'HUNGERING AND LUSTING FOR WOMEN AND FLESHLY DELICACIES': RECONSTRUCTING GRAMMATICAL RELATIONS FOR PROTO-GERMANIC*

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Abstract

Syntactic reconstruction has long been virtually outlawed in historical-comparative research, more or less ever since Watkins's influential works on the problems of reconstructing word order for Proto-Indo-European. Recently, through the emergence of Construction Grammar, where complex syntactic structures are regarded as form–function pairings, a resurgence of syntactic reconstruction is made possible, as complex syntactic structures become a legitimate object of the Comparative Method. Given the legitimacy of syntactic reconstruction, and hence the possible reconstruction of argument-structure constructions, a major question arises as to whether grammatical relations are also reconstructable for earlier undocumented language periods. We argue that if the constructions singling out grammatical relations can be reconstructed for a proto-branch, the grammatical relations following from these are also reconstructable for that proto-branch. In order to illustrate our methodology, we show how a reconstruction of the subject function in Proto-Germanic may be carried out, more specifically of oblique-subject predicates like 'hunger', 'thirst' and 'lust', based on the subject properties found in the earliest Germanic daughter languages.

1. Introduction

Syntactic reconstruction is not only one of the most neglected areas within historical-comparative research, but also the most controversial (cf. Watkins 1964; 1976; Jeffers 1976; Lightfoot 1979; 2002; 2006; Winter 1984; Harrison 2003; Pires & Thomason 2008; Mengden 2008). There are several reasons for this. One reason is that syntactic structures are not atomic like words, morphemes and sounds, but are complex and schematic, and hence the relation between form and meaning may be more complex and intricate than with words and morphemes. Syntactic or grammatical structures are also assumed not to be inherited in the same way as words (Lightfoot 1979; 2002; 2006), syntactic change is generally regarded as not being regular like phonological change (Lightfoot 2002; Pires & Thomason 2008), and possible form–meaning mappings in syntax are not considered to be arbitrary, like form–meaning mappings in the lexicon (Harrison 2003). All this has been taken to

demonstrate that syntactic reconstruction is fundamentally different from phonological reconstruction.

Recent work within historical-comparative syntax takes issue with this view of syntactic reconstruction (Kikusawa 2003; Guardiano & Longobardi 2005; Roberts 2007; Harris 2008; Bowern 2008; Willis 2011; Eythórsson & Barðdal 2011; Barðdal & Eythórsson 2012; Barðdal 2012). In particular, Eythórsson & Barðdal (2011), Barðdal & Eythórsson (2012) and Barðdal (2012) argue that the concepts of *cognate status*, *arbitrariness* and *regularity* are non-problematic for syntactic reconstruction. This is so, first, because cognates are also found in syntax (Kikusawa 2003). Second, because the arbitrariness requirement is simply not needed in syntax, as its role is first and foremost to aid in deciding on genetic relatedness, which is usually not an issue when doing syntactic reconstruction (Harrison 2003). And, third, because a) the sound laws are only regular *by definition* (Hoenigswald 1978), and b) the sound laws are basically stand-ins for a similarity metric when deciding upon cognate status (Harrison 2003).

We argue, moreover, for the revival of syntactic reconstruction based on form and meaning, within the theoretical framework of Construction Grammar (cf. Eythórsson & Barðdal 2011; Barðdal 2012; Barðdal & Eythórsson 2012). On this approach, complex syntactic structures are regarded as form–function correspondences, and are as such a legitimate object of the Comparative Method. The claim is that Construction Grammar is more easily extendible to syntactic reconstruction than other syntactic frameworks, due to the basic status of form–meaning/function pairings in that framework, and hence the more lexicon-like status of the grammar. This creates a natural leap from synchronic form–meaning pairings to historical reconstruction, based on form–meaning pairings.

Given the legitimacy of syntactic reconstruction, and hence a viable reconstruction of argument-structure constructions (cf. Eythórsson & Barðdal 2011; Barðdal 2012; Barðdal & Eythórsson 2012 and subsection 4.1 below), a major question arises as to whether grammatical relations are also reconstructable for earlier undocumented language periods. In order to engage in such an enterprise, the constructions of each daughter language which single out the subject and the object relation must be identified. Thereafter, these constructions must be compared across the daughter languages, in order to reveal whether they can be reconstructed or not for the proto-branch of the language family. Given that a subset of the subject and object test constructions can be reconstructed, the grammatical relations follow directly from these. In other words, if the constructions singling out grammatical relations can be reconstructed for a proto-branch, then the grammatical relations following from these are also reconstructable for that proto-branch.

In this article we show that Construction Grammar not only contributes to the reconstruction of syntax, but also to the reconstruction of the grammar of proto-languages. In order to illustrate our methodology, we suggest a reconstruction of the subject function in Proto-Germanic, based on the subject properties found in the earliest Germanic daughter languages, Gothic (Goth.), Old English (OE), Old Saxon (OS), Old High German (OHG) and Old Norse-Icelandic (ON-I). The subject properties discussed here include raising and control constructions, reflexivization, the distribution of elliptic arguments, and word-order properties. We show that at least four subject properties from the Modern Germanic languages are valid in Early Germanic, and can as such be reconstructed. Of these subject properties, control infinitives are generally taken to constitute the most conclusive evidence for subject status. In addition to the examples from Old Norse-Icelandic, Old Swedish and Early Middle English, well known from the literature, we also present equivalent evidence from Gothic that has not figured in the earlier literature at all. These new data illustrate a subject-like accusative of the Acc-Gen predicate *luston* 'lust' in Gothic, being left unexpressed in a control infinitive. Hence, not only may the constructions which involve subject behaviour be reconstructed for Proto-Germanic, yielding grammatical relations as reconstructable, but non-canonical

subjects may also be reconstructed for Proto-Germanic. As far as we are aware, the present attempt to reconstruct grammatical relations is the first such attempt in the historical syntactic literature.

We start, in section 2, with the question of whether syntactic and grammatical reconstruction is viable at all, arguing that given the basic premises of Construction Grammar, not only morphemes and words are reconstructable, but also complex syntactic structures, like argument-structure constructions, and on that basis grammatical relations like the subject and the object relation also become reconstructable. In section 3 we outline our view of subjecthood and present our operational definition of subject. Section 4 shows how (a) predicates and argument-structure constructions may be reconstructed for earlier periods and (b) how the remaining constructions in Early Germanic relevant for subject behaviour may also be reconstructed. It will be shown how subject properties fall out from these reconstructions and how the category of oblique subjects can be reconstructed for Proto-Germanic. Section 5 summarizes the main content and conclusions of the article.

2. Is syntactic and grammatical reconstruction achievable?

The classical reconstruction, carried out within traditional historical-comparative research, involves morphological and phonological units, and is generally based on cognates, i.e. form-meaning correspondences that have been inherited from an earlier stage of two or more genetically related languages. To illustrate, consider the correspondence set in Table 1, which gives the verb 'hunger' in Gothic, Old High German, Old English, Old Saxon, Old Frisian and Old Norse-Icelandic, a denominal verb derived from the Proto-Germanic noun *hungrus.

On the basis of historical-comparative Germanic grammar, the forms *hungrijan-/ *hungrōn- are reconstructed for Proto-Germanic. That is, *hungrijan- has been reconstructed for an earlier stage of Gothic, Old High German, Old English and Old Saxon and *hungrōn- for an earlier stage of Old Frisian and Old Norse-Icelandic (cf. Bjorvand & Lindeman 2000: 533; Kluge 2002: 427; Magnússon 1989: 390). These are two variants of the same verb *hungr-, belonging to two different conjugational classes. The ōn-form is younger, found in Old Icelandic and Old Frisian, which are chronologically more recent than the other Old Germanic languages. Hence, *hungrōn-, belonging to a more productive conjugational verb class, has most likely replaced the older form *hungrijan-. We will regard the two as representing the same form for the purpose of the present analysis.

The Germanic input data in the correspondence set consist of attested phonological forms, huggrjan (Goth.), hungiren (OHG), hyngran (OE), gihungrjan (OS), hungera (OFris.), and hungra (ON-I), forms that can be derived from the common proto-form *hungrijan-/ *hungrōn-, inherited from an earlier stage. All the forms also show the same meaning, 'hunger', clearly suggesting inheritance. What is more, when these two are taken together, i.e. the form with the meaning and the fact that the daughter languages have a common form with the same meaning, it can be asserted that a verb 'hunger' with the form *hungrijan-/*hungrōn-,

Table 1. Lexical correspondence sets for the verb 'hunger' in Germanic

	FORM	MEANING	RECONSTRUCTED FORM
Gothic	huggrjan	'hunger'	
Old High German	hungiren	'hunger'	*hungrijan-
Old English	hyngran	'hunger'	
Old Saxon	gihungrjan	'hunger'	
Old Frisian	hungera	'hunger'	*hungrōn-
Old Norse-Icelandic	hungra	'hunger'	

and the meaning 'hunger', must have existed in Proto-Germanic. The forms in the daughter languages also bear witness of language-specific phonological characteristics, which excludes borrowing between them. There is thus no other explanation for the fact that this particular form–meaning pairing is found in language after language, other than assuming inheritance from an earlier stage. Notice, also, that if the forms in Germanic were not coupled with the same or a related meaning, but with different unrelated meanings, no form–meaning correspondence would be found (see Bréal 1899; Coseriu 1964; Ullmann 1957; Traugott 1990 on what counts as semantic change in historical linguistics and which meanings can be regarded as related and which not). Hence, it would be ruled out that the forms are inherited from a common proto-stage.

The reason that the concept of cognates is so important for reconstruction is that the relation between form and meaning is an arbitrary one, cf. Saussure's *sign*. That is, there is no inherent or logical reason why a particular form is paired with a particular meaning. This is a matter of conventionalization processes, specific for a particular language or a set of related languages. Therefore, the only 'explanation' for why a given form has a particular meaning is historical, i.e. that this specific form–meaning pairing has been inherited from an earlier stage. This is the reason why cognates are so important for reconstruction, as they constitute a principled method of uncovering whether languages are genetically related or not.

We are of course well aware that forms can be borrowed between related languages. This fact, however, diminishes in no way the importance of cognates for the Comparative Method. In fact, there are documented examples of oblique-subject predicates having been borrowed from one language to another. For example, Old English borrowed the verb *want* from Old Norse-Icelandic along with its oblique subject (cf. OED *s.v. want*). Similarly, fifteenth century Icelandic borrowed *bíhaga* 'suit', most likely from Danish, also with a dative subject (Barðdal 1999; Viðarsson 2009). It is usually possible to identify such borrowings, as they show different behaviour with respect to phonological and morphological developments than the inherent vocabulary does (cf., for instance, Bowern 2008 on how to distinguish between inheritance and borrowing in syntax, and Watkins 1976 on how to identify archaism vs. innovations in word-order patterns).

Clearly, the concept of cognates is also needed in historical-comparative syntax, if the goal is to reconstruct syntactic properties of genetically related languages. As pointed out by Kikusawa (2003) in her work on Indonesian languages, *cognate structures* may also be identified in syntax, exactly as in morphology and in the lexicon. Kikusawa's work deals with related languages where a subset is ergative and another subset is accusative. She shows, in a convincing way, which sentence patterns are inherited and which are innovated in the subset of the Extra-Formosan languages that she discusses.

Eythórsson & Barðdal (2011) introduce the concept of *cognate argument-structure constructions*, i.e. argument-structure constructions that are inherited from an earlier proto-stage. We point out that on a Construction Grammar view, argument-structure constructions are also form–meaning correspondences, exactly like morphemes and words. As the Comparative Method takes it as its basic premise that form–meaning correspondences may be inherited from an earlier stage, it is clear that argument-structure constructions may also be inherited and may as such be reconstructable in the same way as morphemes and vocabulary items. In Barðdal et al. (2011), a successful reconstruction of one particular verb-specific argument-structure construction is carried out for Proto-Indo-European, [DAT-is-woe], on the basis of both cognate lexical items and cognate case patterns found across several Indo-European branches (see also subsection 4.1 below). This shows that on a constructional approach, syntactic and grammatical structures like argument-structure constructions are also expected to be reconstructable for earlier language stages, not only morphemes and words.

A follow-up question that arises relates to whether all grammatical properties of, for instance, argument-structure constructions may also be reconstructed. We believe that the answer to this question lies in whether or not the remaining constructions relevant for these grammatical properties are also reconstructable. Clearly, if they are not, for whatever reason, these grammatical properties cannot be reconstructed either. However, if the remaining constructions of relevance are reconstructable, the relevant grammatical properties should also be. For instance, is it possible to reconstruct grammatical relations? We believe that grammatical relations are, in principle, reconstructable through the following two steps:

1. by reconstructing verbs and their subcategorization frames or argument-structure constructions; and
2. by reconstructing the constructions relevant to subject behaviour.

This, of course, raises the question of how we define subjects. Before we turn to the subject concept and our criteria for subjecthood, a few words are needed on (a) arbitrariness and (b) perceived regularity of sound change vs. the perceived lack of regularity of syntactic change.

The fact is that some argument-structure constructions show characteristics of arbitrary form–meaning pairings, evidenced, for instance, by the notion of *non-compositional semantics*, used about constructions whose semantics cannot be derived from the semantics of the parts. In such cases, the mapping between meaning and form is clearly arbitrary, even though it may be motivated (cf. Nunberg et al. 1994; Fillmore et al. 1988; Goldberg 1995: 69ff.). Jackendoff (2012), for instance, argues that such constructions are *lexical items*, even though they are not words or vocabulary items. However, we would like to emphasize that the notion of arbitrariness is not of vital importance for reconstructing syntax, contra claims in the literature, as the goal of syntactic reconstruction is ordinarily not carried out to show that the languages under analysis are genetically related. This has usually already been shown through earlier work on morphemes and vocabulary items, rendering the arbitrariness requirement non-essential in syntactic reconstruction (cf. Harrison 2003).

There is no doubt, moreover, that a certain degree of arbitrariness may be found in syntactic reconstruction. Particularly when reconstructing non-canonically case-marked argument structures, it is far from regular or predictable exactly which lexical predicates instantiate such argument-structure constructions. For other syntactic constructions, the degree of arbitrariness may be lower. For instance, it is a standard assumption within Construction Grammar that there is a scale of constructions in terms of semantic specificity, ranging from semantically specific or non-compositional to semantically general or compositional ones (Tomasello 1998; Croft & Cruse 2004). The latter category may be quite regular, with a lesser degree of arbitrariness.

In the same vein, the perceived lack of regularity in syntactic change, i.e. the perceived lack of directionality, is not crucial either for syntactic reconstruction. First of all, not all sound changes are regular, in the sense that their directionality is known. It is only with the so-called combinatory changes that the direction of a sound change is known, while with systematic changes, no inherent directionality is found (Barðdal 2012). The same is true for syntactic development, as developmental paths of some syntactic changes are known, while others are not. It is also a well-known fact that changes within the syntactic domain happen at a much slower pace than changes within the phonological domain (Paul 1920; [1886] 1978; Blust 1996: 151–2), which in turn may be taken to compensate for the perceived lack of regularity in syntactic change, as this slower pace should yield more identity across syntactic correspondence sets. Again, this slower pace of syntactic change makes syntactic reconstruction a viable option in historical-comparative linguistics.

Second, the sound laws are only regular by definition, as is pointed out by Hoenigswald (1978), since irregular and less regular processes were not labelled 'sound change' by the

Neogrammarians. This, in turn, means that irregular and less regular phonological processes are systematically excluded from the notion of sound law by definition. Finally, Harrison (2003) points out that one of the major functions of the sound laws is to provide a similarity metric for deciding upon cognate status. That is, because of the perceived existence of sound laws, historical-comparative linguists have been freed from developing the similarity metric needed to decide upon when two forms are similar enough to be regarded as cognates and when they are dissimilar enough not to be regarded as such. The sound laws have that function instead.

3. THE SUBJECT CONCEPT

There are several different notions of subject found in the syntactic literature. Different theoretical frameworks have developed different views of what the subject concept entails. For instance, in the classical Government and Binding framework, subject properties are attributed to a particular functional or a structural position in the formal tree representation of the sentence. Within the Minimalist Program, subject properties are attributed to the matching of a bundle of interpretable phi- or EPP-features. And in Optimality-Theoretic frameworks subject properties are attributed to specific ranking constraints. We refer the interested reader to McCloskey (1997) for an overview of the historical development of the concept, particularly within generative approaches, and to Falk (2006) for a typological survey.

Our view of subjecthood is in line with Basic Linguistic Theory (Dixon 1997: 128–38; 2009, Haspelmath 2004; Dryer 2006). We believe that there is an empirical core to subjecthood which all theoretical frameworks have to account for in one way or another. Hence, in Eythórsson & Barðdal (2005: 831) we provide what we conceive of as a 'framework-neutral' definition of the subject in the Germanic languages as the leftmost argument of the argument structure:

> The subject of a predicate is the leftmost argument of its subcategorization frame ... The internal order of the arguments is in turn determined by the causal conceptual structure of the predicate and the force-dynamic relations between the participants of the event denoted by each predicate.

While the order of the arguments within the argument structure or the subcategorization frame has not been a matter of disagreement in the literature, our operational definition of subject aims to capture the fact that it is generally the leftmost argument of the argument structure that behaves syntactically as a subject. We believe that the internal order of the arguments, in turn, is based upon the force-dynamic relation between the participants, which again is derived from the type of event the predicate denotes. Some predicates convey stative events, others convey causative events. The causal conceptual structure of the event denoted by each predicate together with its lexical semantics determines what kind of force-dynamic relations are found between the participants (Croft 1998). The participant acting upon another participant occupies a higher position in the chain of events than the participant being acted upon. Hence, this participant will be linked with the first or the leftmost argument of the argument structure.

Observe that we are not assuming a universal hierarchy of grammatical relations and mapping of thematic roles onto specific grammatical relations in this hierarchy (à la Jackendoff 1972; Grimshaw 1990). Rather, one can say, continuing with the 'universal hierarchy' metaphor, that our force-dynamic relational approach provides us with individual 'mini-hierarchies' for each predicate, which derive from, and are specific for, different event types denoted by predicates. These mini-hierarchies consist of at most two arguments for ordinary transitives and the nature of the arguments, and hence the participants, again, depends on the type of event being conveyed.

Most syntactic approaches have in common that they employ a host of properties used as diagnostics for subjecthood, many of which go back to the early work of Keenan (1976) and his contemporaries. These properties are, nowadays, generally regarded as being language-specific, without universal validity (Croft 2001; Barðdal 2006), although some of these properties are, of course, found cross-linguistically. The subject properties discussed for the Early and the Modern Germanic languages are the following (cf. Rögnvaldsson 1991; 1995; Allen 1995; Falk 1997; Barðdal 2000; Barðdal & Eythórsson 2003; Eythórsson & Barðdal 2005, Demske 2008):

- Position
- Clause-bound reflexivization
- Long-distance reflexivization
- Conjunction reduction
- Control infinitives
- Subject-to-object raising
- Subject-to-subject raising

These properties will be further discussed in subsection 4.2, with examples from the Early Germanic languages, and their validity for Proto-Germanic will be evaluated. It is on the basis of a subset of these properties, moreover, the ones which clearly qualify as distinctive subject properties, that we have come to the operational definition of subject given above, as it turns out that all generalizations across the subject properties will only be valid for the leftmost argument of the argument structure and not the rightmost argument. For instance, comparing the behaviour of both arguments of transitive predicates, i.e. the behaviour with regard to the subject properties listed above, one discovers that these behaviours are only found for the argument which, across frameworks, is typically denoted as the leftmost argument of the predicate. In that sense, our approach to subjecthood is a bottom-up approach, as we have come to a definition of the subject, based on known and accepted subject properties.

Observe that it is also possible to argue for a top-down approach on the basis of exactly the same evidence. One can argue that the subject diagnostics, i.e. the behavioural properties of subjects, are derivable from our subject concept. The seven properties identified would then be regarded as the manifestations of how the leftmost argument of an argument-structure construction behaves across different sentence types. And this behaviour would be regarded as being derived from either the position of the leftmost argument in the argument structure or from the internal order of the arguments themselves. We leave the choice of a bottom-up vs. top-down approach to the subject concept to the preferences of each reader and turn instead to the reconstruction of verbal predicates and their argument-structure constructions for Proto-Germanic, in particular predicates with non-canonical subject marking, like 'hunger', 'thirst' and 'lust'.

4. RECONSTRUCTING GRAMMATICAL RELATIONS

This section is devoted to the reconstruction of verbs and their argument-structure constructions, on the one hand, and the reconstruction of the set of constructions that is relevant for subject behaviour, on the other hand. We are assuming that the grammatical relation of subject is derived from the leftmost position in the argument structure, and that this relation can be captured through the modelling of the syntactic behaviour of the leftmost argument across a set of constructions in a language. When all of these constructions have been reconstructed, grammatical relations, like the subject relation, will follow directly from these. We start with a discussion of cognate predicates across all three branches of Germanic.

4.1. Reconstructing verbal predicates and their argument-structure constructions

Ideally, a prerequisite for a morphological reconstruction is that the relevant lexical item is found in at least three subbranches of a given language family. For a Proto-Germanic reconstruction, this would mean that a lexical element would have to be found in all three branches of Germanic:

1. North Germanic: Old Norse-Icelandic, Old East Scandinavian;
2. East Germanic: Gothic; and
3. West Germanic: Old English, Old High German, Old Saxon, Old Frisian.

In the remainder of this article, we focus on predicates with non-canonical case marking, in particular those where the subject-like argument is case marked in the accusative or the dative case. We refer to these as *oblique-subject predicates* and we turn to the subject behaviour of their subject-like obliques in subsection 4.2 below.

At this early stage of our historical-comparative syntactic research on Germanic, we have already encountered several cognate oblique-subject predicates across all three branches, i.e. six dative subject ones and three accusative subject ones (see bulleted list below). With regard to predicate structure, some of these cognate oblique-subject predicates are simple verbs while others are compositional, i.e. they select for the verb 'be' and an adjective, adverb, or noun:

- **Dat-(Nom):**
  - *líka* (ON-I), *galeikan* (Goth), *lician* (OE), *(gi)líhhên* (OHG) 'like'
  - *þykja* (ON-I), *þugkjan* (Goth), *þyncan* (OE), *thunken* (OHG) 'feel, seem'
  - *nægja* (ON-I), *ganah* (Goth), *geneah* (OE), *ginah* (OHG) 'suffice'
  - *vera gott* (ON-I), *gōþs wisan* (Goth), *godbeon* (OE) 'be of good'
  - *vera (ó)kunnleiki á* (ON-I), *(swi)kunþ wisan* (Goth), *cuð beon* (OE) 'be known'
  - *verða vei* (ON-I), *wai wisan* (Goth), *wá beon* (OE) 'be woe'
- **Acc-(Gen/PP):**
  - *hungra* (ON-I), *huggrjan* (Goth), *hyngran* (OE), *hungaran* (OHG) 'hunger'
  - *þyrsta* (ON-I), *þaursjan* (Goth), *þyrstan* (OE), *dursten* (OHG) 'thirst'
  - *lysta* (ON-I), *luston* (Goth), *lystan* (OE) 'desire'

However, since the Gothic corpus is extremely small, the number of cognate oblique-subject predicates across all three branches will therefore be restricted by this specific limitation – given that we adhere to the three-branch requirement mentioned above, which is generally followed in historical-comparative linguistics. As Germanic only has three subbranches in total, the three-branch requirement will result in a reconstruction which can never exceed the total number of oblique-subject predicates in Gothic. Due to the limited size of the Gothic corpus, this will ultimately result in a small number of Proto-Germanic cognates. Also, in a language family which only has three branches, the three-branch requirement will result in a demand of attestation from *no less than all* the branches of the family. This is clearly an unreasonable requirement.

Therefore, if we take occurrences in two Germanic subbranches to be sufficient for reconstruction, then the number of oblique subject cognates which form the basis for reconstruction increases significantly. We have found several such cognates, documented across two out of three branches, i.e. North and West Germanic, East and West Germanic, and North and East Germanic (for the case frames found with these predicates, see the NonCanCase Database at http://www.uib.no/noncancase, currently under construction):

NORTH AND WEST GERMANIC
- *leiðast* (ON-I), *lêdian* (OS), *laþian* (OE) 'dislike'
- *vera þörf á* (ON-I), *þearf(lic) beon* (OE), *thurft sîn* (OHG) 'need'

- *lengjast* (ON-I), *langôn* (OS), *langian* (OE) 'long'
- *vera ljúft* (ON-I), *leof beon* (OE), *liep sîn* (MHG) 'be pleasant, dear'
- *duga* (ON-I), *dugan* (OS), *dugan* (OE) 'be sufficient'
- *vera nauðsyn* (ON-I), *neod beon* (OE), *niud wesan* (OS), *not sîn* (OHG) 'be necessary'
- *sofnast* (ON-I), *swefnian* (OE) 'fall asleep'
- *fara fram* (ON-I), *forð faran* (OS) 'make progress'
- *ganga vel/illa* (ON-I), *wel/yfle (ge)gan* (OE) *wel/yfle agan* (OE) 'have success/failure'
- *kala* (ON-I), *calan* (OE) 'feel cold'
- *vaxa* (ON-I), *awahsan* (OS) 'grow'
- *skæmmes* (OSw), *sceamian* (OE) 'shame'
- *batna* (ON-I), *bazên* (OHG) 'get better (of illness)'
- *tima* (OSw), *getimian* (OE) 'happen'
- *falla (í geð)* (ON-I), *gevallen* (MHG) 'like/be pleased'
- *þrjóta* (ON-I), *forthryta* (OSw), *þreotan* (OE) 'lack'
- *bresta* (ON-I), *brestan* (OS), *brestan* (OHG) 'lack'

EAST AND WEST GERMANIC
- *saurga wisan* (Goth), *sorg beon* (OE) 'be sorrowful'
- *agljan* (Goth), *eglian* (OE) 'be hurting'
- *wulþus (wisan)* (Goth), *wuldor beon* (OE) 'be glorified'

NORTH AND EAST GERMANIC
- *raþs wisan* (Goth) *vera ráð* (ON-I) 'be advisable'

This examination shows that a number of lexical predicates are reconstructable for Proto-Germanic, in addition to 'hunger' from Table 1 in section 2. These predicates have already been reconstructed by etymologists and their reconstructed form may be found in standard Germanic etymological dictionaries.

For the sake of the present intellectual exercise, let us continue with the verb 'hunger' from section 2, and its reconstructed form **hungrijan-/*hungrōn-*. Consider now the argument structure found with this verb in Gothic, Old English, Old Norse-Icelandic and Old High German:

(1) a. *þana*   gaggandan du mis ni **huggreiþ**   Gothic
        this.one.ACC going   to me not hungers
        'the one who comes to me will not starve.' (St. John 6:35)
     b. *seðe   cymes to me ne* **hynegreð** *hine*   Old English
        he.who comes to me not hungers   him.ACC
        'the one who comes to me will not starve.' (Lindisfarne Gospels 1, St. gangavel John 6:35)
     c. *mann*   **hungrar** *þá   til líkamligra krása*   Old Norse-Icelandic
        man.ACC hungers then to bodily   delicacies
        'a man starts having cravings for fleshly delicacies.' (*Leif.* 48[14. 18. 20])
     d. *Mih*   **hungrita**, inti ir gabut mir ezzan   Old High German
        me.ACC hungered and you gave me eat.INF
        'I was hungry and you fed me.' (Tatian 152:3)

As evident from these examples, the verb 'hunger' takes a subject-like argument in the accusative case in all the earliest Germanic daughter languages. Notice also that both the Greek and the Latin Bible use a personal verb here with a nominative subject, *peinaō* and *esurio* respectively, while we find the same accusative subject verb **hungrijan-/*hungrōn-* in all the Old Germanic Bible translations. As the translations into Gothic, Old English and Old High German are all independent of each other, these show that the verb **hungrijan* was the default Germanic verb with this meaning.

Table 2. Correspondence set for the ACC-*hungers*
argument-structure construction

	Alt. 1
Gothic	ACC-*hungers*
Old Norse-Icelandic	ACC-*hungers*
Old English	ACC-*hungers*
Old High German	ACC-*hungers*

An interesting question now arises, namely what exactly the Neogrammarians and the etymologists who compiled the standard Germanic etymological dictionaries had in mind when they reconstructed the form of, for instance, the verb 'hunger' in Table 1. That is, would they have assumed that the forms **hungrijan-/*hungrōn-* were used with a nominative subject in Proto-Germanic, and not with the accusative subject-like argument systematically found in all the Germanic daughter languages, as shown in (1a–d) above? Our answer to that question is in the negative. We do not believe that the lexical verb **hungrijan-/*hungrōn-* would have been reconstructed with any other case frame than the evidence from the earliest daughters suggests, which in this case is an accusative subject-like argument. Therefore, we take it to be a non-controversial issue to reconstruct the verb **hungrijan-/*hungrōn-* with an accusative subject, as shown in Table 2, which gives the input for the correspondence set for the accusative subject construction with 'hunger' in Proto-Germanic. Notice that there is only one alternative (Alt. 1) in the correspondence set in Table 2, since the evidence from the daughter languages reveals identity between the daughters.

Figure 1 gives a reconstruction of the verb-specific construction with 'hunger' for Proto-Germanic, using Sign-Based formalism (Michaelis 2010; 2012; Sag 2012). The figure represents a reconstructed lexical entry for the predicate 'hunger' and the entry is divided into three levels. The first level FORM gives the morphophonological form of the predicate, in this case **hungrijan-/*hungrōn-*. The second level SYN gives the argument structure of the predicate, i.e. the accusative subject. And the third level SEM gives the semantics of the predicate in terms of frame semantics (Fillmore 1982; 1985; Petruck 1996). Here the relevant FRAME is the 'need-for-intake-of-nourishment' frame, covering both 'hunger' and 'thirst', with one participant, the 'needer' and possibly another participant, i.e. what is hungered for or the 'needee' (cf. Croft 2009 on the 'eat/feed' frame). Only one of the participants, the 'needer', is relevant for our purposes, here co-indexed with the accusative subject in the SYN field.

We have now shown how the verb 'hunger' and its argument-structure construction may be reconstructed for a proto stage, and more generally how argument-structure constructions, with or without non-canonically case-marked subjects, may be reconstructed for Proto-Germanic. This reconstruction is based on the form of the verb **hungrijan-/*hungrōn-*, the argument structure instantiated by this verb in the daughters, and the semantic frame of the
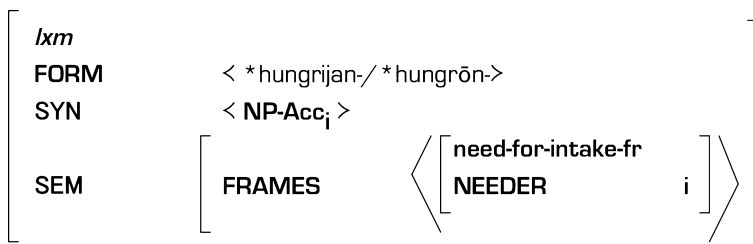

Figure 1. A reconstruction of the accusative-subject predicate 'hunger' and its argument structure in Proto-Germanic

verb and the argument structure, in this case the 'need-for-intake-of-nourishment' frame, in which the one argument, 'needer', is mapped to the subject function of the accusative subject.

We now proceed to (a) the subject properties found in the Early Germanic languages and the constructions relevant for these properties, (b) how oblique-subject predicates behave with respect to these constructions, and (c) exactly which of these constructions may be reconstructed for Proto-Germanic. We show that by reconstructing at least a subset of the constructions relevant for subject behaviour, the grammatical relations fall out directly from these.

4.2. Reconstructing constructions relevant for subject behaviour

As stated in section 3, the following subject properties have been suggested for the Modern Germanic languages: position; clause-bound reflexivization; long-distance reflexivization; conjunction reduction; control infinitives; subject-to-object raising and subject-to-subject raising. Some of these modern subject properties are problematic for the Early Germanic languages, like clause-bound reflexivization, long-distance reflexivization and conjunction reduction.

4.2.1. Non-reconstructable subject properties

We first discuss the subject properties which we are not reconstructing at this point, and then we discuss the remaining properties which, we argue, are in fact reconstructable for Proto-Germanic.

4.2.1.1. Conjunction reduction

Starting with conjunction reduction, it is a general fact of the Modern Germanic languages that the subject of a second conjunct may be left unexpressed under identity with the subject of the first conjunct (2a). In contrast, unambiguous objects can neither be left unexpressed under identity with the subject of a first conjunct nor under identity with another object. This is shown in (2b, c):

(2) a. **He**$_i$ bought books yesterday and ___ $_i$ brought them here.
    b. ***He**$_i$ bought books yesterday and he brought ___ $_i$ here.
    c. *I saw **him**$_i$ yesterday and I brought ___ $_i$ here.

In other words, objects must occur after the main verb, as shown in (2a), exactly as in ordinary finite clauses with neutral word order.

The problem here is that since the Early Germanic languages all exhibit structures involving argument drop, and perhaps even pro drop, conjunction reduction cannot easily be identified. It may, of course, be possible to distinguish between the different types of drop (cf. Thráinsson & Hjartardóttir 1986; Hjartardóttir 1993; Sigurðsson 1993; Rögnvaldsson 1990; 1993 for Old Icelandic), but exhaustive investigations remain to be carried out, both for Icelandic and for the other Early Germanic languages. Until the restrictions on these different types of drop have not been identified, it is difficult to distinguish between conjunction reduction and more general cases of argument drop. Therefore, we will not undertake any reconstruction of conjunction reduction as a subject property for Proto-Germanic at this point.

4.2.1.2. Clause-bound reflexivization

Turning to clause-bound reflexivization, it is well known that syntactic subjects in the Modern Germanic languages bind reflexives within their minimal clause.

(3) a. **Er**$_i$ hat Geschichten über **sich**$_i$/ *ihn$_i$ gehört.   German
         he.NOM has stories.ACC of himself.ACC/ him.ACC heard
         'He heard stories of himself.'
     b. **Hann**$_i$ heyrði sögur   af **sér**$_i$/   *honum$_i$ Icelandic
         he.NOM heard   stories.ACC of himself.DAT/ him.DAT
         'He heard stories of himself.'

However, objects are also known to bind reflexives in the Modern Germanic languages:

(4) a. Ich   habe **ihm**$_i$ Geschichten über **sich**$_i$/   **ihn**$_i$ erzählt.   German
         I.NOM have him.DAT stories.ACC of   himself/ him told
         'I told him stories of himself.'
     b. Ég   sagði **honum**$_i$ sögur   af **sér**$_i$/   **honum**$_i$ Icelandic
         I.NOM told   him.DAT stories.ACC of himself/ him
         'I told him stories of himself.'

The examples in (3) and (4) show that there is an asymmetry found between subject and object
binding of reflexives in the Modern Germanic languages in that subjects can only bind
reflexive pronouns while objects may bind either a reflexive pronoun or a non-reflexive
pronoun. This means that it is possible to distinguish between subjects and objects on the
basis of the binding of reflexive and non-reflexive pronouns in the Modern Germanic
languages (cf. Eythórsson & Barðdal 2005; Barðdal 2006; Barðdal et al. in prep).

Turning to the Early Germanic languages, similar examples of objects binding reflexives
have also been documented, for instance, in Old Scandinavian, i.e. both in Old Norse-
Icelandic (here cited from Rögnvaldsson 1991: ex. 6) and in Old Swedish (here cited from Falk
1997: 29):

(5) a. Jarl   þakkaði **honum**   orð   **sín**   Old Norse-Icelandic
         earl.NOM thanked him.DAT$_i$ words self$_i$
         'the earl thanked him for his words.' (Þorsteins saga síðu-Hallssonar, ch. 2)
     b. að þú grípir fyrir **mönnum** góss   **sitt**.   Old Norse-Icelandic
         that you grasp for   men.DAT$_i$ goods.ACC self$_i$
         'that you steal people's goods.' (Grettis Saga Ásmundarsonar, ch. 54)
     c. at   thu **minom son** j geen skipadhe **sina** hustru   Old Swedish
         that you my.DAT son$_i$ a-gain appointed self.ACC$_i$wife
         'that you again arranged his wife for my son.' (Siälinna tröst, 386)

Irrespective of whether the asymmetry between subject and object binding is found in the
Early Germanic languages or not, clause-bound reflexivization has not been used to
distinguish between grammatical relations, at least not in Old Scandinavian, for the simple
reason that both subjects and objects may bind reflexives in the early stages of Germanic
(Rögnvaldsson 1991; 1995; Falk 1997; Barðdal 2000; Barðdal & Eythórsson 2003; Eythórsson
& Barðdal 2005).

However, the Early Germanic languages also show another non-uniform behaviour when it
comes to clause-bound reflexivization. For instance, in Old Swedish subjects may bind both
reflexive and non-reflexive pronouns (Falk 1997: 28–9). For Gothic, Harbert (1978; 2007),
following Streitberg (1920), argues that only subjects can bind reflexives, although in his
1978 dissertation, Harbert presents examples of genitive attributes in participles and

nominalizations binding reflexives. Finally, in Old English there are no simple reflexives to bind, and in Old Saxon their use has become very limited.

There are two possible scenarios that may explain this state of affairs. The first possibility is that symmetric subject binding is original for Germanic, i.e., that subjects could bind both reflexives and non-reflexives. This situation is found in the oldest Swedish law texts, while the younger texts are more like modern Scandinavian (Falk 1997: 28–9). This scenario would then have led to the situation in Ingvaeonic, i.e. Old English and Old Saxon, where the subject binding of non-reflexive pronouns has been generalized at the cost of the subject binding of reflexive pronouns. This is consistent with the fact that the reflexive possessive and the non-reflexive possessive pronouns are in free variation on Old Saxon.[1]

The alternative scenario is that the Old Norse-Icelandic situation is the original one, and that subjects could only bind reflexive pronouns and not non-reflexive pronouns in Early Germanic.[2] This would by supported by Gothic if Harbert's (2007: 197, based on Harbert 1978) claims are correct that only subjects bind reflexives in this language. Given such a scenario, Ingvaeonic and Old Swedish must have developed a variation between reflexive and non-reflexive binding of subjects, which led to the ousting of the reflexive in Ingvaeonic while the development halted in Old Swedish and was then reversed. This might perhaps be due to German influence on Swedish during the late middle ages. Therefore, more research on binding in Gothic and the earliest West-Scandinavian texts, for instance the law texts, is needed to decide on which of the two scenarios is the right one. Hence, no reconstruction of clause-bound reflexivization will be carried out in the present article at this point.

Before we leave the issue of clause-bound reflexivization, we would like to mention that at least in the Modern Germanic languages, oblique subjects pattern with unambiguous subjects and not with unambiguous objects (cf. Stepanov 2003; Eythórsson & Barðdal 2005; Barðdal 2006):

(6)　　a.　**Ihm**　　gefallen Geschichten über **sich**/　　*ihn.　　　　　　　　German
　　　　　him.DAT$_i$ ge.fall　stories　　about self.ACC$_i$/ ihm.ACC$_i$
　　　　　'He likes stories about himself.' vs.: 'He likes stories about him.'
　　　　b.　**Honum**　falla í　geð　sögur　um　**sig**/　　*hann.　　　　Icelandic
　　　　　him.DAT$_i$ fall　in liking stories　about self.ACC$_i$/ him.ACC$_i$
　　　　　'He likes stories about himself.' vs.: 'He likes stories about him.'

The examples in (6) show that the dative subject-like argument behaves syntactically like the subject *er/hann* 'he' in (3), in that it can only bind reflexive pronouns and not non-reflexive pronouns, and it does not behave like the object *ihm/honum* in (4), which may bind either. In the Modern Germanic languages, therefore, the behaviour of these arguments is only compatible with a subject analysis.

4.2.1.3. Long-distance reflexivization

We now turn to long-distance reflexivization. Subjects in Old Norse-Icelandic could bind reflexives outside of their finite clause, as shown in (7) below, while no such behaviour is found for objects (cf. Rögnvaldsson 1991; 1995; 2007; Barðdal 2000, Barðdal & Eythórsson 2003; Eythórsson & Barðdal 2005):

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[1] We thank Tonya Kim Dewey (pers comm.) for providing us with this information.

[2] Rögnvaldsson (2007) reports that examples of subjects binding non-reflexive pronouns are sporadically found throughout the history of Icelandic.

(7) Þá biður **hann** húsfreyju [að hún skipti hestum
  Then *asks* *he.NOM$_i$* *housewife.ACC* *that* *she.NOM* *exchanges.SBJV* *horses.DAT*
  við **sig**]
  with *self$_i$*
  'Then he asks the housewife to exchange horses with him.' (Gísla saga Súrssonar, ch. 19)

Here the reflexive *sig* of the subordinate clause is bound by the nominative subject *hann* 'he' of the matrix clause. Observe, moreover, that in Old Norse-Icelandic three examples have been found which show that dative subject-like arguments may also bind reflexives across clause boundaries (Rögnvaldsson 1996: 64, Barðdal & Eythórsson 2003: 442), of which one is given in (8) below:

(8) Og þótti **honum** [sem fóstra **sínum** mundi mein að verða].
  and *seemed* *he.DAT* *as* *foster.father* *self* *would* *harm* *to* *become*
  'And it seemed to him as if his fosterfather would be harmed.'
  (Ljósvetninga saga, ch. 16)

In this example *fóstra sínum* 'his foster father' in the subordinate clause is bound by the dative subject *honum* in the matrix clause. This is therefore exactly parallel to example (7) where the nominative subject binds a reflexive across clause boundaries, which is clear evidence of the subject status of oblique subjects in Old Norse-Icelandic.

 Long-distance reflexivization is also a well-known feature from Modern Icelandic.What is less well known, however, is that it is also found in Modern Faroese and some Modern Norwegian dialects, as recent research has established (cf. Strahan 2003; 2007; Lødrup 2009). For Gothic, one example is found to occur in the Skeirins, as reported by Harbert (1978: 38). As far as we know, no research has been conducted on this in Old East Scandinavian and Old High German. Since Old English and Old Saxon do not have simple reflexives, long-distance reflexivization is excluded from occurring in those languages. At present, therefore, we will not reconstruct long-distance reflexivization for Proto-Germanic. Outside of Germanic, long-distance reflexivization is known to occur at least in Latin and Ancient Greek (Humbert 1954; Benedicto 1991). The wider implications of these facts for an Indo-European reconstruction remain to be explored.

4.2.2. *Reconstructable subject properties*

We have now discussed three subject properties from the Modern Germanic languages, properties which will not be subject to reconstruction for Proto-Germanic at this stage, due to inconsistencies across the early languages. However, there are at least four remaining properties which we believe may be reconstructed as subject properties for Proto-Germanic, namely position, raising-to-object, raising-to-subject and control. We show on the basis of these properties that not only are grammatical relations reconstructable for Proto-Germanic but so also are oblique or non-canonically case-marked subjects.

4.2.2.1. *Position*

Starting with position, it is clear that nominative subjects occur in first position in neutral word order in Early Germanic and the same is true for oblique subjects. This impression can be backed up by statistics from the Icelandic Parsed Historical Corpus, which comprises texts dating from the twelfth to the twentieth centuries (IcePaHC, version 0.5; Wallenberg et al.

Table 3. Word-order patterns in non-conjoined matrix clauses
in Icelandic (12–20th c.) – nominative subjects

Word order	N	F (%)
SVO	2312	66.8
SOV	0	0
VSO	554	16
VOS	17	0.5
OVS	578	16.7
OSV	0	0
Total	3461	100

2011). This corpus was searched for non-conjoined matrix clauses containing a nominative or an oblique subject (S), a finite verb (V) and a single (direct) object (O). The word-order patterns searched for involve the following: (a) subject-initial clauses, in which the object either follows the verb (SVO) or precedes the verb (SOV); (b) verb-initial clauses, in which the subject either precedes the object (VSO) or follows the object (VOS); and (c) object-initial clauses, in which the subject either follows the verb (OVS) or precedes it (OSV).

The search involving nominative subjects yielded 3,461 hits; the results for the different word-order patterns within main clauses are given in Table 3, which shows that SVO is the commonest word-order pattern in non-conjoined matrix clauses involving nominative subjects (66.8%).[3] The OVS and VSO patterns are about equally common (16.7% and 16% percent respectively); VOS orders also occur although they are very rare (0.5%). The OVS order involves topicalization of the (direct) object whereas the VSO/VOS orders instantiate narrative inversion, i.e. verb-initial main clauses in narrative contexts; the VOS clauses mostly contain postposed subjects (heavy NPs and quantifier phrases). Finally, there are no examples of SOV or OSV orders, as they would violate the strict Verb Second (V2) rule operating in Old Norse-Icelandic and Modern Icelandic.

Exhibiting the finite verb in second position, the SVO and OVS patterns are of course in accordance with the V2 rule. The verb-initial clauses (VSO/VOS) are also compatible with V2, assuming that the verb does not occur in its usual second position but has been placed at the beginning of the clause in a systematic process such as narrative inversion (VSO), or postposition of the subject (VOS). Presumably, the verb is in the 'same' position in both V2 and verb-initial structures; in V2, however, some phrase is placed to the front of the verb whereas this is not the case in the verb-initial structures (see further discussion below).

The IcePaHC search for the relevant word-order patterns involving oblique (accusative, dative and genitive) subjects yielded far fewer hits than for nominative subjects, totaling only 198 hits, as shown in Table 4. As a comparison of Tables 3 and 4 shows, the percentages between individual word-order types are not identical for the different case-marking patterns of subjects, i.e. for subject in nominative case or in oblique case. It is unclear at this point what the precise reason for this difference is.

One possibility may be that experiencer subjects in general, both nominative and oblique, have a greater tendency to follow the finite verb than non-experiencer subjects. This would yield a higher portion of oblique subjects following the finite verb than of nominative subjects (cf. Rögnvaldsson 1991 where an analysis in those terms is suggested).

Another possible explanation is that some alternating Dat-Nom/Nom-Dat predicates may not be correctly coded as such, but are instead consistently coded as Dat-Nom predicates. To explain, alternating predicates are predicates which alternate between Dat-Nom and

[3] Thanks to Joel Wallenberg and Einar Freyr Sigurðsson for their help obtaining these results from the queries from the IcePaHC corpus.

Table 4. Word-order patterns in non-conjoined matrix
clauses in Icelandic (12th–20th century) – oblique subjects

Word order	N	F (%)
SVO	89	45.0
SOV	0	0
VSO	42	21.2
VOS	4	2
OVS	63	31.8
OSV	0	0
Total	198	100

Nom-Dat structures. Earlier syntactic analyses have shown that one is not a topicalization of the other, but instead the same verb may instantiate two separate argument-structure constructions, i.e. Dat-Nom and Nom-Dat (cf. Barðdal 2001a; Eythórsson & Barðdal 2005; Barðdal et al. in prep). If such predicates are consistently coded as Dat-Nom but not as alternating with a Nom-Dat, then Nom-Dat occurrences will be coded as topicalizations instead of instances of the neutral Nom-Dat word order. This will in turn yield higher percentages of OVS and lower percentages of SVO for oblique subjects than for nominative subjects.

Putting this issue aside, it is clear that SVO order is the commonest with oblique subjects (45%), just as with nominative subjects (67%). By the same token, the figures for the OVS and VSO/VOS patterns are lower than for SVO, while the SOV and OSV orders are non-existent, exactly as with nominative subjects, as shown in Table 3.

Finally, given that Tables 3 and 4 show figures from the search of the entire IcePaHC corpus, comprising Icelandic texts spanning nine centuries, it must be asked whether there is a difference between Old Norse-Icelandic and Modern Icelandic with respect to the distribution of the individual word-order patterns. The short answer to this question is that in both Old Norse-Icelandic and Modern Icelandic texts, SVO is the dominant word-order pattern, both with nominative and oblique subjects. However, there are various statistical differences between the individual patterns which would require a more detailed discussion than we can go into here, due to space limitations. This difference will be the subject of forthcoming studies on the diachrony of Icelandic word-order patterns.

In summary, there is a very clear contrast between subject-initial orders (SVO) and other word-order patterns (topicalization/narrative inversion) in the history of Icelandic, both with nominative subjects and oblique subjects. These statistical results confirm the impressionistic view that subject-initial clauses constitute the neutral or unmarked word-order pattern in Icelandic. There is every reason to assume that this holds of all of the other Germanic languages, although this must of course be investigated independently.

As stated above, oblique-subject predicates behave in the same way as nominative-subject predicates, in that the subject-like oblique is in first position in neutral word order, as shown for Gothic, Old Norse-Icelandic and Old High German in (9):

(9) a. *þana*   gaggandan du mis ni **huggreiþ**   Gothic
         this.one.ACC going   to me not hungers
         'the one who comes to me will not starve.' (St. John 6:35)
     b. *mann*   **hungrar** þá   til líkamligra krása   Old Norse-Icelandic
         man.ACC hungers   then to bodily   delicacies
         'a man starts having cravings for fleshly delicacies.' (*Leif.* 48[14. 18. 20])
     c. *Mih*   **hungrita**, inti ir   gabut mir ezzan   Old High German
         me.ACC hungered and you gave me eat.INF
         'I was hungry and you feed me.' (Tatian 152:3)

Returning to non-subject-initial word-order patterns, these can be shown to be conditioned by specific syntactic, pragmatic or discourse factors (cf. Eythórsson 1995). For instance, subject-verb inversion is found in questions, commands, conditional clauses, and in negative and narrative contexts. Subject-verb inversion is also found when another constituent is fronted to initial position, as in topicalizations and focus fronting (Viðarsson 2009; Barðdal et al. 2011). Topicalization does not trigger subject-verb inversion systematically in Old English (Pintzuk 1991), but there is no doubt that subject-verb inversion is an inherited feature in the Germanic languages, irrespective of topicalization. Hence, initial position in neutral word order and subject-verb inversion can be reconstructed as subject properties in Proto-Germanic.

Figure 2 is a reconstruction of a general word-order construction for Proto-Germanic, where the subject precedes the verb (cf. the formalism in Kay & Fillmore 1999 and Kuningas & Leino 2006). Notice that we are not reconstructing a strict V2 word order for Proto-Germanic, since it is not obligatory in all the daughters (cf. Eythórsson 1995), hence the ellipsis between the subject and the verb. The FORM field in Figure 2 is left empty here as this is not a reconstruction of the word order of a specific Proto-Germanic utterance, but rather a reconstruction of the general word-order properties of subjects and their predicates. The SYN field specifies that the first part of the subject-verb construction is a noun phrase, which is coindexed with the first argument of the argument structure in Figure 1, i.e. NP_i. In the second field of the subject-verb construction the SYN field is specified as a finite verb. This is how the subject property of SV word orders may be modelled as a part of a larger syntactic reconstruction for Proto-Germanic.

Moreover, for the subject-verb inversion construction, the order of the subject and the predicate is reversed. This is shown in Figure 3, where the ellipsis indicates that some phrase may occur to the left of the verb. Therefore, Figure 3 captures the subject-verb inversion of both verb first (V1) structures and V2 structures, when some other material has been fronted. The formalization is, of course, only valid for main clauses since subordinate clauses may exhibit different word-order patterns.

We would like to emphasize that it is not only initial position in neutral word order that is a subject property in Early Germanic but also the ability to invert with the predicate in both V1 and V2 structures where some other material is fronted. Narrative inversion, for instance, a V1 structure where the subject immediately follows the verb, is found in all the Early Germanic languages. It occurs in certain narrative contexts and signals text cohesion (cf. Sigurðsson 1994; Eythórsson 1995; Dewey 2006). Narrative inversion, and subject-verb inversion in general, is not a general property of the Indo-European languages, but seems to be confined to Germanic. Therefore, as we have shown above, clause-initial position in neutral word order and subject-verb inversion are reconstructable as subject properties for Proto-Germanic.
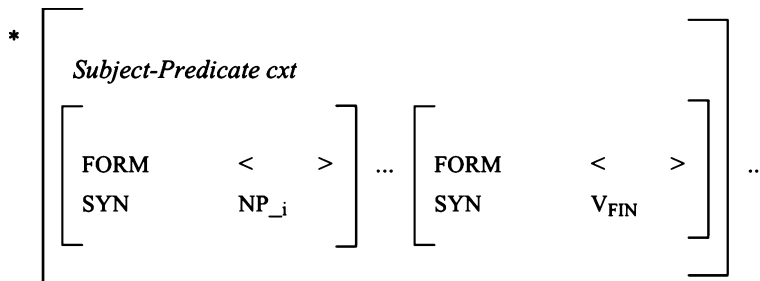

Figure 2. A reconstruction of the subject-predicate construction for Proto-Germanic
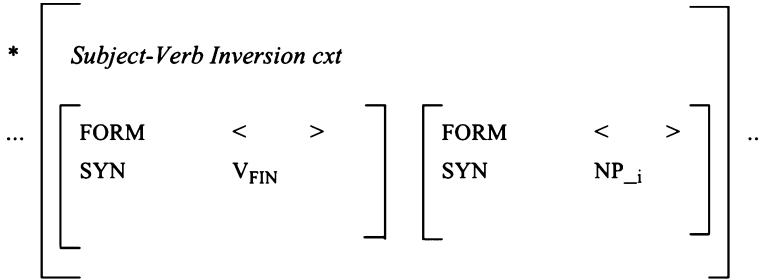
Figure 3. A reconstruction of the subject-verb inversion construction for Proto-Germanic

4.2.2.1. *Raising-to-object*

Another construction which distinguishes between subjects and objects is the raising-to-object construction. This construction involves a main verb and an infinitive, where the subject of the non-finite verb behaves syntactically as the object of the matrix verb, for instance with regard to case marking; nominative subjects show up in the accusative when embedded under raising-to-object verbs. The object of the infinitive, however, continues to behave like it does in ordinary finite clauses.

This syntactic behaviour of subjects and objects can be illustrated with the following examples from Modern English, where in (10a) the subject of *buy* precedes the finite verb and the object follows it, while in a corresponding raising-to-object construction in (10b) the subject of *buy* behaves syntactically as the object of the raising-to-object verb *let* and the object continues to follow the verb *buy*:

(10)   a. He bought a book.
        b. I'll let him buy a book.

For the Early Germanic languages, examples of raising-to-object are given in (11) below from Gothic, Old Saxon, Old High German, and Old Norse-Icelandic:

(11)   a. [ik]   wenja **mik** ...   **saljan**   at   izwis   Gothic
              I.nom *hope*   *myself.acc* *stay.inf* *with* *you*
              'I hope to stay with you.' (Cor I 16:7, from Harbert 2007: 263)
        b. ni   lailot **þos**   **rodjan**   Old Saxon
              not *let*   *those.acc* *speak.inf*
              'nor (did he) let them speak.' (Luke 4:41)
        c. er lâzit **sunnûn** **sîna**   **scînan** filu blîda   Old High German
              he lets *sun.acc* *his.acc* *shine* *very* *blithely*
              'He lets his sun shine very blithely.' (Otfried II 19.21)
        d. Hann bað **þá**   vel **fara** og kvað **þá** eigi   **mundu**
              he   *bade* *them.acc* *well* *go.inf* *and* *said* *them.accnot* *would*
              sjást   oftar   suma   Old Norse-Icelandic
              see.refl.inf *more.often* *some.acc*
              'He bade them farewell and said that some of those ... would not see each other again.' (Njáls saga, ch. 149)

The lower verbs, *saljan* 'stay', *rodjan* 'speak', *scînan* 'shine' and *fara* 'go'/*sjást* 'see each other' occur here in the infinitive form and their nominative subjects show up in the accusative, assigned by the matrix verb, *wenjan* 'hope', *letan* 'let', *lazan* 'let' and *biðja* 'ask'/*kveða* 'say'.

Observe that the Greek original of the Gothic example in (11a) has the verb *elpizō* 'hope', which is not a raising-to-object verb but a control verb in Ancient Greek. This in turn shows that raising-to-object truly existed in Gothic and is not a calque from Greek.

Another issue of importance for raising-to-object relates to the position of the raised subject, which is generally assumed to be 'raised' out of the lower subject position to the object position of the matrix verb. This is evident from example (12) from Old Norse-Icelandic where the sentence adverb *eigi* 'not' occurs between the raised subject *sig* 'self' and the non-finite verb *saka* 'be harmed'.

(12) Þórir   kvað **sig**   eigi **saka**   **mundu**.   Old Norse-Icelandic
      Þórir.NOM said self.ACC not be.harmed.INF would
      'Þórir said that he would not be harmed.' (Gull-Þóris saga, ch. 12)

Such examples are generally taken as the ultimate evidence that the subject of the lower verb has been 'raised' to the matrix clause. Hence, examples of this type, involving sentence adverbials, show beyond doubt that the subject of the lower verb behaves syntactically as the object of the higher verb, a behaviour which is confined to subject. This kind of behaviour, moreover, is not found for the object of the lower clause. Notice also that *saka* 'be harmed' is an accusative-subject verb in Old Norse-Icelandic and Modern Icelandic, and the accusative-subject-like argument of *saka* in the infinitive is here raised to the object position of the higher verb *kveðast* 'say of oneself', exactly like ordinary nominative subjects do, as shown in (10).

More oblique-subject predicates are found in raising-to-object constructions in both North and West Germanic. The following examples are from Old Norse-Icelandic and Old Saxon, respectively:

(13) a. Einar   lét   **sér**   fátt   um **finnast** við   Old Norse-Icelandic
          Einar.NOM let self.DAT little about think   with
          Þorstein   um   veturinn
          Þorsteinn of   winter
          'Einar showed indifference towards Þorsteinn during the winter.'
          (Þorsteins Þáttur Síðu-Hallssonar eftir Morkinskinnu, ch. 3)
      b. Sô   he   **ina**   thô **gehungrean** lêt   Old Saxon
          since he.NOM self.ACC then hunger.INF   let
          'Since he then let himself hunger.' (Heliand 1059)

Observe now that in the Old Norse-Icelandic example in (13a) the 'raised' subject is not in the presumed accusative case but shows up unexpectedly in the dative case. This is a general pattern for lower verbs like *finnast* 'think, feel', which select for dative subject-like arguments and occur with such datives in finite clauses. Verbs like that do not show up with the 'raised' subject in the accusative but instead the subject shows up in the same case as is found with the subject of these verbs in ordinary finite clauses. Moreover, the word-order properties show that we are dealing with a raising-to-object construction, with *sér* occurring immediately following the finite verb *láta* 'let', while the object *fátt* 'little' occurs later in the clause, here immediately in front of the (particle) verb. Notice also that the Old Saxon example has the verb *gehungrean* 'hunger' in the infinitive, and its accusative subject-like argument occurs in the position above the sentence adverbial *thô* 'then', which shows beyond doubt that it has been 'raised' outside of the non-finite clause, exactly like in the Old Icelandic example with the sentence adverbial in (12).

Consider also the following example from Old High German. This example involves the raising verb *thunken* 'think' which itself takes a dative subject-like argument, *mîr* 'me'. Here

the lower verb is *gebresten* 'lack', also an oblique-subject predicate selecting for the dative, *dîr* 'you', which in this case becomes the object of the higher verb *thunken* 'think'.

(14) ne-uuéiz uuáz túnchet mîr   **dîr**   **gebrésten**
      not-know what thinks   me.DAT you.DAT lack.INF
      'I don't know what I think you lack.' (Notker, Boethius 37.11)

These examples therefore show that raising-to-object constructions exist in the Early Germanic languages, and that oblique-subject predicates may also be embedded in such structures, which in turn shows that the oblique subject-like argument behaves syntactically as a subject. Raising-to-object can therefore be reconstructed as a subject property for Proto-Germanic, as is shown in Figure 4.

Observe that our use of the term 'raising-to-object' does not mean that we are committed to a movement/raising analysis. We simply use this terminology because it is an established terminology in the literature for these kinds of structure. The use of the term 'clause union' is equally adequate. Irrespective of which terminology is used, and which analysis lies behind it, in structures like the ones in (11), it is the subject of the lower verb/clause that becomes the object of the higher verb/clause. In fact our formalism in Figure 4 is compatible with either a raising or a clause-union analysis.

Again, the FORM field in all three constituents in Figure 4 is left empty as this is not a reconstruction of any particular instance of raising-to-object in Proto-Germanic, but rather of the schematic raising-to-object construction itself. The SYN field specifies that the first constituent of the raising-to-object construction is the main verb. In the second constituent of the raising-to-object construction, there is a noun phrase in the SYN field, coindexed with the first argument of the argument structure in Figure 1, that is, NP_i. In the third constituent of the raising-to-object construction the SYN field is specified as a verb in the infinitive. The SEM field in the first constituent is defined in terms of the 'causation' frame; see below.

There are several predicates that can occur as raising-to-subject verbs in the Early Germanic languages. In Old Norse-Icelandic we find perception verbs like *sjá* 'see', and *heyra* 'hear', *believe*-type verbs like *ætla* 'consider', *huga* 'consider' and *þykja* 'believe', verbs of saying like *kveða* 'say', *kalla* 'say', *segja* 'say' and *biðja* 'ask', and finally causatives like *láta* 'let' (Kristoffersen 1996). Fischer (1990), however, observes that only the *let*-type is found in Old English. She claims that the raising-to-subject construction is only native with 'let', and that occurrences with perception verbs and verbs of saying entered English through translations. Harbert (2007: 262–3), moreover, documents the existence of several raising-to-object verbs in Gothic, such as perception verbs like *gasaihwan* 'see' and *witan* 'know', *believe*-type verbs like *galaubjan* 'believe', *hugjan* 'think', *munan* 'think', *gatrauan* 'trust',
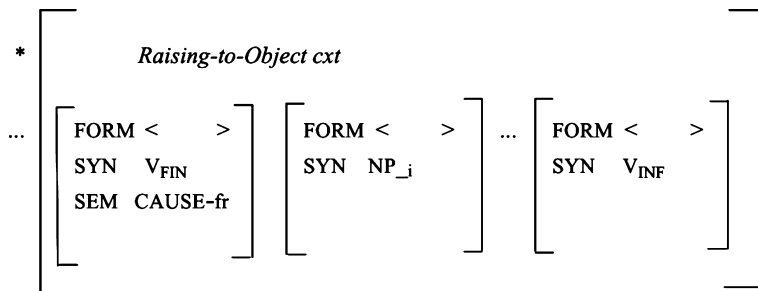

Figure 4. A reconstruction of raising-to-object for Proto-Germanic

wenjan 'hope' and *domjan* 'judge', and verbs of saying like *qiþan* 'say', in addition to *letan* 'let' and *waurkjan* 'make'. Harbert believes that raising-to-object constructions are an innovation in Gothic, except with 'let'. His claim is based on the evidence from West-Germanic, where only the *let*-type is documented in the earliest texts. This claim, however, totally overlooks the fact that the other types with perception verbs, verbs of believing and verbs of saying, are also found in Old Norse-Icelandic. This correspondence between North and East Germanic may be taken to suggest that these types existed in Proto-Germanic but were lost or altered in West Germanic.

At this point, however, we will let it suffice to reconstruct the *let*-type for Proto-Germanic, as it is found in all three branches, cf. the examples in Gothic (11a), Old Icelandic (13a), Old Saxon (13b) and Old High German (14). Then, a lexical entry for 'let' must be reconstructed, of the type shown in Figure 1, and finally a lexical class construction, where 'let' would be listed, also needs to be reconstructed, as in (15). This lexical-class construction then interacts with combinatoric constructions like the raising-to-object construction in Figure 4 in the grammar of Proto-Germanic.

(15)   raising-to-object-lxm → [*letana*-]

This is how raising-to-object constructions may be reconstructed for Proto-Germanic. Notice that the behaviour of the subject of the lower, non-finite verb is captured through the indexation of the first argument of the argument structure, NP_i in the lexical entry in Figure 1, also specified as NP_i in the SYN part of combinatoric constructions, like the raising-to-object construction. Hence, all that is needed to model subject behaviour is coindexation with the first argument of the argument structure, which for verbs like *finnast* 'think' and *gebresten* 'lack' is specified in the dative case and for *saka* 'be harmed' and *gehungrean* 'hunger' in the accusative case.

4.2.2.2. Raising-to-subject

A subconstruction of infinitive clauses, so-called raising-to-subject constructions, has characteristics of monoclausal structures, in that the finite verb does not select for a subject of its own. An example from Gothic is shown in (16) below:

(16)   **allai**   þai gasaihvandans duginnaina **bilaikan** ina   Gothic
       all.NOM.PL who seeing   begin.3p.PL mock.INF him
       'all, who see (it), begin to mock him.' (Luke 14:29)

The subject *allai* 'all' of the lower verb *bilaikan* 'mock' is in the nominative case and occurs here as the subject of *duginnan* 'begin'. It is only subjects of lower verbs, and not their objects, which behave in this way. The object, in contrast, behaves in the same way as it does in ordinary finite clauses, and in this case follows the infinitive. Therefore, subject-to-subject raising is generally regarded as a subject test in the syntactic literature. Examples of this type, involving oblique-subject predicates are found in both North and West Germanic:

(17)   a. því   að   **mér**   tekur nú   að **þykja**   Old Norse-Icelandic
         because that me.DAT begins now to find.INF
         minna gaman   að gulli en   var
         less   entertaining at gold than was
         'because now I've started to take less pleasure in gold than before.'
         (Hreiðars þáttur, ch. 5)

b. ôðo beginnad **imu**   than is uuerk **tregan**, an is hugi **hreuuen** Old Saxon
   easy begin   him.DAT then his work regret at his mind rue
   'He will find it easy to begin to regret what he did, to rue it in
   his mind.' (Heliand 3234)

c. that **ina**   bigan ... **lustean**   aftar them fiuuartig dagun   Old Saxon
   that him.ACC began   desire.INF after the   forty   days
   'that he started ... longing after forty days.' (Heliand 1060–61)

d. So **imo**   daranah **nôten**   gestat   Old High German
   so him.DAT thereafter get.into.trouble.INF stood
   'and then he began to get into trouble.' (Notker, Boethius 176.15)

e. þa ongan **hine**   eft **langian** on his cyþþe   Old English, c. 971
   then started he.ACC again long.INF for his kin
   'then he started to long for his family.' (Blickling Homilies)

In the examples in (17) all the lower verbs select for a subject-like oblique; *þykja* 'find', *tregan* 'regret', *hreuuen* 'rue' and *nôten* 'be in trouble' select for a dative, while *lustean* 'desire' and *langian* 'long for' both select for an accusative. Here these accusative and dative subject-like arguments behave syntactically as the subject of the matrix verbs *taka*, *beginnan, stantan* and *onginnan* all meaning 'begin'.

   Aspectual predicates meaning 'begin' certainly show variation in their syntax, depending on whether they are raising-to-subject verbs or control verbs. Modern Icelandic, for instance, has five different 'begin' predicates, which divide across three different syntactic patterns; two are highly agentive control verbs selecting for a subject of their own, while three are raising-to-subject predicates. Two of the latter are aspectually restricted and only occur with durative verbs, while the fifth 'begin' verb has no aspectual restrictions and can occur with all verbs that may be construed as having an inchoative phase (see Barðdal 2001b). One of the Icelandic 'begin' predicates which does not select for a subject of its own is *taka* in (17a) above. In this respect, the syntax of raising-to-subject verbs like 'begin' is similar to the syntax of auxiliary verbs. In the examples in (17), the 'begin' verbs do not select for an external argument. This is evident from the fact that they do not consistently occur with a subject in one morphological case, as control verbs do, but the case marking of the subject varies depending on the case marking of the lower verb. This can only be explained on the assumption that these are raising-to-subject verbs. We therefore feel confident in reconstructing raising-to-subject as a subject property for Proto-Germanic, as in Figure 5.

   The difference between the reconstructed raising-to-object and raising-to-subject constructions is that our reconstructed raising-to-object construction in Figure 4 is only partial in the sense that the nature of the subject of the matrix verb is not specified. That is why the raising-to-object construction contains three elements: the main verb, the raised subject and the infinitive. In contrast, raising-to-subject constructions must be reconstructed with their subject, as the subject of the lower verb takes on the subject function of the whole sentence. This subject is again defined as NP_i, that is, the first argument of the argument structure specified as a part of lexical entries of verbs, like in the lexical entry for 'hunger' in Figure 1.

   As stated above, the lexical predicates which occur as main verbs in raising-to-subject constructions do not select for their own subjects. This means that the lexical entries for raising-to-subject verbs must be reconstructed without an argument structure. Then, a lexical class construction, where raising-to-subject verbs like 'begin' would be listed, also needs to be reconstructed, as in (18). Exactly as with raising-to-object, this lexical
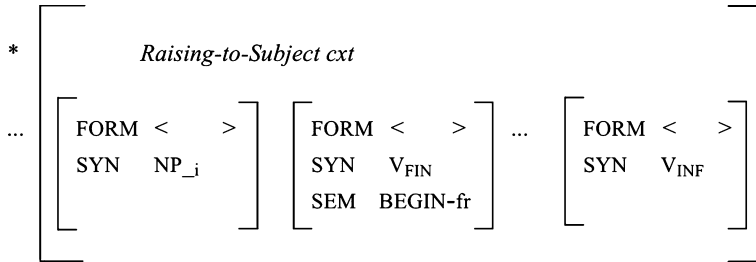
Figure 5. A reconstruction of raising-to-subject for Proto-Germanic

class construction interacts with the combinatoric raising-to-subject construction in the grammar of Proto-Germanic. We feel confident in reconstructing a partial lexical item with this meaning for Proto-Germanic, namely *-*ginnan*, since this verb is found in both East and West Germanic, although with different prefixes in the individual languages:

(18)   raising-to-subject-lxm → [*-*ginnan*]

This is how raising-to-subject may be reconstructed for Proto-Germanic. Given our reconstruction, the subject behaviour of the subject of the lower verb is easily captured for Proto-Germanic, namely through the indexing of the argument in the lexical entry of each verb and its interaction with the combinatoric raising-to-subject construction.

4.2.2.2. Control

A third type of infinitive clauses, so-called control infinitives, is also found in all the Early Germanic languages. The subject of the infinitive is left unexpressed under identity with a subject in the preceding clause, the object of the preceding clause, or, in cases of generic statements, it may be retrieved from the context. The argument that is left unexpressed in such control constructions is always the first argument of the argument structure, that is, the subject, while the object behaves as in ordinary finite clauses. The example in (19) below, illustrates this for Gothic:

(19)   insandida mik   **du ___   ganasjan** þans   gamalwidans hairtin   Gothic
       sent   me.ACC to PRO.NOM heal   the.ACC broken.ACC   heart.GEN
       'he sent me to heal the brokenhearted.'

Here the nominative subject *ik* 'I' of the lower non-finite predicate *ganasjan* 'heal' is left unexpressed under identity with the object of *insandjan* 'send', while the accusative object *þans gamalwidans hairtin* 'the brokenhearted' behaves as it would in an ordinary finite clause, following the lower verb. The Greek original is different from the Gothic translation in this example in that there is no element in Greek corresponding to the Gothic *du* 'to', which functions here as an infinitive marker.

   Examples where the subject-like oblique is left unexpressed in control constructions have been documented for the Early Germanic languages (Seefranz-Montag 1983; Rögnvaldsson 1995; Falk 1997; Eythórsson & Barðdal 2005), for instance the following from Old Norse-Icelandic, Old Swedish and Early Middle English:

(20) a. Indriði   kveðst eigi [____   svo **á lítast**]   Old Norse-Icelandic
           Indriði.NOM says   not PRO.DAT so   on seem.INF
           'Indriði says he does not like that.' (Þorsteins þáttur Síðu-Hallssonar from
           Flateyjarbók, ch 2, here cited from Eythórsson & Barðdal 2003: 459)

      b. os   duger ey [ther æptir ____   **langa**]   Old Swedish
           us.DAT suffices not there after PRO.OBL long.INF
           'It is useless for us to long for that.' (Herr Ivan 1229, here cited from Falk 1997: 25)

      c. good is, quaþ Joseph, [to ____   **dremen**   of win]   Early Middle English
           good is, said Joseph to PRO.OBL dream.INF of wine
           'It is good, said Joseph, to dream about wine.'
           (Gen. & Ex. 2067, c. 1250, here cited from Seefranz-Montag 1983: 134)

In the Old Norse-Icelandic example in (20a) it is the subject-like dative of *lítast á* 'like' that is being left unexpressed under identity with the nominative subject of *kveðast* 'say' in the matrix clause. This predicate, *lítast á*, can only occur with a dative subject-like argument in Old Norse-Icelandic and is not attested with a nominate subject. There is thus no doubt that it is the subject-like dative that is being left unexpressed in this example. In the Old Swedish example in (20b), the oblique subject-like argument of *langa* 'long for' is left unexpressed under identity with the subject-like dative of *duga* 'suffice' in the matrix clause. The verb *langa* gradually becomes a nominative subject verb in the history of Swedish, but it is not attested with a nominative subject in Swedish texts until the seventeenth century (Falk 1997: 26). Also, at this point in the history of Swedish, accusative and dative marking had merged. The same is true for the Early Middle English example in (20c); accusative and dative had already merged at this time, but the verb *dremen* 'dream' systematically occurs with a subject-like oblique in this period, and does not start occurring with a nominative until later (Allen 1986: 381). This subject-like oblique of *dremen* is left unexpressed in the generic statement in (20c), with the controller being retrievable from the context.

   The examples in (20) above are well known from the earlier literature on oblique subjects in Early Germanic, including our own work. To those, moreover, we would like to add an example from Gothic, which has not figured in the earlier literature at all:

(21) hvazuh saei saihviþ qinon   du ____   **luston** izos   Gothic
       whoever who sees   woman.ACC to PRO.ACC lust   her.GEN
       'whoever looks on a woman in order to lust for her.' (Matthew 5:28)

In this example the subject-like accusative of *luston* 'lust for' is left unexpressed under identity with the relativized indefinite subject in the matrix clause. As this is the only instance of the verb *luston* 'lust for' in the Gothic material, it is impossible to verify that *luston* is indeed used with an accusative subject-like argument in that language. But on the basis of the comparative evidence, it is reasonable to assume that it did.

(22) a. nu **dih**   es   so wel **lustit**   Old High German
           now you.ACC it.GEN so well desires
           'now that you desire it so well.' (Hildebrandslied 59)

      b. that **ina**   bigan   bi   thero mennisko   Old Saxon
           that him.ACC began   because.of the.DAT humanity.DAT
           môses   **lustean**
           meat.GEN   desire.INF
           'that because of his humanity, he began to desire meat.' (Heliand 1060)

c. **Hine**   nānes þinges   ne **lyste** on ðisse worulde   Old English
   him.*ACC no.GEN thing.GEN not desire on this world*
   'He desired nothing in this world.' (Boethius Cons.Phil. 35,6)

d. er   **þig**   **lysti**   þessa   Old Norse-Icelandic
   when you.ACC desired that.GEN
   'when you desire that.' (Ljósvetningasaga, ch. 19)

The verb 'lust' selects for the Acc-Gen argument-structure construction in the Old High German, Old Saxon, Old English and Old Norse-Icelandic examples in (22). This is a well-known standardly attested argument structure for this verb in the Early Germanic languages.

An agnostic reader might now object to our analysis, arguing that an undocumented argument structure cannot be used as evidence. However, we do know from the attested Gothic example in (21) that the object is in the genitive case, which corroborates our assumption that the unexpressed subject is in the accusative case, as this shows that *luston* was an Acc-Gen verb in Gothic, exactly like in the other Early Germanic languages. It is a simpler hypothesis to assume an Acc-Gen structure here instead of a Nom-Gen structure, as this is in accordance with what we know from Early Germanic, where only Acc-Gen is found with this verb. That is, assuming a Nom-Gen structure is not motivated by the historical data, only the assumption of an Acc-Gen structure is motivated. Therefore, any other hypothesis would inevitably invite the application of Ockham's Razor. Our line of argumentation is, we maintain, entirely in line with the principles of the Comparative Method and in line with what is considered as valid evidence within historical-comparative linguistics; rejecting our argumentation means rejecting the basic rationale behind the Comparative Method itself, and it also means rejecting the premises of the historical-comparative linguistic paradigm.

Another objection to our analysis might be put forward on the basis of the fact that the Gothic text is a translation, and that the word order is an exact gloss of the Greek word order. However, the verb *epithumeō* 'desire' in the Greek original is a Nom-Dat verb, where a nominative subject is left unexpressed and the dative object follows the infinitive. When translating this particular sentence from the Greek Bible, Wulfila had a choice between using the translational equivalent *luston* or some synonymous verb with a canonical case frame. Clearly, the Acc-Gen case frame of *luston* did not constitute a problem when translating *epithumeō* into Gothic, nor did it constitute a problem for using it in this control construction, where the accusative subject-like argument is left unexpressed, a behaviour confined to subjects. Therefore, there is no doubt that the accusative subject-like argument is a syntactic subject in Gothic.

Since control infinitives are found in all the Early Germanic languages, control constructions may reliably be reconstructed for Proto-Germanic. However, as matrix clauses of control infinitives may be of various types, ranging from prototypical agentive predicates like 'promise' to all kinds of non-agentive stative predicates, like 'be told', we will remain agnostic to the structure of the matrix clause in our reconstruction and will not reconstruct any lexical class constructions for control constructions. We will let it suffice to reconstruct the part of the control infinitive which is of relevance in the present context, namely the position of the unexpressed subject, here specified as NP_i[PRO], and the controlled verb in the infinitive, which is adjacent to the unexpressed subject. Figure 6, illustrates this reconstruction, showing how control constructions may be reconstructed as distinguishing between subject and object behaviour in Proto-Germanic.

A proper reconstruction of control constructions for Proto-Germanic may be carried out only after a complete investigation of the types of matrix clauses found in control
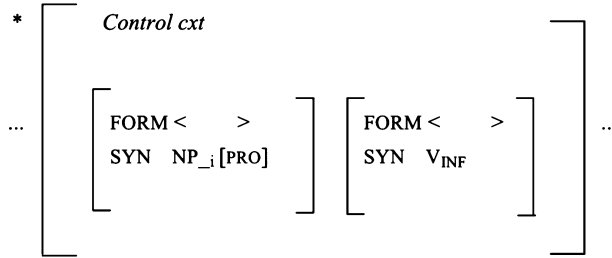
Figure 6. A reconstruction of control constructions for Proto-Germanic

constructions in the Early Germanic languages. For our purposes it is sufficient to document that control constructions existed and may be reconstructed, and that oblique-subject predicates could also instantiate such control constructions. The reconstruction in Figure 6 is thus incomplete, as it only deals with the structure of the control infinitive itself. Fuller research of the available data will presumably result in a reconstruction which includes the meaning part of control constructions, probably different kinds of meanings for different subconstructions of control infinitives.

4.2.3. Interim summary

We have in this subsection discussed seven different subject properties, commonly assumed for the Modern Germanic languages: clause-bound reflexivization, long-distance reflexivization, conjunction reduction, subject-to-object raising, subject-to-subject raising, control infinitives and, finally, clause-initial position and subject-verb inversion. On the basis of evidence from the daughter languages, we have shown that the three first-mentioned syntactic properties cannot be reconstructed at this stage for Proto-German, for various reasons, while the latter four properties can be reconstructed. In other words, we have shown that these four syntactic tests really are subject tests in all three Germanic subbranches, in that they distinguish between subjects and objects, and are as such reconstructable. This is summarized in Table 5, which compares these syntactic behaviours for subjects and objects in Proto-Germanic.

In addition to showing which behavioural properties of subjects may be reconstructed for Proto-Germanic, we have also investigated the syntactic behaviour of subject-like obliques in the three Germanic subbranches, North, West and East Germanic, summarized in Table 6. We have found that subject-like obliques behave syntactically like subjects and not like objects in all three branches. We have here discussed examples showing that the subject-like oblique occupies clause-initial position in neutral word orders, exactly like nominative subjects, in all three branches of Germanic. We have discussed examples of raising-to-object and found examples of subject-like obliques being 'raised' from the subject position of the non-finite verb to the object position of the matrix verb in North and West Germanic.

Table 5. Subject properties in Proto-Germanic

	Subject	Object
Position	√	*
Raising-to-object	√	*
Raising-to-subject	√	*
Control	√	*

Table 6. Oblique subjects in Proto-Germanic

	North Germanic	West Germanic	East Germanic
Position	√	√	√
Raising-to-object	√	√	?
Raising-to-subject	√	√	?
Control	√	√	√

Examples of raising-to-subject constructions have also confirmed that subject-like obliques occur as behavioural subjects of the matrix verb in both North and West Germanic. We have not found examples of subject-like obliques in raising-to-object and raising-to-subject constructions in Gothic, only of nominative subjects, but as the Gothic corpus is truly limited, lack of documented examples does not mean that the relevant structures were ungrammatical.

Finally, we have discussed examples of subject-like obliques being the unexpressed argument in control constructions in all three Germanic sub-branches. This last behaviour is generally taken to be the most conclusive evidence for subjecthood, discussed in the literature. In addition to the well-known examples from Old Norse-Icelandic, Old Swedish and Middle English, we have documented additional examples from Gothic, examples which have not figured in the previous literature, showing beyond doubt that it is reasonable to assume that Proto-Germanic had oblique subjects.

5. SUMMARY

Syntactic reconstruction is certainly one of the most neglected areas of historical-comparative research. There are several reasons for this, such as compositional semantics, lack of syntactic laws and regularity in syntactic change, alleged lack of cognates in syntax, alleged lack of arbitrariness in syntax, and the alleged problem of discontinuous transmission of syntactic structures between generations. Recently, however, a new wave of optimism has sprung up within the historical-comparative community, concerning the feasibility of syntactic reconstruction. We have argued, here and elsewhere, that Construction Grammar provides an optimal framework for reconstructing syntax, as constructions provide the perfect input into the correspondence sets needed for the Comparative Method. The Comparative Method is based on correspondence sets involving form and meaning, and as Construction Grammar takes the basic unit of language, the construction, to be a form–meaning pairing, reconstructing syntax becomes a viable enterprise, alongside the tried and tested phonological, morphological and lexical reconstructions.

Given that syntax and complex constructions are a legitimate object of the Comparative Method, the question arises whether grammatical relations, like the subject and the object relation, may also be reconstructable. We believe that they are; we have argued here that if the constructions which involve subject behaviour, as opposed to object behaviour, are reconstructable for a proto-stage, then the subject relation falls out directly from these. In other words, it is sufficient to reconstruct the constructions which distinguish subjects from objects for a proto-stage, in order to capture grammatical relations for that proto-stage.

To demonstrate the viability of our method, we have undertaken a comparison of the subject properties found in the three branches of Germanic: North, West and East Germanic. As non-canonical subject marking involves a greater degree of arbitrariness than canonical subject marking, the behaviour of such structures is of higher validity for reconstruction. Our investigation has therefore concentrated on which oblique-subject predicates are common for all three branches. We have shown how a lexical entry for the Proto-Germanic oblique-subject

predicate *hungrijan-/*hungrōn- may be reconstructed together with its argument structure, as the first step in reconstructing grammatical relations.

The second step involves investigating the syntactic behaviour that distinguishes between subjects and objects. Starting from the subject behaviour in the Modern Germanic languages, we have investigated seven different subject properties: clause-bound reflexivization, long-distance reflexivization, conjunction reduction, subject-to-object raising, subject-to-subject raising, control infinitives and, finally, clause-initial position and subject-verb inversion. Three of these behavioural properties, clause-bound reflexivization, long-distance reflexivization and conjunction reduction, are not reconstructable for Proto-Germanic at this point for different reasons. However, the remaining four behavioural properties clearly single out the subject relation in the daughter languages as opposed to the object relation. What is more, raising-to-object and raising-to-subject show distinctly that subject-like obliques behave syntactically like nominative subjects in two out of three subbranches, North and West Germanic, and not like objects. Position and control constructions support that analysis, as subject-like obliques behave as nominative subjects with respect to position and control in all three Germanic subbranches. The present article is, as far as we are aware of, the very first attempt in the literature to reconstruct not only verbs and their argument structures, but also grammatical relations like the subject and the object relation for a proto-stage.

Control infinitives are unanimously taken to be the most conclusive subject test cross-linguistically (cf. Rögnvaldsson 1996: 49–51; Falk 1997: 38; Moore & Perlmutter 2000; Faarlund 2001). In addition to the well-known examples from Old Norse-Icelandic, Old Swedish and Early Middle English, we have presented an indisputable example of the verb *luston* 'lust, desire' occurring in such a control infinitive in Gothic. This verb occurs with the Acc-Gen case frame, and it is the accusative subject-like argument that is being left unexpressed in this control infinitive, on the basis of a nominative subject in the matrix clause. Thus, it is incontrovertible that subject-like obliques behaved syntactically like nominative subjects in all three sub-branches of Germanic, and are as such reconstructable for Proto-Germanic.

With the aid of Construction Grammar, we have shown how grammatical relations may be reconstructed, namely by first reconstructing lexical predicates and their argument-structure constructions, and then by reconstructing the relevant constructions involving subject behaviour. On a successful reconstruction of these, the grammatical relations of the arguments fall out. This is how grammatical relations may be reconstructed for prehistoric periods of languages.

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REFERENCES

ALLEN, CYNTHIA L., 1986. 'Reconsidering the history of *like*', *Journal of Linguistics* 22, 375–409.

ALLEN, CYNTHIA L., 1995. *Case Marking and Reanalysis: Grammatical Relations from Old to Modern English*, Oxford: Oxford University Press.

BARÐDAL, JÓHANNA, 1999. 'Case and argument structure of some loan verbs in 15th century Icelandic', in I. Haskå & C. Sandqvist (eds), *Alla tiders språk. En Vänskrift till Gertrud Pettersson November*, Lund: Lundastudier i Nordisk språkvetenskap A 55. Institutionen för nordiska språk, 9–23.

BARÐDAL, JÓHANNA, 2000. 'Oblique subjects in Old Scandinavian', *North-Western European Language Evolution* 37, 25–51.

BARÐDAL, JÓHANNA, 2001a. 'The perplexity of Dat-Nom verbs in Icelandic', *Nordic Journal of Linguistics* 24, 47–70.

BARÐDAL, JÓHANNA, 2001b. 'The role of thematic roles in constructions? Evidence from the Icelandic inchoative', in A. Holmer, J.-O. Svantesson & Å. Viberg (eds), *Proceedings of the 18th Scandinavian Conference of Linguistics 2000*, Lund: Department of Linguistics, 127–37

BARÐDAL, JÓHANNA, 2006. 'Construction-specific properties of syntactic subjects in Icelandic and German', *Cognitive Linguistics* 17, 39–106.

BARÐDAL, JÓHANNA, 2012. 'Construction-based historical-comparative reconstruction', in Graeme Trousdale & Thomas Hoffmann (eds), *Oxford Handbook of Construction Grammar*, Oxford: Oxford University Press.

BARÐDAL, JÓHANNA, BJARNADÓTTIR, VALGERÐUR, DAHL, EYSTEIN, EYTHÓRSSON, THÓRHALLUR, FEDRIANI, CHIARA & SMITHERMAN, THOMAS. 2011. Woe to the rich and the sordid fellows: the syntax, semantics and information structure of 'woe' in Indo-European. Submitted for publication.

BARÐDAL, JÓHANNA & EYTHÓRSSON, THÓRHALLUR, 2003. 'The change that never happened: the story of oblique subjects', *Journal of Linguistics* 39, 439–72.

BARÐDAL, JÓHANNA & EYTHÓRSSON, THÓRHALLUR, 2012. Reconstructing syntax: construction grammar and the comparative method, in H.C. Boas & I.A. Sag (eds), *Sign-based Construction Grammar*, Stanford, CA: CSLI Publications, 257–308.

BARÐDAL, JÓHANNA, EYTHÓRSSON, THÓRHALLUR & DEWEY, TONYA KIM. In prep. 'The alternating predicate puzzle: comparing Dat-Nom/Nom-Dat in Icelandic and German'.

BENEDICTO, ELENA, 1991. 'Latin long-distance anaphora', in J. Koster & E. Reuland (eds). *Long-distance Anaphora*, Cambridge: Cambridge University Press, 171–84.

BJORVAND, H. & LINDEMAN, F. O., 2000. *Våre Arveord. Etymologisk Ordbok* [Our Inherited Vocabulary: An Etymological Dictionary], Oslo: Novus.

BLUST, ROBERT. 1996. 'The neogrammarian hypothesis and pandemic irregularity', in M. Durie & M. Ross (eds), *The Comparative Method Reviewed: Regularity and Irregularity in Language Change*, Oxford: Oxford University Press, 135–56.

BOWERN, CLAIRE, 2008. 'Syntactic change and syntactic reconstruction in generative grammar', in G. Ferraresi & M. Goldbach (eds), *Principles of Syntactic Reconstruction*, Amsterdam: John Benjamins, 187–216.

BRÉAL, MICHEL, 1899. *Essai de Sémantique*, 2nd ed., Paris: Hachette.

COSERIU, EUGENIO, 1964. 'Pour une sémantique diachronique structurale', *Travaux de Linguistique et de Littérature* 2, 139–86.

CROFT, WILLIAM, 1998. 'Event structure in argument linking', in Miriam Butt & Wilhelm Geuder (eds), *The Projection of Arguments: Lexical and Compositional Factors*, Stanford, CA: CSLI Publications, 21–63.

CROFT, WILLIAM, 2001. *Radical Construction Grammar: Syntactic Theory in Typological Perspective*. Oxford: Oxford University Press.

CROFT, WILLIAM, 2009. 'Connecting frames and constructions: A case study of "eat" and "feed"', *Constructions and Frames* 1, 7–28.

CROFT, WILLIAM & CRUSE, D. ALAN, 2004. *Cognitive Linguistics*. Cambridge: Cambridge University Press.

DEMSKE, ULRIKE, 2008. 'Raising patterns in Old High German', in T. Eythórsson (ed.), *Grammatical Change and Linguistic Theory: The Rosendal Papers*, Amsterdam: John Benjamins, 143–7.

DEWEY, TONYA KIM, 2006. *The Origins and Development of Germanic V2*, PhD Dissertation, University of California, Berkeley.

DIXON, R. M. W., 1997. *The Rise and Fall of Languages*. Cambridge: Cambridge University Press.

DIXON, R. M. W., 2009. *Basic Linguistic Theory*. Oxford: Oxford University Press.

DRYER, MATTHEW S., 2006. 'Descriptive theories, explanatory theories, and basic linguistic theory', in F. Ameka, A. Dench & N. Evans (eds), *Catching Language: The Standard Challenge of Grammar Writing*, Berlin: Mouton de Gruyter, 207–34.

EYTHÓRSSON, THÓRHALLUR, 1995. *Verbal Syntax in the Early Germanic Languages*, PhD dissertation, Cornell University.

EYTHÓRSSON, THÓRHALLUR & BARÐDAL, JÓHANNA, 2005. 'Oblique subjects: a common Germanic inheritance', *Language* 81, 824–81.

EYTHÓRSSON, THÓRHALLUR & BARÐDAL, JÓHANNA, 2011. 'Die konstruktionsgrammatik und die komparative methode', in T. Krisch & T. Lindner (eds), *Indogermanistik und Linguistik im Dialog: Akten der XIII. Fachtagung der Indogermanischen Gesellschaft vom 21. bis 27. September 2008 in Salzburg*, Wiesbaden: Reichert Verlag, 148–56.

FAARLUND, JAN T., 2001. 'The notion of oblique subject and its status in the history of Icelandic', in Jan T. Faarlund (ed.), *Grammatical Relations in Change*, Amsterdam: John Benjamins, 99–135.

FALK, CECILIA, 1997. *Fornsvenska Upplevarverb [Old Swedish Experiencer Verbs]*, Lund: Lund University Press.

FALK, YEHUDA N., 2006. *Subjects and Universal Grammar: An Explanatory Theory*. Cambridge: Cambridge University Press.

FERRARESI, GISELLA & GOLDBACH, MARIA (eds), 2008. *Principles of Syntactic Reconstruction*, Amsterdam: John Benjamins.

FILLMORE, CHARLES J., 1982. 'Frame semantics', in Linguistic Society of Korea (ed.), *Linguistics in the Morning Calm*, Seoul: Hanshin, 111–38.

FILLMORE, CHARLES J., 1985. 'Frames and the semantics of understanding', *Quaderni di Semantica* 6, 222–54.

FILLMORE, CHARLES J., KAY, PAUL & O'CONNOR, MARY KAY, 1988. 'Regularity and idiomaticity in grammatical constructions: the case of *let alone*', *Language* 64, 501–38.

FISCHER, OLGA, 1990. *Syntactic Change and Causation: Developments in Infinitival Constructions in English*, Ph.D. Dissertation, University of Amsterdam.

GOLDBERG, ADELE E., 1995. *Constructions: A Construction Grammar Approach to Argument Structure*. Chicago, IL: Chicago University Press.

GRIMSHAW, JANE, 1990. *Argument Structure*. Cambridge, MA: MIT Press.

GUARDIANO, C. & LONGOBARDI, G. 2005. 'Parametric comparison and language taxonomy', in M. Batllori, M. L. Hernanz, C. Picallo & F. Roca (eds), *Grammaticalization and Parametric Variation*, Oxford: Oxford University Press, 149–74.

HARBERT, WAYNE, 1978. *Gothic Syntax: A Relational Grammar*, PhD Dissertation, University of Illinois.

HARBERT, WAYNE, 2007. *The Germanic Languages*. Cambridge: Cambridge University Press.

HARRIS, ALICE C., 2008. 'Reconstruction in syntax: reconstruction of patterns', in Gisela Ferraresi & Maria Goldbach (eds), *Principles of Syntactic Reconstruction*, Amsterdam: John Benjamins, 73–95.

HARRISON, S. P., 2003. 'On the limits of the comparative method', in B. D. Joseph & R. D. Janda (eds), *The Handbook of Historical Linguistics*, Oxford: Blackwell, 343–68.

HASPELMATH, MARTIN, 2004. 'Does linguistic explanation presuppose linguistic description?', *Studies in Language* 28, 554–79.

HJARTARDÓTTIR, ÞÓRA BJÖRK, 1993. *Getið í Eyðurnar* [Filling in the Gaps]. Reykjavík: Málvísindastofnun Háskóla Íslands.

HOENIGSWALD, H. M., 1978. 'The annus mirabilis 1876 and posterity', *Transactions of the Philological Society* 76, 17–35.

HUMBERT, JEAN, 1954. *Syntaxe Grecque*. Paris: Klincksieck.

JACKENDOFF, RAY S., 1972. *Semantic Interpretation in Generative Grammar*. Cambridge, MA: MIT Press.

JACKENDOFF, RAY S., 2012. 'Constructions in the parallel architecture', in Graeme Trousdale & Thomas Hoffmann (eds), *Oxford Handbook of Construction Grammar*, Oxford: Oxford University Press.

JEFFERS, ROBERT J., 1976. 'Syntactic change and syntactic reconstruction', in W. M. Christie, Jr. (ed.), *Current Progress in Historical Linguistics: Proceedings of the Second International Conference on Historical Linguistics*, Amsterdam, John Benjamins, 1–15.

KAY, PAUL & FILLMORE, CHARLES, 1999. 'Grammatical constructions and linguistic generalizations: the what's X doing Y? construction, *Language* 75, 1–33.

KEENAN, EDWARD, 1976. 'Towards a universal definition of "subject"', in Charles N. Lee (ed.), *Subject and Topic*,. New York: Academic Press, 303–34

KIKUSAWA, RITSUKO, 2003. 'The development of some Indonesian pronominal systems', in B. J. Blake, K. Burridge & J. Taylor (eds), *Historical Linguistics 2001: Selected Papers from the 15th International Conference on Historical Linguistics, Melbourne, 13–17 August 2001*, Amsterdam: John Benjamins, 237–68.

KLUGE, FRIEDRICH, 2002. *Etymologisches Wörterbuch der deutschen Sprache*. 24th ed., ed. by E. Seebold. Berlin: Walter de Gruyter.

KRISTOFFERSEN, KRISTIAN E., 1996. *Infinitival Phrases in Old Norse: Aspects of their Syntax and Semantics*. Ph.D. dissertation, University of Oslo.

KUNINGAS, JOHANNA & LEINO, JAAKKO, 2006. 'Word orders and construction grammar', in M. Suominen, A. Arppe, A. Airola, O. Heinämäki, M. Miestamo, U. Määttä, J. Niemi, K. K. Pitkänen & K. Sinnemäki (eds), *A Man of Measure: Festschrift in Honour of Fred Karlsson on his 60th Birthday*, 301–9. (Special supplement to SKY Journal of Linguistics 19).

LIGHTFOOT, DAVID, 1979. *Principles of Diachronic Syntax*. Cambridge: Cambridge University Press.

LIGHTFOOT, DAVID, 2002. 'Myths and the prehistory of grammars', *Journal of Linguistics* 38, 113–36.

LIGHTFOOT, DAVID, 2006. *How New Languages Emerge*. Cambridge: Cambridge University Press.

LØDRUP, HELGE, 2009. 'Animacy and long distance binding in Norwegian', *Nordic Journal of Linguistics* 32, 111–36.

MAGNÚSSON, ÁSGEIR BLÖNDAL, 1989. *Íslensk Orðsifjabók* [Icelandic Etymological Dictionary], Reykjavík: Orðabók Háskólans.

MCCLOSKEY, JIM, 1997. 'Subjecthood and subject positions', in Liliane Haegeman (ed.), *Elements of Grammar: Handbook in Generative Grammar*, Dordrecht: Kluwer, 197–235.

MENGDEN, FERDINAND VON, 2008. 'Reconstructing complex structures: a typological perspective', in G. Ferraresi & M. Goldbach (eds), *Principles of Syntactic Reconstruction*, Amsterdam: John Benjamins., 97–119.

MICHAELIS, LAURA A., 2010. 'Sign-based construction grammar', in B. Heine & H. Narrog (eds), *The Oxford Handbook of Linguistic Analysis*, Oxford: Oxford University Press, 155–76.

MICHAELIS, LAURA A., 2012. 'Making the case for construction grammar' in Hans C. Boas & Ivan A. Sag (eds), *Sign-based Construction Grammar*, Stanford, CA: CLSI Publications, 31–68.

MOORE, JOHN & PERLMUTTER, DAVID. M., 2000. 'What does it take to be a dative subject?', *Natural Language and Linguistic Theory* 18, 373–416.

NUNBERG, GEOFFREY, SAG, IVAN A. & WASOW, THOMAS, 1994. 'Idioms', *Language* 70, 491–538.

OED = OXFORD ENGLISH DICTIONARY. Available online at http://www.oed.com.

PAUL, HERMANN, 1920. *Prinzipien der Sprachgeschichte*, 5th ed, Halle: Niemeyer.

PAUL, HERMANN, [1886] 1978. 'On sound change', in P. Baldi & R. N. Werth (eds), *Readings in Historical Phonology: Chapters in the Theory of Sound Change*, University Park: Pennsylvania State University Press, 3–22.

PETRUCK, MIRIAM, 1996. 'Frame semantics', in J. Verschueren, J-O Östman, J. Blommaert & C. Bulcaen (eds), *Handbook of Pragmatics*, Amsterdam: John Benjamins, 1–13.

PINTZUK, SUSAN, 1991. *Phrase Structure in Competition: Variation and Change in Old English Word Order*, Ph.D. dissertation, University of Pennsylvania.

PIRES, ACRISIO & THOMASON, SARAH G., 2008. 'How much syntactic reconstruction is possible?', in G. Ferraresi & M. Goldbach (eds), *Principles of Syntactic Reconstruction*, Amsterdam: John Benjamins, 27–72.

ROBERTS, IAN, 2007. *Diachronic Syntax*. Oxford: Oxford University Press.

RÖGNVALDSSON, EIRÍKUR, 1990. 'Null objects in Icelandic', in J. Maling & A. Zaenen (eds), *Modern Icelandic Syntax*, San Diego, CA: Academic Press, 367–79.

RÖGNVALDSSON, EIRÍKUR, 1991. 'Quirky subjects in Old Icelandic', in Halldór Á. Sigurðsson (ed.), *Papers from the Twelfth Scandinavian Conference of Linguistics*, Reykjavík: Institute of Linguistics, University of Iceland, 369–78.

RÖGNVALDSSON, EIRÍKUR, 1993. 'Coordination, ATB-extractions, and the identification of *Pro*', *Harvard Working Papers in Linguistics* 3, 153–80.

RÖGNVALDSSON, EIRÍKUR, 1995. Old Icelandic: a non-configurational language?', *North-Western European Language Evolution* 26, 3–29.

RÖGNVALDSSON, EIRÍKUR, 1996a. Frumlag og fall að fornu [Subject and case in Old Icelandic]. *Íslenskt mál* 18, 37–69.

RÖGNVALDSSON, EIRÍKUR, 2007. *Reflexives in Older Icelandic*, Unpublished manuscript, University of Iceland.

SAG, IVAN, 2012. 'Sign-based construction grammar: an informal synopsis', in Hans C. Boas & Ivan A. Sag. (eds), *Sign-based Construction Grammar*, Stanford, CA: CLSI Publications, 69–202.

SEEFRANZ-MONTAG, ARIANE VON, 1983. *Syntaktische Funktionen und Wortstellungsveränderung: Die Entwicklung 'subjektloser' Konstruktionen in einigen Sprachen*. Munich: University of Munich dissertation. [Published as Studien zur theoretischen Linguistik 3, Munich: Fink, 1983.]

SIGURÐSSON, HALLDÓR Á., 1993. Argument-drop in Old Icelandic. *Lingua* 89, 247–80.

SIGURÐSSON, HALLDÓR Á., 1994. *Um frásagnarumröðun og grundvallarorðaröð í forníslensku ásamt nokkrum samanburði við nútímamál [On Narrative Inversion and Basic Word Order in Old Icelandic, with Some Comparison with Modern Icelandic]*, Reykjavík: Málvísindastofnun Háskóla Íslands.

STEPANOV, ARTHUR, 2003. 'On the "quirky" difference [sic] Icelandic vs. German: a note of doubt', *Working Papers in Scandinavian Syntax* 71, 1–32.

STRAHAN, TANIA E., 2003. *Long-Distance Reflexives in Norwegian: A Quantitative Study*. Munich: LINCOM.

STRAHAN, TANIA E., 2007. Norwegian long-distance reflexives: lectal variation and speaker attitudes', in I. Mushin & M. Laughren (eds), *Selected Papers from the 2006 Annual Meeting of the Australian Linguistic Society, St Lucia*, Australia: Australian Linguistic Society, 1–13. Available online at: http://espace.library.uq.edu.au/view.php? pid = UQ:12847

THRÁINSSON, HÖSKULDUR & HJARTARDÓTTIR, ÞÓRA BJÖRK, 1986. 'Pro-drop, topic-drop …: where do Old and Modern Icelandic fit in?', in Östen Dahl & Anders Holmberg (eds), *Scandinavian Syntax*, Stockholm: Institute of Linguistics, University of Stockholm, 150–61.

TOMASELLO, MICHAEL, 1998. 'Cognitive linguistics', in W. Bechtel & G. Graham (eds), *A Companion to Cognitive Science*, Oxford: Blackwell, 477–87.

TRAUGOTT, ELIZABETH CLOSS, 1990. 'From less to more situated in language: the unidirectionality of semantic change', in S. Adamson, V. Law, N. Vincent & S. Wright (eds), *Papers from the Fifth International Conference on English Historical Linguistics*, Amsterdam: Benjamins, 496–517.

ULLMANN, STEPHEN, 1957. *Principles of Semantics*, 2nd ed., Oxford: Blackwell.

VIÐARSSON, HEIMIR FREYR, 2009. *'Sól gerði eigi skína': stoðsagnir með nafnhætti í fornnorrænu* ['The sun did not shine: Do-support in Old Norse-Icelandic]. M.A. thesis, University of Icelandic.

WALLENBERG, JOEL, INGASON, ANTON KARL, SIGURÐSSON, EINAR FREYR & RÖGNVALDSSON, EIRÍKUR, 2011. *Icelandic Parsed Historical Corpus (IcePaHC). Version 0.5*. Available online at: http://www.linguist.is/icelandic_treebank

WATKINS, CALVERT, 1964. 'Preliminaries to the reconstruction of Indo-European sentence structure', in H. G. Lunt (ed.), *Proceedings of the IX International Congress of Linguists*, The Hague: Mouton, 1035–45.

WATKINS, CALVERT, 1976. 'Toward Proto-Indo-European syntax: problems and pseudoproblems', in S. B. Steever, C. A. Walker and S. S. Mufwene (eds), *Proceedings of the Chicago Linguistics Society: Papers from the Parasession on Diachronic Syntax*, Chicago, IL: Chicago Linguistics Society, 305–26.

WILLIS, DAVID, 2011. 'Reconstructing last week's weather: syntactic reconstruction and Brythonic free relatives', *Journal of Linguistics* 47, 407–46.

WINTER, WERNER, 1984. 'Reconstructional comparative linguistics and the reconstruction of the syntax of undocumented stages in the development of languages and language families', in J. Fisiak (ed.), *Historical Syntax*, The Hague: Mouton, 613–25.