

THE ORIGINS OF PRE-BALTIC

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Excessive aspiration was the cause of causes which divided Indo-European into noticeably different dialects. First, it caused delabialization of *o* to *a*¹ in Pre-Prussian, Pre-Germanic, and Pre-Hittite. This separated them from the rest of Indo-European.² Then, everywhere, to mark certain morphemes, it summoned glottalization, the feature counter to aspiration.³ This glottalization varied from area to area.⁴ It, in turn, caused deaspiration everywhere, which also varied from area to area.

Deaspiration came in two major stages. Its first stage involved the removal of allophonic aspiration from obstruents so that *p(h)*, *b(h)*, etc., were deaspirated to *p*, *b*, etc. This stage of deaspiration, with regional differences, was ultimately responsible for the start of palatalizations of the satem sort, that is, *k* to *k'*, etc. The second stage involved the removal of laryngeals, that is, the removal of phonemic aspiration.

Between these two major stages of deaspiration, greater or lesser segregation of Indo-European dialects occurred. The Slavic-Pre-Albanian dialect, now in the Carpathians,⁵ was somewhat more isolated than many. At this time, it developed its special morphological category of inactive verbs⁶ by metathesizing a secondary active verb suffix *-sfc-7* to *-ks-*. This *-ks-* now appears as *-h-*, that is, *-x-* in Slavic inactive verbs like *exati* 'to ride', *maxati* 'to wave, to flutter',⁸ and *h* in Albanian passive verbs like *dihet* 'it is known'.

Similar to Pre-Slavic-Pre-Albanian, the Indo-European dialects which were to amalgamate into Pre-Baltic became somewhat isolated north of Pre-Slavic-Pre-Albanian between the two major stages of deaspiration. These Pre-Baltic dialects became characterized first by early intense glottalization which was reflected by the most powerful kind of early deaspiration.

Comparing the differences in Pre-Baltic versus Pre-Slavic-Pre-Albanian glottalizations in an overall Indo-European context, we note the following. Since glottalization nullifies aspiration, the stronger the glottalization, the more thorough the removal of aspiration. This includes preventing the rise of sound combinations which could generate aspiration such as *k* plus *s*. And when glottalization was eliminating allophonic aspiration from velars followed by *s*, it was simultaneously changing the relationship between velars plus *s* so that a rebirth of aspiration would be less likely. Thus either the velar plus *s* combination was metathesized to *s* plus velar, or various assimilations between velar plus *s* occurred.

In most Indo-European dialects, including Pre-Slavic-Pre-Albanian where glottalization was weaker, initial *-ks-* remained (and, indeed, became *h*, that is, aspiration in Slavic and Albanian.) In Pre-Baltic, though, initial *-ks-* was metathesized to *sk-*, that is, before the onset of the ruki law as we see in Lithuanian *skusti*, *skutu* 'to shave, I shave' with *sku-* from an original **ksu-9*

As for internal syllable *-ks-* where greater morphological ambiguity could occur from metathesis, either *-k-* or *-s-* was palatalized first, a move toward assimilation to reduce aspiration possibilities. In most dialects with weaker glottalization, including Pre-Slavic-Pre-Albanian, usually the following *s* in internal syllable *-ks-* was palatalized first which resulted in the onset of the ruki law there. But not always. In the word for 'axis' the preceding *-k-* was palatalized first. The resulting **ak'sis* is now *osi* in Slavic.¹⁰ This pattern of first palatalizing preceding *-k-* in internal syllable *-ks-* was typical for Pre-Baltic as we see from Lithuanian *ašis*, Latvian *ass*, Prussian *assis*, all meaning "axis".¹¹ Clearly, the ruki law and satem palatalizations started simultaneously from the same glottalizing, anti-aspiration causes. And conservative Indic *akšī-* 'axis', with *-kš-* resembling a ruki law formation, is merely showing the original assimilation of *-s-* to preceding *-k-*. And this sort of *-kš-* in Pre-Slavic-Pre-Albanian, indeed, normally did become *-h-* (and, ultimately, *-x-* in Slavic). This aspiration was prevented by

the Pre-Baltic pattern of assimilation by palatalizing first *k m* combinations with *s*, even with *s* preceding, as in *ieškoti* 'to seek'.

With all these changes of internal syllable *-ks-* occurring, the metathesis of active verb suffix *-sk-* to form inactive verb suffix *-ks-* must have been achieved before the first stage removal of aspiration changing *k(h)*, etc. to *k*, etc. in Pre-Slavic-Pre-Albanian. Otherwise, the tie between inactive and active verbs clearly displayed by *-ks-* metathesized from *-sk-* would have been instantly blurred destroying the purpose for creating the suffix *-ks-* which was to give verbs a marking reversed from that given by the active marker suffix *-sk-*. Note the one-time probable **ei-sk-* 'to seek', that is, to go to perceive', a verb made active by the suffix *-sk-* versus a probable **ei'-ks-* 'to ride' which became **ie-ks-* with metathesis of active suffix *-sk-* to inactive suffix *-ks-*; metathesis and vrddhi of the root **ei-* to **ie-*.¹² Today in Slavic we find *iskati* and *exati* for these verbs where the connection between them is barely visible.¹³

Even if Pre-Slavic-Pre-Albanian was merely an amalgam of dialects rather than a unified, single Indo-European dialect, its beginnings can be placed earlier than those of the Pre-Baltic amalgam. Note that this early Pre-Slavic-Pre-Albanian, like a single dialect, shows basic unity, unity of features lexical, phonological, and morphological.¹⁴ It shows no simultaneous many-levelled diversity. The Pre-Baltic amalgam does.

The Pre-Baltic dialect cluster amalgam was initially unified by early intensive glottalization. It probably began in Pre-Prussian. It overcompensated for Pre-Prussian's earlier excessive aspiration.¹⁵ Results of this glottalization in Pre-Baltic were: 1. No *h*, that is, no aspirated phoneme, and no aspirated allophones, 2. No initial *ks-*, etc.,¹⁶ 3. The beginning of the falling together of the reflexes of the Late (Dialectal) Indo-European palatals, *k'*, *g'*, with those of the ruki law, a feature found nowhere else in Indo-European. All of this happened relatively late, that is, after Pre-Slavic-Pre-Albanian had metathesized the active verb suffix *-sk-* to make an inactive one, *-ks-*.

Thus, the Pre-Baltic unity was imperfect. It was characterized by ancient diversity in phonology with at least one feature older than any special unity features which was Pre-Prussian's a long and short versus *a* and *o* long and short in the rest of Pre-Baltic.¹⁷ It was also marked by ancient diversity in morphology and lexicon. Thus, for the present passive participle Lithuanian-Latvian *-ma-* as in Lithuanian *nešamas*, Latvian *nesams* 'being carried' stands against Prussian *-man-* as in *poklausimanas* 'being heard'.¹⁸ And Prussian shares over fifteen roots with Germanic and over ten roots with Slavic which are not reflected in the rest of Baltic. Most, that is, two thirds of this special Prussian-Germanic lexicon overlaps with its Prussian-Slavic counterpart. These roots are ancient. We find them in languages like Hittite, Tokharian, and Old Phrygian.¹⁹

As for later similarities between Baltic and Slavic, we can say the following. Essentially, Slavic is a sort of Albanian heavily influenced by Baltic from the time when Pre-Slavs migrated north into Pre-Baltic territory from the Carpathians while Pre-Albanians were migrating south from there to the Balkans. Since these Baltic and Slavic contacts showed linguistic influences that were not entirely one-sided, one could speak of a sort of new "Balto-Slavic" languages-in-contact amalgam faintly reminiscent of the ancient Pre-Baltic dialects-in-contact amalgam. But the Pre-Baltic one showed sharing of some unique purely phonologically based innovations with phonological and morphological consequences.²⁰ The later "Balto-Slavic" one shows at most the morphologically-syntactically based innovation of "Balto-Slavic" accentuation.¹² Therefore, Slavic today is merely a sort of Balticized Albanian.

1 At this stage *o*, *a*, and *e* were allophones of the non-high (compact) vocalic phoneme opposed to high (diffuse) *i* and *u*. Later these allophones became phonemic.

2 Hittite retains laryngeals (*h*), *a*, and *je*. There Indo-European *o* and *a* and H_3 , the *o*-coloring laryngeal and H_2 , the *a*-coloring laryngeal, had merged to *a* and H_2 . Germanic and Prussian give no certain evidence, even indirect, for reconstructing *o* long or short independent from *a* long or short. We can infer that here also the same mergers had taken place. Very likely these mergers took place when Hittite, Germanic, and Prussian were dialects of Indo-European. We have no further convincing evidence that Pre-Hittite, Pre-Germanic, and Pre-Prussian had originated from the same dialect of Indo-European beyond some lexical concordances between Prussian and Germanic which may indicate only an early neighborhood. As for the rest of Indo-European, most languages give more or less direct evidence for original inherited *o* versus *a* — Greek, Italic, Armenian, Celtic, Tokharian, Indic, Iranian (these two via Brugmann's law showing long *a* plus resonant in open syllables, see Manfred Mayrhofer, *Sanskrit-Grammatik*, Walter de Gruyter & Co., Berlin 1965, p. 18), Albanian, Latvian, Lithuanian. Slavic shows the following very indirect evidence for this *o* versus *a*. In "Kann das Baltische als Muster für das Slavische gelten?", *AslPh*, 1976, 39.1, pp. 32-42 and 'Die Divergenz des Baltischen und des Slavischen', *ZslPh*, 1978, 40.1, pp. 52-62, I show that Slavic's unique, thorough fronting of back vowels after *a*; *a*-rose after short *a* and *o* had merged to short *o* for morphological purposes. I contend that the status of long *a* isolated as the only low vowel versus higher long and short *o/e*, *u/i*, a situation which had existed only in the Slavic branch of Indo-European, was the sole condition leading to this complete fronting of the higher vowels before final merger of long *a* with long *o* to long *a* which marked the beginning of Middle Common Slavic.

3 See Roman Jakobson, C. Gunnar M. Fant, Morris Halle, *Preliminaries to Speech Analysis*, Massachusetts Institute of Technology, 1952, pp. 23, 36-39.

4 Its intensity also varied in time. Thus Tokharian shows a relatively late intense glottalization occur only after extreme aspiration had caused the merger of voiced and voiceless obstruents.

5 Eric P. Hamp, "On Myths and Accuracy", *General Linguistics*, Pennsylvania State University Press, University Park, London 1985, 24.4, p. 238, states that Albanian is most closely related to Baltic and Slavic. My refinement of this narrows the relationship to Albanian and Slavic. A logical starting place for these groups is the Carpathians. This contradicts Egem Cabej's unsupported statement that Albanian is most closely related to Baltic. See "Disa probleme themelore te historise vjeter te gjuhes shqipe" (p. 9) in *Konferenca e pare e studimeve albinologjike Tirane, 15-21 nendor 1962*, "Mihal Duri", Tirane 1965, pp. 89-108.

6 Shaban Demiraj in *Grammatike historike e gjuhes shqipe*, "Mihal Duri", Tirane 1986, 723-729, uses this term with respect to Albanian verbs. I extend it to Slavic ones. Inactive verbs seem to include verbs of motion with the idea that these are at bottom marked Intransitive, a category of verbs which does not take direct objects.

7 This suffix seems to mark "perception". Verbs of perception generally take direct objects and are, therefore, transitive, a marker of active verbs.

8 See Maks Fasmer, *Etimologičeskij slovar' russkogo jazyka*, vol. II, "Progress", Moscow 1967, p. 10, where we find Zubaty's explanation of the *-x-* in these verbs as an extension of the Indo-European sigmatic aorist formant *-s-* to other stems. This is unconvincing. There was no semantic motivation for stripping this suffix of its grammatical meaning in these verbs while the tense category it was marking was alive and the sigmatic aorist continued, sometimes with modifications, as a productive form. There was no formal motivation either since any of the resonants usually used (like *-j-*, *-v-*, *-l-*) followed by *-a-* could have sufficed for forming new stems (as in *da-va-ti* 'to give', *de-ja-ti*, *de-la-ti* 'to do'). There was, on the other hand, both semantic and formal motivations for using *-d-* instead of *-x-* in the present tense of *exati* (*edete* 'you are riding') namely, the influence of the parallel verb *iti* 'to walk' where the formant *-d-* occurs (*idete* 'you are walking') as well as that of the verb *deti* 'to put' where *-d-* marked the present tense only (which caused it to influence the use of *-d-* in the present tense of *iti* and *exati*).

9 See Julius Pokorny, *Indogermanisches Wörterbuch*, Franke Verlag, Bern, München, pp. 585-586.

10 This phonetic, development, somewhat unusual for Slavic, suggests that the form *osi* may have been borrowed from (Pre-) Baltic.

11 This may have contributed to the immediate development of *š/s* as the Baltic reflex of the Indo-European palatal *k'*. An intermediate *tš/ts*, most likely, did not occur. The Lithuanian word *stirna* 'deer' from a possible earlier Slavic **tsirna* (Russian *serna*) 'chamois' is evidence for this. The metathesis of initial *ts-*, an early reflex of *k'*, to *st-* indicates that any initial *ts-* or *tš-* was even then an inadmissible sequence. See Fasmer, *Etimologičeskij...*, Vol. III..., Moscow 1971, p. 609 and T. V. Gamkrelidze, Vjač. Vs. Ivanov, *Indoeuropejskij jazyk i indoeuropejcy*, Tbilisi State University, Tbilisi 1984, pp. 103-108.

12 The origin of this vrddhi is from an insertion of a homophonous affix. Thus, **ie-* became **ie-* + *-e-* which with blending of root vowel with suffix vowel became **ie-*. In Lithuanian and Latvian we find *joti* and *jat* for this verb where a similar development occurred, but with a different vowel, *a* which, most likely, arose under the influence of *moti/mat* 'to wave'. This general development, characteristic of other Indo-European languages (note Sanskrit *yat* 'he rides' where the *a* is ambiguous as to origin), ultimately underlies the ensuing development of "Balto-Slavic" accentuation. Acute pitch was assigned to new vrddhi long vowels in roots following the pattern of original long vowels as in **do-* (Lithuanian *duoti*) 'to give'. Circumflex pitch was assigned to new vrddhi vowels in affixes where many circum-flexes tended to arise from contractions of stem and affix, usually suffix vowels (Lithuanian *nešėte* 'you carried' where unstressed *-i-* indicates it once had circumflex pitch). Pitch differences between morphemes were allophonic. They became phonemic with shortening of vowels in tautosyllabic diphthongs. Thus only by acute pitch was the root **varn-* 'crow' distinguished from **varn-* 'raven' with its circumflex pitch concomitant with original short vowel diphthongs in Baltic and Slavic. Before that all pitch occurred in complimentary distribution: **varn-*/**varn-* with acute pitch automatic in long vowel tautosyllabic diphthongs.

13 Lithuanian *š* in *ieškoti* 'to seek' indicates a one-time palatal *k'* in the active suffix *-sk-*. Sanskrit and Avestan show the same one-time state with *icchatī*, *isaiti* 'he seeks'. Albanian *-ho* instead of possible **so-* or even *-os-* in *njeh* 'he knows' from **g'no - sk'* shows that this metathesis, arising later under the influence of *-sk-* in passive verbs, occurred with no palatalization of *k* to *k'*. See Martin E. Huld, *Basic Albanian Etymologies*, Slavica, Columbus, Ohio 1984, p. 101, for the etymology **g'noO₁-eesk'oA₁* (a causative with an o-grade root and *ee-* determinative) to Proto-Albanian *¹gnojoh-* (with an epenthetic *j*). Here the connection between the active/passive suffixes *-sk-/-ks-* was maintained. Pre-Slavic might have once had palatal *-k'* in both these suffixes. But unlike *osi* from **ak'sis*, it showed its usual typical ruki-law-like development of *-k's-* to *-x-* rather than to *-s-*.

14 Lexical features include around one third more Slavic-Albanian-minus-Baltic native roots than Baltic-Albanian-minus-Slavic ones. See Harvey E. Mayer, "Prussian, an Aboriginal a-Language?", *Lituanus* 1989, 35.4, pp. 56-68. Phonological features include more native roots with *k*, *g* than with sibilants as reflexes of Indo-European palatal *k'(h)*, *g'(h)* than we find among reflexes of these in other satem languages. This is well known about Albanian. For Slavic data see George Y. Shevelov, *A Prehistory of Slavic*, Columbia University Press, New York-Morningside Heights 1965, pp. 139-149. Other phonological features include original multiple reflexes of Indo-European syllabic nasals in Albanian and Slavic as opposed to uniformity of reflexes of all syllabic resonants, *uR* in Germanic *uR/iR* long and short in Baltic.

15 Germanic with aspiration maintained shows a different development.

16 See Christian S. Stang, *Vergleichende Grammatik der Baltischen Sprachen*, Universitetsforlaget, Oslo-Bergen-Tromsø 1966, pp. 95-96.

17 Lithuanian and Latvian with separate reflexes for Indo-European long *o* and *a* (*uo* versus *o* in Lithuanian, *a* in Latvian) must have had short *o* and *a* at one tune even if that was when they were Indo-European dialects. This is so because long vowels in Indo-European originated from their short vowel counterparts.

18 Another difference is in the dative and locative singular. Prussian has *-sm-* versus Lithuanian and Latvian *-m-*. Thus Prussian dative *stesmu* 'this' (matching reflexes of the same ending in Sanskrit *tasmai*, Umbrian *esmei*, Gothic *pamma*) versus Lithuanian *tamui* to *tam*, Latvian *tam* (matching the formant *-m-* in Slavic *tomu*). See Henrik Birnbaum, "Four Approaches to Balto-Slavic" in *Donum Balticum* (to Prof. Christian S. Stang), Almqvist & Wiksell, Stockholm 1970, p. 70.

19 At least two Albanian roots, 1. *emen/emer* 'name', 2. *zonje*, *grua/grue* 'woman' match these special correspondences. See Pokorny, pp. 321, 473-474. Though we can combine these Prussian-Slavic lexical correspondences with other concordances real and seeming (a "common" "original" four-vowel system) to argue for a special Prussian-Slavic genetic unity, divergences like equal versus separate reflexes of Indo-European palatals, *k'*, *g'*, and the ruki law, and different dative and locative formants (*-sm-/-m-*) should suffice to show that this is not likely. The roving character of Slavic correspondences with the Baltic languages, now with Prussian, now with Lithuanian, now with Latvian (OCS *toca* 'cloud': Lithuanian *tankus* 'dense', Late Common Slavic **kveti* 'flower', **kvisti*, **kvito* 'to bloom': Latvian *kvītet* 'to flash', *kvītināt* 'to make flash' indicates their true frequent original source — the (Pre-)Slavs originally as nomads wandering from (Pre-)Baltic territory to (Pre-)Baltic territory and influencing or being influenced by the more sedentary (Pre-) Balts.

20 One of these involves the "fortifying" velar (*-k-* or *-g-*) inserted originally between ruki law-palatal reflexes, *š/s*, *ž/z* and a following stop, normally *t* or *d*: Prussian *svai-g-zdan* (written *swaigstan*), Lithuanian *žvai-g-žde*, Latvian *zvai-g-zne* 'star'. (See Stang, p. 108.) This was later inserted after *s*, *z* reflexes of Indo-European non-ruki law *s*. Though Lithuanian *š*, *ž* seem to represent the original East Baltic joint reflexes Indo-European palatals, *k'*, *g'*, and the ruki law while Latvian and Prussian *s*, *z*, in my opinion, represent the original West Baltic counterparts of these, and though the development of West Baltic *s*, *z* of any origin differs (with *sj*, *zj* going to *š*, *ž* in both Latvian and Prussian, but not in Lithuanian), and though the "fortifying" velar appears in different places in these languages and is most frequent in Latvian, the same basic general consequences of this insertion can be noted. These amount to the greater conservatism of Baltic versus Slavic. This results from Baltic's greater preservation of syllabic integrity supported by the insertion of these "fortifying" velars.