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The origin of the Proto-Indo-European comparative suffix (with Turkic and Uralic parallels)

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The article deals with the origin of the Proto-Indo-European comparative suffix. It is claimed that the morpheme in question, reconstructed here as $*-iōs < *-io-os$, evolved in predicatively used $*-s$ -stem nominals. It is also claimed that the first component of the complex $*-iōs$ is the allomorph $*-jo-$ of the verbal suffix $*-je/o-$. Both intrasystemic and typological parallels indicate that the verbal component could originate from intransitive change-of-state verbs. It is suggested that the ablaut varieties of the comparative suffix and the frequent pre-desinential extensions are due to independent inflectionalization in various post-Proto-Indo-European dialects.

Keywords: comparative, change-of-state verbs, fientive, Caland system, Proto-Indo-European

1. Introductory remarks¹

The primary Indo-European comparative suffix is usually reconstructed as a set of allomorphs ($*-iōs-$, $*-ios-$, $*-ies-$, $*-is-$)² and is often believed to reflect a specific ablaut pattern in the protolanguage. Although the so-called amphikinetic pattern has recently gained popularity³ (cf.

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² Cf., e.g., Latin masc./fem. *maior* ‘greater, larger’ ($*-iōs$), neut. *maius* ($*-ios$), *maiestās* ‘majesty, dignity’ ($*-ies-$), *magis* ‘more’ ($*-is$). The suffix is attested with varying productivity in most branches of the family (see below for the branches that lack its reflexes), cf., e.g., the positive $*sueh_2d-u-$ ‘sweet’ in English *sweet*, Latin *suāvis* ‘sweet’, Greek ἡδύς ‘pleasant’, Old Indic *svādūh* ‘sweet’ and the corresponding comparative $*sueh_2d-iōs-$ ‘sweeter’ continued with some innovations in English *sweeter*, Latin *suāvior*, Greek ἡδιώων, Old Indic *svādīyān*. For a recent overview of the historical material see Rau (2014: 327f.).

³ At least for the animate gender – sometimes together with the acrostatic or proterokinetic pattern for the neuter.

Widmer 2004: 169ff.; Barber 2013: 157; Rau 2014: 329), since it is thought to comprise all of these allomorphs, other possibilities have also been taken into account (cf. Beekes 1985: 12f.; Rix 1992: 167). In order to make the reconstruction something more than an arbitrary conglomerate of all the attested allomorphs one should either embed it in the Proto-Indo-European morphological system as it is reconstructed nowadays (as in Rau 2014) or suppose that the attested discrepancies and frequent pre-desinential extensions (**-n-* in Greek, Germanic, and Baltic and **-ih₂-* in Indo-Iranian, Germanic, Slavic, and, perhaps, Baltic; cf. Meillet 1935) are evidence for the independent inflectionalization of the category in question in various post-PIE dialects.

In the present paper I pursue the latter approach, based on Friš's (1953: 101–102) suggestion that the pivotal role in the evolution of comparatives should be ascribed to predicates. Cf., e.g., Old Irish, where the uninflected comparative was restricted to this very syntactic function (Friš 1953: 108; cf. Thurneysen 1909: 223; Pedersen 1913: 124f.; Meillet 1927; Friš 1950: 183; Berg 1958: 226; Puhvel 1973: 148), with perhaps no other restrictions (i.e. to the attributive function) being attested cross-linguistically.⁴ Note that the analysis of Middle Welsh comparatives (Evans 1997) supports the view that this was an inherited feature in Old Irish (possibly from the protolanguage). One might therefore expect that it was upon the nominative form that the various historically attested paradigms in individual Indo-European branches could secondarily have been built (with further regularizations).

It is now generally accepted that the Proto-Indo-European comparative have developed as some kind of an extension of **-s-* abstracts (Friš 1953; Kuryłowicz 1964: 228; Meier-Brugger 2003: 220; 2010: 356; Rau 2014; for older literature see below in Section 2). But how could the comparative be derived from an abstract if, at the same time, it is deemed to have evolved from an evaluative formation (cf. Brugmann 1906: 658, 679; Benveniste 1948: 125; Friš 1953; Kuryłowicz 1964: 227f.; Rau 2014: 330; Ringe 2017: 77)? Two main approaches have been proposed to account for this discrepancy, both indeed starting from abstract nouns. Kuryłowicz referred to the idiosyncratic notion of differentiation, which consisted of gradual semantic changes (abstract → elative/superlative → comparative) of the primary paradigm with the succeeding primary functions being ousted into secondary paradigms (Kuryłowicz 1964: 228ff.). Eventually, in Kuryłowicz's view, the original paradigm acquired the comparative meaning, the primordial abstract meaning and the elative/superlative one having been preserved in a secondarily non-ablating (**-is-*) and a derived (**-is-to-*) paradigm, respectively (for the criticism of Kuryłowicz's hypothesis, see Szeptyński 2019).⁵ More recently, Rau proposes an interpretation based on internal derivation, in accordance with contemporary models of Indo-European nominal morphology: *s*-stem abstract → amphikinetic *s*-stem abstract / substantive with possessive semantics. In Rau's view, the latter “developed an elative sense” and “was finally pressed into service in comparative and superlative constructions” (cf. Rau 2014: 338ff.).⁶ I uphold Rau's

⁴ Cf. also Moroccan Arabic: “The comparative adjective [...] is used almost exclusively as a predicate” (Harrell 1962: 205). In Russian, too, the attributive use is very limited.

⁵ As to the origin of *i*, Kuryłowicz assumed the reanalysis within abstracts derived from so-called long diphthong roots, i.e. **Ceh_xi-os* → **Ceh_x-ios* (Kuryłowicz 1964: 228).

⁶ According to Rau, the yod derives from the nominal (either substantival or adjectival) suffix **-i-* / **-(e)i-* (Rau 2014: 338f.).

proposal as a possible scenario which, however, does not exclude competing approaches accounting for a different set of problematic issues (see below). To bring the discussion back to the assumption concerning the predicative use of abstract nouns, it is worthwhile to consider Friš's example *This is a beauty* as against the positive adjective in *This is beautiful* (Friš 1953: 108) as an indication how the elative (evaluative) function could evolve. Yet another solution might be proposed (its discussion will be postponed until Section 4).

Following Friš's argumentation, the issue now is whether the nominative of abstract nouns could be preserved in its "original" form as a part of the comparative paradigm. If the emergence of the category in question was posterior to the separation of Anatolian and Tocharian from the protolanguage, as is frequently assumed (cf. Friš 1953: 113; Rau 2014: 328; Ringe 2017: 77),⁷ the nom.sg. of neuter abstract nouns may be securely reconstructed as **R(é)-os*. But the evidence for comparative neuters or adverbs in **-jos* (whatever the origin of the *j* extension) is not very convincing, since Sanskrit *-yas*, Latin *-ius*, and Old Church Slavonic *-e* could be the result of later regularizations. Moreover, the isolated comparatives in **-is* in Italic, Celtic, Germanic, and Baltic are often claimed to continue the old neuter (Beekes 1985: 13; Jasanoff 1990; Widmer 2004: 139-147; Rau 2014: 329), and **-is* appears to be the *forma difficilior*. Given the semantics of those isolated comparatives (usually 'more') and therefore their extreme frequency of use, one might, however, consider them but the result of phonological reduction due to frequency effects.⁸ Be that as it may, none of the highly elaborated hypotheses concerning the origin of the comparative suffix accounts for the allegedly most archaic nature of neuters / adverbs in **-is*. Even for Kuryłowicz (1964: 228), whose explanation appears at first sight to be quite neutral in terms of ablaut, the zero grade was problematic. Note that the reanalysis in long diphthong roots posited by him (cf. above, footnote 5) could not have yielded the zero grade **-i-s-* directly, but rather **-iH-s-*. As for Rau, he himself considers the forms in **-is* backformed (2014: 340). Although he is not fully explicit about the ablaut of the neuter ("acrostatic or proterokinetic", Rau 2014: 329), he seems to prefer the proterokinetic pattern (cf. the table on p. 329). Since, however, it might originally have yielded nom.neut.sg. **R(z)-éi-s-ø* (cf. Kim 2002: 77; Ringe 2017: 57) and not **R(éʷ)-is-ø*, as reconstructed by him (Rau 2014: 329), it must be assumed that the leveling of allomorphy in the first element of the compound morpheme and the merger of the two elements into a single morpheme (which he tacitly assumes) occurred prior to the derivation of the proterokinetic neuter (less problematic in this respect would be the acrostatic pattern).

The third possibility for the nom.sg.neut., beside **-jos* and **-is*, is, quite unexpectedly, **-jōs*. The possible evidence for this *forma difficilissima* comes from two separate branches, viz. Celtic, cf. the regular Old Irish comparative in *-iu* < **-jōs* (Thurneysen 1909: 226; Pedersen 1913: 119; Kuryłowicz 1964: 230; Jasanoff 1990: 171), and Baltic, cf. the Lithuanian

⁷ The primary comparative is unattested in Albanian, Anatolian, Armenian, and Tocharian. One has to bear in mind the importance of areal factors in the field of morphology and syntax in comparison of inequality (Andersen 1983; Stassen 1985; Bobaljik 2012; Stolz 2013); consequently, the possibility must be considered that the comparative was lost in these branches (cf. Puhvel 1973: 147f.; for the putative vestiges of the suffix in Albanian, Armenian, Hittite, and Tocharian, see Jokl 1924: 24; Rasmussen apud Olsen 1999: 186; Pedersen 1938: 48; Adams 2013: 130, 372, respectively).

⁸ Cf. the irregularly developed adverbs meaning 'more' in Slavic: Belarusian *bol's* < *bol'se*, Czech *víc* besides *více*, Slovak *viac* besides *viacej*, Slovenian *več* < *veče*, Ukrainian *bil's* besides *bil'se*.

adverbial comparative in *-iaus* (> *-iau*), derived from Balto-Slavic **-ē-īōs* (Vaillant 1955; 1958: 564f., 568f.; Szemerényi 1957: 119; Kuryłowicz 1964: 233; Rasmussen 1999: 563f.; for the origin of the *-eh₁-* extension see Szeptyński 2017: 198; for alternative views on the origin of the Lithuanian suffix see Stang 1966: 269; Zinkevičius 1981: 27; Ostrowski 2013: 298-306). Of course, one might assume here an inflected animate form⁹ in **-ōs* (instead of the earlier **-os-s*; cf. Piwowarczyk 2015 for a recent discussion of this development), but, still, the preferred form would be the original neuter form, as in Russian, where it is old adjectival neuters / adverbs that have yielded uninflected comparatives in *-(e)*. Whereas the role of the old neuter forms in Lithuanian was significantly restricted already in prehistoric times (Stang 1966: 179), Old Irish, again, should be highlighted within the present argumentation as it preserved all three genders.¹⁰

Thus, ultimately, there seems to be no strict criterion for the choice of the starting point for the development of the Proto-Indo-European comparative suffix. In this paper, I choose the last possibility and try to demonstrate that **-īōs* may be derived from **-īo-os*, with **-īo-* representing the verbal suffix **-īe/o-* (see the end of Section 2 for the scenarios starting from **-īōs* and **-is*).

2. Intrasystemic issues

Brugmann was probably the first scholar to posit the verbal suffix **-īo-* as the first part of the comparative suffix (Brugmann 1906: 679).¹¹ The only example he adduced was the Old Indic superlative-relative “*hāniṣ-ṭha-s*” ‘most violent’ and the Greek present *θείω* ‘strike, wound’. Beside the fact that the material provided by Brugmann is most scarce, it should be noted that derivation of comparatives and superlatives from inherently transitive roots is probably an innovation of Indo-Iranian (cf. Friš 1953: 105ff., 112; Rau 2014: 332), and the structure of the Greek verb is secondary (cf. LIV²: 218f.). Thus Brugmann’s hypothesis cannot be accepted.

As far as I know, the only scholar who followed in this direction after Brugmann is Meier-Brügger, whose formulation was, however, limited to the structural level: „The form in question, *-īos-* should then be considered a complex suffix, which was initially in pre-PIE time formed as *-es-* derivative from *-īe-* verbal stems, but then, when newly re-analyzed, could be linked directly to the verbal root: root-*īe-* + *-es-* > root- + *-īes-*” (Meier-Brügger 2003: 220). Meier-Brügger eventually abandoned his interpretation in favor of the nominal suffix **-i-* (2010: 356).

⁹ Thus – for Old Irish – Thurneysen (1909: 226), Pedersen (1913: 119), Meillet (1935: 48), and Jasanoff (1990). For putative reflexes of **-īos* in Irish see Thurneysen (1909: 227) and Jasanoff (1990); for other alleged traces of the allomorph **-īos-* in Celtic see Schrijver (2007).

¹⁰ Moreover, as pointed out by Thurneysen (1909: 220), feminine abstract nouns were sometimes predicated by neuter adjectives in Old Irish. Note, however, that neuter and masculine nominative forms of adjectives were undifferentiated in singular, so, perhaps, Thurneysen’s “neutrale Form” should rather be understood as *neutral*, i.e. gender-indifferent. Thus this circumstance cannot be deemed decisive.

¹¹ Initially, Brugmann considered the putative first element to be the nominal suffix **-io-* (1889: 125, 403, 421).

It appears, therefore, that Rau's statement concerning the popularity of this view is imprecise, cf.: „Attempts to motivate the deeper structure of this suffix [...] have not been successful, with most scholars claiming that the formation is deverbative and continues an *s*-stem made to a verbal stem in **-je/o-* – a morphological analysis that lacks parallels at PIE or early IE level” (Rau 2014: 330) and in the footnote: “See Kuryłowicz 1964: 226ff.[sic] and, more recently, e.g., Meier-Brügger 2003: 220f. For older and equally untenable approaches, see Brugmann 1906: 654ff.[sic] and Debrunner 1954: 461” (Rau 2014: 330₈). Firstly, as mentioned above (footnote 5), in Kuryłowicz's view the absorption of yod concerned verbal roots ending in that consonant and not any verbal suffix (Kuryłowicz 1964: 228; cf. also Friš 1953: 110). Secondly, as noted by Rau (2014: 340₂₅), Meier-Brügger eventually abandoned his interpretation (see above). Thirdly, it is unclear whether Brugmann is really quoted as a proponent of the deverbal hypothesis, which he presented on p. 679, since he is mentioned by Rau alongside Debrunner, who limited himself to listing the authors having dealt with the origin of the comparative suffix, none of them, however, having considered the deverbative hypothesis.¹²

Rau's criticism is absolutely justified inasmuch as the traditional term “deverbal abstracts in **-s-*” (more or less explicitly applied in many publications referring to Proto-Indo-European comparatives) does not account for the close relationship of *s*-stems with the so-called Caland system (see Rau 2009). This system, as a set of derivational relations between categories expressing various aspects of property concepts, seems, in turn, the natural systemic environment for comparatives. In my opinion, however, these premises do not interfere with each other, since the verbal part of the Caland system actually provides a plausible source for the *j* extension, viz. change-of-state verbs in **-je/o-* (cf. Rau 2009: 140f., 160). In the following paragraphs, I seek the allegedly lacking internal parallel for an *s*-stem made to a verbal stem and try to elucidate the mechanism of its development (for the semantic development see Section 4, for typological parallels – Section 3).

My reasoning is based on the reconstructed prehistory of the two well-known suppletive Latin comparatives *plūs* ‘more’ and *minus* ‘less, fewer’. Although scholars are not unanimous in this reconstruction (cf. de Vaan 2008: 381f., 475f.; Weiss 2009: 360f.; Dieu 2011: 556–560, 600ff.), the phenomena described below are mainly intended to illustrate the morphological relations that could exist in the protolanguage in any case. At any rate, it should not come as a surprise that these very exceptional comparatives with most basic semantics (‘more’, ‘less’), having probably provided the model for the derivation of a dedicated comparative suffix, could likewise form the basis of its reconstruction.

Regarding *minus*, I assume the protoform **mi-n-H-os* (**mi-ne-H-os?*), which contains the infix stem **min(e)H-*, derived from the root **mejH-* ‘lower, decay’ (LIV²: 427), and the

¹² As for Rau's own analysis, as mentioned above (footnote 6), he has posited a merger of two nominal suffixes (**-i-* and **-s-*), independently of Meier-Brügger's later view. A similar denominative interpretation was proposed by Benveniste (1935: 84; perhaps also Hirt 1927: 291) and reminded by other authors (Friš 1950: 184; Berg 1958: 228f.), though sometimes imprecisely (cf. Friš 1953: 103f.; Berg 1958: 226). Note that the latter work has been cited by Rau only in another context (pp. 330₇, 340₂₄) and some of the authors mentioned by Debrunner referred to **-i-*stem nominals in one way or another, as well.

simple nominal suffix **-os*.¹³ Vestiges of a related adjective (**moġH-uo-* ‘small’?) are sometimes suggested for Tocharian and Germanic (Kroonen 2013: 349; for further possible cognates see Dieu 2011: 579).

Whereas the formation of Latin *plūs* is not perfectly clear (see above for the references), I assume the protoform **pleh₁-iōs*, which is certainly reflected – with further ablaut remodelings – within the history of Latin itself and confirmed by the cognates, cf. Avestan *frāīiah-* ‘more, too much’, Greek *πλείων* ‘more’, Old Indic adv. *prāyah* ‘for the most part’, Old Irish *lia* ‘more’, Old Norse *fleiri* ‘more’ (de Vaan 2008: 475; Weiss 2009: 360; cf. also Beekes 2010: 1206; Kroonen 2013: 143; Mayrhofer 1996: 148f.). The stem **pleh₁-iōs* is intended to represent the whole Indo-European category of comparatives in the following analysis since it contains the regular comparative suffix **-iōs* < **-io-os* beside the Proto-Indo-European root **pleh₁-* ‘become full, fill’ (LIV²: 482). Even if one argued that this particular example poses too many difficulties (see below), the reconstruction of the model in question can be established quite independently on the basis of regular stative/inchoative **-iē/o-* presents related to adjectives (cf. Rau 2009: 140f., 160). As to the suppletive nature of Latin *plūs*, it is quasi-secondary since a related positive in **-u-* can be reconstructed on the basis of Armenian *yolov* ‘much, plenty, numerous’, Gothic *filu* ‘many’, Greek *πολύς* ‘much, many, often’, Old Indic *purū-* ‘many’, Old Irish *il* ‘many’ (cf. Beekes 2010: 1220f.; Kroonen 2013: 136; Martirosyan 2010: 495f.; Matasović 2009: 130; Mayrhofer 1996: 148f.; Widmer 2004: 79–103).

It is easy to see that the isofunctional structures **pleh₁iōs* < **pleh₁iōos* and **min(e)Hos* contain a common element *-os*. By deleting *-os* in both reconstructed forms, one obtains **pleh₁iō-* and **min(e)H-*, respectively. Since the latter has already been identified as the infixed verbal stem derived from the root **meġH-* ‘lower, decay’, the former may be analyzed in parallel as a verbal stem with comparable semantics (change-of-state), viz. the **-iē/o-* stem derived from the adduced root **pleh₁-*. It should be noted that some scholars assume the forms reflecting such a stem to be “Neubildungen”, cf. Vedic *pūryate* / *pūryāte* ‘fills (intransitive), becomes full’ and Latin *-pleō*, *-plēre* ‘fill’ (cf. LIV²: 482). It seems, however, that Lithuanian *piliū* ‘pour’ (beside *pilū*; cf. Smoczyński 2007: 459) and Slavic **pol’etb* ‘pours out, splashes, sifts’ (for the relevant material, see Boryś 2007: 236f., 554f.)¹⁴, together with

¹³ Barber (2013: 176) suggested that the laryngeal in the root **meġH-* is not indispensable (note that he made no reference to the Old Indic formation *-mī-ta-*). If there were no laryngeal, the infixed stem could be replaced by the suffixed present stem **mi-nH-*. The present stem **mi-nu-* is less plausible as a part of *minus* < **mi-nu-os-ø* / **mi-nu-s-ø*, although such a reconstruction is acceptable for Gothic *minniza* < **mi-nu-es-*. Note, however, that the latter is usually reconstructed as **mi-nu-is-*, but the double *nn* may be due to the etymologically unrelated Germanic adjective **minna-* ‘small’ < **men-uo-* as well (cf. Dieu 2011: 599-600; pace Kroonen 2013: 369). Moreover, Old Church Slavonic *тън’и* could be analyzed as **mġi-os-* ← **meġ-* instead of **min(H)-jos-* ← **meġH-* (the parentheses in **min(H)-jos-* are due to Pinault’s law, cf. Byrd 2015: 208-240); but **mġ-jos-* ← **men-* is also possible (cf. above Germanic **minna-* ‘small’ < **men-uo-*). As for Greek *μείων* ‘smaller’, it probably should not be derived from the alternative verbal stem **miH-jē-*, cf. the problematic Mycenaean forms *me-u-jo*, *me-wi-jo* (Beekes 2010: 923; Dieu 2011: 579–583; Barber 2013: 176f.). Whereas these forms do not allow a uniform reconstruction and each has been treated in various ways, Latin *minus* as a possible reflex of **minHos* seems the most basic and plausible assumption.

¹⁴ Probably only secondarily associated with **pelh₁-* ‘swing’ (LIV²: 469f.) and the Slavic type **bor’etb* ‘fights’, **kol’etb* ‘stabs, stings’, **por’etb* ‘rips’. The vowel *o* in **pol’etb-*, as well as in the aforementioned “Verba des Schlagens”, may reflect the original zero grade (cf. Szeptyński 2017: 190ff.; for a different interpretation, see Jasanoff 2003: 74–77).

Old Indic, point to $*p_lh_1\text{-}i\acute{e}$ -. Therefore, leaving the diathesis aside, for it was generally implemented at the inflectional (desinential) level in Proto-Indo-European, one may posit that both stem types, illustrated here by $*pleh_1\text{-}i\acute{o}s$ and $*min(e)Hos$, were created by adding the nominal suffix $*-os$ - to the stems of change-of-state verbs and it is the former pattern that yielded the secondary dedicated comparative suffix. As to $*-i\acute{o}$ - as the preferred allomorph of the suffix $*-ie/o-$ (which could easily undergo contraction with the following $*-os$ - thus yielding $*-i\acute{o}s$), it may be justified, on the one hand, by its correlation with the mediopassive (cf. Yoshida 2009) and, on the other, by the typological preference for intransitive verbal bases in comparatives (cf. Section 3).

The mechanism of deriving the compound morpheme $*-i\acute{o}s \leftarrow *-i\acute{o} + *-os$ may be sought in the analogical remodeling of $*-s$ -stem nominals on the basis of the relation between root verbs and $*-ie/o-$ -stem verbs:

Table 1. Derivation of nominals from verbal roots and stems

	verb		nominal
primary derivation:	(a) <u>root</u> + ending	→	(b) <u>root</u> + suffix + ending
secondary derivation:	(α) <u>stem</u> + ending	→	(β) <u>stem</u> + suffix + ending

The primary derivational pattern (a → b) involved a root verb and a suffixed deverbative nominal. Both forms may be securely reconstructed for the root $*dek$ - ‘accept, absorb, perceive’ (LIV²: 109–112), cf., on the one hand, Old Indic $dāṣṣi$ ‘serves, honors, offers, presents’ and Homeric Greek 3 pl. $\delta\acute{\epsilon}\chi\alpha\tau\alpha\iota$ ‘take, accept, receive’, and, on the other hand, Latin $decus$, $-oris$ ‘high esteem, dignity’ (de Vaan 2008: 164) and Old Irish $dech$ ‘best’ (Matasović 2009: 94); the nominal is also confirmed by the Old Indic derivative $daśasyati$ ‘renders service’ (de Vaan 2008: 164). The adjectival, gradational semantics of Old Irish $dech$ (though not “comparative”, as suggested by Matasović 2009: 94) deserves special attention and is even more striking if the adjectival usage of its Old Latin cognate is taken into account (cf. Brugmann 1906: 517; Berg 1958: 227₁). Therefore the primary pattern ($verb \rightarrow nominal$) may be reconstructed as follows: $*dek$ - → $*dek$ - os -.

In the secondary pattern (α → β), a verbal stem, i.e. a root with a derivational formative, was substituted for a bare root in both categories, e.g., a root and a suffix in $*p_lh_1\text{-}i\acute{e}$ - → $*pleh_1\text{-}i\acute{o}$ - os or an infix stem in $*min(e)H$ - → $*min(e)H$ - os .¹⁵ Of course, it is only the secondary pattern, involving a root-external verbalizer (a suffix), as in $*p_lh_1\text{-}i\acute{e}$ - → $*pleh_1\text{-}i\acute{o}$ - os , where a dedicated comparative suffix could emerge.

As a result of “grammaticalization” (cf. Section 4), both components, i.e. the verbalizer and nominalizer, merged into a single, indivisible morpheme $*-i\acute{o}s \leftarrow *-i\acute{o}$ - os . Generally speaking, contraction is not to be treated as a unitary phenomenon in the development of any system and, in this particular case, it must have depended on the (im)perceptibility of the hiatus juncture in a rather atypical (though absolutely possible, see Section 3) configuration

¹⁵ The e grade of the root follows from the structure of the nominative of deverbal abstracts in $*-s$ -.

of two suffixes, which tended to merge. It is thus difficult to determine when and how exactly the fusion occurred but it is important that it did not entail a simple switch in derivation from verbal bases to nominal ones. As is well known, Proto-Indo-European adjectives basically contained a suffix and the new (quasi-)primary comparative suffix, too, became added directly to roots, cf. adj. **p_hl_h-u-* / *pelh_l-u-* / *polh_l-u-*: comp. **pleh_l-iōs*. That is, probably, how the suffix substitution between positives and comparatives emerged.

Of course, much depends here on one's views on the relative chronology of particular phenomena, including the emergence of some categories and the evolution of their ablaut patterns. The approach presented in this paper might serve as a starting point for scholars inclined to adopt only certain aspects of this argumentation. For example, one might start from proterokinetic **-s*-stem abstracts (cf. Schindler 1975) possibly yielding neuter comparatives in **-iōs* ← **-iō-s* or even **-is* ← **-i-s*, if basic neuters in **-s* could be interpreted as derived from **-e/o*-stem verbs (similarly, *-i-* could be introduced into the "traditional" **R(é)-os* pattern).

3. Typological issues

Whereas the intrasystemic aspect of the interpretation seems to be novel, it must be emphasized that a merger of an intransitive change-of-state verbal suffix and a nominalizer as a source of comparative formatives is well attested outside the Indo-European family.¹⁶

Such an origin was first proposed for Turkic **+rAQ*¹⁷ by Ramstedt (1912: 33). On the basis of derivational relations such as Ottoman Turkish *qojuraq* 'thicker' ← *qojur-* 'become thick' ← *qoju* 'thick', Ramstedt extracted the Proto-Turkic suffix **+rA-* of intransitive change-of-state verbs, whose form he considered to be conditioned by the number of preceding syllables, and the nominalizer **-Q*. As a non-specialist, I refrain from discussing the form of the verbal suffix **+rA-* (referred to for Old Turkic as *+(A)r-* by Erdal 1991: 499–507) as a component of the suffix **+rAQ*, since the interpretations concerning the original shape of this morpheme seem to be strongly dependent on one's views on the prehistory of Turkic (cf. Tekin 1995: 179).¹⁸ Although Ramstedt's idea has not been generally accepted (cf., e.g., Tenišev et al. 1988: 154), in my opinion, the origin of the suffix may be ultimately confirmed by Old Turkic *artok* 'more, very, much' (Erdal 1991: 228). Since the formative *-Ok*, i.e. the postconsonantal counterpart of the nominalizer *-k* < **-Q*, was attached directly to the verbal base *art-* 'increase (intransitive)', it could serve as a model for deriving new comparatives comprising a verbal suffix, just like **dek-* → **dek-os-* in Indo-European (see Section 2).

A few years later, on the basis of derivational relations like Finnish *kovempi* 'harder, tougher' ← *kovenee* 'becomes harder, tougher' ← *kova* 'hard, though', Ramstedt (1917)

¹⁶ I leave aside Semitic "elatives" as a possible parallel, since the range of possible functions of the **²aC₁C₂aC₃-* pattern in Afroasiatic (cf. Kogan 2015: 155f.) is too broad for a non-specialist to discuss the original hierarchy of the relevant categories, including verbal ones (cf. Speiser 1952).

¹⁷ I have modernized the notation for Proto-Turkic: "+" indicates nominal junctures and "-" – verbal junctures. *A* and *Q* denote *a* or *ā* and *q* or *k*, respectively, depending on vowel harmony, i.e. **+raq* after back vowels and **+rāk* after front vowels.

¹⁸ Cf. Erdal's comment on the supposed final vowel in the suffix s.v. *imär* (1991: 500).

recognized Proto-Finno-Ugric comparatives as present active participles in **-p-* derived from intransitive change-of-state verbs containing a nasal element of uncertain quality (though he himself considered *m* to be original; cf. Collinder 1960: 260, 273). According to Raun (1951: 381), the same explanation may be found already in a handwritten study by Veske (†1890).¹⁹ Although some scholars emphasized the possible contrastive or locational value of the formative in Finno-Ugric (Budenz apud Fuchs 1949: 152; Ravila 1937), Nenets moderatives in *-mpoi* (cf. Collinder 1960: 260f.) force us to recognize it as the Proto-Uralic comparative suffix.^{20, 21}

One might object at this point that a hypothesis which is valid for some agglutinative languages (or rather major language families) does not necessarily apply to Proto-Indo-European as a fusional language. Admittedly, the posited morphological complex **-jo-os-*, despite the intrasystemic parallel provided in Section 2, is quite unusual.²² But exactly the same could be stated for Slavic, where the inherited Proto-Indo-European comparative suffix has optionally been extended by formatives of intransitive change-of-state verbs, cf. Proto-Slavic **-jbš-* → **-ě-jbš-* and Kashubian (Slovincian) *-iēš-* → *-ń-iēš-* (Szeptyński 2017: 197–200). These facts clearly indicate that the proposed quasi-agglutinative complex cannot be excluded a priori for Proto-Indo-European.

4. Semantic and syntactic evolution

One way to understand the semantic evolution is to accept the view that comparatives may evolve from evaluative formations (cf. Brugmann 1906: 658, 679; Ramstedt 1912; Benveniste 1948: 125; Fuchs 1949; Raun 1951; Friš 1953; Gätters 1954; Kuryłowicz 1964: 227f.; Puhvel 1973: 148; Rau 2014: 330; Ringe 2017: 77). If so, it is sufficient to assume one of the scenarios for the semantic development abstract → evaluative discussed in Section 1.

Yet another path can be imagined if the semantic value of the verbalizer is taken into account. Generally speaking, the meaning of an **-s-* stem deverbative depended strongly on the semantic characteristics of the relevant verbal base, usually the root (cf. Stüber 2002: 243). Although this fact has already been noticed in a few cases of irregular comparatives (Osthoff 1910: 116f.; cf. also Dieu 2011: 670f.), it has not led to a proposed etymology of

¹⁹ As was noticed by Ramstedt, the presence of *-e-* instead of the expected **-a/ä-* in Finnish comparatives may be due to secondary re-modeling on the basis of verbs; thus the Finnish example would be even more noteworthy.

²⁰ It seems that if two of these functions share one marker in a language, the possible correlations are comparative + contrastive and comparative + evaluative but not contrastive + evaluative; this issue requires further research. What also remains is to evaluate the possible evidence for a simple comparative suffix **-p-* (cf. Ravila 1937: 49f.; Bubrih 1955: 46; Majtinskaâ 1979: 142) and identify the origin of the final segments in the Samoyedic suffixes (including Mator *-mbuj* with unknown semantics, cf. Helimski 1997: 179), which could shed some light on the relation between the Finno-Ugric and the Samoyedic formations.

²¹ There is one more interesting form in Uralic, viz. the isolated Nganasan comparative *bəðətuo* ‘more’, which is a participle of a verb ‘grow up, get big’ (cf. Katzschmann 2008: 438, 479).

²² One of the reviewers draws attention to the possible structural resemblance of comparatives in **-jo-os-* to derivatives of thematic nominal bases with the possessive suffix **-on-* and the “individualizing” Hoffmann suffix **-h₁(o)n-*.

the comparative suffix. It should be noted, however, that the following scenario is easier to apply to Turkic and Uralic due to the very broad functional range of the Turkic nominalizer *-Q (cf. Erdal 1991: 224) and the participial value of the Uralic suffix *-p- (cf. Collinder 1960: 270). At any rate, it is more than probable that synthetic comparatives are not independent innovations of individual language families spoken in “Central Eurasia” (for the range of this phenomenon see Dieu 2011: 2). Therefore I admit the possibility that the set of processes described below could occur only once in the history of one unidentifiable language that gave rise to synthetic comparatives, which were calqued – in one way or another – by many other languages of Eurasia. Note that strict structural calquing between the aforementioned protolanguages could be facilitated by the fact that all of them most probably employed a common type of comparative constructions, viz. the “source schema” or “separative comparative”.²³

It is possible that the primary function of nominals in question was comparative not in the sense of contrasting two objects but simply of indicating the process or result of a change of state, i.e. the degree of a feature ‘X-ness’, over time in respect to a single entity: ‘becoming more X than before’ or ‘having become more X than before’. The verbal, processual component becomes redundant in certain contexts, so that the meaning might lean towards a “self-relative” comparative: ‘more X than before’. Such a nominal may be interpreted as the gradable predicate of a particular comparative construction which requires that the comparandum and the standard be coreferential but distinct in terms of the temporal or modal manifestation and the degree of the feature ‘X-ness’. At some point, the covert standard, which so far has been referentially bound (see example 1. below: *he = he*), might be shifted onto any object for which the degree of the feature ‘X-ness’ – or its opposite ‘Y-ness’ – is properly expressed within preceding contexts (see example 2. below: *he ≠ she*). Cf. the underlined clause, which undergoes reinterpretation in the utterances given below.

(1) *He was tall / short. He is taller [than he was].*

(2) *She is tall / short. He is taller [than she is].*

The last step would be supplementation of the missing constituents of the “underlaid” comparative construction, i.e. the tie / pivot (*than*) and the overt, referentially and syntactically separate standard (*she*): *He is taller than she*. This supplementation might be based on an existing comparative construction, which means that the new comparative probably penetrated into the inherited construction as a replacement for the positive.

Since it has been suggested that “even before they demonstrate an ability to compare objects according to their relative positions along a dimensional continuum, young children

²³ For Proto-Indo-European (ablative) see Andersen (1980: 228, 232). For Old Turkic it was suggested by Stolz (2013: 230f., 306) on the basis of von Gabain’s labeling of the relevant case as “locative-ablative”; Stolz did not ignore a different, implicit interpretation (“locative”) by Erdal (2004: 372), but he failed to report Erdal’s own comment on the ablative usage of that case (2004: 375) and the explicit labeling “ablative locative” in the context of comparative constructions in another publication (Erdal 1991: 64). Separative comparatives are also dominant in Uralic (Stolz 2013: 103); the use of the direct reflexes of the reconstructed Proto-Uralic separative as the standard marker is, however, limited to Finnish, Eastern Saamic and Mordva (Collinder 1960: 288).

use comparative adjectives to talk about within-object changes” (Gitterman and Johnston 1983: 621), it seems that the diachronic development outlined in this section might be paralleled by empirical studies in language acquisition, whose results should – in accordance with the uniformitarian principle – extend to the domain of reconstructed languages as well. Note, additionally, that “contextual comparatives”, as *He is taller* in the example (2) above, are acquired by children earlier than comparative constructions (cf. Hohaus et al. 2014).

5. Closing remarks

Let us recapitulate the main points of the above interpretation. The Proto-Indo-European comparative emerged after the separation of Anatolian and Tocharian, in connection with the tendency specific to ancient language families of Central Eurasia (Sections 3, 4). Comparatives evolved from nominal derivatives of intransitive change-of-state verbs and were calqued as such within the area in question; it is probable that this innovation started outside the Indo-European language family (Section 4). In Proto-Indo-European, the comparative penetrated into the inherited separative comparative construction as a replacement for the positive (Section 4). Initially, the structure of the new predicate of the Proto-Indo-European comparative construction was equal to the nom.sg. form of neuter deverbal abstracts in **-s-* (Sections 1, 2). Beside the primary formation based on roots, secondary formations based on verbal stems began to spread (Section 2). The comparative ultimately obtained a dedicated formative within the formation in which a root-external verbalizer (the suffix **-je/o-*) tended to merge with the nominalizer **-s-* (Section 2). The full paradigm of the comparative was created secondarily on the basis of the nom.sg. form, possibly after the separation of the Celtic branch (Section 1).

Although the differences between the hypothesis presented in this paper and that of Rau (2014) are evident, both stem from a common assumption that “[t]he key to understanding the prehistory of the primary comparative is [...] the recognition that its origins are to be sought in the domain of property concept adjectives [...]” (Rau 2014: 340). Apart from the essential question of the original form / paradigm of the comparative (see Section 1) and its semantic and syntactic evolution (Sections 1 and 4), it is in the place of comparatives within the so-called Caland system that the main difference between the two hypotheses lies. The typological (Section 3) and intrasystemic (Section 2) evidence seems to indicate that the category in question is more central to that system than has been previously assumed, being not necessarily a product of internal derivation within the nominal subsystem but rather part of a series of deverbal nominal derivatives which established the Proto-Indo-European noun-like adjective class with its gradational potential.

Abbreviations

LIV² Helmut Rix (2001). *Lexikon der indogermanischen Verben. Die Wurzeln und ihre Primärstammbildungen*, Unter Leitung von Helmut Rix bearbeitet von Martin J. Kümmel, Thomas Zehnder, Reiner Lipp, Brigitte Schirmer. 2nd ed. Wiesbaden: Reichert.

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