop of a conceptual framework that assumes only a minimal connection between the Baltic and the Slavic facts, or between mobility in the verb and

mobility in the noun.<sup>39</sup> Such atomism is too often the norm in Balto-Slavic historical accentology, where for every problematic form that presents itself, a sequence of case-specific sound laws, eked out by analogy, can usually be adduced to save the day. Paradoxically, the superabundance of purported accent laws in Balto-Slavic is an actual impediment to understanding the origin of mobility, not because such laws are necessarily invalid (though a certain degree of skepticism is often justified), but because they distract us from searching for the principled solution that the problem obviously requires.

§18. Any attempt to explain the transformation of PIE root-accented \**uédhe/o-* into Balto-Slavic mobile \**vède/a-*' (i.e., \**vède/a-* ~ \**vede/a-*'') must begin by determining which forms were accented on the root and which were accented on the endings. Here the facts are sparse but clear. As we have seen in §§12–13, the Baltic evidence bearing on the original position of the accent is virtually non-existent,<sup>40</sup> while the Slavic data point unambiguously to left-marginal accent in the 1 sg. (pre-Dybo's Law \**vèdǫ*) and final accent elsewhere in the present indicative (\**vedeši*, \**vedetǫ*, \**vedemǫ* (\*-*mò*), etc.). Left-marginal accent is also found in the pre-Slavic 2, 3 sg. aorist \**vède* (cf. SC *vède*, *izvede*, *privede*, etc.) — not historically an aorist at all, but an etymological imperfect (PIE 2 sg. \**uédhes*, 3 sg. \**uédhet*) that was prehistorically substituted for the overshoot and hard-to-process s-aorist \**vě* (< BS \**vēs(s)*, \**vēst* < \**uédh-s-s*, \**uédh-s-t*). The descriptive generalization, based on this small sample, is that in Slavic — and, *nil obstante*, Balto-Slavic — the disyllabic forms (\**vèdǫ*, \**vèdes*, \**vèdet*) had left-marginal accent on the root, while the trisyllabic forms of the present/imperfect indicative were accented on the endings (\**vedesi*, \**vedeti*, \**vedetè*, \**vedanti*, etc.). This observation has been made before, notably by Ebeling (1967, 580), in a treatment that posited retraction of the accent in the shorter forms. We will not follow Ebeling's analysis here, nor *a fortiori* the "law" extracted from it by Kortlandt.<sup>41</sup> But

<sup>39</sup> Among the more "objectively" questionable of Rasmussen's claims are the early dating of Dybo's Law in Slavic and the assumption of a Balto-Slavic form of Saussure's Law. Ironically, the final accent of Lith. *vedù* is *not*, for Rasmussen, an effect of Saussure's Law.

<sup>40</sup> More accurately, the evidence is non-existent in East Baltic; it is merely hard to evaluate in Old Prussian, where the distinction between the mobile and immobile types is clearly present, but the historical rules are unclear. Kortlandt (1974, 302) sees evidence for a major Dybo's Law-like shift in Old Prussian.

<sup>41</sup> "The ictus was retracted from a final vowel or diphthong in disyllabic word forms unless the first syllable was closed by an obstruent" (Kortlandt 1974, 301).

the distribution *disyllabic/left accent* : *trisyllabic/right accent* provides the essential clue to understanding how mobility came to be introduced into the verbal system.

§19. A brief digression is called for on the present participle. In Lithuanian, the active participles of mobile presents retain surface mobility, with accent on the suffix in the nom. sg. masc. (*vedq̄s*), but on the root syllable in the longer forms (cf. acc. sg. *vēdanti*, gen. sg. *vēdančio*, nom. sg. fem. *vēdanti*, etc.). This distribution, of course, violates the just-discovered *disyllabic/left accent* : *trisyllabic/right accent* rule that describes the position of the accent in the finite paradigm. But before rejecting our new generalization, we must also consult the testimony of Slavic. Here, interestingly, the distribution of right- and left-accented forms in the participle is almost the exact mirror image of what it is in Lithuanian. In Slavic the trisyllabic forms are end-accented (acc. sg. masc. *\*vedotj̄b*, gen. sg. masc. *\*vedotj̄a*, nom. sg. fem. *\*vedotji*, etc.), while the nom. sg. masc. is accented on the root (*\*vėdy*; cf. Lehfeldt 2001, 59 ff., Gardē 1976, 129).<sup>42</sup> Which, then, is the older pattern — Slavic *\*vėdy* : *\*vedotj̄b* or Baltic *vedq̄s* : *vēdanti*? The principle of the *lectio difficilior* strongly suggests that Lithuanian, where the *vedq̄s* : *vēdanti* pattern simply repeats the productive *\*duktē*<sup>1</sup> : *\*dūkterin* distribution, has innovated vis-à-vis Slavic, where *\*vėdy* : *\*vedotj̄b* is completely isolated. First appearances notwithstanding, therefore, the evidence of the participle actually *supports* the observation that in mobile paradigms the position of the accent was determined by the length of the word.<sup>43</sup>

<sup>42</sup> In Modern Russian, the left-marginal accent of the nom. sg. is continued by “adverbial participles” of the type *stója* ‘standing’, *lěža* ‘lying’, *něxotja* ‘reluctantly’, etc.; cf. Lehfeldt 2001, 92.

<sup>43</sup> Also interesting and important in this context are the Slavic imperative and the Lithuanian permissive, both reflexes of the PIE optative. In Slavic mobile verbs, both the di- and trisyllabic forms of the imperative are accented on the second syllable (2, 3 sg. *\*vedi*, 2 pl. *\*veděte*, etc.). This is not, on the face of it, an encouraging finding, since the unmarked 2 sg. form should have had left-marginal accent by our rule. But the evidence of Indo-Iranian and Greek shows that the standardly reconstructed thematic optative complex *\*-oih<sub>1</sub>-* was actually realized as *disyllabic* *\*-o-ih<sub>1</sub>-* in the parent language, with *\*-ih<sub>1</sub>-*, the zero grade of the optative suffix in its syllabic form, added to the thematic stem in *\*-o-* (cf. Hoffmann 1976, 615). PSlav. 2 sg. *\*vedi* thus goes back to trisyllabic *\*uédhoih<sub>1</sub>s*, and the accent on the final syllable turns out to be regular after all.

So too in the Lithuanian permissive: *te-vediē* ‘let him lead’ is the regular reflex of trisyllabic *\*uédhoih<sub>1</sub>t*. For the structure of these forms, and the formation of the thematic optative generally, see Jasanoff (to appear).

§20. The problem of Balto-Slavic mobile *\*vède/a-* can now be formulated more concisely. Late PIE had a thematic present *\*uédhe/o-*, which was stably accented on the root, both in disyllabic forms of the type 1 sg. *\*uédhoh<sub>2</sub>* and in trisyllabic forms of the type 3 sg. *\*uédheti*. In principle, the expected reflexes of these forms would have been BS *\*vèd̄ō* and *\*vèdeti*, respectively, which after Dybo's Law would have given *\*ved̄ò* and *\*vedèti* in Proto-Slavic. But these are not the forms we find. In actual fact, PIE *\*uédhoh<sub>2</sub>* and *\*uédheti* are continued by BS *\*vèd̄ō* and *\*vedeti*, respectively, which in turn gave PSlav. (post-Dybo's Law) *\*vèd̄ò* and *\*vedeti*. Schematically:

| PIE                        | expected BS                               |   | actual BS                                 |
|----------------------------|---|---|---|
| <i>*uédhoh<sub>2</sub></i> | <i>*vèd̄ō</i> (> PSlav. <i>*ved̄ò</i> )   | ≠ | <i>*vèd̄ō</i> (> PSlav. <i>*vèd̄ò</i> )   |
| <i>*uédheti</i>            | <i>*vèdeti</i> (> PSlav. <i>*vedèti</i> ) | ≠ | <i>*vedeti</i> (> PSlav. <i>*vedeti</i> ) |

In the disyllabic 1 sg., the accent is in the etymologically expected position, but of the wrong type; a PIE initial accent should have given an *in situ* (i.e., non-left-marginal) accent in Balto-Slavic, which would have been subject to Dybo's Law in Slavic. In the trisyllabic 3 sg. form the ictus is in the wrong position altogether, having unaccountably shifted to the last syllable.

Let us now consider how the same two preforms — 1 sg. *\*uédhoh<sub>2</sub>* and 3 sg. *\*uédheti* — would have been treated in the presence of a preverbal particle like *\*iz̄* 'out' or *\*ne* 'not'. On the assumption that such particles cliticized to the verb in the IE dialect ancestral to Balto-Slavic, the negated forms of *\*uédhoh<sub>2</sub>* and *\*uédheti* would have been *\*ne uédhoh<sub>2</sub>* and *\*ne uédhet*, respectively — unitary phonological words with accent on the second syllable.<sup>44</sup> The position of the accent in these forms would have triggered Saussure-Pedersen's Law, producing *\*nè ved̄ō* and *\*nè vedeti*, with left-marginal accent on the negative particle. Schematically:

| PIE                             | expected BS                                     |   | actual BS                                       |
|---------------------------------|---|---|---|
| ☞ <i>*ne uédhoh<sub>2</sub></i> | <i>*nè ved̄ō</i> (> PSlav. <i>*nè ved̄ò</i> )   | = | <i>*nè ved̄ō</i> (> PSlav. <i>*nè ved̄ò</i> )   |
| <i>*ne uédheti</i>              | <i>*nè vedeti</i> (> PSlav. <i>*nè vedeti</i> ) | ≠ | <i>*ne vedeti</i> (> PSlav. <i>*ne vedeti</i> ) |

<sup>44</sup> This was also, of course, the treatment in Germanic; cf. Go. *ni bairip* 'does not bear', *fra-bairip* 'endures', etc. Other strategies, such as cliticization of the verb to the particle, would have been available as well (cf. Ved. *prá bharati* = Go. *fra-bairip*), but it is clear from the evidence that they were not exploited in Balto-Slavic.



Here, then, we have a potentially useful result: the combination of preverbal particle + disyllabic verb form would have given the “correct” output, with the inherited root accent of 1 sg. \**uédhoh*<sub>2</sub> drawn back onto the preceding particle by Saussure-Pedersen’s Law. If the match between the expected and attested outcomes in this case is more than coincidental, the left-marginal accent of BS \**nè vedō* (= ORuss. *né vedu*, Lith. *nèvedu*) would have come about in exactly the same way as that of \**dùkterin* < \**duktèrin*. But there is, of course, a huge difficulty: the combination of the negative particle with trisyllabic \**uédheti* did *not* yield the expected \**nè vedeti*, with retraction, but \**ne vedeti*, with the same unexplained rightward displacement of the accent as in the simplex *vedeti*. If the idea of a direct derivation of BS \**nè vedō* from \**ne uédhoh*<sub>2</sub> has any merit, our next task must be to account for the absence from the record of the predicted \**nè vedeti*.

§21. The non-occurrence of \**nè vedeti*, and its apparent replacement by \**ne vedeti*, could in principle be explained in any of three ways: 1) by assuming an analogical substitution of the free-standing form *vedeti* for the regular “conjunct” variant \*(*nè*) *vedeti*;<sup>45</sup> 2) by stipulating a restriction of the Saussure-Pedersen retraction to words of three syllables, with a separate rule for phonological words of four syllables or more; or 3) by assuming a regular change of \**ne uédheti* to \**nè vedeti*, with a subsequent development, via some as yet undiscovered phonological process, of \**nè vedeti* to \**ne vedeti*. The first option would hardly be an explanation at all, since the origin of free-standing \**vedeti* is unknown. The second possibility — positing an exception to Saussure-Pedersen’s Law for words of more than three syllables — would be too arbitrary and ad hoc to be convincing. It is the third choice — the possibility of a secondary change of \**nè vedeti* to \**ne vedeti* at some point *following* the regular operation of Saussure-Pedersen’s Law — that offers the prospect of a genuine insight. The question, then, is whether such a rightward shift of the accent can be motivated.

In Slavic there is an exception to the synchronic principle that a phonological word without an *in situ* accent (= an “enclinomenon,” in Moscow School terminology) receives a default left-marginal accent on its first syllable. This is the phenomenon known as Vasil’ev-Dolobko’s Law (VDL), which Lehfeldt (2001, 34) states as follows:

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<sup>45</sup> The reference is to the “conjunct” forms used after prepositional prefixes and other particles in Old Irish.

“If an inherently unaccented form (*Enklinomenform*) is followed by an enclitic, the enclitic receives the accent, regardless of whether or not a proclitic is present (cf. the 1 sg. pres. of the Old Russian verb *stvoriti*, which was inherently unaccented: *stvorju žè*, *ne stvorju žè*). If, however, only a proclitic is present, the accent shifts to it (*né stvorju*). If neither an enclitic nor a proclitic is present, the accent stands, as already said, on the first syllable of the inherently unaccented form (*stvórju*).”<sup>46</sup>

How could such a rule have come about? How could a phonologically and phonetically unaccented enclitic (in Lehfeldt’s example, *že*) have acquired the ability to draw the accent rightward from a major lexical category (here, the verb *stvórju*) which, despite its “inherently unaccented” character at the synchronic phonological level, undoubtedly *did* bear an accent both phonetically and historically? Such behavior is the opposite of what clitics are canonically expected to do. Yet the rightward displacement of the accent onto an enclitic is curiously parallel to the the Saussure–Pedersen-induced *leftward* displacement of the accent onto a proclitic (*né stvorju*, like *né vedu*). The question that presents itself is whether the rightward movement seen in (*ne*) *stvorju žè*<sup>47</sup> could also have been caused by a sound law — a historical rule that would have the useful side-effect of explaining why *\*nè vedeti*, the expected reflex of PIE *\*ne uédheti*, was realized as *\*ne vedeti* in Balto-Slavic.

§22. Descriptively speaking, VDL is a morphophonemic rule governing the treatment of enclina — phonological words of the type  $\acute{x}_1 - x_2 - x_3 \dots x_n$  — when such sequences are extended by the addition of an enclitic. The rule stipulates that the resulting lengthened “words” (i.e., strings of the form  $\acute{x}_1 - x_2 - x_3 \dots x_n = x_{n+1}$ , where “=” denotes a clitic boundary) acquire a final *in situ* accent:<sup>48</sup>

<sup>46</sup> “Wenn einer Enklinomenform ein Enklitikon folgt, so ruht der Akzent auf diesem, ganz gleich, ob außerdem auch noch ein Proklitikon vorhanden ist oder nicht; vgl. die 1. Ps. Sg. Prs. des ar. Verbums *створити*, die eine Enklinomenform war: *сворю жè*, *не створю жè*. Geht der Enklinomenform hingegen nur ein Proklitikon voraus, so verlagert sich der Akzent auf dieses; vgl. *не створю*. Sind weder ein En- noch ein Proklitikon vorhanden, so ruht, wie bereits gesagt, der Akzent auf der ersten Silbe der Enklinomenform; vgl. *свѣ́рю*.”

<sup>47</sup> As Lehfeldt explicitly notes (*ibid.*), the use of the grave accent is without linguistic significance in the relevant Old Russian texts. The word-final accent in Proto-Slavic was non-contrastively falling.

<sup>48</sup> For the sake of simplicity, only monosyllabic clitics are considered.

$$\hat{x}_1 - x_2 - x_3 \dots x_n = x_{n+1} > x_1 - x_2 - x_3 \dots x_n = \hat{x}_{n+1}$$

Although VDL is not phonetically conditioned, its underlying phonetic rationale is clear. The rule reflects the crosslinguistic tendency of languages with stress/accent systems to avoid overly long sequences of unaccented or weakly accented syllables (see further note 53). Given VDL in the form we have it, we can envisage an earlier stage of Slavic when, for some syllable-count-related index  $i$ ,

sequences of the type  $\hat{x}_1 - x_2 \dots x_i$  (i.e., an *in situ* accent followed by  $i-1$  unaccented syllables) were well-formed;

minimally longer sequences of the type  $\hat{x}_1 - x_2 \dots x_i - x_{i+1}$  (i.e., an *in situ* accent followed by  $i$  unaccented syllables) were also well-formed;

sequences of the type  $\hat{x}_1 - x_2 \dots x_i$  (i.e., a left-marginal accent, phonologically unmarked, followed by  $i-1$  unaccented syllables) were well-formed; *but*

minimally longer sequences of the type  $\hat{x}_1 - x_2 \dots x_i - x_{i+1}$  (i.e., a left-marginal accent followed by  $i$  unaccented syllables) were not well-formed.

In the last case the ill-formedness was repaired by assigning a "real" accent to the final syllable:

$$\hat{x}_1 - x_2 \dots x_i - x_{i+1} > x_1 - x_2 \dots x_i - \hat{x}_{i+1}$$

We can call this rule the "sound law version of VDL," or simply "Proto-VDL." The fact that Proto-VDL was sensitive to the difference between sequences of the type  $\hat{x} \dots$ , which triggered the rule, and sequences of the type  $\acute{x} \dots$ , which did not, would no doubt have been grounded in the phonetics of the two accents; the left-marginal accent was not only phonologically unmarked, but also presumably less robust phonetically than its marked counterpart. Once again, it would be superfluous to claim that the sequence  $\hat{x}_1 - x_2 \dots x_i - x_{i+1}$  had no phonetic accent at all.

It is possible to make an educated guess as to the likely value of the syllable-count parameter  $i$ . A value below 3 is out of the question; had  $i$  been 2, for example, a form like \**dùkterin* would have become \**dukterin*, contrary to the observed pattern in mobile nouns. On the other hand, a value of  $i$  above 4 would have so limited the number of cases to which Proto-VDL could apply that it would be difficult to see how speakers could ever have converted the rule into the "morphologized" Vasil'ev-Dolobko's Law of the actual Slavic

languages. The value of *i*, in short, must have been 3 or 4. The lower figure — making for a rule  $\acute{x}_1 - x_2 - x_3 - x_4 > x_1 - x_2 - x_3 - \acute{x}_4$  — would be the more convenient choice, and will be assumed here.

§23. The reason for this digression on VDL and its etiology will be apparent. As a living process, VDL is confined to Slavic, but Proto-VDL, the underlying sound law, could have been much earlier, perhaps as early as the Balto-Slavic period.<sup>49</sup> A Balto-Slavic date for Proto-VDL would mean that there was a sound change in the prehistory of Baltic and Slavic that assigned a final *in situ* accent to tetrasyllabic sequences of the form  $\acute{x}_1 - x_2 - x_3 - x_4$ . BS *\*nè vedeti*, the missing Balto-Slavic reflex of late PIE *\*ne uédheti*, would have been such a sequence; Proto-VDL would have converted it to the quasi-attested *\*ne vedeti*.<sup>50</sup>

Thus, in the statistically common case where the verb was preceded by a proclitic, the attested distribution of disyllabic forms with left-marginal accent and trisyllabic forms with end-accent can be wholly attributed to the sequential application of Proto-VDL and Saussure-Pedersen's Law (henceforth SPL):

|           |                                       |                            |
|-----------|---------------------------------------|----------------------------|
|           | <i>*ne uédhoh<sub>2</sub></i> (1 sg.) | <i>*ne uédheti</i> (3 sg.) |
| SPL       | <i>*nè vedō</i>                       | <i>*nè vedeti</i>          |
| Proto-VDL | —                                     | <i>*ne vedeti</i>          |

<sup>49</sup> Possible independent evidence for a Balto-Slavic process would include the scattered instances of VDL-like behavior in Baltic, such as the preferred oxytonicity of the Lithuanian locative particle *-è* < *\*-ēn* and the less marked but well-documented tendency of the reflexive particle *-si* to attract the accent as well (cf. Stang 1966, 480). No claim is made here, however, for a *morphological* VDL at the Balto-Slavic level.

<sup>50</sup> Or to rephrase slightly: if the basis of VDL was a sound law (Proto-VDL), and if this sound law operated in such a way as to convert the Proto-BS phonological word *\*nè vedō ge* to *\*ne vedō gè* (= PSlav. *\*ne vedq žè*), then — barring some otherwise unknown phonetic effect linked to the presence of a clitic boundary — it would also have converted the phonological word *\*nè vedeti* to *\*ne vedeti* (= PSlav. *ne vedetb*).

An *unwanted* byproduct of Proto-VDL would have been the elimination of the left-marginal accent in mobile nouns of more than three syllables, turning the Balto-Slavic predecessor of, e.g., Lith. acc. sg. *pānemunę* (cf. note 11) into the Balto-Slavic counterpart of *\*panemunę*. The fact that the Lithuanian form is nevertheless *pānemunę* can be trivially attributed to the analogical influence of trisyllabic stems. Preposition + noun combinations would not have generated unwanted accent effects; cf. §30 with note 64.

\**nè vedō* would routinely have developed to Lith. *nèvedu* and PSlav. \**nè vedō* (> ORuss. *né vedu*). \**ne vedeti* would have given PSlav. \**ne vedetb* (> Russ. *ne vedët*).<sup>51</sup>

If the attested accentuation pattern of BS \**nè vede/a-*', \**izvede/a-*', \**prèi vede/a-*', \**àu vede/a-*', etc. thus reflects late PIE \**ne uédhe/o-*', \**éks uédhe/o-*', etc., the accentuation pattern of uncompounded \**vède/a-*' should be explainable along the same lines. But how? Disyllabic \**uédhoh<sub>2</sub>* would have given BS \**védō*, not \**vèdō*, and trisyllabic \**uédheti* would have given BS \**vèdeti*, not \**vedeti*. The only reasonable hypothesis is that the accentuation of the simplex forms was analogically imported from the compounds. A purely phonological development from late PIE to Proto-Slavic would have led to an immobile simplex (type b: \**vedō*, \**vedetb* (post-Dybo's Law, pre-Stang's Law)) contrasting with mobile prefixed forms (type c: \**nè vedō*, \**ne vedetb*)—as if in modern Russian one were to say “\**védet*” (type b; cf. *prósit*), but *ne vedët* (type c). Such a synchronic arrangement would clearly have called for analogical repair. The remedy chosen was to generalize the pattern of the compounded forms.<sup>52</sup>

§24. We thus arrive at a new and, in purely formal terms, admirably simple account of mobility in verbal paradigms. Yet formal simplicity is not alone a guarantee of insightfulness. The proposed explanation depends crucially on two non-trivial sound laws, SPL and Proto-VDL. The factual basis of SPL, a staple of the Balto-Slavic accentological literature for over a century, has already been discussed (§§9–11). Proto-VDL, on the other hand, is a new rule, introduced here for the first time. The key claim is that sequences of the type \**nè vedeti* became \**ne vedeti* as a special case of the sound change  $\acute{x}_1 - x_2 - x_3 - x_4 > x_1 - x_2 - x_3 - \acute{x}_4$ .<sup>53</sup> There are no serious counterexamples;

<sup>51</sup> The Lithuanian “long” forms (1 pl. *nèvedame*, 2 pl. *nèvedate*, etc.), of course, simply show the usual leveling from the left-accented forms.

<sup>52</sup> A close parallel is afforded by the spread of recessive accent from compounded to uncompounded forms in Greek: the accentuation δείκνυμι (for expected \*δεικνύμι) was taken from \*ἀπόδεικνυμι, \*πρόδεικνυμι, etc., where the verb was originally clitic to the preverb. The case is (obscurely) cited by Kurylowicz (1949, 128 ff.) as an illustration of his Third Law of Analogy: “Une structure consistant en membre constitutif plus membre subordonné forme le fondement du membre constitutif isolé, mais isofonctionnel.”

<sup>53</sup> In keeping with our generally agnostic stance on phonetic issues (cf. §7), no suggestion has been made thus far as to how, in concrete terms, the migration of the accent from initial to final position might have occurred. From a typological point of view, it

potentially difficult verbal forms of the accentual structure  $\acute{x}_1 - x_2 - x_3 - x_4$  are virtually non-existent (the rule was partly invented to explain their absence), and “long” nominal forms with left-marginal accent (cf. note 50) can easily be explained by analogy to di- and trisyllabic forms of the same structure. Implicit in the term “Proto-VDL” is a further hypothesis, namely, that the *\*nè vedeti* > *\*ne vedeti* change was ancestral to the later Slavic rule known as Vasil’ev-Dolobko’s Law, which draws the surface accent from an enclitic to a following enclitic. But the hypothetical connection between VDL and Proto-VDL, while attractive, is not indispensable to our overall picture. Even if, contrary to appearances, it could be shown that VDL had arisen wholly on Slavic soil in response to inner-Slavic conditions, it would still be possible to maintain the phonological change of *\*nè vedeti* to *\*ne vedeti* in Balto-Slavic.

§25. To put the above facts in perspective, let us now see how our emerging theory deals with a selection of *immobile* presents. A good starting point is provided by the “heavy” *ie/o*-presents — the type represented by Lith. *liežiù, liēžia* (*neliēžia*) and PSlav. type b *\*ližǫ, \*-étv* (= Russ. *ližú, lížet*), representing a pre-Balto-Slavic stem *\*léiǵh-je/o-*.<sup>54</sup> Here the picture is entirely straightforward. The simplex forms come out exactly as expected, with an initial *in situ* accent in all forms:

| quasi-PIE                    | expected BS      | actual BS                                     |
|------------------------------|------------------|---|
| <i>*léiǵhioh<sub>2</sub></i> | <i>*lèizjō</i>   | = <i>*lèizjō</i> (> PSlav. <i>*ližǫ</i> )     |
| <i>*léiǵhieti</i>            | <i>*lèizjeti</i> | = <i>*lèizjeti</i> (> PSlav. <i>*ližétv</i> ) |

In presents of this type, the addition of a proclitic particle would have had no structurally significant effect, since SPL, as we have understood it here, was inoperative in long closed syllables (cf. §9):

| quasi-PIE                       | expected BS         | actual BS   |
|---------------------------------|---------------------|---|
| <i>*ne léiǵhioh<sub>2</sub></i> | <i>*ne lèizjō</i>   | = <i>*ne lèizjō</i> (> PSlav. <i>*ne ližǫ</i> )     |
| <i>*ne léiǵhieti</i>            | <i>*ne lèizjeti</i> | = <i>*ne lèizjeti</i> (> PSlav. <i>*ne ližétv</i> ) |

would be simplest to assume that the sequences destined to undergo Proto-VDL first developed a secondary final stress, which was reinterpreted as the primary stress by later speakers. Such a scenario, as Brent Vine reminds me (p. c.), underlies the familiar Latin stress rule (*interfīciō, interfēctus*, etc.), which was preceded by an earlier system of fixed initial main stress and syllable-weight-dependent secondary stress on the penult or antepenult (*ínterfīciō, ínterfēctus*).

<sup>54</sup> renewed from a PIE root present (cf. Ved. *rédhi*).

The difference in treatment between PIE \**uédh-e/o-* (> BS \**vède/a-*'; mobile) and \**léigh-je/o-* (> BS \**lèizje/a-*; immobile) is thus wholly explainable from the fact that the one was subject to the Saussure-Pedersen retraction, while the other was not.

§26. A more complicated case is that of the Slavic iterative type in \**-ī-* < \**-eje/o-* (cf. PSlav. type b \**prošǫ*, *-siši*, *-sitv* < PIE \**prok-éje/o-*). Here, despite the absence of a cognate formation in Baltic (Lithuanian has substituted the *ā*-present 1 sg. *prašaũ*, 3 p. *prāšo*), it is clear from the Slavic evidence that the late Balto-Slavic forms are reconstructible as \**prás(i)jō*, \**prásiši*, \**prásīti*, etc.,<sup>55</sup> with stable *in situ* accent on the first syllable (later advanced by Dybo's Law in Slavic). Yet the "correct" Balto-Slavic reflex of \**prok-éje/o-* would have been \**pràsī-* rather than \**prásī-*, with a retracted accent resulting from the pre-contraction operation of SPL. Compare:

| PIE                            | expected BS                                   |   | actual BS                                     |
|--------------------------------|---|---|---|
| * <i>prok-éjoh<sub>2</sub></i> | * <i>prás(i)jō</i> (> PSlav. * <i>prošǫ</i> ) | ≠ | * <i>prás(i)jō</i> (> PSlav. * <i>prošǫ</i> ) |
| * <i>prok-éjeti</i>            | * <i>prásīti</i> (> PSlav. * <i>prositv</i> ) | ≠ | * <i>prásīti</i> (> PSlav. * <i>prositv</i> ) |

The discrepancy recalls the contrast between the expected and actual forms of \**vède/a-*' (§20), and, as we shall see, has the same explanation.

When a present of the type \**prok-éje/o-* was preceded by a particle, the Saussure-Pedersen retraction would initially have produced the same result (\**ne prok-éjeti* > \**ne prásīti*, etc.). But since the sequence \**ne prásīti* would have constituted a phonological word, the retracted accent here would not have been "left-marginal" in the usual sense, but *word-internal*. No instance of a retracted accent in non-left-marginal position has yet been encountered in our derivations, and we have no direct example to show how this prosodic configuration would have been treated in the later stages of Balto-Slavic. We do know, however, that neither Baltic nor Slavic has a contrast, or shows any sign of ever having had a contrast, between the *in situ* (-*x̣-*) and retracted (-*x̣̣-*) accent types anywhere but in initial syllables. Nothing prevents us, therefore,

<sup>55</sup> Cf. note 34. The Balto-Slavic date of the contraction is shown, *inter alia*, by the shared infinitive in \**-ītei* (cf. Lith. *prašýti*, OCS *prositī*), with (analogically acute) \**-ī-* taken from the present stem. The use of the formula \**-(i)jō* in the 1 sg. reflects the fact that \**-ijō*, the phonologically regular reflex of \**-eje/o-*, was eventually replaced by \**-jō* in Slavic. The latter ending, like the 3 pl. in \**-ǣtv*, was taken from the paradigm of the stative presents in \**-ī-*.

from assuming that the contrast between the two accents was neutralized in favor of the *in situ* type in non-initial syllables.<sup>56</sup> The expected sequences *\*ne pràs(i)jō* and *\*ne pràsīti* would then have given *\*ne pràs(i)jō* and *\*ne pràsīti* by sound change:

| PIE                             | expected BS                                 | actual BS   |
|---------------------------------|---|---|
| <i>*ne prokējoh<sub>2</sub></i> | <i>*ne pràs(i)jō</i> > <i>*ne pràs(i)jō</i> | = <i>*ne pràsĵō</i> (> PSl. <i>*ne prošĵ</i> )    |
| <i>*ne prokējeti</i>            | <i>*ne pràsīti</i> > <i>*ne pràsīti</i>     | = <i>*ne pràsīti</i> (> PSl. <i>*ne prositb</i> ) |

— and the accentuation of the simplex would be based, as in the case of *\*vède/a-*, on the compounds. PSlav. *\*prošĵ*, *\*prositb* follows *\*ne prošĵ*, *\*ne prositb* (< pre-Dybo's Law *\*ne prošĵ*, *\*ne pròsitb* < BS *\*ne pràsĵō*, *\*ne pràsīti*), in exactly the same way that BS *\*vèdō*, *\*vedeti* copies *\*nè vedō*, *\*ne vedeti*.

§27. A third immobile type consists of originally oxytone stems like the Balto-Slavic nasal-inchoative presents, represented in Baltic by Lith. *bundù*, *buñda* (*nebuñda*) ‘wake up’ (infixing nasal) and in Slavic by PSlav. *\*-bvdnĵ*, *\*-ètĵ* ‘id.’ (suffixed nasal).<sup>57</sup> Again, the expected and actual outputs are best viewed side by side:

<sup>56</sup> In principle, it ought to be possible to locate diagnostic cases of word-internal  $\acute{x}$  in etymological four-syllable words with penultimate stress, where  $x_1 - x_2 - \acute{x}_3 - x_4$  (assuming a short open syllable) would have given  $x_1 - \acute{x}_2 - x_3 - x_4$  by SPL. In practice, however, words of this length and structure would inevitably have been derivatives of shorter words and hence effectively unusable as evidence for the original place of the accent (cf. note 21). In the unlikely event that sequences of the type  $x_1 - \acute{x}_2 - x_3 - x_4$  did survive in Balto-Slavic and beyond, they would no doubt have been treated in the same way as ordinary  $x_1 - \acute{x}_2 - x_3 - x_4$  in Lithuanian, and would have been detectable only through their immunity to Dybo's Law in Slavic. The chances of such a case coming to light are as good as nil.

In practice, therefore, it is both safe and expedient to assume that the word-internal  $\acute{x} : \grave{x}$  opposition was lost at an early date in Balto-Slavic. A substantive further question is whether the loss took place through the further “migration” of the retracted accent to the left margin of the word (i.e., via a rule  $x_1 - \acute{x}_2 - x_3 - x_4 > \acute{x}_1 - x_2 - x_3 - x_4$ ), or — as proposed here — through an automatic change of word-internal  $\acute{x}$  to  $\grave{x}$ . The non-occurrence of retracted *\*nè prasiti* makes the second choice the only viable option.

<sup>57</sup> The prehistory of the Balto-Slavic nasal inchoatives, along with their close formal and functional counterparts in Germanic, is discussed in the 2007 Harvard dissertation of Yaroslav Gorbachov. The accent on the thematic vowel, continuing an earlier accent on the *h<sub>2</sub>e*-conjugation endings *\*-h<sub>2</sub>é*, *\*-th<sub>2</sub>é*, *\*-é*, etc., is an inherited feature.



| quasi-PIE                 | expected BS               |   | actual BS                              |
|---------------------------|---------------------------|---|--|
| *bhundhóh <sub>2</sub>    | *bundō̄ <sup>1</sup>      | ≠ | *bündō̄ (> PSl. *bʋdnŏ̄) <sup>58</sup> |
| *bhundhėti                | *bündeti                  | ≠ | *bündeti (> PSl. *bʋdnětʋ)             |
| *ne bhundhóh <sub>2</sub> | *ne bundō̄ <sup>1</sup>   | ≠ | *ne bündō̄ (> PSl. *ne bʋdnŏ̄)         |
| *ne bhundhėti             | *ne bündeti > *ne bündeti | = | *ne bündeti (> PSl. *ne bʋdnětʋ)       |

Here too, despite differences of detail, the particle + verb combinations determined the fate of the uncompounded forms. In the 3 sg. the form \*ne bündeti (with \*-ù- for \*-û- by the rule in §26) fell together accentually with \*ne prásíti (with \*-á- for \*-à- by the same rule) and \*ne lèizjeti (with “original” \*-é-). Uncompounded \*bündeti followed suit (> \*bündeti), leaving only 1 sg. \*bundō̄<sup>1</sup>, \*ne bundō̄<sup>1</sup> and 3 pl. \*bundànti, \*ne bundànti (where the internal accent was in a closed syllable) as “holdouts” against the fixed root accentuation of the other forms. The analogical adjustment of \*(ne) bundō̄<sup>1</sup> to \*(ne) bündō̄, etc. completed the merger of the nasal class with the “normal” immobile type.

§28. Some of the most puzzling features of verbal accentuation in Balto-Slavic thus find an explanation within the general framework proposed here. Only a subset of the relevant facts have been discussed, of course; the full range of data is far too complex to be dealt with in a mere programmatic overview. Thus, e.g., the mobility of a stem like \*vède/a- (or \*vèže/a- ‘convey’ or \*nèše/a- ‘carry’) can be explained by the interaction of SPL and Proto-VDL (§§18–23), but there are many other mobile thematic presents (e.g., \*vèlke/a- ‘drag’, \*gìve/a- ‘live’, \*pàse/a- ‘graze’) where the Saussure-Pedersen retraction — at least under the formulation in §9 — could never have applied as a sound change. Mobility in these forms is morphological: at a certain point in the history of Balto-Slavic, virtually *all* root-accented simple thematic presents became mobile, regardless of whether their initial syllable was light or heavy, circumflex or acute.<sup>59</sup>

Non-phonological developments must be assumed in the other present classes as well. The history of the stative presents in original \*-ĩ- (type Lith. 3 p. budi, inf. budėti ‘be awake’, Slav. \*bʋditʋ, inf. \*bʋdėti ‘id.’), which were

<sup>58</sup> with the “expected” accent, but only accidentally, through Dybo’s Law.

<sup>59</sup> It is hardly necessary to say that massive leveling must be part of any theory of Balto-Slavic mobility, both in nouns and verbs (cf. note 8).

probably originally accented on the endings (*\*(ne) budjō̄*, *\*(ne) buditi*, etc.),<sup>60</sup> is especially problematic. Many of these forms are mobile — probably because the overlap with the type *\*vède/a-* in the trisyllabic forms (cf. *\*(ne) vedeti*, etc.) led to secondary left-marginal accentuation in the 1 sg. (*\*budjō̄*, *\*ne budjō̄* → *\*bùdjō̄*, *\*nè budjō̄*, like *\*vèdō̄*, *\*nè vedō̄*). It is not clear, however, why *non*-mobile presents are as numerous as mobile presents in this class (cf. §14), or how the non-mobile forms came to be accented on the root syllable rather than the endings (cf. PSlav. type b *\*dbržq̄*, *\*-iši* ‘hold’ < pre-Dybo’s Law *\*dbržq̄*, *\*dbržiši*).<sup>61</sup>

The accentuation of the extra-presential forms, especially the Baltic preterite and the Slavic aorist, must be reserved for a separate study. In Baltic, the *ā*-preterite, like the *ā*-present, is immobile (e.g., *bùdo*, *ne bùdo* ‘awoke’; *viľko*, *ne viľko* ‘dragged’), while the *ē*-preterite is mobile (e.g., *vědē*, *nè vedē* ‘led’; *něšē*, *nè nešē* ‘carried’).<sup>62</sup> The immobility of the *ā*-preterite is predictable from the comparative evidence, which points to a category with zero grade of the root and an accented suffix.<sup>63</sup> In Slavic, verbs with mobile presents have

<sup>60</sup> The staves in *\*-ĩ-*, in my view (cf. note 35), were originally zero-grade middles of the type Ved. 3 sg. *duhé* ‘gives milk’, 3 pl. *duhré*; in Balto-Slavic, a paradigm like 3 sg. *\*budái* ‘is awake’, 3 pl. *\*budintái* (< *\*-ŋtoi*) gave rise, via the 3 pl. in *\*-intái*, to an activated but still oxytone present in *\*-i-* (3 sg. *\*buditi*, 3 pl. *\*budintí*, etc.).

<sup>61</sup> Brief mention may also be made of the athematic presents, which are relatively well represented in Baltic (cf. §16). The fact that most of these are immobile follows immediately from our framework, since sequences like *\*ne èiti* ‘does not go’, *\*ne làikti* ‘is not left (over)’, and *\*ne gělbtí* ‘does not help’, etc., would never have been subject to the Saussure-Pedersen retraction. An exception would have been the verb “give,” which notably *is* mobile; here the sequence *\*ne dēdoh<sub>3</sub>ti* would have had the same treatment as *\*ne vēdēti*, undergoing both SPL (*\*nè dedoh<sub>3</sub>ti*) and Proto-VDL (> *\*ne dedoh<sub>3</sub>ti*). Later, with the transformation of the stem to *\*dod(o)h<sub>3-</sub>*, *\*dōd(ō)-* (Winter’s Law), and finally *\*dōd-* (cf. OLith. 3 p. *duosti*), the prosodically similar but etymologically immobile *\*ēd-* ‘eat’ was drawn into the mobile category as well. The opposite shift occurred in the case of *\*ded-* (< *\*dhedheh<sub>1-</sub>*) ‘put’, which, though morphologically parallel to *\*dōd-*, was drawn by its *e*-vocalism to the immobile type.

<sup>62</sup> The *ē*-preterites of verbs in *-yti* (e.g., *prāšē* ‘asked’), which are actually contracted *ā*-preterites with *-ē-* < *\*-ijā-*, are predictably immobile (*ne prāšē*).

<sup>63</sup> The clearest extra-Baltic comparandum of the *ā*-preterite is the Slavic “second-stem” aorist in *-a(x)-*, the zero grade of which often contrasts with *e*-grade in the present (cf., e.g., *\*ližq̄* : *\*lbzaxv* ‘lick’, *\*ženq̄* : *\*gvnaxv* ‘chase’, *\*berq̄* : *\*bьraxv* ‘take’, etc.). The *ē*-preterite is too poorly understood to be brought meaningfully into the discussion at this stage.

underlyingly mobile aorists, with originally accented endings in the sigmatic forms (e.g., 1 sg. \**věšb̂*, 1 pl. \**věsom̂*, 3 pl. \**věšę̂*, later \**vedox̂*, \**vedoxom̂*, \**vedošę̂*; contrast 2, 3 sg. (pre-Dybo's Law) \**vède*). Of these, the trisyllabic and longer forms are readily explainable by the normal word-length rule (i.e., \**vedox̂* like \**vedet̂*, etc.); disyllabic \**věšb̂*, etc. can provisionally be seen as analogical.

§29. We thus come to the end of our survey, the object of which has been to outline a historical theory of mobility in verbs complementary to our understanding of mobility in nouns. We began by reviewing the facts in the nominal system. Here, as we saw, a broad but vague consensus links mobility to former oxytonicity via the Saussure-Pedersen retraction and its aftereffects. Our first major conclusion, motivated by the failure of Dybo's Law to operate in mobile paradigms in Slavic, was that the word-initial accent produced by the Saussure-Pedersen retraction was phonetically distinct from the word-initial accent of inherited barytone words. This led to a reformulation of SPL as a sound law that drew the accent one syllable to the left from a word-medial short open syllable. The retracted accent, phonetically contrastive and reinterpreted as "left-marginal" in the specific Balto-Slavic sense of the term, was analogically generalized to the acc. sg. and other characteristic case forms of nouns with final accent in the nom. sg.

In the verb, unlike the noun, mobility came to be associated with word-initial accent — specifically, word-initial accent in simple thematic presents, where the root syllable was short and open in a critical number of inherited examples. According to the scenario proposed here, mobility in verbs arose from the Saussure-Pedersen-induced movement of the accent between the root and a preverbal particle (\**vèdeti* but \**nè* (\**iẑ*, \**pr̂ei*, \**àu*) *vedeti*), rather than between the root and an ending, as in nouns (acc. sg. \**dùkterin* but gen. sg. \**duktr̂es*). The alternation pattern seen in the canonical pair \**vèdō* (left-marginal accent) : \**vedeti* (accented ending) is secondary, an analogical extension from cases where the verb was preceded by a particle (\**nè vedō* : \**ne vedeti*). In such combinations, the accented endings were produced by the newly posited but independently motivated "Proto-V[asil'ev-]D[olobko's] Law," a sound law that took "long" sequences of the type  $\acute{x}_1 - x_2 - x_3 - x_4$  (e.g., \**nè vedeti*) to  $x_1 - x_2 - x_3 - \acute{x}_4$  (\**ne vedeti*).

§30. It is instructive to reflect on the similarities and differences in the genesis of mobility in nouns and verbs. In nouns, mobility was free to develop from oxytonicity because alternations of the type discussed in §§3–4

(\**duktē*<sup>1</sup> : \**dùkterin* (< \*-*tèrin*), \**mirtis* : \**mìrtejes* (< \*-*tèjes*), etc.) provided a robust basis for the morphological association of retraction in certain case forms with final accent in others. Conditions were different in the verb. Here, to be sure, mobile paradigms of the nominal type *could* theoretically have been generated from oxytone thematic stems, where the trisyllabic, but not the disyllabic forms would regularly have developed left-marginal accentuation (cf. BS 3 sg. \**bùndeti* (< \**bundèti*) vs. 1 sg. \**bundō*<sup>1</sup>, like \**dùkterin* vs. \**duktē*<sup>1</sup>). But the possibility of such stems actually surviving and patterning as grammatically mobile in Balto-Slavic was effectively blocked by the fact that retracted forms like \**bùndeti* failed to shift their accent further leftward onto a preceding proclitic particle (\**ne bùndeti* gave \**ne bùndeti*, not \**nè bundeti*; cf. §26). The left-dislocatability of the accent onto a particle — and here it is important to recall the extraordinary frequency, variety, and salience of preverbal particles in Balto-Slavic — was the factor that ultimately determined whether a Balto-Slavic verb would pattern as mobile. No such role was played by the corresponding particle-like elements in nominal phrases, i.e., prepositions, because *preposition + noun groups were not treated as phonological words in Proto-Balto-Slavic*. The familiar Slavic transfer of the accent from a mobile noun to a preposition (cf. Russ. *ná goru* ‘uphill’, *zá gorod* ‘out of town’, etc.) was a purely Slavic innovation; there is no trace of it in Baltic.

Despite these differences, mobility in nouns and mobility in verbs are clearly different facets of the same phenomenon. In both major categories, the Balto-Slavic variety of mobility had nothing to do with what we know as mobility in Greek or Sanskrit, but was essentially a morphologized elaboration of the Saussure–Pedersen retraction.<sup>64</sup> Basic structural continuities aside,

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<sup>64</sup> As will have emerged from the foregoing, the characteristic features of Balto-Slavic mobility made their appearance in stages. Phonologically accentless words or “enclitomena,” which loom so large in discussions of Slavic (and much less clearly Balto-Slavic) mobility, were not an important category in PIE (cf. note 12). Clitics in PIE were well established in the domain of what are loosely called “particles,” but the information-bearing representatives of the major lexical categories — nouns, adjectives, and verbs — were orthotonic. Such words, when they inflected, could be immobile or mobile; in the latter case they exhibited movement of the accent according to one of a small number of conventional accent paradigms. Mobility was *not* in general reducible to an alternation between accented endings on the one hand and a default stem location on the other.

In nouns and adjectives, SPL and its analogical aftereffects led to the loss of the inherited PIE mobile patterns (hysterokinetic, proterokinetic, etc.) and the creation of mobile stems of the distinctive Balto-Slavic type, with accented endings in some forms

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These rules are critically ordered. Later than 1), but otherwise hard to situate chronologically, is

6) neutralization of the  $\acute{x} : \grave{x}$  contrast in word-internal position (§26):

...  $x_1 - \grave{x}_2 - x_3$  ... > ...  $x_1 - \acute{x}_2 - x_3$  ...

II. Post-BS developments:

In *Lithuanian*, loss of the  $\acute{x} : \grave{x}$  contrast (*rañkq* = *žiẽmq*, *várnq* = *gálvq*), and reinterpretation of the acute : non-acute contrast as one of rising (later falling) vs. falling (later rising) intonation in accented syllables.

In *Latvian*, maintenance of the  $\acute{x} : \grave{x}$  contrast on accented acute nuclei: (*vãrnu* (level tone <  $\acute{x}$ ) ≠ *gãlvu* (broken tone <  $\grave{x}$ )).

In *Slavic*, a) maintenance of the  $\acute{x} : \grave{x}$  contrast on accented acute nuclei, as in Latvian (*\*vórnq* (rising intonation <  $\acute{x}$ ) ≠ *\*gôlvq* (falling intonation <  $\grave{x}$ )); b) Dybo's Law : ...  $\acute{x}_1 - x_2$  ... > ...  $x_1 - \acute{x}_2$  ... , when  $\acute{x}_1$  was not acute; c) loss of the acute : non-acute contrast in unaccented syllables; d) Stang's Law, retracting the ictus from a word-internal "circumflex" (= long falling) or non-acute syllable (cf. note 28).

## KIRČIAVIMO TIPAS *\*vèdō*, *\*vedeti* IR BALTŲ-SLAVŲ VEIKSMAŽODŽIO KIRČIO MOBILUMO KILMĖ

### Santrauka

Baltų-slavų kalbų kirčio „mobilumu“ vadinamas savitas kaitomų žodžių kirčiavimo būdas, kai kirtis šokinėja iš pradinio skiemens vienoje formose (pvz., daugumos vardažodžių nom. pl., veiksmažodžių 1 sg. praes.) į galinį skiemenį kitose (pvz., vardažodžių nom. sg., veiksmažodžių 3 sg. praes.) Šiame straipsnyje siekiama problemine veiksmažodžių kirčio mobilumo kilmę paaiškinti panašiai kaip ir lengviau suprantamą vardažodžių kirčio mobilumą. Vardažodžių kirčio mobilumas, istoriškai siejamas su kirčiuotos priesagos kamienais, yra morfologizuotas „Saussure'o-Pederseno dėsnio“ (SPD) – garsų pakitimo, pagal kurį paveldėtasis kirtis (žymimas / $\acute{x}$ /) buvo atitrauktas per vieną skiemenį žodžio pradžios link iš vidinių trumpųjų atvirų skiemenų, – refleksas. SPD rezultatas buvo „kraštinis žodžio pradžios kirtis“, čia žymimas / $\grave{x}$ / (pvz., mobiliųjų kamienų nom. pl. *\*dũkteres* (< *\*-tẽr-es*), *\*mĩntejes* (< *\*-ẽj-es*), fonetiškai kontrastavęs su pastovaus kirčiavimo kamienų paveldėtu žodžio pradžios „in situ“ kirčiu (pvz., nom. pl. *\*gẽnās* (< *\*-aH-es*) ‘žmonos’). Veiksmažodžių atveju, kur kirčio mobilumas siejamas su istoriniu šakniniu kirčiavimu, kirčio vietą lėmė žodžio ilgis. Mobiliojoje esamojo laiko paradigmoje triskiemenės formos buvo kirčiuojamos galūnėje (*\*vedesi*, *\*vedeti* ir

t. t.); dviskiemenėms formoms (1 sg. \*vèdō, 2 sg. impf. (= slavų aor.) \*vèdes ir t. t.) buvęs būdingas kraštinis žodžio pradžios kirtis ir jos atitraukdavusios kirtį į prieš tai einantį preverbą ar kitą proklitinį elementą (\*prò vedō, \*nè vedō ir t. t.). Pagal siūlomą analizę kirčiavimo modelis \*vèdō, \*vedeti kildinamas iš „preverbas + veiksmažodis“ tipo junginių. Šiuose junginiuose paveldėtieji \*ne vèdō, \*ne vèdeti iš pradžių virto \*nè vedō, \*nè vedeti dėl SPD; po SPD veikimo keturskiemenis \*nè vedeti tapo \*ne vedeti dėl garsų dėsnio („Proto Vasiljevo-Dolobko dėsnio“), pagal kurį  $x_1 \dots x_n$  virto  $x_1 \dots \acute{x}_n$ , kai  $n \geq 4$ . Iš \*nè vedō, \*ne vedeti (\*prò vedō ir t. t.) būdingas dvipolis modelis buvo išplėstas ir paprastiesiems veiksmažodžiams, dėl to atsirado iš paliudytų formų rekonstruojamas \*vèdō, \*vedeti. Veiksmažodžių kamienuose, kuriuose pirmasis skiemuo buvęs uždaras (pvz., dauguma įe/o prezentų) arba kuriuose paveldėtasis kirtis buvęs vidiniame skiemenyje (pvz., nazaliniai prezentai), sąlygų SPD veikti nebuvo ir mobilumas neatsirado.

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