

## REMARKS ON WINTER'S LAW

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1. Werner Winter has proposed the following "tentative rule: In Baltic and Slavic languages, the Proto-Indo-European sequence of short vowel plus voiced stop was reflected by lengthened vowel plus voiced stop, while short vowel plus aspirate developed into short vowel plus voiced stop" (1978: 439). This rule, which has become known as Winter's law, must be modified in two respects.

Firstly, the word "lengthened" must be replaced by *acute*, length and timbre being concomitant features of the acute tone under certain restrictions in a number of languages. As I have pointed out on various occasions, the acute vowels which resulted from Winter's law merged with long vowels of laryngeal origin, but remained distinct from lengthened vowels of PIE., Balto-Slavic, or later date (see especially Kortlandt 1985a). As a rule, acute vowels are falling in Lithuanian and short in Serbo-Croat, whereas lengthened vowels are rising in Lithuanian and long in Serbo-Croat.

Secondly, the rule holds not only for sequences of short vowel plus voiced stop, but also for sequences with an intervening resonant (*i, u, r, l, n, m*). When I discussed this point with the *Urheber* in the summer of 1983, he told me that he was well aware of it (cf. Winter 1978: 432, sub 3), but that he had preferred to leave it out of consideration because the material is large and it is often difficult to separate *aniṭ* from *seṭ* forms, so that it is quite a job to present a convincing case. When I met the Soviet accentologist V.A. Dybo in Moscow in September 1982, he told me that he, too, had checked the material with an intervening resonant, and had been satisfied with the conclusion that the generalized version of the rule holds true.

In the following I do not intend to demonstrate the correctness

of Winter's law, which I regard as a fact, even if the relevant material has not been presented in an adequate way to the scholarly public. I shall limit myself to discussing a number of objections which have been raised in the recent literature, with particular regard to some points which seem to have escaped due notice. It goes without saying that I can only give my personal view on these issues. Since the critics do not refer to one another (with a single exception), I have chosen an alphabetical order for the presentation.

2. Elsewhere I have proposed the following reconstruction for the Balto-Slavic paradigm of the word for 'water' (1979: 61):

nom.sg.	* <i>vondōr</i>	Lith. <i>vanduō</i>
acc.sg.	* <i>vondenim</i>	Lith. <i>vāndenį</i>
gen.sg.	* <i>(v)undnes</i>	Slav. <i>vod-</i>
nom.pl.	* <i>(v)undā</i>	cf. Latin <i>unda</i>

The apophonic alternation was preserved in East Baltic, as is clear from Lith. *vānā-* beside Latv. *ūd-*, OPr. *(w)und-*. The acute tone is in accordance with Winter's law. The Slavic word *voda* has a short root vowel, however. I proposed that the cluster *\*-ndn-* blocked the operation of Winter's law in this word. Similarly, I proposed that the cluster *\*-ngn-* blocked the operation of Winter's law in the word for 'fire', Lith. *ugnis*, Sl. *ognь*, Balto-Slavic *\*ungnis* from *\*ngʷnis*, Skt. *agnīḥ*, Latin *ignis*, where Winter's law is reflected in Cz. *výheň*, SCr. *vìganj* 'forge'; for the loss of the radical nasal cf. Lith. *lūnkas* 'bast', Sl. *lyko*.

H. Birnbaum is "inclined to derive Lat. *ignis* from *\*egnis*", which turns the Balto-Slavic words into counter-examples to Winter's law, and presumes "the nasal in Lith. *vanduō* and Lat. *unda* (both with further cognates showing a nasal infix, in Baltic and Latin, respectively) to be secondary rather than part of the PIE root. Consider in this connection also the general tendency for nasal infixation -- primarily in the verb, to be sure -- peculiar to Latin (and Italic in general) and Baltic" (1985: 48). The agreement between Latin and Baltic actually suggests that the nasal infix is of PIE. date. As in the case of the nasal presents, the nasal infix must be derived from a nasal suffix (cf. Thurneysen 1883). It now appears that the blocking rule which I have proposed originated from the PIE. neutralization between the three series of obstruents (*t*, *d*, *dh*, etc.)

in this nasal environment. The neutralization is reflected in Latin *pandō* 'spread', *pingō* 'paint', *mungō* 'slime', cf. Gr. *pítnēmi*, Skt. *pimśátī*, *muñcátī*, with PIE. *tenuēs*. It is indirectly reflected in the short root vowel of Latin *fissus* 'split', *scissus* 'torn', *strictus* 'strung', which escaped Lachmann's law because of the neutralization in *findō*, *scindō*, *stringō* (cf. Kortlandt 1988).

The position taken here also offers an explanation for Lith. *sėgti* 'attach', Polish *sięgać* 'reach', Skt. *sájati*, pf. *sasañja*. Though these words are usually derived from a root *\*seg-* beside *\*seng-* (e.g. Pokorny 1959: 887), the only clear evidence for the absence of a radical nasal is from Baltic. I think that we have to start from a root *\*seng-*, with Winter's law reflected in the short vowel of Polish *sięgać*, Cz. *sahati*, SCr. *sězati*, and a nasal suffix which blocked Winter's law in Slavic *-sęgnęti*, Cz. *sáhnouti*, SCr. *sěgnuti*. The Baltic root *seg-* was evidently extracted from a Balto-Slavic nasal present with a cluster *\*-ngn-*.

3. N.E. Collinge, whose short account of Winter's law contains a number of inaccuracies, raises the following objections to the view that the vowel which was "lengthened" received a glottalic articulation (1985: 226):

(1) "The Lithuanian result, given the normal diacritic usage, is not acute, although Latvian has 'Stosston'." This must be a misunderstanding because the Lith. reflex is acute, e.g. *ėsti* 'eat', *sėsti* 'sit down', *bėgti* 'run', *pėdas* 'footstep', *vėdaras* 'belly', *ūosti* 'smell', *nūogas* 'naked', *ūoga* 'berry'.

(2) "A glottalized vowel is of itself not long; indeed, in contemporary English a glottal offset to a vowel is increasingly being imposed precisely to ensure recognition of the vowel as short". In Latvian, there is a threefold tonal opposition on long vowels and diphthongs, the 'broken' tone (*lauztā intonācija*) being characterized by a glottal catch (e.g., Endzelin 1922: 21). I claim that this articulation, which is also found in the Žemaitian dialects of Lithuanian, is a remnant of the Balto-Slavic acute, which is usually reflected as the short counterpart of a lengthened vowel in Slavic, e.g. SCr. *jǎgnje* 'lamb' versus *jáje* 'egg'.

(3) "Laryngeals are notoriously hard to equate with precise glottal or pharyngeal activity, and a lengthening which is presumed to arise

from the loss of a following *H* -- whatever its precise cause, and it may only be durational 'compensation' after all -- cannot without a stronger case be equated with a phonation which is ejective, has a reversed air-stream, and is applied to a retained consonant". The point is that the Balto-Slavic reflex of short vowel plus tautosyllabic laryngeal has remained distinct from the reflex of a lengthened vowel, but merged with the reflex of Winter's law into a class of vowels characterized by a feature which is reflected as glottalization in the East Baltic languages and behaves as a short rising tone in Slavic. I deny that the laryngeals were lost with compensatory lengthening in Balto-Slavic. Since intervocalic laryngeals are reflected as hiatus in Vedic and Gothic, the hypothesis that the laryngeals developed into a glottal stop in Balto-Slavic is not far-fetched. I have not talked about ejectives or reversed air-stream, but about a glottalic feature which developed partly from the laryngeals and partly from the obstruents which conditioned Winter's law. These obstruents can be identified with the Sindhi implosives (cf. Turner 1924, Kortlandt 1981).

(4) "If Kortlandt is correct, all the short vowel reflexes in the rest of Indo-European become a puzzle and need some quick-thinking explanation." This is nonsense. The great merit of Winter's law is that it largely explains the distribution of tone and quantity in Baltic and Slavic languages. The rule that PIE. \**d* merged with \**Hdh* in Balto-Slavic has nothing to do with the reflexes of \**d* and \**H* in other branches of Indo-European. For a survey of the comparative evidence for PIE. glottalic obstruents I refer to Kortlandt 1985b.

4. L.G. Hertzenberg adduces the following words as counter-examples to Winter's law (Gercenberg 1981: 138):

Lith. *éras* 'lamb', Sl. *jarina* 'wool', Gr. *éripfos* 'kid';

Lith. *moraĩ* 'mould', Russ. *marát* 'soil', Gr. *morússō*;

Lith. *uoiektis* 'ell', Gr. *álaks* (Hes.);

Lith. *tvora* 'fence', Sl. *tvarb* 'creature', Gr. *sorós* 'urn';

Lith. *úosis* 'ash-tree', Russ. *jásen*', ON. *askr*.

According to Hertzenberg, my interpretation of Winter's law requires the assumption of a whole series of voiceless resonants and a voiced or glottalic counterpart of \**s* in the proto-language. It is obvious that this absurd claim cannot be deduced from what I have

written. I shall not discuss Hertzenberg's misrepresentation of my analysis of the verb 'to give', for which the reader can simply be referred to my original statement (1977: 323).

Lith. *ėras* developed from *jėras* (Būga 1922: 149) and must be derived from the word for 'year, spring' in the same way as Russ. *járka* 'lamb' (cf. Vasmer 1958: 492f. and Pokorny 1959: 297). Lith. *moraĩ* and Russ. *marát'* are derivatives of a root noun  $*m\bar{o}r$  with a lengthened grade root vowel which does not have an acute tone. Lith. *úolektis* and Gr. *ólénē* 'elbow' represent the original PIE. word  $*H_3eH_1l$ , of which the oblique stem forms  $*H_3H_1el-(k-)$  and  $*H_3H_1l-(en-)$  are attested in Latv. *elkuõnis* and Toch. A *āle* 'palm (of the hand)', respectively. Lith. *tvora* and Russ. *tvar'* represent the original root noun  $*tu\bar{o}r$  with a lengthened grade root vowel which does not have an acute tone. Lith. *uosis* and Russ. *jásen'* suggest a derivation from PIE.  $*H_3eH_2s$ , with obl.  $*H_3H_2es-(k-)$  in Arm. *hac<sup>C</sup><sub>1</sub>* if the *k*-suffix required the same apophonic grade here as in Latv. *elkuõnis*, and perhaps  $*H_3H_2s-(en-)$  in Latin *ornus*. Though the details are open to discussion, it is clear that this heterogeneous collection of words is of no relevance for a correct assessment of Winter's law.

5. The acute reflex of Winter's law is a key argument in favor of the glottalic theory. In my view, the original PIE. ejectives developed into implosives in all branches except Anatolian and Tocharian, and show traces of glottalization and/or partial merger with the laryngeals in Germanic, Italic, Greek, Armenian, Indo-Iranian, and Balto-Slavic.

M. Mayrhofer thinks that there is an essential difference between the glottalic and the laryngeal theory because the latter "beschränkt sich nicht darauf, das klassische System umzuschreiben, sondern ihre Erkenntnisse schliessen einige bisherige Gleichungen aus und erzwingen neue" (1983: 150). This view is mistaken precisely because Winter's law offers a possibility to distinguish between the two series of voiced stops in Balto-Slavic, and between real and apparent lengthened grade vowels. Thus, we now know that the Slavic present stem *ıde-* 'go' represents  $*-d\bar{h}-$ , not  $*-d-$ , and that Lith. *e'stı*, *sė'stı*, *bėgtı* do not point to a Narten present. I agree with Mayrhofer that the glottalic theory has much less fundamental con-

sequences for the reconstruction of Proto-Indo-European than the laryngeal theory, even if it offers new insights for practically all branches of the language family.

6. W.P. Schmid rejects Winter's law and explains all examples as lengthened grade formations because he finds long vowels before any consonant: "Man musste dann in der Lage sein, die phonologisch bedingte Dehnung von einer morphologisch und semantisch bedingten Dehnstufe unterscheiden zu können." (1986: 458). The most remarkable feature of Schmid's article is the absence of accent marks from the Baltic material he cites, which deprives the reader of the possibility to distinguish between the two types of long vowel under discussion. The circumflex tone of Lith. *slopus* (4) 'stifling', *nōtere* 'nettle', *prōtas* 'mind', *tuōkti* 'marry', *bedā* (4) 'trouble', *juōkas* 'laughter', *kuōlas* 'pole', *uola* (4) 'rock', *uolus* (4) 'diligent', *grōžis* 'beauty', *klōnis* 'valley', *lōbis* 'wealth', *rōgēs* 'sledge', *žōdis* 'word', *vōgti* 'steal', *lēkti* 'fly', *rēkti* 'shout' suffices to exclude these words from consideration. Lith. *tōšis* 'birch-bark' belongs with Latv. *tāst* 'peel', which points to  $*-eH_2-$  and must be separated from Lith. *tašyti*, Latv. *tēst* 'hew'. Lith. *trobā* (3) 'cottage' may be derived from PIE.  $*treb-$ , OIr. *treb* 'dwelling', and have an acute from Winter's law. Lith. *žėkas* 'grass' has no convincing etymology, while *stogas* 'roof' has an acute from Winter's law, cf. Gr. *stēgos*. Slavic *stogъ* 'stack' must be separated from the latter word and may be identified with Gr. *stōkhos* 'pillar'. Lith. *sprōgti* 'burst, crack' and SCr. *pržiti* 'fry, roast' have an acute from Winter's law, cf. Skt. *sphūrjati* 'thunders, rumbles'. Lith. *spragėti* 'crackle, sputter' must be related to *spraga* 'breach, gap', *sprāgė* 'flea-beetle', and derived from PIE.  $*spregh-$  (cf. Pokorny 1959: 998), OE. *springan* 'leap', *sprengan* 'burst'. It is only natural to expect interference between these two roots.

Lith. *túopa* 'poplar' agrees with Latin *pōpulus* as far as the root vowel is concerned. Russ. *tópol'* looks like a blend of the inherited word and MLat. *papulus*, MHG. *papel*. Lith. *kúopa* 'company' can be identified with Gr. *kōpē* 'handle', *káptō* 'gulp', PIE.  $*keH_2p-$ , whereas Lith. *kāpas* 'grave' belongs with *kōpti* 'scrape', *kapóti* 'chop', Gr. *kóptō* 'smite'. Lith. *núoma* 'lease' must be connected with Gr. *nōmáō* 'distribute' and perhaps with OIr. *námae*

'enemy'. The Baltic acute suggests that the word must be separated from the family of Gothic *niman* 'take', cf. also Latin *numerus* 'number' and Gr. *némesis* 'retribution', which may be derived from PIE. \**nemH*<sub>1</sub>- beside \**nem*-. The two roots can easily have been confused in Greek. Lith. *súolas* 'bench' may have taken its acute from *sésti* 'sit down'.

Lith. *grė́bti* 'rake' evidently took its acute from *gróbtī* 'seize', SCr. *grābiti*, while the original root vowel is preserved in OCS. *greti* 'row'. The acute points to a root \**ghreb*- beside \**ghrebh*-, cf. ON. *grápa* 'seize', English *grapple* beside *grab*. Lith. *mė́gti* 'like' must be compared with Skt. *mahé* 'to be glad', Gr. *megairō* 'grudge', and has an acute from Winter's law, whereas Lith. *magė́ti* 'want' is related to Slavic *mog*-, Gothic *mag* 'can'. Here again, two different roots are involved. Lith. *rė́pti* 'gather' has a doublet *rė̃pti*, which is evidently original. The acute can easily have been taken from *grė́bti* 'rake'. Thus, I conclude that Schmid's counter-examples are based on an insufficient analysis of the material.

7. T. Shintani proposes that "Winter's law is limited to Pre-Balto-Slavic unstressed short vowels before IE plain mediae", though he admits that a "natural phonetic explanation is missing" (1985: 278). He cannot have known that I discussed this hypothesis with Werner Winter immediately after the original presentation at the Ustronie conference in 1976. Shintani adduces six "certain examples without lengthening":

- (1) Lith. *àš*, *eš* 'I' beside OCS. *jazъ*, Skt. *ahám*. No conclusions can be based on the reduced form of the pronoun, cf. Russ. *ja*, Arm. *es*.
- (2) Lith. *pā́das* 'sole, threshing-floor, hearth-stone', Latv. *paḑs* 'tiled floor', Sl. *poḑъ* 'floor'. This formation must be compared with Lith. *iñ́das* 'dish', *priḗdas* 'addition, (tailor's) trimmings (lining and buttons)', cf. also Russ. *podóšva* 'sole, foot (of a mountain)' from 'under'-'sewing', Cz. *poḑ(e)šev*.
- (3) Lith. *sė́gti* 'fasten': see above.
- (4) OCS. *voda*, Russ. *vodá* 'water': see above. Since the word has mobile stress, we should expect the acute from Winter's law to be generalized, as it was elsewhere, if Shintani's rule were correct. Lith. *vā́daksnis* 'river bay, flood-lands' is an unclear formation on

which no conclusions can be based; it may have originated from \*vand- by dissimilation before a nasal suffix.

(5) OCS. *bogъ* 'god': see below.

(6) OCS. *xodъ* 'walk', Gr. *hodos* 'way'. This is the only true counter-example to Winter's law. Since it has mobile stress in Slavic and final stress in Greek, we should expect generalization of the acute from Winter's law if Shintani's rule were correct. The Slavic noun is evidently a deverbative of *xoditi*, which is usually derived from the PIE. root \*sed- 'sit' in compounds. Since the verb is distinct from *saditi* 'seat', which is the expected form, it can hardly be ancient. I think that *xoditi* was formed on the basis of a Balto-Slavic reduplicated present \*s<sub>1</sub>z<sub>d</sub>-, to be compared with Skt. *sīdati*, Latin *sīdō* 'sit down' (cf. in this connection Kortlandt 1989). For the absence of Winter's law before -zd- cf. Lith. *lizdas* 'nest', Latin *nīdus*. Since the conditioning factor was evidently lost in the PIE. zero grade root form \*-sd-, the vocalism of Sl. *xoditi* is what should be expected in an analogical formation.

As Shintani's hypothesis does not account for the two main examples (Sl. *voda* and *xodъ*), it has no explanatory value. The reason why the reflex of Winter's law in Latvian usually shows a broken tone, which points to original mobile stress, is twofold. On the one hand, there are relatively few barytona of Indo-European origin in Balto-Slavic. On the other hand, accentual mobility appears to have been productive in Latvian before the stress was fixed on the initial syllable of the word (cf. Kortlandt 1982: 6). Examples of an acute from Winter's law which is not reflected as a broken tone in Latvian are *gnīda* 'nit', *grābstīt* 'rake', *mēdzēt* 'be accustomed' beside *grābt*, *mēgt*. Shintani's assumption of an "Indo-European lengthened grade" in "IE \*m<sub>1</sub>ús" and "IE \*n<sub>1</sub>ás" (1985: 293) must be based on a misunderstanding.

8. A. Meillet argued that the semantic identity of Slavic *bogъ* 'god' and Iranian *baga-* does not imply that the former was borrowed from the latter because there are "d'autres termes fondamentaux du vocabulaire religieux slave où l'hypothèse d'un emprunt est exclue" (1926: 168). Since Winter's law excludes the derivation of the word from \*bhog<sub>1</sub>os while the derivatives *bogatъ* 'rich', *ubogъ* 'poor', Cz. *zboží* 'commodity' point to an earlier meaning 'riches' which is in

perfect correspondence with Skt. *bhagaḥ* 'fortune, dispenser', I concluded that the word was borrowed at an early stage, not only with the meaning 'god' but also in the sense of 'fortune', and suggested that other correspondences between Slavic and Iranian may also be attributed to very early influence (1979: 60).

S. Zimmer evidently failed to understand the argument when he wrote: "Zwar ist \**bogъ* 'Anteil' als Simplex nirgends belegt, und ein entsprechendes baltisches Wort fehlt, doch gibt es einige slav. Komposita, die m.E. deutlich auf seinen Erbwortcharakter hinweisen." (1986: 224). He adduces precisely the examples which were offered in order to show that the word is not isolated in Slavic. He discusses neither the absence of the word from Baltic, nor the lexical correspondences between Slavic and Iranian, and declares: "Den möglichen Einwand, bei urslav. \**boqъ* habe es sich, als *ubogъ* gebildet wurde, eben schon um kein Fremdwort mehr, sondern bereits um ein Lehnwort gehandelt, wusste ich nicht zu widerlegen" (o.c., 225). Zimmer's article can therefore be disregarded in the discussion of Winter's law.

9. What all the critics have in common is that they ignore the development of the Balto-Slavic prosodic system, which is the key to a correct understanding of Winter's law and its consequences for the reconstruction of Proto-Indo-European. The fundamental point is that the reflex of Winter's law merged with the reflex of short vowel plus laryngeal while remaining distinct from the reflex of lengthened grade vowels and early contractions. Any theory which does not take this point into account is inadequate and must be revised.

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