The Precursors of Proto-Indo-European

The Indo-Anatolian and Indo-Uralic Hypotheses

Edited by

Alwin Kloekhorst
Tijmen Pronk
# Table of Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Pages</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction: Reconstructing Proto-Indo-Anatolian and Proto-Indo-Uralic</td>
<td>1</td>
<td>Alwin Kloekhorst and Tijmen Pronk</td>
</tr>
<tr>
<td>2</td>
<td>The Proto-Indo-European Suffix *-r Revisited</td>
<td>15</td>
<td>Stefan Heinrich Bauhaus</td>
</tr>
<tr>
<td>3</td>
<td>Pronouns and Particles: Indo-Uralic Heritage and Convergence</td>
<td>30</td>
<td>Rasmus Gudmundsen Bjørn</td>
</tr>
<tr>
<td>4</td>
<td>Indo-Anatolian Syntax?</td>
<td>50</td>
<td>Dag Haug and Andrei Sideltsev</td>
</tr>
<tr>
<td>5</td>
<td>Daniel Europaeus and Indo-Uralic</td>
<td>74</td>
<td>Petri Kallio</td>
</tr>
<tr>
<td>6</td>
<td>Bojan Čop's Indo-Uralic Hypothesis and Its Plausibility</td>
<td>88</td>
<td>Simona Klemenčič</td>
</tr>
<tr>
<td>7</td>
<td>Indo-European o-grade Presents and the Anatolian hi-conjugation</td>
<td>102</td>
<td>Frederik Kortlandt</td>
</tr>
<tr>
<td>8</td>
<td>The Proto-Indo-European mediae, Proto-Uralic Nasals from a Glottalic Perspective</td>
<td>111</td>
<td>Guus Kroonen</td>
</tr>
<tr>
<td>9</td>
<td>Thoughts about Pre-Indo-European Stop Systems</td>
<td>115</td>
<td>Martin Joachim Kümmel</td>
</tr>
<tr>
<td>10</td>
<td>The Anatolian “Ergative”</td>
<td>131</td>
<td>Milan Lopuhaä-Zwakenberg</td>
</tr>
<tr>
<td>11</td>
<td>The Indo-European Suffix *-ens- and Its Indo-Uralic Origin</td>
<td>151</td>
<td>Alexander Lubotsky</td>
</tr>
<tr>
<td>Chapter</td>
<td>Title</td>
<td>Pages</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Headedness in Indo-Uralic</td>
<td>163</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rosemarie Lühr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Indo-Uralic, Indo-Anatolian, Indo-Tocharian</td>
<td>186</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Michaël Peyrot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Proto-Indo-European *sm and *si ‘one’</td>
<td>203</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Michiel de Vaan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Indo-Uralic and the Origin of Indo-European Ablaut</td>
<td>219</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mikhail Zhivlov</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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
[σ े gondoluan] yme vrnač angala ielenec 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
ötet
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)
\[az \ vy \ bor \ vy \ tomlo\'cbè \ èrèz-t-ènd-\varphi\]
the new wine new leather.bottle-PL-ILL pour-MOD-PART
\[\text{‘new wine is to be put into new bottles.’}\]

For a possessor preceding the possessum:

(5) Funeral Sermon and Prayer (1192–1195)
\[ig \ fa \ gimilcetvl\]
one tree fruit-3SG-from
\[\text{‘from the fruit of one tree’}\]

Also relative structures are preposed:

(6) Kazinczy C. (1526–1541), p. 34
\[es \ u\'eg\'ed \ az \ [nek\'od \ z\'orzo\'ttem] \ Coronat\]
and take-IMP-2SG the you-DAT obtain-PASTPART-1SG crown-ACC
\[\text{‘and take the crown I obtained for you.’}\]

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-Atkári 2013)
\[Ef \ uimagguc || \ fzent \ peter \ urot. \ Kinec \ odut \ hotolm\]
and pray-IMPPhPL saint Peter lord-ACC who-DAT given power
\[ovdonia. \ \text{ef} \ ketnie\]
bind-INF.3.SG. and unbind-INF.3.SG.
\[\text{‘and let us pray to the lord Saint Peter, to whom the power was given to bind and to unbind’}\]

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

(8) Funeral Sermon and Prayer (1192–1195)
\[iv \ uimadsaguc-mia\]
they prayer-3PL-because.of
\[\text{‘because of their prayer’}\]

\[1 \text{ There are also prenominal non-finite relative clauses in present-day Khanty (Nikolaeva 1999: 79; Bácskai-Atkári & Dékány 2014: 44; Csepregi 2012).}\]
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)

\[a=duw[=an] \quad annān \ patānza \quad dūwandu\]

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, \textit{anda parna} ‘into the house’, and are considered as pure adverbs (Brosch 2013: 398). In static constructions place words are postposed:

(10) a. Ÿ-ri andan and LUGAL-i peran ‘in front of the king’ (with dative/locative)

b. LUGAL-\textit{u̯aš peran} ‘in front of the king’ (with genitive)

c. \textit{peran} (\textit{n})=\textit{mit} ‘in front of me’ (with enclitic possessive pronoun) (Tjerkstra 2000: 6 f.)

and preposed:

d. \textit{andan Ÿ-ri} ‘in the house’ (with dative/locative)

Brosch (2013: 398) considers \textit{andan} here as a preposition.

(11) KBo 6.2. iv 54 (OS)

\[andan=(m)a \quad Ÿ-ri \quad kuit\]

inside=CONN house: D/L.SG what(ever): NOM.SG.N

\[harkzi\]

get lost: PRS.ACT\textsubscript{3SG}

‘But what(ever) got lost inside the house.’
But respecting the context *andan* bears a constrastive stress. It is a top-
icalized contrastive topic in the function of a local adverb. Thus, in Hittite
there would be only postpositons. 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.:²

(12) RV 1.30.19 (Speyer 1896: 24)

\[
pári dyám anyád
\]
around: PREP heaven(M): ACC.SG other: NOM.SG.N

\[
yáte
\]
revolve: PRS.IND.MED/PASS3SG

‘The other [chariot wheel] revolves around the sky.’

(13) RV 10.86.4

\[
š(u)vá nú asya jambhiṣat
\]
dog(M): NOM.SG now he: GEN.M.SG bite: AOR.SUBJ.ACT3SG

\[
ápi kárña
\]
in: PREP ear(M): LOC.SG

‘Soon may the dog bite him in the ear.’


\[
ví bhṛájante rukmása ádhi
\]
PFX glitter: PRS.IND.MED3PL jewel (M): NOM.PL on: PREP

\[
báhúṣu
\]
arm(M): LOC.PL

‘Their jewels glitter upon their arms.’

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² However, according to Casaretto (2014: 59) in the R̥gveda no prepositions are attested. Cf.
 further Casaretto (2011): in an adnominal construction ví is an attributive or appositive satel-
lite.
And for a postposition:

(15) RV 10.51,6

\[\text{agnéḥ pū́rve bhrátaraḥ} \]
Agni: GEN former: NOM.M.PL brother(M): NOM.PL
\[\text{ártham etám rathí iva} \]
object(M): ACC.SG this: ACC.M.SG car driver (M): NOM.SG like
\[\text{ádhvānam ánu á} \]
path(M): ACC.SG along: POSTP back and forth: PFX
\[\text{avarīvuḥ} \]
move: INTENS.IPF.IND.ACT3PL

‘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


But quantifier adjectives are postposed:

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

\[\text{DINGIR.LÚMES DINGIR.MUNUSMES ḫu-u-ma-an-te-eš ḤUR.SAGMES} \]
god: PL goddess: PL all: NOM.C.PL mountain: PL
\[\text{ĪĐMES ŠA KUR URUGISGIDRU-ti ḫu-u-ma-an-te-eš} \]
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)

\[\text{LÚMES Ga-aš-gaSHA-ma-an-kán da-pí-an-te-eš GAM UGU RA-an-zi} \]
‘But all the Kaska men will strike it (the city) up from below.’
Contrary to the *communis opinio*,¹ 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.⁴

(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 *šu-want- ‘filled’* is postposed:

(19) Muwatalli (CTH 381 1,7–8)

⁠⁠NINDA.IM.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 *ḥūmant- could be its preposition with body parts:

(20) KUB 30.10 obv. 27’ (Hoffner & Melchert 2008: 272)

⁠⁠ḫu-u-ma-an-te-et kar-di-it
‘with the whole heart’

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

However, preposition as in:

(21) KUB 36.90 rev. 39

‘come from every land’

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

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¹ Yoshida (1987: 33) ascribes the postposition of *ḥūmant- to its “unbestimmte Bedeutung” and compares postposed *kuelqa*. According to Hoffner & Melchert (2008: 271) postposition of *ḥūmant- 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 ḫūmant- and dapiant- are highlighted, too.\(^5\)

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

\[\text{dU } \pi^{-}\text{ha-aš-ša-aš-ši-iš} \]
Storm God belonging to lightning: NOM.C.SG
‘O Storm God of lightning’

(23) a. Muwatalli (CTH 381,3,4)
\[\text{dU } \ḫu-la-aš-ša-aš-ši-iš} \]
Storm God belonging to the town Ḫulašša: NOM.C.SG
‘O Storm God of Ḫulašša’

b. Telepinu (CTH 191,30)
\[\text{[ERÍN\textsuperscript{MES}] } \text{ḫu-r}^{-}\text{lu-uš} \]
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)
\[\text{i-da-lu-uš } \text{me-mi-aš} \]
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

\(^5\) 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)

<table>
<thead>
<tr>
<th>té</th>
<th>āsan</th>
<th>saptá</th>
<th>ṛṣayaḥ</th>
</tr>
</thead>
<tbody>
<tr>
<td>the: NOM.M.PL</td>
<td>be: IPF.IND.ACT3PL</td>
<td>seven: adj.num</td>
<td>ṛṣi(M): NOM.PL</td>
</tr>
<tr>
<td>daurgahē</td>
<td>badhyāmāne</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daurgaha(M): LOC.SG</td>
<td>being captivated: LOC.M.SG</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

‘They were the seven ṛṣis, when the son of Durgaha was captive.’

(26) RV 10.86.14 (Indra and his monkey)

<table>
<thead>
<tr>
<th>ubhā</th>
<th>kukṣī</th>
<th>pṛṇanti</th>
<th>me</th>
</tr>
</thead>
<tbody>
<tr>
<td>both: ACC.M.DU</td>
<td>cheeks(M): ACC.DU</td>
<td>fill: PRS.IND.ACT3PL</td>
<td>I: DAT.SG</td>
</tr>
</tbody>
</table>

‘They fill both my cheeks’

(27) RV 10.95.16 (Urvashi)

<table>
<thead>
<tr>
<th>yāt</th>
<th>virūpā</th>
<th>ácaram</th>
</tr>
</thead>
<tbody>
<tr>
<td>when in another shape: NOM.F.SG</td>
<td>live: IPF.IND.ACT1SG</td>
<td></td>
</tr>
<tr>
<td>mārtyesu</td>
<td>ávasam</td>
<td>rátriḥ</td>
</tr>
<tr>
<td>mortal(M): LOC.SG</td>
<td>spend: IPF.IND.ACT1SG</td>
<td>night(F): ACC.PL</td>
</tr>
<tr>
<td>śarādāh</td>
<td>cátasraḥ</td>
<td></td>
</tr>
<tr>
<td>autumn(F): ACC.PL</td>
<td>four: ACC.F.PL</td>
<td></td>
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</table>

‘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.6

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6 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)

\[\text{māma dvitā́ rāṣṭ(a)rám kṣatríyasya} \]
I: GEN.SG still rule(N): ACC.SG king(M): GEN.SG
\[\text{viśváyoḥ viśve amṛ̥tāḥ yāthā} \]
swaying all life: GEN.M.SG all NOM.M.PL immortal: NOM.M.PL as
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

\[\text{áthā́ vaha devā́n deva viśvān} \]
‘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 
never I:ACC.SG
daóyam
divine: NOM.N.SG
sáhaḥ
power(N): NOM.SG
varate
ápratītam
lock up: AOR.SUBJ.MED3SG
irresistible: ACC.M.SG
‘No divine power will lock up me, the irresistible.’

vs.

(32) RV 3.33.12 (River flood)
átārisuh
get across: AOR.IND.ACT3PL
bharatāḥ
Bharata(M): NOM.PL
gavyávaḥ
desiring cows: NOM.M.PL
sám
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
see: PRS.IND.MED1SG
amba
woman(F): VOC.SG
sulābhike
easy to be won: VOC.F.SG
yáthā iva
how somehaw
aṅgā bhaviṣyāti
PART be: FUT.IND.ACT3SG
‘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
here you: DAT.PL
amṛtatvám
offer: AOR.INJ.MEDSG
immortality (N): ACC.SG
suvī́ram
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 und is surely stressed.
Therefore, it can be supposed that in the Vedic NP a postnominal slot for focalized adjectives exists independent whether the adjective is an individual-level or stage-level predicate. This means that postnominality is a focus strategy. By apposition-like structures the speaker wants to highlight an adjective the meaning of which is unexpected or in another way important in the context.

Hence, Vedic and Hittite differ fundamentally in the positioning of adjectives. While Hittite has preposed adjectives apart from quantifiers and some relational adjectives, Vedic has both prenominal und postnominal ones, where-by the semantic class is not significant.

2.3 **Noun Phrases with Genitives**

The next word order universal concerns the position of the genitive. When adjectives are placed behind the noun they modify, also genitives should appear in this position and the other way round when a language has preposed ones.

2.3.1 **Hittite**

So far, Hittite is of the second type: as for the position of genitives, Hittite nearly fulfills the conditions of a SOV language. In the normal word order the genitive precedes its head noun (Hoffner & Melchert 2008: 254), except for the genitive of measure and for the genitive of material.

(36) Muwatalli (CTH 381 1,6)

35 NINDA.GUR₄.RA *tar-na-aš*

35 thick bread *tarna-measure(C): GEN.SG*

‘35 thick breads weighing each a tarna’

A construction where a numeral refers to a measure word like in the following Greek example is not documented in Hittite.
(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 11–5)

EME *iš-na-aš*

‘tongue (made) of clay’

b. StBoT 8 i 22’ (Yoshida 1987: 72)

2 3Ḥa-an-ta-a-an-ta-še-pu-uš ... GI[(Š-aš)]

‘2 3 Ḥantašepa-deities ... of wood’

Cf. the following examples from Homeric Greek:

(39) Il. 11.24 ὄιμοι κυάνοιο ‘stripes of cyanos’

Od. 4.124 δέπας οἶνοιο ‘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*

‘the blood of the father’

(41) KUB 8.41 ii 7’

*DiŠKUR-na-aš ša-ša-an-ti-iš-ši*

‘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)

> māma ... rāṣṭ(a)rām kṣatrīyasya

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 post nominally. 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 adīter

RV 4.042.04c putró ádīter

RV 7.041.02a putrám ádīter
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 sākhinām 'lord of treasures'

Often the word order is inversed 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)
    eṣā vah stómaḥ marutah
    this: NOM.M.SG you: DAT.PL praise(M): NOM.SG Marut(M): VOC.PL
    iyám gīḥ mándār(i)yāsyā
    this: NOM.F.SG hymn(F): NOM.SG Māndāriya: GEN.SG
    mán(i)yāsyā karóḥ
    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 i 1, 5–6) (Garrett 1994: 47)

\[d\text{Ku}-\text{mar-bi-iš GA}[LGA]-\text{tar Zl-ni} \quad \left[\text{kat}-\text{ta-an da-aš-ke-ez-zi}\right]
Kumarbi: NOM wisdom: ACC mind: LOC into take=PRS3SG
\]

\[\text{UD}[\text{AM}-\text{a}]n \quad \text{ku-iš LÚ} \quad \left[\text{HUL}-\text{an šal-la-nu-uš-ke-ez-zi}\right]
\]
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)

\[sa \quad \text{ā́ gamad} \quad \text{IND} \quad \text{indo}\]
he: NOM.M.SG PFX come: AOR.SBJ.ACT3SG Indra(M): NOM.SG
\[\text{yó} \quad \text{vásūnāṃ} \quad \text{ciketad}\]
who: NOM.M.SG goods(N): GEN.PL know: P.SBJ.IND3ACT
\[\text{dātum} \quad \text{dámano} \quad \text{rayīnām}\]
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: lxxiv–lxxvi; 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).7

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

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).

---

7 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

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

### Table 12.2 Subjects and topics in Old Indic

<table>
<thead>
<tr>
<th>Language</th>
<th>Vedic</th>
<th>Sanskrit</th>
<th>OI. total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjects in MC total</td>
<td>1177</td>
<td>362</td>
<td>1539</td>
</tr>
<tr>
<td>covert subjects in MC total</td>
<td>451</td>
<td>93</td>
<td>544</td>
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<tr>
<td>Subject in 1. position of MC</td>
<td>279</td>
<td>75</td>
<td>354</td>
</tr>
<tr>
<td>Subject in 2. position of MC</td>
<td>114</td>
<td>60</td>
<td>174</td>
</tr>
<tr>
<td>Subject final in MC</td>
<td>51</td>
<td>28</td>
<td>79</td>
</tr>
<tr>
<td>Subject second-to-final in MC</td>
<td>133</td>
<td>48</td>
<td>181</td>
</tr>
</tbody>
</table>

| 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:

<table>
<thead>
<tr>
<th>Hittite</th>
<th>Verb-final</th>
<th>Verb-first</th>
<th>Verb-second</th>
<th>Verb-middle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>483</td>
<td>10</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Rgveda</th>
<th>Verb-final</th>
<th>Verb-first</th>
<th>Verb-second</th>
<th>Verb-middle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>169</td>
<td>64</td>
<td>71</td>
<td>118</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pancatrantra</th>
<th>Verb-final</th>
<th>Verb-first</th>
<th>Verb-second</th>
<th>Verb-middle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>70</td>
<td>8</td>
<td>13</td>
<td>9</td>
</tr>
</tbody>
</table>

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.
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.

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