Indo-European Inroads into the Syntactic–Etymological Interface: A Reconstruction of the PIE verbal root *$menk^w$- 'to be short; to lack' and its Argument Structure*

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Abstract

In this article we report a previously unidentified verbal root for the Indo-European protolanguage, *$menk^w$- 'to be short; to lack', based on verbal and nominal reflexes in Italic, Indo-Iranian, Germanic, Tocharian and Anatolian, founded, we claim, in the *Caland System*, an archaic stratum of the Proto-Indo-European derivational system. In four of five Indo-European subgroups, verbs/predicates are found occurring with a subject(-like) argument in a non-nominative case, dative in the languages that have retained the Indo-European case morphology, but an oblique case in the branches where different non-nominative forms have merged. The documented verbal forms cannot be unified into a single reconstructable verb, yet we argue that the more abstract argument structure construction involving a dative subject(-like) argument must be inherited from Proto-Indo-European. Hence, we suggest a partial reconstruction for the grammar of Proto-Indo-European, based on the attested Tocharian form, *$m(e)nk^w$-MP, the non-nominative case of the subject(-like) argument, and the meaning 'lack'. Taken together, this cumulative evidence corroborates the assumption that a verb meaning 'lack' developed from 'be short' in the proto-language, indeed instantiating a non-canonically case-marked argument structure with its subject(-like) argument in the dative case.

1. Introduction

The root *$menk^w$- has not hitherto been identified as an independent Proto-Indo-European verbal base in the etymological scholarship, e.g. *LIV*[2] and Pokorny (1956–69: 729). Instead, the cognacy of a number of related nominal formations is acknowledged in a scattered fashion in the literature and reference is made to what previously were thought to be isolated verbal forms. However, as we will show here, a wide range of both nominal and verbal derivations to the root *$menk^w$- can be identified from a sizable intersection of Indo-European subgroups, including Germanic, Lithuanian, Sanskrit, Tocharian, Hittite, and perhaps also Latin. A distribution straddling multiple Indo-

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European subbranches from both Asia and Europe, including two of the most archaic dialects —Tocharian and Hittite—, is generally taken to be a reliable indicator of an Indo-European origin. Consequently, we argue here that the combined linguistic evidence for both the nominal and the verbal forms demands a reconstruction of a Proto-Indo-European primary verbal root *$menk^{w}$-.

From the derivational side, the Proto-Indo-European status of this root is decisively supported by the fact that its various derivations are founded in an archaic stratum of the Proto-Indo-European derivational system, i.e. the stratum characterized by the so-called *Caland System* (Meissner 1998, Rau 2009). This system, first proposed by Willem Caland, outlines through a set of rules how different Proto-Indo-European formations are related to each other. In particular, this explains how the Germanic verbal forms and different adjectival forms in the other branches are interconnected.

Moreover, we observe that identical syntactic patterns are found with both adjectival/participle and verbal formations of the Proto-Indo-European root *$menk^{w}$-, namely an argument structure involving a non-nominative subject-like argument found in all of the attested linguistic subgroups where verbal formations are documented, as well as in the one branch were adjectives form a part of compositional predicates, (optionally) with the verb 'be'. This non-nominative subject-like argument is in the dative case in Germanic, and in an oblique case in the branches where the object cases have merged, i.e., Tocharian and early Romance languages like Old Italian and Old Spanish. The very same argument structure is also found with compositional predicates, as opposed to simple verbs, in Hittite and perhaps in Latin.

This, in turn, entails that the relevant inherited material, including compositional predicates with adjectives/participles and (optionally) the verb 'to be', either continues a Proto-Indo-European full verb with this argument structure or that an inherited argument structure may have been assigned to innovated predicates with a different predicate structure than the source predicate; in this case from a full verb to a compositional predicate with an adjective/participle and (optionally) the verb 'to be'. Irrespective of whether the documented adjectives/participles of compositional predicates continue a former full verb or whether the argument structure has been innovated across different predicate structures, we argue that this argument structure was inherited from the Indo-European parent language. Confirmation for this scenario comes from the fact that this structure triggered a semantic shift from 'to be short' to 'to lack', a shift that is observed as early as within Anatolian, the most basal branch of the Indo-European language family.

We start in Section 2 below with an overview of the adjectival formations of the root *$menk^{w}$- as retrieved from three Indo-European subbranches, Indo-Iranian, Baltic and Italic. Of these, Old Italian and several modern Romance languages exhibit a full verb, cf. OIt. *mancare* 'to lack', selecting for a Dat-Nom case frame. A corresponding verb is not documented in Latin. In Section 3 we turn to verbal formations found in Germanic and Tocharian, respectively. This includes the *jan*-verb *gi-mengen* < *$mangwjan$- in Old High German, which selects for a Dat-Gen case frame, and the full verb *$m^{(j)}ənk^{(w)}ā$- in Tocharian, selecting for an Obl-Nom case frame. In Section 4 we present the Anatolian data, including a discussion of the etymological relation between the seven attested formations in Hittite. Of those, it is only the *nt*-stem, *maninkuu̯ant-*, that occurs with a Dat-Nom case frame. In Section 5 we present arguments for the claim that the Proto-Indo-European root form indeed is to be reconstructed as *$menk^{w}$- rather than *$menk$-. Section 6 synthesizes our observations on the case marking patterns found across the involved

Indo-European subgroups and outlines the implications for a Proto-Indo-European reconstruction of these case marking patterns. On this basis, we suggest a reconstruction of a verb 'to be short; to lack' in Proto-Indo-European, instantiating an argument structure involving a dative subject. Section 7 concludes and summarizes the content of this article.

2. Adjectival Formations

Various Indo-European daughter languages provide potential evidence for adjectival formations derived from the root *$menk^w$-: i) a *u*-stem as continued by the Vedic hapax *maṅkú-*, most likely meaning 'unsteady, staggering', ii) a Lithuanian thematic stem *meñkas* 'slight, insignificant, weak', as well as possibly, iii) a Latin adjective *mancus* 'maimed, crippled'. In the following subsections, we discuss each of these in detail.

2.1 Sanskrit *maṅkú-* 'impaired'

The adjective *maṅkú-* is attested once in the Middle Vedic text *Śatapatha-Brāhmaṇa* , in a context in which it modifies Indra (1). As a result of the difficulties interpreting this *hapax legomenon* semantically, the adjective has been translated as 'tottering' (Eggeling 1894: 131), 'stupefied' (Burrow 1948: 388) and 'schwankend, taumelnd' (Mayrhofer 1994: 290), all referring to Indra's intoxicated condition:

(1) *sá* *sómātipūto* ***maṅkú-r*** *iva* *cacār-a*
DEM Soma-purged:NOM.SG.M impaired-NOM.SG.M like walk:PRF-3SG
'Being thus purged by Soma, he [Indra] walked about as one **tottering** (as per Eggeling l.c.).' (Śatapatha-Brāhmaṇa 5.5.4.11)

Although the synchronic interpretation of textual evidence should not be guided by etymological considerations, the above-mentioned proposals for the translation of the Vedic adjective *maṅkú-* certainly do not contradict an underlying meaning 'impaired'. Semantically, this is sufficiently close to the hypothesized cognates in the other Indo-European daughter languages, discussed in the following sections, to allow for an etymological link between these.

We thus largely cede to earlier scholarship on the possibility of such a link. Mayrhofer regards the link with the Lith. adjective *meñkas* 'slight, insignificant, small, weak, inferior' as "not that unlikely"[1]. He disagrees with Burrow, who analyzes Skt. *maṅkú-* as a Dravidian loan (cf. Tamil *makku-* 'to become stultified, dumb') and also rejects the etymological connection with the PIE root *menk- 'to knead' (as in Gr. μάσσω 'to knead', OS *mengian* 'to blend', Lith. *mánkau*, *mánkyti* 'to press', cf. *LIV*[2]: 438). We emphasize that there are no objections to analyzing the *u*-stem *maṅkú-* as an original Proto-Indo-European formation. In fact, since it conforms to the derivational set of rules formed by the *Caland System* (cf. Meissner 1998, Meier-Brügger, Fritz & Mayrhofer 2003, Rau 2009, Bichlmeier 2014; see also Appendix A below), it may belong to an archaic stratum within Vedic. According to the known phonological rules, as well as derivational

[1] Our translation of "nicht so unwahrscheinlich" (Mayrhofer 1994: 290).

patterns, we can regularly derive the Vedic adjective *maṅkú-* from an Indo-European proto-form **menk$^{(w)}$-u-* or **monk$^{(w)}$-u-*.

2.2 Lithuanian *meñkas* 'weak'

In Baltic etymology, the connection between Lith. *meñkas* 'insignificant, small, weak, inferior' and Skt. *maṅkú-* is undisputed (Güntert 1916: 58, Fraenkel 1955: 436b, *ALEW* 1, 633). Formally, *meñkas* can be straightforwardly derived from an *e*-grade *o*-stem adjective **menk$^{(w)}$-o-*. This adjective is demonstrably unrelated to OCS *mękъkъ*, Ru. *mjágkij*, *mjágok*, SCr. *mȅk* 'soft' < PSlav. **mękъkъ*: Given the Proto-Balto-Slavic acute intonation of these latter formations, they must rather be derived from a nonidentical root **mn̥Hk$^{(w)}$-o-* containing a laryngeal (cf. Derksen 2008: 314).

2.3 Latin *mancus* and Italian *manco*, *monco*

A further potential cognate is extant in the form of the Latin adjective *mancus* 'maimed, crippled'. This adjective has previously been explained as being related to *manus* 'hand' (Walde & Hofmann 1938: 23, Pokorny 1956–69: 740–741), but the semantic shift from 'hand' to 'maimed', allegedly through an intermediate "handy" or "an der Hand", is not evident (thus, cf. De Vaan 2008: 361). A more straightforward etymology would be to assume that *mancus* derives from an *o*-grade adjective **monk$^{(w)}$-o-*. Even though the expected outcome of **monk$^{(w)}$-o-* is ***muncus* in Latin with regular raising of *o* to *u* before tautosyllabic nasals (Meiser 1998: 83–84), the initial *o* may have been unrounded after *m-*. Such unrounding has parallels in well-established cases like *mare* 'sea' < **mori* (cf. OIr. *muir*, MW *mor* 'sea') and *marītus* 'married' < **mor-ei̯-to-* (Pedersen 1905: 416, Schrijver 1991: 454ff).[2] According to Vine (2011: 264–266), the tendency toward unrounding also affects closed syllables, as in the case of **monk$^{(w)}$-o-*, cf. *margō*, *-inis* 'border' < PIE **morg-* / **mr̥g-* vs Goth. *marka* 'border' < PIE **morg-eh$_2$-*.

In fact, direct evidence for the existence of the expected form ***muncus* is possibly at hand in the form of It. *monco* 'maimed' and the derived *moncare* 'to maim' as well as *moncherino* 'stub (of the arm or leg)'. Diez (1853: 214) regards the Italian form *monco* as a contamination of *mancus* with the Lombardic adjective *moch* 'blunt'.[3] Alternatively, it has been claimed that *monco* arose as a cross of *manco* 'maimed', the regular outcome of Lat. *mancus*, and Lat. *truncus* or It. *tronco* 'truncated' (Lindsay 1894: 18). Taken at face value, however, *monco* simply resembles a direct continuation of Lat. ***muncus*. Like Lat. *mancus*, it refers to bodily incompleteness, cf. the expressions *monco di un braccio*, *monco di una mano*, *monco di una gamba* 'one-armed, one-handed, one-legged'. While this scenario requires us to accept the assumption that *monco* is a vestige of an unrecorded Latin dialect, the implied dialectal distribution would fit a relatively late and possibly regional unrounding of **moncus* to *mancus*.

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[2] Alternatively, it is conceivable, although we find it unlikely, that the form *mancus* is due to a lexical association of ***muncus* with *manus* 'hand' or *manicus* 'handcuff' by way of contamination (for a similar connection of *mancus* with *manicus* 'handcuff' see the references in Walde & Hofmann 1938, s.v. *mancus*).

[3] The Rhaeto-Romance form, Sursilvian *muncar* 'lack, be missing', is non-probative because it has developed directly from Lat. *mancāre* with regular pretonic development *a* > *u* (cf. for the accented development 3sg. *maunca* 'is lacking' < **mā́nca*, cf. Mayerthaler 1982: 145). It is therefore not (directly) cognate with It. *moncare*, nor does it bespeak a Latin form ***muncus*.

The adjective *mancus* has itself given rise to a post-classical verb **mancāre*, cf. It. *mancare*, Sp., Po., Cat. *mancar* and Fr. *manquer* 'to lack', attested with dative subject-like arguments in these languages, as shown in (2–3) below. We take it that this **mancāre* preserves the original argument structure as evinced by its continuants in the Romance languages:

(2a) Old Italian *mancare*

lo	*spirito*	***mi***	*manca*
ART	spirit	1SG.OBL	lack.3SG.PRS

'I lack spirit.' (Giacomo da Lentini III, 52, 13th c.)

(2b) Old Italian *mancare*

All'	***alta***	***fantasía***	*quì*	*mancò*	*possa*
to.ART	high	fantasy	here	lack.3SG.PRF	strength.NOM

'The high fantasy lacked strength here'
(Dante Alighieri, Commedia Par. XXXIII: 142, y. 1320).

(3) Old Catalan *mancar*

paraís	*no*	***us***	*pot*	*mancar*
paradise.NOM	not	us.OBL	can.3SG.PRS	lack.INF

'you cannot miss out on paradise' (Joanot Martorell, Tirant lo Blanch, y. 1490)

Note that at this point in history, the dative case has been replaced by a prepositional phrase in Old Italian, headed by *a* 'to' when the dative is a full noun. Also, in Old Catalan, the accusative and dative have merged into a general oblique case.

The relative old age of the Romance argument structure is further confirmed by the adoption of the verb **mancāre*, including its syntax, into Proto-Albanian. It subsequently underwent several Albanian sound changes, such as the voicing of *-nk-* to *-ng-* and the rounding of **ā*, ultimately to surface as Modern Albanian *mungoj* 'to be absent, lack' (Demiraj 1992: 5), as shown in (4) below:

(4) Albanian *mungoj*

Më	*mungon*	*kurajoja*
me.DAT	lack.3SG.PRS	courage.NOM

'I lack the courage'

Given the ubiquity of the argument structure, found across several Romance varieties, we take these data as evidence for the reconstructability of the argument structure, even though no such corresponding verb is attested in Classical Latin. The Romance examples in (2–3) above show beyond doubt that this syntactic pattern remained productive long enough in Latin to be applied to new structures, in this case to a finite verb construction comprising the suitable semantics (cf. Barðdal et al. 2012 on the semantics of the dative subject construction in the early Indo-European languages).

To conclude, we assume that argument structures may be inherited across different predicate structures. That is, an inherited argument structure may be assigned to new predicates, formed with cognate material, even though the predicate structure of the innovated predicate is different from the predicate structure of the source predicate. In this case, the source predicate was a compositional predicate, consisting of (an

optional) 'to be' and an adjective, *mancus* ~ **muncus*, i.e. DAT + ('is') + ADJ, while the innovated predicate is a full verb, **mancāre*.

It is well known that argument structure constructions may attract synonymous verbs through the course of time, irrespective of their cognacy status (cf. Barðdal 1999, 2008, 2012, Barðdal & Eythórsson 2020, Elvira 2011, Melis & Flores 2013). The question arises whether or not cognacy would facilitate such a process. This is a difficult issue to contemplate, as it is impossible to know in advance whether the argument structure is inherited or only transferred, when the lexical material is cognate. It stands to reason that similarity in both form and meaning should have a stronger effect than only similarity in meaning. Hence, it would be expected that cognate forms with the same meaning are more likely to be an attractor for existing argument structures than only lexical, non-related verbs having the same meaning.

3. Verbal formations

In the Old Italian and Old Catalan examples in (2–3) above, an argument structure is observed, typically associated with verbs meaning 'to lack' in languages that allow for such non-canonically case-marked argument structures. Here we adduce a number of additional syntactic patterns associated with related verbs in other Indo-European languages, viz. Germanic, Tocharian and Hittite. Although the individual formations are disparate and cannot be unified into a single Proto-Indo-European type, the accumulated evidence suggests that, as in the case of Proto-Romance **mancāre*, the non-canonically case-marked argument structure is inherited from the parent language and was assigned to the different verbal formation, as they arose in the later daughter languages.

In the subsections below we discuss the evidence from Germanic and Tocharian, before we turn to Hittite in Section 4.

3.1 Proto-Germanic **mang(w)jan*- 'to lack'

In Germanic the verbal base **menk*^{w}- is potentially found in at least three different verbal formations attested in Old High German: i) *(gi)mengen*, ii) *mangōn*, and iii) *(gi)mangolōn*, all meaning 'to lack'. These are exemplified in (5) below:

(5a) *(gi)mengen* 'to lack'

daȝ	***tir***	*eteliches*	*liebes*	*mangta*
that	2SG.DAT	much:GEN	dear:GEN	lack:3SG.PRT

'… that you lacked many a dear thing' (Nōtker, 11th c.)

(5b) *mangōn* 'to lack'

unt	*sih*	*daȝ*	*perge*	*an ein wisin*	*unter*	*derda*
and	self.REFL	that.NOM	hide.3SG.SUBJ	by a meadow	under	the=earth
unt	***man***	*sīn*	*sō*	*manga*		
and	one:NOM	one.3SG.GEN	so	lack:3SG.SUBJ		

'… and that it [the water] hides/takes cover by a meadow beneath the earth, and that one lacks it so.' (Merigarto, 11th c.)

(5c) *(gi)mangolōn* 'to lack'

thaȝ	***ih***	*niht*	*mangolō*	*thes*	*drof*	*in*
that	1SG.NOM	not	lack:1SG.PRS	that.GEN	above	in
himilrīches	*frithof*					
heaven:GEN	graveyard					

'… that I do not lack it above, in the heavenly graveyard' (Otfrīd, 9th c.)

Starting with their argument structure, all three of the Old High German verbal formations described above are found with genitive (partitive) objects. In addition, the oldest formation *(gi)mengen* 'lack' in (5a) selects for a dative subject-like argument, while the more recent formations occur with nominative subjects. The general development from a dative subject-like argument to a nominative subject is well attested in the Germanic languages (Dal 1966: 168–170, Faarlund 1990, Allen 1995, Falk 1997, Barðdal 1998, 2001, 2004, Eythórsson 2001, 2002, Barðdal & Eythórsson 2003, Eythórsson & Barðdal 2005, Barðdal 2011). As a result of such inner-Germanic parallels, the most parsimonious hypothesis concerning the evolution of the argument structure is indeed to assume that *(gi)mengen* originally contained a dative-subject-like argument (see Dunn et al. 2017 for a reconstruction of oblique case for the subject-like argument of another 'lack' verb in Proto-Germanic).

Etymologically, the second class weak verb *mangōn* in (5b) was clearly derived from a Proto-West-Germanic noun that appears to be continued by MHG *mang* (m./f.) 'lack, flaw', continuing PGm. **mang(w)a/ō-* < PIE **monk*$^{(w)}$*-ó/éh*$_2$*-*. This formation is formally identical to Tocharian A (ToA), *mańk-* 'lack, fault', which likewise appears to continue **monk*$^{(w)}$*-o-* (see 3.2 below). The OHG verb *mangōn* itself probably served as the derivational basis for the secondary iterative *(gi-)mangolōn* (cf. Grimm & Grimm 1838–1961: 1540), shown in (5c), which in turn gave rise to the backformation MHG *mangel* m. 'lack' (attested from the 12th century onwards). In contrast, OHG *(gi-)mengen* in (5a) must be an independent and more primary verbal formation, as is clear from the archaic "Rückumlaut" of the preterite *(gi-)mangta*. Although *(gi-)mengen* is attested relatively late, i.e. from the 10th century onwards, and has even been argued to be a loan from Vulgar Latin *mancare* (Riecke 1996: 136–137), the most straightforward way to account for it, is to reconstruct a Proto-Germanic formation **mang(w)jan-* (cf. also Falk & Torp 1909: 309).

Two derivational pathways are at hand for the coinage of **mang(w)jan-*. First, the verb may be analyzed as a secondary denominative factitive *jan*-verb created to the aforementioned noun **mang(w)a/ō-* or its later West Germanic continuant. This would suggest that the non-nominative argument structure of **mang(w)jan-* was not directly inherited from Proto-Indo-European or even Proto-Germanic, but was acquired at a later stage. While this means that the relevant argument structure can then not be a direct continuation from Proto-Indo-European to Old High German with this verb, it nevertheless shows that this argument structure involving dative subjects remained productive until well after the Proto-Germanic stages, as it was in other Germanic languages (Barðdal 1999, 2008, 2009, cf. also Barðdal et al. 2012).

As a second possibility, the verb may have been inherited from Proto-Indo-European as a primary causative **monk*$^{(w)}$*-éi̯e-* (cf. Hamel 1931, Prokosch 1939, García García 2005 and Ottósson 2013). A key issue is that a primary causative formation should normally be accompanied by a causative meaning, in this case 'to cause to lack', while the attested meaning is simply 'to lack'. This would leave a primary intensive–iterative function, as is often found with old intransitive *jan*-verbs (García García 2005: 40–45) as

an alternative. However, no clear intensive–iterative semantic function seems to be extant, as opposed to in, for instance, Old Norse *dengja* 'to beat, hammer' < **dang(w)jan*- and *berkja* 'to bark' < **barkjan*-.

It therefore seems preferable to indeed start from an original causative, and to resolve the absence of a causative meaning by reconstructing an oblique anticausative construction. In such a construction, the object case marking of the causative alternant has been preserved on the subject of the anticausative alternant (cf. Sandal 2011, Ottósson 2013, Matasović 2013, Barðdal 2014, 2015, Bjarnadóttir 2014, Cennamo, Eythórsson & Barðdal 2015, Barðdal et al. 2020), hence the term *oblique anticausativization* (Barðdal 2014, Barðdal et al. 2020). Two such examples are given below, (6) from Old Norse-Icelandic and (7) from Lithuanian:

(6a) Old Norse-Icelandic three-place predicate

gefa	*vildim*	***vit***	***þér***	***fé***	*til*
give	would.want.3PL	we.two.NOM	you.DAT	money.ACC	towards

'the two of us would want to give you money' (Njáls saga, Ch. 49)

(6b) Old Norse-Icelandic two-place predicate

Ok	*er*	***þeim***	*gaf*	***byr***
and	when	they.DAT	gave.3SG	wind.ACC

'and when they received wind' (Gunnlaugs saga Ormstungu, Ch. 5)

(7a) Modern Lithuanian three-place predicate

Vėjas	***sodą***	*prinešė*	***sniego***.
wind.NOM	garden.ACC	brought.3SG	snow.GEN

'The wind brought snow to the garden / filled the garden with snow.'

(7b) Modern Lithuanian two-place predicate

Sodą	*prinešė*	***sniego***.
garden.ACC	brought.3SG	snow.GEN

'The garden got filled with snow.'

The Old Norse-Icelandic example in (6) involves the verb *gefa*. In (6a) *gefa* means 'to give', occurring with a nominative subject, dative indirect object and an accusative direct object. In contrast, in (6b) *gefa* does not mean 'to give' but 'to receive', occurring with a dative subject(-like) argument and an accusative object. The example in (6) has a "middle" meaning in the sense that the event takes place by itself, hence the nominative causer is not a part of either the event structure or the argument structure. As such, the two examples represent two different perspectives of a giving event.

The same is true for the Lithuanian examples in (7) involving the verb *prinešti* 'to bring (a quantity of)', which means 'to fill with snow' in (7a) but 'to get filled with snow' in (7b). The number of arguments is three in (7a), nominative subject and two objects, one in the accusative and the other in the genitive. In the anticausative alternant in (7b), the nominative causer is not a part of the event structure, as this represents an event that happened by itself, only the accusative subject(like-) argument and the genitive object are present.

The example sets above both involve three-place predicates. Equivalent two-place predicates are much higher in type frequency in Old Norse-Icelandic, cf. for instance the

following example pairs with *leggja* 'lay' and *setja* 'set', both originally causative *jan*-verbs, in (8–9) below:

(8a) Two-place predicate *leggja* 'put sth in motion in a certain direction'
Eðr ***ek*** *legg* ***sverðshjöltin*** *á nasir þér.*
or I.NOM lay.1SG cross.guards.the.ACC on nostrils you.DAT
Or I will lay the sword's cross guards over your nostrils.'
(Hænsna Þóris saga, Ch. 10)

(8b) One-place predicate *leggja* 'move in certain direction'
því at hingat leggr ***allan reykinn****.*
because that herein lays.3SG all.ACC smoke.the.ACC
'because all the smoke lies this way.' (Brennu Njáls saga, Ch. 129)

(9a) Two-place predicate *setja niður* 'put down'
Hallbjörn *… setti* ***hann*** *niðr hjá sér.*
Hallbjörn.NOM set.3SG him.ACC down at himself.DAT
'Hallbjörn … put him down next to himself.' (Brennu Njáls saga, Ch. 139)

(9b) One-place predicate *setja niður* 'settle'
þegar … niðr setti ***moldrykit****, þá*
when down set.3SG soil.dust.the.ACC then
'when … the soil dust settled itself, then ...' (Alexanders saga 105[24])

Both the Icelandic and the Lithuanian examples are different from ordinary causative–anticausative pairs, discussed in the typological literature, which are head-marking, in the sense that the anticausative marker is given on the verb. Instead, with oblique anticausatives the marking is found on the dependent, i.e. the subject(-like) argument, while no anticausative marking is found on the verb. Therefore, there are good parallels for causative semantics being canceled in oblique anticausatives not only in Germanic but in several ancient, early and archaic Indo-European languages (see the overview in Barðdal et al. 2020). Accordingly, there are no formal or semantic objections against deriving **mang(w)jan*- directly from a PIE formation **monk*$^{(w)}$*-éi̯e*- 'to make short, lack', on the assumption that its non-canonical argument structure, Dat-Gen, was inherited from the same stage.

3.2 Proto-Tocharian **m*$^{(j)}$*ənk*$^{(w)}$*ā*- 'to lack'

Tocharian attests a potential cognate verb with exactly the same semantics as the Germanic lexemes. These are the 3rd class verb ToA *mäṅkā*- 'to lack', not found instantiating the Dat(Obl)-Nom construction, and ToB *mäṅkā*- 'to lack', indeed featuring a non-canonically case-marked argument structure, with the subject-like argument not marked in the nominative, but in an oblique case. This is shown in examples (10) below, where the enclitic subject-like pronoun =*me* 'them' occurs in the oblique case:

(10a) Tocharian B

śātre	*lauke*	*mäṅketär=**me***
crops:NOM	wide	lack:3SG.PRS.MP=2PL(ENCL).OBL

'You lack crops to a large extent.'[4]

(ToB, THT 1574 a2, here cited from Thomas 1964: 74)

(10b) Tocharian B

cai	*no*	*akn*[*ātsañ*] […]	*po*	[…]	*aiśe*[*ñca*]*ñ*
this:NOM.PL	however	fool:NOM.PL	all:NOM/OBL.PL		knowing:NOM.PL
[*kekts*]*e*[*ñts*	*e*]*kñi*[*nta*]	*mā*	[*mä*]*ṅ*[*k*]*ān*[*tä*]*r=**me***		
body:GEN.SG	possession:NOM.PL	not	lack:3PL.PRS.SUBJ.MP=3PL(ENCL).OBL		
cek warñai					
in any way					

'These foo[ls] […] all [… not?] recognising … of the [bod]y, if they are not [la]c[k]ing [p]ossessi[ons] in any way.' (ToB, THT 24 b3)

Unfortunately, the Tocharian manuscript from which (10b) is taken is catastrophically damaged and the original photograph has disappeared. Thus, additions and emendations are based on Sieg & Siegling (1983: 57).

Turning to the pre-history of Tocharian 3rd class verbs in *-ā-*, like *mänkā-*, which is still a highly debated topic (see Malzahn 2010: 232), it is usually assumed that this class originated in verbal root formations built on so-called *seṭ*-roots, i.e., roots ending in a laryngeal (*CeCH-*), or that it originated in formations involving a suffix containing a laryngeal, like essives in *-h_1*ie/o-*, for instance. However, it is an established fact that the 3rd class became highly productive also with original *aniṭ*-roots (*CeC-*). For our purposes, this means that *mäṅkā-* can be traced back to either a verbal root formation of an *aniṭ-* or a *seṭ*-root *$m(V)nk^{(w)}(H)$-, on the one hand, or to an essive formation, *$m\underset{\circ}{n}k^{(w)}$-$h_1$*ie/o-*, on the other. Both of these are primary verbal formations built directly to the root *$menk^{w}(H)$-.

A third possibility, to derive PTo. *$m^{(j)}ənk^{(w)}ā$- from a noun which is attested in ToB *meṅki* 'lack' and ToA *maṅk* 'lack, fault' is, however, unlikely for several reasons. First of all, the two Tocharian forms, *meṅki* and *maṅk*, are not identical with regard to their stem formation. The ToB noun *meṅki* occurs with the nominal suffix *-*oi*, found in Gr. πείθω 'persuasion' and Hitt. *zaḫḫai-* 'battle' (cf. the type found with ToB *reki*, ToA *rake* 'word', ToB *telki*, *talke* 'sacrifice'; see Pinault 2008: 443–444). In contrast, the ToA form *maṅk* may be directly equated with the MHG noun *mang* 'lack, shortage' < *$monk^{(w)}$-*ó-*. A second and more compelling reason for not deriving Proto-Tocharian *$m^{(j)}ənk^{(w)}ā$- from a noun is that denominal verbs as a rule do not end up in the Tocharian 3rd class, as shown by Malzahn (2010: 753) and Hackstein et al. (2014: 74).

To conclude, the foregoing considerations result in two possible reconstructions for the verbal formation of the Tocharian 3rd class verb *$m^{(j)}ənk^{(w)}ā$-: either a primary full or zero grade middle PIE *$m(e)nk^{(w)}$-$^{to(r)}$, with the 3rd class inflection being secondary, or a primary essive formation in *-h_1*ie/o-* PIE *$m\underset{\circ}{n}k^{(w)}$-$h_1$*ie/o-*^{ti}, where inflection according to the 3rd class is expected. The latter is, however, less likely given the middle inflection of ToAB *mäṅkā-* (cf. 3rd sg., middle *mäṅketär* in 7 above). Irrespective of which, the question arises whether the non-canonically case-marked argument structure is

[4] Cf. Schmidt (1974: 109): 'Euch fehlt es weit[hin] an Getreide.'

inherited from Proto-Indo-European as well. Given the comparative evidence, it seems reasonable to assume that the argument structure of Tocharian *$m^{(j)}$ənk$^{(w)}$ā- is indeed inherited.

After this discussion of the Germanic and the Tocharian data, we now turn to Hittite which offers further evidence for an inherited argument structure construction employing cognate elements.

4. Hittite *mani(n)kuu̯ant-* 'short, little, close, at hand' and its derivatives

In Hittite a wide array of derivatives can be documented which potentially exhibit as their ultimate derivational basis the same verbal root *$menk^{w}$- that is attested Germanic and Tocharian. These derivatives are listed in Table 1. The semantic prototype for these derivatives was probably 'little, small' out of which the two meanings, 'close', referring to a small distance, and 'short', developed independently. Of these derivatives, it is the *-nt*-stem *maninkuu̯ant-*, at the top of the list in Table 1, which is attested with a non-nominative subject-like argument, as shown in (11a–b).

Table 1: Hittite manifestations of the Proto-Indo-European root *$menk^{w}$-

	Hittite form	meaning	function
1.	*maninkuu̯ant-*	'short, little, close, at hand'	(adjective ← ptc.?)
2.	*maninkuu̯antatar*	'shortness (?)'	(abstract noun)
3.	*maninkuu̯andaḫḫ-^{i}*	'to shorten, to make short'	(factitive)
4.	*maninkuu̯aḫḫ-^{i}*	'to draw near, to come close', 'to shorten, to make short'	(factitive)
5.	*maninkuu̯ēšš-^{zi}*	'to become short'	(fientive)
6.	*maninkuu̯anu-^{zi}*	'to bring near (?)'	(causative)
7.	*maninkuu̯an*	'close, near, nearby'	(adverbial)
8.	(*)*maninkuu̯a-* (?)	'short (?), close (?)	(adjectival ?)

(11a) ***ANA $^{\mathrm{m}}$Ḫa[tt]ušili=u̯a*** MU$^{\text{KAM.ḪI.A}}$ *maninkuu̯anteš* (*UL=u̯ar=aš* TI-*ann*[*aš*])
Ḫattušili:DAT.SG=QUOT year:NOM.PL.C short:PTC.NOM.PL.C
'Ḫa[tt]ušili has a short life span.' or: 'Ḫa[tt]ušili lacks years.'
(Neo-Hittite KUB 1.1 i 14-15)

(11b) *meḫur=**ši*** *maninkuu̯an*
time.NOM.SG.N=3.SG.(ENCL).DAT short:PTC.NOM.SG.N
'Time (is) short for him.' or: 'He lacks time' (Neo-Hittite KUB 6.3: 21)

The subject-like argument in (11a), *ANA Ḫattušili*, is in the dative case, written partially akkadographically, and the same is true for the subject-like argument in (9b), *=ši* 'him', which is the 3rd sg. enclitic dative pronoun. The predicate is the same in both cases, the *-nt*-stem *maninkuu̯ant-*, synchronically used as an adjective. It agrees grammatically with MU$^{\text{KAM ḪI.A}}$ /u̯eteš/ 'years' and *meḫur* 'time(span)'. Diachronically, this *-nt*-stem is most likely to be analyzed as a participle, *maninkuu̯-ant-*, rather than a *-u̯ant*-stem *manink*(*u*)-

u̯ant-, (see section 5 below, as well as appendices 2 and 3 for a detailed discussion and arguments against a *-u̯ant-*stem). It appears to have been derived from of an unattested primary verb **maninku-^{zi}* (see below). Note that the original lexical semantics of *maninkuu̯ant-* 'short' is clearly visible in these examples.

From a historical-comparative perspective, we note a striking semantic and syntactic parallelism between the Hittite examples above with a non-nominative subject construction and the type found in Germanic and Tocharian with the semantics 'lack' + DAT. Admittedly, there is a formal difference between the Germanic and Tocharian constructions, on the one hand, and the Hittite one, on the other. In Hittite it is not the finite form of the verb that is used with a non-nominative subject-like argument, but the participle. The German and the Tocharian examples in contrast do employ finite verbs with their non-nominative subject-like arguments. Obviously, it is possible that the finite construction is simply not attested due to the limited nature of the Hittite corpus. However, we find it more likely that the finite verb **maninku-^{zi}* was lost during a pre-Hittite stage: it is possible that the argument structure of the attested compositional predicate, DAT + ('is') + ADJ, was inherited from this finite verb, and subsequently retained by the participle, later adjective *maninkuu̯ant-*.

There is, moreover, a systematic parallelism between nominal sentences, involving participles, and finite constructions in Hittite, cf. the following examples in which (a) exemplifies the use of a particle, while (b) shows the corresponding finite verb construction:

(12a) Participle

tuḫḫūu̯aiš	*mān*	*kuiški*	***kišanza***
smoke:NOM.SG.C	like	something/-one:NOM.SG.C	appear:PTC.NOM.SG.C

'Something like smoke (is) appeared.' (Neo-Hittite KUB 5.24 ii 16)

(12b) Finite form

ēšḫar	***kišari***
blood(y=deed).NOM(/ACC).SG.N	appear:3SG.PRS.MP

'A bloody deed (murder) appears.' (Middle Hittite KBo 8.35 ii 3)

(13a) Participle

šanizziuš	*tēzzuš*	***šupparianza***	*ēšta*
sweet:ACC.PL.C	dream:ACC.PL.C	dream:PTC.NOM.SG.C	be:3SG.PRT

'We were dreaming sweet dreams.' (Neo-Hittite KUB 36.89 rev. 57)

(13b) Finite form

[*kuitman*	***šup***]***pariu̯auu̯aštati***	*nu*	*lukkešta*
[when	dre]am:1PL.PRS.MP	then	dawn:3SG.PRT

'[When we dre]amt, it dawned.' (Neo-Hittite KUB 8.48 i 1)

On the assumption that participles are derived from verbs, which needless to say is uncontroversial, the existence of a participle, in this case *maninkuu̯ant-*, indeed presupposes the existence of a corresponding verb with the form **maninku-^{zi}* /manink^{w}-/ in Hittite, as stated above.

Participles of transitive verbs are object-oriented and have a resultative meaning in Hittite (14a), whereas participles of intransitive verbs are subject-oriented and are either resultative, from telic verbs (12b), or simultaneous, from atelic verbs (14c):

(14a) Object oriented, resultative
kunant- 'killed, slain' ← *kuen-*^{zi} / *kun-* 'to slay'
ḫarninkant- 'destroyed' ← *ḫarni*(*n*)*k-*^{zi} 'to destroy'
ḫami/enkant- 'bound' ← *ḫamank-*^{i} / *ḫami/enk-* 'to bind'

(14b) Subject oriented, resultative
akkant- 'dead (< having died)' ← *āk-*^{i} / *akk-* 'to die'
ermaliant- 'ill (having fallen ill)' ← *a/ermaliie/a-*$^{tta(ri)}$ 'to sicken, fall ill'

(14c) Subject oriented, simultaneous
aršant- 'flowing' ← *arš-*^{zi} 'to flow'
šašant- 'sleeping' ← *šeš-*^{zi} / *šaš-* 'to sleep'

This means that, from a purely semantic point of view, the postulated finite verb **maninku-*^{zi}, underlying the participle *maninkuu̯ant-* 'short, close to', could in fact be attributed to either of the three options given above, i.e. it could be a telic, transitive verb meaning 'to make short' (→ participle 'made short'), or an intransitive telic verb meaning 'to become short' (→ participle 'having become short'), as well as an intransitive atelic verb meaning 'to be short' (→ participle 'being short'). All three would ultimately result in a meaning 'short' (< 'made short, having become short, being short'). However, taking into account the derivational properties of the postulated verbal formation **maninku-*^{zi}, based on the attested participle formation, only the first option is viable. As shown in the following, **maninku-*^{zi} probably represents a nasal-infix verb which are, as a rule, prototypically transitive.

The *Chicago Hittite Dictionary* assumes that our *-nt*-stem (*CHD* s.v. **maninkuwa-*) is derived from a hypothetical, unattested thematic adjective **maninkuu̯a-* (cf. nr. 8 of the derivatives in Table 1). Under this analysis *maninkuu̯ant-* is an adjective enlarged by the suffix *-nt-* on the basis of a morphologically simpler adjective **maninkuu̯a-*. This derivational pattern is well attested in Hittite; cf. *antarant-* 'blue' ~ *antara-* 'blue', *maršant-* 'crazy' ~ *marša-* 'crazy', *pittalu̯ant-* 'plain, simple' ~ *pittal-u̯a-* 'plain, simple' (for this derivation, setting out from an adjective **maninkuu̯a-*, cf. diagramme B in Appendix B below).

Notably, however, no adjective **maninkuu̯a-* is documented anywhere in the entire Hittite corpus. The authors of the *CHD* l.c. furnish the hapax *ma-ni*^{i}*-in-ku-e-eš*[(-), found in a highly fragmentary context in KUB 23.55 iv 8 (in Neo-Hittite script), which they tentatively analyze as a plural communis form of the adjective in question, **maninkuu̯a-*. Yet, a reading *maninkuēš*[*ta*] is equally likely, as the authors of the *CHD* themselves admit. This form would be the 3rd sg. preterite of the fientive stem *maninkuēšš-*^{zi} 'become short' (nr. 5. in Table 1).

The *CHD*, nevertheless, adds that "[e]ven without the passage cited above [i.e. the one attesting *maninkuēš* ... in a broken context], one would wish to posit an adjective **maninkuwa-* to explain the formation of the verb *maninkuwanu-* [nr. 6. in Table 1] and the adv. *maninkuwan* [7. in Table 1]". However, this statement is incorrect. It is not necessary to posit an underlying stem **maninkuu̯a-* to account for the other derivatives.

In Hittite there exists a derivational pathway, sometimes referred to as 'suffix substitution' or German *Suffixsubstitution*, according to which an *-nt*-stem—participle, *-nt*-adjective or *-u̯ant*-adjective—provides a derivational basis for other stems, such as *-aḫḫ*-factitives (cf. *maninkuu̯aḫḫ-*^{i}, nr. 4. in Table 1) *-ēšš*-fientives (cf. *maninkuu̯ēšš-*^{zi}, nr. 5. in Table 1), *-anu*-causatives (cf. *maninkuu̯anu-*^{zi}, nr. 6. in Table 1) etc., which are derived from the *-nt*-stem by deleting the *-nt*-suffix (see already Neumann 1962: 154–155, Benveniste 1962: 22–24, and the more detailed discussion in Oettinger 1979: 240–243 and Frotscher 2013: 53–57, 344–354); cf. e.g.:

- *paprant-* (*-nt*-adjective) 'filthy, impure' → *papraḫḫ-*^{i} 'make filthy', *paprēšš-*^{zi} 'become filthy'
- *kūruriu̯ant-* '(being) hostile' (*-nt*-participle ← *kūruriu̯e/a-*^{zi} 'be hostile') → *kūruriu̯aḫḫ-*^{i} 'be hostile'
- *išḫaru̯ant-* 'bloody' (denominal *-u̯ant*-stem ← *ēšḫar-* n. 'blood') → *ēšḫaru̯aḫḫ-* 'to make bloody'
- *mišriu̯ant-* (denominal *-u̯ant*-stem) 'bright, pretty' → *mišriu̯aḫḫ-* 'to make bright, perfect', *mišriu̯ātar* 'beauty', *mišriu̯ēšš-* 'to become beautiful'

The last two examples in the bulleted list above, with the denominal *-u̯ant*-stem, show beyond any doubt that an *-nt*-stem can indeed provide a derivational basis for other suffixal derivations such as *-aḫḫ*-factitives and *-ēšš*-fientives. The reason is that there is no complex suffix *-u̯aḫḫ-* in Hittite, instead the sequence °*ant-* of the suffix *-u̯ant-* has simply been replaced by *-aḫḫ-* of the factitive, etc. That suffix substitution is indeed a productive mechanism in Hittite is also evident from the fact that *-aḫḫ*-factitives, which are originally only denominal (see Hoffner & Melchert 2008: 175–176; cf. e.g. *nēu̯a-* 'new' → *nēu̯aḫḫ-* 'to make new, to renew', *arāu̯a-* 'free' → *arau̯aḫḫ-*^{i} 'to make free'), also become deverbal in some cases, as exemplified by *kardimiu̯aḫḫ-* 'to become wroth' ← *kardimiu̯e/a-* 'to wrath', *kūruriu̯aḫḫ-* 'to become hostile' ← *kūruriu̯e/a-* 'to be hostile'. Hence, the linking form for the deverbal *-aḫḫ*-derivation was probably the *-ant*-participle.

In the same manner, the *-nt*-stem *maninkuu̯ant-* 'short' can have formed the basis of *maninkuu̯aḫḫ-*^{i} 'to make short', *maninkuu̯ēšš-* etc. The adverb *maninkuu̯an* (nr. 7. in Table 1) is then simply the nom./acc.sg.n. form of *maninkuu̯ant-*, i.e. *maninkuu̯an* < *-*ont* with loss of the plosive in absolute final position (for the phonetics, cf. the nom./acc.sg.neut. of any participle, e.g. *šarninkan* of *šarninkant-* 'retaliated', *u̯aḫnuu̯an* of *u̯aḫnuu̯ant-* 'turned upside down'). In other words, it is precisely the *-nt*-stem *maninkuu̯ant-* which is the derivational basis for all the other derivatives in Table 1 and there is no need to posit a simple thematic stem **maninkuu̯a-*.

A further question to ponder upon is what kind of derivative *maninkuu̯ant-* itself is. One option is to analyze *maninkuu̯ant-* as a *-u̯ant*-stem derived from an unattested nasal-infix verb **manink(u)-*^{zi} (for this starting point of the chain of derivations, see diagramme C in Appendix B). However, Hittite *-u̯ant*-stems derived from verbal stems are exceedingly rare. Only a handful of examples have been documented (see fn. 5). Most of these are hapax legomena, occurring only as translational elements in texts based on Akkadian or Hurrian originals or as nonce-formations.[5] Since the posited stem **maninku-*

[5] E.g. *āššiu̯a-uu̯ant-* 'loving' ← *āššiu̯e/a-*^{zi} 'to love' (hapax RS 25.241 rev. 62 possibly translating a Ugaritic original), *ḫuške-u̯ant-* 'abiding, waiting' ← *ḫuške/-*^{zi} 'to abide, to wait' (hapax KBo 1.11 rev. 14, a Hittite word embedded in an Akkadian text), *armaḫḫ-uu̯ant-* '(being) pregnant' ← *armaḫḫ-*^{i} 'to become pregnant' (hapax KUB 41.8 iv 33 corresponding to the regular *-ant*-participle *armaḫḫ-ant-* in the duplicate KBo 10.45 iv 34),

can hardly be anything else than a nasal-infix verb (see on that directly below and cf. Appendix C), a derivation with the overwhelmingly denominal *-u̯ant*-suffix is highly unlikely.

We therefore prefer to analyze *maninkuu̯ant-* as a participle of an unattested verb **maninku-*^{zi} /manink^{w}-/ (cf. diagramme A in Appendix B for this derivational chain). In this scenario, the envisioned verbal stem, **maninku-*, could be the direct continuation of a PIE nasal infix present **mn-né-k*^{w}- / **mn-n-k*^{w}-´ derived from a root **menk*^{w}- 'to be short, small'. Having dismissed the option of reconstructing *maninkuu̯ant-* with a *-u̯ant*-suffix, the only way to account for the *-u̯-* is to assume that this element belongs to the root. As a result, this root should be identified as PIE **menk*^{w}- rather than **menk-* (see next section). Since nasal-infix presents are usually transitive, **maninku-*^{zi} is probably originally a factitive formation with a meaning 'to make short, small', of which a participle regularly provides the semantics seen in examples (11a) above: *maninkuu̯ant-* '(made) short' ← **maninku-*^{zi} 'to shorten, make short'.

Finally, we note that the semantic shift from 'to be short' to 'to lack' is of relevance to the question of whether the Indo-European proto-language employed oblique subject constructions. As this shift is most easily understood as being the result of occurrence in an argument structure involving an oblique subject, this is compelling evidence for the inherited nature of this syntax. Intriguingly, we observe that, while the semantic shift appears complete in the non-Anatolian branches, it is still in process in Hittite. It thus appears to offer an additional, syntactic argument in favor of the Indo-Anatolian Hypothesis, under which Anatolian is the first branch to split off from the Indo-European proto-language.

5. Reconstructing PIE **menk-* or **menk*^{w}-

We have so far reconstructed the verbal root as **menk*$^{(w)}$- with a potential labiovelar. However, the identification of the root-final velar poses a problem that is not easily resolved. The main problem is that the attestions found in the majority of the Indo-European branches are inconclusive regarding the choice between a plain velar **k* or a labiovelar **k*^{w}. The material stemming from *satəm* languages is of no use, as labialization is lost without a trace in those Indo-European dialects, at least in the relevant phonetic environment As a result, Skt. *maṅkú-* and Lith. *meñkas* are simply inconclusive. This leaves the evidence from the *centum* languages, where labialization is generally preserved, at least in the oldest stages. Due to some secondary developments, however,

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naḫšariu̯au̯ant- 'being afraid' ← *naḫšariu̯e/a-*^{zi} 'to be(come) afraid' (hapax KBo 3.21 ii 17 in the Hittite counterpart of an Akkadian hymn to Adad), *u̯eški-u̯ant-* 'lamenting' ← *u̯ēške/a-*^{zi} 'to lament' (attested only in the Ullikummi myth [KUB 36.12 ii 21, KUB 36.25 iv 6] and the Song of Silver [KBo 22.82: 6, KUB 17.4 obv. 7], both of Hurrian provenance). More frequent are only *kartimmiu̯a-uu̯ant-* 'being angry' ← *kartimmiu̯e/a-*^{zi} 'to be angry' and *pakkušš-uu̯ant-* 'crushed, grit' ← **pakkušš-*^{zi}. Given its passive semantics (as opposed to the active semantics of the other deverbal *-u̯ant*-formations) the latter could, however, also be a direct derivation of the verbal noun $^{(GIŠ)}$*pakkuššuu̯ar* (tool for crushing grains), since a verbal stem **pakkušš-*^{zi} is unattested (but cf. the iterative *pakkuške/a-*^{zi} 'to crush', i.e. *pakkušš-ške/a-*^{zi}). The origin of the deverbal *-u̯ant*-formations is unclear; for several explanatory attempts, see Oettinger (1988), in which a derivation from verbal nouns in *-uar*, *-u̯an-* is favored. There is no doubt, however, that deverbal *-u̯ant*-formations are not inherited. The alleged derivational parallel YAv. *ṯbiš-uuaṇt-* 'enemy' is better explained as a denominal formation from a basis **dbiš-* 'hatred' as seen in the Vedic root noun *dvíṣ-* f. 'hatred, enmity; enemy'.

most of the cognates from the *centum* languages are not of any avail either in this particular case.

In Germanic, cognates are only found in the High German dialects. As German belongs to the West Germanic subgroup, where the labialization of velars is regularly lost in the relevant phonetic environment, i.e. after nasals, cf. Goth. *siggwan* vs. OHG *singan* 'to sing', the lack of labialization is inconclusive here. As a result, it is impossible to decide between PIE **menk-* or **menk^{w}-* on the basis of the Germanic evidence alone.

The Tocharian forms, too, are indecisive. While the oldest stages of Tocharian likely preserved labiovelars, labialization has (mostly) disappeared without a trace in Tocharian A and indeed also in several environments in Tocharian B (see Pinault 2008: 445–446 for the complex situation), cf. ToB *peṅkte* 'fifth' < **penk^{w}tos* (cf. Lat. *quīn*(*c*)*tus*, Gr. πέμπτος, Lat. *quīnque*, πέντε < PIE **penk^{w}e* 'five') and ToB *erkent* 'black' < PIE **(h$_1$)rg^{w}-ont-* (cf. Gr. ἔρεβος, Goth. *riqiz* 'darkness'). As a consequence, both a plain velar (**menk-*) and a labiovelar (**menk^{w}-*) can be reconstructed on the basis of the Proto-Tocharian root **m$^{(j)}$ənk$^{(w)}$ā-* 'to lack'.

The material provided by Latin is equally ambiguous. Taken at face value both *mancus* and **muncus* (as based on It. *monco*) can be straightforwardly derived from **monk-o-* without a labiovelar. A proto-form **monk^{w}-o-* cannot easily be excluded, however. If original, the labiovelar could have been delabialized before endings containing a rounded back vowel, cf. nom.sg. *-us*, acc. *-um* < **-os*, *-om*. The hypothetical paradigm **muncus*, gen. **munqui*, would then have been leveled to **muncus*, **munci*. Parallel delabializations must be assumed for *equus* 'horse' and *coquus* 'cook' in view of the variants *ecus* (Varro) and *cocus* (Plautus), cf. for the latter also OIr. *coic*, OW *coc* (borrowed with a plain velar). As a result, it is unclear whether the Latin form continues **monk-o-* or **monk^{w}-o-*.

What decides the issue is the Anatolian evidence. Although the derivational history of Hitt. *maninkuu̯ant-* is complex, and theoretically allows for the reconstruction of either a plain velar or a labiovelar, we take the labiovelar to be the more likely candidate. As argued in Section 4 above, Hittite *maninkuu̯ant-* is most likely an *-ant*-participle rather than a *-u̯ant*-stem, which implies the pre-existence of an unattested nasal-infix verb **manniku-^{zi}* / **maninku-*. This is further corroborated by the Cuneiform Luwian cognate *mannakuna-* 'short' < **mn̥-n-k^{w}-nó-*, which with its root-final °*u* can only be derived from a root **menk^{w}-* with a labiovelar. Consequently, we prefer to analyze the Hittite verb **manniku-zi* / **maninku-* as a PIE nasal-infix formation **mn̥-né-k^{w}-* / **mn̥-n-k^{w}-´* derived from a root **menk^{w}-* with root-final labiovelar.

In conclusion, neither Sanskrit, Lithuanian, Germanic, Tocharian nor Latin are conclusive regarding the identification of the root-final velar: both a plain velar **k* as well as a labiovelar **k^{w}* are viable reconstructions for the PIE proto-language on the basis of these subdialects. The only evidence that allows us to clarify the issue comes from Anatolian which, as opposed to the other branches, maintains the contrast between plain and labiovelars. On the basis of this evidence, we reconstruct the root as **menk^{w}-*.

6. Reconstructing Case and Argument Structure

We have demonstrated above that in four branches of Indo-European, Italic, Germanic, Tocharian and Anatolian, predicates exist containing the Proto-Indo-European root **menk^{w}-*, of which Old High German occurs with a Dat-Gen frame, while the remaining

three branches occur with an inherited Dat-Nom case frame (see Barðdal & Smitherman 2013, Barðdal et al. 2013, Danesi, Johnson & Barðdal 2017, Barðdal (in press) for the inherited status of this case frame). The case frame Dat-Gen exists in Germanic, Baltic, Slavic and Ancient Greek, but appears to be absent in Italic, Anatolian, Tocharian and Indo-Aryan.

One may argue that the genitive with verbs of lacking has its origin in the partitive use of the genitive. This is confirmed by Delbrück's (1893: 316–318) observation that verbs of giving, taking and related verbs often occur with genitive objects in the Indo-European languages. Verbs meaning 'lack' clearly fall into that category. However, a partitive genitive is optional, while the use of a genitive in the Dat-Gen case frame is obligatory. We hypothesize that this obligatory use of the genitive is due to a lexicalization of the partitive genitive with verbs of lacking, caused by a reanalysis of the partitive genitive as being assigned by the verb, due to the overlap in the semantics of the verb and the semantics of the partitive genitive. Clearly, more research is needed on the origin of the Dat-Gen case frame in the branches were it exists, but given its absence in the earliest Indo-European strata, we do not find it feasible at this point to reconstruct the Dat-Gen case frame for Proto-Indo-European. Instead, we take the Dat-Nom case frame to be original with our 'lack' verb.

Turning to the morphological make-up of the verb, the four predicates show different nominal and verbal stem formations across the branches, as summarized in Table 2, with those derivatives attested as forming the predicate of an oblique subject construction being shaded in gray. In the remainder of this section we compare the argument structure of those predicates that are employed in an oblique subject construction, in order to reconstruct the most likely proto structure of the construction for Proto-Indo-European.

Table 2: A Summary of nominal and verbal derivatives of the root *$menk^{w}$-

	Nominal formations	**Verbal formations**
Italic	Lat. *mancus*, **muncus*, It. *manco*, *monco* adj. 'crippled, maimed' < *$monk^{w}$-o-	VLat. *$mancāre$ (→ Alb. *mungoj* [loan]), It. *mancare*, Sp. *mancar* 'lack'
Germanic	MHG *mang* m./f. 'lack, flaw' < *$monk^{w}$-ó-	OHG *(gi)mengen*, MHG *ge-mengen* 'lack' < *$monk^{w}$-(e)i̯e/o-
Tocharian	ToA *mańk* n. 'lack, fault' < *$mónk^{w}$-o-	ToB *mänkā-^{tär}* 'lack' < PTo. *$mənkā$- < *$mn̥k^{w}$-h_1i̯e/o-
Anatolian	Hitt. *mani(n)kuu̯ant-* adj. 'short, close' < *$mn̥$-n-k^{w}-ont-* (ptc.)	Hitt. *maninku-^{zi}* 'shorten' < *$mn̥$-né-k^{w}- / *$mn̥$-n-k^{w}-´
	CLuw. *mannakuna-* adj. 'short' < *$mn̥$-n-k^{w}-nó-	

With regard to the case markers themselves, in Tocharian the non-nominative clitic forms have merged into a general oblique form, while in Romance the original dative is manifested as a prepositional phrase, with pronouns occurring in a general oblique form.

On the basis of the data presented in Sections 2–4 above, we suggest a correspondence set, as in Table 3, for the predicate and argument structure of the derivatives of *$menk^w$- showing four alternative case and argument structure constructions for this verb.

Table 3: A correspondence set for the predicate and argument structure of derivatives of *$menk^w$-

	Alt 1	**Alt 2**	**Alt 3**	**Alt 4**
Italic	(DAT+V+NOM)			
Germanic		DAT+V+GEN		
Tocharian			OBL+V-MP+NOM	
Anatolian				DAT+('is')+ADJ+NOM

In only one of the branches, Anatolian, do we find a compositional predicate, DAT + ('is') + ADJ, while the remaining branches have simple verbs, although with different verb formations of the stem. It is likely that the compositional predicate in Hittite has replaced an older simple verb construction.

In contrast, Tocharian uses a primary verb formation with a medio-passive set of inflectional endings, which can be interpreted historically as the continuation either of an essive formation (< *$mn̥k^w$-h_1i̯e/o-), with the medio-passive inflection being secondary, or of a root-middle formation (< *$m(e)nk^w$-^{tor}). Germanic shows either a denominal factitive or an originally causative formation *mangwjan-, possibly a direct continuation of a PIE formation *$monk^w$-e̯i̯e/o- For Italic, the verb is definitely a secondary formation, possibly drawing on the same inherited structures as in the other branches, since *mancāre is not attested until in the Romance languages. Given the pervasiveness of the argument structure employed by this verb throughout Romance, a Proto-Romance age is beyond doubt and it is entirely conceivable that the construction employing this innovative verb replaced an older argument structure construction comparable to those of the other branches.

Given these considerations, we suggest a reconstruction for Proto-Indo-European of the type suggested in Figure 1, although this reconstruction is only partial. We assume that the verbal construction, as documented in Tocharian, is the original construction, while the compositional predicate in Hittite, employing a participle, must be regarded as a specific Hittite innovation given the special semantic properties of the Hittite -*nt*-participle formation. Furthermore, also the Germanic construction appears less original than the Tocharian one, as it makes use of a morphologically more complex causative derivative, which additionally requires the assumption of a decausativization.

For this reconstruction, we employ a box representation, as is typically used in constructional approaches to language and grammar (Kay & Fillmore 1999, Croft 2001, Michaelis & Ruppenhofer 2001, Boas 2003, Fried & Östman 2005, Michaelis 2009, 2013, Sag 2012, Fried 2015). The asterisk to the left of the outermost box entails that everything inside is a reconstruction. The box itself represents a verbal construction, including its argument structure and meaning. The box formalism consists of three fields, a FORM field, SYN field and a SEM field. The FORM field specifies the morphophonological form of the verb, which we here reconstruct as being a root-middle, *$m(e)nk^w$-MP, although we remain indecisive of the form of the endings of the mediopassive. In that sense, the reconstruction is only partial. The SYN field specifies the relevant argument structure of

the verb, in this case with two arguments, the first one, the subject(-like argument), in the dative case, while the second argument, the object, is in the nominative case.

*	*Verbal cxn*	
	FORM	< *$m(e)nk^{w}$-MP >
	SYN	ARG-ST < NP-DAT_i, NP-NOM_j >
	SEM	FRAMES: possession-fr; OWNER i; POSSESSION j

Figure 1: A partial reconstruction of the mediopassive verb containing the root *$menk^{w}$- and its argument structure for Proto-Indo-European

The meaning of the verb is here defined in terms of semantic frames, specified in the SEM field. The relevant frame, according to FrameNet (Baker, Fillmore & Lowe 1988, Johnson & Fillmore 2000, Fillmore, Baker & Sato 2002, inter alia) is the possession_frame, since lacking is the negative counterpart of possessing, with two participants, an owner and a possession.[6] The participant roles are indexed with *i* and *j*, respectively, which match the indexing of the arguments in the argument structure. Hence, the owner participant is coindexed with the first argument, the dative, while the possession participant is coindexed with the second argument, the nominative. Through this reconstruction, all the relevant properties of a verb *$m(e)nk^{w}$-MP in the grammar of Proto-Indo-European are accounted for.

7. Summary and Conclusions

In this article we have identified multiple, related formations that lead us to reconstruct a PIE verbal root *$menk^{w}$-. The reconstruction of the root-final velar is challenging, but can be resolved to a labiovelar *k^{w} on the basis of the Anatolian evidence.

- *$monk^{w}$-*o*-(> Lat. **muncus* [unattested] > It. *monco* 'bodily impaired')
- *$monk^{w}$-*o*- (> PGm. **mangwa*- > MHG *mang* 'lack, flaw')
- *$monk^{w}$-*o*- (> ToA *mańk* 'lack, fault')
- *me/onk^{w}-*ú*- (> Ved. *mańk-ú*- 'tottering, staggering, unsteady (on one's feet)')
- *$menk^{w}$-*o*- (> Lith. *meñkas* 'slight, insignificant, small, weak, inferior ')
- *$mn̥k^{w}$-h_1*i̯e/o*- (essive formation) / *$m(e)nk^{w}$-^{tor} (root-middle) (> PTo. *$m^{(j)}$*ə*$nkā$-^{tər} > ToB *mänkā*-^{täṛ} 'to lack')
- *$monk^{w}$-*éi̯e/o*- (causative) (> PGm. **mangwjan*- > OHG (*gi*-)*mengen* 'to lack'
- *$mn̥$-né-k^{w}- / $mn̥$-n-k^{w}-´ (nasal-infix verb) (> Pre-Hitt. **man*(*n*)*inku*- 'to make short, shorten' > Hitt. participle *mani*(*n*)*ku̯ant*- 'short (< shortened)'

[6] Cf. https://framenet.icsi.berkeley.edu.

- *$m\underset{\circ}{n}$-n-k^w-nó- (> CLuw. *manakuna-* ‘short’)

Concerning the syntax of this root, we document that four branches exhibit derivatives used as predicates in an oblique subject construction. Three of those are verbal cognates, documented in Tocharian, Germanic and Early Romance, displaying comparable argument structures of the first argument, the subject, which is in the dative case. Even though the individual verbs cannot be unified into a single PIE proto-form, as they continue different formations, there is no doubt that the attested argument structure, Dat-Nom, is inherited from the Indo-European proto-language.

Importantly, we argue that the Proto-Romance verb **mancare*, even though it was created to Lat. *mancus* ‘maimed’ after the Classical period, adopted an argument structure from other verbs with similar semantic properties. It thus demonstrates the productivity of the construction until well after the Classical period. We assume that argument structure constructions are not only inherited across synonymous verbs, as is well documented for lexical replacement in general, but also across synonymous verbs or predicates with a different predicate structure. In contrast, the opposite scenario, in which the same argument structure arose completely independently in the different Indo-European daughter languages, would be highly unlikely.

On the basis of the data and the analysis presented here, we reconstruct an oblique subject construction for Proto-Indo-European, consisting of the verb *$m(e)nk^w$-MP, with the meaning ‘lack’, selecting for two arguments of which the first one, the subject, is in the dative case, while the second, the object, is in the nominative case. Of the evidence from the four branches, we take the Tocharian form to represent the most original form of this verb, consisting of a root-middle *$m(e)nk^w$-MP, on which grounds we base our reconstruction.

Finally, we stress that the original meaning of the root *$menk^w$- must have been ‘to be short’ in view of the Anatolian evidence, and that the shift to ‘to lack’ is likely to have occurred through the occurrence of this verb in an oblique argument structure with the meaning ‘to be short of’. Not only does this provide an additional argument for the Indo-Anatolian Hypothesis, it also demonstrates the presence of this syntax in the Indo-European and even the Indo-Anatolian parent languages.

Appendix A: Primary formations and Caland-affinities of the root *$menk^w$-

In the above analyses of the cognates derived from the root *$menk^w$-, three (or four) different PIE primary verbal formations are identifiable:

(1) causative: *$monk^w$-*éi̯e/o-* in Germanic **mangwjan-* (OHG *(gi)mengen* 'to lack', see 3.1)
(2) essive: *$mn̥k^w$-h_1*i̯e/o-* in Tocharian **mənk*^{w}*ā-* (ToAB *mänkā-*^{tär} 'to lack', see 3.2)
(3) nasal-infix present: *$mn̥$-*né-*k^w- / *$mn̥$-*n-*k^w-*´* in Hittite **mannik-*^{zi} / **manḫnk-* (attested in the participle *man*(*n*)*i/e*(*n*)*kuu̯ant-* and its derivatives, see Section 4)

– or alternatively –

(4) root verb (middle): **m(e)nk*^{w}-$^{to(r)}$ in Tocharian **m*$^{(j)}$*ənkā-* (ToAB *mänkā-*$^{tä(r)}$ 'to lack', see 3.2)

Interestingly these primary verbal formations stand next to a Caland system of adjectival *u*-stem **me/onk*^{w}*-ú-* (Ved. *maṅk-ú-* 'tottering, staggering, unsteady (on one's feet)') and thus present themselves as well rooted within the system of PIE word formation. The same pattern (Caland *u*-adjective next to nasal verbs, essives and causatives) is also found with other roots; as is shown in Table 4:

Table 4: Corresponding derivations within the Caland system

causative	**essive**	**nasal verb**	**Caland *u*-adjective**
**monk*^{w}*-éi̯e/o-* (PGm. **mangwjan-* 'to lack')	**mn̥k*^{w}*-*h_1*i̯e/o-* (PTo. **mənk*^{w}*ā-* 'to lack')	**mn̥-né-k*^{w}- / **mn̥-n-k*^{w}-*´* (Hitt. *man*(*n*)*i/e*(*n*)*kuu̯ant-* 'short, lacking')	**me/onk*^{w}*-ú-* (Ved. *maṅkú-* 'staggering, unsteady')
**tors-éi̯e/o-* (Ved. *tarṣáyati* 'to make thirsty', Lat. *torrēo* 'to dry')	**tr̥s-*h_1*i̯e/o-* (OHG *dorrēn* 'to dry up' to wither')	–––––	**tr̥s-ú-* (Ved. *tṛṣú-* 'thirsty, greedy')
*h_2*omǵ*^{h}*-éi̯e/o-* (RuCS *uziti* 'to constrain')	–––––	*h_2*m-ón-ǵ*^{h}- / *h_2*m̥-n-ǵ*^{h}-*´* (Hitt. *ḫamānk-*^{i} / *ḫame/ink-* 'to tie, fix to')	*h_2*mǵ*^{h}*-ú-* (Ved. *aṁhú-* 'narrow')
**sork-éi̯e-* (Gr. πολι-ορκέω 'to besiege')	**sr̥k-*h_1*i̯e/o-* (Lat. *sarcīre* 'to patch up, mend'	**sr̥-né-k-* / **sr̥-n-k-*´ (Hitt. *šarni(n)k-*^{zi} 'to compensate)	**sr̥k-ú-* (Hitt. *šarku-* 'eminent, powerful)

Outside the (original) Caland system stand the thematic formations as found in MHG *mang* m./f. 'lack, flaw' (< **monk*^{w}*-ó-*), ToA *maṅk* 'lack, fault' (< **monk*^{w}*-o-*), Lat. *mancus* 'maimed, crippled' (perhaps also **muncus* as in It. *monco* < **monk*^{w}*-o-*), and Lith. *meñkas* 'insignificant, small, weak, inferior' (< **menk*^{w}*-o-*).

Appendix B: Derivational history of the Hittite lexemes

**A. ****maninku-*^{zi} (verb) ‘to make short / shorten’

———	*maninkuu̯-ant-* (ptc.) ‘(being) short / shortened’			(**1.**)
———	*maninkuu̯-ant-atar*	(abstract)	‘shortness’	(**2.**)
	maninkuu̯-and-aḫḫ-^{i}	(factitive)	‘to make short’	(**3.**)
	maninkuu̯-aḫḫ-^{i}	(factitive)	‘to make short’	(**4.**)
- - - - - -	*maninkuu̯-ēšš-*^{zi}	(stative)	‘to be short’	(**5.**)
	maninkuu̯-anu-^{zi}	(causative)	‘to make short’	(**6.**)
.....	*maninkuu̯an*	(adv. = nom.-acc.sg.n.)	‘close’	(**7.**)

B. (*)*maninkuu̯a-* (adj.) ‘short’ (**8.**)

———	*maninkuu̯-ant-* (deadjectival *-nt*-stem) ‘short (< shortened)’			(**1.**)
———	*maninkuu̯-ant-atar*	(abstract)	‘shortness’	(**2.**)
	maninkuu̯-and-aḫḫ-^{zi}	(factitive)	‘to make short’	(**3.**)
	maninkuu̯-aḫḫ-^{i}	(factitive)	‘to make short’	(**4.**)
———	*maninkuu̯-ēšš-*^{zi}	(stative)	‘to be short’	(**5.**)
	maninkuu̯a-nu-^{zi}	(causative)	‘to make short’	(**6.**)
.....	*maninkuu̯an*	(adv. = nom.-acc.sg.n.)	‘close’	(**7.**)

**C. ****manink(u)-*^{zi} (verb) ‘to make short / shorten’

———	*manink*(*u*)*-uu̯ant-* (deverbal *-u̯ant*-stem) ‘short (< shortened)’			(**1.**)
———	*manink*(*u*)*-uu̯ant-atar*	(abstract)	‘shortness’	(**2.**)
	manink(*u*)*-uu̯and-aḫḫ-*^{i}	(factitive)	‘to make short’	(**3.**)
	manink(*u*)*-uu̯aḫḫ-*^{i}	(factitive)	‘to make short’	(**4.**)
- - - - - -	*manink*(*u*)*-uu̯ēšš-*^{zi}	(factitive)	‘to make short’	(**5.**)
	manink(*u*)*-uu̯annu-*^{zi}	(causative)	‘to make short’	(**6.**)
.....	*manin*(*u*)*-uu̯an*	(adv. = nom.-acc.sg.n.)	‘close’	(**7.**)

Key:

———— continuous (linear) derivation (i.e. suffix added)

- - - - - - - - - discontinuous (non-linear) derivation (i.e. suffix substituted)

..... inner-paradigmatic derivarion (i.e. inflection)

Appendix C: Further arguments in favor of the nasal-infix analysis in Hittite

There are several indirect arguments in favor of analyzing *maninkuu̯ant-* as a participle of an unattested verb **maninku-^{zi} / *manink^{w}-*. Assuming a nasal-infix verb Hitt. **maninku-^{zi}* accounts for the heretofore unexplained peculiar shape of the *-nt-*stem (originally *-nt-*participle) *man*(*n*)*i*(*n*)*kuu̯ant-* and its derivatives. In the Hittite corpus four different formal variants are attested. These may be classified according to whether the form exhibits a geminate *-nn-* between the first and second syllable, and also whether the second syllable has *-n-* preceding the root final velar or not: (a) *ma**ni**nk*° (b) *ma**nn**i**n**k*°, (c) *ma**n**ik*°, and (d) *ma**nn**ik*°. Cf. the following nom.pl.c. and acc.pl.c. forms: *ma**ni**n**kuu̯anteš* (KUB 1.1 i 14), *ma**nn**i**n**kuu̯anteš* (KUB 24.5 obv. 22), *ma**n**ikuu̯anduš=a* (KUB 12.63 obv. 25), [*m*]*a**nn**ikuu̯anteš* (KUB 32.117 rev.! 5). Furthermore, the vowel of the second syllable can be written *-ni-in-* (most common form) or also *-ni-en-* (more rarely). Cf. adv. (← nom./acc.sg.n.) *ma-ni-in-ku-u̯a-an* (KUB 36.65: 2; KUB 48.123 i 17; KBo 10.12 ii 15) vs. *ma-ni-in-ku-u̯a-an* (p.ex. KBo 2.4 iii 7).

Since a nasal-infix present, being an athematic formation, originally exhibits ablaut alternations between the strong stem, with full-grade infix **-né-*, and the weak stem, with zero-grade infix **-n-*, these formal variants can readily be traced to the two different stem alternants: **mn̥-né-k^{w}-ti* (strong stem) / **mn̥-n-k^{w}-énti* (weak stem) > pre-Hittite **ma**nn**iku-zi* (strong stem) / **ma**n**i/e**n**ku-anzi* (weak stem), thereby explaining the variants (d) *mannik*° (< strong stem) and (a) *mani/enk*° (< weak stem) directly, whereas variants (b) *mannink*° and (c) *manik*° must be considered contaminations of the two original derivations. Observe that the original weak stem *mani/enk*° shows a 'middle schwa' *i̵*, written alternately with *e-* or *i*-signs, as argued by Kloekhorst (2014: 66–73) for nasal-infix presents.

Parenthetically, it stands to reason that the Proto-Indo-European nasal-infix formation **mn̥-né-k^{w}-ti* / **mn̥-n-k^{w}-énti* > pre-Hittite **manni̵nku-anzi*, synchronically continued only in the participle *man*(*n*)*i/e*(*n*)*kuu̯ant-*, served as the model for the analogical creation of the peculiar type of Hittite *-ni*(*n*)-infix verbs such as *ḫarnik-^{zi} / ḫarni*(*n*)*k-* 'to destroy', *šarnik-^{zi} / šarnink-* 'to compensate', *ḫunik-^{zi} / ḫunink-* 'to bash', *ištarnik-^{zi} / ištarnink-* 'to make sick' and *ninik-^{zi} / ninink-* 'to mobilize'. This type is restricted to roots ending in a velar, which renders the analogical extension all the more likely in that only formally similar verbs were affected by the development. In the nasal-infix verb **manniku-zi* / **manni̵nku-anzi* the *-nin-* is a direct phonetically regular continuation of the sequence of sounds in the weak stem **mn̥-n-k^{w}-*, whereas the other members of this Hittite verb type acquired their shape in analogy to **manniku-zi* / **manni̵nku-anzi*. If a pre-Hittite nasal-infix present **manniku-zi* / **manni̵nku-anzi* was indeed the source for this type of verbal formation, we are forced to assume that it was still in active use in the immediate prehistory of Hittite, despite the fact that its participle *man*(*n*)*i*(*n*)*kuu̯ant-* is the only manifestation of this verb in the attested Hittite corpus.

An additional argument both for reconstructing the root **menk^{w}-* with a labiovelar and for assuming a nasal-infix present **maninku-^{zi}* is Cuneiform Luwian *mannakuna-* 'short'. This formation has already been identified as a cognate of Hitt. *maninkuu̯ant-*, although Melchert (1993: 136) deems the morphological make-up of the Luwian stem "unclear". Formally, the CLuw. stem *mannaku-na-* is a verbal adjective in *-na-* that can be analyzed in two ways: it was derived either from the strong stem of the postulated nasal-infix present (transposed PIE **mn̥-né-k^{w}-no-*) or from the weak stem (transposed PIE **mn̥-n-k^{w}-nó-*). Although the former option would regularly yield the attested stem, the

latter is to be preferred for morphological reasons: usually, secondary *-no-*formations take the weak stem alternant. This leads to the assumption that Luwian, too, developed a *schwa* in a sequence of nasals, which then yielded *a*, evident from the second syllable of *mann**a**kuna-*. Alternatively, the *-a-* could be regarded as a purely orthographical vowel necessary to indicate complex consonant-clusters (in our case *-nnk-*) within the limits of the cuneiform writing system, which only features CV, VC, and CVC(V) graphemes.

Abbreviations

1 = first person
2 = second person
3 = third person
C = common gender
DAT = dative
DEM = demonstrative
ENCL = enclitic
F = feminine gender
GEN = genitive
M = masculine gender
MP = mediopassive
N = neuter gender
NOM = nominative
OBL = oblique
PCT = participle
PL = plural
PRF = perfect
PRS = present
PRT = preterite
REFL = reflexive
SG = singular
SUBJ = subjunctive
QUOT = quotative particle

Abbreviated Works

LIV² = Rix, Helmut & Martin J. Kümmel (ed.). 2001. *Lexikon der indogermanischen Verben*: *Die Wurzeln und ihre Primärstammbildungen* (2. Auflage). Wiesbaden.
ALEW = Hock, Wolfgang, Rainer Fecht, Anna Helene Feulner, Eugen Hill, Dagmar S. Wodtko. 2015. *Altlitauisches etymologisches Wörterbuch*. Hamburg.
CHD = Goedegebuure, Petra M., Hans G. Güterbock, Harry A. Hoffner & Theo P. J. van den Hout. 1980–. Chicago: *The Hittite Dictionary of the Oriental Institute of the University of Chicago*.
KBo = *Keilschrifttexte aus Boghazköy*. 1923–. Osnabrück & Berlin.
KUB = *Keilschrifturkunden aus Boghazköy*. 1921–1990. Berlin.
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