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Reconstructing Balto-Slavic and Indo-European

The history of Indo-European studies shows that the reconstruction of the proto-language is likely to have a bias toward the languages on which it relies primarily (cf. Kortlandt 1979, 1984, Mayrhofer 1983). It has always been popular to explain the data of more recently attested languages from a reconstruction on the basis of the oldest known languages. As an offshoot of this methodology, there have been attempts to derive the attested data from a postulated system which is beyond what can be reconstructed by the comparative method, often under the assumption that the original system was more regular than what can actually be reconstructed. This is a peculiar way of dealing with the evidence because it can easily lead to the elimination of data which may point to earlier irregularities. It is difficult to see how the postulation of vanished regularities can be aligned with the common observation that analogical developments usually lead to greater regularity. The following considerations are based on the conviction that this methodology is wrong and that reconstructions must always be bottom-up, never top-down.

In a recent article (2013), Martin Kümmel reconstructs the Indo-European gen.pl. ending as *-oHom on the basis of Indo-Iranian *-aHam and Greek -ῶν (where the circumflex points to an earlier hiatus), rejecting the alternative reconstruction *-om first advanced by Meillet (1922). On the other hand, I have argued that the short ending is found in all relevant languages except Greek (1978). The long endings of Indo-Iranian and Greek originated from the introduction of the stem vowel before the ending in the o- and aH-stems. As Kümmel points out himself (2013: 196): "Gerade beim Gen. Pl. gibt es ja auch einzelsprachlich eine starke Tendenz zur Ausbreitung noch stärker charakterisierter Ausgänge wie iir. *-āna(H)am oder lat. -ōrum", cf. also Greek -ᾱ́ων < *-āsōm, Latin -ārum, Old High German -ōno. Kümmel claims that the long ending *-ōm is attested in Germanic and perhaps in Lithuanian and Prussian and that it was independently shortened to *-om or *-um in Latin, Umbrian, Oscan, Insular Celtic, Gaulish, Celtiberian, Slavic, and perhaps in Baltic. This is not very probable. It is a typical example of forcing the northern and western languages into the Procrustes bed of Indo-Iranian and Greek. In the following I shall first discuss the Balto-Slavic material and then turn to the Germanic and Italo-Celtic evidence.

The derivation of the gen.pl. endings Lith. -ų and Slavic -ъ from *-ōm is disproved by the nom.sg. endings of Lith. akmuõ and Slavic kamy < *-ōn (see further Kortlandt 1983). Jasanoff's "sekundäre Kürzung" which "nur vor -m und erst nach der Hebung von kontrahiertem dreimorigem *ō > *ū erfolgt, so dass dann *-ūm > *-um entstand, was mit dem Ergebnis von *-ŏm zusammenfiel" (Kümmel 2013: 198) exemplifies his inclination to introduce additional hypotheses that outnumber the data to be explained (cf. Kortlandt 2004). In fact, there is no reason to assume "Dreimorigkeit" or "Schleifton" for either Balto-Slavic or Indo-European: these concepts belong to a postulated system beyond what can be reconstructed by the comparative method. The larger the inventory of the input, the easier it is to derive any actually occurring form.

Kümmel rejects my evaluation of the Old Prussian material because I limit myself to the Enchiridion and ignore the older catechisms (2013: 198). This is a peculiar remark in view of my detailed comparative analysis of the Old Prussian

catechisms (2009: 189-267). However, he argues correctly that the endings of gen.pl. I *grecon*, *grekun* and II *griquan* are the same as the reflexes of the acc.sg. ending *-ām* after *-k-*. The forms I *grecon* and *grekun* are irrelevant because we also have I *menschon*, which points unambiguously to short *-om*. I concede that II *griquan* is an unexpected spelling for *grikon*, as is II *enquoptzt* 'buried' for *enkopts* (with *o* for unstressed *a* in a labial environment, cf. Kortlandt 2009: 190), I *encops*, Slavic *kopati* 'to dig', but note that the spellings *-co-* and *-ko-* are unattested in the second catechism, as are the endings *-cun* and *-kun*. I therefore think that *griquan* stands for *grikon* with the usual gen.pl. ending *-on* (8× *nouson* in II), regularly corresponding to I *grecon* and later *grīkan*. Kümmel's proposal that the word is an *ā*-stem cannot be correct: the form *grekoy* from Grunau's vocabulary which he adduces and its variant *greki* which he does not mention clearly reflect the nom.pl. form attested as *grīkai* in the Enchiridion, as is commonly assumed (e.g. Mažiulis 1988: 408).

Kümmel suggests that the raising and shortening of *-ōm* to *-um* may have taken place independently in Slavic, East Baltic, and Prussian (2013: 199). This cannot be maintained. The relative chronology of Slavic sound changes forces us to date the narrowing of *-om* to *-um* to the Balto-Slavic period. First, it was anterior to the barytonesis of the Indo-European oxytone neuters, which was a result of the late Balto-Slavic retraction of the stress from final open syllables. Second, it was anterior to the loss of final *t/d* because the 3rd pl. ending of the Slavic thematic aorist *-ǫ < *-ont* remained distinct from the 1st sg. ending *-ъ < *-om*. The latter change was in turn anterior to the late Balto-Slavic retraction because the stress was retracted from the gen.sg. ending *-ō(d)*, e.g. Lith. *diẽvo*, and from the 3rd sg. ending of the thematic aorist *-e(t)*, e.g. Serbo-Croatian *plète*. The loss of final *t/d* was also anterior to Winter's law, which belongs to the last Balto-Slavic developments, because of the Slavic neuter pronoun *to* (not **ta*) from *tod* (see further Kortlandt 1977).

Kümmel writes: "Eine ostbaltische Entwicklung von altem *ō > *uo* durch Kürzung zu *u* ist zudem durch die reguläre Kürzung von akutiertem *úo > ù* nach Leskiens Gesetz sowie auch durch den Dat. Sg. *-ōi̯ > *-uoi̯ >* lit. *-ui* gestützt" (2013: 199). This is incorrect because both *ō > uo* and *-ōi > -ui* are recent developments which affected only a part of the Lithuanian dialects. "Auch im Falle von *-ām > *-aN > lit. *-ǫ* im Akk. Sg. f. verlief die Kürzung parallel wie die Kürzung von *ā́ > à* nach Leskiens Gesetz, also vor der litauischen Verschiebung *ā > ō*." Unlike Leskien's law, which was limited to Lithuanian, the rise of nasal vowels was an East Baltic development of considerable antiquity (cf. Kortlandt 1977).

In a recent study (2013), Eugen Hill argues that the Indo-European gen.pl. ending *-ōm* reconstructed on the basis of Indo-Iranian and Greek was shortened to *-om* in Balto-Slavic times and subsequently raised to *-um* under the stress but not in posttonic syllables, giving rise to Slavic *-ъ*, Lithuanian *-ų* and Prussian *-un > -on* under the stress and to Prussian *-an* after the stress. This is a peculiar theory because it implies a smaller number of vowels under the stress than in posttonic syllables. It is contrary to Illič-Svityč's demonstration that root-stressed thematic neuters became masculines in Balto-Slavic (1963: 120-140, cf. Kortlandt 1982: 5f. on Latvian and 1983: 183 on Prussian). Hill assumes that the acc.sg. ending *-ām* was shortened to *-am* in Balto-Slavic, where it appears as Slavic *-ǫ*, Lithuanian *-ǫ* and Prussian *-an*. This scenario cannot be correct because the long *ā* was preserved in the Lith. illative ending *-õn* and the Latvian loc.sg. ending *-ā* (cf. Kortlandt 2009: 91f.). Hill misinterprets my phonetic loss of a laryngeal before word-final *-m* as "PIE *-ah₂m >

*-am" (2013: 171) instead of *-aHm > *-ām (thus Kortlandt 2008: 7). This sound law is not "based solely on the single issue which it aims to explain" (Hill 2013: 171, fn.7) but on the combination of the Lith. circumflex with the monosyllabic acc.sg. ending -ām in Indo-Iranian and its Greek equivalent -ά̄ν, which show that the final *-m was consonantal.

Hill thinks that the Balto-Slavic raising of *o to *u affected not only *-om but also *-os. His derivation of u-stems from oxytone o-stems leaves the existence of oxytone o-stems corresponding to o-stems in other Indo-European languages unexplained and requires large-scale analogical developments. A special instance which Hill adduces in favor of his theory (2013: 187) is the dat.pl. ending Slavic -mъ, OLith. -mus, which he derives from *-mos on the basis of Old Latin -bos, Venetic -bos, Lepontic -pos, Messapic -bas. This again exemplifies the wrong methodology of forward reconstruction on the basis of other languages. Not only Slavic -mъ and OLith. -mus but also Old High German tagum and Old Norse dǫgom 'days' (with u-umlaut) point to *-mus (cf. Van Helten 1891: 460-462), which evidently was the original dat.pl. ending. The Italo-Celtic ending *-bos represents a conflation of the instrumental suffix *-bʰi with the ablative suffix *-os, and the same holds for the Indo-Iranian ending -bhyas < *-bʰios. Hill rightly dismisses Olander's view (2005, also 2012: 326) that OLith. -mus developed from *-mos as a result of vowel reduction. Olander's argument that the Old Latvian dat.pl. ending -ms cannot be derived from *-mus is mistaken because the vowel can easily have been lost in polysyllabic word forms. The Prussian dat.pl. forms noūmas and ioūmas are allegro variants of noūmans and ioūmans, which have -ans from the acc.pl. forms. The short variants do not occur in the older catechisms. There is no reason to assume an ending *-mos beside *-mus in any language.

After the very well documented studies by Vermeer (1991) and Olander (2012) I have little to add about the development of *-os in Slavic. Unlike Olander, I find his combined list of eight arguments (2012: 321f.) in favor of a development to -o, as in nebo < *nebʰos, quite convincing. The only contrary piece of evidence (apart from the mistaken derivation of dat.pl. -mъ from *-mos) is the nom.sg. ending of the o-stems -ъ, which can easily have been taken from the acc.sg. form. His objection (2012: 326) that this substitution is improbable for syntactic reasons is invalidated not only by parallels in Germanic and Romance but also by the development in Classical Armenian, which has preserved the Indo-European case system better than most daughter languages (cf. Kortlandt 2003: 45-51 and 63-67). Olander's postulation of a separate sound *-ə < *-os which yielded -e in North Russian and -ъ elsewhere is arbitrary and unnecessary.

Both Kümmel and Hill leave the Germanic data out of consideration. In Gothic, the gen.pl. ending is long -e with masculines and with feminine i-stems and root nouns but long -o with other feminines. Since the stem-final *i is absent before the ending -e, e.g. in gaste, mahte, the ending must represent the full grade suffix *-ei- followed by an apocopated short ending, viz. *-om (cf. Kortlandt 2009: 126). It follows that the ending -o represents the full grade suffix *-ā- plus apocopated *-om. There is no reason to assume another gen.pl. ending beside short *-om in Germanic. Unlike Indo-Iranian and Greek, where we find *-oHom, the full grade suffix *-ā- was introduced in the ā-stems after the loss of the laryngeals in Germanic and the thematic vowel *-o- of the o-stems was never introduced before the gen.pl. ending in this branch of Indo-European.

Kümmel suggests a derivation of Indo-Iranian *-aHam and Greek -ῶν from *-o-om in the o-stems and *-aH-om in the ā-stems (2013: 195), and this must be correct. However, the Germanic and Balto-Slavic data show that the introduction of *-o- in the thematic flexion and *-aH- in the ā-stems was a local development. Apart from the paradigms with fixed stress there were older types with mobile accentuation and an alternation between full and zero grade suffixes. In Greek we find a type with short a in the nom.sg. and acc.sg. endings and long ā in the gen.sg. and dat.sg. endings, e.g. Μοῦσα, Μοῦσαν, Μούσης, Μούσῃ. In Latin the regular type has a short vowel in nom.sg. -a and acc.sg. -am and an ambiguous diphthong -ae in the gen.sg. and dat.sg. endings. In Old Irish the nom.sg. and dat.sg. forms are ambiguous, the acc.sg. ending must be derived from short *-am, and the gen.sg. ending -e points to *-ias. The suggestion that the Latin nom.sg. form adopted the short vowel from the vocative (e.g. Meiser 1998: 132) is highly unlikely. In the normal type there is simply no evidence for long *ā either in Latin or in Old Irish, while the short vowel of the acc.sg. ending in the latter language is unambiguous. The alleged shortening of long vowels before a final nasal consonant in Celtic is based exclusively on the evidence of Indo-Iranian and Greek. The Old Irish gen.sg. ending -e suggests that the original Italo-Celtic ending was *-ī, as it was in the o-stems, and that it was replaced by *-aī or *-āī in Latin and adopted an additional gen.sg. ending *-os or *-ās in the ancestor of Old Irish. If the dominant type of ā-stem had a gen.sg. ending *-ās, the rise of the new ending would be completely incomprehensible.

In a recent article (2006), Joseph Eska has drawn attention to the chronological difficulty which arises in Celtic from the raising of *ō to *ū in final syllables and the alleged shortening of long vowels before final nasals because the gen.pl. ending is -um in Celtiberian but -on < *-om in Gaulish and similarly in Old Irish, which suggests that the raising preceded the shortening in Celtiberian whereas the shortening preceded the raising in the other languages. However, it is possible that the Celtiberian ending -um < *-om was the result of a more recent development, as it was in Latin (thus McCone 1992: 17). I conclude that there is no evidence for a long vowel in the gen.pl. ending *-om in Italo-Celtic, which agrees with what we have found in Balto-Slavic.

The ending *-om is formally identical with the neuter form of the possessive adjective, e.g. Vedic 1st pl. asmā́kam, 2nd pl. yuṣmā́kam, Latin nostrum, vestrum, also Armenian -cʻ < *-skom (cf. Meillet 1936: 72), cf. Old Persian hyā amāxam taumā 'the family which is ours' for the original syntax. Kümmel acknowledges the possibility that the Indo-Iranian genitives in *-kam represent a neuter form of the possessive adjective (2013: 196) but rejects this explanation for the nominal gen.pl. ending without specifying his reasons. Note that the Hittite genitive in -an is a collective or non-referential rather than plural form (cf. Laroche 1965: 40, Pedersen 1938: 32). Kümmel thinks that Hittite patān 'der Füße' points to *-ōm (2013: 200). However, acc.sg. išḫān 'master' represents *esHóm with short *-om (cf. Kloekhorst 2008: 390), which disproves his argument. There is simply no evidence for long *-ōm in the gen.pl. forms.

Even in Indo-Iranian we cannot reconstruct *-ōm, precisely because there is a hiatus in *-aHam. The reconstruction *-o(H)om is correct for the Greek and Indo-Iranian o-stems because these languages, unlike Italic, Celtic, Germanic, Baltic and Slavic, introduced the thematic vowel *-o- before the ending *-om in the gen.pl. form of the thematic flexion. This innovation was more recent than the creation of dat.sg.

-o-ei, abl.sg. *-o-ed*, loc.sg. *-o-i*, nom.pl. *-o-es*, inst.pl. *-o-ois*, which were contracted in Indo-Iranian (but not in Greek) at an early stage. In a similar way we may reconstruct *-aHom* for the Greek and Indo-Iranian *ā*-stems, with an analogical full grade before the ending *-om*. Here again, the introduction of the full grade suffix in the gen.pl. form was more recent than in dat.sg. *-aHei*, gen.abl.sg. *-aHos*, nom.pl. *-aHes*, which show early contraction in Indo-Iranian. Since the intervocalic laryngeals were only preserved at morpheme boundaries in Indo-Iranian (cf. also Lubotsky 1995), we must conclude that the gen.pl. endings *-o(H)om*, *-aHom* for earlier *-om*, *-Hom* were created at a stage when contraction had already taken place in dat.sg. *-ōi*, *-āi*, abl.sg. *-ōd*, *-ās*, loc.sg. *-oi*, gen.sg. *-ās*, nom.pl. *-ōs*, *-ās*, inst.pl. *-ōis*. At a later stage, new intervocalic laryngeals arose from the vocalization of the syllabic nasals, e.g. in *maHas* 'moon', *vaHatas* 'wind'. The highly distinctive gen.pl. ending *-aHam* then spread to the other flexion classes. The ending was eventually replaced by *-(ā)nām* on the analogy of the *n*-stems. It follows that the endings *-oom*, *-aHom* cannot be reconstructed for the Indo-European proto-language.

Thus, the postulation of an Indo-European ending *-ōm* has given rise to a whole series of additional hypotheses in order to account for the Italic, Celtic, Germanic and Balto-Slavic data. On the other hand, the reconstruction of a short ending *-om* on the basis of Slavic *-ъ*, Lith. *-ų* and Prussian *-on* offers an explanation for the Gothic endings *-e* < *-eiom* and *-o* < *-āom*, for the short endings of Celtic and Italic, for the circumflex of Greek *-ῶν* and the disyllabic ending *-aHam* of Indo-Iranian, and for the pronominal endings of Indo-Iranian and Italo-Celtic, all of which can be derived from "old neuter forms" in *-om* "which were first used as possessives in predicative construction" (Thurneysen 1946: 283). There probably was no separate genitive case in Proto-Indo-European.

References

Eska, Joseph F. 2006. The genitive plural desinence in Celtic and dialect geography. *Die Sprache* 46/2, 229-235.

Hill, Eugen. 2013. Historical phonology in service of subgrouping: Two laws of final syllables in the common prehistory of Baltic and Slavonic. *Baltistica* 48/2, 161-204.

Illič-Svityč, Vladislav M. 1963. *Imennaja akcentuacija v baltijskom i slavjanskom: Sud'ba akcentuacionnyx paradigm*. Moskva: Izd. AN SSSR.

Kloekhorst, Alwin. 2008. *Etymological dictionary of the Hittite inherited lexicon*. Leiden: Brill.

Kortlandt, Frederik. 1977. Historical laws of Baltic accentuation. *Baltistica* 13/2, 319-330.

Kortlandt, Frederik. 1978. On the history of the genitive plural in Slavic, Baltic, Germanic, and Indo-European. *Lingua* 45, 281-300.

Kortlandt, Frederik. 1979. Toward a reconstruction of the Balto-Slavic verbal system. *Lingua* 49/1, 51-70.

Kortlandt, Frederik. 1982. Innovations which betray archaisms. *Baltistica* 18/1, 4-9.

Kortlandt, Frederik. 1983. On final syllables in Slavic. *Journal of Indo-European Studies* 11, 167-185.

Kortlandt, Frederik. 1984. Old Irish subjunctives and futures and their Proto-Indo-European origins. *Ériu* 35, 179-187.

Kortlandt, Frederik. 2003. *Armeniaca: Comparative notes*. Ann Arbor: Caravan Books.

Kortlandt, Frederik. 2004. Balto-Slavic accentuation: Some news travels slowly. *Baltistica* 39/1, 13-17.

Kortlandt, Frederik. 2008. Balto-Slavic phonological developments. *Baltistica* 43/1, 5-15.

Kortlandt, Frederik. 2009. *Baltica & Balto-Slavica*. Amsterdam: Rodopi.

Kümmel, Martin. 2013. Zur Endung des Genitivs Plural im Indoiranischen. *Indogermanische Forschungen* 118, 193-211.

Laroche, Emmanuel. 1965. Études de linguistique anatolienne. *Revue Hittite et Asianique* 23/76, 33-54.

Lubotsky, Alexander. 1995. Reflexes of intervocalic laryngeals in Sanskrit. *Kuryłowicz memorial volume* 1, 213-233. Cracow: Universitas.

Mayrhofer, Manfred. 1983. *Sanskrit und die Sprachen Alteuropas: Zwei Jahrhunderte des Widerspiels von Entdeckungen und Irrtümern*. Göttingen: Vandenhoeck & Ruprecht.

Mažiulis, Vytautas. 1988. *Prūsų kalbos etimologijos žodynas* 1: A-H. Vilnius: Mokslas.

McCone, Kim R. 1992. Relative Chronologie: Keltisch. *Rekonstruktion und relative Chronologie* [Akten der Fachtagung Leiden 1987], 11-39. Innsbruck: Institut für Sprachwissenschaft.

Meillet, Antoine. 1922. La forme du génitif pluriel en ombrien. *Mémoires de la Société de Linguistique de Paris* 22, 258-259.

Meillet, Antoine. 1936. *Esquisse d'une grammaire comparée de l'arménien classique*. Vienne: Mékhitharistes.

Meiser, Gerhard. 1998. *Historische Laut- und Formenlehre der lateinischen Sprache*. Darmstadt: Wissenschaftliche Buchgesellschaft.

Olander, Thomas. 2005. The dative plural in Old Latvian and Proto-Indo-European. *Indogermanische Forschungen* 110, 273-281.

Olander, Thomas. 2012. Proto-Indo-European *-os in Slavic. *Russian Linguistics* 36, 319-341.

Pedersen, Holger. 1938. *Hittitisch und die anderen indoeuropäischen Sprachen*. København: Munksgaard.

Thurneysen, Rudolf. 1946. *A grammar of Old Irish*. Dublin: DIAS.

Van Helten, Willem L. 1891. Grammatisches. *Beiträge zur Geschichte der deutschen Sprache und Literatur* 15, 455-488.

Vermeer, Willem. 1991. The mysterious North Russian nominative singular ending -e and the problem of the reflex of Proto-Indo-European *-os in Slavic. *Die Welt der Slaven* 36, 271-295.

Summary

The history of Indo-European studies shows that the reconstruction of the proto-language is likely to have a bias toward the languages on which it relies primarily. It has always been popular to explain the data of more recently attested languages from a reconstruction on the basis of the oldest known languages. As an offshoot of this methodology, there have been attempts to derive the attested data from a postulated system which is beyond what can be reconstructed by the comparative method, often under the assumption that the original system was more regular than what can actually be reconstructed. It is argued that this methodology is wrong and that reconstructions must always be bottom-up, never top-down.

The postulation of an Indo-European gen.pl. ending *-ōm has given rise to a whole series of additional hypotheses in order to account for the Italic, Celtic, Germanic and Balto-Slavic data. The reconstruction of a short ending *-om on the basis of Slavic -ъ, Lith. -ų and Prussian -on offers an explanation for the Gothic endings -e and -o, for the short endings of Celtic and Italic, for the circumflex of Greek -ῶν and the disyllabic ending *-aHam of Indo-Iranian, and for the pronominal endings of Indo-Iranian and Italo-Celtic, all of which can be derived from old neuter forms in *-om which were first used as possessives in predicative constructions.