

DE GRUYTER

INDOGERMANISCHE FORSCHUNGEN

2019 · BAND 124

DE
|
G

Indogermanische Forschungen

Zeitschrift für Indogermanistik und historische
Sprachwissenschaft

Begründet von
Karl Brugmann und Wilhelm Streitberg

Herausgegeben von
Benjamin Fortson, Götz Keydana, Elisabeth Rieken
und Paul Widmer

124. Band
2019

DE GRUYTER

Inhalt

Oliver Hellwig

Dating Sanskrit texts using linguistic features and neural networks — 1

Jay H. Jasanoff

Some difficult Tocharian genitives — 47

Simon Fries

Kleines Lautgesetz, große Wirkung — 61

Daniel Kölligan

Germanic **bra* (PIE **pro*) as ditropic clitic and the etymology of **bren̥ga-*, **brūka-* and **brajda-* — 115

Guglielmo Inglese, Giuseppe Rizzo, and Miriam Pflugmacher

Definite referential null objects in Old Hittite — 137

David Stifter

An apple a day ... — 171

Elena Martínez-Rodríguez

Phonotactics of the Lycian labial glide clusters — 219

Thomas Olander

Indo-European cladistic nomenclature — 231

Roland Pooth, Peter Alexander Kerkhof, Leonid Kulikov, and Jóhanna Barðdal

The origin of non-canonical case marking of subjects in

Proto-Indo-European — 245

Tao Pan

TB *pitke* ‘fat, grease, oil’ and PIE **pejh₁*- ‘to be fat, be bursting with’ — 265

Birgit Anette Olsen

Indo-European syntax in disguise — 279

Eugenio R. Luján

On Indo-European superlative suffixes — 305

Fangzhe Qiu

Old Irish *ae* ‘descendant’ and its descendants — 343

Roland Pooth, Peter Alexander Kerkhof, Leonid Kulikov, and
Jóhanna Barðdal

The origin of non-canonical case marking of subjects in Proto-Indo-European

Accusative, ergative, or semantic alignment

Abstract: For a long time one of the most bewildering conundrums of Indo-European linguistics has been the issue of how to reconstruct the alignment system of this ancient language state, given the lack of distinction between *s* and *o* marking in the Proto-Indo-European neuter nouns and the problem of the Hittite ergative. An additional complication stems from the existence of argument structure constructions where the subject(-like) argument is marked in a different case than the nominative, like the accusative or the dative. Our aim with the present article is to fill two needs with one deed and offer a unified account of this century-long bone of contention. In contribution to the ongoing discussion in the field, we claim that a semantic alignment system, in the terms of Donohue & Wichmann (2008), might not only fit better with the morphological data that are currently reconstructed for the ancestral language, but also with the existence of non-canonically case-marked subjects in general (Barðdal, Bjarnadóttir, et al. 2013; Danesi, Johnson & Barðdal 2017).

Keywords: Proto-Indo-European, alignment systems, argument structure, non-nominative subjects, morphophonology, ergativity, converse lability

1 Introduction

The origin of non-canonical case marking of subjects in Indo-European has been an issue of scholarly interest since Uhlenbeck's (1901), van Wijk's (1902), and Pedersen's (1907) first attempt to derive it from ergative alignment. Barðdal & Eythórsson (2009) laid out six possible hypotheses for the emergence of non-canonically case-marked subjects in the Indo-European languages and presented evidence against five of them. They argue that the existence of verbs and compositional predicates selecting for non-canonically case-marked subjects in the early Indo-European

Roland Pooth, Ghent University; roland.pooth@gmx.de

Peter Alexander Kerkhof, Leiden University

Leonid Kulikov, Ghent University

Jóhanna Barðdal, Ghent University

<https://doi.org/10.1515/if-2019-0009>

languages speaks for the assumption that alignment in Proto-Indo-European was semantically based, consisting of an alignment system corresponding to the Fluid-s type (cf. Dixon 1994). Although such a claim is sound and in consonance with the attested case frames of the Indo-European languages, Barðdal & Eythórsson's (2009) analysis was only based on syntactic considerations and not corroborated by morphological evidence, rooted in existing knowledge of the morphology of the early Indo-European languages (Hittite, Vedic, Greek, etc.) and their proto-stages. The goal of the present article is to remedy that shortcoming and offer a hypothesis of the emergence of non-canonically case-marked subjects, grounded in early Indo-European morphology.

The structure of this article is the following. We start out, in Section 2, with an overview of earlier research on the alignment system of Proto-Indo-European. We then introduce the concept of semantic alignment in Section 3 below and its implications for the description of argument structure. After this, in Section 4, we discuss the general developments in alignment that we assume must have taken place before the breakup of the PIE dialectal unity. Subsequently, we show, in Section 5, how the issue of non-canonical subjects fits into these general developments. Finally, in Section 6 we recapitulate our main findings and discuss the implications of the model for future research.

2 Earlier research

The topic of Proto-Indo-European alignment has captivated the minds of Indo-Europeanists for over a century now. Whereas initially hardly any scholar questioned whether one should reconstruct a nominative-accusative pattern for the Proto-Indo-European ancestral language (cf. Delbrück 1893–1900), the first dissenting voice was heard in 1901 at Leiden University (cf. Krisch 2017). There the traditional accusative alignment model was called into question by the Dutch linguist C. C. Uhlenbeck, who suggested that an ergative-type system might have preceded the later accusative systems of the daughter languages (Uhlenbeck 1901; cf. Kortlandt 2009).

The data at issue within the traditional edifice of reconstructed PIE nominal morphology are the following: the neuter stems (e.g. **dóru-* ‘wood’) do not have separate case marking for the subject and the direct object (both being marked by zero in consonant stems and **-m* in *o*-stems), whereas the masculine *o*-stems and other non-neuter stems (e.g. **póti-* м ‘lord, master’) regularly use an ending **-s* for the subject and the ending **-m* for the direct object. Thus, in the neuter paradigm of all PIE declination types, both the transitive subject (A) and the intransitive

subject (s) of the verbal event are marked with the same ending as the direct object (o or p), i.e. with zero in the PIE consonant stems and **-m* in the *o*-stems. With a typological knowledge that was exceptional for his time, Uhlenbeck suggested that this might be indicative of a language that had an alignment system different from the one found in the later Indo-European daughter languages; he came to the conclusion that Proto-Indo-European at some point must have had an alignment system, now known as ergative, where animate nouns that were more likely to be prototypical agents of verbal events were marked differently from inanimate nouns that were more likely to be non-agents. His suggestion was that the transitive subject of animate nouns (non-neuter) was marked by an “Aktivus” case in **-s*, while the inanimate nouns had a zero-marked “Passivus” case. This case-marking system can be illustrated by **póti-* ‘lord, master’ as an example of an animate noun and **dóru-* ‘wood, lance’ as an example of an inanimate noun (see Table 1).

Table 1: Uhlenbeck’s classical proposal in modern terms

Uhlenbeck’s terminology	typological terminology	suffix	example		meaning
“Aktivus” or “Agens”	agentive case/ergative	-s	<i>*póti-s</i>	M	‘lord, master’
“Passivus”	anti-agentive/absolutive	-Ø	<i>*dóru-Ø</i>	N	‘wood, lance’
		-m	<i>*h₂nér-m</i>	M	‘man’

Unbeknownst to Uhlenbeck, a corroborating piece of data that supports the presence of an A-gap for neuters was later uncovered in Hittite and the other Anatolian languages. In Hittite, neuter nouns were marked with the same case (zero or *-an*) when the noun fulfilled an s or o function, but a special ending *-anza* was needed to mark neuter nouns that expressed the A-relation (Garrett 1990). When we take into account that the other IE languages also had no separate case form to mark neuters in A-relation, we may assume that this is a trace of an older situation in which PIE did not allow neuter agentive case-marking. Proto-Anatolian then may have filled this gap by introducing a new ergative case built on an earlier *-ant*-formation (Yakubovich 2011; Goedegebuure 2012; Lopuhaä forthc.). The Anatolian evidence therefore seems to confirm Uhlenbeck’s suspicion about PIE nominal morphology not reflecting a straightforward nominative-accusative system.

Uhlenbeck’s idea was expanded upon in the years that followed by scholars such as van Wijk (1902), Pedersen (1907) and Vaillant (1936). However, an important typological objection to the ergative hypothesis was articulated by Rumsey (1987a; 1987b), who argued that an ergative alignment based on the case marking patterns reconstructable for PIE would violate Silverstein’s (1976: 122) animacy hierarchy. According to this scale, referents higher in animacy are more likely to

be coded according to an accusative system, while referents lower in animacy, like inanimates, are more likely to follow an ergative system. Rumsey pointed out that the ergative model of PIE alignment would not conform to crosslinguistic typological patterns found in ergative and Split-s systems because the typological expectation is that there should be an ergative marker with neuters and not with non-neuters (cf. also Clackson 2007: 176–180).

For such typological reasons, Soviet/Russian linguists argued in the late sixties that PIE had active-stative alignment with a case marking system depending on animacy and agency features (Guxman 1967; Savčenko 1967; Tronskij 1967). This model was adopted by scholars like Lehmann (1974), Klimov (1977), Gamkrelidze & Ivanov (1995), Stempel (1998), Pooth (2004), and Barðdal & Eythórsson (2009), whereas Kortlandt (1983; 2002), Beekes (1985; 1995), Matasović (2011), and Willi (2018) adhered to Pedersen's ergative model. The most recent contribution to this debate is the “proto-middle antipassive construction to neo-active shift hypothesis” (cf. Pooth 2004; 2014; 2018b; Matasović 2011; Willi 2018: Ch. 9–10) which explores new avenues of inquiry.¹ We adopt this hypothesis in the following sections.

We sympathize with Matasović (2011) and Willi (2018) in their assessment that Uhlenbeck has already offered the most plausible explanation for the paradigmatic -s gap of neuters, namely that neuters were unable to take the agentive case because they were categorically non-agentive. We argue, however, that this gap is evidence for semantic alignment instead of ergative alignment. Moreover, we aim to capitalize on recent developments in the literature (see Willi 2018) and show how these can further our understanding of the prehistory of IE alignment. In order to contribute to the debate, we provide our own model of IE alignment evolution which connects to the work of Pooth (2004; 2014; 2018b), Matasović (2011; 2013) and Willi (2018), thereby building upon much of what former scholarship in IE linguistics and linguistic typology has already established. This model will show how the data can be integrated in a novel way and, more importantly, how a semantic alignment model for PIE might shed light on the hitherto ill-understood origin of non-canonically case-marked subjects in Indo-European (Bauer 2000; Barðdal & Eythórsson 2009; Dahl & Fedriani 2012).

We now continue to the concept of semantic alignment in the following section before we lay out our view on the relevant changes of the Proto-Indo-European alignment system in Section 4 below.

¹ Cf. also Benedetti 2005: 96, fn. 3 on the possibility of an antipassive interpretation of Homeric middle constructions of the type *Trōōn rhēgnunto phálangas* ‘they were breaking/sought to break the battalions of the Trojans’ (Il. 13, 713).

3 Semantic alignment

It is a well-known fact that the notion of canonical ergativity puts a focus on syntactic transitivity and its categories ‘transitive subject’ (A = subject of a transitive clause) and ‘intransitive subject’ (s = subject of an intransitive clause) (cf. Dixon 1994). The concept of ergativity refers to patterning in a language whereby the A is distinguished from the s relation, and the s behaves like the o relation (o = object of a transitive clause) (cf. Dixon 2010; Dixon 2012). In many languages, there are “split” accusative and ergative patterns based on tense-aspect-mood-evidentiality (TAME), or animacy or salience of the nominal referent. In other languages, the difference in morphosyntactic alignment primarily resides in the s category, as shown in ex. (1a–1b). However, there are also languages where the respective case-marking is role-dominated (in the sense of Foley & van Valin 1980) and depends on the semantics of the verb or on the volition or intentionality of the event, as shown in ex. (2a–2b), where V is for the part of the word form that corresponds to the verb in English.

(1) Split-s

Galela (North Halmahera, West Papuan, Indonesia)

- a. *no- tagi*
 2SG.A- go
 SA v
 ‘you are going’
- b. *ni- kiolo*
 2SG.P- be.asleep
 SO v
 ‘you are asleep’

Creissels 2008: 142

(2) Fluid-s

Tabassaran (Lezgic, NE Caucasian, Dagestan)

- a. *aqun- za*
 fall- 1SG.A
 v SA
 ‘I fell intentionally’
- b. *aqun- zu*
 fall- 1SG.P
 v SO
 ‘I fell accidentally’

Arkadiev 2008: 109

Traditionally, these languages have been called Active, Active-Stativ, Active-Inactive or Split-s and Fluid-s languages (cf. Dixon 1994). Recently, scholars have expounded the inaccuracies of this nomenclature, and Donohue & Wichmann

(2008) propose using the term *semantic alignment* instead in the case of languages where case marking is semantically driven. We follow Wichmann's (2008) and Coupe's (2011; 2017) recent typology and therefore prefer the term *semantic alignment* and *semantically-motivated case marking* rather than the terms Split-s, Fluid-s or Active-Stative. However, for convenience sake, we continue using the notations SA and SO in our glosses in order to conform with the tradition in the typological literature. It should be said that to our mind a distinction between an agentive and anti-agentive case, which is very similar to Uhlenbeck's terminology from 1901, would be more appropriate.

Agentive vs. anti-agentive case marking can be illustrated with examples from Mongsen Ao (Tibeto-Burman, Coupe 2007: 157). Here, volitionality and self-motivation are conditions for the use of the agentive (AGT) marker, whereas this marker is omitted when the verbal event is in accordance with social expectations and is thus motivated by a gradually lower degree of individual responsibility for the individual's action, as shown in ex. (3a–3b) below:

- (3) a. *ā-hān nā ā-tfāk tfāʔ-àɿ-ùʔ*
 NRL-chicken AGT NRL-paddy consume-PRS-DECL
 'The chickens are eating paddy (after having willfully stolen it).'
- b. *ā-hān ā-tfāk tfāʔ-àɿ-ùʔ*
 NRL-chicken NRL-paddy consume-PRS-DECL
 'The chickens are eating paddy (the paddy they have been fed).'

Coupe 2007: 157

To conclude this section, for our purposes we distinguish between the following three broadly and ideally defined case and alignment types:

- accusative: A = S (NOM) vs. O (ACC);
- ergative: O = S (ABS) vs. A (ERG) (including a possible split SA vs. SO);
- semantic: agent/agentive case (AGT) vs. anti-agentive case.

Alignment of the third ideally defined type, the semantic type, is best construed as a case system motivated by semantic contrasts, rather than being based on syntactic transitivity and intransitivity (hence the category s) as in many languages.

4 Evolution of Indo-European alignment

As already outlined above, there is now an increasing number of supporters adhering to an analysis involving a Split-s or an ergative system (cf. Kortlandt 1983; 2002; Matasović 2011; Willi 2018). The traditional position that PIE was a language of the accusative alignment type is steadily losing ground (see, however, Drinka 1999).

Our starting point is that the later accusative system developed from a semantic alignment system and we contend that it is this semantic alignment system that is responsible for the rise of non-canonical subject marking in the IE daughter languages. In order to sketch the evolution of the different alignment phases, the following Early PIE construction types must be taken into account:

1. The proto-language had a two-participant construction in which the verb was marked by athematic proto-active (ACT) endings. The agent was marked by the agentive case (*-s, glossed AGT, corresponding to the “ergative” in the ergative model) and the patient was in the “anti-agentive” case (*-Ø, also called absolutive here, glossed ABS), as shown in ex. (4) below:

(4) transitive construction

**póti-s *h₁óg^{whi}-Ø *g^{wh}ént*

lord-AGT snake-ABS slay:3SG:ACT

A O V

‘The lord (intentionally) slew the snake.’

2. The proto-language also had one-participant constructions in which the verb was coded either by athematic proto-active endings or proto-middle (detransitive, glossed as DTR) marking. This one-clause participant (e.g. **póti* ‘lord, master’) could be marked either by the agentive case or the anti-agentive (ABS) depending on agency features (cf. ex. (5–6) below). We use the traditional gloss, ABS, for anti-agentive here.

(5) intransitive construction with agentive and ACT

**póti-s *g^wént*

lord-AGT come:3SG:ACT

SA V

‘The lord came (intentionally).’

(6) a. construction with ABS and ACT

**séh₂ul-Ø *mért*

sun-ABS vanish/die:3SG:ACT

SO V

‘The sun vanished.’

b. construction with ABS and DTR

**póti-Ø *mr-ó*

lord-ABS vanish/die-DTR:3SG

SO V

‘The lord died.’

We believe that at a later point the agentive ending *-s was extended from the SA argument (agent) to the SO argument (cf. Pooth 2004), thereby giving rise to the later nominative ending *-s (similarly, Willi 2018 assumes that the “ergative”

*-s was extended to s). Such a generalization process presupposes that the original function of the *-s, expressing agency, had faded, so that the ending *-s was reanalyzed as a general subject marker. Generalization processes of this kind are well known from historical linguistics, cf. the development of *do*-support in English (Ard 1982) and the so-called Extended Accusative in Late Latin (Cennamo 2009).

3. Moreover, the proto-language had a two-participant construction which can be termed “non-canonical antipassive construction” because it partially follows the typical case-marking patterns of antipassives. The verb was marked for proto-middle (detransitive) voice by *-o-* as given in ex. (7–9) below. The first participant of these constructions could be marked either by the agentive (AGT) or the anti-agentive (ABS) depending on agency. An extended core argument (E) could be added to the core, marked by the allative (glossed ALL, also called “directive”) case in *-*m* (cf. ex. (7a–7b) below). It was this form that was later reanalyzed as accusative (cf. Haudry 1977: 155; Kortlandt 1983: 322) and gave rise to accusative alignment of non-neuters (cf. Pooth 2004; Willi 2018).

- (7) a. antipassive construction with SA and E = ALL

**diéu-s* **g^{wh}én-o* **póti-m*
 skygod-AGT strike-DTR:3SG lord-ALL
 SA V E
 ‘The skygod was striking (lit. at) a/the lord.’

- b. antipassive construction with SO and E = ALL

**dóru-Ø* **trh₁-ó* **póti-m*
 wood-ABS pierce-DTR:3SG lord-ALL
 SO V E
 ‘The wood (lance) speared (lit. at) a/the lord.’

4. It is a distinct possibility that for experiencers, a locative case could be used as an extended case (E) as well (cf. ex. (8a) below). Assuming that PIE had both, this could have been a locative in *-*i* or an endingless locative, although this would lead to a merger with the *so* argument which was likewise marked by *-*Ø*. In the case of neuters, the use of the locative case or, alternatively, an instrumental case might have been compulsory (see ex. (8b) below); a typologically similar distribution of locative and dative triggered by the animate/inanimate distinction in antipassive constructions is found in Yidj (Australia, cf. Dixon 1977: 277).

- (8) a. stimulus-experiencer construction with neuter SA and E = LOC

**péh₂ur-Ø* **ġus-ó* **tuéi*
 fire-ABS enjoy/please-DTR.3SG 2SG:LOC
 SA V E
 ‘The fire pleased you.’

b. construction with neuter E = LOC

**póti-Ø *trh₁-ó *dóru-i*

lord-ABS spear-DTR.3SG wood-LOC

SO V E

‘The lord was speared (at) by (the) wood.’

5. A discourse functional slot in the left periphery is reconstructable for PIE (cf. Barðdal, Bjarnadóttir, et al. 2013; Keydana 2018) – and we assume that PIE locative forms could occur in leftmost position due to pragmatic word order principles similar to Greek (cf. Matić 2003). The reconstructed converse-lability of the proto-middle form and the two alternating constructions in ex. (8a) and (9a) are inferred from the respective converse-lability of the Vedic verb *juṣ-* ‘to enjoy, to please’ (cf. Pooth 2018a) and other types of lability of IE middle forms (see Table 2; cf. Pooth 2014). The comparative evidence suggests that PIE allowed such alternating constructions (cf. Barðdal 2001; Eythórsson & Barðdal 2005; Barðdal, Eythórsson & Dewey 2014). In our model, the two participants of the constructions given in ex. (8a) and (7a–7b) could thus also occur with the locative and the **-m*-case in the leftmost position (cf. ex. (8a) ~ (9a) and ex. (7a–7b) ~ (9b)).

(9) a. experiencer-stimulus construction with LOC and ABS

**tuéi *ġus-ó *péh₂ur-Ø*

2SG:LOC enjoy/please-DTR.3SG fire-ABS

E V stimulus

‘You enjoy the fire.’

b. experiencer construction with ALL and ABS

**póti-m *tép-o*

lord-ALL burn-DTR.3SG

E V

‘The lord is/was suffering.’

It is implied that the absolutive becomes nominative in constructions like (9a); the emergence of IE case frames with DAT-NOM can thus be explained.

Table 2: IE forms from PIE **k^wieu-* ‘to move’ (cf. Pooth 2014: 226–231)

intransitive			transitive		
Vedic	<i>cyávante</i>	< <i>*-onto</i>	<i>cyavanta</i>	< <i>*-onto</i>	
Avestan	<i>šauua</i>	< <i>*-e</i>	<i>°šauuaŋ</i>	< <i>*-et</i>	
Old Arm.	<i>č’ogan</i>	< <i>*-nto</i>	Avestan	<i>šauuaitē</i>	< <i>*-ntoi</i>

According to the general outline (cf. also Willi 2018), the antipassive construction, in which the verb was marked by proto-middle endings, was then reanalyzed as a new active construction and gave rise to the development of active endings from proto-middle endings, whereas other forms (e.g. **-to* etc.) remained middle. Hence, PIE semantic alignment and the “proto-middle to neo-active shift” can be considered two sides of the same coin, as the change in alignment can motivate the rise of the **h₂e(i)*-conjugation and the thematic conjugation (cf. Pooth 2018b). Pooth (2014) argues that a tantalizing trace of this situation is present in Indo-Iranian (see Table 2). The lability of proto-middle forms is preserved by several Vedic middle verb forms, thereby providing corroborating evidence for this aspect of the “semantic alignment hypothesis.” Similar allomorphic pairs can be gleaned from other IE languages.

5 Oblique subject constructions

We believe that the semantic alignment phase of Proto-Indo-European does not only account for the later accusative system (cf. Pooth 2004; 2014; 2018b) but was also retained to some extent and motivated the genesis of oblique subject constructions in the Indo-European languages. Whereas some scholars working in the ergative alignment model of PIE would downplay the significance of non-canonical subject marking for the prehistory of IE alignment (e.g. Matasović 2011), we follow Pedersen (1907: 134–148), Kortlandt (1983: 321), Bauer (2000) and Barðdal & Eythórsson (2009; 2012b) who assert that oblique subject constructions should be viewed as important relics, pointing towards the existence of such constructions in the proto-language. Indeed, Barðdal & Eythórsson (2012a) and Dunn et al. (2017) show on the basis of lexico-syntactic matches that non-canonically case-marked subjects must be reconstructed for Proto-Germanic, whereas Barðdal, Bjarnadóttir, et al. (2013), Barðdal & Smitherman (2013) and Danesi, Johnson & Barðdal (2017) make the same claim for Proto-Indo-European.

It should be noted that Kortlandt (1983: 321) regards the use of non-canonically case-marked subjects as a remnant of experiencer marking of thematic verbs, which is a decidedly different position from ours. We argue, in contrast, that one type of non-canonically case-marked subjects straightforwardly continued the experiencer constructions given in ex. (9a) and (9b) above – and that another type originated in clauses where the absolutive case initially marked the so of a proto-middle or proto-active verb, as given in ex. (6a–6b) above. The use of non-canonical subjects in the IE daughter languages would therefore simply be

a retention and an analogical extension of the experiencer marking of Early PIE in general.

In order to substantiate how this retention and analogical extension took place, we now present a sketch of how the oblique subject construction fits into the alignment system described above. As outlined in Section 4, we assume that non-volitional experiencers were coded by the allative (“directive”) case in **-m* or the locative case in **-i*, whereas volitional experiencers were marked by the agentive case (“ergative”). When the antipassive construction was otherwise reanalyzed as the new transitive construction and the case in **-m* became a new accusative, traces of the old experiencer construction, as shown in ex. (9b) above, simply survived. In other words, with the change in alignment system from semantic to an accusative system, the animate non-volitional experiencer further underwent three developments: (a) it acquired the new nominative case in **-s*, a continuation of the old agentive **-s* which originally was reserved for volitional animate agents; (b) it kept its original argument marking in allative **-m* and locative **-i*; (c) it acquired a new dative **-ei* marking, preserving the original oblique pattern.

The two latter strategies, which avoided the extension of agentive **-s*, might be viewed as case marking strategies that stressed the non-agentivity of the experiencer with regard to the verbal event. Subsequently, the absolutive case **-∅* in these constructions was replaced with the new accusative case in **-m* or the experiential locative case in **-i* in some instances. Therefore initially, this Late PIE non-canonical subject construction would only have included instances with a fossilized experiencer in **-m* or **-i*, but later on this may have been expanded to include the new Indo-European dative-benefactive case in **-ei*.

In this way, a well-established non-canonical subject construction in Proto-Germanic like **þana þursjidi* ‘this one is thirsty’ might originally continue (a) either a PIE intransitive construction with the absolutive case of the demonstrative **tō* which later got extended with the new accusative ending **-m* or (b) a PIE experiencer construction with **-m*, see Table 3.

Table 3: The origin of the Proto-Germanic accusative subject construction (schematic)

Early PIE		> Late PIE		> Proto-Germanic	
<i>*tō(-m)</i> ^a	<i>*tr̥sǵ-ō</i>	<i>*tō-m</i>	<i>*tr̥seh₁/i-eti</i>	<i>*þana</i>	<i>*þursjidi</i>
DEM(-ALL)	dry-DTR.3SG	this-ACC	thirst-ACT.3SG	DEM.ACC.SG	thirst-PRS.3SG
SO(-EXP)	V	OBL.SBJ	V	OBL.SBJ	V
‘That one is dry (inside).’		‘This one is (or gets) thirsty.’		‘This one is (or gets) thirsty.’	

^a Depending on whether *s* was experiencer or patient.

Interestingly enough, Vedic Sanskrit may have preserved a PIE experiencer construction with **-m* marking of the subject in an isolated and therefore probably archaic phrase *kitavám tatāpa* as found in ex. (10):

- (10) Vedic
strīyaṃ dṛṣṭvāya kitavám tatāpa
 wife.ACC see.CVB gambler.ACC burn:3SG.PRF.IND.ACT
 ‘Having seen (his) wife, the gambler suffered.’ RV X 34.11a

On the assumption that this attestation is genuinely old, *kitavám tatāpa* may be regarded as a continuation of the oblique subject construction, which itself continues the experiencer construction given in ex. (9b) above, see Table 4.

Table 4: A possible relic of the one-participant experiencer construction in Vedic (schematic)

Early PIE		~ Late PIE		> Vedic	
<i>*póti-m</i>	<i>*tép-o</i>	<i>*póti-m</i>	<i>*tetópe</i>	<i>kitavá-m^a</i>	<i>tatāpa</i>
lord-ALL	burn-DTR:3SG	lord-ACC	burn:PRF.3SG	gambler-ACC.SG	burn:PRF.3SG
EXP	V	OBL.SBJ	V	OBL.SBJ	V
‘The lord (EXP) was burning.’		‘The lord has suffered.’		‘The gambler suffered.’	

^a With ‘gambler’ instead of ‘lord’.

Table 5: The origin of the IE accusative subject construction with 3SG active verb form

Early PIE		> Late PIE (NOM subject)		~ Late PIE (variant with ACC subject)	
<i>*póti-Ø</i>	<i>*dért</i>	<i>*póti-s</i>	<i>*dér-t</i>	<i>*póti-m</i>	<i>*stérĝ^h-t</i>
lord-ABS	split:ACT:3SG	lord-NOM	Split-ACT.3SG	lord-ACC.SG	smash-ACT.3SG
SO	V	NOM	V	ACC.SBJ	V
‘The lord got torn apart (e.g. from fear).’		‘The lord got torn apart (e.g. from fear).’		‘The lord got smashed (by sickness) > got ill.’	

We now return to the second (proto-active) source for non-canonical subjects, see ex. (8a) above. We argue that part of the IE non-canonical subjects originate in intransitive clauses where PIE had original anti-agentive-marking of the undergoer (so) with a proto-active 3SG indexed for a natural force as cause, as given in ex. (6a), see Table 5. The use of non-canonical accusative subjects with 3SG active forms continuing 3SG forms of the athematic type, e.g. **stérĝ^h-t*, in the IE daughter languages would therefore be an analogical *-m*- extension of the so anti-agentive-marking of

Early PIE. We thus reconstruct the constructions given in Table 5 including a third singular form of a verb **der-* ‘to split, tear, shatter, skin (a tree)’ and likewise with a similar verb **sterĝ^h*. ‘to smash; be shamed by a natural force’ (cf. LIV²: s.v. **sterĝ^h*).

Again, both constructions are found in IE languages. Hittite may have preserved the variant with ACC subject (i.e. the one given in the rightmost column above), whereas Vedic shows regular NOM subject marking with a verb of the same category and from the same semantic field, e.g. *dárt* (< **dért*), as shown in ex. (11–12) below:

(11) Hittite

m]ān antuḥṣan SAG.DU-ŠU *ištara[k-zi]* *n=an* *naššu*
 PTCL man.ACC head-his ail/be.ill-3SG.PRS.IND.ACT PTCL=3SG.ACC or.else
apeniššan išta[r]ak-zi
 likewise ail/be.ill-3SG.PRS.IND.ACT
 ‘If a man, his head, is sick or if he is likewise sick.’ KUB 8.36 ii 12–13

(12) Vedic

bhiyās-ā áparo dár-t
 fear-INS rear:NOM tear/shatter-3SG.AOR.INJ.ACT
 ‘The rear (sc. division) shattered from fear.’ RV VI 27.5d

If the attestation (11) in Hittite is old, it may be a continuation of the Late PIE oblique subject construction. Thus, it is likely that the older zero-marking was remodeled to ACC, not to regular NOM, in such cases while presumably being accompanied by a regular nominative subject construction in Late PIE as its variant.

The above-mentioned non-canonically case-marked subject constructions may have survived in a few relic attestations in Vedic Sanskrit and Indo-Iranian in general, while being more numerous attested in Greek, Germanic and Balto-Slavic. Later instances of the construction, which can also arise independently in accusative alignment languages, will of course have added to the construction’s continued productivity (cf. Matasović 2011: 5; 2013). Here we would like to stress the point that *not every* predicate selecting for a non-canonically case-marked subject in the IE daughter languages necessarily continues such Late PIE predicate-specific oblique subject constructions, although the schematic constructions, the patterns, are inherited. It is also self-evident that the language branches must have been perfectly capable of creating new instances, i.e. new types, of oblique subject constructions; and the need for conceptual metaphors involving psych verbs might have contributed to their continuous use (cf. Johnson et al. 2019). We are merely stating that the model on which some of these predicate-specific constructions were based harks back to the proto-language.

6 Summary and conclusions

For the past decades, a general assumption in the field of Indo-European syntax has been that the alignment of Proto-Indo-European must have been ergative-absolutive, rather than nominative-accusative. However, a reconstruction of the case morphology of Proto-Indo-European corroborates neither of the two analyses. Instead, it suggests a Fluid-s system where case marking was semantically driven and the case marking of one-participant clauses was motivated by semantic factors such as whether the referent had an agent role or not. We have laid out the morphological details of the reconstructed semantic alignment stage of Proto-Indo-European where an antipassive-like construction played a key role for the development from semantic alignment to the attested accusative system found in the Indo-European daughter languages today. This antipassive-like construction was reanalyzed as a transitive construction and the earlier agentive **-s* marker was generalized into a subject marker, irrespective of the semantics of the subject referent, yielding an accusative system. As a part of this general process we have identified the Early PIE proto-constructions that have developed into the attested accusative and dative subject constructions, respectively. The first one involves the older **-m* allative-marking of non-neuters which also developed into the accusative object marker. Through the construction with the **-m* or the zero-marking on subjects of one-participant clauses with proto-middle and proto-active marking on the verb, respectively, the accusative subject construction emerged. Out of experiencer constructions involving the old locative ending **-i*, one sub-construction of the dative subject construction arose, e.g. the DAT-NOM construction.

To conclude, we have presented an attempt to elucidate how non-canonical case marking of subjects are in line within the most recent discussions on PIE alignment. Our aim has been to show how a Fluid-s or semantic alignment model for the Proto-Indo-European language may aptly explain the presence of archaic instances of non-canonical subject marking in the ancient IE languages. Although some instances of non-canonical subject marking may be relatively young, as is argued for Latin by Matasović (2011; 2013) and for Hittite by Hoffner & Melchert (2008), this does not necessarily entail that non-canonically case-marked subject constructions should be considered an innovation which affected the daughter languages separately. Instead, we have argued that non-canonical case marking of subjects is a relic of the semantically-marked experiencer and undergoer role. Later, the separate daughter languages may have added new predicate-specific oblique subject constructions to these already existing schematic patterns. We therefore believe it worthwhile to reevaluate the evidence from Latin and Hittite with regard to non-canonically case-marked subjects, since fossils of the old PIE intransitive

construction may yet be found there. Also, the exact relationship between non-canonically case-marked subjects and PIE labile verbs and the proto-middle voice category (cf. Pooth 2014) should be explored in full. These questions deserve further research and we will return to them in future publications.

Acknowledgment: For comments and discussions, we thank Laura Bruno, Alec Coupe, Spike Gildea, Svetlana Kleyner, Marijn van Putten, the editors and anonymous reviewers of IF, and the audience at the workshop “Aspect and Alignment in Indo-European and Proto-Indo-European” in Ghent, 10–11 September 2018. This research was supported with a generous research grant to Jóhanna Barðdal (PI) from the European Research Council (EVALISA, grant nr. 313461) and to Leonid Kulikov from the National Science Centre (NCN), Poland (grant nr. UMO-2015/19/P/HS2/02028).

Abbreviations

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

Bibliography

- Ard, Josh (1982). “Auxiliary *do*. Support or emphasis?” In: *Linguistics* 20.5–6, 445–466.
- Arkadiev, Peter (2008). “Thematic roles, event structure, and argument encoding in semantically aligned languages”. In: *The Typology of Semantic Alignment*. Ed. by Mark Donohue & Søren Wichmann. Oxford: Oxford University Press, 101–117.
- Barðdal, Jóhanna (2001). “The perplexity of Dat-Nom verbs in Icelandic”. In: *Nordic Journal of Linguistics* 24, 47–70.
- Barðdal, Jóhanna, Valgerður Bjarnadóttir, Serena Danesi, Tonya K. Dewey, Thórhallur Eythórsson, Chiara Fedriani & Thomas Smitherman (2013). “The story of ‘woe’”. In: *Journal of Indo-European Studies* 41.3–4, 321–377.
- Barðdal, Jóhanna & Thórhallur Eythórsson (2009). “The origin of the oblique-subject construction. An Indo-European comparison”. In: *Grammatical Change in Indo-European Languages*. Papers presented at the workshop on Indo-European linguistics at the XVIIIth International Conference on Historical Linguistics, Montreal, 2007. Ed. by Vit Bubenik, John Hewson & Sarah Rose. Amsterdam & Philadelphia: Benjamins, 179–193.
- Barðdal, Jóhanna & Thórhallur Eythórsson (2012a). “Hungering and lusting for women and fleshly delicacies. Reconstructing grammatical relations for Proto-Germanic”. In: *Transactions of the Philological Society* 110.3, 363–393.

- Barðdal, Jóhanna & Thórhallur Eythórsson (2012b). "Reconstructing syntax. Construction grammar and the comparative method". In: *Sign-Based Construction Grammar*. Ed. by Hans C. Boas & Ivan A. Sag. Stanford: CSLI, 257–308.
- Barðdal, Jóhanna, Thórhallur Eythórsson & Tonya K. Dewey (2014). "Alternating predicates in Icelandic and German. A sign-based construction grammar account". In: *Working Papers in Scandinavian Syntax* 93, 50–101.
- Barðdal, Jóhanna & Thomas Smitherman (2013). "The quest for cognates. A reconstruction of oblique subject constructions in Proto-Indo-European". In: *Language Dynamics and Change* 3.1, 28–67.
- Bauer, Brigitte L. M. (2000). *Archaic Syntax in Indo-European. The Spread of Transitivity in Latin and French*. Berlin: de Gruyter.
- Beekes, Robert S. P. (1985). *The Origins of the Indo-European Nominal Inflection*. Innsbruck: Institut für Sprachwissenschaft.
- Beekes, Robert S. P. (1995). *Comparative Indo-European Linguistics. An Introduction*. Amsterdam: Benjamins.
- Benedetti, Marina (2005). "Dispersioni formali del medio indoeuropeo". In: *Acquisizione e mutamento di categorie linguistiche*. Ed. by Lidia Costamagna & Stefania Giannini. Roma: Il Calamo, 95–119.
- Cennamo, Michela (2009). "Argument structure and alignment variations and changes in Late Latin". In: *The Role of Semantic, Pragmatic and Discourse Factors in the Development of Case*. Ed. by Jóhanna Barðdal & Shobhana L. Chelliah. Amsterdam: Benjamins, 307–346.
- Clackson, James (2007). *Indo-European Linguistics. An Introduction*. Cambridge & New York: Cambridge University Press.
- Coupe, Alexander R. (2007). *A Grammar of Mongsen Ao*. Berlin: de Gruyter.
- Coupe, Alexander R. (2011). "Pragmatic foundations of transitivity in Ao". In: *Studies in Transitivity. Insights from Language Documentation*. Ed. by František Kratochvíl, Alexander R. Coupe & Randy J. LaPolla, 492–522.
- Coupe, Alexander R. (2017). "The typology of pragmatic case marking in Tibeto-Burman". A presentation given at the South Asian Linguistic Analysis Roundtable (SALA 33), Adam Mickiewicz University, Poznań, 15–17 May 2017.
- Creissels, Denis (2008). "Remarks on split intransitivity and fluid intransitivity". In: *Empirical Issue in Syntax and Semantics*. Ed. by Olivier Bonami & Patricia Cabredo Hofherr. Vol. 7. Paris: Colloque de Syntaxe et Sémantique à Paris, 139–168.
- Dahl, Eystein & Chiara Fedriani (2012). "The argument structure of experience. Experiential constructions in Early Vedic, Homeric Greek and Early Latin". In: *Transactions of the Philological Society* 110.3, 342–362.
- Danesi, Serena, Cynthia A. Johnson & Jóhanna Barðdal (2017). "Between the historical languages and the reconstructed language. An alternative approach to the gerundive + 'dative of agent' construction in Indo-European". In: *Indogermanische Forschungen* 122, 143–188.
- Delbrück, Berthold (1893–1900). *Vergleichende Syntax der indogermanischen Sprachen*. 3 vols. Strassburg: Trübner.
- Dixon, Robert M. W. (1977). *A Grammar of Yidj*. Cambridge: Cambridge University Press.
- Dixon, Robert M. W. (1994). *Ergativity*. Cambridge: Cambridge University Press.
- Dixon, Robert M. W. (2010). *Basic Linguistic Theory*. Vol. 1–2. Oxford: Oxford University Press.
- Dixon, Robert M. W. (2012). *Basic Linguistic Theory*. Vol. 3. Oxford: Oxford University Press.
- Donohue, Mark & Søren Wichmann, eds. (2008). *The Typology of Semantic Alignment*. Oxford: Oxford University Press.

- Drinka, Bridget (1999). "Alignment in Early Proto-Indo-European". In: *Language Change and Typological Variation*. In honor of Winfried P. Lehmann on the occasion of his 83rd birthday. Ed. by Edgar C. Polomé & Carol F. Justus. Vol. 2. Washington, DC: Institute for the Study of Man, 464–500.
- Dunn, Michael, Tonya K. Dewey, Carlee Arnett, Thórhallur Eythórsson & Jóhanna Barðdal (2017). "Dative sickness. A phylogenetic analysis of argument structure evolution in Germanic". In: *Language* 93.1, e1–e22.
- Eythórsson, Thórhallur & Jóhanna Barðdal (2005). "Oblique subjects. A common Germanic inheritance". In: *Language* 81.4, 824–881.
- Foley, William A. & Robert D. Jr. van Valin (1980). "Role and reference grammar". In: *Current Approaches to Syntax*. Ed. by Edith Moravcsik. New York: Academic Press, 329–352.
- Gamkrelidze, Tamaz V. & Vjačeslav V. Ivanov (1995). *Indo-European and the Indo-Europeans. A Reconstruction and Historical Analysis of a Proto-Language and a Proto-Culture*. Trans. by Johanna Nichols. 2 vols. Berlin & New York: de Gruyter. Trans. from *Indoevropskij jazyk i indoevropejcy*. 2 vols. Tbilissi: Izdatel'stvo Tbilisskogo Universiteta, 1984.
- Garrett, Andrew (1990). "The origin of NP split ergativity". In: *Language* 66, 261–296.
- Goedegebuure, Petra (2012). Split-ergativity in Hittite. Review of Patri 2007. In: *Zeitschrift für Assyriologie* 102.2, 270–303.
- Guxman, Mirra M. (1967). "Konstrukcii s datel'nym/vinitel'nym lica i problema èrgativnogo prošlogo indoevropskix jazykov [Constructions with a dative/accusative of personal pronouns and the ergative past of the Indo-European languages]". In: *Èrgativnaja konstrukcija predloženiya v jazykax različnyx tipov [Ergative Construction in Languages of Different Types]*. Ed. by Viktor M. Žirmunskij. Leningrad: Nauka, 58–73.
- Haudry, Jean (1977). *L'emploi des cas en védique. Introduction à l'étude des cas en Indo-Européen*. Lyon: L'Hermès.
- Hoffner, Harry A. Jr. & H. Craig Melchert (2008). *A Grammar of the Hittite Language*. Vol. 1: *Reference Grammar*. Winona Lake: Eisenbrauns.
- Johnson, Cynthia A., Peter Alexander Kerkhof, Leonid Kulikov, Esther Le Mair & Jóhanna Barðdal (2019). "How to succeed in Indo-European without really trying? Argument structure, conceptual metaphor and semantic change". To appear in *Diachronica*.
- Keydana, Götz (2018). "The syntax of Proto-Indo-European". In: *Handbook of Comparative and Historical Indo-European Linguistics. An International Handbook*. Ed. by Jared S. Klein, Brian D. Joseph, Matthias Fritz & Mark Wenthe. Vol. 3. Berlin & New York: de Gruyter, 2195–2228.
- Klimov, Georgij A. (1977). *Tipologija jazykov aktivnogo stroja*. Moskva: Nauka.
- Kortlandt, Frederik H. H. (1983). "Proto-Indo-European verbal syntax". In: *Journal of Indo-European Studies* 11, 307–324.
- Kortlandt, Frederik H. H. (2002). "The Indo-Uralic verb". In: *Finno-Ugrians and Indo-Europeans. Linguistic and Literary Contacts*. Ed. by Rogier Blokland & Cornelius Hasselblatt. Maastricht: Shaker, 217–227.
- Kortlandt, Frederik H. H. (2009). "C. C. Uhlenbeck on Indo-European, Uralic and Caucasian". In: *Historische Sprachforschung / Historical Linguistics* 122, 39–47.
- Krisch, Thomas (2017). "Proto-Indo-European syntax". In: *The Indo-European Languages*. Ed. by Mate Kapović. 2nd ed. London & New York: Routledge, 111–152.
- Lehmann, Winfred P. (1974). *Proto-Indo-European Syntax*. Austin: The University of Texas.
- Lopuhaä, Milan (forthc.). "The Anatolian 'ergative'". In: *The Precursors of Proto-Indo-European. The Indo-Hittite and Indo-Uralic Hypotheses*. Proceedings of the workshop at the Leiden University Centre for Linguistics, 9–11 July 2015. Ed. by Alwin Kloekhorst & Tijmen Pronk.

- Matasović, Ranko (2011). "Clause alignment in Proto-Indo-European". Ms. University of Zagreb. URL: <http://mudrac.ffzg.unizg.hr/~rmatasov/ClauseAlignmentInPIE.pdf>.
- Matasović, Ranko (2013). "Latin *paenitet me, miseret me, pudet me* and active clause alignment in PIE". In: *Indogermanische Forschungen* 118, 93–110.
- Matić, Dejan (2003). "Topic, focus, and discourse structure. Ancient Greek word order". In: *Studies in Language* 27, 573–633.
- Patri, Sylvain (2007). *L'alignement syntaxique dans les langues indo-européennes d'Anatolie*. Wiesbaden: Harrassowitz.
- Pedersen, Holger (1907). "Neues und nachträgliches". In: *Zeitschrift für Vergleichende Sprachforschung* 40, 129–257.
- Pooth, Roland A. (2004). "Zur Genese der späturnidg. thematischen Konjugation aus frühuridg. Medialformen". In: *Indogermanische Forschungen* 109, 31–60.
- Pooth, Roland A. (2014). *Die Diathesen Aktiv vs. Medium und die Verbsemantik im Vedischen der Ṛgveda-Saṃhitā*. PhD thesis. Leiden University. URL: <http://leidenuniv.academia.edu/RolandPooth>.
- Pooth, Roland A. (2018a). "On the decrease of lability and increase of transitive verbs in Vedic. The verb *juṣ-* 'to enjoy, to please'". A presentation given at the 48th Poznań Linguistic Meeting (PLM2018), 13–15 September 2018.
- Pooth, Roland A. (2018b). "PIE alignment change and the emergence of the IE thematic conjugation. Two sides of the same diachronic coin?" A presentation given at Cambridge University, 7 November 2018. URL: <http://leidenuniv.academia.edu/RolandPooth>.
- Rumsey, Alan (1987a). "The chimera of Proto-Indo-European ergativity. Lessons for historical syntax". In: *Lingua* 71, 297–318.
- Rumsey, Alan (1987b). "Was Proto-Indo-European an ergative language?" In: *Journal of Indo-European Studies* 15.1–2, 19–37.
- Savčenko, Aleksej N. (1967). "Ėrgativnaja konstrukcija predloženiya v praindoevropejskom [Ergative construction in Proto-Indo-European]". In: *Ėrgativnaja konstrukcija predloženiya v jazykax različnyx tipov [Ergative Construction in Languages of Different Types]*. Ed. by Viktor M. Žirmunskij. Leningrad: Nauka, 74–90.
- Silverstein, Michael (1976). "Hierarchy of features and ergativity". In: *Grammatical Categories in Australian Languages*. Ed. by Robert M. W. Dixon. Canberra: Australian Institute of Aboriginal Studies, 112–171.
- Stempel, Reinhard (1998). "Die Aussage des Wortschatzes zum Typus des Frühindogermanischen". In: *Sprache und Kultur der Indogermanen*. Akten der X. Fachtagung der Indogermanischen Gesellschaft, Innsbruck, 22.–28. September 1996. Ed. by Wolfgang Meid. Innsbruck: Institut für Sprachwissenschaft, 169–178.
- Tronskij, Iosif M. (1967). "O donominativnom prošlom indoevropskix jazykov [On the pre-nominative past of Indo-European languages]". In: *Ėrgativnaja konstrukcija predloženiya v jazykax različnyx tipov [Ergative Construction in Languages of Different Types]*. Ed. by Viktor M. Žirmunskij. Leningrad: Nauka, 91–95.
- Uhlenbeck, Christianus C. (1901). "Agens und Patiens im Kasussystem der indogermanischen Sprachen". In: *Indogermanische Forschungen* 12, 170–171.
- Vaillant, André (1936). "L'ergatif indo-européen". In: *Bulletin de la Société de Linguistique de Paris* 37, 93–108.
- Wichmann, Søren (2008). "The study of semantic alignment. Retrospect and the state of the art". In: *The Typology of Semantic Alignment*. Ed. by Mark Donohue & Søren Wichmann. Oxford: Oxford University Press, 3–23.

- van Wijk, Nicolaas (1902). *Der nominale Genitiv Singular im Indogermanischen in seinem Verhältnis zum Nominativ*. Zwolle: Tijl.
- Willi, Andreas (2018). *Origins of the Greek Verb*. Cambridge: Cambridge University Press.
- Yakubovich, Ilya S. (2011). “Ergativity in Hittite”. A presentation given at “Historical-Comparative Linguistics in the 21st Century” at the Humboldt-Kolleg in Pavia, September 2011.