

# The Precursors of Proto-Indo-European

*The Indo-Anatolian and Indo-Uralic Hypotheses*

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# Headedness in Indo-Uralic

*Rosemarie Lühr*

In substantiating the claim of a relationship between Indo-European and Uralic, a linguistic domain which has not been analyzed sufficiently is syntax. This is surprising as a special word order, namely SOV, is assumed both for Uralic and for Indo-European (Raun 1988: 569). Furthermore, SOV belongs not only to the linguistic universals but also to the assumed implicational type, in so far as with overwhelmingly greater-than-chance frequency, languages with normal SOV order are postpositional. Also a modifier-before-headword order and a genitive noun phrase before the *possessor* is connected to the SOV type, whereby the underlying concept of all these relations is headedness. It is the head directionality parameter we are dealing with here. In the following, phrases representing head directionality in the oldest Indo-European languages Hittite and Vedic are compared. For comparison purposes the earliest Uralic language documented in writing, Old Hungarian, is used, since this language shows traces of head finality in syntax.

This article is organized as follows. Firstly, we give an overview of the different head phrases in Old Hungarian. Secondly, the comparison with corresponding structures in Hittite and Vedic follows. Thirdly, the function of the subject in Hittite and Vedic is examined. The reason for this is that in Hungarian a change from Proto-Hungarian SOV to a Topic Focus Verb X\* order occurred, while SOV is maintained in Khanty and Mansi. Therefore our question is whether also in Hittite and Vedic there are traces of the so called discourse configurational type. The data for the Indo-European part comes mainly from our DFG-supported projects “Information Structure in Older Indo-European sentences” and “Information Structure in Complex Sentences—Synchronic and Diachronic”. For the Uralic part the relevant literature is used.

## 1 Old Hungarian Phrases with Adpositions, Noun Phrases with Adjectives and Genitives and Relative Structures

The basic word order of Proto-Hungarian is reconstructed on the basis of archaic constructions of early Old Hungarian documents, and on the basis of corresponding constructions of present-day Khanty and Mansi (Ostyak and

Vogul). These languages are thought to be most closely related to Hungarian within the Ugric languages (Honti 1979: 7–19; 1998a: 353–355; 1998b: 179–181).

Turning to Old Hungarian, one striking example for an older SOV order is the following (Kiss 2013; Marcantonio 1985): whereas Old Hungarian already had a general accusative case ending (the morpheme *-t*), the first surviving Hungarian codices, including books of the Bible (translated in 1416–1435, copied in 1450 and 1466), sporadically still contain a non-finite SOV construction whose object bears no accusative case. The caseless object can be definite:

- (1) Munich Codex, St Matthew 1,20  
 [ʃ è      *gondoluan*] *yme vrnac angala ièlenec nèki*  
 he this-Ø thinking Io Lord's angel appeared he-DAT  
 'while he thought on these, Io, the angel of the Lord appeared unto him.'

Though Old Hungarian word order is, in general, flexible, the occurrence of a morphologically unmarked object is always accompanied by a head-final OV order.

A similar construction is the one with a participle on suffix *-uan/uen* (Modern Hungarian *-ván/vén*):

- (2) St Matthew 4,20, Munich C. (1416/1466)  
*És azok [legottan hálójok meghagyván] követék*  
 and they immediately net-3PL-Ø PRT-leaving follow-PAST-3PL  
*ótet*  
 him  
 'And, straightway leaving their net, they followed him.'

Further evidence for an old SOV type comes from the verb-auxiliary order in Old Hungarian. The auxiliary always immediately follows the verb:

- (3) Funeral Sermon and Prayer (1192–1195)  
*es odu-tt-a vol-a neki paradisumut hazoa*  
 and give-PERF-3SG be-PAST he-DAT Paradise-ACC house-for  
 'and had given him Paradise for a house.'

Also the other mentioned word orders being connected with SOV order match the criteria of such a language type. The nominal modifiers such as adjectival and genitival expressions precede the head noun (Lehmann 1973: 48); cf. for an adjective:

- (4) Munich C. 6orb (1416/1466)  
*az új bor új tőmlőcbè* *èrèzt-ènd-ø*  
 the new wine new leather.bottle-PL-ILL pour-MOD-PART  
 ‘new wine is to be put into new bottles.’

For a possessor preceding the *possessum*:

- (5) Funeral Sermon and Prayer (1192–1195)  
*ig fa gimilcetyl*  
 one tree fruit-3SG-from  
 ‘from the fruit of one tree’

Also relative structures are preposed:<sup>1</sup>

- (6) Kazinczy C. (1526–1541), p. 34  
*es ueged az [nekød zprzøttem]* *Coronat*  
 and take-IMP-2SG the you-DAT obtain-PASTPART-1SG crown-ACC  
 ‘and take the crown I obtained for you.’

However, in (7) the relative clause is postposed. It is a non-restrictive one referring to a personal name:

- (7) Funeral Sermon and Prayer (1192–1195) (Bácskai-Atkari 2013)  
*Ef uimagguc || fzent peter urot. Kinec odut hotolm*  
 and pray-IMP1PL saint Peter lord-ACC who-DAT given power  
*ovdonia. ef ketnie*  
 bind-INF.3.SG. and unbind-INF.3.SG.  
 ‘and let us pray to the lord Saint Peter, to whom the power was given to bind and to unbind’

Finally, the adpositional phrase is head-final in Hungarian. Hungarian has postpositions, not prepositions:

- (8) Funeral Sermon and Prayer (1192–1195)  
*ív uimadsaguc-mia*  
 they prayer-3PL-because.of  
 ‘because of their prayer’.

<sup>1</sup> There are also prenominal non-finite relative clauses in present-day Khanty (Nikolaeva 1999: 79; Bácskai-Atkari & Dékány 2014: 44; Csepregi 2012).

## 2 Head Phrases in Indo-European Languages

### 2.1 Phrases with Adpositions

#### 2.1.1 Hittite

To continue with adpositions in the older Indo-European languages only a short remark about Hittite is necessary for there is much research on this topic (Brosch 2013; 2014a; 2014b; Melchert 2009: 613; Zeilfelder 2001: 224–230; Starke 1972). For the question whether Anatolian possessed both prepositions or postpositions, Brosch (2013: 399) discusses the Lycian and Luwian evidence. While Lycian has prepositions, in Luwian postpositions and prepositions are documented; for a preposition cf.

- (9) KUB 35.29 iii 29' (CLuw./NS)  
*a=duw[=an] annān patānza dūwandu*  
 CONN=3SG.D/L=3SG.ACC.C under foot: D/L.PL put: IMP.3PL.ACT  
 'They shall put it under his feet.'

In Hittite there are different constructions. Dynamic place words with dative/locative or allative appear always in front of this case form, *anda parna* 'into the house', and are considered as pure adverbs (Brosch 2013: 398). In static constructions place words are postposed:

- (10) a. *É-ri andan* and *LUGAL-i peran* 'in front of the king' (with dative/locative)  
 b. *LUGAL-uaš peran* 'in front of the king' (with genitive)  
 c. *peran(n)=mit* 'in front of me' (with enclitic possessive pronoun) (Tjerckstra 2000: 6 f.)

and preposed:

- d. *andan É-ri* 'in the house' (with dative/locative)

Brosch (2013: 398) considers *andan* here as a preposition.

- (11) KBo 6.2. iv 54 (OS)  
*andan=(m)a É-ri kuit*  
 inside=CONN house: D/L.SG what(ever): NOM.SG.N  
*harkzi*  
 get lost: PRS.ACT3SG  
 'But what(ever) got lost inside the house.'

But respecting the context *andan* bears a contrastive stress. It is a topicalized contrastive topic in the function of a local adverb. Thus, in Hittite there would be only postpositions. Nevertheless if the mentioned coexistence of prepositions and postpositions in Luwian represents an old status of Anatolian, in Lycian prepositions must have been generalized and in Hittite postpositions (Brosch 2013: 39, 154).

In this case, Anatolian is an uncertain testimony for original postpositions needed for a possible head final type of Indo-European.

### 2.1.2 Vedic

In Vedic prepositions besides postpositions can be found; for prepositions cf.:<sup>2</sup>

(12) RV 1,30,19 (Speyer 1896: 24)

*pári dyám anyád*  
 around: PREP heaven(M): ACC.SG other: NOM.SG.N  
*īyate*  
 revolve: PRS.IND.MED/PASS<sub>3</sub>SG  
 ‘The other [chariot wheel] revolves around the sky.’

(13) RV 10,86,4

*ś(u)vá nú asya jambhiṣat*  
 dog(M): NOM.SG now he: GEN.M.SG bite: AOR.SUBJ.ACT<sub>3</sub>SG  
*ápi kárṇe*  
 in: PREP ear(M): LOC.SG  
 ‘Soon may the dog bite him in the ear.’

(14) RV 8,20,11, cf. Viti 2015: 61f.

*ví bhrājante rukmáso ádhi*  
 PFX glitter: PRS.IND.MED<sub>3</sub>PL jewel (M): NOM.PL on: PREP  
*bāhúṣu*  
 arm(M): LOC.PL  
 ‘Their jewels glitter upon their arms.’

<sup>2</sup> However, according to Casaretto (2014: 59) in the Ṛgveda no prepositions are attested. Cf. further Casaretto (2011): in an adnominal construction *ví* is an attributive or appositive satellite.



And for a postposition:

(15) RV 10,51,6

*agnéḥ púrve bhrátaraḥ*  
 Agni: GEN former: NOM.M.PL brother(M): NOM.PL  
*ártham etám rathí iva*  
 object(M): ACC.SG this: ACC.M.SG car driver (M): NOM.SG like  
*ádhvānam ánu á*  
 path(M): ACC.SG along: POSTP back and forth: PFX  
*avarīvuḥ*  
 move: INTENS.IPF.IND.ACT<sub>3</sub>PL  
 ‘Agni’s elder brothers moved this object like a car driver along the path  
 back and forth.’

Thus, while Vedic has prepositions and postpositions, Hittite has postpositions.

## 2.2 Noun Phrases with Adjectives

The next topic is the position of attributive adjectives. According to language typology, preposed adjectives are to be expected if a language has OV ordering and, vice versa, postposed adjectives in the case of VO ordering.

### 2.2.1 Hittite

In Hittite, attributive adjectives mostly appear in prenominal slots (Melchert 2003: 200; Laroche 1982: 134; Francia 2001: 91; Bauer 2015: 232–235).

But quantifier adjectives are postposed:

(16) Muwatalli (CTH 381, 1, 15)

DINGIR.LÚ<sup>MEŠ</sup> DINGIR.MUNUS<sup>MEŠ</sup> *ḫu-u-ma-an-te-eš* ḪUR.SAG<sup>MEŠ</sup>  
 god: PL goddess: PL all: NOM.C.PL mountain: PL  
 ÍD<sup>MEŠ</sup> ŠA KUR<sup>URU.GIŠ</sup> GIDRU-ti *ḫu-u-ma-an-te-eš*  
 river: PL of land Hatti all: NOM.C.PL  
 ‘all the gods (and) goddesses, all the mountains (and) rivers of the land of Hatti’.

Also Hittite *dapiant-* ‘all, entire’ regularly follows its head noun.

(17) KUB 5.1 iii 62 (Hoffner & Melchert 2008: 271)

LÚ<sup>MEŠ</sup> *Ga-aš-ga<sup>HIA</sup>-ma-an-kán da-pí-an-te-eš* GAM UGU RA-an-zi  
 ‘But all the Kaska men will strike it (the city) up from below’

Contrary to the *communis opinio*,<sup>3</sup> I assume that these examples are instances of an older quantifier floating. As English and German show, quantifier floating is possible only with quantifiers that require a definite noun.<sup>4</sup>

(18) The Beatles and the Stones each made many hit records.

In English quantifiers other than *all*, *both*, and *each* cannot be moved. But in Hittite, also the semantically related attributive participle *šuwant-* ‘filled’ is postposed:

(19) Muwatalli (CTH 381 1,7–8)  
 NINDA.Ì.E.DÉ.A DUGÚTUL *šu-u-wa-an*      *me-[m]a-al*  
 pound cake      pot      full: ACC.N.SG      coarse meal(N): ACC.SG  
 =*ma* DUGDÍLIM.GAL *šu-u-wa-an*  
 but    bowl      full: ACC.N.SG  
 ‘a pot full of pound cake, but a bowl full of coarse meal.’

A relict of the former prenominal position of *hūmant-* could be its preposition with body parts:

(20) KUB 30.10 obv. 27' (Hoffner & Melchert 2008: 272)  
*hu-u-ma-an-te-et kar-di-it*  
 ‘with the whole heart’

If this structure was really the original one, postposition of *hūmant-* must have been generalized.

However, preposition as in:

(21) KUB 36.90 rev. 39  
*hu-u-ma-an-da-[az KU]R.KUR<sup>MES</sup>-za e-hu*  
 ‘come from every land’

is surely due to information structure. Here, *hūmandaz* is a contrastive topic and is pragmatically highlighted. Returning to postposed *hūmandaz*, I argue

3 Yoshida (1987: 33) ascribes the postposition of *hūmant-* to its “unbestimmte Bedeutung” and compares postposed *kuelqa*. According to Hoffner & Melchert (2008: 271) postposition of *hūmant-* and *dapiant-* may be due to their meaning or to their formal resemblance to participles in *-ant-*.

4 In English, only subject-related quantifiers can be separated from the subject and appear in more than one position in a sentence (Hoeksema 1996; Maling 1976).

that emphasis also plays a crucial role with quantifier floating. As this phenomenon is normally connected to stress it can be assumed that postposed *hūmant-* and *dapiant-* are highlighted, too.<sup>5</sup>

The following instances of postposed adjectives are different. (22) and (23) exhibit genitival relational adjectives:

- (22) Muwatalli (CTH 381 1,41) (cf. Bauer 2014: 246 f. referring to Semenza 2006: 561)

<sup>d</sup>U *pi-ḫa-aš-ša-aš-ši-iš*

Storm God belonging to lightning: NOM.C.SG

‘O Storm God of lightning’

- (23) a. Muwatalli (CTH 381 3,4)

<sup>d</sup>U *ḫu-la-aš-ša-aš-ši-iš*

Storm God belonging to the town Ḫulašša: NOM.C.SG

‘O Storm God of Ḫulašša’

- b. Telepinu (CTH 19 1,30)

[ERÍN<sup>MEŠ</sup>] *ḫur-lu-uš*

troops: PL Hurrian: ACC.PL

‘Hurrian troops’

Comparing other languages with regard to the position of relational adjectives (Bosque & Picallo 1996), it is worth noting that in languages which distinguish word order of attributive adjectives with respect to what could be described as their descriptive content, qualifying adjectives occur in prenominal and relational adjectives in postnominal position. Such a language is Polish for example (Wągiel 2014).

As there is an essential distinction between the two adjectival classes, the semantic difference could also have had an impact on word order in Hittite; cf.

- (24) Muwatalli (CTH 381 3,46)

*i-da-lu-uš me-mi-aš*

evil: NOM.C.SG word(C): NOM.SG

‘the evil word’

As regards the position of adjectives, Hittite is broadly in line with the SOV-type. Apart from some postposed relational adjectives and predominantly

<sup>5</sup> Further research is needed.

postnominal *hūmant-* and *dapiant-*, being instances of a former quantifier floating, in Hittite attributive adjectives precede their head noun. This is also valid for numerals without exception (Hoffner & Melchert 2008: 165).

### 2.2.2 Vedic

Therefore, let us first prove the position of numerals in Vedic.

In Vedic there are examples for preposed numerals as well as for postposed ones:

(25) RV 4.42.8 (Royal Consecration 27)

*té āsan saptá řṣayah*  
 the: NOM.M.PL be: IPF.IND.ACT<sub>3</sub>PL seven: adj.num Ṛṣi(M): NOM.PL  
*daurgahé badhyámāne*  
 Daurgaha(M): LOC.SG being captivated: LOC.M.SG  
 ‘They were the seven Ṛṣis, when the son of Durgaha was captive.’

(26) RV 10.86.14 (Indra and his monkey)

*ubhá kuṣṭī pṛṇanti me*  
 both: ACC.M.DU cheeks(M): ACC.DU fill: PRS.IND.ACT<sub>3</sub>PL I: DAT.SG  
 ‘They fill both my cheeks’

(27) RV 10.95.16 (Urvashi)

*yát vírūpā ácaram*  
 when in another shape: NOM.F.SG live: IPF.IND.ACT<sub>1</sub>SG  
*mártyesu ávasam rátriḥ*  
 mortal(M): LOC.PL spend: IPF.IND.ACT<sub>1</sub>SG night(F): ACC.PL  
*śarádaḥ cátasraḥ*  
 autumn(F): ACC.PL four: ACC.F.PL  
 ‘When I lived in another shape among the mortals, I spent the nights for four autumns.’

While in Hittite only quantifiers like ‘all’ and ‘every’ allow for quantifier floating, in Vedic also numerals show floating into the position behind their head noun. It is a remarkable typological feature for languages to vary in the extent of quantifier floating.<sup>6</sup>

<sup>6</sup> For example, while in Japanese numeral quantifiers are licensed to be floating, Chinese numeral quantifiers are not (Kobuchi-Philipp 2003; Fitzpatrick 2006).

As quantifier floating with numerals is a living process in Vedic, quantifiers as ‘all,’ ‘every’ should be floating quantifiers, too. And indeed, *viśva-* occurs before and behind its head noun:

(28) RV 4.42.1 (Royal Consecration)

*māma dviṭā rāṣṭ(a)rām kṣatṛīyasya*

I: GEN.SG still rule(N): ACC.SG king(M): GEN.SG

*viśvāyoh viśve amṛtāḥ yāthā*

swaying all life: GEN.M.SG all NOM.M.PL immortal: NOM.M.PL as

*naḥ*

I: GEN.PL

‘All immortals still (follow) my rule, that of the king as mine who is invigorating all life.’

(29) RV 3.6.6

*āthā vaha devān deva viśvān*

‘Bring here all gods, o God.’

But as in Vedic also other adjectives than numerals and quantifiers are postposed, one has to examine whether this language belongs to those languages which allow for prenominal and postnominal attributive adjectives whereby the two word orders establish a conceptual difference. Such a language is English for instance; cf. Bolinger’s (1967) example:

- (30) a. The only navigable river is to the north.  
b. The only river navigable is to the north.

In (30a) “regularly navigable” is meant, in (30b) “navigable at present”. Reading (30a) represents an individual-level predicate, reading (30b) a stage-level predicate, where individual-level corresponds to an intrinsic/permanent property and stage-level to a temporary property. For language typology it is of interest that in SVO-languages the modification to the left of the noun is thought to reflect nominal characteristics and modification to the right verbal characteristics, namely in an iconic manner (Vogel 1996: 207; Lühr 2002a; 2002b; 2005).

Actually, in Vedic examples for prenominal modification with individual-level meaning and those for postnominal modification with stage-level meaning are documented:

- (31) RV 4.42.6 (Royal Consecration)  
*nákiḥ mā dáíyam sáhaḥ*  
 never I: ACC.SG divine: NOM.N.SG power(N): NOM.SG  
*varate ápratitam*  
 lock up: AOR.SUBJ.MED<sub>3</sub>SG irresistibel: ACC.M.SG  
 ‘No divine power will lock up me, the irresistible.’

vs.

- (32) RV 3.33.12 (River flood)  
*átāriṣuḥ bharatāḥ*  
 get across: AOR.IND.ACT<sub>3</sub>PL Bharata(M): NOM.PL  
*gavyávaḥ sám*  
 desiring cows: NOM.M.PL together  
 ‘The Bharatas got across together desiring cows.’

However, there are also a lot of text passages where adjectives denoting an individual-level predicate are postposed:

There are not only adjectives following a vocative as in (33)

- (33) RV 10.86.7 (Indra and his monkey)  
*uvé amba sulābhike*  
 see: PRS.IND.MED<sub>1</sub>SG woman(F): VOC.SG easy to be won: VOC.F.SG  
*yáthā iva aṅgá bhaviṣyáti*  
 how somehow PART be: FUT.IND.ACT<sub>3</sub>SG  
 ‘I see how it will be somehow, woman, who is easy to be won.’

But also other syntactic connections:

- (34) RV 10.52.5 (Agni)  
*á vaḥ yakṣi amṛtatvám*  
 here you: DAT.PL offer: AOR.INJ.MED<sub>1</sub>SG immortality (N): ACC.SG  
*suvíram*  
 rich in heroes: ACC.N.SG  
 ‘Here I offer you immortality which is rich in heroes.’

Another adjective use is documented in (35). The quantifier *éka*- ‘one’ appears behind its head noun and is surely stressed.



- (37) Od. 4.129 (Viti 2008: 219)  
 δέκα δὲ χρυσοῖο τάλεντα  
 ‘Ten talents of gold’

In Hittite, the denotation of what is counted immediately follows the numeral, which is why the genitive *tarnaš* moves to the position behind the head noun. Thus, it can be said that the word order is iconic, here. It follows Behaghel’s first law according to which elements that belong close together intellectually will also be placed close together: the number is connected to the expression for the counted entity.

Also the genitive of material appears postposed:

- (38) a. Ritual (CTH 443 1,1–5)  
 EME *iš-na-aš*  
 tongue clay(C): GEN.SG  
 ‘tongue (made) of clay’
- b. StBoT 8 i 22’ (Yoshida 1987: 72)  
 2 <sup>D</sup>*Ḫa-an-ta-a-an-ta-še-pu-uš* ... GI[*(š-aš)*]  
 ‘2 <sup>D</sup>*Ḫantašepa*-deities ... of wood’

Cf. the following examples from Homeric Greek:

- (39) Il. 11.24 οἷμοι κυάνοιο ‘stripes of cyanos’  
 Od. 4.124 δέπας οἴνοιο ‘a cup of wine’ (Viti 2008: 219)

To explicate postposition of the designation of the material here, the kind of reference has to be noted. For this purpose we compare possessive nominal phrases with a noun as *possessor*. The *possessor* precedes always the *posses-sum*.

- (40) Edict of Telipinu i 66 (KUB 11.5 obv. 8’)  
*ad-da-aš* *e-eš-ḫar-še-et*  
 father(C): GEN.SG blood(N): NOM.SG=his  
 ‘the blood of the father’
- (41) KUB 8.41 ii 7’  
<sup>D</sup>*IŠKUR-na-aš* *ša-ša-an-ti-iš-ši*  
 Storm God(C): GEN.SG concubine(C): DAT./LOC=his  
 ‘to the concubine of the Storm God’



Phrases like (40) and (41) are always definite nominal phrases. The *possessum* is either a sortal noun like *house*, or it refers to parts of entities like blood, head, eyes, or to persons. In any case the referent of the *possessum* is uniquely identifiable by the preposed genitive (Loebner 1985; Lühr 2002c). Hence, the substantival genitive to the left of the *possessum* establishes the reference of this word. On the contrary, the use of the genitive of material to the right of the head noun (Yoshida 1987: 32, 75) is a signal that a specific interpretation is disallowed (cf. Lühr 2004); cf.:

- (42) KBo 17.36 + 25.54 + (= StBoT 25 Nr. 54) iv 5'  
 [me-e-ma-]al še-ep-pí-da-aš  
 groats            š.-grain(N): GEN.SG  
 'groats from š.-grain'.

As word order does not have an influence on the reference of the whole nominal phrase the genitive of material can be postposed in Hittite.

### 2.3.2 Vedic

Turning to Vedic, only stressed pronouns denoting primarily a *possessor* precede the head noun, while unstressed ones appear in the Wackernagel position:

- (43) RV 4.42.1 (Royal Consecration)  
 máma ... rāṣṭ(a)rám kṣatríyasya  
 I: GEN.SG    rule(N): ACC.SG king(M): GEN.SG  
 'my rule, that of the king'.

As regards the position of substantival genitives, a comparison of the number of records in Vedic shows that preposed ones are more often documented than postposed ones. The proportion is 3 to 2. As it could be supposed that preposition of the genitive is the normal word order, postposition must be explained. All categories of adnominal genitives, the possessive, subjective, objective, partitive genitive and the genitive of content can appear postnominally. But, admittedly, a ratio for postposition exists only for a part of the genitival data.

Fixed word orders appear sometimes with kinship terms. The head noun precedes:

- (44) RV 2.028.03c *putrā aditer*  
 RV 4.042.04c *putró áditer*  
 RV 7.041.02a *putrám áditer*

RV 7.060.05c *putrá áditer*  
 RV 8.018.05a *putráso áditer*  
 RV 10.072.08a *putráso áditer*  
 RV 10.185.03a *putráso áditeḥ*  
 RV 9.069.03a *naptír áditer*

Also in vocative constructions with an objective genitive the head noun appears first:

- (45) RV 3.30.19; 10.47.1 *vasupate vásūnām* 'lord of wealth'  
 RV 10.112.10 *vasupate sákhīnām* 'lord of treasures'

Often the word order is inverted by hyperbaton. In (46) the head noun is in front of the possessive genitive:

- (46) RV 10.52.5 (Agni 37)  
*á bāh(u)vóḥ vájram índrasya*  
 in arm(M): LOC.DU Vajra(M): ACC.SG Indra(M): GEN.SG  
*dheyām*  
 put: AOR.OPT.ACT1SG  
 'I would like to put the Vajra in Indra's arms.'

Another genitival structure is represented in (47): three genitives exhibit extraposition; this means that the heavy constituent appears to the right of its canonical position.

- (47) RV 1.165.15 (Marut 44)  
*eṣá vaḥ stómaḥ marutaḥ*  
 this: NOM.M.SG you: DAT.PL praise(M): NOM.SG Marut(M): VOC.PL  
*īyám gīḥ māndār(i)yásya*  
 this: NOM.F.SG hymn(F): NOM.SG Māndāriya: GEN.SG  
*mān(i)yásya kāróḥ*  
 Māna(M): GEN.SG singer(M): GEN.SG  
 'this is praise to you, O Maruts, this hymn of the singer Māndāriya, Māna's son.'

Comparing the Hittite and Vedic data containing an adnominal genitive, striking differences were stated. While in Hittite postposition of the genitive is nearly an exception, Vedic allows for postposition of all kinds of genitives. Often information structure is the motor for extraposition of the genitive, espe-

cially the hyperbaton, as well as a heavy weight of the genitival noun phrase or vocative constructions with the head noun in the first position. As mentioned, there are also records where none of these explanations holds. More research is required.

#### 2.4 *Phrases of Relative Clauses*

Most Hittite relative clauses precede the main clause. There are two types, a restrictive and a free relative clause in the function of a determiner phrase (Lühr 2001; Hoffner & Melchert 2008: 424; Ott 2001).

In later Hittite also postposed relative clauses appear; cf. the following much quoted sentence: the relative clause is a non-restricted one:

- (48) Ullikummi (CTH 345 1 1, 5–6) (Garrett 1994: 47)  
<sup>d</sup>*Ku-mar-bi-iš* GA[LGA]-*tar* ZI-*ni* [kat]-*ta-an* *da-aš-ke-ez-zi*  
 Kumarbi: NOM wisdom: ACC mind: LOC into take=PRS3SG  
 UD<sup>K</sup>[<sup>AM</sup>-a]*n ku-iš* LÚ [HUL]-*an šal-la-nu-uš-ke-ez-zi*  
 day: ACC who: NOM being: ACC evil: ACC cause to grow: PRS3SG  
 ‘Kumarbi takes wisdom into his mind, who raises the day as an evil being.’

Clackson (2007: 175) understands the relative clause in (48) as an afterthought added to the main clause, but as there is reference to a personal name, hence to a semantic definite (Loebner 1985), the interpretation as appositive relative clause is more obvious; cf. the postposed corresponding structure in Vedic referring to a personal name as well:

- (49) RV 5.36.1 (Hettrich 1988: 689)  
*sa á gamad índro*  
 he: NOM.M.SG PFX come: AOR.SUBJ.ACT3SG Indra(M): NOM.SG  
*yó vásūnām ciketaḍ*  
 who: NOM.M.SG goods(N): GEN.PL know: PF.SUBJ.IND3ACT  
*dátuḡ dámano rayīnām*  
 give: INF gift(M): GEN.PL treasure(M): GEN.PL  
 ‘Indra may come to us, who knows rightly to give treasures to give riches.’

But concerning the ratio of restrictive and non-restrictive relative clauses in Hittite on the whole it is true that in this language restrictive relative clauses are much more common than non-restrictive ones, while in Vedic non-restrictive relative clauses outweigh restrictive relative clauses. The ratio is approximately

4 : 3, whereby in the case of non-restrictive relative clauses the order of matrix clause—relative clause outnumbers the reverse order more than twice (Avery 1881: lxiv–lxvi; Hettrich 1988: 680; Holland 1991: 33; Lehmann 1984: 228f.; for Latin cf. Clackson 2007: 175; for Greek cf. Probert 2015). This shows that the distinction between background information and new information provided by a non-restrictive and a restrictive relative clause respectively has effects on the order of clauses.

### 3 The Function of the Subject in Hittite and Vedic Compared to Proto-Uralic

If Khanty and Mansi have preserved the basic SOV order of Proto-Uralic, then the change from SOV to Topic Focus Verb  $X^*$  must have taken place in Hungarian separately (Kiss 2013).<sup>7</sup>

(50) Proto-Hungarian	→	Old Hungarian
subject/topic	→	topic
object/focus	→	focus
right-dislocated elements	→	in situ arguments
↓↓↓		↓↓↓
SOV	→	topic focus $VX^*$

Comparing the Hittite and Vedic data with this development, we examine the position of subject and topic (see tables 12.1 and 12.2). A distinction is made between a *continuing*, *shifting*, and *contrastive* topic. If the topic is a pronominal subject, it can be covertly enclosed in the verb. We only take main clauses (= MC) into consideration.

The numbers clearly show that in Hittite the distribution of subjects in first and second position is almost even, and in Old Indic a subject phrase is the most common in initial position. When functioning as topic, the subject is usually a *shifting* topic. But a topic-subject, which is covert as a result of pro-drop, is mainly a *continuing* topic.

However, both in Hittite and in Old Indic the records of subject-topic-identity are too rare to give a hint on a development towards a discourse configurational structure of the Hungarian type. Hittite and Old Indic are syntax configurational languages (Lühr 2015).

<sup>7</sup> According to Polo (2005) rightward extraposition can be responsible for the change from SOV to SVO. An example is Latin.

TABLE 12.1 Subjects and topics in Hittite

Text	Muwatalli	Ritual	Telepinu	Hitt. total
Subjects in MC total	116	200	53	369
Covert subjects in MC total	89	150	27	266
Subject in 1. position of MC	4	7	6	17
Subject in 2. position of MC	4	7	8	19
Subject final in MC	0	2	0	2
Subject second-to-final in MC	3	4	5	12
Topics as Subject in MC	11	10	9	30
thereof continuing topic	4	3	5	12
thereof shifting topic	6	6	4	16
thereof contrastive topic	1	1	0	2
covert Topic-Subjects in MC	21	58	18	97
thereof continuing topic	13	44	15	72
thereof shifting topic	7	12	3	22
thereof contrastive topic	1	0	0	1

TABLE 12.2 Subjects and topics in Old Indic

Language	Vedic	Sanskrit	OI. total
Subjects in MC total	1177	362	1539
covert subjects in MC total	451	93	544
Subject in 1. position of MC	279	75	354
Subject in 2. position of MC	114	60	174
Subject final in MC	51	28	79
Subject second-to-final in MC	133	48	181
Subjects as Topics in MC			
Topics as Subject in MC	323	99	422
thereof continuing topic	97	29	126
thereof shifting topic	188	59	247
thereof contrastive topic	33	10	43
covert Topic-Subjects in MC	349	73	422
thereof continuing topic	178	34	212
thereof shifting topic	165	39	204
thereof contrastive topic	4	0	4

#### 4 Conclusion

As the comparison of head structures in Hittite and Vedic shows, Hittite has postpositions, Vedic pre- and postpositions, the adjective appears in Hittite mostly in front of the head noun as well as the genitives. Exceptions are operators like *hūmant-* ‘all’, some relational adjectives and genitives of measure. By contrast, in Vedic the position of adjectives and genitives fluctuates, also the position of relative clauses does not agree with Hittite.

Of these two languages Hittite has more common features with an underlying SOV type represented by Proto-Hungarian.

Including verb placement Hittite actually comes even closer to the SOV type: In Hittite the finite verb appears mostly at the end of the clause:

Hittite	Verb-final	Verb-first	Verb-second	Verb-middle
	483	10	6	7

On the contrary, the relations are ambiguous in Old Indic, especially in Vedic:

Ṛgveda	Verb-final	Verb-first	Verb-second	Verb-middle
	169	64	71	118

Pancatantra	Verb-final	Verb-first	Verb-second	Verb-middle
	70	8	13	9

Thus, Hittite is a verb-final language, Vedic probably not.

The conclusion is: if there really existed a common Proto-Indo-Uralic language, concerning word order its Indo-European representative must have been of the Hittite type and not of the Vedic one, because this language clearly is a mixed type relating to head directionality.

Actually, as the World Atlas of Language Structures (ONLINE) (<http://wals.info/>) shows, the SOV-type is the most common in the languages of the world.

TABLE 12.3 Distribution of the types of word order in WALS

Value	Representation
Subject-object-verb (SOV)	565
Subject-verb-object (SVO)	488
Verb-subject-object (VSO)	95
Verb-object-subject (VOS)	25
Object-verb-subject (OVS)	11
Object-subject-verb (OSV)	4
Lacking a dominant word order	189
Total:	1377

It may be that convergent head directionality structures can be used as proof of a common proto-language for Uralic and Indo-European with Hittite as the main exponent of the Indo-European branch. However, more evidence is needed.

### References

- Avery, J. 1881. On relative clauses in the Rigveda. *Proceedings of the American Oriental Society* 11, 64–66.
- Bácskai-Atkári, J. 2013. The diachronic system of the left periphery of subordinate clauses in Hungarian. In: B. Surányi (ed.), *Proceedings of the Second Central European Conference in Linguistics for Postgraduate Students*. Budapest: Pázmány Péter Catholic University, 3–23.
- Bácskai-Atkári, J.; É. Dékány 2014. From non-finite to finite subordination. The history of embedded clauses. In: K.É. Kiss (ed.), *The Evolution of Functional Left Peripheries in Hungarian Syntax*. Oxford: Oxford University Press, 147–299.
- Bauer, A.H. 2014. *Morphosyntax of the Noun Phrase in Hieroglyphic Luwian*. Leiden–Boston: Brill.
- Bolinger, D. 1967. Adjectives in English: Attribution and predication. *Lingua* 18, 1–34.
- Bosque, I.; Picallo, C. 1996. Postnominal adjectives in Spanish DPs. *Journal of Linguistics* 32, 57–78.
- Brosch, C. 2013. *Untersuchungen zur hethitischen Raumgrammatik*. Berlin–New York: Mouton de Gruyter.
- Brosch, C. 2014a. Eine Skizze der Räumlichkeit im Hethitischen. *eTopoi. Journal for Ancient Studies* 3, 23–41.

- Brosch, C. 2014b. Räumlichkeit in Zentralanatolien. In: S. Kutscher; D. Werning (eds.), *On Ancient Grammars of Space. Linguistic Research on the Expression of Spatial Relations and Motion in Ancient Languages*. Berlin: Mouton de Gruyter, 1–44.
- Casaretto, A. 2011. Syntax und Wortarten der Lokalpartikeln des Ṛgveda. XII: *vi. Historische Sprachforschung* 124, 134–177.
- Casaretto, A. 2014. Zum Verhältnis von Kasusfunktion und Lokalpartikel im Ṛgveda am Beispiel des Akkusativs. *Historische Sprachforschung* 125, 49–67.
- Clackson, J. 2007. *Indo-European Linguistics. An Introduction*. Cambridge: Cambridge University Press.
- Fitzpatrick, J.M. 2006. *Syntactic and Semantic Routes to Floating Quantification*. Ph.D. dissertation, MIT.
- Csepregi, M. 2012. Participiális jelzős szerkezetek két hanti nyelvjárásban. *Nyelvtudományi Közlemények* 108, 61–94.
- Francia, R. 2011. La posizione degli aggettivi qualificativi nella frase ittica. In: O. Carruba; W. Meid (eds.), *Anatolisch und Indogermanisch*. Innsbruck: IBS, 81–91.
- Garrett, A. 1994. Relative clause syntax in Lycian and Hittite. *Die Sprache* 36, 29–96.
- Hoeksema, J. 1996. Floating quantifiers, partitives and distributivity. In: J. Hoeksema (ed.), *Partitives: Studies on the Syntax and Semantics of Partitive and Related Constructions*. Berlin–New York: Mouton de Gruyter, 57–106.
- Holland, G. 1991. Definiteness and relativization. In: J.P. Brereton; S.W. Jamison; M.M. Deshpande (eds.), *Panels of the VIIth World Sanskrit Conference. Volume IV: Sense and Syntax in Vedic. Volume V: Pāṇini and the Veda*. Leiden: Brill, 22–32.
- Hoffner, H.A., Jr.; H.C. Melchert 2008. *A Grammar of the Hittite Language. Part 1: Reference Grammar*. Winona Lake: Eisenbrauns.
- Honti, L. 1979. Characteristic features of Ugric languages (observations on the question of Ugric unity). *Acta Linguistica Academiae Scientiarum Hungaricae* 29, 1–26.
- Honti, L. 1998a. *ObUgrian*. In: D. Abondolo (ed.), *The Uralic Languages*. London–New York: Routledge, 327–357.
- Honti, L. 1998b. Die Ob-Ugrischen Sprachen. In: D. Sinor (ed.), *The Uralic Languages. Description, History and Foreign Influences*. Leiden–New York: Brill, 147–196.
- Kiss, K.É. 2013. From Proto-Hungarian SOV to Old Hungarian Top Foc V X\*. *Diachronica* 30/2, 202–231.
- Kobuchi-Philip, M. 2003. Syntax and semantics of the Japanese floating numeral quantifier and its implications for the theory of floating quantifiers. *Rivista di Grammatica Generativa* 28, 57–70.
- Laroche, E. 1982. Epithètes et prédicats en hittite. In: J. Tischler (ed.), *Serta Indogermanica. Festschrift für Günter Neumann zum 60. Geburtstag*. Innsbruck: IBS, 133–136.
- Lehmann, W.P. 1973. A structural principle of language and its implications. *Language* 49/1, 47–66.



- Lehmann, C. 1984. *Der Relativsatz: Typologie seiner Strukturen, Theorie seiner Funktionen, Compendium seiner Grammatik*. Tübingen: Narr.
- Loebner, S. 1985. Definites. *Journal of Semantics* 4, 279–326.
- Lühr, R. 2001. Relativsätze im Hethitischen. In: G. Wilhelm (ed.), *Akten des 1v. Internationalen Kongresses für Hethitologie, Würzburg 4.–8. Oktober 1999*. Wiesbaden: Harrasowitz, 333–346.
- Lühr, R. 2002a. Konzeptionierungen des Prädikativums in der Indogermania. *Zeitschrift für Sprachwissenschaft* 21, 2–24.
- Lühr, R. 2002b. Badal- und Genitivkonstruktionen. *Historische Sprachforschung* 115, 23–36.
- Lühr, R. 2002c. “Allgemeine Anaphora”. Zum Artikelgebrauch bei der Fügung “Substantiv und adnominaler Genitiv” im Heliand. In: M. Fritz; S. Zeilfelder (eds.), *Novalis Indogermanica. Festschrift für Günter Neumann zum 80. Geburtstag*. Graz: Leykam, 251–281.
- Lühr, R. 2004. Der Ausdruck der Possessivität innerhalb der Determinansphrase der ältesten indogermanischen Sprache. In: D. Groddek; S. Rößle (eds.), *Šarnikzel: Hethitologische Studien zum Gedenken an Emil Orgetorix Forrer*. Dresden: Verlag der TU Dresden, 415–446.
- Lühr, R. 2005. Individuen- und Stadienprädikation im Altindischen. In: I. Balles; R. Lühr (eds.), *Indogermanische Nomina agentis*. Leipzig: Institut für Linguistik der Universität Leipzig, 161–252.
- Lühr, R. 2015. Traces of discourse configurationality in older Indo-European languages? In: C. Viti (ed.), *Perspectives on Historical Syntax*. Amsterdam: John Benjamins, 203–232.
- Maling, J. 1976. Notes on quantifier postponing. *Linguistic Inquiry* 7, 708–718.
- Marcantonio, A. 1985. On the definite vs. indefinite conjugation in Hungarian: A typological and diachronic analysis. *Acta Linguistica Academiae Scientiarum Hungaricae* 35, 267–298.
- Melchert, H.C. 2003. Language. In: H.C. Melchert (ed.), *The Luwians*. Leiden–Boston: Brill, 170–210.
- Melchert, H.C. 2009. Local adverbs in Hittite: Synchrony and diachrony. *Language and Linguistics Compass* 3/2, 607–620.
- Nikolaeva, I. 1999. *Ostyak*. München: Lincom Europa.
- Ott, D. 2011. A note on free relative clauses in the Theory of Phases. *Linguistic Inquiry* 42/1, 183–192.
- Polo, C. 2005. Latin word order in generative perspective: An explanatory proposal within the sentence domain. In: K.É. Kiss (ed.), *Universal Grammar in the Reconstruction of Ancient Languages*. Berlin: Mouton de Gruyter, 373–428.
- Probert, P. 2015. *Early Greek Relative Clause*. Oxford: Oxford University Press.
- Raun, A. 1988. Proto-Uralic comparative historical morphosyntax. In: D. Sinor (ed.),

- The Uralic Languages. Description, History and Foreign Influences.* Leiden–New York: Brill, 555–571.
- Semenza, C. 2006<sup>2</sup>. Impairments of proper and common names. In: K. Brown (ed.), *Encyclopedia of Language and Linguistics*. Amsterdam: Elsevier, 561–564.
- Speyer, J.S. 1896. *Vedische und Sanskrit-Syntax*. Strassburg: Trübner.
- Tjerkstra, F.A. 2000. *Principles of the Relation between Local Adverb, Verb and Sentence Particle in Hittite*. Groningen: Styx.
- Viti, C. 2008. Genitive word order in Ancient Greek: A functional analysis of word order freedom in the noun phrase. *Glotta* 84, 203–238.
- Viti, C. 2015. *Variation und Wandel in der Syntax der alten indogermanischen Sprachen*. Tübingen: Narr.
- Vogel, P.M. 1996. *Wortarten und Wortartenwechsel. Zu Konversion und verwandten Erscheinungen im Deutschen und in anderen Sprachen*. Berlin–New York: Walter de Gruyter.
- Wągiel, M. 2014. From kinds to objects. Prenominal and postnominal adjectives in Polish. In: I. Veselovská; M. Janebová (eds.), *Complex Visible Out There: Proceedings of the Olomouc Linguistic Colloquium 2014: Language Use and Linguistic Structure*. Olomouc: Palacký University, 457–476.
- Yoshida, D. 1987. *Die Syntax des althethitischen substantivischen Genitivs*. Heidelberg: Winter.
- Zeilfelder, S. 2001. *Archaismus und Ausgliederung. Studien zur sprachlichen Stellung des Hethitischen*. Heidelberg: Winter.