Syntactic Reconstruction and Proto-Germanic

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Abstract

This thesis investigates methods, possibilities and limitations in the reconstruction of syntax in a framework which holds that the object of inquiry is knowledge of language and which acknowledges that the transmission of that knowledge is discontinuous. The main objections to syntactic reconstruction raised in the literature are assessed, and it is argued that the reconstruction of syntax is qualitatively different from lexical-phonological reconstruction due to the so-called 'correspondence problem'; it is also suggested that other objections to syntactic reconstruction based on assumed lack of parallel between syntax and phonology, such as the supposed absence of directional tendencies and inability to identify contact influence, are either illusory or reduce to the correspondence problem. It is argued that the approach taken in current Minimalist theories of syntactic variation, in which all such variation is attributed to the properties of lexical items, sheds light on the problem of syntactic reconstruction by enabling a clear comparison between syntactic and phonological variation, and opens the door for syntactic reconstruction as lexical reconstruction. Practical solutions for circumventing the correspondence problem are also discussed, in particular the use of both distributional properties of lexical items and the phonological forms of such items in order to establish cognacy.

The bulk of the thesis is devoted to case studies from the early Germanic languages intended to illustrate this methodology, dealing with verb position in main clauses, the syntax of the *wh*-system, and the (non-)occurrence of null pronominal subjects and objects. With regard to verb position it is argued that all the early Germanic languages except Gothic exhibit robust evidence for verb movement to the C-domain in neutral declarative main clauses, and that other positions may well have been associated with specific interpretive effects. In the *wh*-system verb movement to the C-domain was even more clearly established, again with certain classes of well-defined exceptions that can be accounted for on a principled basis; treating the early Germanic *wh*-system as a whole also leads to a less stipulative account of the supposed West Germanic 'interjection' *$h^w at$, as an underspecified *wh*-item introducing an exclamative clause. Subjects (and, more rarely, objects) could be null in all the early Germanic languages, with slight variations; a partial null argument analysis of these languages is argued for, and it is suggested that this property can be reconstructed at least for Proto-Northwest Germanic.

Declaration

This dissertation is my own work and contains nothing which is the outcome of work done in collaboration with others, except as specified in the text and Acknowledgements.

The total word count, including footnotes and references, is 84,743 words.

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This thesis is dedicated to my grandmother, Joy Houlton.

List of abbreviations

ACC	accusative
CL	clitic
DAT	dative
DEF	definite
FEM	feminine
GEN	genitive
INF	infinitive
INSTR	instrumental
INTJ	interjection
MASC	masculine
NEG	negative
NOM	nominative
OPT	optative
PL	plural
PRET	preterite
PRT	particle
REFL	reflexive
SBJV	subjunctive
SG	singular
BCC	Borer-Chomsky Conjecture
EF	Edge Feature
HPSG	Head-Driven Phrase Structure Grammar
L1(, L2...)	first language (etc.)
LFG	Lexical-Functional Grammar
OE	Old English
OHG	Old High German
ON	Old Norse
OS	Old Saxon
PIC	Phase Impenetrability Condition
PIE	Proto-Indo-European
PLD	primary linguistic data
SVO(, SOV...)	Subject-Verb-Object (etc.)
UG	Universal Grammar
V2(, V3...)	verb-second (etc.)
V_{fin}	finite verb

Contents

Chapter 1: Introduction

1.1 Preamble

We know that English, German, Dutch and the Scandinavian languages are related by descent from a common ancestor, and that they are related, more distantly, to languages such as Spanish, Persian, Armenian and Greek. We know this because of the development of two tools in particular – the family tree model (*Stammbaumtheorie*; Schleicher 1853, 1861/62, 1863) and the notion of the regularity of sound change (Osthoff & Brugmann 1878) – in the nineteenth century. With these two tools it became possible to make massive strides forward in corroborating the vague hypotheses about relatedness that had been put forward for centuries. Many of the achievements of scholars of this period are still widely accepted today; see Campbell & Poser (2008) and Morpurgo Davies (1998: 170–171, 251–254) for an overview. The 'best fit' Indo-European family trees generated by Ringe, Warnow & Taylor (2003), Dunn *et al.* (2008) and Longobardi & Guardiano (2009), using computational methods as well as extensive up-to-date scholarship, are extremely similar to the classical tree presented in Schleicher (1853), which is still used as a yardstick against which to measure newer attempts at constructing family trees. Of course, as with everything in science, it is impossible to be sure that such hypotheses are on the right track, however many insights we accumulate and however many correct predictions are made. However, an alternative explanation with greater empirical coverage and explanatory power has yet to be presented.

Assuming that the Germanic languages are indeed related in this way, a natural next question to ask is: what was their common ancestor like? The process of trying to answer this question is known as reconstruction, and nineteenth- and twentieth-century linguists have had great success in reconstructing the sounds and words of such 'protolanguages'. For example, we can hypothesize that the Proto-Germanic word for 'wolf', in the nominative case, was *wulfaz*, on the basis of the attested forms given in (1).[1]

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[1] The versatile little asterisk serves a number of functions in this thesis. When prepended to a word or expression in an ancient language or protolanguage, it signifies that that form is a reconstruction, i.e. unattested but hypothesized to exist, as is the norm in historical linguistics (see e.g. Campbell 1998: xix). When prepended to an expression in a language for which we have access to native speakers, it signifies that that form is ungrammatical, as is the norm in syntax. Finally, when appended to a syntactic phrase label it signifies that that phrase may occur zero or more times in the derivation; this is the Kleene star, roughly as used in mathematical logic.

(1)   Old English   *wulf*

        Old Saxon   *wulf, wolf*

        Old High German   *wolf*

        Old Norse   *úlfr*

        Gothic   *wulfs*

We can do this because the sounds that make up the word correspond systematically across the languages, in a way that will be made more precise in chapter 2. The tools of traditional reconstruction thus enable us to reconstruct large swathes of the lexicon, phonology and morphology of protolanguages.

However, as has been noted by many authors (e.g. Brugmann 1904: viii; Watkins 1964: 1035; Clackson 2007: 157), comparative-reconstructive linguistics as practised in the nineteenth and early twentieth centuries has not always accorded syntax a central place. Beekes (1995), an introductory volume to comparative Indo-European philology, omits syntax entirely, as does Szemerényi (1996), another standard reference work. Even the father of historical-comparative syntax, Berthold Delbrück, questions whether it is appropriate to reconstruct in syntax as is done for the lexicon, phonology and morphology (1900: v–vi). A number of works attempting to reconstruct aspects of the syntax of protolanguages have appeared: for Proto-Germanic, Lehmann (1972), Hopper (1975) and Kiparsky (1995, 1996) are a few key examples. On the other hand, these approaches have met with extreme scepticism: see, for example, Jeffers (1976), Winter (1984) and Lightfoot (1979, 1980, 1999, 2002a, 2002b, 2006). The debate was at its fiercest in the pages of *Journal of Linguistics* 38, in which Lightfoot (2002a) criticized the reconstructive techniques of Harris & Campbell (1995), meeting with a response by Campbell & Harris (2002) which in turn was replied to by Lightfoot (2002b). A full review of the literature on syntactic reconstruction can be found in Walkden (2009, 2013).

This thesis is a discussion of the problem of whether it is possible or profitable to reconstruct the syntax of unattested stages of linguistic family trees. A related, though not coextensive, question is whether the methodology used in lexical-phonological reconstruction can be straightforwardly applied to syntax. My answer to this second question will be 'partially'; my answer to the first question, in all its guises, will be an unalloyed 'yes'. I start by discussing the epistemological and methodological issues involved in the reconstruction of syntax, including the important objections raised by Lightfoot and others (chapter 2). The bulk of the thesis is devoted to case studies from the Germanic language (sub-)family in support of the approach to syntactic reconstruction developed, dealing with main clause

constituent order (chapter 3), the system of *wh*-words (chapter 4), and the occurrence and distribution of null arguments (chapter 5); these should also serve as stand-alone contributions to the historical syntax of the Germanic languages. Chapter 6 concludes. The rest of this chapter outlines the aims of the thesis in more detail, as well as the basic assumptions I make throughout.

1.2 The mythmaker's handbook: a constructivist approach to historical syntax

> Being reflective creatures, thanks to the emergence of the human capacity, humans try to make some sense of experience. These efforts are called myth, or religion, or magic, or philosophy, or in modern English usage, science. (Berwick & Chomsky 2011)

Reconstruction can be defined as the process of constructing forms that are nowhere attested but which are 'posited, on the basis of some evidence, as having existed in some earlier or ancestral form of a language' (Trask 1996a: 302–303). The most pessimistic view on reconstruction to be found in the literature is that of Lightfoot (1979, 1980, 1999, 2002a, 2002b, 2006). For Lightfoot (2002a), reconstructions are 'myths'; for Lightfoot, myths may have functions, as in the case of 'formulist' statements about the historical relatedness of languages, but the term can also be used in a pejorative sense, and this is what Lightfoot intends in using it to characterize 'realist' efforts to reconstruct a prior linguistic reality (2002a: 115). Campbell & Harris (2002), in response, suggest that it is damaging to the field to label hypotheses about prior realities 'myths'.

It is instructive to compare these perspectives with the one taken by Lass (1997). In contrast to many historical linguists, whose expertise is vastly more linguistic than it is historical, Lass has engaged with the literature on the philosophy of history. Such an engagement is important, since, as noted by White (1978: 126–127), 'every historical discourse contains within it a full-blown, if only implicit, philosophy of history'; this is true no less of historical linguistic discourse than of other branches of history, and means that 'metaworries' (Kiparsky 1975: 204) must be accorded a central place in historical linguistic theorizing rather than dismissed in favour of 'get[ting] on with the serious business of doing linguistics', an attitude criticized by Lass (1980: ix–x).

Lass draws a trenchant distinction between 'history', i.e. the events that

happened, and 'historiography', the interpretation and explanation of those events. As is widely accepted within the academic discipline of history (cf. e.g. Jenkins 1991: ch. 1 for an accessible introduction), our only access to 'history', to those events, is through witnesses, which themselves must be identified and interpreted. But this identification and interpretation is an act of historiography.

Our approach to history, as Lass (1997: 17) emphasizes, must therefore be at least partially constructivist in the sense of Ortony (1979): there can be no access to history without constitutive historiography. This is not to say that there exist no such things as 'truth' or 'facts'; indeed, Lass is at pains to deflect charges of 'flabby postmodern relativism' (1997: 5). Sokal (2008: ch. 3, ch. 6) provides a good summary of the practical dangers of the relativist position. Crucially, even those who characterize history as a search for truth make the distinction between history and historiography, and do so willingly without supposing that the problem makes their work somehow 'unreal' or 'illegitimate' (cf. e.g. Elton 1967: 70, 112–113; Zagorin 1999; Jarrick 2004). There is, or was, a truth about history, and this assumption is 'a conceptual necessity' for the study of history (Zagorin 1999: 16; cf. also Hobsbawm 1997: 6); the key issue is our access to this truth.

For Lass, then, all hypotheses about the past are myths (1997: 5); the term here is used in its technical sense, which is not inherently pejorative, as emphasized for social history by Tindall (1989: 2), for political science by Flood (2002: 44), and for the comparative study of mythology by Puhvel (1987: 2). A myth, under this view, can be defined as a story 'which embodies and provides an explanation, aetiology, or justification for something such as the early history of a society, a religious belief or ritual, or a natural phenomenon' (OED).[2] The constructivist viewpoint suggests that Campbell & Harris (2002: 602) are being overly defensive in characterizing the suggestion that reconstructive hypotheses are myths as 'inaccurate and deleterious to the field'. However, Lightfoot (2002a) makes a more serious error, not in labelling such hypotheses as myths but in implicitly contrasting them with an unexemplified type of non-mythological historiography. The gravity of this error lies in the fact that, as Lass has argued, *any* hypothesis about linguistic history is mythical in a non-trivial sense. For instance, Lightfoot's account of the loss of case in English and its syntactic consequences (2006: 102–123) rests on a framework of interpretations and assumptions, including interpretations of the Old English textual record, the assumption that this reflects in any direct way the

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[2] Cf. Bierce's (1911) tongue-in-cheek definition of mythology in *The Devil's Dictionary*: 'The body of a primitive people's beliefs concerning its origin, early history, heroes, deities and so forth, as distinguished from the true accounts which it invents later.'

grammar of some (or indeed any) Old English speakers, and so on. Mythology in historical syntax, then, may be more pervasive than assumed in Lightfoot (2002a). Honeybone (2011) makes a similar point: since past I-languages cannot be observed, 'all historical linguistics deals with reconstructed forms' (2011: 30).

As Lass additionally observes (1997: 19, fn. 22), the problem of access is not one that is unique to the historical sciences: direct observation of synchronic states of the language faculty, for instance, is also impossible. Campbell & Harris (2002: 602) observe, rightly, that 'for Lightfoot to suggest that reconstructions are myths, rather than hypotheses, raises the question of whether the supposed "hypotheses" of synchronic linguists are also "myths"'. Following Lass (1997: 18) and Honeybone (2011: 30, fn. 6), I would argue that the answer to this question is probably yes, but that it should not matter in the slightest to the practising linguist, whose task remains the same in this case.[3]

But are some myths more mythological than others? Perhaps. Lass (1997: 19–20) observes that comparing our sources of historical knowledge to witnesses leads to comparing the historian's task to a courtroom setting:

> [Accepted truth] arises through argument, evaluation, consideration of often conflicting testimony, discussion of the relative credibility of witnesses, precedent, even rhetoric. Witnesses may tell the truth; they may be mistaken or confused, or be liars; advocates may be sophists or demagogues. The historian, like a magistrate or jury, has to produce the best verdict he can. This is why historiography contains an irreducible conventionalist element, whether or not its ultimate pretensions are realist.

According to this view, the myths we construct in historical linguistics are, in virtue of their function, subject to criteria of empirical responsibility and rationality; in other words, when assessed against these criteria, some of the myths we construct will turn out to be more convincing than others. Similarly, Dressler (1971: 6) refers to the process of reconstruction as a *Wahrscheinlichkeitsschätzung* ('estimation of probability'). Lightfoot (2002b: 625) closes his paper with an exhortation to the effect that the myths constructed thus far are not palatable to him:

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[3] Evans & Levinson (2009) claim that many of the hypotheses of synchronic linguists, namely those postulating language universals, are in fact myths, in the sense that such universals do not exist. Their claims are, however, hard to evaluate, since they reject analyses above a certain (unspecified) level of abstraction (Baker 2009; Longobardi & Roberts 2010), and their article contains a large number of factual and logical errors (Harbour 2010).

If somebody thinks that they can reconstruct grammars more successfully and in more widespread fashion, let them tell us their methods and show us their results. Then we'll eat the pudding.

What follows is an exploration, assuming the constructivist approach to history advocated by Lass (1997) and by much mainstream histori(ographi)cal practice at the same time as a realist attitude towards the past itself, of the extent to which plausible hypotheses (and thus tasty puddings) about the syntax of protolanguages can be constructed on a methodologically accountable basis. The first part of this thesis lays down some guidelines for the prospective mythmaker; the second part puts these guidelines into practice.

  With all that said, the term *myth* may nevertheless be unpalatable to some readers, perhaps due to its pejorative prior associations, or due to the necessity of a distinction between 'religious' and 'non-religious' myths (Lass 1997: 5). The reader is, in that case, invited to substitute *theory* or *hypothesis* for (non-religious) *myth* for the remainder of this thesis; these are also the terms I shall be using hereafter.

1.3 Syntactic framework

The syntactic framework I assume here is, broadly, the one developed in the context of the Minimalist Program (e.g. Chomsky 1995, 2000, 2001) and refined in subsequent work. I do not view this work as Minimalist, as it does not seek to contribute to the goals of the Minimalist research program itself by investigating the Strong Minimalist Thesis, the idea that language is an optimal solution to legibility conditions (Chomsky 2000: 96). Instead I draw upon the results of the Minimalist approach to syntax in order to inform my own historical investigation, which has its own goals, as outlined in section 1.1; namely, to assess the possibilities for the reconstruction of syntax and 'to recover as much as possible of the actual language spoken in the past' (Campbell & Harris 2002: 600) with respect to the syntax of earlier stages of Germanic. As Chomsky (2001: 41) puts it:

> Internalist biolinguistic inquiry does not, of course, question the legitimacy of other approaches to language, any more than internalist inquiry into bee communication invalidates the study of how the relevant internal organization of bees enters into their social structure. The investigations do not conflict; they are mutually supportive.

I take it that Minimalist investigation and investigation into the diachronic development of languages (in the pre-theoretical sense) can be mutually supportive in this way.

The specifics of the approach I take to syntactic variation are discussed in section 2.2, as these bear heavily upon the general question of whether it is possible to reconstruct syntax at all. Here I will simply outline some of the basics of the syntactic framework I am adopting, particularly its two core operations, Merge and Agree, as well as locality conditions and the order of Merge of functional lexical items. For a more detailed overview of a Minimalist theory of syntax assuming no prior knowledge of the framework, see Adger (2003).

Simply stated, Merge 'takes two syntactic objects α and β and forms the new object $\gamma = \{\alpha, \beta\}$' (Chomsky 2001: 3). Much ink has been spilled over the precise formulation of Merge. For our purposes it is sufficient to note that it is a structure-building operation which operates on sets and makes no reference to linear order. I assume that linear order is derived through a mapping algorithm of the sort proposed by Kayne (1994), resulting in heads uniformly preceding their complements and specifiers uniformly preceding their heads. Constituent order variation must then be derived via movement. Although in Chomsky's earlier Minimalist work (e.g. 1995, 2000) Move was required as a separate operation, it is argued in Chomsky (2001, 2005) that movement comes for free as part of the formulation of Merge. Given α, β can be Merged to it either from outside α or from inside α. The former, 'external Merge', is the classic case of Merge of an item new to the derivation; the latter, 'internal Merge', corresponds to classic cases of movement (Chomsky 2005: 12). If movement is 'free' in this sense, no separate operation need be postulated, though the question of featural 'triggers' for internal (and external) Merge still remains.

Agree, the second core operation, 'establishes a relation ... between an LI [lexical item – GW] α and a feature F in some restricted search space (its *domain*)' (Chomsky 2000: 101). Features may be interpretable or uninterpretable; uninterpretable features must be checked, as they play no role at the conceptual-intentional and sensorimotor interfaces. Following Chomsky (2001) and much recent work, I will assume that the process of checking is a process of valuation, and that interpretable = valued and uninterpretable = unvalued (though cf. Pesetsky & Torrego 2001, 2004 for an approach which takes these notions to be distinct). In Chomsky's framework, the *probe* is the uninterpretable feature F associated with a head α higher in the structure, and it seeks a *goal* in its c-command domain, which must bear a value for the feature F. In addition, a goal must be *active*: in Chomsky's terms, it must also bear an uninterpretable feature (distinct from F). Structural Case

features, for instance, may serve this role. Uninterpretable features will be indicated, following common practice, by a prepended *u*, e.g. [*u*Tense]; interpretable features by a prepended *i*, e.g. [*i*Tense], or simply by a value, e.g. [Tense:Past].

If an *inactive* goal, i.e. a goal bearing a value for the feature F but no uninterpretable feature, is closer to the probe than an active goal, then the effects of matching are blocked. This latter property of Chomsky's model is termed a *defective intervention constraint* (2000: 123), which is the first type of locality condition that will play a role in the analyses in this thesis. Defective intervention has its roots in earlier theories of intervention-based locality constraints, most notably Rizzi's (1990, 2001a) Relativized Minimality and the Minimal Link Condition of Chomsky (1995). It is a relative rather than absolute locality restriction in the sense of Rizzi (1990: 2), in that it is relativized to the feature F for which Agree must take place.

The second type of locality condition is an absolute one: that of phases. I assume the Phase Impenetrability Condition of Chomsky (2000).[4]

(2)   *Phase Impenetrability Condition (PIC)*
        In phase α with head H, the domain of H is not accessible to operations
        outside α, only H and its edge are accessible to such operations.
        (Chomsky 2000: 108, his (21))

Phase heads are the spiritual successors of barriers (Chomsky 1986a), being conceptually justified by mapping their complements to the interfaces and thus ensuring that 'mappings to the two interfaces can forget about what they have already done' (Chomsky 2005: 16). Their role partially overlaps with that of intervention constraints. The traditional assumption is that C^0 and v^0 are phase heads (Chomsky 2005: 17), and possibly also D^0 (Svenonius 2003).

Agree and phase heads play an important role in the typology of movement-triggering that I will assume. Following Biberauer (2008) and Biberauer, Holmberg & Roberts (2010), I assume that there is only one movement-triggering feature, ˆ, but that this can and must be parasitic on another type of feature wherever it occurs. When associated with a probing feature (e.g. φ-features), ˆ triggers A-movement; when associated with the Edge Feature that is the crucial property of a phase head, ˆ triggers A'-movement.[5] I also assume, following Roberts (2010b), that head-

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[4] The version of the PIC given in Chomsky (2001: 13) is more permissive, and not assumed here.

[5] ˆ may also be associated with the c-selectional features of a lexical root, in which case it triggers linearization movement ('L-movement'). This latter type, often referred to as 'roll-up' in the literature, is largely used to derive orders in consistently head-final languages, and hence plays no

movement is not derived via internal Merge. Instead, head-movement is the result of an Agree relation in which the features of the goal are a proper subset of those of the probe; some mechanism of chain reduction then enforces the non-overtness of the goal.

The hierarchy of projections that I will assume is the standard one: CP, TP, *v*P, VP in the clausal hierarchy, and PP, DP, *n*P, NP in the nominal hierarchy. In line with the assumptions of the 'cartographic' research tradition (Rizzi 1997, Cinque 1999, Cinque & Rizzi 2010) I assume that each of these is shorthand for a more fine-grained array of projections, which largely occur in a fixed order,[6] with only one specifier available per head (cf. also Kayne 1994). For my purposes, it will only be necessary to 'expand' the CP and zoom in on the left periphery of the clause, in a tradition following Rizzi (1997). Rizzi divides CP up as in (3).

(3)   ForceP > TopP* > FocP > TopP* > FinP   (Rizzi 1997: 297)

ForceP hosts elements related to clause type: declarative, interrogative, etc. TopP, which may be iterated indefinitely, hosts topics, while FocP hosts foci. Finally, FinP specifies the finiteness of the clause.

Building on Rizzi's work, Frascarelli & Hinterhölzl (2007) present a slightly more nuanced picture of the left periphery, illustrated in (4).

(4)   ForceP > ShiftP > ContrP > FocP > FamP* > FinP
          (adapted from Frascarelli & Hinterhölzl 2007: 112–113; their (37))

The main advance made is the distinction between three different types of topic: shifting or aboutness topics, hosted in ShiftP, indicating what the clause is about; contrastive topics, hosted in ContrP, which create oppositional pairs with respect to other topical elements; and familiar topics, hosted in FamP, which are typically given constituents, often realized in a pronominal form (Frascarelli & Hinterhölzl 2007: 88). I will adopt this hierarchy here, since it makes slightly stronger predictions than Rizzi's pioneering hierarchy in (3). I also assume, with e.g. Aboh (2010) and Cruschina (2009), that information-structural features are present in the syntax, added in the numeration; the element bearing these features must then enter into an Agree relation with a left-peripheral head.

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further part in this thesis.

[6] Cinque (1999: 127) notes that variation does arise, but in the TP domain at least seems to be limited to negation and agreement morphemes.

These are the core details of the syntactic framework I am adopting. Other, more minor details will be introduced as and when they are needed in the relevant chapter.

1.4 The Germanic languages

The case studies drawn upon throughout this thesis are drawn from the Germanic language family, and in this subsection I discuss the family, as well as the key individual languages used as sources of data. Germanic is a sub-branch of the Indo-European family, which emerged as a distinct grouping at around 500 BC (Ringe 2006: 213). Its internal structure is generally assumed to be as in Figure 1.1.

Figure 1.1: The Germanic family tree

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                            Proto-Germanic
                           /              \
               Northwest Germanic          East Germanic
                /            \                    |
        West Germanic      North Germanic         |
          /      \              |                 |
         /   North Sea Germanic |                 |
        /       /       \       |                 |
Old High German  Old English  Old Saxon  Old Norse  Gothic
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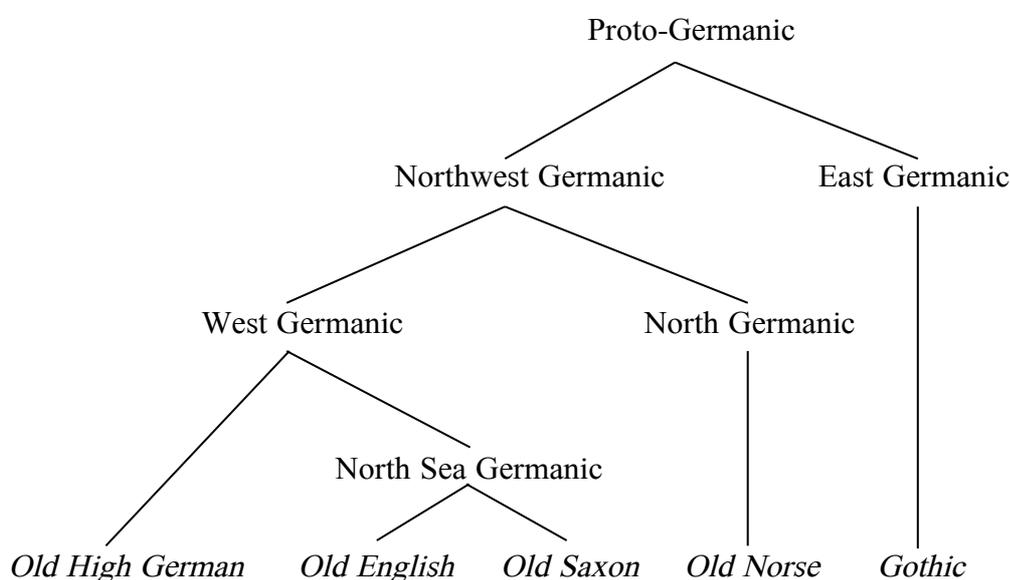
Figure 1.1 shows the earliest stages of the Germanic family tree (before 1000 AD); robustly attested stages are in italics. Acceptance of the tree in Figure 1.1 is not universal among Germanicists; Krahe & Meid (1969: 37–8), for example, prefer to assume a subgrouping of Gothic and the North Germanic languages together as opposed to West Germanic due to a number of apparently innovative features that these languages share. However, the majority of scholars nowadays (e.g. Harbert 2007: 7–8; Nielsen 2000a: 23; Ringe 2006: 213) take the hypothesis of an early Northwest Germanic unity as a given. In any case, since the early Germanic varieties were geographically contiguous (Harbert 2007: 8), it is likely that East Germanic and West Germanic both individually shared innovations with North Germanic, and that the binary branching tree above is essentially an artefact of the method.

The correct internal subgrouping of West Germanic is more controversial (Ringe 2006: 214; Nielsen 2000b). Old English and Old Saxon (together with the later-attested Old Frisian and Dutch)[7] are often assumed to form a North Sea Germanic or Ingvaeonic subgroup to the exclusion of Old High German. This hypothesis is not uncontroversial; however, the debate centres around the affiliation of Old Saxon, which shares certain features with Old High German that the two do not share with Old English (see Nielsen 2000b for discussion). For our purposes it is important simply to note that Old Saxon can be considered phylogenetically and geographically intermediate between Old English and Old High German.

The Germanic family is an appropriate one to use as a test bed for syntactic reconstruction for a number of reasons. First, the older languages are comparatively well attested, and well studied, if not always well understood; cf. Robinson (1992) for an introduction to these languages, and Harbert (2007) for an overview with references. Secondly, as Harris (2008: 90) observes, focusing on a clearly delimited language (sub-)family at a relatively shallow time depth renders the task of reconstruction more manageable and less speculative. As discussed in Walkden (2009: 7–21), most past attempts at syntactic reconstruction (e.g. Lehmann 1974; Friedrich 1975; Watkins 1964, 1976) have attempted to address Proto-Indo-European, and are therefore dealing with a much more amorphous language family at a much greater time depth; Clackson (2007: 157–186) provides a useful discussion of work in this area. Such long-distance, big-picture syntactic reconstruction is by no means excluded in principle by the methodology outlined in this thesis. The most profitable way to proceed, however, would be to work from the 'bottom up', starting with smaller pieces of the puzzle such as the details of the common West Germanic or Northwest Germanic and proceeding to a greater time depth only when acceptance of some of these details is reached.

The italicized languages in Figure 1.1 are those that will form the basis of my discussion in chapters 3, 4 and 5. The rest of this subsection is devoted to considering those languages in more detail, since each poses unique questions of attestation and interpretation. Many of the issues are shared, however; for general issues relating to the use of written records, including verse texts and translations, I follow the strategies suggested by Lass (1997: 44–103).[8] There is little that is new

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[7] These languages are largely excluded from the present study both due to their late attestation (de Haan 2001, for instance, argues on linguistic grounds that Old Frisian should really be called Middle Frisian) and for reasons of space and time.

[8] Dewey (2006: 17–21) argues that using verse for syntactic investigations is even advantageous in some respects, as this text type is likely to be conservative and in addition intonational information may help us to determine syntactic features. See also Pintzuk & Kroch (1989), who use this logic to

here, since it has long been known that historical linguistics can be thought of as 'the art of making the best use of bad data' (Labov 1994: 11). Where it becomes useful to test for statistical significance, Fisher's exact test (Fisher 1922) is used unless otherwise stated.

1.4.1 Gothic

Gothic is the earliest robustly attested Germanic language, and the only member of the East Germanic branch with such attestation. Spoken by the Visigoths and Ostrogoths, two highly mobile tribal groupings (see Robinson 1992: 43–47 for a brief history), it has survived primarily in fragments of a translation of the New Testament from Greek, attributed to Bishop Wulfila (c. 310–383). The manuscript, known as the *Codex Argenteus*, dates from the 6th century and was most likely produced in Italy; see Ebbinghaus (1997) for discussion.

The primary difficulty when dealing with the syntax of Gothic is the degree to which the translation is dependent on the syntax of the New Testament Greek original. A recent study of the adjectival syntax of Gothic describes the Gothic Bible as 'a near-wholesale importation of Greek presented in Gothic guise' (Ratkus 2011: 24). The two poles of opinion are represented by Curme (1911), who argues that the affinities between Gothic and New Testament Greek are due to shared inheritance rather than slavish translation technique, and Bennett (1980: 127), who claims that in view of translation influence the Gothic texts are 'all but useless for the study of Germanic syntax' (cf. also Hopper 1975: 60, Lehmann 1994: 21).[9] Ratkus (2011: 32–33) describes these as the 'idealist' and 'agnostic' positions respectively.

From a purely logical perspective, it is not clear that there is anything 'agnostic' about the claim that Gothic syntax was heavily influenced by Greek, and nor is it clear that this should be the null hypothesis when investigating the syntax of Gothic. Similarities between languages may be the result of language universals, shared inheritance, convergent development, parallel development, or language contact (Blevins 2004: 47–52, Aikhenvald 2006: 1–2). Common practice in the literature is to assume that a feature is not due to contact unless the evidence is clear and overwhelming (e.g. Lass 1997: 201, 209; though cf. Farrar & Jones 2002 and Filppula 2010: 449 for criticism of this 'if-in-doubt-do-without' mentality); among

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differentiate between extraposition and Heavy NP Shift in *Beowulf.*

[9] Bennett's claim is made with reference to both the Gothic Bible and to the *Skeireins*, an incomplete short commentary on the Gospel of John. Though the *Skeireins* is generally thought not to have been composed by Wulfila, it is likely that it is nevertheless a translation from a Greek original: see Schäferdiek (1981).

Gothicists, the logic seems to be reversed.[10] Furthermore, many scholars have presented evidence for 'genuine' Gothic syntactic phenomena in the Gothic Bible, often supported by sophisticated quantitative argumentation, e.g. with regard to the relative order of the verb and its complement (Koppitz 1900, 1901; Fourquet 1938; Jasanoff 2004), use of the dual (Seppänen 1985, Keidan 2006), verb position in imperatives, *wh*-questions and negation (Eythórsson 1995, Fuß 2003), relative clauses (Harbert 1992), the absolute construction (Dewey & Syed 2009), pronouns (Ferraresi 2005) and the order of elements in the noun phrase (Ratkus 2011). Many of these studies are based on the principle of lexical deficiency: instances where the Gothic text translates a single Greek word with multiple Gothic words. In these cases, it is argued, no model was available, and so the word order is likely to have followed the unmarked native pattern. Furthermore, instances where the Gothic text deviates from its Greek model also indicate native Gothic phenomena (provided that other influences, such as that of Latin or Coptic, can be ruled out). In contrast, I am unaware of any study presenting clear data and explicit argumentation to the effect that the similarities between Gothic and New Testament Greek *are* due to narrow translation: Metlen's (1932: 46–47) conclusion to this effect has been criticized by Berard (1993) as based on an insufficient range of phenomena. Instead, the judgement that the Gothic Bible represents 'Greek syntax garbed in the dress of Gothic grammar' (Metlen 1932: 47) seems to be based, more often than not, on simple intuition; an intuition that is perhaps circular, as will become clear from the next paragraph. It is equally unclear, then, that 'idealist' is an appropriate term to apply to those who, like Curme (1911), wish to claim that similarities are due to common origin. The issue is an unresolved one.

In any case, for those working on the syntax of Gothic it is necessary to attempt to rule out structural calquing from New Testament Greek, even though this necessity has more to do with the sociology of the field than with logic or empirical evidence. The important question then becomes: since we do not know what manuscript Wulfila himself had access to, and there is no single original Greek text, which version of the New Testament Greek Bible do we use as a comparator? Ratkus (2011: 28–32) provides a useful guide to this issue. Many scholars, e.g. Berard (1993), Fertig (2000) and Ferraresi (2005), primarily use the version provided in Streitberg's (1919) edition, which has survived through later editions and is often reproduced elsewhere. The problem with this is that Streitberg was not a

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[10] One could object that the 'if-in-doubt-do-without' methodology is intended to be applied to cases of language change across populations rather than individual cases of loan-translation. The burden of proof would then be on those who wished to claim that the two types of contact influence were significantly different.

Bible scholar, and his version of the Greek New Testament is a hybrid which does not derive from any single manuscript; furthermore, 'observed differences between the Majority Text and Streitberg favour the shape of the Gothic text' (Ratkus 2011: 31). Using Streitberg's version to investigate correspondence with the Greek is dangerously circular, then, as it cannot be ruled out that Streitberg was guided in his 'reconstruction' of the Greek original by the form of the Gothic.

Another version often used is the Critical Text (most recent edition Nestle *et al.* 2001), which has a wide circulation and is widely regarded as the standard edition for academic purposes. It is used for studies of Gothic syntax by Thomason (2006) and Dewey & Syed (2009) *inter alia*. Ratkus (2011: 33–39) has conducted a three-way comparison in terms of omissions, word order, lexical choice and grammatical form between the Gothic, the Critical Text and another version, the Majority Text (Robinson & Pierpont 2005), which is based more heavily on Byzantine than on Alexandrine manuscripts: his aim is to establish which manuscript tradition the Gothic translation can be attributed to. His findings are unequivocal: 'Gothic follows the Majority Text much more closely than it does the Critical Text, and the former should thus be used as a point of reference in the comparative study of Gothic and Greek' (2011: 39). I will therefore use the Majority Text as comparator in subsequent chapters where Gothic becomes relevant to the discussion.

1.4.2 Old Norse

Old Norse (ON) is a North Germanic language. North Germanic bifurcates early into East Nordic (precursor to Danish and Swedish) and West Nordic (precursor to Faroese, Icelandic and Norwegian); ON in this thesis refers to West Nordic texts. The texts investigated are Old Icelandic, mainly because of the availability of a pre-final version of the Icelandic Parsed Historical Corpus (IcePaHC; Wallenberg *et al.* 2011). Unless otherwise stated, Old Icelandic is here taken to stand for early North Germanic in general, though material on Old Swedish will also be drawn upon, particularly Håkansson (2008) on null arguments. In addition to the corpus, the grammars used in this thesis are Gordon (1927), Wessén (1966), Heusler (1967), Barnes (2004) and Faarlund (2004).

The study of ON poses problems that are different to those familiar to the student of Gothic or the early West Germanic languages. A large number of autochthonous prose texts are available, so that the philological issues of dealing with translations and verse texts do not need to concern us. On the other hand, the earliest texts at our disposal date from around 1150, which is markedly later than for

the other Germanic languages under consideration; the 'Old' Norse period is thus contemporaneous with Middle English and Middle High German. The language has thus had a considerable amount of time to undergo changes, and we find that ON is indeed substantially different from the other early Germanic languages, e.g. in having generalized verb-second in subordinate clauses. A further issue is the extent to which the comparatively uniform grammar underlying the transmitted texts was representative of many, any or all North Germanic speakers at the time of production (cf. Faarlund 2004: 2).

The texts used in this thesis are the earliest texts found in IcePaHC; the *First Grammatical Treatise* and samples of the *Íslensk hómilíubók* (12th century), the *Jarteinabók, Þorláks saga helga*, the *Íslendinga saga*, the theta manuscript of *Egils saga*, the *Jómsvíkinga saga*, the *Grey Goose Laws* and the *Morkinskinna* (13th century).

1.4.3 Old English

'Old English' (OE) refers to the West Germanic language spoken in parts of Great Britain from the earliest migrations until circa 1150. In contrast to the other West Germanic languages, a substantial body of prose material is available from the period between 800 and 1150, much of it original and not translated from Latin (e.g. Wulfstan's Homilies, the Anglo-Saxon Chronicle). A large amount of this material is contained within the York-Toronto-Helsinki Parsed Corpus of Old English Prose (Taylor *et al.* 2003), which I have used as my primary data source. Even in cases of translation it is in general safe to assume that we are dealing with native OE syntax, except in biblical translations (see Allen 1980a: 262 and Taylor 2008 for discussion). The parsed version of *Beowulf* from the York Parsed Corpus of Old English Poetry (Pintzuk & Plug 2001) has been used to supplement this large prose corpus.

Four main dialects of OE can be distinguished: Northumbrian, Mercian, Kentish and West Saxon. Since the vast majority of texts in the YCOE are West Saxon, other material, such as the data of Berndt (1956), has occasionally been used to supplement this; this becomes particularly relevant for work on null arguments. Reference works used in addition are Mitchell (1985) and Mitchell & Robinson (2007). Citations of OE examples are given from corpus tokens where possible; elsewhere, the short titles given in Mitchell, Ball & Cameron (1975, 1979) are used. A vast amount of work, both generative (e.g. Allen 1977, 1980a, 1980b, Koopman 1985, 1992, 1995, 1996, 1997, 1998, van Kemenade 1987, Pintzuk 1993, 1999, 2005, Fischer *et al.* 2000, Biberauer & Roberts 2005, 2008) and non-generative (e.g.

Visser 1963–1973, Kohonen 1978, Bean 1983, Mitchell 1985, Bech 2001, Davis & Bernhardt 2002, Cichosz 2010) has been done on the syntax of OE, particularly with regard to constituent order, and as a result discussion will often focus on whether the proposals made in these works are transferrable to the less well-studied Germanic languages.

1.4.4 Old High German

Old High German (OHG) is a cover term for a group of West Germanic dialects whose unifying feature is that they have all undergone the phonological change known as the Second Sound Shift to some extent (see e.g. Sonderegger 2003: 31, König 2005: 63); early texts from the north of the German-speaking area are thus not included (see section 1.4.5 on Old Saxon). OHG is usually taken to range from the earliest texts, in the eighth century, to around 1050. The surviving texts are mainly manuscripts from monasteries, and can be divided into 'dialects' according to their place of origin: Franconian, Alemannic or Bavarian.

We are not as fortunate with the OHG texts as we are with OE: all substantial texts are either verse texts or translations, although some of the latter, such as the *Isidor* translation, have been argued to be relatively free (Schlachter 2010: 13–15). Perhaps because of this deficit, there exists as yet no parsed corpus of OHG, and hence few recent quantitative studies. For the present work I have not attempted to remedy this, instead relying solely on grammars such as Braune & Eggers (1975) and recent theoretically-informed secondary work such as Schlachter (2010) and in particular Axel (2007).

1.4.5 Old Saxon

The third and final West Germanic language to have a textual tradition dating back to the first millennium AD is Old Saxon (OS), sometimes known as Old Low German. Two main texts exist from this period: the *Heliand*, a gospel harmony written in alliterative verse of 5,983 lines, and fragments of a version of the Genesis story, also in verse. Both can be dated to the first half of the 9th century.

Given the antiquity of these texts, it is surprising that, in comparison to the vast amount of work dealing with the syntax of OE, that of OS has rarely been given any serious attention, a lack noted elsewhere in the literature (e.g. by Linde 2009: 366). The extensive survey of verb position in the early Germanic languages by Eythórsson (1995) only mentions OS in passing. Moreover, for the most part,

traditional philological works on syntax (e.g. Behaghel 1897) and grammars in the philological tradition (e.g. Cordes & Holthausen 1973, Gallée & Tiefenbach 1993) have had nothing to say about the aspects of clause structure considered here. Among the few works dealing with the syntax of OS are Ries (1880), Rauch (1992), Erickson (1997), Dewey (2006), Breitbarth (2009) and Linde (2009); it is clear that the language is in need of further theoretically-informed empirical work. My own data, which I hope represent a step in this direction, consist of all 6229 finite clauses in the *Heliand*, using the Behaghel & Taeger (1996) edition.

Clauses were manually tagged for clause-type (main, conjunct, subordinate, relative, wh-question, yes-no question, imperative) and for verb position (initial, second, third, or later), polarity (the negation morpheme *ni*/*ne* proclitic to the finite verb), and various characteristics of the subject. It should be noted that subordinate clauses can be introduced by a wide range of elements. Some of these elements, such as *thar* 'there' and *thô* 'then', as well as serving as sentence adverbials of place and time in main clauses, can also introduce subordinate clauses; these two then receive the readings 'where' and 'when' respectively. In practice it is often difficult to distinguish between the two readings; verb position is a potential distinguishing factor, but, since the investigation of correlations between verb position and clause type is one of the objects of this study, using word order preconceptions to decide clause type would be unforgivably circular. Instead I have followed the readings indicated by the punctuation in Behaghel & Taeger (1996), though it may well be that some of these readings – and other editorial decisions – are wrong.

1.4.6 Other sources of evidence

The five languages mentioned above are the main ones I shall draw upon. However, as noted in section 1.4.2, mention is occasionally made of Old Swedish where relevant, as well as Old Dutch. In addition, it is necessary to say a few words here about the Germanic runic inscriptions. Modern scholarship usually takes these inscriptions, written in the Elder Futhark alphabet and attested between 200 and 800 AD, to be representative of the Northwest Germanic node of Figure 1.1, for the most part (Antonsen 1975, 2002; Nielsen 2000a). Few such inscriptions have survived, and many of these do not constitute full sentences; Faarlund (1989: 172, 1990: 21) estimates that of the 129 runic inscriptions known at the time of writing, 69 were full sentences, and Antonsen (1975: 24) states that there are 34 inscriptions in Northwest Germanic in which the position of the verb can be determined. In light of this extremely limited attestation, which is not unequivocal as regards the areas of

investigation of this thesis (cf. Faarlund 1990: 29, Eythórsson 1995: 180–189), I will not treat the language(s) represented by the runic inscriptions as a comparator in the same way as e.g. OE. Instead the evidence of the runic inscriptions will only be used as the broadest of heuristics against which to assess the reconstructions postulated. A similar stance is taken by Hopper (1975: 80).

Chapter 2: A methodology for syntactic reconstruction

2.1 Introduction

This chapter lays out a framework for the reconstruction of syntax. To do this it is necessary to establish a clear view on the locus and nature of syntactic variation across space and time. Section 2.2 of this chapter is therefore dedicated to the question of syntactic variation: here I defend an implementation of Principles & Parameters theory known as the Borer-Chomsky Conjecture (BCC) against the criticisms of Newmeyer (2004), showing that it makes more, and clearer, predictions than Newmeyer's rule-based alternative while remaining descriptively and explanatorily adequate. Section 2.3 addresses the question of syntactic change, arguing that it is desirable to reduce 'language' to individual grammars as assumed within the generative tradition, and that the task of diachronic linguistics then becomes to investigate the historical relationships between these grammars, mediated by transmission and acquisition. I also show, broadly following Roberts & Roussou (2003) and van Gelderen (2004, 2011), that directionality in syntactic change is not incompatible with this view of diachronic syntax as long as statements of directionality are reducible to properties of the acquirer's interaction with the primary linguistic data (PLD). These serve as precursors to section 2.4, in which an attempt is made to draw parallels between lexical-phonological and syntactic reconstruction, and, where these fail, to work around them as far as possible. It is shown that the BCC adopted in section 2.2 provides a straightforward way of extending the traditional notion of cognacy to syntax, although it is not always as straightforward to *establish* cognacy as it is in lexical-phonological reconstruction due to the 'correspondence problem' raised by Lightfoot and others. I then suggest that if cognacy can be established, then the postulation of items for the protolanguage is just as easy or difficult as it is in lexical-phonological reconstruction.

2.2 Modelling synchronic syntactic variation

2.2.1 The structure of syntactic variation

The general approach to the synchronic study of language taken here is a mentalist one, in which the object of inquiry is I-language, the linguistic knowledge of individual speakers (Chomsky 1986b; see Isac & Reiss 2008 for a recent introduction). Whatever the architecture of the innate universal endowment for

language, it must be possible for the faculty of language to exist in different states, as even the most superficial glance at linguistic diversity reveals. The rest of this subsection concentrates on the form that this variation takes, since the nature of syntactic variation is crucial to establishing whether or not traditional notions such as cognacy can be transferred into the syntactic domain. This subsection focuses on the general case of variation across individuals; variation within individuals, in some sense, is another logical possibility, and this question will be addressed in section 2.2.2, since it is highly relevant to the question of the spread of linguistic changes across both space and time. The 'primitives', syntactic features, will be discussed in section 2.2.3.

I shall take the position that the distribution of states of the faculty of language across the human population is a question that is not solely answerable in mentalist terms: in other words, that while the innate universal endowment for language delimits the hypothesis space, the state that an individual's I-language will attain is contingent on a wide range of other factors, the incorporation of which into a model of grammar would be redundant and misleading. This 'evolutionary' or 'substance-free' position has been most clearly and frequently stated with respect to phonology (e.g. Blevins 2004, Hale & Reiss 2008, Samuels 2011), though Chomsky (1995: 17–20) emphasizes the role of 'historical accident' and other idiosyncrasies, and Newmeyer (2005) offers a forceful defence of the position. The historical study of syntax may shed light onto these factors, and in this sense is complementary to internalist biolinguistic inquiry, as argued in section 1.3.

I thus concur with Kayne (2005) when he states that 'there is no problem' in the fact that a very limited number of choice points generates an astronomical number of possible grammars. There is no reason to expect the space of attested grammars to map to the space of possible grammars, or for the former to be randomly distributed among the latter, given what we know about diachrony. Furthermore, this large space does not necessarily present a learnability problem: poverty of the stimulus considerations only require that it be logically *possible* to acquire language on the basis of limited input in our theory, not that it be maximally easy.[1]

The perspective I shall assume on the relation between variation and the innate endowment is as stated in (1).

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[1] In any case, most parametric theories of acquisition only require acquirers to set a limited number of parameters, not to search the space of possible grammars (Kayne 2005: 14; though cf. Yang 2002).

(1) **The Borer-Chomsky Conjecture** (Baker 2008: 353)

All parameters of variation are attributable to the features of particular items (e.g., the functional heads) in the lexicon.

The approach, also known as the Lexical Parameterization Hypothesis (Manzini & Wexler 1987), is associated with current Minimalist syntactic theories, but has its origins in an earlier stage of the Principles & Parameters program (Borer 1984). Frameworks outside the Minimalist program have also made use of the notion: Buttery (2006: 99) employs it in building a computational model of first language acquisition in Categorial Grammar, and the notion of Constructicon in Construction Grammar bears some similarities (cf. Barðdal & Eythórsson 2011). The explanatory advantages of the approach are outlined by Borer (1984: 29):

> The inventory of inflectional rules and of grammatical formatives in any given language is idiosyncratic and learned on the basis of input data. If all interlanguage variation is attributable to that system, the burden of learning is placed exactly on that component of grammar for which there is strong evidence of learning: the vocabulary and its idiosyncratic properties.

I am not the first to suggest that syntactic reconstruction should be approached on the basis of (1): the possibility is suggested by Pires & Thomason (2008: 47) and Bowern (2008: 195). However, its implications for reconstruction have not been explored in detail, and this will be the main focus of section 2.4 below.

To fully understand the implications of the BCC it is necessary to contrast it with its conceptual predecessors. The Principles & Parameters approach, of which the BCC is usually considered part,[2] originated in Rizzi (1978) and Chomsky (1981). Parameters under this view were points of variation associated with particular principles (Chomsky 1986b: 150–151). Classic examples, often seen as 'macroparameters', are the *pro*-drop parameter of Chomsky (1981) and Rizzi (1982) and the Subjacency Parameter of Rizzi (1982: 49–76). On this view, the initial state of the language faculty was seen as a 'switchboard' attached to UG, with various options that could be set; Chomsky (1986b: 146) attributes this metaphor to James Higginbotham.

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[2] Boeckx (2010) takes a different view, distancing himself from the defence of parameters in Holmberg & Roberts (2010). However, the controversy seems to be mainly about whether it is appropriate to call the new, arguably epiphenomenal, points of variation 'parameters'. As such the question is terminological rather than contentful.

This model has come under fire from all sides in recent years (see Pica 2001; Newmeyer 2004, 2005, 2006; Boeckx 2010). Newmeyer's critique has been particularly influential, and will briefly be discussed here, along with the response of Roberts & Holmberg (2005) and Holmberg & Roberts (2010). Newmeyer takes issue with what he terms the 'standard story', given by (2) (his (8)).

(2) (a) Parameters are descriptively simple, whereas rules are (generally) not.
     (b) Parameters have binary settings (an idea which is inapplicable to rules).
     (c) Parameters are small in number; the number of rules is open-ended.
     (d) Parameters are hierarchically/implicationally organized, thereby accounting for both order of first language acquisition and typological generalizations (there is nothing comparable for rules).
     (e) Parameters are abstract entities with a rich deductive structure, making possible the prediction of (unexpected) clusterings of morphosyntactic properties.
     (f) Parameters and the set of their possible settings are innate (and therefore universal). Rules are not (normally) assumed to be drawn from an innate set.
     (g) Parameter settings are easily learned, while rules are learned with greater difficulty.
     (h) Parametric change is markedly different from rule-based change (such as grammaticalization and morphological change).

The thrust of Newmeyer's argument is that the empirical expectations of the traditional Principles & Parameters model, in which it was hoped that a small number of parameters would be discovered along with 'clusterings' of properties, have not been met. This point is usually conceded by researchers in the framework (Baker 1996, 2008; Pica 2001). As a result, he concludes, points (a)–(h) above are impossible to maintain. Instead Newmeyer advocates an alternative position in which 'language-particular differences are captured by differences in language-particular rules' (2004: 183).

Points (a), (b) and (e) seem largely to be issues of notation. With regard to (a), Newmeyer (2004: 189) assumes that 'parameters are motivated only to the extent that they lead overall to more formal simplicity', and that a descriptively adequate theory of parameters and a descriptively adequate theory of rules are notational variants of one another; hence, for him, rules should be preferred. Roberts & Holmberg (2005) do not dispute the latter assumption, but reject the former, since

their motivation in positing parameters is explanatory adequacy rather than formal simplicity, and the two do not always coincide. Similarly, Roberts & Holmberg suggest that (b), binarity, is simply 'a matter of formulation' and thus does not bear on the issue of parameters vs. rules, since the key assumption, discreteness, is shared by both. Point (e) can be treated likewise: both rules and (macro- and micro-)parameters can predict clusterings if properly formulated; obviously the extent to which the clustering holds is an empirical question.

With regard to (c), Newmeyer's case is stronger: he points out that, if we take the 'switchboard' approach, then a parametric model becomes increasingly evolutionarily implausible under the assumption that those parts of the language faculty related to syntax are most likely to have evolved via a simple mutation (cf. Berwick & Chomsky 2011: 29). The question is then one of 'evolutionary adequacy' (Longobardi 2003). Roberts & Holmberg (2005) concede this point, suggesting that 'parameters are not really primitives of UG, but rather represent points of underspecification which must be filled in in order for the system to become operative'. Under this view, compatible with the BCC, parameters are no longer innate (if innate is understood to mean genetically specified), and the switchboard metaphor is no more than a metaphor.

Point (d) relates to the hierarchies of parameters developed by Baker (2001) and subsequent work. In this view there are implicational relationships between parameters, such that, for instance, a language only has a value specified for the Subject Placement parameter if it has a positive value for the Verb Attraction parameter, which in turn only has a value specified if the Subject Side parameter is set to 'beginning' rather than 'end'. Newmeyer (2004: 199–201) raises a large number of empirical problems for Baker's (2001) parameter hierarchy, and implies on this basis that the attempt to develop such hierarchies is futile: 'they do not work' (2004: 201). Roberts & Holmberg (2005) rightly take issue with this, and suggest that the predictive power of such hierarchies is worth the difficulty of attempting to establish them. In more recent work (e.g. Holmberg & Roberts 2010), specific implementations of parameter hierarchies have been proposed, along with the suggestion that macroparameters are aggregates of microparameters acting together (cf. also the 'principles and schemata' approach of Longobardi 2005).[3] Assuming the underspecification view of 'parameters' sketched in the previous paragraph, such

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[3] This is comparable to the view sketched by Baker (2008: 354, fn. 2) according to which 'languages can differ in the properties that large classes of lexical items have'. A model of variation based on this notion, along with 'generalization of the input' (see section 2.3.2), is highly compatible with the conception of regularity in syntactic change outlined in Walkden (2009: 38–40) and in section 2.4. In this model it may be that the notion of hierarchy can be dispensed with.

hierarchies, *if* they can be established in such a way as to be plausible empirically and from the point of view of acquisition, are in principle compatible with the BCC insofar as they are taken to be epiphenomena, not genetically specified *per se* but representing a way in which we can understand the learning process. This is close to the way in which these hierarchies are understood by Holmberg & Roberts (2010: 51), who suggest that they 'arise from third-factor properties' in the sense of Chomsky (2005: 6). The question of hierarchical organization, then, remains an open one.

Points (f), (g) and (h) are related in that innateness feeds into learnability, which in turn feeds into change, and in all cases Newmeyer assumes that 'parameters are complemented by rules in the marked periphery' (2004: 213). If such a periphery exists and is acquirable, he argues, then 'learners have to acquire rules anyway', and this undermines the need for a distinct parametric core. In their response, Roberts & Holmberg (2005) argue that this assumption is unnecessary, and that there is no need for a 'marked periphery' (following the mainstream view; though cf. Smith & Law 2009). They concede that Lightfoot's (1991) diagnostics for parametric change as opposed to rule-based change are not reliable, as argued by Harris & Campbell (1995: 37–45). Instead they suggest a model in which there are only two types of change: parametric change and lexical change. In the model I assume here, based on the BCC, there is only one type of change, namely lexical change. In any case, I concur with Roberts & Holmberg (2005) that the issue is not a telling one with regard to parametric theory in general.

Roberts & Holmberg's (2005) main objection to Newmeyer's proposal is that the alternative he suggests, language-particular rules, is unrestrictive. Newmeyer (2004: 185) in fact acknowledges this potential criticism but does little to stave it off, beyond arguing that performance factors may be implicated in shaping individual grammars. The influence of such factors is in my view inevitable, and here I find Newmeyer's argument compelling; see section 2.3. But issues with the rule-based alternative remain. As Holmberg & Roberts (2010: 25) point out, the class of potential rules is infinite, giving rise to a serious acquisition problem. Furthermore, it is not clear what the primitives of a rule-based system are, or what constrains them. Newmeyer states his rules in natural language, as in (3).

(3)   English: Complements are to the right of the head. (2004: 184)

But nothing in Newmeyer's system prohibits the introduction of rules such as (4).

(4)   Move the second word in the sentence to the beginning of the sentence.

However, it has long been known that acquirers do not posit rules such as (4): this restriction is known as *structure-dependence* (Chomsky 1957). It is not straightforwardly possible to formulate a lexical specification equivalent in derivational outcome to (4), assuming the BCC. It will not do to point at performance factors to explain the unviability of (4); the rule is certainly logically possible, and toy 'languages' can be constructed that make use of such a rule without becoming unprocessable. At the very least a plausible argument from performance against rules such as (4) would need to be constructed. The rule-based alternative seems, then, to be too permissive.

In sum, a view of syntactic variation based on the BCC (1) is demonstrably superior, in terms of descriptive and evolutionary adequacy, to the traditional approach adopted within the Principles & Parameters framework, while at the same time being immune to the bite of Newmeyer's (2004) criticisms of the latter. Furthermore, while not being overly restrictive, it makes more, and clearer, predictions about possible languages than the rule-based alternative advocated by Newmeyer.

2.2.2 The question of free variation

In linguistic theory, a postulate such as (5) is commonplace.

(5)   **Blocking Effect**
       Within a grammar, interpretively identical lexical items cannot exist.

Motivation for (5) comes from two different sources. First, as well documented for morphology (Aronoff 1976) and imported into syntax by Clark (1992) and Kroch (1994), such an effect seems to be a reasonable empirical generalization. Children who overgeneralize regular morphology during the acquisition process, for instance, do not admit variation between regular and irregular forms when they eventually learn the latter (Kroch 1994: 6). Furthermore, on the lexical level, formations such as *clearness* appear to be blocked by pre-existing competing forms such as *clarity* (Kroch 1994: 8). Kroch views the effect as 'a global economy constraint on the storage of formatives' that is active during acquisition (1994: 17). Assuming the BCC, (5) applies to syntax as it does to the rest of the lexicon.

Second, a version of the Blocking Effect can also be derived from the principles of early Minimalism, namely Last Resort ('don't do too much') and Full Interpretation ('don't do too little'); see Chomsky (1995), Biberauer & Richards (2006). Fox (2000) and Reinhart (1995) argue on this basis that 'optional' operations

are only permitted when they allow an interpretation that would not otherwise be available: in other words, 'an optional rule can apply only when necessary to yield a new outcome' (Chomsky 2001: 34).[4] Optionality understood this way, then, is not optionality at all.

In addition to (5), two further assumptions often implicitly adopted are (6) and (7), which will be elucidated in what follows.

(6)   **Monoglossia**
        A single speaker has a single grammar for a single language.

(7)   **Derivational Determinism**
        For a given selection of lexical items, there is only one possible derivational outcome.

The conjunction of (5), (6) and (7), however, excludes the possibility of 'free variation' at the individual level, in the traditional sense of interpretively vacuous alternations. To avoid this consequence, there are three obvious options: deny (5), deny (6), or deny (7). All of these options have been proposed in the literature, and I will discuss each in turn.

The most commonly taken option is to deny (6), the assumption of monoglossia. The theory of 'competing grammars' resulting from this is due to Kroch (1989, 1994) and has been applied to various languages, particularly historically attested ones, e.g. by Pintzuk (1999) for Old English. Several considerations speak in favour of a variant of this approach. Most important is the fact that (6) must be rejected in any case, since it is entirely possible for individuals to be natively bilingual, and indeed bidialectal (see e.g. Roberts 2007: 324). The innovation is the extension of this concept of 'syntactic diglossia' to more fine-grained intra-speaker differences.

It is worth noting that, although studies in the competing grammars framework have typically assumed a theory of syntax containing headedness parameters rather than the asymmetric view due to Kayne (1994) and adopted here, nothing about the framework *per se* requires such a theory: a Kaynean view of linearization is perfectly compatible with competing grammars, as shown by Wallenberg (2009: 117), who develops an account involving both. Another necessary clarification is that 'competing grammars' are not thought to involve

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[4] The original rationale, as proposed by Fox and Reinhart, is not available in current Minimalism, since Last Resort and comparison of derivations are no longer admitted. Chomsky's formulation therefore follows from nothing directly, though can be argued to be a 'third factor' effect.

massive redundancy for the many identical features involved; instead, the two grammars share a large amount of material (under the approach adopted here, to be understood as lexical items), diverging only where differences are found.

Since (6) is so obviously false, some form of the competing grammars hypothesis must be correct. However, certain problems remain.[5] As Roberts (2007: 325) notes, the concept of 'syntactic diglossia' is often generalized to cases in which no functional motivation for the use of one or other grammar is adduced. For instance, in the work of Pintzuk (1999, 2005), grammars with head-initial IP and head-final IP are argued to be at work in a single Old English text, Alfred's translation of Gregory's *Cura pastoralis*, but no discussion is provided of the contexts in which each grammar is appropriate; indeed, there seem to be no such contexts, and there is then no principled distinction to be drawn between the competing grammars approach and positing ad hoc 'diacritic' features [＋F], [–F]. This becomes a problem when we examine the notion of 'grammar'. Kroch (1989, 1994) does not provide an explicit definition of this notion, which must therefore remain intuitive. But the notion is problematic in the context of the BCC. Since differences between grammars are attributable to differences in lexical items, the only sensible way to view competing grammars under the BCC is as two separate mental bins that separate, for instance, the lexical items that constitute a 'high' grammar from those of a 'low' one (in the terminology of Ferguson 1959). This is not clearly distinguishable from the result of postulating lexical features [＋high] and [＋low] (or [＋English] and [＋French]). As I will argue in the next section, this is not an unreasonable way of representing conceptual knowledge, and obviates the need for reference to the ill-defined concept of 'grammars'. But in cases where the two grammars are not functionally/contextually distinguishable, simply [＋Grammar1] and [＋Grammar2], we would expect the Blocking Effect in (5) to rule out the postulation of two separate grammars just as it would rule out two interpretively identical lexical items.[6]

My conclusion as regards competing grammars, then, is similar to that of Roberts (2007: 331): in principle they represent a useful tool for understanding variation and the process of change, but they need to be employed with caution, as positing two grammars in free variation is no more plausible than postulating two

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[5] The argument that competing grammars give rise to learnability problems is controversial (cf. Kroch 1994: 184, 2001: 722; Niyogi 2006: 336; Roberts 2007: 328), and I do not consider it further here.

[6] This problem is particularly severe for the model of acquisition of Yang (2002), in which the proliferation of vast numbers of probabilistically-activated grammars during acquisition would be predicted to remove all semblance of discreteness in child linguistic judgements and production, rendering the Blocking Effect vacuous.

lexical items in free variation. In addition, I have suggested that what have been called 'competing grammars' are better viewed as 'competing lexical items' like any others, with distinct feature specifications.

Henry (1995, 2002, Wilson & Henry 1998) takes a different route, rejecting the Blocking Effect in (5). She concludes (debatably) that competing grammars are unable to allow for differing frequencies of use across sentence types and for stable variation across long periods of time, and criticizes Kroch for failing to 'grasp the nettle' (2002: 272) and accept variability within a single grammar: 'a better characterization seems to be that individual structures/parameter settings are variable, rather than that there are actually separate grammars' (2002: 274). Adger (2006) likewise rejects (5), or at least weakens it. In Adger's scheme (2006: 510), featurally identical lexical items may not exist, but featurally non-identical lexical items may be non-distinct in their contribution to interpretation as long as they differ only in uninterpretable features. Interpretively identical lexical items with differing feature specifications can thus coexist: Adger refers to this as 'underspecification'. Since I find the empirical and conceptual arguments for (5) compelling, not least because it enforces greater restrictiveness in theory-construction, I cannot here adopt Henry's or Adger's account of variability.

A third possibility is explored by Biberauer & Richards (2006) and exploited for diachronic purposes in Biberauer & Roberts (2005, 2008, 2009). The core of their proposal is that, while movement-triggering EPP features associated with agreement relations must be satisfied, the computational system simply 'doesn't mind' whether they are satisfied by movement of the Goal alone or by pied-piping of additional structure. In Modern Spoken Afrikaans, for instance, an alternation between embedded V-final and V2 obtains, as in (8) and (9), and is claimed to be semantically vacuous.

(8)   Ek weet dat sy dikwels Chopin gespeel het
        I know that she often Chopin played has
(9)   Ek weet dat sy het dikwels Chopin gespeel
        I know that she has often Chopin played
        'I know that she has often played Chopin.'

This is derived if the finite verb is in T^0 and the EPP feature of T^0 may be satisfied either via movement of the DP subject from SpecvP to SpecTP, yielding V2, or via pied-piping of the entire vP. Though (5) and (6) are maintained in Biberauer & Richards's (2006) account, then, the assumption of derivational determinism (7) is

abandoned, since one and the same numeration may lead to different outcomes at the interface.

Though the account elegantly exploits a loophole in Minimalist syntactic theory with regard to satisfaction of movement-triggering features, some of the assumptions it makes are not uncontroversial. In particular, it is not clear that it is more Minimalist for the grammar to be indifferent with regard to the size of the moved category; one might alternatively expect that in such cases the category moved would always be the smallest possible structure, in order to minimize 'heavy lifting', as proposed by Chomsky (1995: 262) (or indeed the largest, in order to maximize the amount of lifting being done in one go). Biberauer & Richards (2006) do not argue for the 'computationally innocuous' nature of their system as opposed to these alternatives. Similarly, the data do not support their account of variability over others, since it is possible to account for them in other ways, for instance in terms of competing grammars (cf. Wallenberg 2009: 100–145). Most problematically, the abandonment of (7) leaves it entirely unclear what determines which of the two options will be taken in a given derivation. Biberauer & Richards imply that nothing determines this choice. But this cannot be the case, since such a nondeterministic algorithm is unimplementable: faced with complete indeterminacy, the derivation must 'roll the dice' or crash, neither of which are desirable outcomes. It is also not clear that the approach of Biberauer & Richards (2006) can be generalized to all cases of syntactic variation beyond Germanic verb position.[7]

I have argued, then, that none of the approaches to the 'question of free variation' have succeeded in solving it without considerable cost: the abandonment of (6), though it is trivially false, does not resolve the situation, and (5) and (7) cannot reasonably be abandoned. There is, however, a fourth possibility, namely the rejection of the implicit assumption made throughout this section: that free variation exists. Obviously, if free variation did not exist then predicting its non-existence would not be a problem. In fact, the history of syntactic research reveals a gradual whittling down of the numbers of cases of what appear to be free variation. As Diesing (1992, 1997) shows, for instance, the possibilities for scrambling in the German *Mittelfeld*, which on the surface exhibit a great deal of freedom, are actually restricted by subtle considerations of specificity and scope:

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[7] A dramatically different approach to the question of free variation is to encode probabilities in the grammar itself, as in Stochastic Optimality Theory: see Clark (2004) for an application of this to historical syntax. I do not adopt this approach here, because of doubts about its psychological plausibility: see, for instance, Hale's (2007: 180–190) discussion of Bresnan & Deo's (2001) 'Fallacy of Reified Ignorance'.

(10)   Er hat oft ein Buch gelesen
        He has often a book read
        'He often read a (non-specific) book.'
(11)   Er hat ein Buch oft gelesen
        He has a book often read
        'There is a book that he often read.'

Similarly, in recent years the alternation between V2 and non-V2 in Mainland Scandinavian subordinate clauses has been shown to be related to illocutionary force (Julien 2007, Wiklund 2010). If the considerations in this section (including (5)–(7)) are on the right track, then true free variation is psychologically implausible.

Biberauer & Richards (2006) claim that 'true, semantically vacuous optionality is … prevalent in human language'; however, apparent cases may reduce to instances of variation with subtle conditioning, which may not be 'semantic' in the strict (truth-conditional) sense, but rather functional or contextual. I take it that the conceptual-intentional component of the mind contains such notions in a way to be elaborated upon in the next section. At any rate a methodological point must be made: our inability to perceive the conditions on variation does not mean that those conditions do not exist.[8] Roberts (2007: 331) makes a similar point:

> we cannot exclude the possibility that the competing grammars postulated by Kroch, Pintzuk, and others for the early stages of various languages for which we have little or no sociolinguistic information, did have a social value whose nature has been completely obscured by the passage of time and the nature of the extant texts.

Extrapolating from an artefact of our methodological limitations to making an ontological claim about the status of variation in a historically attested language is clearly a category error. In what follows I will therefore assume, where I am unable to establish the exact nature of a conditioning factor, that such a factor existed in the form of a lexical feature of some kind. Admission of ignorance is only healthy.

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[8] It is telling that those languages for which the competing grammars framework has been most heavily used in its 'diacritic' form are those with no living native speakers, e.g. earlier stages of English, French and Yiddish.

2.2.3 Syntactic features

In this subsection I discuss the features entering into syntactic computation. First, observe that the alternation between (12) and (13) is not normally taken as parallel to the alternation between (14) and (15).

(12)   Thus you have washed the dishes.

(13)   Thus have you washed the dishes.

(14)   You have washed the dishes.

(15)   Have you washed the dishes?

In (15), it is usually assumed that there is a feature present in the derivation that is absent in (14), for example [Q] associated with C^0 (e.g. Radford 1997: 108), and that its presence is related to movement of the auxiliary. By contrast, (13) has a markedly more archaic flavour than (12), yet it is not usual to account for the difference in terms of a feature [archaic] associated with C^0 in this case. Instead, it is usually assumed that the speaker has access to multiple varieties, and that a 'user's manual' regulates the choice between them (e.g. Culy 1996: 114). The question is: why are these two alternations not treated in a parallel fashion? In what follows I argue that there is no principled reason for this disparity, and that 'social knowledge' should be treated as part of the lexicon, with the possibility to 'enter into' syntactic computation.

In approaches to phonology that are similar to the one that I assume here for syntax, it is usually assumed that among the universal aspects of phonological knowledge, alongside some combinatorial process for constructing phonological representations, are phonological features (Blevins 2004: 41; Samuels 2011: 576). However, these features are substance-free in that their phonetic interpretation does not play a role in phonological computation, as Samuels emphasizes. A crucial consideration pointing in this direction comes from signed languages: although it is uncontroversial that these languages have phonology (see e.g. Brentari 1998), it is even clearer that the phonological primitives cannot make reference to, for example, bilabial articulation, or voicing; see Mielke (2008) and Samuels (2009: 46–72) for extended arguments against the innateness of specific distinctive features in phonology and in favour of an 'emergent' alternative. What is universal, then, can only be a schema for features rather than contentful features themselves. If hooked up to different production and perception systems, phonological computation may operate identically on a disjoint set of primitives.

I would like to suggest that the same is true of syntactic features. Specifically, universally available is a format for features, which (consistent with section 1.3) I assume is an attribute–value pairing. In addition, there is an Edge Feature marking a lexical item as a phase head, and the possibility for a diacritic ˆ triggering movement. C-selection features may also exist. The semantic–pragmatic specifics of features are taken not to play a role in the syntactic computation *per se*. This picture seems consistent with a Minimalist view of the syntactic component; in the ideal case, even these few specifications are (virtually) conceptually necessary. The intuition is that, if hooked up to a different conceptual-intentional system, syntactic computation may operate identically on a disjoint set of primitives.

It follows that there is no set of features 'provided by UG' in the sense of being specified in the *syntactic* component. Whether there is a set of semantically or pragmatically universal features, of course, remains an open question, as does the issue of the cartographic hierarchy: insofar as it is correct (see e.g. Nilsen 2003), it must be derived exclusively from semantic/conceptual considerations rather than encoded as a selectional sequence of heads as implied in Cinque (1999). Again, from a Minimalist perspective I take this to be a welcome result. Questions of learnability also play a role in what features enter into the syntax, of course: as Plaster & Polinsky (2010) emphasize, acquirers cannot be expected to build linguistic systems around complex, culture-specific conceptual-semantic information to which they have no access.

The approach taken here is similar to that of Zeijlstra (2008). In terms of Zeijlstra's *Flexible Formal Feature Hypothesis*, features are analysed as formal features able to project a functional projection if doubling is present in the input during acquisition (2008: 145). Abstracting away from his implementation and the question of whether doubling is a correct diagnostic, the crucial point is that positive evidence is required in the primary linguistic data in order for a feature to be analysed as 'formal' and enter into syntactic computation.[9] Like the present approach, this hypothesis avoids 'stipulating a set of formal features that is uniform across languages' (2008: 145).

Once these considerations are taken into account, there is no reason to distinguish between traditional 'semantic' features such as tense and negation and more 'social' features such as register. This too is a welcome result, for various reasons. First, it allows us to bring alternations such as that between (12) and (13) within the ambit of syntactic theory and out of the less well understood realm of the

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[9] The precise definition of PLD varies in the literature, as noted by Hale (1998: 1, fn. 1). I here take it to be the input to the linguistic learning system in the acquirer's mind rather than a raw acoustic stream.

'user's manual'; in fact, it renders the notion of such a manual redundant. Second, it meshes with a body of work on 'social meaning' (e.g. Campbell-Kibler 2010) that focuses on social knowledge as it enters into cognition; this type of knowledge is compatible with, and in fact presupposes, a mentalist approach to language. Note that there is no blurring of the competence-performance distinction here. Society and social situations do not enter into the theory; knowledge of language and use of language are kept strictly separate, with knowledge of the situational appropriateness of specific linguistic forms a part of the former. The theory of variation expounded upon here remains a theory of competence.[10]

Culy (1996), after considering three theories of null objects in English recipes and concluding that an empty-category approach is the most promising, does an about-turn and abandons the approach on the basis that 'the regularities of registers ... should not be expressed in the grammar per se' (1996: 112). Culy does not provide justification for this perspective beyond asserting that 'we must distinguish between a language and its uses'; while I agree with this statement, it is still possible and necessary to incorporate *knowledge of use* into a theory of linguistic knowledge, as I have argued above.[11]

To summarize section 2.2, the main features of the model of syntactic variation I have proposed are presented in (16).

(16) (a) The human language faculty delimits the space of possible grammars.

(b) 'Parameters' are attributable to differences in the feature specifications of lexical items (the BCC).

(c) For some features of individual grammars or apparent generalizations, a historical explanation may be more enlightening than a synchronic one ('substance-free' or 'evolutionary' syntax).

(d) There is no such thing as 'free variation'.

(e) The set of features that enter into syntactic computation is not universal, but those features have a universal format.

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[10] For other critiques of the strict separation of social and grammatical knowledge, see Hudson (1996), Bender (1999) and Paolillo (2000). The approach taken here is similar to that of Bailey (1996) in modelling the varieties at the speaker's disposal within a single grammar: Bailey himself, however, rejects the notion that social knowledge should be part of the grammar *per se* (e.g. 1996: 61).

[11] Cf. Bender (1999) for further critique. Culy's further claim that a null pronoun analysis involves 'complicating the ontology of categories' (1996: 113) by admitting empty categories would not be taken seriously by many researchers nowadays, since the motivation for phonologically null elements has been repeatedly demonstrated independently of this specific case.

(f)　　'Social' and 'pragmatic' features as well as 'semantic' features may enter into syntactic computation, which is blind to featural content.

With these points in mind, let us turn to variation over time, and change.

2.3 Modelling diachronic syntactic variation

2.3.1 I-language, acquisition and change

The approach to syntactic change taken here is based on the approach to syntactic variation outlined above. In that sense it is an 'I-language approach', in the tradition of Lightfoot (1979, 1999, 2006), Hale (1998, 2007) and Roberts (2007), among others.[12,13] It is important to realize, however, that there can exist no pure I-language approach to diachronic syntax, in that a crucial element of all diachronic linguistics is the postulation of historical relations between grammars. Crisma & Longobardi (2009: 5) provide a semi-formal version of this implicit notion:

(17)　　An I-language L2 derives from an I-language L1 iff
　　　　(a)　　L2 is acquired on the basis of a primary corpus generated by L1, or
　　　　(b)　　L2 derives from L3 and L3 is derived from L1.
(18)　　**H-relation:** Two linguistic objects X and Y (I-languages or subparts of them) are in an H-relation if and only if one derives from the other or there is a Z from which both derive.

Change, then, refers to the case in which L1 and L2 are non-identical. It is straightforward to see that this definition is not free of E-language notions. The idea of 'primary corpus' itself, for instance, cannot be defined in I-language terms: since we know that speakers cannot pass structures directly to hearers, the primary corpus must be a set of sentences, plausibly a proper subset of the weak generative capacity of L1. But weak generative capacity is an E-language notion, as Chomsky (1986b: 149–150, fn. 89) makes clear. Moreover, it is not a random subset, since the

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[12] The idea that 'language is not an object which has a reality of its own independent of its speakers' is associated with Chomskyan linguistics, but was also an important founding principle of the Neogrammarian school, setting them apart from earlier thinkers such as Schleicher (Morpurgo Davies 1998: 230–233).

[13] Under the Minimalist assumption that the syntactic component itself is invariant, with change limited to the lexicon (the BCC), syntactic change as such does not exist; this point is made by Hale (1998, 2007). Though this may seem a terminological triviality, the BCC does have consequences for a theory of change, as section 2.4 shows.

sentences comprising the primary corpus are determined by all sorts of contingent facts about the environment, the desires and motivations of the speaker, which way the wind is blowing (determining whether or not the sentences are audible), etc. In addition, since speakers are fallible in production, speech errors – sentences that are not generated by L1 – may occur as part of the primary corpus, such that the primary corpus can no longer even be defined as a proper subset of L1's weak generative capacity.

Furthermore, the definition in (17) is insufficient in a crucial respect: the 'primary corpus' on the basis of which L2 is acquired is, in the standard case, *not* generated by the grammar of a single individual: rather, it consists of sentences uttered by many different individuals, e.g. parents, carers and peers, who may very well have grammars that differ in subtle ways. In other words, the classic 'Z-model' of language transmission due to Andersen (1973), given in figure 2.1, is an idealization that is untenable.[14] By consequence, the notion of H-relation in (18) becomes either very permissive or very restrictive: is L2 in an H-relation with all of the grammars underlying the primary corpus? Does this hold when one of these grammars is of a different 'dialect', or a different 'language', or in the case that the primary corpus contains sentences produced by a second-language speaker? And how do we define 'change'?

Figure 2.1: The Z-model of Andersen (1973: 767)
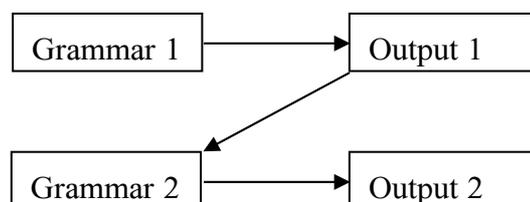
All this is not to say that a more adequate definition of historical relation could not be formalized; merely that such a definition would inevitably require reference to non-I-language notions. As Andersen (1973) makes clear, the transmission of language must pass through the gulf between speaker and hearer, through a cloud of murky E-language.[15]

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[14] For technical discussion of this idealization, and an attempt to establish a class of models of acquisition that do not assume it, see Niyogi & Berwick (2009).

[15] For this reason I reject Lightfoot's (2006: 66–86) characterization of work such as Gibson & Wexler (1994) and Clark (1992) as 'E-language approaches' to acquisition, as opposed to his own 'I-language approach'; in fact, all three of these works subscribe to the E-language/I-language distinction, differing only in that they model the interaction between innate capabilities and

It is clear that a diachronic linguistics without historical relations would be toothless and bizarre.[16] As Hale (1998: 1) observes:

> If we adopt I-language as the proper object of study for diachronic linguistics, as it is for synchronic, such traditional questions as "How was V2 lost in English?" cease to be sensible. In spite of this seemingly dire consequence, I will argue here that, contrary to much theoretical work in the area of historical linguistics, we must make I-language the object of our study.

Although Hale correctly identifies this consequence as dire, he does not draw the obvious conclusion: if the questions we want to ask turn out to be unformulable in purely I-language terms, then a purely I-language approach to historical linguistics must be rejected.[17] In Hale's approach to the pretheoretical notion of 'change', however, such questions are not in fact unformulable, and can be answered with reference to an actuation event (Weinreich, Labov & Herzog 1968: 102; Hale's sense of the word 'change') plus an explanation of its diffusion. Although Hale classes diffusion as 'simply not an I-language phenomenon' and thus 'irrelevant for those interested in studying the properties of I-language' (1998: 6), he closes his article by discussing 'the loss of [a] ... property of Latin on the way to Romance' (1998: 16–17): this 'loss' (a change in the pretheoretical sense) must involve both actuation and diffusion, of course, and is stated here not in terms of individual grammars but in terms of vague E-language notions ('Latin' and 'Romance'). There is nothing wrong with this; indeed, there is no other approach to historical linguistics. The point is simply that the questions that historical linguists are interested in asking cannot be answered exclusively by reference to I-language. This does not, of course, entail that we should give up on looking at I-language; in fact, I argue in what follows that thinking of 'change' in I-language terms enables us to gain a much better understanding of it, following Hale, Lightfoot and others.

The actuation-diffusion distinction, as Hale views it, is also not clear-cut from a nuanced I-language perspective. Diffusion, for Hale, 'represents the trivial

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experience in varying ways. Lightfoot, however, is usually careful to highlight the relevance of E-language notions to historical syntax (see e.g. 2006: 15).

[16] Faarlund (1990: 32) makes a similar point: 'If a language only exists in the minds or brains of each individual speaker, then it will die with the speaker. Thus it does not make sense to talk of linguistic change except in the trivial case of changes in one person's language through his or her lifetime.'

[17] On this basis, Bailey (1996: 244) denies the fruitfulness of the I-language ('static', 'minilectal') approach altogether.

case of acquisition: accurate transmission' (1998: 5). However, once we allow that the input to the acquirer may consist of data generated by multiple grammars, the question then becomes: accurate transmission of what? Hale rejects the view expressed in Niyogi & Berwick (1995) and Lightfoot (1997) that 'mixed PLD' may be involved in change, suggesting that this is 'strongly counterindicated by known observations regarding the acquisition process' (1998: 4), observing that children exposed to an environment in which 70% of their input is in French and 30% in English do not typically acquire a 'mixed' grammar. However, it is then asserted that 'acquisition of multiple "dialects" of one "language" is just as trivial as is the acquisition of multiple "languages", and that therefore 'acquisition of more than one grammar (given sufficient exposure to both) is the *only* outcome we should be considering' (1998: 4–5). While it is true that there is no distinction between 'language' and 'dialect' in I-language terms, it does not follow that the acquirer will always be capable of discerning which grammar underlies the input. While 'English' and 'French' grammars are sufficiently different to render this possible, it is not necessarily so easy when the two input grammars are varieties of 'English' that differ in subtle ways: here it is conceivable that the acquirer would be unable to distinguish. There is no logical basis, then, for the implicit denial that acquirers ever conflate input from different sources, and hence no argument against 'mixed PLD' explanations for change. Moreover, even assuming that a definition of historical relation can be formulated that distinguishes actuation and diffusion on a principled basis, some cases of apparent diffusion as 'accurate transmission' may nevertheless in fact be instances of 'multiple reactuation', where the same actuation process is triggered in multiple speakers (see Willis 1998: 47–48). Hale simply states that this 'does not seem *a priori* particularly likely'.

In the preceding discussion it has been assumed that, taking an I-language-informed view of historical linguistics, an instance of 'change' can be defined as two grammars in a historical relation with one another that are distinct. This is presumably what authors such as van Kemenade (2007: 156) mean when they refer to 'grammar (I-language) change'; if this and only this is to be classed as 'change', it follows that the locus of language change is language acquisition, as van Kemenade argues. Another logical possibility, of course, is change in the I-language over the course of a speaker's lifetime. This possibility is usually glossed over by generative syntacticians interested in historical linguistics: Crisma & Longobardi assert that 'within an I-language, there seems to be no such a thing as change' (2009: 4), though they admit that changes do in fact occur later in life (2009: 5).[18]

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[18] In addition to the obvious case of the radical changes that take place within a single I-language during acquisition.

Hale (1998) does not mention change during the lifetime. Faarlund (1990: 9) claims to defend 'on the basis of logical inference' that the locus of linguistic change is language acquisition by new generations. This logical inference seems to amount to stipulation: although 'the internalized grammar of an adult speaker may change', Faarlund states that 'such changes do not constitute a diachronic linguistic change until a future generation of speakers have adopted the mixed system as their own' (1990: 10).

There is by now substantial evidence that speakers' grammars may change in nontrivial ways throughout their lifetimes. For instance, Sankoff & Blondeau (2007) demonstrate a change from apical to posterior /r/ in Montreal French, and Sankoff (2008) discusses a syntactic change, namely replacement of the inflected future with the periphrastic *aller* 'to go' + infinitive. Assertions such as that of Meisel (2011: 123) that such lifespan changes 'do not involve reanalyses of grammars' (see also the 'A-rules' of Andersen 1973) simply beg the question. The claim that the locus of language change is language acquisition, then, is subject to the same criticisms that Campbell (2001: 133) levels at the notion of unidirectionality in grammaticalization: either it is built into the definition of I-language approaches to syntactic change (as with Faarlund 1990), and is thus true but empirically vacuous, or is an empirical hypothesis stating that I-language change during the lifespan does not occur, and is false.

However, this should not be taken to undermine the thesis that first language acquisition is of great importance for language change. Evidence for a 'critical period' in acquisition, a hypothesis first proposed by Lenneberg (1967), has accumulated over the years.[19] The central idea is that the interaction between the innate human capacity for language and the PLD is different in young children from that of adults. Much acquisition research is devoted to exploring the extent of this difference, the ages at which it holds, whether there is a precise cut-off or rather a tail-off in acquisition 'ability', and whether the differences are qualitative or quantitative, and these are all interesting empirical questions; see Hawkins (2001) and White (2003) for two generative introductions, and Meisel (2011) for a recent discussion bearing on diachrony. Though it has its origins in the mentalist approach to language, some version of the critical period hypothesis is accepted by all serious linguists nowadays (see e.g. Dahl 2004: 294; Trask 1999: 63–64; Trudgill 1989, 1996, 2011: ch. 2). While Hale (2007: 44) states that he does not believe in 'what is

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[19] *Pace* Roberts (2007: 322), the existence of a critical period is not necessary to account for the independent fact that the amount of data available to the acquirer is finite (Niyogi & Berwick 1995: 2; Niyogi 2006: 19); this fact already follows from human mortality, in conjunction with limitations on production and perception.

sometimes called the Critical Age Hypothesis', it is clear that this relates to a very strong version of the hypothesis, since three pages earlier he suggests that 'adults may be highly constrained in the types of changes they can make to their grammars' (2007: 41). Though the details are controversial, then, the central idea is not. One striking piece of evidence comes from the creation of a new signed language, Idioma de Señas Nicaragüense, in Nicaragua, reported by Kegl, Senghas & Coppola (1999). According to these authors, this language was created virtually *ex nihilo* by first-language acquirers under 10 years old, who converted a range of idiosyncratic homesign systems into a fully-fledged natural language (1999: 180). Discussion of the implications of this incident, and of the critical period hypothesis in general, for diachrony can be found in Lightfoot (2006: 156–166) and Roberts (2007: 427–438).

A major advantage of incorporating the study of I-languages into historical syntax, then, is that we can apply our conceptions of the processes of acquisition – whether gained through experimental work or computational simulations such as those of Niyogi & Berwick (1995), Yang (2002) – to help us characterize the changes that we see. This includes differences in approach between adult learners and young children when faced with the same set of data. Paul (1880) is usually credited with being the first to highlight the importance of first language acquisition for diachrony. Crucially, it is not clear how these insights could be incorporated in a non-reductionist theory of diachrony in which languages, in the pretheoretical sense, are taken as abstract objects moving along a vector in a multidimensional phase-space, such as that of Lass (1997: 370–383).[20] I will not commit to a specific model of acquisition here (for some candidates, see Lightfoot 1991; Clark & Roberts 1993; Niyogi & Berwick 1995; Fodor 1998; Yang 2002; Buttery 2006; Niyogi 2006; Lightfoot & Westergaard 2007; Westergaard 2009), though will outline some desiderata in section 2.3.2.

A further gain of the reductionist position is that it allows us to sidestep a persistent problem that has hounded traditional reconstruction. It has often been observed that traditional reconstructive methods result in a product which is timeless and non-dialectal (e.g. Twaddell 1948, Campbell 1998: 165). Pulgram (1959: 422) points out that 'Anything in linguistics that is timeless, nondialectal, and nonphonetic, by definition does not represent a real language'.[21] This problem evaporates as soon as the pretheoretical conception of 'language' plays no role in

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[20] Though I share Lass's scepticism about speakers as 'agents' of change (1997: 366–369), I disagree that 'we don't gain anything by invoking them' (1997: 377, fn. 42), at least in the realm of syntax. Section 2.3.2 suggests some potential gains.

[21] On Pulgram's distinction between 'Real PIE' and 'Reconstructed PIE', as well as the assertion that reconstructions are nonphonetic, see Walkden (2009: 27–29).

our theory, as Hale (2007) observes. Hale proposes to define a protolanguage as the 'set of all (chronologically) anterior grammars which do not differ in recoverable features' (2007: 228). Under this definition, there is no implication that a community of speakers were all possessed of a single grammar; rather, what variation existed among this community (the sociohistorical details of which are unknown or unimportant) is postulated to lie in precisely those features that we are unable to recover using traditional methods. The result of the methods then becomes an existential claim about a portion of a mental grammar, not spatiotemporally located except in the trivial sense of anteriority to its daughters. Of course, as a scientific hypothesis, the claim could be false or only partially correct. In any case, there is no longer anything weird about the entity postulated.

In sum, though there is no 'pure' I-language approach to diachronic linguistics, I have argued that taking I-language into consideration in work on syntactic change is worthwhile in that it enables us to incorporate insights from acquisition into our approach to change and to avoid a conceptual problem often encountered in traditional reconstruction - in addition, of course, to allowing access to the tools and methods of analysis of synchronic generative linguistics. In the next section I consider syntactic change itself, and its causes, in more detail.

2.3.2 Mechanisms and causes

In the previous section, an instance of 'change' was defined as two distinct grammars, L1 and L2, in a historical relation with one another. This includes both 'actuation' and 'diffusion', in the traditional sense (Weinreich, Labov & Herzog 1968). One obvious question that can be asked is: why do changes happen when they do? In other words, what causes L2 to be different from L1?

A natural assumption about acquisition is (19) (see also Hale 1998: 9).

(19)   The acquisition of syntax is a deterministic process.

The intended meaning of (19) is that, for any temporally ordered set of sentences (PLD), any and all learners exposed to it will converge on the same grammar: there is no '"imperfect" learning or "spontaneous" innovation' (Longobardi 2001: 278). Such an assumption is desirable for the same reasons that it is desirable to exclude randomness from models of grammar; see, for instance, the discussion in Hale (2007: 180–190) of Bresnan & Deo's (2001) stochastic approach to English dialectal 'be'. Though some models of acquisition assume determinism (e.g. Fodor 1998, Lightfoot 1991), not all do: the models of Gibson & Wexler (1994) and Yang

(2002), for instance, contain probabilistic components. See Walkden (2012) for further discussion.[22]

Given (19), then, why does any syntactic change occur at all? Clearly the cause of a particular change, in the traditional sense of 'sufficient condition', cannot be an innate predisposition, as innate factors (the first and third factors, in the terminology of Chomsky 2005) are assumed to be universal and constant: all else being equal, we should not expect one acquirer to be driven by UG to 'fix' the language they are acquiring if the previous generation was able to acquire it unproblematically. See Hale (1998: 8, fn. 9). As Niyogi & Berwick (1995: 1) note, the occurrence of language change is particularly problematic under the widespread assumption that children converge on the grammar of the previous generation without error: this is the 'logical problem of language change' (Clark & Roberts 1993: 299–300).

There is no real problem, however, since the assumption of error-free convergence turns out to be untenable.[23] Niyogi & Berwick explain this as follows (1995: 2):

> ... even if the PLD comes from a single target grammar, the actual data presented to the learner is truncated, or finite. After a finite sample sequence, children may, with non-zero probability, hypothesize a grammar different from that of their parents.

There are infinitely many sets of PLD that may be 'generated' by a particular L1. The 'cause' of a given change, then, assuming (19), must be a difference in the PLD as received by the learner of L2. This is what is standardly assumed in the generative literature: see Lightfoot (1999: 218, 2006: 15), Hale (1998: 9–10), Kroch (2001: 699–700), Roberts (2007: 126).[24]

Under a view of diachrony that takes I-languages into account, then, the cause of change lies in the triggering experience, Chomsky's (2005) second factor.

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[22] Furthermore, if one believes that the language faculty itself matures with age independently of the input received (as do e.g. Borer & Wexler 1992), then we must also stipulate that (19) will only be true if the learners are exposed to the same sentences in the PLD at the same stage of development.

[23] In addition to the logical argument given by Niyogi & Berwick (1995), Dąbrowska (2011) provides numerous empirical reasons to doubt the assumption. I will assume, with Roberts & Roussou (2003: 13), that the goal of acquisition is simply to acquire a grammatical system on the basis of experience.

[24] This cuts both ways, in fact: it is impossible to ensure that the L2 acquirer's PLD will guarantee convergence on the grammar of L1, and hence, as argued in Walkden (2012), there is no theoretical basis for 'inertia' in the sense of Longobardi (2001).

What causes this triggering experience to be different is something that is not well explored in the generative literature, since it is tangential to the concerns of mainstream theorizing; Lightfoot (1999: 207) states that we have 'no theory of why trigger experiences should change'. It is possible to conceive of various influences, some performance-related: contact, production biases, speech errors, as well as the simple matter of what the speaker said and why. Though ideas can be advanced, and have been, a Theory of Everything would be necessary in order to capture the vast numbers of contingent factors that could potentially play a role. If the precise distribution of the PLD is not 'random', then, it is certainly 'chaotic' in the technical sense (see Hale 1998, Lightfoot 1999: ch. 10). Furthermore, invoking differences in PLD to explain attested historical changes is inevitably *post hoc*, since the specifics of the PLD of acquirers of previous millennia are forever beyond our grasp. The core argument of Lass (1980, 1997) – that there exist no satisfactory causal explanations of linguistic change – therefore applies in equal measure to the proposals made by Lightfoot, Hale and others.

Fortunately, causal explanation is not a prerequisite for successful reconstruction: causal explanations have been pursued with no greater success in historical phonology than they have in historical syntax, and the few such explanations attempted by the Neogrammarians have not been accepted; see McMahon (1994: 18) and Morpurgo Davies (1998: 263–264) for discussion. Reconstruction itself, on the other hand, has yielded genuine results. This is so because for reconstructive purposes it is far more important *how* languages change than *why* or *when*; this question of the 'mechanisms' of change, as distinct from its causes, therefore needs to be addressed with regard to syntax.

The central mechanism in the literature on syntactic change of the last forty years has been that of reanalysis. A term that gained weight in the 1970s (Andersen 1973, Timberlake 1977, Langacker 1977, Lightfoot 1979), reanalysis has been understood in subtly differing ways. Harris & Campbell (1995: 61), building on Langacker (1977), define it as 'a mechanism which changes the underlying structure of a syntactic pattern and which does not involve any immediate or intrinsic modification of its surface manifestation'. The process by which the effects of a reanalysis become apparent, affecting more contexts, patterns or words, is then known as actualization (Timberlake 1977) or extension (Harris & Campbell 1995). A further important notion in this approach to reanalysis is the exploratory expression, an expression produced as a byproduct of the ordinary operation of the grammar which may then 'catch on' and become the input to reanalysis as an obligatory part of the grammar (Harris & Campbell 1995: 72–73).

Another definition of reanalysis, closer to that implicit in Lightfoot (1979, 2002a), is as a process whereby the hearer assigns a parse to the input that does not match the structure assigned by the speaker.[25] I will assume the latter here, since it is not clear how to define 'surface manifestation' or 'underlying structure' in the framework I have adopted; in particular, it is not clear what 'a change in the surface manifestation of a syntactic pattern that does not involve immediate or intrinsic modification of underlying structure', Harris & Campbell's (1995) definition of extension, would involve. The alternative proposed here, though very similar, is more parsimonious, as there is no need for a separate process of 'extension': cases of extension can simply be viewed as either direct results of the reanalysis itself, or as smaller subsidiary reanalyses. This solves part of the problem noted by McDaniels (2003), who argues that it is not always possible to distinguish between reanalyses, extensions and exploratory expressions on principled grounds (see also García 1990).[26]

Reanalysis here is a 'mechanism' in that it is a descriptive term for both process, misparsing, and results, instances of misparsing: it has no independent existence psychologically or genetically, nor is it causal, except in the very limited sense that the reanalysis 'causes' the hearer to update his syntactic lexicon, which is better viewed as an inextricable part of the whole process. Reanalysis does not cause syntactic change: it *is* syntactic change.

De Smet (2009: 1729) argues that ambiguity cannot be seen as the cause of reanalysis, since the ambiguity itself only arises when the newer analysis is in principle available. Under the approach to reanalysis taken here, this issue does not arise. For a given hearer, there is no ambiguity and no period in which multiple analyses are 'available'; rather, following the principle of determinism in (19), only one analysis is available and selected. If this analysis differs from that of the previous generation it is due to differences in the PLD the two generations were exposed to. Ambiguity is neither causal nor necessary.

A further argument against reanalysis adduced by de Smet (2009: 1731) is that, unlike analogy, it does not have independent status as a mechanism of synchronic grammatical organization:

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[25] In Lightfoot's approach, the learner/hearer is in fact only sensitive to certain 'cues', and filters out the vast majority of the input. The definition of reanalysis given here is applicable whether the learner/hearer takes in a little or a lot of the input, however.

[26] 'Exploratory expressions', though not crucial to the approach adopted here, could be seen as utterances that are strictly speaking ungrammatical and created by conscious manipulation. The methodological problem of identification still remains.

The double status of analogy – as a mechanism of change and as a strategy of language use and synchronic organisation – is what gives analogy its substance as an explanation of language change ... Reanalysis, by contrast, appears to show no direct correspondence to a principle of synchronic grammatical organisation, it enjoys no privileged status in synchronic model-building, and it is, consequently, confined to the realm of historical change. The only synchronic process with which diachronic reanalysis could be equated is misparsing, but it is doubtful that misparsing could be an independent strategy of language use – rather, misparsing can be expected to arise through application of the same strategies as are employed in correct parsing.

Here an ontological issue is conflated with a terminological one. 'Analogy' as de Smet uses it is multiply ambiguous between a 'mechanism' of change, an instance of change by that mechanism, and a principle active synchronically. Reanalysis, by contrast, does not have the last of these three senses. Rather, as de Smet correctly identifies, reanalysis can be equated to misparsing, which is a byproduct of parsing (of course, the string is only 'misparsed' in the sense that its parse does not match the structure underlying its production; there is no absolute sense in which a parse can be 'wrong'). What appears to be needed, then, is a term 'false analogy', 'analogical change' or 'misanalogy', to differentiate between cases in which the application of analogy by the hearer results in structures which converge with those of the previous generation and cases in which it does not. Morpurgo Davies (1998: 233) points out that *falsche Analogie* was in fact the traditional term for analogically-driven change in nineteenth-century linguistics. False analogy, then, arises through application of the same strategies as are employed in correct analogizing.

Analogical change, in fact, can be considered to be derivative of reanalysis. This is because, as we have seen, internal 'constant' principles can never be causal. The role of analogy then becomes to mediate in the parsing/acquisition process, selecting favoured structures over disfavoured ones; it will only be able to affect change if the PLD is already skewed, since otherwise we would have expected the previous generation to analogize in the same way (given determinism). For instance, a child might hypothesize, by analogy, that the past participle of *bring* is *bringed*, in the specific case in which no tokens of *brought* are present in the PLD. Analogy may have a role to play in more purely syntactic cases, too, in the guise of 'generalization of the input' (Roberts 2007: 275); cf. also Hawkins's (1983: 134) 'Cross-Categorial Harmony', Mobbs's (2008: 41) 'Generalize Features', Boeckx's (2011: 217)

'Superset Bias'. In all cases, however, we are dealing with a grammatical decision based on a parse. Analogy may thus have an important role to play in 'how'-explanations, though not 'why'-explanations, just as reanalysis does.

I do not assume that reanalysis is 'abductive' (Andersen 1973). This is because the notion of abduction as employed in historical linguistics is not straightforwardly interpretable; Deutscher (2002) demonstrates that Andersen's conception of abduction was based on a conflation of two different ideas, and concludes (2002: 484) that 'the term "abductive innovation" is neither adequate nor necessary for a typology of linguistic innovations'; see also Itkonen (2002: 413–414) for a different conception of abduction. It is also argued in Walkden (2011) that 'abduction', if meaningful, entails a rejection of the assumption of determinism in (19), and that as a result it is abduction that should be abandoned.

2.3.3 Directionality

In the 1970s it was common for theorists of syntactic change to speak of changes as being ongoing over hundreds of years and following similar pathways over such periods (e.g. Lehmann 1973, 1974, Vennemann 1974), a phenomenon that Sapir (1921: 150) had already characterized as 'drift'.[27] As observed by Lightfoot (1979: 391), under the natural assumption that such changes must be reduced to sequences of I-language acquisition events, this view of long-term change creates more problems than it solves:

> Languages are learned and grammars constructed by the individuals of each generation. They do not have racial memories such that they know in some sense that their language has gradually been developing from, say, an SOV and towards a SVO type, and that it must continue along that path.

Adopting the I-language perspective on historical syntax, then, there can be no *independent* principles of syntactic change governing the directions that change may take. Lightfoot in fact takes this further: 'We have no well-founded basis for claiming that languages or grammars change in one direction but not in another' (2002a: 126); in other words, cross-generational tendencies of change should not exist. Though Lightfoot admits on the same page that grammaticalization is 'a real phenomenon', the implication is that the opposite changes might just as well occur.

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[27] Furthermore, 'cycles' of change had already been noted by Bopp (1816), as van Gelderen (2009a: 93) observes.

Both cross-generational changes and recurrent tendencies of change have, however, been identified. For instance, Kroch (1989), drawing on data from Ellegård (1953), has shown that the rise of *do*-support in English took place over a period extending at least from 1400 to 1700, at a rate that can be modelled using the logistic function. With regard to cross-generational changes, a large number of recurrent 'cycles' have now been catalogued; see Heine & Kuteva (2002) for a selection. The challenge, then, is to account for these phenomena in a way that is consistent with the reduction of language change to series of historically-related I-languages.

A number of authors have since argued that the conclusion that there can be no (consistent or recurrent) directionality in a framework that takes I-language, and acquisition, as crucial to the understanding of change, does not follow. In particular, Roberts & Roussou (1999, 2003) and van Gelderen (2004, 2009a, 2009b, 2011) have reconceptualized grammaticalization in a way that they claim is consistent with the basic assumptions of an I-language approach to linguistic change. The principles these authors claim to underlie grammaticalization are presented in (20)–(22).

(20) **Featural Simplicity Metric** (Roberts & Roussou 2003: 201, their (23))
A structural representation R for a substring of input text S is simpler than an alternative representation R' iff R contains fewer formal feature syncretisms than R.

(21) **Head Preference Principle** (van Gelderen 2009b: 136, her (4))
Be a head, rather than a phrase.

(22) **Late Merge Principle** (van Gelderen 2009b: 136, her (5))
Merge as late as possible.

These principles are used to account for a number of clear-cut cases from the grammaticalization literature. Van Gelderen (2009a: 105–108, 2009b: 186–189) suggests that both (21) and (22) follow from a principle of feature economy similar to (20), which prefers uninterpretable features over interpretable features over semantic features. Two key categories are worth mentioning.

First is the case in which a specifier of a phrase becomes the head of that phrase. Rowlett (1998: 89–97) conceptualizes Jespersen's Cycle as the reanalysis of SpecNegP elements as Neg^0, offering Haitian Creole *pa* as a potential recent example of this. Similarly, Roberts & Roussou (2003: 158–160, 199) present the Greek negator *dhen*, which was reanalysed from a DP to simply Neg^0. Willis (2007a) discusses the Welsh affirmative main-clause complementizers *mi* and *fe*, arguing that they originated as preverbal subject pronouns in SpecCP and were

reanalysed as C^0 elements. Van Gelderen (2009b) argues that the same is true of Old English *whether* (see chapter 4) and other *wh*-elements. Roberts & Roussou (2003: 199–201) illustrate how such cases follow from (20); in addition, all of these examples fall straightforwardly under (21).

Second is the case in which a moved head originating lower in the structure becomes a head first Merged in its moved position. Roberts & Roussou (2003: 36–47) illustrate this using the English modals, which could originally be analysed as lexical verbs but became reanalysed as heads of higher functional projections (see also Lightfoot 1979, Warner 1993 and much subsequent work). Willis (2000) examines the case of conditional auxiliary forms in Slavonic, originally moved to C^0, becoming reanalysed as uninflected markers of conditional mood first Merged there. Van Gelderen (2009b: 153–154) mentions that, in some Dravidian languages and Indo-European languages in contact with them as well as in Jamaican Creole, verbs of saying have been reanalysed as clause-final complementizers, e.g. Sinhala *kiynəla*; another example is Ewe *bé* (Heine & Kuteva 2002: 263). Roberts & Roussou (2003: 198–202) illustrate how such cases follow from (20); in addition, all of these examples fall straightforwardly under (22).

A word of caution is in order here, however. In the approach to syntactic change adopted in this section so far, it is clear that such principles of acquisition cannot be causal in change, *contra* van Gelderen (2009b: 189):

> Thus, for Lightfoot, change can only come from the outside, i.e. triggered by variable data ... I have argued the opposite: that change can come from the inside.

As argued by Hale (1998) and in section 2.3.2 above, 'constants' – including the first and third factors of Chomsky (2005) – can never be causal in change, as this would lead to a regress problem.[28] What, then, is the role of principles such as (20)–(22)? I would suggest that they help to answer the 'how' question of syntactic change: they do not tell us when or why a change will take place, but they aid in predicting the form it will take by acting as part of the parsing and acquisition process. In this formulation there is no conflict between the view, attributed to Lightfoot, that change can only come from the PLD, and the view that 'third factor' principles guide acquisition and thus shape change.[29]

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[28] See also Labov's (2001: 503) 'Principle of Contingency'.

[29] See also Niyogi & Berwick (2009: 10127); their SL model combined with a cue-based learning algorithm building on Lightfoot (1999) yields directionality straightforwardly.

There is no 'diachronic grammar' involved, and no unidirectionality (see Newmeyer 1998, Campbell 2001 and especially Janda 2001 for criticism of this notion): changes do not have to go in the direction these principles point towards (Norde 2001, 2009, Willis 2007b). The distribution of cases of 'directional' change is entirely a function of the distribution of different sets of PLD and how the learner/hearer responds to them, i.e. the cases in which (20)–(22) and similar principles will be active. But of course nothing prevents the PLD from taking an entirely different form and resulting in an entirely different grammar: if a grammar is a possible one, then it follows that it must be possible for a change to result in that grammar.

It should also be noted that although (20)–(22) imply comparison of different derivations (or representations), it should not be assumed that the learner/hearer has access to two (or more) analyses and actively compares them. Instead it can be posited that at any time the learner only has access to one derivation for a given string, namely the most economical derivation as defined by (20)–(22) or similar principles that is compatible with the PLD received. Thus in the implementation of (20) there is no comparison of derivations with more or fewer syncretisms, for instance, and in the implementation of (21) there is no comparison of derivations with head elements vs. derivations with phrasal elements. This is a good thing if one believes, with Frampton & Gutmann (2002), that comparison of derivations is otiose. Similarly, (22) can be seen as a reflex of the fact that, given certain sets of PLD, it may very well be simply impossible for the learner/hearer to determine the site of first Merge of an item. There is no need to assume a 'Merge over Move' preference that is active as a synchronic principle; again, this is a good thing, as Castillo, Drury & Grohmann (2009) and Motut (2010) observe that there are conceptual and empirical problems with such a principle.

It is possible, then, for directionality to coexist with the basic assumptions of an I-language approach to syntactic change, including discontinuity of transmission, reanalysis and determinism. In the terminology of Willis (2011), 'universal directionality', insofar as it is applicable, can be reduced to 'local directionality', the interaction of the acquisition algorithm with the PLD leading to reanalyses whose form is predictable; see also the discussion in Willis (2011: 421–424).

2.4 Lexical-phonological and syntactic reconstruction: parallels and pitfalls

2.4.1 Background to the debate

As noted in chapter 1, syntactic reconstruction is often thought of as having lagged behind lexical-phonological reconstruction. In this section I explore whether there is a principled reason for this, such as the inapplicability of all or part of the methodology of lexical-phonological reconstruction, and, if so, whether syntactic reconstruction is thus rendered impossible. The question is lent added urgency by the emergence in recent years of phylogenetic work attempting to use syntactic properties as the basis for establishing historical relatedness, e.g. Dunn et al. (2008) and Longobardi & Guardiano (2009), on the grounds that structural features of a language are likely to be more diachronically stable (cf. Nichols 2003, Keenan 2003) and hence allow for construction of phylogenies at a potentially greater time depth. Both for phylogenetic and reconstructive purposes it is necessary to know how to proceed when the languages under consideration do not exhibit identity in syntactic properties. The two enterprises should be able to inform one another, as they are two sides of the same coin.

I take for granted here that lexical-phonological reconstruction is possible and profitable, including the reconstruction of phonological systems; though this too can be questioned (cf. Lightfoot 1979: 166), the advances in understanding brought by this form of reconstruction seem obvious.[30]

Numerous prior attempts at syntactic reconstruction have been made, e.g. Delbrück (1893–1900), Watkins (1964, 1976), Givón (1971, 1999), Lehmann (1972, 1974), Friedrich (1975), Miller (1975), Campbell & Mithun (1981), Harris (1985, 2008), Campbell (1990), Harris & Campbell (1995), Campbell & Harris (2002), Costello (1983), Kortlandt (1983), Hock (1985), Kiparsky (1995, 1996), Roberts (1998, 2007), the papers in Gildea (1999) and Ferraresi & Goldbach (2008), Willis (2011), Barðdal & Eythórsson (2011), Barðdal (2011). Much of this work is reviewed in Walkden (2009: 7–21; 2013). Rather than discussing these prior attempts in detail here, I approach the question from a more abstract perspective, comparing lexical-phonological and syntactic variation in order to see where parallels can and cannot be drawn. The questions will be framed around the

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[30] In earlier work (Walkden 2009) I sought to investigate whether 'the Comparative Method' was applicable to syntax. However, the term is understood in many different ways (cf. Meillet 1954, Fox 1995, Baxter 2002, Harrison 2003), such that the definite article and capitalization do not seem appropriate. In what follows I will refer to 'the methods of lexical-phonological reconstruction', a wording which I feel is less misleading.

problems that have been raised by sceptics such as Jeffers (1976), Jucquois (1976), Winter (1984) and Lightfoot (1979, 1980, 1999, 2002a, 2002b, 2006). I will term these the *directionality problem*, the *radical reanalysis problem*, the *correspondence problem*, the *pool of variants problem* and the *transfer problem*.

In phonological reconstruction, statements about the predictable direction of sound changes help us to reconstruct proto-sounds: for instance, b > p / V__V is a highly unlikely change, whereas p > b / V__V is natural and often found (Harris & Campbell 1995: 361). On the basis of his view that a theory of change should reduce to a theory of grammar and acquisition, Lightfoot (2002a) denies the existence of (uni)directionality.

(23)   **Directionality Problem**
       'we have no well-founded basis for claiming that languages or grammars change in one direction but not in another' (Lightfoot 2002a: 126)

In response to (23), Campbell & Harris (2002: 612) argue that, although unidirectionality is rightly controversial, tendencies of directionality can be established, and that appeal to directionality is not only a valid criterion in the application of the comparative method but is fundamental to it. As seen in section 2.3.3, even those who have criticisms of grammaticalization theory or of the strong conception of unidirectionality are prepared to admit that instances of change from less grammatical to more grammatical are vastly more common than changes in the opposite direction (Campbell 2001: 133). Directionality of syntactic change is a fact, and 'grammaticalization is a real phenomenon' (Lightfoot 2006: 177). Furthermore, it is not true that 'a distinction between possible and impossible changes is in principle a necessary prerequisite for reconstruction' (1979: 154), since lexical-phonological reconstructions are a matter of qualitative probability rather than of mechanical certainty (Dressler 1971: 6; Ohala 1981). In syntax, as in lexical-phonological reconstruction, then, a minority of counterexamples to the prevailing tendency should not concern us much when carrying out reconstruction.

Directionality cannot be established for all types of sound change, of course; the change /a/ > /o/ and the change /o/ > /a/, for instance, seem to be equally possible (cf. Barðdal 2011), and lenition and fortition are mirror-image processes that appear equally natural (Kiparsky 1988). The same holds for syntax: for instance, claims of directional tendencies in constituent order change, e.g. Newmeyer's (2000) proposal that OV > VO is more natural than VO > OV, are controversial and rarely backed up with the sort of cross-linguistic study found in work on phonological directionality (e.g. Blevins 2004) or grammaticalization (e.g. Heine &

Kuteva 2002). It follows that it will not always be possible for reconstruction to be guided by directionality considerations, either in phonology or in syntax. However, as in phonological reconstruction, further criteria are available to guide us; these will be the subject of section 2.4.3. The 'directionality problem' in (23), then, is no more problematic in syntax than it is in lexical-phonological reconstruction.[31]

As regards the radical reanalysis problem, Lightfoot has repeatedly emphasized that the lack of continuity between grammars, and the reanalytic nature of syntactic change, is an obstacle to reconstruction:

(24) **Radical Reanalysis Problem**
'grammars are not transmitted historically, but must be created afresh by each new language learner ... If this is correct, one can deduce very little about the form of a proto-grammar merely through an examination of the formal properties of the daughter grammars' (Lightfoot 1980: 37)

Two points should be made here. First, although it is true that grammars are created afresh by each generation, it is also true that language acquisition is incredibly successful most of the time; indeed, this was, and remains, one of the key motivations of generative theory, in the form of the poverty-of-the-stimulus argument (Chomsky 1980). Given a finite array of data there are infinitely many theories consistent with it but inconsistent with one another (cf. Hauser, Chomsky & Fitch 2002: 1577, Roberts 2007: 140), but it should follow from the first and third factors of Chomsky (2005) that grammars actually acquired on the basis of similar PLD do not vary substantially from one another, otherwise the acquisition task becomes intractable. Roberts & Roussou (2003: 13) explicitly assume that convergence with the adult grammar is successful in the normal case. This vitiates Lightfoot's criticism in (24), as under these assumptions there is no reason to assume that the grammars of successive generations will be drastically different (though such difference is entirely possible); in fact, quite the contrary.

A second relevant point is that, 'if Lightfoot's objection were valid, it would presumably apply equally to that portion of the grammar that handles phonology. This would equally mean that phonological reconstruction were impossible' (Harris & Campbell 1995: 372). Therefore, if one accepts the validity of lexical-phonological reconstruction, the objection in (24) has no purchase. The fact that change occurs by way of discrete reanalyses is also unproblematic, as there is evidence that the same is true of phonology: Ohala (1981) has shown that reanalyses

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[31] For more on the non-problematicity of (23) from a generative perspective, see Roberts (2007: 362) and Willis (2011: 421–424).

of the speech signal on the part of the listener commonly lead to phonologically abrupt sound changes, e.g. of the type VN > ṼN > Ṽ (see also Blevins 2004). Yet these changes are just as reconstructible as any other; the methods of lexical-phonological reconstruction do not require sound change to be gradual.

A third, and more significant, objection is the correspondence problem.

(25) **Correspondence Problem**
'It is hard to know what a corresponding form could be in syntax, hard to know how one could define a sentence of French which corresponds to some sentence of English, and therefore hard to see how the comparative method could have anything to work with.' (Lightfoot 2002a: 119)

As Watkins (1976: 312) puts it, 'the first law of comparative grammar is that you've got to know what to compare'. Lightfoot is neither the first nor the only person to raise the issue of what can be compared in syntax (see also Jeffers 1976, Winter 1984: 622–623). The methods of lexical-phonological reconstruction involve hypothesizing correspondence sets in which *both* the lexical item and the sounds that constitute its phonological form are cognate, in the traditional sense of diachronic identity between those items and a single item in the proto-language through transmission across generations.[32] I will state this crucial assumption as in (26):

(26) **Double Cognacy Condition**
In order to form a correspondence set, the contexts in which postulated cognate sounds occur must themselves be cognate.

In English *pipe* and German *Pfeife*, for example, we know that the initial /p/ and /pf/ are cognate because many other instances of /p/ and /pf/ corresponding in initial position are found (e.g. *pepper ~ Pfeffer*). The lexical items themselves are also cognate, as each of their component sounds is part of a systematic correspondence in this way, and so a proto-lexeme could be reconstructed. But *pipe* and *Pfeffer*, for instance, would not qualify as part of a correspondence set in the traditional sense, since although initial /p/ and /pf/ can be argued to be cognate the other sounds that make up the item do not correspond.

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[32] Although the term is usually applied only to words (cf. the definition in Trask 1996a: 78), I use the term to apply to sounds in the clear sense mentioned by Harris & Campbell: 'sounds which are related to each other ... by virtue of descent from a common ancestral pronunciation' (1995: 345); see also Harrison (2003: 221). Cognacy can be considered the equivalent of the historical relation between grammars argued to be necessary in 2.3.1; both are fictions, but useful ones.

Semantic similarity is a useful heuristic in establishing correspondences, but no more than that. Consider French *bureau* 'office' and Spanish *buriel* 'a coarse cloth'. If any two lexical meanings are irreconcilable, these are they; yet we can establish straightforwardly on phonological grounds that these words are entirely cognate. Moreover, in this case the meaning change that took place in French can be traced back through textual records, but this is not always possible, especially when (as is frequent in reconstruction) we are working with the earliest attested stage of a language. Since we have no restrictive, universal theory of semantic change (cf. McMahon 1994: 184), the notion of functional irreconcilability is essentially vacuous. In contrast, we have a very stringent criterion for formal irreconcilability: if the sounds in two words do not correspond as one would expect them to given the sound changes established for that language on the basis of other correspondence sets, then the two words are simply not cognate.

The notion of context is fundamental to phonological reconstruction. Correspondence sets can be constructed because we can observe that the sounds constituting the phonological form of a lexical item are themselves cognate. We can do this because we know that sounds develop regularly according to the phonological environment they find themselves in:[33] this is the Neogrammarian regularity hypothesis (Osthoff & Brugmann 1878: xiii). Only this way can we see how sounds (as individual items) have developed systematically *across* lexical items.

In phonological reconstruction, then, two types of unit can be said to correspond: sounds (phonemes) and words (lexical items). Correspondences are established on the basis of both, since the sounds that constitute the phonological forms of two words under comparison must be identifiable as having developed regularly, systematically, from a protoform in order for the two words to be identified as cognate.

What would these two types of unit be in syntax? As for the lower level unit, corresponding to the sound/phoneme, I will defer the answer until section 2.4.2. The higher level unit, however, corresponding to the context in which the lower level unit occurs, is a problem. The only meaningful context that any syntactic element could occur in is the clause or sentence. However, it is clear that sentences, in the vast majority of cases, cannot be cognate in the traditional sense, since 'languages

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[33] A circularity thus emerges: in the comparative method, the cognacy of morphs is demonstrated by the cognacy of the sounds within them, which itself is demonstrated by the cognacy of the morphs in which they occur. This circularity is acceptable, however, to the extent that alternative explanations (chance similarity, or massive borrowing) are less plausible in accounting for the data. The account is justified by its internal coherence, which goes some way towards defending against the charge of circularity.

do not have finite inventories of sentences' (Harris & Campbell 1995: 347). Harris & Campbell (1995: 344) nevertheless refer to cognate sentences 'in an intuitively clear sense', although Campbell & Harris (2002: 606) add an important clarification:

> Cognate sentences cannot, of course, be descended from a shared sentence; ... they are examples of shared patterns descended from a pattern in the proto-language.

As Lightfoot (2002a: 123) and von Mengden (2008: 103) note, this use of the term is out of step with its general use in the phonological comparative method, since for two items to be cognate in the traditional comparative method requires there to be a diachronic identity between those items and a single item in the proto-language, in the sense of transmission across generations.[34]

Patterns, in and of themselves, do not provide a way out of this problem, however. In a pattern-based theory of syntax such as Construction Grammar, sentences are still formed through composition (combination) of patterns/constructions (see e.g. Michaelis 2011: 7–8). Although abstract schematic constructions in such a framework may make a number of slots available to be filled, considerable freedom is possible in filling these slots, and must be, in order to account for the discrete infinity of sentences that are grammatical in any language. The phonological matrices of lexical items also involve combination, in this case combination of phonemes, but here the combination is crucially not free: the phonological matrices are made up of a fixed set of phonemes in a fixed order, not analogous to the looseness of selectional restrictions in syntax. Patterns and constructions in syntactic reconstruction, then, cannot be quite parallel to lexical items in lexical-phonological reconstruction: the patterns/constructions themselves may be cognate, but the sentences they generate are not.

If the context in which lower-level syntactic items occur must be the sentence, and if sentences are not transmitted across generations in the standard case, then a clear lack of parallel between syntactic and phonological reconstruction is observed, since the Double Cognacy Condition in (26) cannot be met. In other words, *pace* e.g. Watkins (1976: 306), Fox (1995: 105), Harris & Campbell (1995)

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[34] As section 2.4.2 should make clear, although the arguments of Lightfoot (2002a) and von Mengden (2008) with regard to the cognacy of *sentences* are sound, it does not follow that the notion of cognacy has no role to play in syntactic reconstruction. Insofar as they have psychological validity, patterns (Harris 2008), constructions (Barðdal & Eythórsson 2011) and functional lexical items all have the potential for cognacy, since they are all units that are hypothesized to be acquired and transmitted across generations.

and Barðdal & Eythórsson (2011), the correspondence problem is real, and the comparative method as employed in phonology cannot be unproblematically applied to syntax.

The remaining two problems, the pool of variants problem and the transfer problem, are reducible to the correspondence problem. The pool of variants problem, a term coined by Vincent & Roberts (1999), can be presented as follows, following Roberts (2007: 362):

(27)   **Pool of Variants Problem**
       Future tense forms in Romance:
       French: *chanterai*
       Italian: *canterò*
       Spanish: *cantaré*
       Romanian: *voi cînta*
       Sardinian: *appo a cantare*
       Calabrese: Ø (no form)
       Salentino: Ø (no form)
       'How are we to decide what the original form might have been on this basis?' (Roberts 2007: 362)

The forms in (27) 'correspond' only in terms of function. The problem has an analogue in lexical-phonological reconstruction: English *dog* and German *Hund* are words fulfilling the same function, but diachronic identity can be excluded on the basis that phonological regularity shows that they are not cognates. Because of the correspondence problem, however, there is no such clear criterion for syntax. The 'pool of variants' problem thus reduces to the correspondence problem: if a reliable way of reinforcing hypotheses about correspondence can be stated, we would have an independent criterion for stating that the Romance forms listed above do not correspond.

The term 'transfer problem' is from Willis (2011):

(28)   **Transfer Problem**
       'If a grammatical rule is present in two languages, this could be because there is a continuous line of transmission from an ancestor grammar where that rule was present or alternatively the rule could have been transferred via contact from one to the other.' (Willis 2011: 414)

The difficulty is in identifying the two cases. Lexical transfer[35] can be ruled out in the study of phonological change by the fact that transferred items typically fail to fit the system of regular sound correspondences established for the recipient language.[36] But under the analogy we have been pursuing, one equivalent of phonological transfer in syntactic reconstruction might be the transfer of functional lexical items, and so our syntactic comparative method is not necessarily able to identify this. Independent methods do exist for identifying such syntactic transfer: Harris & Campbell (1995: 372–374), Bowern (2008: 208–210) and Erschler (2009: 417–419) discuss some. For example, 'exotic' constructions that are counterexamples to strong typological principles or exceptional within the language or language family itself may be cases of transfer if a source can be identified (Bowern 2008: 209, Erschler 2009: 418). These criteria can be used to aid us in identifying syntactic transfer up to a point; however, they (and we) are not infallible. Due to the correspondence problem, then, transfer is an unavoidable confounding factor in syntactic reconstruction, and may obscure the history of the languages involved, leading us to incorrectly reconstruct retention of a feature rather than innovation: 'structural similarity may mislead a historian' (Lightfoot 2002a: 117).

2.4.2 Establishing correspondences

It is worth starting by recapitulating the main finding of the previous subsection. What would a correspondence set look like in syntactic reconstruction? In phonological reconstruction, a correspondence set consists of words presumed to be cognate on the basis that the sounds within them can all be analysed as cognate. Pursuing the isomorphism, a correspondence set in syntactic reconstruction would consist of sentences presumed to be cognate on the basis that the lexical items or constructions 'within' them could all be analysed as cognate. But, as we have seen, sentences *cannot* be cognate, if we interpret cognacy to mean 'diachronic identity' in the sense of von Mengden (2008: 103). And if sentences are not transmitted, it is not meaningful to say that sentences preserve the evidence of lexical/constructional

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[35] The term 'transfer' is used here in a neutral sense to refer to any kind of cross-linguistic influence regardless of agentivity, following Winford (2005: 376).

[36] However, it should be noted that direct phonological transfer can also occur: Dravidian influence may well have caused Indic to develop retroflex consonants (Emeneau 1956: 7; Thomason & Kaufman 1988: 141–144; though see Hock 1996 for a different view), and it may have been as a result of influence from other Caucasian languages that Eastern Armenian developed ejectives (Vogt 1988: 458; Chirikba 2008: 45). Lexical-phonological methods are not able to identify such transfer in all circumstances. If the problem is greater for syntax, then, it may be only quantitatively and not qualitatively so.

change in the same way that words preserve the evidence of phonological change. We therefore arrive at a real dilemma, one that vindicates Lightfoot's criticism, and the isomorphism between phonological and syntactic reconstruction partially breaks down here. This leads to the pool of variants problem (27) and the transfer problem (28), for the reasons discussed above. If the correspondence problem is real, then, additional work is required in order to demonstrate that a) correspondences (cognacy) can in principle exist in syntax, and that b) methods for establishing correspondences can be found. This section attempts to demonstrate both of these, using as a test case the Old Norse middle ending *-sk*.

A crucial component of the comparative method in phonology is the notion of context, as shown in 2.4.1: sounds develop regularly according to the phonological environment they find themselves in. This is the Neogrammarian regularity hypothesis (Osthoff & Brugmann 1878). How can this be captured in syntactic reconstruction?

Let us first consider the nature of phonological inventories. Current rule-based phonological theories represent variation across items in phonological inventories as variation in feature matrices; the feature specification for English /t/, for example, might be as in (29).

(29) $\quad$ /t/ $= \begin{pmatrix} +\text{coronal} \\ -\text{voice} \\ -\text{cont} \\ +\text{ant} \\ +\text{dist} \end{pmatrix}$

A parallel can here be drawn between phonological variation and the view of syntactic variation outlined in section 2.2, given the Borer-Chomsky Conjecture in (1) (repeated below):

(1) $\quad$ **The Borer-Chomsky Conjecture (BCC)** (Baker 2008: 353)
$\quad$ All parameters of variation are attributable to the features of particular items (e.g., the functional heads) in the lexicon.

A possible specification for the tense head T in English is given in (30) (after Adger & Smith 2005).

$$(30) \quad T = \begin{pmatrix} \text{tense:past} \\ u\text{Case:nom} \\ u\text{Num:} \\ u\text{Pers:} \end{pmatrix}$$

This approach enables units of syntactic variation, lexical items, to be seen as analogous to the units of phonological variation. Most usefully for the purposes of comparative reconstruction, both types of (lower-level) unit occur in context, as part of a higher-level structure containing more such units: a word or morph in the case of phonological items, and a sentence in the case of lexical items. The isomorphism between phonological and syntactic reconstruction is thus almost complete: whereas in phonology we might reconstruct the lower level unit, sounds, through their context of appearance in lexical items attested in the daughter languages, in syntax we might reconstruct the lower level unit, lexical items, through their context of appearance in sentences attested in the daughter languages. Later in this section this is illustrated on the basis of the Old Norse ending -sk.

The issue of the parallels between syntax and phonology is certainly more complex than this, and different views have been advanced. The basic idea that sentences are (in some sense) permutations of words which are themselves permutations of sounds goes back at least to Hockett (1960), and Hjelmslev (1943) argues that syntax and phonology are entirely isomorphic. Bromberger & Halle (1989: 69) argue that 'syntax and phonology are essentially different'; van der Hulst (2005) and Anderson (2006) take issue with this position, arguing that differences between 'levels' should be minimized, and if possible eliminated, on methodological grounds. Hale (1998: 15) is sceptical:

> A syntactic representation results from the concatenation of lexical items (its
> component parts) via the processes Merge and Move, while a phonological
> representation does not involve the concatenation of individually-stored
> segments (its component parts).

However, some sort of concatenation *is* required in phonology, e.g. the Concatenate operation proposed by Samuels (2009: 254), in order to account for the phonological effects of the concatenation of word-internal morphemes.[37] Hierarchical organization with binary branching is commonly assumed at both levels. Chomsky also characterizes phonology as 'at least partially compositional' (2004: 151). I will

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[37] Unlike the symmetric Merge we see in syntax, this Concatenate operation may turn out to operate asymmetrically, as argued by Samuels & Boeckx (2009).

assume here that the parallels between syntax and phonology, if not perfect, are extensive enough for the analogy to hold.

Crucially, we know that lexical items can be cognate. If all syntactic variation is encoded on lexical items as stated in (1), then the lower-level unit in syntactic reconstruction can be cognate too, meaning that correspondences (cognacy) can, in principle, exist in syntax – though we still need a method of identifying them.

It should be noted that the logic of this approach to syntactic reconstruction as laid out so far follows from the architecture of the system within Minimalism, since it employs an 'item-based' view of syntactic variation in which syntactic primitives are stored in an inventory (the lexicon). As such it illustrates that derivational models of syntax can approach the question of proto-syntax in much the same way as representational models. However, the logic of the approach is valid not only for Minimalist theories of syntax but in any approach that assumes such an 'item-based' view of syntactic variation. Construction Grammar, with its Constructicon, is one such approach (cf. Michaelis 2011 and Barðdal & Eythórsson 2011), as is the implicit pattern-based theory of syntactic variation assumed by Harris & Campbell (1995) and Harris (2008). It is less obvious how to extend this logic to a model which assumes variation to be encoded in the form of phrase-structure rules (as in early transformational approaches and LFG), as constraints (as in HPSG) or as the values of a fixed universal set of parameters (as in early Principles & Parameters theories of syntax).

The parallels only run so far, however. Central to phonological reconstruction is the fact that both sounds and the units that contain them are transmitted from generation to generation. This allows hypothesized sets of cognate sounds and hypothesized sets of morphs containing them to provide mutually reinforcing evidence: in effect, a 'fossil record' of phonological change. As discussed in section 2.4.1, however, sentences are not transmitted in this way – the Double Cognacy Condition in (26) does not hold of syntax – and so this fossil record is absent, and the isomorphism is incomplete.

Does this mean the end of the road for syntactic reconstruction? In the remainder of this section I will argue that it does not. Correspondences can be established in other ways: firstly, through the use of phonological clues, and secondly, through the distribution of lexical items across structures.

Where overt phonological material is present, cognacy of lexical items can usually be established. Once this is done, working out the syntactic properties of those lexical items can then follow. This forms the starting point for Willis (2011: 425–442), in which a number of forms are identified which can be shown to be cognate with the modern Welsh free-relative marker *bynnag*. Similarly, in Old East

and West Nordic texts a 'middle voice' verbal ending can be found (Barnes 2004: 146; Faarlund 2004: 123–127; Ottósson 1992; Ottosson 2008, 2009). In Old West Nordic it primarily functions as a reflexive, reciprocal or anticausative marker, depending on the verb to which it is attached (Ottósson 1992: 66–68); although a passive function can frequently be found in Old Swedish and Old Danish, Ottosson (2009: 32) notes that the passive function is extremely rare in Old West Nordic texts. In Old East Nordic the ending surfaces as -s; in Old West Nordic it mainly surfaces as -sk, although -mk is found in the first person and -zk in the second person plural (Eythórsson 1995: 234).

(31)   Úlfrinn gapði ákafliga ok fekksk um mjök ok vildi bíta þá
        wolf.DEF gaped greatly and got.REFL about much and would bite them
        'The wolf gaped terribly and thrashed around and wanted to bite them'
        (*Prose Edda*, 34)

This ending has no obvious morphological parallels in the early Germanic languages outside Scandinavia. However, a third person reflexive pronoun with a phonologically similar shape is attested in some of the other early Germanic languages, e.g. Gothic *sik*, Old High German *sih* (Wright 1910: 123).

(32)   Jah gawandida sik Iēsus in mahtái ahmins in Galeilaian
        and turned REFL Jesus in power.DAT spirit.GEN to Galilee.ACC
        'Jesus returned in the power of the Spirit to Galilee'
        (Gothic Bible, Luke 4:14)
(33)   muor varsuuilhit sih
        sea swallows REFL
        'the sea swallows itself'
        (*Muspilli* 53)

On the basis of both phonological and semantic criteria it can be argued that the Old Norse -sk ending is cognate with this pronoun. The alternation between -sk and -mk, in particular, is indicative of this.

    There is also a partial parallel in the regularity of syntactic change. Although unconditioned changes in the featural composition of phonemes may occur, many changes are represented in terms of conditioning environments, as in (34):

(34)   r > Ø / V __ [C, + coronal] #

This is a change that happened in some varieties of English around 1300, according to Lass (1997: 284–285), yielding forms such as *hoss* 'horse', *cuss* 'curse' and *passel* 'parcel'. Do environmentally-conditioned syntactic changes, analogous to phonemic splits and mergers, occur?

There is evidence that they do. Longobardi (2001) provides an example from the history of French, where the Latin noun *casa*(*m*) 'hut, house' developed in two different ways: into Old French *chiese*, a noun that was later lost except in a few fixed expressions, and into Old French *chies*, which became the Modern French preposition *chez* (2001: 276). Using a variety of evidence from the Romance languages he demonstrates that a construct state construction is present in some of these languages, in which common nouns move leftward to D^0 under certain conditions, and that French *chez* shared enough of the properties of this construction to be plausibly derived from it. The phonological alternation is then explained on the grounds of differing stress patterns (2001: 293). Importantly for our purposes, the single lexical item *casa*(*m*) develops in two different ways in different contexts: where it moves to D^0, it becomes the preposition *chez* (presumably through string reanalysis of a D head as a P head at some point during the history of French), and elsewhere it remains syntactically the same. This type of change, where the 'new' and 'old' items coexist in the same grammar, is referred to as 'layering' in the literature on grammaticalization (e.g. Hopper & Traugott 2003: 124), and is analogous to a phonemic split. In addition to the *chez* example, the fixed item *methinks* in Early Modern English coexisted with its full lexical sibling, the verb *think* (Palander-Collin 1997: 374). Similarly, the conditional marker *by* in fourteenth-century Old Russian, an uninflected form first Merged in C^0 which had been reanalysed from the second/third person form of the perfect auxiliary *byti* 'to be', coexisted with other forms of this verb, and the two could even co-occur in the same clause (Willis 2000).

We can thus see that an effect akin to the Neogrammarian regularity hypothesis is at work. Syntactic change of a given lexical item may occur within a correctly defined context, and will normally be exceptionless. This in fact follows from the nature of syntactic change. If a speaker reanalyses an item in a certain context, e.g. a noun as a preposition, there is no reason for that speaker also to postulate the original ('correct') analysis of that item in that context. More generally, given the parallels presented above in which functional lexical items are analogous to sounds, it is difficult to imagine that *irregular* syntactic change could even exist. Irregular phonological changes are those which affect only specific individual words in which the sounds occur, with no phonologically-definable context. Pursuing the analogy, an irregular syntactic change would affect only specific individual sentences

in which the functional lexical items occur, with no syntactically-definable context. Such 'sentential diffusion' is, however, ruled out by the simple fact that sentences are normally not transmitted from generation to generation, as discussed by Lightfoot (2002a) and in section 2.4.1.

Pires & Thomason (2008) challenge the idea that there can be regularity in syntactic change, arguing that the analogical spread of animacy through Slavic noun declension paradigms is not regular in the sense of regular sound change, although they admit that 'the analogic changes that led to the current states of [Russian and Čakavian Serbo-Croatian] were regular in that they affected all nouns in the relevant class, case, and number categories' (2008: 53). This appears to be a misunderstanding of the nature of regularity, since, as the above quotation shows, their example in fact provides evidence for it.

In a footnote, Pires & Thomason (2008: 53, fn. 17) also cite personal communication from Longobardi, stating that he has never argued for regularity of syntactic change, 'considering, for instance, that change of syntactic features may spread regularly [sic] and incompletely through similar lexical items'. Again, this is not a problem if we wish to maintain that syntactic change is regular. The sounds /p/, /t/ and /k/ are similar phonological items, and yet in phonological change /p/ > /pf/ word-initially may perfectly well occur regularly without /t/ > /θ/ and /k/ > /kx/ also occurring in the same context, as happened as part of the German Second Sound Shift (König 2005: 63). There is no need for 'similar' lexical items to pattern together in regular syntactic change, just as there is no need for 'similar' phonemes to pattern together in regular phonological change.

Evidence, then, can be adduced from distributional patterns of the lexical items in question, i.e. the syntactic environments in which they can be found in the daughter languages. As with phonology, surface formal similarity is not enough, although it is a useful criterion. Environmental alternations brought about by the regularity of syntactic change are key, where they exist; as in phonological reconstruction, these help to differentiate between similarity caused by genetic relationship and similarity due to other causes. For instance, in the case of the Old West Nordic -sk ending a lexical split can be observed, since Old Icelandic itself also retains the reflexive pronoun alongside the middle ending:

(35) Grettir lá kyrr ok hrœrði sik hvergi
      Grettir lay quiet and moved REFL nowhere
      'Grettir lay quietly and did not move an inch' (*Grettis Saga*, 35)

The distribution of the two cognates is different: the middle ending is only found

postverbally, while the pronoun has greater syntactic freedom of position. This suggests a change in which the pronoun became reanalysed as an ending in this position.[38]

Round (2010) suggests a related criterion for syntactic reconstruction. If a sound change that occurred in the history of a language can be established to have affected words in a certain position in a phonological domain (such as its right edge), then words that have descended as doublets, in which one has undergone the change and the other has not, must have been able to occupy different syntactic positions, on the reasonable assumption that there exists some alignment between prosodic and syntactic domains (2010: 67). If the two doublet forms have slightly different meanings or functions, then again lexical split is a possibility. Round gives some illustrations of this criterion from the Tangkic language family.

Finally, formal and functional similarity are additional criteria for determining correspondences, although nowhere near as reliable as the Double Cognacy Condition-based method of lexical-phonological reconstruction. (To illustrate this, consider 'false cognates' such as English *day* and Spanish *día* 'day', English *dog* and Mbabaram *dog*, or the list of formally similar words between Ancient Greek and Hawaiian given in Trask 1996b: 220.) 'Formal' similarity in a syntactic context is taken to include properties such as word order and agreement patterns as well as purely phonological similarity.

To sum up: correspondences and cognacy can exist in syntactic reconstruction, given the BCC in (1), but identifying them is difficult and cannot depend on the methods of lexical-phonological reconstruction applied by analogy. Instead, lexical-phonological methods can be used directly to identify cognates, but only when the lexical items in question have phonological form; as Hale (1998: 16) points out, many of the most interesting items do not. The regularity of syntactic change as outlined in this section provides another criterion, supplemented by formal and functional similarity. The prospects for identifying correspondences are therefore not as rosy as might be hoped, but using these criteria we can at least do better than reconstructing under identity, which according to Lightfoot (2002a: 120) is as far as one can go.[39]

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[38] The exact synchronic morphosyntactic status of the ending is debated; see e.g. Eythórsson (1995: 238–241), Ottosson (2008), Walkden (2013). I here analyse it as a suffix.

[39] One might question why, under Lightfoot's assumptions, it is even feasible to reconstruct identity. Is there any more basis for determining correspondence when two grammars exhibit 'identical' patterns than when differences are found? Structural similarity may be misleading, as Lightfoot (2002a: 117) observes.

2.4.3 Establishing proto-forms

Harris & Campbell (1995: 344) recognize two steps in traditional methods of lexical-phonological reconstruction, each of which feeds into the other: the establishment of correspondences, and the reconstruction of proto-forms. The preceding sections have argued that the establishment of correspondences in syntax is possible, though not in exactly the same way as in phonology. In this section I argue that no such disparity exists with regard to the step of establishing proto-forms: all the criteria used for this purpose in lexical-phonological reconstruction are in principle equally applicable in syntactic reconstruction. The discussion will be based around Lass (1997: 228–232), which provides a recent statement of these guidelines for lexical-phonological reconstruction (cf. also Lass 1993).

(36)   **'Quasi-conventionalist' guidelines for reconstruction**
        a) Process naturalness
        b) System naturalness
        c) Simplicity
        d) Legality
        e) Family consistency
        f) Oddity condition
        g) Portmanteau reconstruction

Guideline a), process naturalness, suggests that a postulated protoform ('projection', in Lass's terms) ought, where possible, to reflect the natural starting point of a pathway of change. The issue of pathways in syntactic change has been covered in 2.3.3. In the case of the Old Norse middle voice ending *-sk* and its cognate pronoun *sik*, for example, we should assume that the pronoun is the starting point, since the development from pronoun to verbal suffix is well attested and reasonably well understood (see Fuß 2004).

Guideline b), system naturalness, suggests that the full system of postulated protoforms should be one that is compatible with known implicational universals as established through typological study. For instance, no VO language appears to contain clause-final complementizers (Dryer 1992: 102; Hawkins 1990: 225; see Biberauer, Holmberg & Roberts 2010 for a theoretical account). Proceeding naturally to the inductive generalization that this combination is an impossible one in human languages, we should be wary of positing such a system at any point during a language's history (see also von Mengden 2008). Of course, the usefulness of typological generalizations is dependent on their accuracy; see Wichmann (2008) for

discussion of the dangers of assuming that properties correlate when in fact they do not. The typological criterion does not replace traditional reconstructive techniques; rather, it is a heuristic to be used alongside them, and with care.

Lass (1997: 229) states guideline c) in biological terms: 'Apomorphies should be single rather than multiple: avoid homoplasy.' In other words, we should minimize the number of innovations posited, and parallel innovation should not be the default assumption: this can be seen as a criterion of methodological economy (cf. Willis 2011: 424). Hale (2007: 240–242) argues that it is dangerous to apply this criterion, since the change under investigation may itself be evidence for subgrouping: if three related languages show one variant and another related language shows another, and if the variant shared by the three languages is likely to be innovative, it would be sufficient grounds for subgrouping the three languages together as against the fourth. Hale's point is well taken as a cautionary note when applying the criterion of economy; in cases where subgroupings have already been safely established, however, such as the West Germanic languages as opposed to Gothic, we can make confident inferences on the basis of such a criterion. In the case of the Old Norse middle ending, positing that the suffix rather than the pronoun was original to Proto-Germanic, or that both were present in Proto-Germanic, would require us to suppose that the suffix was lost independently in both East and West Germanic. As stressed by Lass (1997: 229), this guideline needs to be applied with particular care, especially when it conflicts with another guideline such as a).

d), legality, is another typological criterion: 'no reconstructed segment may be inconsistent with our present knowledge of the capabilities of the human vocal tract' (Lass 1997: 229); analogously for syntax, no reconstructed lexical item may be inconsistent with our present knowledge of the capabilities of those elements of the human language faculty that deal with syntax. For instance, if we believe for whatever reason that the No Complex Values hypothesis of Adger (2010), given in (37), is well motivated, then we should not reconstruct a lexical item with the specification in (38).

(37)   **No Complex Values**
    Features cannot embed other features in a lexical item.

(38) $T = \begin{pmatrix} \text{tense:}[u\text{Past:perfect}] \\ u\text{Case:Nom} \\ u\text{Num:} \\ u\text{Pers:} \end{pmatrix}$

Our knowledge of the limitations on syntactic computation is arguably less, or less concrete, than our knowledge of the limitations of the vocal tract, but there is no qualitative difference in the application of the guideline. Legality is closely related to system naturalness: while system naturalness states that reconstructions should not violate implicational universals, legality states that reconstructions should not violate absolute universals.

Guideline e), family consistency, speaks for itself: 'No segment type ought to be reconstructed for a protolanguage that does not occur in at least one descendant language' (Lass 1997: 229). Applied to lexical items rather than segments, and concretely to the case of the Old Norse middle voice, this suggests that we should not reconstruct, for instance, a noun *sik* for Proto-Germanic as the origin of the cognate pronoun and endings, even though it is known that reflexive pronouns commonly originate as nominals (cf. van Gelderen 2000). This guideline must be used with caution, however, especially where it conflicts with one of the others.

Guideline f), the 'oddity condition', essentially states that the rarer an item is, the more evidence we should require to reconstruct it. This amounts to a uniformitarian principle based on the extrapolation of (qualitative) likelihoods to the past, also referred to as the Panda Principle: 'in the absence of powerful evidence, the improbable probably wasn't' (Lass 1997: 230).[40] Although basic OVS orders are argued to exist, for instance Hixkaryana (Derbyshire 1979), the amount of evidence required to motivate a reconstruction of Proto-Germanic as OVS in neutral declarative clauses would be comparatively high.

Finally, portmanteau reconstruction, g), is a procedure designed to deal with cases where positing an existing item as primitive, as preferred by guideline e), yields extreme process unnaturalness. This is the case in lexical-phonological reconstruction for the Indo-European interrogative pronoun, whose initial consonant survives variously as labial, dental, velar and labialized velar (Lass 1997: 231). The optimal response, according to Lass, is then to ensure 'maximal coding', ensuring that as much of the variation found in the daughters as possible is packed into the proto-item.

I end this section with a further quotation from Lass (1997: 232):

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[40] This Panda Principle must be clearly distinguished from the unrelated use of pandas as an expository device in Lass (1980: 84–85, fn. 18), intended as an argument against functionalism. For more on giant pandas, see Dudley (1997).

projection ... [is] guided by a network of partial prohibitions and procedural desiderata, which co-operate with whatever other argumentative strategies one uses. The network of procedural, conventionalist and empirical constraints underwrites our claims to epistemic respectability.

2.5 Summary

This chapter has argued that, given an appropriate theory of syntactic variation (2.2) and syntactic change (2.3), it is possible to approach the question of syntactic reconstruction (2.4). Under the approach to variation adopted here, the BCC in (1), stipulation would be required in order to argue that cognates could *not* exist in syntax; however, identifying these cognates remains difficult, and parallels with lexical-phonological reconstruction cannot universally be maintained. In some instances, cognacy can be hypothesized on phonological grounds; in other instances, the distribution of syntactic items can be used to identify correspondences, based on the idea that syntactic change, like phonological change, is 'regular' by a certain definition. Finally, if correspondences can be established, reconstruction of protoforms may take place along the same lines as in lexical-phonological reconstruction.

A simple example of reconstruction, concerning the origin of the Old Norse middle voice suffix, was used to illustrate the method. The intuition that the ending originated through reanalysis of the reflexive pronoun is not a new one: it has been accepted for over a hundred years (e.g. by Nygaard 1906, Gordon 1927, Faarlund 2004, Ottosson 2008). By its very straightforwardness, though, it weighs heavily against Lightfoot's (2002a: 120) contention that reconstruction of syntax is possible only in cases of identity, since in this example two different lexical items with differing forms, functions and syntactic distribution descend from a single source.

The rest of this thesis presents a number of case studies dealing with aspects of early Germanic clause structure, drawing on the approach outlined in this chapter.

Chapter 3: Verb position in early Germanic main clauses

3.1 Introduction

This chapter represents an attempt to put the methodology for syntactic reconstruction outlined in the previous chapter into practice, by reconstructing aspects of the structure of Proto-Northwest Germanic main clauses. The focus throughout is on the position of the finite verb in declarative main clauses: other types of clause, such as subordinate clauses, imperatives and interrogatives, are left out of consideration here, though interrogatives are discussed extensively in chapter 4.

Second and subsequent conjoined declarative main clauses ('conjunct clauses') are also left out of consideration. It has often been observed for OE (e.g. Andrew 1940: 1; Mitchell 1985: 694) that these frequently appear to pattern with subordinate clauses with regard to constituent order, as in (1). Similar cases can be found for OHG, as in (2), though these are rare (Axel 2007: 77–79), and for OS, as in (3).

(1)   Her for se ilca here innan Myrce to Snotingham & þær wintersetle **namon**
        this-year went the same army inside M. to N. and there winter-quarters took
        'This year the army travelled inside Mercia to Nottingham and took up winter quarters there'
        (cochronE,ChronE_[Plummer]:868.1.1098)
(2)   Inti fon mir selbomo niquam óh her uuár **ist** ther mih santa
        and from me self NEG-came but he true is who me sent
        'I have not come here of my own accord, but he who sent me is true'
        (*Tatian* 351,29; Axel 2007: 78)
(3)   Si ni uueldun im hôrien te thiu, ac sie simla mêr endi mêr
        they NEG wanted them hear.INF to that.INSTR but they still more and more
        oƀar that manno folc hlûdo **hreopun**
        over the men.GEN folk loudly called
        'They did not want to listen to them, but instead called out more and more loudly over the crowd of people'
        (*Heliand* 3568–3570)

Campbell (1970: 93, fn. 4) goes so far as to suggest that 'even co-ordinating conjunctions are syntactically subordinating' in OE. More recent work (Stockwell & Minkova 1990: 512–513; Kiparsky 1995: 148–149; Bech 2001: 86–93; Ohkado

2005: 196–282) has indicated that this is an overstatement of the case. Kiparsky (1995: 148), for instance, observes that long-distance *wh*-dependencies into subordinate clauses can be found, but that the same is not true of conjunct clauses; furthermore, conjunct clauses permit V1 order even when there is no parallel in the initial conjunct, whereas this order is extremely rare in subordinate clauses. Stockwell & Minkova (1990) observe that subjunctive verb forms, frequent in subordinate clauses, are rare in conjunct clauses. Bech (2001) adduces quantitative evidence demonstrating that there is no strong tendency for conjunct clauses to be verb-final, contrary to what is often implied in the literature, but that there are statistically significant differences in the distribution of verb-positions between main and conjunct clauses in OE. I will therefore follow Bech (2001: 93) and other authors in keeping the two types of clause apart.

Gothic will also be left out of consideration for the greater part of this chapter, due to i) the special interpretive difficulties arguably involved with the Gothic data (see section 1.4.1), ii) the preponderance of clauses introduced by the conjunction *jah*, and iii) the fact that it appears to behave differently from the other early-attested Germanic languages with regard to main clause word order (see Eythórsson 1995). Reconstructions will therefore be posited here initially only for a Proto-West Germanic or Proto-Northwest Germanic stage, though section 3.5 will make some further tentative suggestions on integrating Gothic.

Finally, word order in subordinate clauses will not be investigated here. It can be observed that there is an asymmetry in verb position between main and subordinate clauses in all the early West Germanic languages, but that the verb is not consistently final in subordinate clauses as it is in modern German: see e.g. van Kemenade (1987) and Fuß & Trips (2002) on OE, and Axel (2007) on OHG. In ON there seems to be no such asymmetry (see e.g. Faarlund 2004: 191). I leave this interesting issue aside.

Section 3.2 focuses particularly on the V2/V3 alternation that has often been observed in OE main clauses. Some scholars (e.g. Westergaard 2005, Hinterhölzl & Petrova 2009) have speculated that the V3 pattern resulted from an innovation. Sections 3.2.1 and 3.2.2 lay out the situation in OE, OHG, OS and ON, and section 3.2.3 presents an analysis. It is argued in section 3.2.4 that the possibility of V3 is more likely to be the result of shared retention than of innovation among these languages.

In section 3.3 I consider V1 main clauses, which are found in all the early Germanic languages. I argue that they are associated with a special interpretive value, and that the possibility of V1 can be reconstructed for Proto-Northwest Germanic at least.

In section 3.4 I discuss 'verb-late' main clauses, which have so far resisted insightful analysis. After presenting the data, I propose an account based on the discourse status of these clauses. Section 3.5 is an attempt to integrate Gothic into the picture; section 3.6 then summarizes the reconstructions proposed in this chapter.

3.2 V2 and V3

3.2.1 V2: the data

A first glance at the syntax of OE main clauses "suggests a strong parallelism" between OE and modern Germanic V2 languages such as Dutch and German (van Kemenade 1987: 42). Examples (4)–(6) illustrate this.[1]

(4)   We **habbað** hwæðere þa bysene on halgum bocum
        we have nevertheless the examples in holy books
        'We have, nevertheless, the examples in holy books'
        (cocathom1,+ACHom_I,_31:450.315.6332)
(5)   On twam þingum **hæfde** God þæs mannes saule gegodod
        in two things had God the man's soul endowed
        'With two things had God endowed man's soul'
        (cocathom1,+ACHom_I,_1:184.161.166)
(6)   Þa **ongan** he ærest sprecan to þam munece
        then began he first speak.INF to the monk
        'Then he first began to speak to the monk'
        (comary,LS_23_[MaryofEgypt]:65.42)

In all of these examples the verb follows the first constituent. Where an adverbial 'operator' such as *þa* or *þonne* is initial, as in (6), this pattern is dominant (see e.g. Koopman 1998: 141; Fischer *et al.* 2000: 106). Moreover, it is the majority pattern in main clauses in general. Cichosz (2010: 72–76) shows that in samples of non-conjunct declarative main clauses from OE poetry, original prose and translated prose, V2 is the most common position for the verb. Searching the YCOE reveals that 2739 of 4173 such clauses in Ælfric's *Lives of Saints* (65.6%) are V2, and 1138 of 2717 such clauses in Bede's *Historia* (41.9%).

It has long been observed that OHG exhibits a robust variant of the V2 property (e.g. Reis 1901, Lippert 1974, Robinson 1997, Axel 2007). Lippert (1974) counts 280 of 380 main declarative clause examples in *Isidor* as verb-second

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[1] References to OE examples are given from the YCOE (Taylor *et al.* 2003).

79

(73.6%). Examples of subject-initial and non-subject-initial verb-second are in (7) and (8).

(7)   der antichristo **stet** pi demo altfiant
        the antichrist stands with the old-fiend
        'The Antichrist stands with the devil'
        (*Muspilli* 44)
(8)   pidiu **scal** er in deru uuicsteti uunt piuallan
        thus shall he in the battlefield wounded fall
        'Thus he shall fall, wounded, on the battlefield'
        (*Muspilli* 46)

Cichosz (2010: 72–76) shows that in samples of non-conjunct declarative main clauses from OHG poetry, original prose and translated prose, V2 is the most common position for the verb, and that V2 is even more firmly established in OHG than it is in OE.

     As observed by Rauch (1992: 24), Erickson (1997) and Dewey (2006: 60), V2 seems to be the dominant pattern in OS as it is in OE and OHG. My quantitative data enables this to be stated more precisely: a total of 1597 of the 2348 main clauses in the *Heliand* (68.0%) have the verb in second position, as in (9) and (10).

(9)   Godes engilos **antfengun** is ferh
        God's angels received his spirit
        'God's angels received his spirit'
        (*Heliand* 3350–3351)
(10)   Mattheus **uuas** he hêtan
        Matthew was he called
        'He was called Matthew'
        (*Heliand* 1192)

Finally, in ON the finite verb in declarative main clauses is typically in second position (Nygaard 1906; Eythórsson 1995: 189; Faarlund 2004: 191), as in (11) and (12). Examples in which the verb is later than second are vanishingly rare; see Table 3.1.

(11) Stýrimaður **þarf** byrinn brýnna en sá er nautunum skal brynna
      helmsman needs breeze.DEF sharper than that.NOM that cows.DAT shall water
      'A helmsman needs a sharper breeze than someone who waters the cows'
      (1150.FIRSTGRAMMAR.SCI-LIN,.75)

(12) Nú **skal**tu drekka blóð dýrsins
      now shall-2SG drink blood beast.DEF.GEN
      'Now you shall drink the beast's blood'
      (*Hrólfs saga kraka* 34: 101)

In all of these languages, however, a substantial number of non-V2 clauses can be observed, of a kind that would be unexpected in a corpus of a strict V2 language such as modern German or Dutch. These exceptions are classifiable 'into a relatively small number of easily distinguishable and clearly describable types' (Axel 2007: 63), for which distinctive interpretive properties can be posited. Much of the rest of this chapter is devoted to describing and explaining these types across the early Northwest Germanic languages.

3.2.2 V3

A pattern in which two constituents precede the finite verb, as in (13), (14) and (15), has long been recognized for OE.

(13) æfter his gebede he **ahof** þæt cild up
      after his prayer he lifted the child up
      'After his prayer he lifted the child up'
      (cocathom2,+ACHom_II,_2:14.70.320)

(14) Fela spella him **sægdon** þa Beormas
      many stories him told the Permians
      'The Permians told him many stories'
      (coorosiu,Or_1:1.14.27.243)

(15) Nu se rica mann ne **mæg** her habban ...
      now the rich man NEG can here have ...
      'Now the rich man cannot here have ...'
      (coaelive,+ALS[Ash_Wed]:110.2758)

Where the subject is pronominal, as in (13), it almost invariably precedes the verb in main clauses not introduced by *þa* or *þonne* (Haeberli 1999a: 335). Van Kemenade (1987: 138–140) was aware of such examples, in which the second-position

constituent is a subject, and argued that an asymmetry between pronominal and non-pronominal subjects arose because the former were clitics. Pintzuk (1999) took a similar line, in the process noting that examples such as (14) involving object pronouns existed.[2] The existence and relative prevalence of examples such as (15) was first brought to light by Swan (1994), Bech (1998, 2001), Koopman (1998) and Haeberli (2002). Bech (2001: 96–98) demonstrates for XP-Subj-V_{fin} non-conjunct main clauses that 22 of 101 subjects (21.8%) in her early OE sample, and 21 of 86 (24.4%) in her late OE sample, are full nominals. Haeberli (2002) found that subject-verb non-inversion (i.e. V3) occurred 188 times (28.7%) of the time in a small corpus of 654 clauses with full nominal subjects in second position and a fronted constituent in initial position, taken from ten text samples.

Tomaselli (1995) presents a number of cases of V3 main clauses in OHG:

(16)   erino portun ih **firchnussu**
        iron portals I destroy
        'I destroy iron portals'
        (*Isidor* 157)

(17)   Dhes martyrunga endi dodh uuir **findemes** mit urchundin
        his martyrdom and death we demonstrate with evidence
        dhes heilegin chiscribes
        the.GEN holy writings
        'We demonstrate his martyrdom and his death with evidence from the holy scriptures'
        (*Isidor* 516)

Tomaselli argues that subject pronouns are the only elements found in the second position of a V3 clause (1995: 348). Furthermore, she claims that V3 clauses are only found in the *Isidor* translation and in the Monsee Fragments. As Axel (2007: 239) points out, these are dated earlier than most OHG prose texts.

Tomaselli's first claim appears to be falsified, at least on the surface, by clauses such as (18), from Harbert (1999: 258), and (19), from Axel (2007: 239). Pronouns are often inserted in this position counter to the source text in translations (Axel 2007: 248).

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[2] Adverbs may also occur in this position (Koopman 1996; 1997: 84–85).

(18) Ih inan **chistiftu** in minemu dome

I him.ACC install in my house

'I install him in my house'

(*Isidor* 629)

(19) forlazan imo **uuirdit**

forgiven him.DAT becomes

'he will be forgiven'

(Monsee Fragments 6,9)

A difference between OHG and OE is that, whereas XP-Subj-V$_{fin}$ order is almost always found when the subject is pronominal in main clauses not introduced by *þa* or *þonne* in OE, in OHG it appears to be optional: 'it is not the case that personal pronouns must appear before the verb, but they may' (Robinson 1997: 17). Furthermore, Axel (2007: 248–250) argues that non-pronominal elements are not attested in second position, other than a few examples with short adverbs such as (20), again unlike the situation in OE.

(20) siu tho **giuuanta** sih

she then turned REFL

'she then turned herself'

(*Tatian* 665,19)

She also demonstrates that not all such examples can be written off as instances of verb-late order (*contra* Lenerz 1984), since further pronouns may follow the verb, which they may never do in ordinary verb-late clauses:[3]

(21) Vnde do iu **habeta** si leid in-fangen in iro herzen

and then you-DAT.PL had she sorrow received in her heart

'and then her heart was filled with sorrow for you'

(Notker's *Psalter* VII 23,26)

In OS, however, unlike in OE and OHG, V3 does not appear to be a productive pattern. In total, 93 of the 2348 non-conjunct declarative main clauses (4.0%) are V3

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[3] The rationale for treating V3 and verb-late as separate 'patterns' with potentially differing derivations is explained in the next section (3.2.3). Examples (17) and (18) do not provide decisive evidence either way, since the possibility of unmoved verbs and a process of rightward movement must be independently assumed for the older Germanic languages, as noted by Tomaselli (1995: 365, fn. 3).

in having two constituents preceding the finite verb. This proportion is low, and there are reasons to suspect that V3 is not a syntactic 'pattern' distinct from verb-late in OS. Whereas a large proportion of clauses in which the verb surfaces in third position in OE and OHG are of the form XP-SubjPron-V_{fin} (Haeberli 1999a: 335), this order is rare in OS. Only 4 of the 93 examples (4.3%) have this order: (22) and (23) below, as well as instances in lines 2834 and 4757.[4]

(22)   Thanna thu **scalt** lôn nemen fora godes ôgun

then you shall reward take before God's eyes

'Then you shall be rewarded before God'

(*Heliand* 1563–1564)

(23)   Bethiu man **sculun** haldan thene holdlîco

therefore one should hold that.MASC.ACC favourably

'Therefore all should keep him in their favour'

(*Heliand* 1869–1870)

Three of the four examples of XP-SubjPron-V_{fin}, including (22) and (23), begin with adverbs that may also be used as subordinators, rendering them potentially ambiguous between main and subordinate clauses although traditionally read as the former. Since no adverbs or postverbal pronouns are present in any of these examples, furthermore, there is the possibility that these are in fact instances of the verb-late pattern rather than V3 as found in OE and OHG.[5]

Hinterhölzl & Petrova (2009: 320) suggest that (24) (their (12)a) is an example of V3 with verb movement as in OE:

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[4] Van Bergen (2003) shows that indefinite *man* in OE behaves as a personal pronoun rather than as a full nominal. I assume this holds for OS, though it remains to be demonstrated.

[5] I have found only one example of a V3 clause with a pronoun in postverbal position:

(i)   Than thoh **gitrûoda** siu uuel an iro hugiskeftiun

then though trusted she well in her understandings

'Still she had faith in her mind'

(*Heliand* 2028–2029)

Here, however, *thoh* seems to behave like modern German *jedoch* and *aber* in marking a preceding constituent as contrastive, and this example can thus be seen as an instance of V2: see e.g. Frey (2004: 20) and Axel (2007: 217–222).

(24) Thar imu tegegnes **quam** ên idis fan âđrom thiodun
      there him against came a woman from different tribe
      'There, a woman from another tribe approached him'
      (*Heliand* 2984–2985)

However, this example is as inconclusive as (22) and (23) with regard to underlying structure. Since a rightward movement process must be postulated for OS as for OE, it is possible to argue that the verb in (24) is unmoved and that the postverbal constituent *ên idis fan âđrom thiodun* 'a woman from another tribe' has in fact been moved rightward over it.[6] Furthermore, as for (22) and (23), in context it is entirely possible to analyse (24) as an embedded clause with the meaning 'where a woman from another tribe approached him': see the expanded version in (25).

(25) Thô giuuêt he imu ober thea marka Iudeono, sôhte imu Sidono burg,
      then went he him over the region Jews.GEN sought him S. town
      habde gesîđos mid imu, gôde iungaron. **Thar** imu tegegnes quam ên idis
      had companions with him good disciples **there** him against came a woman
      fan âđrom thiodun
      from different tribe
      'Then he travelled across the lands of the Jews and sought out the town of
      Sidon – he had companions with him, good disciples – where a woman from
      another tribe approached him'
      (*Heliand* 2982–2985)

The appositive clause *habde gesîđos ...* between the main clause and (24) should not be taken as an argument that (24) must be a main clause: compare (26), without capitalization or punctuation between the clauses, in which an appositive element also intervenes between the main clause and the locative adjunct.

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[6] Since this constituent represents new information, as acknowledged by Hinterhölzl & Petrova (2009: 320), this state of affairs is all the more likely, as rightward movement (at least in OE) appears to be driven partially by information-structural considerations (Pintzuk 2005: 124, fn. 12; Taylor & Pintzuk 2009).

(26) Thô uuarđ is uuisbodo an Galilealand, Gabriel cuman,
      then became his wise-messenger in G.-land G. come
      engil thes alouualdon, thar he êne idis uuisse
      angel the.GEN Almighty.GEN where he a woman knew
      'Then his wise messenger, Gabriel, came to Galilee – the Almighty's angel –
      where he knew a woman'
      (*Heliand* 249–251)

The extreme rarity of the XP-SubjPron-V_{fin} order in my corpus must also be taken as
an argument against its productivity. For OE, the order XP-SubjPron-V_{fin} is 'used
consistently' (Haeberli 1999a: 335) when an element other than *þa* or *þonne* is
fronted. In contrast, in the *Heliand* there are 462 examples of V2 declarative main
clauses in which the subject pronoun follows the finite verb, e.g. (27), and 223
examples of V2 declarative main clauses in which the subject pronoun precedes the
finite verb, e.g. (28). All of these can be seen as 'missed opportunities' (Faarlund
1990: 17–18) for V3.

(27) mildi **uuas** he im an is môde
      mild was he them.DAT in his mood
      'He was gentle in spirit to them'
      (*Heliand* 1259)
(28) Thu **scalt** for allun uuesan uuîƀun giuuîhit
      you shall before all.DAT be.INF women.DAT hallowed
      'You will be hallowed above all women'
      (*Heliand* 261–262)

I therefore conclude that V3 as found in OE and early OHG is not a productive
feature of OS, or at least of the variety represented by the *Heliand*.

      Finally, in ON V3 orders are not found (Faarlund 1994: 64). The distribution
of word order types in the texts of the IcePaHC (Wallenberg *et al.* 2011) is given in
Table 3.1.[7]

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[7] For the full names of these texts, see section 1.4.2.

Table 3.1: Frequency and percentage of V1, V2, V3 and V-later main clauses in ON pre-1300

	V1		V2		V3		V-later		Total
	N	%	N	%	N	%	N	%	N
1150.FIRSTGRAMMAR.SCI-LIN	21	18.1	85	73.3	8	6.9	2	1.7	161
1150.HOMILIUBOK.REL-SER	172	13.5	1069	84.0	31	2.4	1	0.1	1273
1210.JARTEIN.REL-SAG	70	30.3	161	69.7	0	0.0	0	0.0	231
1210.THORLAKUR.REL-SAG	73	27.8	186	70.7	4	1.5	0	0.0	263
1250.STURLUNGA.NAR-SAG	318	24.7	962	74.8	6	0.5	0	0.0	1286
1250.THETUBROT.NAR-SAG	49	34.8	92	65.2	0	0.0	0	0.0	141
1260.JOMSVIKINGAR.NAR-SAG	49	10.7	406	88.6	2	0.4	1	0.2	458
1270.GRAGAS.LAW-LAW	15	9.0	150	89.8	2	1.2	0	0.0	167
1275.MORKIN.NAR-HIS	235	23.0	783	76.6	3	0.3	1	0.1	1022

In all but the earliest two texts, instances of V3 or V-later are very rare, and all can be analysed as involving left-dislocations or constituents in apposition, or (in the *Íslensk hómilíubók*) involve the Latin word *sicut* in initial position, which appears to function as a conjunction. XP-Subj-V_{fin} orders are not found.

3.2.3 Analyses of V2 and V3

Two core classes of analysis of asymmetric V2 in the Germanic languages have been proposed.[8] According to the first, based on an intuition going back to den Besten (1977) and Evers (1981, 1982), the finite verb moves to C^0 in all main clauses, as in the tree in (29), illustrated by an example from modern German.

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[8] I do not discuss 'symmetric V2', as found in Icelandic and Yiddish, here. See Rögnvaldsson & Thráinsson (1990) on Icelandic, and Santorini (1994) for a comparative perspective.

(29)

```
                        CP
              ┌──────────┴──────────┐
             DP                     C'
          ┌──┴──┐            ┌───────┴───────┐
       Den Hund_i           C⁰              TP
       the   dog           [E̶F̶^]      ┌──────┴──────┐
                           [u̶V̶]       DP           T'
                           habe_j     ich      ┌────┴────┐
                           have        I      t_i   t_j  gesehen
                                                          seen
```

'I have seen the dog'
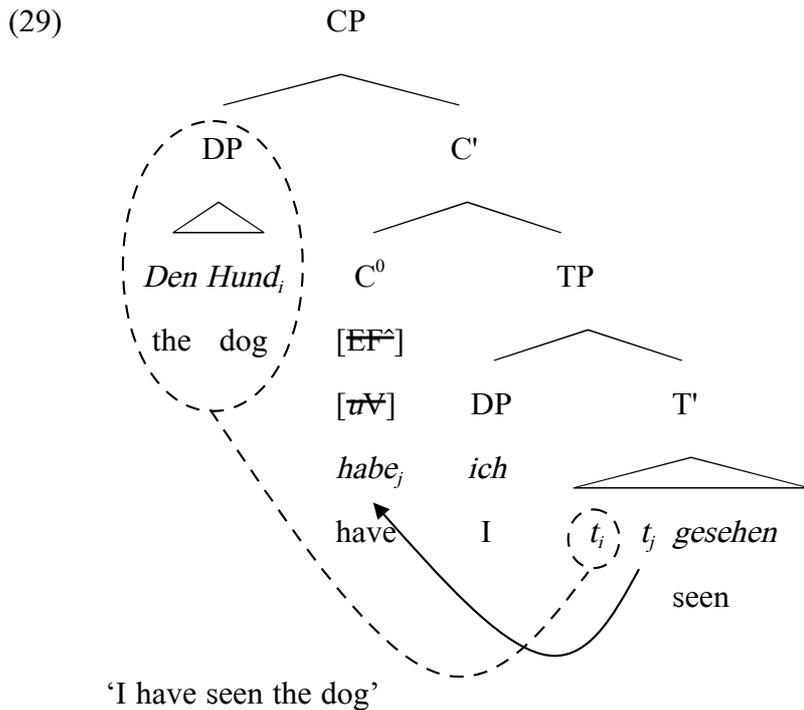
Two separate movements are involved. First, the finite verb moves to C^0. Second, a single constituent is moved to SpecCP.[9] Following the theoretical assumptions laid out in section 1.3, the head-movement operation can be recast here as triggered by a $[u\text{V}]$ feature on C^0 (see Roberts 2010b): this C^0 agrees with the finite verb, and, since the featural content of the finite verb is by assumption a subset of that of C^0, the verb is spelt out in C^0. The movement of the verb, here and elsewhere in this thesis, is represented by a solid line. The second movement, of some constituent to SpecCP (in (29), the direct object), can be viewed as triggered by an instance of ˆ associated with the Edge Feature of the phase head C^0. This demands that a constituent be moved to SpecCP, but is agnostic about the nature of that constituent; this is equivalent to Fanselow's (2003) 'stylistic fronting', and Frey's (2004) 'formal movement'.[10] This and other phrasal movements will be represented in this thesis by a dashed line.

This approach has the major advantage of explaining the asymmetry between main and subordinate clauses in modern German and Dutch: on the assumption that the complementizer is first Merged in C^0, this position is no longer available for the verb to move to, and so it remains in its base position. Under the head-movement-as-

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[9] I here abstract away from the movement of the subject from Spec vP and from the internal constituency/ordering of the vP.

[10] Almost any constituent may fulfil this requirement. Finite TPs are one major exception: see Abels (2003), Wurmbrand (2004).

Agree account, we can assume that the complementizer C^0 does not bear a [uV] feature.

The second major class of approach is associated with Travis (1984, 1991), Zwart (1991, 1993), and is referred to by Diesing (1988, 1990) as the 'two-structure hypothesis'. Under this approach, in present terminology, a derivation such as (29) is proposed only for main clauses in which a constituent other than the subject precedes the finite verb. In other cases, the verb moves only as far as T^0, and the subject is in SpecTP, as in (30).[11]

(30)

'The dog has seen me'
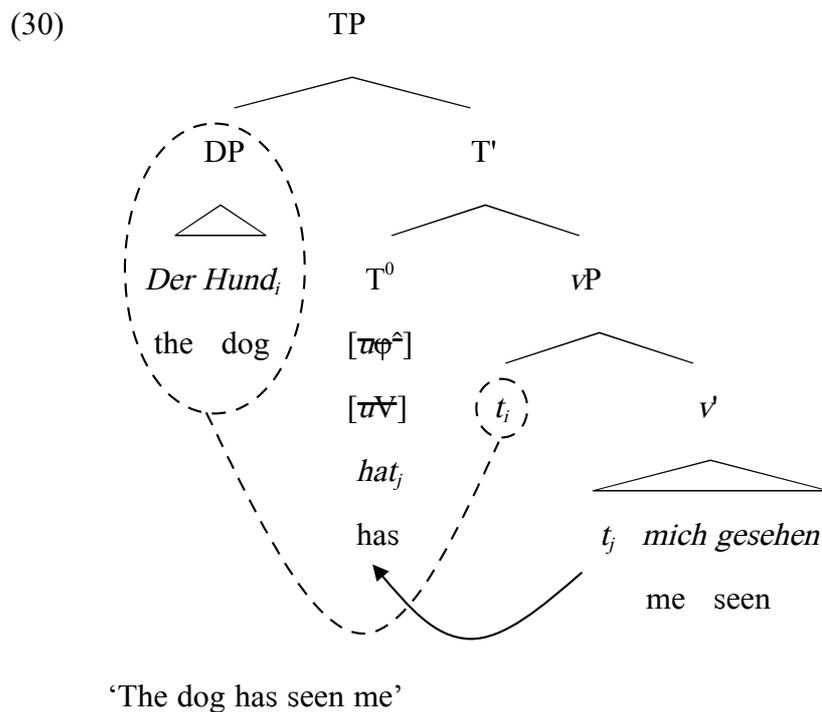
This approach is characterized by the presence of [EF^] and [uV] on main clause C^0 only when a constituent precedes the subject, with an interpretive effect (topicalization, focus, or interrogation). Motivation for this approach is provided by morphological alternations in verb forms in eastern dialects of Dutch and in Swabian depending on whether the subject precedes the verb (Zwart 1991, 1993),[12] as well as by the desire to eliminate movements that are string-vacuous.

Schwartz & Vikner (1989, 1996), however, argue that this approach is inadequate to account for the facts of the modern Germanic languages. A first

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[11] As noted by Schwartz & Vikner (1996: 46), for this approach it is crucial that TP be head-initial and that the finite verb fail to move to T^0 in subordinate clauses. Haegeman (2001) provides data from West Flemish that cast doubt on this assumption. I will leave the issue aside here.

[12] A similar alternation in verb endings is found in OE with first and second person plural pronominal subjects (see van Gelderen 2000: 157–167), as well as in Middle Low German (Lasch 1914: 227).

problem (1996: 12–13) is that adjunction to TP must be stipulated to be possible in subordinate clauses but impossible in main clauses, in order to derive the contrast between modern German (31) and (32).

(31) Ich weiß, dass letzte Woche Peter tatsächlich ein Buch gelesen hat
      I know that last week Peter actually a book read has
      'I know that Peter actually read a book last week'

(32) *Letzte Woche Peter hat tatsächlich ein Buch gelesen
      last week Peter has actually a book read
      'Peter actually read a book last week'

Secondly, the approach is unable to account for the contrast between (33) and (34)–(35) with respect to the absence of the expletive (see also Tomaselli 1986). On the hypothesis that *es* is a SpecCP expletive, that the verb is uniformly in C^0 and that SpecCP must be filled, the facts in (33)–(35) fall out naturally: the expletive may not be merged in SpecTP, so is prohibited in (33), but is necessary in (34) to fill the otherwise empty SpecCP (cf. (35)).

(33) Gestern ist (*es) ein Junge gekommen
      yesterday is (*there) a boy come
      'A boy came yesterday'

(34) Es ist ein Junge gekommen
      there is a boy come
      'A boy came'

(35) *Ist ein Junge gekommen
      is a boy come
      'A boy came'

These, and other facts, indicate that the two-structure hypothesis is on the wrong track for the modern Germanic asymmetric V2 languages; see Diesing (1990: 60–61), Lenerz (1993), Branigan (1996) and van Cranenbroeck & Haegeman (2007) for further data militating in the same direction.[13] However, the V3 data discussed in

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[13] Further types of analysis of V2 exist in the literature. These include: a) the 'V2-inside-IP' analysis of Diesing (1990) and Rögnvaldsson & Thráinsson (1990), also shown to be inadequate by Schwartz & Vikner (1996: 30–46); b) 'Münchhausen-style' analyses such as Fanselow (2003), in which the movement of the finite verb is XP-movement rather than head-movement, and c) Müller's (2004) remnant-movement analysis, in which a *v*P emptied of all constituents except its head and edge moves to SpecCP. Analyses of types b) and c) are motivated by the desire to exclude head-movement

section 3.2.2 have been taken by many authors (e.g. Pintzuk 1993, 1999; Eythórsson 1995; Haeberli 1999a, 1999b, 2002; Fuß 2003) to indicate that a version of this hypothesis is in fact correct for OE. Typically, this class of analysis assumes that verb-movement to C^0 takes place only in contexts introduced by *þa, þonne* or a *wh-*item; in all other cases, the verb moves to T^0. The canonical OE sentence under this analysis can be represented in present terms as in (36).

(36)
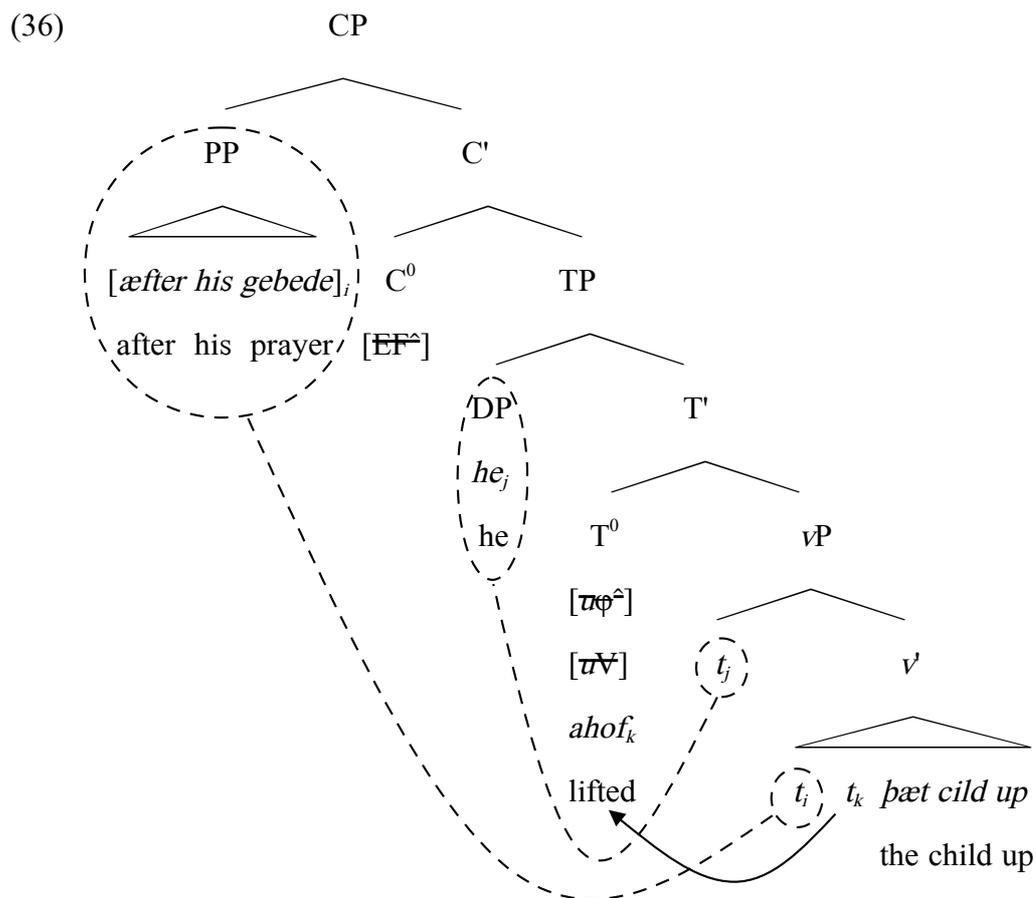
'After his prayer he lifted the child up'
(cocathom2, + ACHom_II,_2:14.70.320)

Within the two-structure family of analyses, different variants exist. Pintzuk (1993, 1999), for example, assumes that TP may be head-initial or head-final, thus accounting for the existence of verb-late main clauses (see section 3.4). Eythórsson (1995: 302–303) and Fuß (2003: 225, fn. 15), meanwhile, acknowledge the existence

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as a syntactic operation; in the present work, the theory of head-movement of Roberts (2010b) is adopted, making this unnecessary. Biberauer & Roberts (2004) also show that Müller's (2004) approach makes a number of incorrect predictions for the V2 Germanic languages, especially with regard to adverb fronting.

of verb-late main clauses but do not provide an analysis for them. Haeberli (1999b, 2002) differs from the other accounts in that the verb is in AgrS^0, with the subject occurring variably in SpecAgrS or SpecTP.[14] Nevertheless, similar concerns arise for all these accounts. These concern a) the occurrence of objects, and of multiple pronouns, in preverbal position, and b) the clause-type asymmetry.

The occurrence of objects in a position ostensibly reserved for subjects, as in (14) from OE and (18), (19) and (21) from OHG, is a problem for any account positing that 'high' subjects occur in SpecTP or SpecAgrSP, since these are typically viewed as A-positions restricted to subjects. Pintzuk (1993: 24, fn. 25), Eythórsson (1995: 314) and Haeberli (2002) avoid this problem by assuming that subject and (optionally) object pronouns are clitics attaching to a (normally null) C^0, a hypothesis to which I will return. Fuß (2003: 226, fn. 22) speculates that these object pronouns might behave like Modern Icelandic quirky subjects, but the latter typically occur systematically in the context of the case frames of particular lexical verbs, and there is no evidence that this is the case for OE preverbal objects.

There are proposals in the literature (e.g. Diesing 1990, Barbosa 1995, 2001) to the effect that SpecTP may be an A'-position in certain languages; however, as well as being non-standard, such a proposal would overgenerate with regard to OE and OHG. All else being equal, we would expect the same range of constituents to occur in SpecTP as occur in SpecCP, including prepositional phrases and full DP objects. However, as shown in section 3.2.2, the constituents which may occur in this position in OE and OHG are pronominal subjects, pronominal objects, light adverbs and full DP subjects (in OE). Full DP objects in this position are very rare (Koopman 1997: 82), and PPs, as far as I know, essentially unattested. It will be shown that a simple generalization links the attested items: they are all discourse-given (Bech 1998, 2001, Westergaard 2005, van Kemenade & Los 2006, Walkden 2009, Hinterhölzl & Petrova 2009). If this information-structural approach is correct, then analyses assuming the two-structure hypothesis are unenlightening with regard to OE and OHG V3 unless additions are made.

A further, related problem is presented by occasional cases in which multiple pronouns intervene between a fronted XP and the finite verb (see Koopman 1992).

(37)   Nu ic eow hebbe to hæftum ham gefærde alle of earde
          now I you have to bond.DAT home led all of native-land.DAT
          'Now I have led you all from your native land to a place of imprisonment'
          (*Sat* 91–92)

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[14] I do not assume Agr projections here, basically for conceptual reasons (see Chomsky 1995: ch. 4).

SpecTP is usually assumed to be a single position, making examples such as (37) problematic for any theory that requires preverbal pronouns to be in this position.

The other core problem with the two-structure analysis of the early Germanic languages is the asymmetry in verb position between clause types. Under the traditional view going back to den Besten (1977), the complementizer in C^0 in subordinate clauses and the verb in C^0 in main clauses are in complementary distribution, with the former blocking the movement of the latter. If the verb only moves as far as T^0 or another IP-domain-internal head in subject-initial V2 main clauses, the prediction is made that subordinate clauses should also always exhibit subject-initial V2, a prediction that is false at least for German and Dutch. Zwart's (1991) workaround for this, adopted by Eythórsson (1995: 202–203), is to assume that verb-movement to $AgrS^0$ is driven by $AgrS^0$'s need to check its N-features, and that when the complementizer is present $AgrS^0$ achieves this by moving to C^0, making verb-movement unnecessary. But as well as creating a lookahead problem in a derivational approach – when $AgrS^0$ is Merged, how does it know whether a complementizer will be Merged above it or not? – this approach lacks independent motivation. As noted above, Pintzuk (1993, 1999) makes a virtue out of necessity by indicating that orders that she considers both IP-final and IP-initial are found in OE in both main and subordinate clauses. However, as observed by Koopman (1995: 142), this provides no clear explanation for why IP-final should be more frequent in subordinate clauses than in main clauses, especially if with Fuß & Trips (2002: 211) we make 'the plausible assumption that a speaker cannot switch from one grammar to another in mid-sentence'. Though Pintzuk & Haeberli (2008) claim that verb-late order in OE is more common in main clauses than previously thought, it still appears to be substantially more common in subordinate clauses (see their Table 14, 2008: 398, and section 3.4). A clear asymmetry between clause types can also be observed in OHG (Axel 2007: 6–8) and in OS (see table 3.2; the difference is statistically significant, $p < 0.0001$).[15] I therefore conclude that the two-structure hypothesis is unable to account convincingly for the full range of constituent order variation in the early Germanic languages without stipulation.

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[15] The problems raised in this section do not arise for ON, since here verb-movement to (at least) T^0 *is* found in subordinate clauses. Eythórsson (1995: 214–288) discusses facts relating to negation in the Poetic Edda that indicate that negated verbs occupied a position below topics and above canonical subjects, arguing that this position is C^0. It could therefore be the case that the two-structure account is correct for ON, but false for the West Germanic languages. However, the problems raised by Schwartz & Vikner (1996) remain for ON; in addition, the negation facts are also compatible with a split-CP account of the type I develop in this section.

Table 3.2: Frequency and percentage of V1/V2 vs. V-later main vs. subordinate clauses in the *Heliand*

	V1/V2		V-later		Total
	N	%	N	%	N
Main	2078	88.5	270	11.5	2348
Subordinate	567	25.8	1629	74.2	2196
Total	2645	–	1899	–	4544

For approaches to early Germanic constituent order that posit uniform V-to-C^0 movement, it is necessary to make additional assumptions in order to account for the occurrence of V3. Most usually, as in van Kemenade (1987), Tomaselli (1995) and Roberts (1996) as well as Pintzuk (1993, 1999), Eythórsson (1995) and Haeberli (2002), this assumption is that personal pronouns are clitics and thus 'do not count' as preverbal constituents. However, van Kemenade (1987: 126) and Pintzuk (1999: 189, fn. 17) are obliged to admit that there is no written evidence for clitic forms in OE. The hypothesis of clitichood has been challenged for OE by Koopman (1997) and Bech (2001), and for OHG by Axel (2007: 254–277). Clitichood is usually associated with phonological reduction, yet there is almost no evidence for this: in OE the subject pronoun *þu* 'you.SG' is reduced when postverbal, and *hit* 'it' is sometimes spelled without an <h> in late OE, but otherwise no reduction is visible (Koopman 1997: 89–90). Koopman therefore concludes that '[t]he virtual absence of evidence for reduced forms makes it difficult to use the term "clitic"'. Axel (2007: 254–277) investigates the situation in OHG and comes to a similar conclusion. She cites evidence from Nübling (1992) that vowel reductions are found, and that postverbal pronouns are often written together with the preceding verb, though word boundaries are not consistently marked in general. However, there is not enough evidence to posit 'a fully fledged paradigm of ... clitic forms' (2007: 260).

It could, of course, be argued that the absence of phonological evidence is not telling, since syntactic clitichood and phonological clitichood need to be kept apart: this is argued e.g. for Old French by Adams (1987a) and Vance (1997), and for Proto-Germanic by Hopper (1975: 31). However, the evidence for syntactic clitichood is equally dubious. Koopman (1997) takes the eight morphosyntactic criteria formulated by Kayne (1975) for distinguishing clitics from full pronouns, e.g. inability to be conjoined, and applies them to OE. He concludes that 'personal pronouns show syntactic behaviour that differs from that of full NPs, but not all of them do and those that do, not in every position in which they occur' (1997: 90). Axel (2007: 262–264) shows for OHG that personal pronouns could be modified and

conjoined, and concludes (2007: 277) that preverbal pronouns in V3 constructions are XP-elements. For both OHG and OE, then, it seems more plausible to analyse personal pronouns as either weak or strong pronouns in the sense of Cardinaletti & Starke (1999).

Furthermore, for both OE and OHG, assuming that personal pronouns are clitics does not solve the V3 'problem', because other elements, such as adverbs, are found in the preverbal position in V3 main clauses. Koopman (1996; 1997: 84–85) argues that such adverbs cannot be analysed as clitics in OE due to their distributional properties. In addition, the prevalence of full DP subjects in preverbal position in V3 main clauses in OE means that assuming clitichood gains us little, merely replacing one V2 tendency with a slightly stronger V2 tendency. As Bech (2001: 98) puts it:

> The fact that one fifth of the subjects in the [XP-V_{fin}-Subj] pattern cannot be clitics, but nevertheless occur in exactly the same position as the clitic elements, can hardly be overlooked, especially if a clitic position is defined as a position where only clitics can occur.

The clitic hypothesis, then, is probably wrong and certainly unenlightening. An alternative account for V3 orders needs to be sought. Bech (1998, 2001) has provided the generalization upon which such an account can be based: the elements that occur in second, preverbal position are discourse-given. In Bech's corpus of early OE, 86 of 101 subjects of XP-Subj-V_{fin} clauses (85.2%) had low information value, a notion roughly equating to givenness in Bech's terms, vs. 180 of 301 subjects of XP-V_{fin}-Subj clauses (59.8%), and the latter figure falls to 53 of 174 (30.5%) when clauses with initial *þa* or *þonne* are discounted (2001: 160–161). This difference is statistically significant ($p < 0.0001$).

The fact that the figures are not absolute is of course a problem for any study making the assumptions about syntactic optionality outlined in section 2.2.2 (i.e. that it does not exist). However, the non-absoluteness of the figures could result from a number of things: i) inconsistency of annotation and other human error; ii) givenness not quite being the right notion to characterize the generalization; iii) chance, especially given that historical data are typically noisy, and Bech's sample contains a number of texts which themselves were worked on by a number of scribes. All in all I consider the generalization to be a fair starting point for an analysis that will probably have to be revised in the fullness of time. Support for this type of generalization is derived from a similar case in a modern language: Westergaard (2005) and Westergaard & Vangsnes (2005) present a close parallel from a recent

synchronic study of Tromsø Norwegian. In this variety, certain types of *wh*-questions exhibit a V2/V3 alternation, with subjects preceding the finite verb if contextually given and following if new. In OE (and possibly in OHG), then, as in Tromsø Norwegian, the prevalence of subject pronouns in second position in V3 clauses receives a natural explanation: unstressed subject pronouns are 'the canonical instance of a given nominal' (Westergaard & Vangsnes 2005: 137).

Walkden (2009: 60) and Hinterhölzl & Petrova (2009: 324) proceed to formalize the information-structural patterns in terms of the cartography of the split CP in the tradition of Rizzi (1997). Following Hinterhölzl & Petrova (2009), here I will base my analysis on the more nuanced split-CP hierarchy discussed in section 1.3 and repeated here in (38).

(38)   ForceP > ShiftP > ContrP > FocP > FamP* > FinP
        (Frascarelli & Hinterhölzl 2007: 112–113; their (37))

Mohr (2009) in fact proposes a split CP analysis for V2 in modern German, the details of which I will adapt and adopt for main clauses in the early Germanic V2 languages (OS, ON and late OHG). Under this analysis, the verb's landing site is Fin^0. This head also bears an Edge Feature associated with a movement-triggering ˆ, causing one (and only one) item to move to SpecFinP.[16,17,18] This [EFˆ] may move any constituent to SpecFinP, including a constituent that will ultimately move higher in order to check and value an uninterpretable feature on a higher probe, since otherwise the merger of such constituents would cause the derivation to crash; when no such constituent exists, the structurally highest constituent is moved to SpecFinP (cf. Mohr 2009: 154; also Frey 2000, Fanselow 2003), in order to avoid derivational indeterminism.

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[16] In Mohr's analysis, this is a subject-of-predication feature rather than [EFˆ]. However, Mohr must stipulate that expletives (2009: 150), adverbs (2009: 152, fn. 14) and focused XPs (2009: 155, fn. 17) are able to check this feature, since these elements must be able to move through SpecFinP. In consequence it is no longer clear that the initially attractive notion of subject-of-predication retains any semantic content.

[17] I assume a single specifier per head (cf. Kayne 1994, Cinque 1999). Chomsky (1995, 2000) has argued that Merge permits multiple specifiers. I retain the single-specifier assumption because i) it is a cornerstone of the cartographic approach to phrase structure and ii) it allows the construction of more restrictive theories.

[18] My argument here forces me to suggest that Fin^0 bears [EFˆ] despite not being a phase head, *pace* Biberauer, Holmberg & Roberts (2010). It could be that Fin^0 is a 'weak phase' in the sense of Chomsky (2001). Alternatively, it could simply be that all heads bear [EF], as suggested by Chomsky (2005), and that the presence or absence of ˆ is parameterized.

The derivation of a neutral subject-initial declarative in the early V2
Germanic languages therefore proceeds as in (39) (=(9), from OS).

(39)
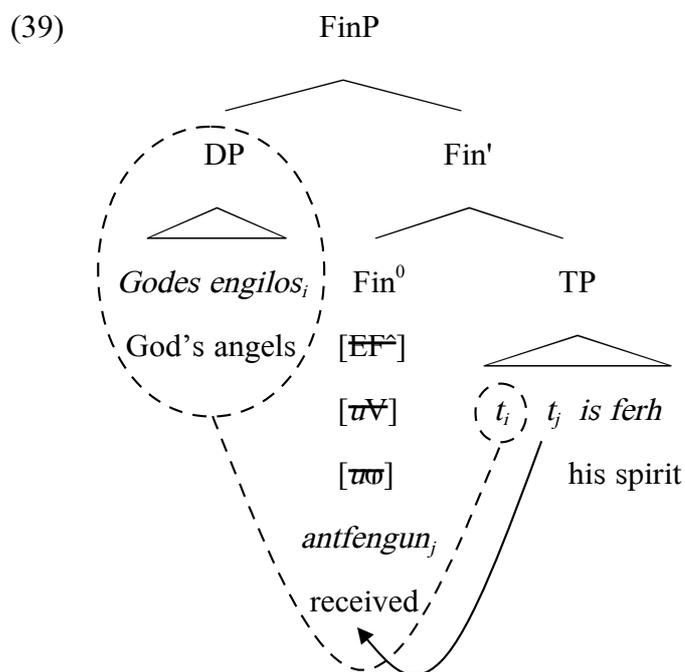
'God's angels received his spirit'
(*Heliand* 3350–3351)

When a constituent that is not the subject is in first position, the derivation is as in
(40) (=(10), from OS). Structure without relevant material (e.g. ShiftP and FamP in
this example) is omitted for clarity.

(40)

FocP
  DP   Foc'
   [iω]   Foc⁰   FinP
   [uFoc]   [uω^]   tᵢ   Fin'
   *Mattheus*ᵢ [iFoc]   Fin⁰   TP
   Matthew   [EF^]   he tᵢ tⱼ *hêtan*
                        [uV]   he   called
                        [uφ]
                        *uuas*ⱼ
                        was
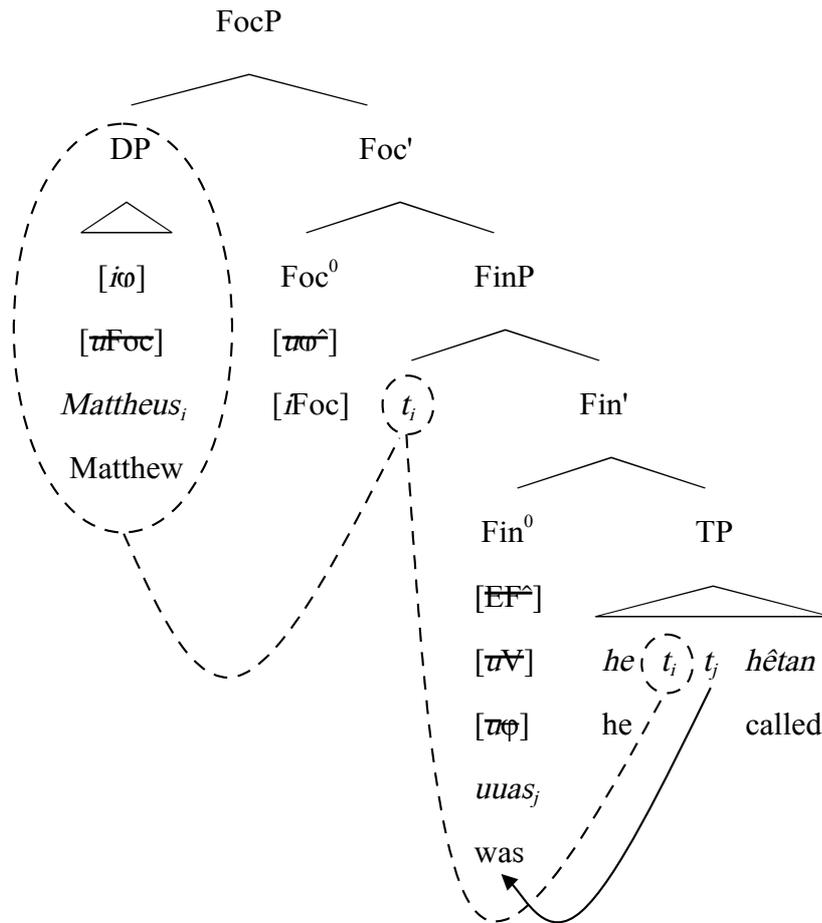
'He was called Matthew'
(*Heliand* 1192)

The initial constituent (here, *Mattheus*) first undergoes fronting to SpecFinP by virtue of the Edge Feature on Fin⁰. Foc⁰'s [uω^] feature then probes and in the process attracts *Mattheus* to SpecFocP. The movement of a constituent to the initial position in informationally non-neutral clauses is thus a two-stage process, as in Mohr's (2009) account.

Movement of more than one XP to the left periphery is ruled out as follows. By assumption, in OS and ON, the information-structural left-peripheral heads bear [uω^]-probes. The verb, however, which is in Fin⁰, bears ω-features that have (already) been valued by the subject. It therefore acts as an intervener in terms of agreement-based Relativized Minimality: the only constituent accessible to probing by an information-structural left-peripheral head is the (single) constituent in SpecFinP – or the finite verb itself, which, as a head, is unable to move and satisfy ^, causing the derivation to crash. The account is thus a 'bottleneck' approach to V2 in the sense of Rizzi (2006), Roberts (2004: 316–317) and Mohr (2009: 155): even though the left periphery is in principle fully available in main clauses in V2

languages, SpecFinP provides a bottleneck through which one and only one element may pass to reach it.[19,20]

For OE and OHG, where multiple elements may occupy the left periphery, a different account is clearly needed: the intervention-based locality constraint does not seem to hold. This can be captured if in OE and OHG the left-peripheral heads probe not for ω-features, but for interpretable information-structural features, i.e. they bear features such as [uShiftˆ] or [uFocˆ]. A sample derivation of a V3 clause is given in (41).

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[19] This analysis predicts that V2 with a non-DP constituent in initial position is possible, through EF-triggered movement to SpecFinP; however, since left-peripheral heads other than Fin^0 probe for ω-features, they should not be able to attract adverbs or PPs to their specifiers, and hence V2 with a non-DP constituent may not be information-structurally motivated. This prediction seems to be false. I leave this issue for future research, noting that Roberts & Roussou (2002) independently suggest that certain non-DP constituents may bear ω-features in order to account for non-nominal subjects in English.

[20] Frascarelli & Hinterhölzl (2007) propose for modern German, and Hinterhölzl & Petrova (2009: 321–322) for OHG, that the finite verb and XP-movement-trigger are both in $Force^0$. They present apparent cases of postverbal Aboutness topics in Modern German as evidence for this. I will not adopt this proposal here, as it is not compatible with my analysis of null arguments (chapter 5).

(41)
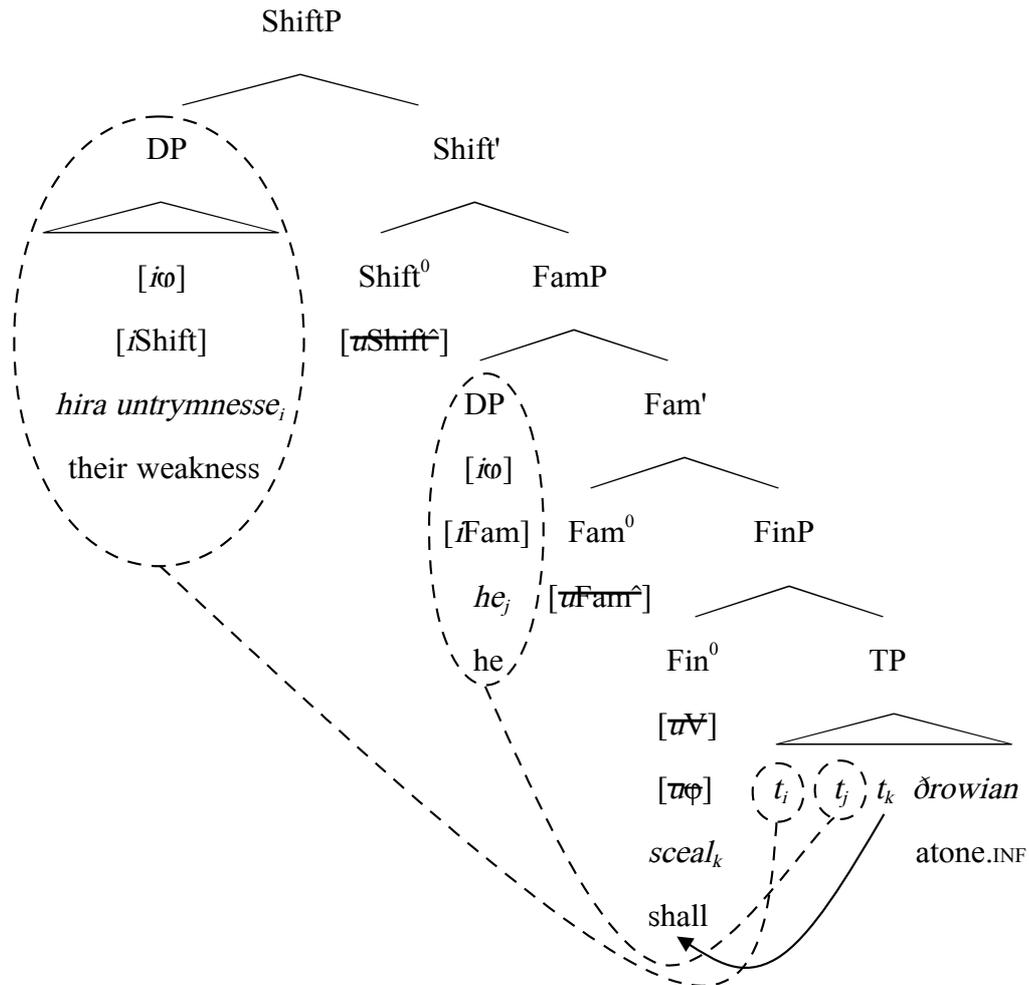
'He shall atone for their weakness'
(cocura,CP:10.61.14.387)

Again, levels of structure not relevant have been omitted. Whether or not Fin⁰ bears an Edge Feature in OE and OHG as it does in OS and ON is immaterial, since its role in shipping a phrase to the left periphery is redundant in these languages due to the lack of intervention effects.

In these languages, then, DP material is assigned interpretable information-structural features upon entering the numeration, rather than uninterpretable features; similarly, the left-peripheral heads bear the uninterpretable version of their signature feature rather than the interpretable version. This difference could be the key property that defines so-called 'discourse-configurational' languages and sets them apart from languages such as modern English in which the possibilities for information-structure-related movement are severely limited.

The proposal is able to overcome many of the shortcomings of earlier accounts of OE and OHG. Second-position elements in V3 clauses, including pronouns, occur in SpecFamP, as they are discourse-given, and surface after all left-

peripheral material apart from the finite verb; the position may be iterated, accounting for examples such as (37) containing multiple preverbal pronouns.[21]

Clause-type asymmetries in verb position are accounted for if we assume, with Roberts (1996: 160; 2004: 300), that complementizers in these languages are merged in Fin^0 and move to Force^0 if it is present. This is so because English-style complementizers such as *that* encode two pieces of information: clause type and finiteness (Rizzi 1997). If the complementizer is merged in Fin^0, then the verb cannot move there. The classic den Besten (1977) account of these asymmetries is thus maintained for all the early Northwest Germanic languages.[22]

A remaining issue is constituted by clauses introduced by *þa* or *þonne* in OE. As seen in section 3.2.1, these are consistently V2. I will defer discussion of these elements until section 3.3, where it will be seen that this property falls out naturally from the semantics of these connectives.

3.2.4 V2 and V3 in proto-Northwest Germanic

In the account given in the previous section, the crucial difference between OE and OHG on the one hand and OS and ON on the other is that OE and OHG probing left-peripheral heads bear uninterpretable information-structural features such as [*u*Shiftˆ], [*u*Famˆ] or [*u*Focˆ] rather than [*u*φˆ] as in OS and ON. For the rest of this section I assume that the relevant properties were the same in early OHG as they were in OE, though, as observed in section 3.2.2, this is an oversimplification.

Even for those scholars who have advocated syntactic reconstruction, constituent order has often been recognized as posing special problems: see e.g. Campbell & Harris (2002: 605, fn. 1). In the context of the correspondence problem as laid out in chapter 2, this is unsurprising. Those cases in which syntactic reconstruction is most intuitive, such as the ON *-sk* ending discussed in chapter 2 and the examples discussed by Harris (1985), Willis (2011) and Barðdal & Eythórsson (2011), are those in which cognacy can be independently established on lexical-phonological grounds, with the problem of reconstruction then reducing to the (simpler) task of determining the most likely syntactic properties of the proto-

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[21] Strictly speaking, by Relativized Minimality the different FamP heads should count as interveners with respect to one another, predicting (falsely) that only one element can occur in this position after all. This may indicate that further decomposition of FamP is needed.

[22] Though this account is not without its problems: how is the acquirer to discern the first-Merge position of the complementizer? In the framework of Roberts & Roussou (2003), one might expect it to 'grammaticalize' upwards by eliminating the movement and treating Force^0 as its first-Merged position, but this would give the wrong result for OE.

form by 'undoing' plausible reanalyses. In contrast, the properties determining constituent order at the clausal level are usually thought of as pertaining to phonologically null functional heads, making the establishment of cognates substantially more speculative, and this is the case here.

I will assume that the relevant left-peripheral heads – Shift^0, Foc^0 and Fam^0 in particular – are all cognate with their counterparts in the other early Northwest Germanic languages. This is on grounds of formal similarity alone. This assumption having been made, we can ask which system – the OE/OHG one or the OS/ON/late OHG one – was closer to that of early Northwest Germanic.

Westergaard (2005) suggests that V3 in OE was an innovation, although she admits (2005: fn. 14) that 'OE was presumably never a true V2 language in the same way as e.g. present-day Norwegian'. Hinterhölzl & Petrova (2009), too, speculate that V3 was an innovation. The diachronic scenario they posit is as illustrated in (42) (their (28)) for OE and OS, and (43) (their (27)) for OHG:

(42) a. Stage I: [Aboutness] [$_{ForceP}$ (familiar topic) [$_{TP}$...V$_{fin}$...]]

  b. Stage II: [$_{ForceP}$ [Aboutness] (familiar topic) [$_{TP}$...V$_{fin}$...]]

  c. Stage III: [$_{ForceP}$ [Aboutness]$_i$ [$_{TP}$ Subject V$_{fin}$ t$_i$] …]

(43) a. Stage I: [Aboutness] [$_{ForceP}$ V$_{fin}$ [TP ...]]

  b. Stage II: [$_{ForceP}$ [Aboutness] V$_{fin}$ [TP ...]]

  c. Stage III: [$_{ForceP}$ [Aboutness]$_i$ V$_{fin}$ [t$_i$ [TP …]]]

In other words, they posit that OE and OS underwent a process of reanalysis that caused clause-external aboutness topics to be integrated into a clause with a clause-internal, TP-external familiar topic ((42)a–b). In OHG, on the other hand, this clause-external aboutness topic is integrated instead into a clause in which initial position is occupied by the finite verb ((43)a–b). These topics are then reanalysed as originating inside the clause ((42)b–c, (43)b–c). V3 as a syntactic possibility in OE and OS thus results from the innovation in (42)a–b.

Hinterhölzl & Petrova's (2009) general approach is appealing in many respects, since they offer a detailed consideration of the interaction between information structure and constituent order which makes nuanced predictions; furthermore, they attempt to account for a wide range of data. However, the specifics of their diachronic proposal are unsatisfactory for a number of reasons, both empirical and theoretical. For a start, Hinterhölzl & Petrova are incorrect in asserting (2009: 324) that in OS "clauses expressing subordinating discourse relations [topic-comment structures – GW] pattern with OE rather than with OHG" in exhibiting V3; as I have shown in section 3.2.2, XP-V$_{fin}$-SubjPron rather than XP-SubjPron-V$_{fin}$

is almost ubiquitous in the *Heliand*, and there is no clear evidence that clauses in which the verb has moved from its first-Merged position into the left periphery as in OE, but in which a constituent still intervenes between it and an XP in initial position, are possible at all in OS.

Hinterhölzl & Petrova's reanalysis schema in (42) for OHG also cannot account for the fact that V3 orders do exist in this language, as clearly demonstrated by Axel (2007); see section 3.2.3. Though they mention in passing earlier in their paper (2009: 316) that these are possible as 'a very rare declining pattern', Hinterhölzl & Petrova would either have to argue that the unequivocal examples of this kind (such as (21)) are ungrammatical, which seems unlikely, or that V3 in OHG is in fact the product of a similar innovation to that which took place in OE.

There are also a few conceptual problems with this analysis. The schemata in (42) and (43) make numerous assumptions about the syntax of earlier stages of the languages in question. For instance, in order for (42)a to be possible, Proto-West Germanic (or just Proto-Ingvaeonic) would have had to allow clause-internal preverbal familiar topics, suggesting that a V2 pattern, of a kind, was already possible. But for (43)a to be possible, Proto-West Germanic (or at least prehistoric OHG) would have had to allow verb-initial clauses with verb-movement to Force^0. Hinterhölzl & Petrova's analysis thus either requires both V1 and V2 to have been possibilities in Proto-West Germanic, a state of affairs which they do not support with diachronic argumentation, or requires extra changes, which they do not discuss, to have taken place between Proto-West Germanic and the individual prehistoric OHG/OS/OE languages. Furthermore, evidence for stages a) and b) in their schemata is lacking, as they acknowledge in a footnote (2009: fn. 7). Finally, Hinterhölzl & Petrova (2009) motivate neither of the changes that they propose as initiating the reanalysis chains: why would the reanalysis involve a clause with a familiar topic for OE/OS acquirers only, and a verb-initial clause for OHG acquirers only?

The alternative I will pursue here is simpler, in that it only involves a single type of change: the reanalysis of information-structural probing as [$u\omega\hat{\ }$]-probing, and thus the reanalysis of 'accidental V2' structures as necessarily V2. In terms of the analysis in the previous section, I am proposing that the information-structural probing language type, found in OE and OHG, was the original one, and that the change that occurred in OS and ON was towards [$u\omega\hat{\ }$]-probing. The only plausible alternative is to assume that the change happened in reverse in OE and OHG, which is not as diachronically parsimonious: the well-established family tree structure of West Germanic, in which OE and OS (together with the later-attested Old Frisian and Dutch) are often assumed to form a North Sea Germanic or Ingvaeonic

subgroup to the exclusion of OHG (see section 1.4), prevents one from positing that these two languages shared an innovation, and so one would need to posit two separate (but parallel) identical innovations. The syntacticization of an originally information-structurally-conditioned pattern is also, arguably, more plausible *a priori* than the reverse.

Contact is also not a likely explanation, since OE and OHG occupied areas of the Northwest Germanic dialect continuum that were not geographically contiguous, with the OS-speaking area between them. By contrast, the generalization of [$u\omega\hat{}$]-probing could plausibly have spread as a single wave of diffusion across the Proto-Northwest Germanic dialect continuum. That V2, a constituent-order phenomenon, can be affected by language contact is suggested by evidence from northern Middle English, which was more strongly V2 than southern varieties, plausibly due to contact with Scandinavian (Kroch & Taylor 1997).

I can only speculate as to why V2 became generalized in OS, ON and later OHG but not OE. The solution must inevitably be particularistic, given that certain Germanic varieties which by hypothesis share a starting point underwent the change and others did not. The Subset Principle (Berwick 1985, Biberauer & Roberts 2009) may have a role to play: a grammar which sanctions V3 as an interpretively licensed variant generates a larger variety of structures than one which permits only V2.[23] A certain brand of computational conservatism may therefore have been relevant. However, it is difficult to imagine that V3 clauses, which are robustly attested in OE, could have been simply ignored by the acquirer, or have fallen below a critical threshold.

Several further, language-specific changes must be posited in order to capture the intricacies of the data. For instance, V2 must have become generalized in OE *wh*-questions, since both in OHG (Axel 2007: 244–245) and Gothic (Eythórsson 1995: 25) pronouns were able to intervene between *wh*-elements and the finite verb (see chapter 4). Furthermore, if it is the case that only pronouns and not full XP topics could intervene between the initial XP and the finite verb in OHG, then an explanation for this qualitative difference as compared with OE is required. I leave these questions for future research.

To summarize: under the scenario sketched here, Proto-Northwest Germanic had generalized V2/V3, i.e. verb-movement to Fin[0] and no further, in ordinary declarative clauses, with the surface occurrence of V2 or V3 depending on the information-structural status of clausal constituents. The development of generalized V2 was the result of a later reanalysis.

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[23] Though there are problems with the Subset Principle as applied to syntactic acquisition: see Fodor & Sakas (2005).

3.3 V1

3.3.1 V1: the data

Verb-first main clauses are found in all the early Germanic languages. For OE, 465 of 4173 main clauses in Ælfric's *Lives of Saints* (11.1%) are V1, and 760 of 2717 main clauses in Bede's *Historia* (28.0%). Cichosz (2010: 72–76) finds that 104 of 418 main clauses (24.9%) in her OE poetry sample, 15 of 122 main clauses (12.3%) in her OE original prose sample and 7 of 140 main clauses (5.0%) in her OE translated prose sample are V1. An example is given in (44).

(44)   **Wæs** he se biscop æfest mon & god
          was he the bishop pious man & good
          'He the bishop was a pious and good man'
          (cobede,Bede_3:22.250.23.2556)

For OHG, Cichosz (2010: 72–76) finds for her samples that 50 of 224 main clauses (22.3%) in poetry, 2 of 144 (1.4%) in original prose and 54 of 188 (28.7%) in translated prose are V1. Axel (2007: ch. 3) provides extensive discussion of the phenomenon, including references. An example is (45).

(45)   **Floug** er súnnun pad
          flew he sun.GEN path
          'He flew the path of the sun'
          (Otfrid's *Evangelienbuch*, I, 5,5; Axel 2007: 114)

For OS it has often been observed that the V1 pattern is common (e.g. by Ries 1880, Linde 2009). In the *Heliand*, 481 of 2348 main clauses (20.5%) are V1, as in (46).

(46)   **Fellun** managa maguiunge man
          Fell many young men
          'Many young men fell'
          (*Heliand* 743–744)

Finally, for ON Faarlund (2004: 192) observes that V1 is a common variant in main clauses. In the early texts from the IcePaHC, between 9.0% and 34.8% of main clauses are V1, with the sagas generally exhibiting higher percentages (see Table 3.1). An example is (47).

(47)   **Er** það komið til eyrna mér
       is it come to ears.GEN me.DAT
       'It has come to my ears'
       (1260.JOMSVIKINGAR.NAR-SAG,.1377)

Eythórsson (1995: 182–184) observes that (48), a Northwest Germanic runic inscription from the Vimose Chape, may be analysed as a V1 declarative main clause, although he notes that the interpretation is debated.

(48)   **maridai** ala makija
       praised Alla sword
       'Alla praised the sword.'

3.3.2 Analyses of V1

One factor relevant to the presence of V1 in declarative main clauses is negation. It is observed by van Kemenade (1987) and Eythórsson (1995) that negation is often initial in OE, and that it is often followed by the finite verb. Wallage (2005: 111) notes that 'negation is most commonly placed clause initially in OE main clauses (n = 1698/2547, or 67%)', and that the initial element is most usually *ne* immediately followed by the finite verb, as in (49).

(49)   Ne **het** he us na leornian heofonas to wyrcenne
       NEG ordered he us not learn heavens to make
       'He did not order us to make the heavens'
       (coaelive,+ALS_[Memory_of_Saints]:127.3394)

Wallage also shows, however, that examples of V2 with a fronted constituent, a negated finite verb and a postverbal subject pronoun existed throughout the OE period (2005: 137, his Table 3.6): for the years 850–950, for example, 61 examples were found out of 450 negated clauses (13.6%), with some of the fronted XPs being arguments. It appears, then, that though initial placement of the negated finite verb is not compulsory in OE, the negated verb must move to a position that is above SpecFamP and below SpecShiftP. Similar facts appear to hold for OHG (Axel 2007: 151–153) and for OS, in which V1 with negation is common but far from obligatory; see also Eythórsson (1995: 258–264) for similar data involving the negative *–at* suffix in ON.

Non-negated V1 declaratives are often described in the theoretical literature (e.g. by van Kemenade 1987: 44–45, Kiparsky 1995: 163, Cichosz 2010: 78) as characteristic of dramatic, lively narrative and continuity (often termed 'Narrative Inversion').[24] This approach to V1 relates it to similar examples from colloquial modern German and Dutch (see Önnerfors 1997). It is, however, important to make this vague notion of lively narrative explicit. Reis (2000a, b) argues that verb-first declaratives in the modern languages are associated with a systematically different illocutionary force, merely expressing/recounting a true proposition rather than asserting its truth.[25] More work needs to be done to establish whether this holds of V1 in the older Germanic languages, and whether differences obtain between them; however, the possibility is plausible and opens up an analysis in which the verb moves further than in ordinary declaratives, to Force^0, the locus of illocutionary force specification (Rizzi 1997).[26]

Since the possibility obtains in all the early Germanic languages, it can be straightforwardly reconstructed for proto-Northwest Germanic alongside the neutral V2/V3 options discussed in section 3.2.

3.4 Verb-late and verb-final main clauses

3.4.1 Verb-late main clauses: the data

All of the early West Germanic languages, though not ON, exhibit clauses in which the verb occurs later than third position. These are often termed 'verb-late' or 'verb-final' clauses.[27] I conflate these two categories here as 'verb-late', treating both as

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[24] In addition, Cichosz (2010: 77) observes that V1 has been said to be characteristic of poetry, though she notes that her own data do not entirely support this view. Axel (2007: ch. 3), meanwhile, comes to the conclusion that there are a number of different V1 constructions with heterogeneous motivations in OHG: in addition to V1 conditioned by negation and Narrative Inversion and by preverbal null subjects, she mentions V1 with verbs of saying, existential/presentational constructions and unaccusative verbs. Future research should establish whether these categories of V1 clause are shared by the other Germanic languages and whether they can be reconstructed for an earlier stage.

[25] For a different approach, associating V1 with highly novel information, see Roberts & Roussou (2002).

[26] This makes it unnecessary to posit a phonologically null element such as a narrative continuity operator (as suggested by Sigurðsson 1993 and Faarlund 2004 for ON) in initial position. However, þa and þonne in OE are characterized by the function of narrative continuity when inducing V2. It could therefore be the case that these elements are lexicalizations of such a null operator, though the question of their optionality (alternation with V1) would then arise.

[27] With possible differences in categorization. For instance, Smith (1971) classes clauses in which the verb is in third position or later (including those discussed in section 3.2) separately from clauses in

instances in which the verb does not occur in its expected clause-early position. For OE, Cichosz (2010: 73–74) finds that 69 of 418 main clauses (16.5%) in her OE poetry sample, 19 of 122 main clauses (15.6%) in her OE original prose sample and 15 of 140 main clauses (10.7%) in her OE translated prose sample are verb-late. Similarly, Koopman (1995) found that between 0.5 and 6.0% of OE main clauses had late finite verbs, depending on the text, and Pintzuk (1993: 22, fn. 22) found that 16 of 252 main clauses (6.3%) had late finite verbs in a corpus of OE prose texts from between 900 and 1100. Examples are (50) and (51).

(50)   Her Cenwalh adrifen **wæs** from Pendan cyninge
        here C. out-driven was from Penda.DAT king.DAT
        'This year Cenwalh was driven away by King Penda'
        (cochronA-1,ChronA_[Plummer]:645.1.324)

(51)   Baloham ðonne fulgeorne feran **wolde**
        B. then full-gladly proceed.INF wanted
        'Ballam then very much wanted to proceed'
        (cocura,CP:36.255.22.1674)

In a more recent study, Pintzuk & Haeberli (2008) use elements such as particles and negative objects as diagnostics for the 'true' prevalence of verb-lateness, since the existence of processes such as extraposition and scrambling means that surface V2 clauses may in fact be derived in a way that does not involve leftward movement of the verb. Their working assumption is that if a diagnostic element such as a particle precedes the verb, the clause must be analysed as verb-late, since these diagnostic elements are not susceptible to movement. They find that 56.6% of main clauses including particles (111 of 196), 31.5% of main clauses including negative objects (17 of 54), and 16.3% of main clauses including stranded prepositions (20 of 143) are verb-late.

        The figure for particles, which is much higher than that for other diagnostic elements, may be problematic: as van Kemenade (1987: 30) showed, it may have been possible to move the particle leftward along with the verb in clauses like (52) and (53).

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which the verb is in clause-final position. Koopman (1995) and Pintzuk & Haeberli (2008) deal with 'verb-final' main clauses, but include examples such as (49) in which the verb is not in absolute final position. Cichosz (2010) leaves clauses in which the verb is both second and final out of consideration. Here I broadly follow the diagnostics proposed by Koopman (1995) and Pintzuk & Haeberli (2008), but using the term 'verb-late'.

(52)   Stephanus up **astah** þurh his blod gewuldorbeagod
       Stephen up rose through his blood crowned-with-glory
       'Stephen ascended, crowned with glory through his blood'
       (cocathom1,+ACHom_I,_3:205.198.633)

(53)   Ut **eode** se sædere hys sæd to sawenne
       out went the sower his seed to sow
       'The sower went out in order to sow his seed'
       (cowsgosp,Mk_[WSCp]:4.3.2387)

Pintzuk & Haeberli are aware of this possibility (2008: 396–397), which they term 'parasitic' movement (2008: 389), and state that in their data evidence for this type of movement is restricted to the particle *ut*.[28] In any case, the existence of such examples means they must weaken their conclusion substantially: 'the frequency of preverbal diagnostic elements represents an upper limit' to the frequency of verb-late structures (2008: 390).

     For OHG, Cichosz (2010: 73–74) finds frequencies of surface verb-late of 10.7% (24/224) for poetry, 1.2% (2/144) for original prose, and 10.1% (19/88) for translated prose. These figures are lower than those found for OE. Indeed, Axel (2007: 62, 77) has argued that such cases are more restricted and less frequent than previously assumed in OHG: 'there are far fewer incontestable examples than has been explicitly or implicitly assumed in the literature' (2007: 77). She concludes, with Reis (1901), that 'in OHG main clauses, verb-end order is rarely found'. One such example is given in (54).

(54)   min tohter ubilo fon themo tiuuale giuuegit **ist**
       my daughter severely by the devil shaken is
       'My daughter is severely possessed by a demon'
       (*Tatian* 273,10)

In OS, the percentage of non-conjunct main-clauses with the verb later than third position is 7.5% (177/2348). If, as I suggested in section 3.2, verb-third clauses are taken to be underlyingly 'verb-late' (i.e. lacking movement to the C-domain), then we need to consider the percentage of non-conjunct main clauses with the verb later than second position, which is 11.5% (270/2348).

     Some clauses traditionally seen as main clauses by editors may in fact be subordinate: for instance, in OHG, clauses with an anaphoric DP in the left

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[28] (52) casts doubt on this claim, though it is possible to analyse this example as an instance of rightward movement of the participial phrase.

periphery can often be analysed as internally-headed relative clauses (Axel 2007: 75), as in (55) from OS:

(55)   That ic an mînumu hugi ni **gidar** uuendean mid uuihti
       that I in my mind NEG dare change with whit
       'I do not dare change that at all in my mind'
       OR
       'which I do not dare change at all in my mind'
       (*Heliand* 219–220)

Several other examples can be seen as subordinate clauses, contrary to the usual reading:

(56)   Sie uundradun alle, bihuuî gio sô kindisc man sulica quidi mahti
       they wondered all why ever so childish man such words might
       mid is mûđu gimênean. Thar ina thiu modar **fand**
       with his mouth speak.INF there him the mother found
       'They all wondered how such a young man could speak such words.
       There his mother found him'
       OR
       '... where his mother found him'
       (*Heliand* 816–818)
(57)   Thô he sô hriuuig sat, balg ina an is briostun
       then he so rueful sat was-angry him in his breast
       'Then he sat there sadly, was angry at heart'
       OR
       'When/while he sat there sadly, he was angry at heart'
       (*Heliand* 722–723)

In (56) and (57) the second reading is supported by the fact that the words *thar*, *tho* and others are ambiguous between clausal adverbs and complementizers (see also example (24)). A number of the verb-late clauses are ambiguous between main and subordinate status in this way. However, even with this proviso there are many examples that cannot be analysed away:

(58) Ic eu an uuatara **scal** gidôpean diurlîco
      I you in water shall baptize tenderly
      'I shall baptize you tenderly in water'
      (*Heliand* 882–883)

(59) Krist im forđ **giuuêt** an Galileo land
      Christ REFL forth went into Galilee.GEN land
      'Christ went forth into the land of Galilee'
      (*Heliand* 1134–1135)

(60) Ic is engil **bium**
      I his angel am
      'I am his angel'
      (*Heliand* 99)

As for OE and OHG, then, verb-late was a possible pattern, though rare, in OS.

3.4.2 Verb-late main clauses as an unsolved puzzle

However frequent they may be, examples of verb-final main clauses have thus far proven problematic for all analyses that assume that the early West Germanic languages exhibited a variant of modern Continental Germanic V2. One possibility, outlined by Koopman (1995: 139–140), is to view them as simply ungrammatical. However, as Koopman notes, this position is not an attractive one, since 'it is hard to believe that different scribes made the same grammatical error throughout the period, at roughly the same percentage', and for all three languages in question this percentage is too high to simply write off.

A variant of this hypothesis is to argue that verb-late order is due to foreign influence, specifically the influence of Latin. This is the line taken by Cichosz (2010: 88–89). However, Cichosz's own data, given above, do not support this hypothesis: verb-late clauses are found more frequently in OE and OHG poetry and in OE original prose than in translated prose of either language, which is the opposite of what we would expect if language contact were the sole explanation. Similarly, Axel (2007: 72) argues that verb-late order in (54) is due to literal translation of the Latin original. Even if this is the case, it does not render the example unproblematic: can we really assume that literal translation from the source language can result in an order that is absolutely ungrammatical in the target language? For the same reason, though metre may have influenced the distribution of verb-late clauses in verse texts (see e.g. Dewey 2006: 60–66), a metrical explanation is unlikely to be fully satisfactory alone. As Lass (1997: 68) puts it, 'it is unlikely in principle ... that any

device used in verse will be an absolute violation of the norms of non-verse language'.

It seems necessary, then, to come up with an analysis in which these examples are accommodated. Classical asymmetric V2 analyses such as those of van Kemenade (1987) for OE, Axel (2007) for OHG and Erickson (1997) for OS are unable to account for these examples at all if it is assumed that verb movement to C^0 was obligatory as in Modern German. By contrast, the competing-grammars analysis of Pintzuk (1999) for OE is able to, as for Pintzuk V-to-C^0 movement only takes place in a small subset of contexts: direct questions, verb-initial declarative and imperative clauses, and clauses with an adverb preceding the finite verb in second position (1999: 92). In all other cases, the finite verb remains in Infl, below C^0, which may be head-final or head-initial; cf. section 2.2.2 of this dissertation for a discussion of the competing grammars hypothesis. However, as Koopman (1995: 142) points out, Pintzuk's analysis is unable to account for the fact that a very low proportion of root clauses are Infl-final – a problem which is ameliorated by Pintzuk & Haeberli's (2008) result that verb-final root clauses are more common than previously thought, though not solved, since this pattern is still rarer than in embedded clauses. It would be necessary to argue that one grammar was preferred over the other in root clauses but not subordinate clauses, which seems an unattractive prospect (see Fuß & Trips 2002: 211).

It thus seems safe to conclude that verb-late main clauses are a problem for all existing accounts of early Germanic clause structure. In the next subsection I make some suggestions towards the resolution of this problem.

3.4.3 An analysis

In Mainland Scandinavian there is variation as to whether V2 is found in embedded clauses, as shown by (61) vs. (62).

(61) Olle sa att han inte **hade** läst boken
       O. said that he NEG had read book.DEF
(62) Olle sa att han **hade** inte läst boken
       O. said that he had NEG read book.DEF
       'Olle said that he had not read the book'
       (Swedish; Wiklund 2010: 81)

Adopting the Fox-Reinhart intuition that apparent optionality is motivated by interpretive alternations (see section 2.2), in recent years there has been substantial

work on the potential interpretive differences between non-V2 (e.g. (61)) and V2 (e.g. (62)) embedded declaratives: see Julien (2007, 2009), Wiklund *et al.* (2009), Wiklund (2009a, b, 2010).[29] In (63), a rough hypothesis about the generalization governing their distribution is stated, building on Hooper & Thompson's (1973) pioneering work on embedded main clause phenomena.

(63)   *The assertion hypothesis* (Wiklund *et al.* 2009: 1915)
       'The more asserted (the less presupposed) the complement is, the more
       compatible it is with V2 (and other root phenomena).'

Julien (2007, 2009) has defended a version of (62) in which V2 embedded clauses are asserted and non-V2 embedded clauses are not. Wiklund and co-authors, on the other hand, have defended a one-way implication: if an embedded clause is V2 then it is asserted, but not vice versa. The details are complex, and some of the judgements are disputed. Furthermore, as Wiklund *et al.* (2009: 1915) note, the relevant notion of assertion is not easy to define or operationalize (see also Hooper & Thompson 1973: 473). I will not go into the details here; some version of (63) seems to be correct, however, since much of the data is undisputed. For instance, sentences like (64), in which a V2 clause is embedded under a factive verb, are uncontroversially ungrammatical, whereas their verb-late counterparts ((65)) are grammatical. This attested contrast is predicted by both Julien and Wiklund.

(64)   *Olle ångrade att han **hade** inte läst boken
       O. regretted that he had NEG read book.DEF
(65)   Olle ångrade att han inte **hade** läst boken
       O. regretted that he NEG had read book.DEF
       'Olle regretted that he had not read the book.'
       (Swedish; Wiklund 2010: 82)

The literature on assertion and presupposition within pragmatics and philosophy is extensive; see Stalnaker (1974, 1978) for one approach, and Schlenker (2010) for a recent formalization. I here assume, broadly following this approach, that a proposition is presupposed if the speaker believes that its truth belongs to the common ground, and that in asserting a proposition the speaker intends to update the

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[29] The intuition goes back much further, and has been applied to V2 in other Germanic languages: see Wiklund *et al.* (2009) and Wiklund (2010) for references.

common ground to include the truth of that proposition.[30] Assertion is thus an illocutionary act (Austin 1975: 98–102) with assertoric force.

Given the apparent connection between embedded V2 and assertion, examining the force of early Germanic main clauses with and without verb-movement to the C-domain suggests itself; after all, main clauses can be used for a lot more than just assertion (see Austin 1975). However, identifying the force of non-embedded clauses is not straightforward. Most of the tests proposed to distinguish asserted from presupposed content (e.g. the 'Hey, wait a minute!' test of von Fintel 2004) require native speaker judgements. Kiparsky & Kiparsky (1970) present a number of syntactic diagnostics for factive predicates (i.e. those that presuppose their complements), e.g. the ability of the complement to be preposed, and the ability of the predicate to take the noun *fact* or a gerund as its complement; unfortunately, these tests, and tests based on island constraints, are only applicable to complementation structures, not to main clauses.

The test I will use here depends on the availability of so-called speaker-oriented adverbs (Jackendoff 1972: ch. 3; Ernst 2009; Liu 2009). In modern English these include *honestly*, *probably*, *obviously*, *clearly* and *luckily*, as in (66).[31] These adverbs have a variety of special syntactic properties: they are incompatible with interrogatives ((67)) and other inversion contexts ((68)), they cannot occur in the complements of factive verbs ((69)), and they cannot occur in the scope of negation ((70)).[32]

(66)   Luckily, John was spotted by a lifeguard.
(67)   What has Charley (*luckily) discovered?
(68)   So fast did Tom (*luckily) run that he got to Texas in ten minutes.
(69)   Bill regrets that Frank (*luckily) discovered the uranium.
(70)   Karen has not (*luckily) left.

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[30] Though Julien (2007: 244; 2009: 229) suggests that some embedded clauses can be both presupposed (by the speaker) and asserted (treated as new information for the purposes of the hearer). Moreover, Hooper & Thompson (1973: 486) argue that it is possible for a clause to be neither presupposed nor asserted. The full interaction between clausal force and information packaging is too complex to be discussed here, but in the approach taken here presupposition and assertion are mutually exclusive by definition.

[31] Ernst (2009: 498) subdivides these into discourse-oriented adverbs (paraphrasable by 'I say ADV that P') and epistemic and evaluative adverbs (paraphrasable by 'It is ADJ that P'). See also Bellert (1977).

[32] For me examples (67) and (68) are very marginally possible, but only with a manner reading (hence irrelevantly).

I will assume, following Bellert (1977: 342) and Liu (2009: 339), that speaker-oriented adverbs take the main proposition and construct a secondary proposition evaluating it: speaker-oriented adverb clauses are thus 'double-propositional', to use Liu's term. For (66), for instance, the main proposition is that John was spotted by a lifeguard, and the secondary proposition builds on it to express that this was a fortunate state of affairs. Crucially, the truth of the main proposition is presupposed by the secondary proposition: the evaluation in (66) presupposes that John was in fact spotted by a lifeguard.

Good candidates for speaker-oriented adverbs in OE, the early West Germanic language with the largest available corpus, include *soþlice/soðlice* 'truly' and *witodlice* 'certainly'. Little research has been done on speaker-oriented adverbs in this language, though Lenker (2010) explores their function as adverbial 'connectors',[33] and Scot (2009) and Sundmalm (2009) investigate the base-generated position of *soþlice* and *witodlice*, concluding that these are always CP-adverbs or IP-adverbs in their framework.[34]

To investigate the distribution of speaker-oriented adverbs I compared V2 clauses and V4+ clauses in the YCOE, on the assumption that these types would be likely to represent verb movement to the left periphery and the absence of such movement respectively. I considered only clauses containing three or more constituents (other than the verb), in order to avoid giving more opportunities for the adverbs to occur in V4+ clauses. The dividing line between early and late OE is 950; for more detail on this classification scheme, see Pintzuk & Taylor (2006). The results are presented in tables 3.3 to 3.6.

Table 3.3: Frequency and percentage of V2 vs. V4+ declarative main clauses with and without *soþlice/soðlice* in early OE

	With *soþlice*		Without *soþlice*		Total
	N	%	N	%	N
V2	8	0.1	5489	99.9	5497
V4+	24	1.2	2048	98.8	2072
Total	32	–	7537	–	7569

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[33] Lenker (2010: 51–53) observes that Ælfric's grammar of OE (Zupitza 1880; see also Menzer 2004) discusses *soþlice* not as an adverb but under the heading of conjunctions, suggesting that its function was on the textual level.

[34] Scot (2009: 11–12) observes that *soþlice* may (rarely) have a manner reading.

Table 3.4: Frequency and percentage of V2 vs. V4+ declarative main clauses with and without *witodlice* in early OE

	With *witodlice*		Without *witodlice*		Total
	N	%	N	%	N
V2	6	0.1	5491	99.9	5497
V4+	20	1.0	2052	99.0	2072
Total	26	–	7543	–	7569

Table 3.5: Frequency and percentage of V2 vs. V4+ declarative main clauses with and without *soþlice/soðlice* in late OE

	With *soþlice*		Without *soþlice*		Total
	N	%	N	%	N
V2	135	1.1	11631	98.9	11766
V4+	99	3.9	2419	96.1	2518
Total	234	–	14050	–	14284

Table 3.6: Frequency and percentage of V2 vs. V4+ declarative main clauses with and without *witodlice* in late OE

	With *witodlice*		Without *witodlice*		Total
	N	%	N	%	N
V2	56	0.5	11710	99.5	11766
V4+	40	1.6	2478	98.4	2518
Total	96	–	14188	–	14284

In all four of the above tables the hypothesis of independence can be safely rejected, with $p < 0.0001$ for each (df = 1; Yates's chi-square values: 34.297, 29.765, 98.068 and 36.813 respectively). In all four, the relative frequency of the speaker-oriented adverb is much higher in the V4+ clauses than in the V2 clauses. Examples of verb-late clauses including *soþlice* and *witodlice* from early OE are given in (71) and (72) and examples from late OE are given in (73) and (74).

(71)　He þa soþlice oðre þara flascena þam halgan were **brohte**
　　　he then truly other.ACC the.GEN bottles.GEN the.DAT holy.DAT man.DAT brought
　　　'He then truly brought one of the bottles to the holy man'
　　　(cogregdC,GD_2_[C]:18.141.28.1696)

(72)   Þa witodlice æfter þæs lichaman æriste be Lazares wundrum

        then certainly after the.GEN body.GEN awakening.DAT of L.GEN wonders.DAT

        & mægnum **wæs** ætswiged

        and virtues.DAT was kept-silent

        'Then, certainly, we hear nothing of Lazarus's wonders and virtues

        after his body's resurrection'

        (cogregdC,GDPref_and_3_[C]:17.217.17.2929)

(73)   Zosimus soðlice þa eorðan mid tearum ofergeotende hire to **cwæð**

        Z. truly the.ACC earth.ACC with tears.DAT overspilling her.DAT to said

        'Truly, soaking the earth with his tears, Zosimus said to her ...'

        (comary,LS_23_[MaryofEgypt]:362.234)

(74)   ic witodlice æghwanane **eom** ungesælig buton westme

        I certainly in-every-way am unhappy beyond increase

        'I am truly unhappy in every way beyond increase'

        (coeust,LS_8_[Eust]:203.210)

Speaker-oriented adverbs occur in verb-late clauses with a frequency that is very
clearly not due to chance, then. This is not a property of all adverbs, since the
manner adverb *swiðe/swiþe* 'severely, terribly' does not pattern this way: the
difference between V2 and V4+ clauses with regard to the frequency of occurrence
of this adverb is not close to significance (for Table 3.7, Yates's chi-square: 0.411,
$p = 0.5215$; for table 3.8, Yates's chi-square: 0.267, $p = 0.6054$).

**Table 3.7: Frequency and percentage of V2 vs. V4+ declarative main clauses with
and without *swiðe* in early OE**

	With *swiðe*		Without *swiðe*		Total
	N	%	N	%	N
V2	107	1.9	5390	98.1	5497
V4+	35	1.7	2037	98.3	2072
Total	142	–	7427	–	7569

Table 3.8: Frequency and percentage of V2 vs. V4+ declarative main clauses with and without *swiðe* in late OE

	With *swiðe*		Without *swiðe*		Total
	N	%	N	%	N
V2	79	0.7	11687	99.3	11766
V4+	14	0.6	2504	99.4	2518
Total	93	–	14191	–	14284

For OS and OHG there is much less data available, and the relevant quantitative information is difficult to obtain. However, examples like (75) from OS may be suggestive that the asymmetry observed above holds across early West Germanic. Here the adverbial *te uuârun* 'truly, in truth' can be read as speaker-oriented.

(75)   uui thi te uuârun **mugun** ... ûse ârundi ôđo gitellien

   we you.DAT to truth.DAT may ... our message easily tell

   'Truly, we can happily tell you our message'

   (*Heliand* 563–564)

Another relevant observation concerns the distribution of first person subject pronouns.

Table 3.9: Frequency and percentage of V2 vs. V4+ declarative main clauses with first and non-first person subject pronouns in early OE

	1st		2nd/3rd		Total
	N	%	N	%	N
V2	305	14.0	1874	86.0	2179
V4+	223	22.5	767	77.5	990
Total	528	–	2641	–	3169

Table 3.10: Frequency and percentage of V2 vs. V4+ declarative main clauses with first and non-first person subject pronouns in late OE

	1st		2nd/3rd		Total
	N	%	N	%	N
V2	305	6.8	4198	93.2	4503
V4+	397	33.8	779	66.2	1176
Total	702	–	4977	–	5679

In both early and late OE, first person pronominal subjects are found with much greater frequency, relative to other personal pronouns, in V4+ clauses than in V2 clauses (once again considering only clauses with three or more constituents). The effect is significant at the $p < 0.0001$ level (Yates's chi-square, early OE (table 3.9): 35.042; late OE (table 3.10): 624.312). For OS, looking at Table 3.11, a similar effect appears to hold; however, the effect is not significant (Yates's chi-square: 1.623, $p = 0.2027$), so there is no evidence that the distribution we see in OS is not due to chance.

Table 3.11: Frequency and percentage of V2 vs. V4+ declarative main clauses with first and non-first person subject pronouns in the *Heliand*

	1st		2nd/3rd		Total
	N	%	N	%	N
V2	95	19.7	387	80.3	482
V4+	29	25.7	84	74.3	113
Total	124	–	471	–	595

What are we to make of this, then? These data can, of course, be interpreted in many ways. However, they clearly indicate that for OE at least there was an interpretive distinction between at least some verb-late clauses and clauses in which the verb moved to the left periphery. Furthermore, they are not inconsistent with the hypothesis that verb-movement to the left periphery in declaratives was linked to the assertion of the main proposition of the clause, whereas in clauses in which the main proposition was presupposed, such as expressives/evaluatives, verb-movement did not take place.[35] Speaker-oriented adverbs, which presuppose the main proposition, and first person pronouns, which are naturally likely to occur in evaluatives, occur with greater-than-chance frequency in clauses with unmoved finite verbs.[36]

In syntactic terms we can state this in terms of Fin^0 lacking a $[uV]$ feature in these clauses. Since the features of the verb are then no longer a subset of the features of Fin^0, head-movement fails to take place. We can think of this non-verbal exponent of Fin^0 as a null complementizer, which, following Roberts (1996), raises to $Force^0$ for reasons to do with its clause-typing role.

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[35] There is in fact evidence for various movements in the lower area of the clause (Fuß & Trips 2002, Haeberli & Pintzuk 2012). The crucial point here is that the verb did not move any higher than TP.

[36] Petrova (2011) shows that verb-late clauses in Middle Low German are often 'mirative', serving to highlight the unexpectedness of information. This would be compatible with the interpretation of verb-late clauses in OE outlined here: a secondary proposition built on the primary proposition expresses that the (presupposed) primary proposition is an unexpected state of affairs.

An appealing offshoot of this analysis is that it may help to explain the prevalence of verb-late order in conjunct clauses, as discussed in section 3.1. It could be argued that the verb occurs late in these if and when they do not constitute part of the main assertion of the utterance in which they occur. Similarly, the approach might account for some of the variation in verb movement in early Germanic subordinate clauses. However, these extensions are beyond the scope of this chapter.

3.4.4 Verb-late in proto-Northwest Germanic

That some form of verb-late-generating lexical items must be reconstructed for proto-Northwest Germanic main clauses is obvious; indeed, traditional scholarship on proto-Germanic (e.g. Fourquet 1938; Smith 1971; Lehmann 1972: 243; Antonsen 1975; Hopper 1975: 86; Kiparsky 1995: 152, 1996: 140) assumed that its basic word order was SOV. The early West Germanic languages all contain verb-late examples, as we have seen. Though ON does not, the order is prevalent in the Northwest Germanic runic inscriptions, e.g. the famous Golden Horn of Gallehus.

(76)   ek hlewagastiz holtijaz horna tawido

         I H. H. horn made

         'I, Hlewagastiz Holtijaz, made this horn.'

Eythórsson (1995: 181) also analyses this as an unambiguous example of the lack of V-to-C^0 movement.[37] The Northwest Germanic runic inscriptions contain a great deal of variation with regard to the position of the finite verb, however (Antonsen 1975: 25; Ureland 1978; Braunmüller 1982: 128; Faarlund 1989, 1990: 20–29; Eythórsson 1995), with much depending on the exact reading of individual inscriptions. It seems clear that examples both with and without verb-movement can be found (Eythórsson 1995).

I have not been able to demonstrate that the division between assertive and evaluative/expressive main clauses in terms of verb-movement holds for any of the older Germanic languages except OE. There is no justification for reconstructing this division for Proto-Northwest Germanic, then. The most that can be said is that the

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[37] Under the analysis given in this chapter, this example is actually ambiguous: it is possible to analyse it as an instance of V3, with the horn as given information in SpecFamP and the verb in Fin^0. In OE and OHG V3 structures, however, non-pronominal objects are rarely found in preverbal position, so this analysis is unlikely to be the correct one.

existence of some interpretively-motivated alternation between clauses with and clauses without verb-movement in the protolanguage is not implausible.

3.5 Main clauses in Gothic

In this section I briefly attempt to integrate the picture for early Northwest Germanic with the Gothic data. The most extensive treatment of verb position in Gothic to date is Eythórsson (1995: 18–179), from which most of the data for this section will be drawn.

Eythórsson notes, following Koppitz (1900, 1901) and Fourquet (1938), that when single verbs or nominals in Greek are rendered as verb plus complement in Gothic the complement normally precedes the verb: (77) and (78) are examples.

(77)   dwala gatawida
        foolish.ACC.FEM made.3SG
        'made foolish'
        (1 Corinthians 1:20; Greek Majority Text: *emwranen*)
(78)   liban taujiþ
        live.INF make.3SG
        'makes life'
        (John 6:63; Greek Majority Text: *zwopoioun*)

The basic word order of Gothic is therefore assumed to be SOV.[38] However, the situation is more nuanced: object pronouns and verbal particles often follow the finite verb (Eythórsson 1995: 29–48). Under the usual assumption that Germanic particles and pronouns cannot undergo rightward movement (Pintzuk & Haeberli 2008: 375–380), this indicates some degree of verb-movement.

More interesting, however, are examples like (79) and (80), which show the relative positions of the finite verb and left-peripheral discourse particles such as *uh*.

(79)   iþ Iesus iddj-uh miþ im
        but Jesus went-UH with them
        'But Jesus went with them'
        (Luke 7:6)

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[38] As in the Northwest Germanic languages (see section 3.3), there is a tendency towards verb-movement in negative declaratives (Eythórsson 1995: 24–25), as well as in imperatives and interrogatives.

(80) iþ is ub-uh-wopida

but he PRT-UH-cried

'but he cried'

(Luke 18:38)

The element *-uh* is normally enclitic to the first phonological word of the clause. However, there are 15 cases, including (79) and (80), in which this element instead cliticizes to the finite verb, apparently ignoring the preverbal element (Eythórsson 1995: 56–63). In all these instances, the preverbal element is a pronoun or a proper name (8x *is* 'he', 5x *Iesus*, 1x *Filippus*, 1x *eis* 'they'). When other elements are in clause-initial position, as in (81), (82) and (83), the finite verb does not precede *-uh*.

(81) þuht-uþ þan qiþa ni silbins, ak anþaris

conscience.ACC-UH ÞAN say.1SG NEG self.GEN.SG but other.GEN.SG

'Conscience, I say, not your own, but of the other'

(1 Corinthians 10:29)

(82) uz-uh þamma mela managai galiþun siponje is ibukai

from-UH that.DAT time.DAT many.NOM went disciples.GEN his back

'From that time many of his disciples went back'

(John 6:66)

(83) sumai-h qeþun þatei sunjeins ist

some-UH said that good is

'Some said that he is good'

(John 7:12)

Assuming the positions of the particles *iþ* and *-uh* to be invariant,[39] Eythórsson takes this as evidence for movement of the verb to the C-domain with definite subjects only.

To analyse this data under the assumptions made here, let us consider the role and position of *iþ* and *-uh*. Following Klein (1994) and Klein & Condon (1993), Ferraresi (2005: 150) takes *iþ* to mark a shift in the discourse topic, and *-uh* to introduce a new element into the discourse. Viewing these elements in the framework of Frascarelli & Hinterhölzl (2007), *iþ* can be viewed as a lexicalization of the head of ShiftP, the phrase which hosts shifting (Givón 1983) and aboutness

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[39] In Eythórsson's analysis, *-uh* is base-generated in head position and attaches to the first phonological word in the same maximal projection, for him CP (see examples (80) and (82)). I will have nothing to say about this process of attachment, which I take to be morphophonological. See Eythórsson (1995: 121–141) on cliticization in Gothic.

(Reinhart 1981) topics. Evidence for this position is clear: *iþ* can be preceded by a topic and by subordinating conjunctions (Ferraresi 2005: 172). The enclitic *-uh*, meanwhile, can be viewed as a lexicalization of the head of FocP, the phrase which hosts foci.[40] Example (79) can then be analysed as in (84).

(84)

ShiftP
- Shift[0] *iþ*
- ContrP
  - DP △ *Iesus*
  - Contr'
    - Contr[0] Ø
    - FocP
      - Foc[0] *iddj-uh*
      - FinP △ *miþ im*
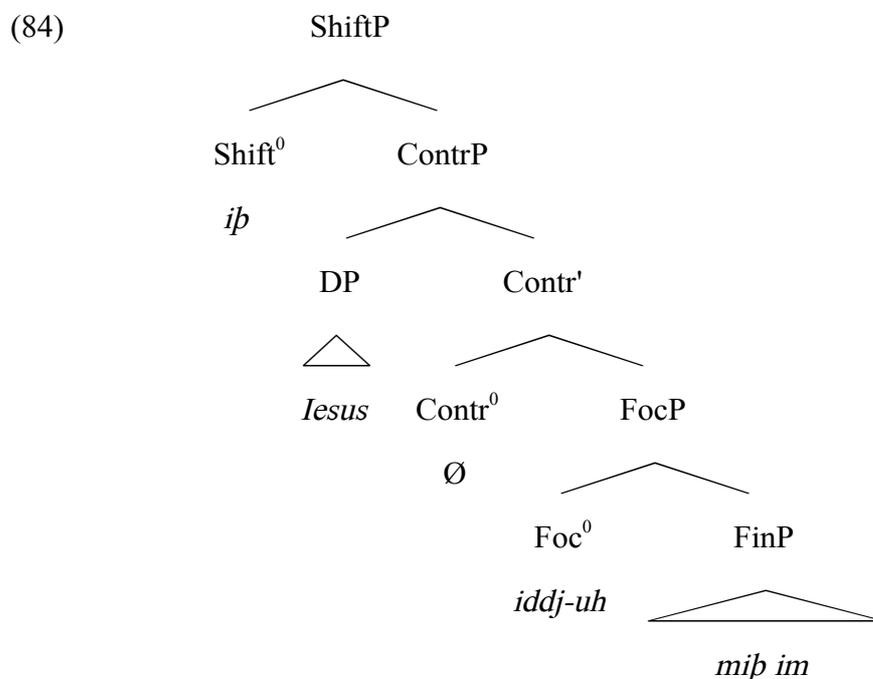
The subject is here analysed as being in SpecContrP, that is, as a contrastive topic. In terms of information structure this seems to be correct: all 15 instances of subjects following *iþ* and preceding *-uh* are given elements active in the discourse, and involve a contrast of topic in context. The absence of objects in this position is then not remarkable: the sample is small, and given objects serving as contrastive topics can be considered to be comparatively rare. It also makes the right predictions with regard to the absence of sentences such as *iþ iddja, with a null subject, since null subjects cannot be contrastive, and **iþ Iesus-uh iddja*, since the contrastive topic *Iesus* is outside FocP and hence not a legitimate target for cliticization.[41] In examples

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[40] For Eythórsson, *-uh* serves merely as a coordinator (1995: 53). For Ferraresi, *-uh* is in FinP, but this leaves its function as introducer of new information unexplained. One problem for the FocP hypothesis, however, is that *-uh* may introduce quantified elements (as in (83)), which are sometimes thought to be ruled out in left-peripheral (identificational) focus position (É. Kiss 1998: 252).

[41] One could then speculate that the movement of the verb to Foc[0] is a 'last-resort'-type strategy to provide a phonological host for the clitic *-uh* (cf. Eythórsson 1995: 68–73 for a similar approach based on the need to license the subject trace), although it is not obvious that such an account can be stated in terms of the system of head-movement based on Roberts (2010b) adopted here, in which movement is a surface outcome of agreement with a defective goal. Alternatively, it could be argued

such as (81)–(83), on the other hand, the pre-*uh* element can be analysed as in focus in SpecFocP rather than contrastive, and hence can host *-uh*.

If *-uh* is in Foc^0, then examples such as (81)–(83) cease to present a problem for the hypothesis that the verb generally moves to Fin^0, in the low left periphery, as I have argued for early Northwest Germanic. In (82) and similar examples, the subject can be analysed as given and in SpecFamP. In the Gospel of Matthew, 137 of the 153 non-conjunct positive indicative declarative main clauses are amenable to an analysis in which the verb is in Fin^0, e.g. (85) and (86).

(85)   ushof sik jainþro
        removed REFL thence
        '(He) removed himself thence'
        (Matthew 11:1; Greek Majority Text: *metebh*)

(86)   fram saihston þan hveilai warþ riqis ufar allai airþai
        from sixth.DAT ÞAN hour.DAT became darkness.NOM over all.DAT earth.DAT
        'From the sixth hour, darkness covered the whole earth'
        (Matthew 27:45; Greek Majority Text: *skotoV egeneto*)

In (85) the verb precedes a reflexive pronoun which is not present in the Greek; in (86) *riqis* 'darkness' follows the verb, even though it is preverbal in the Greek. Only 16 of 153 examples (10.5%) resist analysis in this way, e.g. (87) and (88).

(87)   fauhons grobos aigun
        foxes.NOM holes.ACC have
        'Foxes have holes'
        (Matthew 8:20; Greek Majority Text: *ai alwpekeV fwleouV ecousin*)

(88)   þrutsfillai hrainjai wairþand
        leprous.NOM clean.NOM become
        'Lepers become cleansed'
        (Matthew 11:5; Greek Majority Text: *leproi kaqarizontai*)

In these cases, the second preverbal element is new information and so cannot be treated as a SpecFamP element. 5 of the 16 examples of this kind are due to the translator rendering a simple verb in Greek as a verb plus complement in Gothic, as in (88) (*hrainjai wairþand* for *kaqarizontai*). Cases such as this suggest that V-to-Fin^0

_____

that the verb moves to *-uh* because the focus is on the event itself. This approach has the advantage of accounting for the presence of *-uh* in such clauses in the first place, since it is supposed to be associated with new information.

movement cannot have been general in Gothic. On the other hand, 3 of the 137 unproblematic examples, including (85) and (86), also involve deviations from the Greek; recall also that the other early Germanic languages appear to lack V-to-Fin^0 movement in a low proportion of cases (section 3.4). Furthermore, assuming the absence of any kind of leftward verb movement in Gothic neutral declaratives would leave us with a large number of examples, including (85) and (86), to which we would have to assign absolute ungrammaticality in Greek. A tentative case can be made for V-to-Fin^0 movement in neutral declaratives even in Gothic, then, *pace* e.g. Kiparsky (1995: 162).

To sum up this section: in some contexts, there is definitive evidence for verb movement to the left periphery, as shown by Eythórsson (1995). Furthermore, the Gothic data is largely not inconsistent with the hypothesis of V-to-Fin^0 movement in neutral declaratives, though it should be noted that in cases where the translator had some freedom he seems to have opted for structures in which this movement is absent.

Following Roberts (1996), Ferraresi (2005) and Axel (2007: 35–40), we might speculate that the loss of the Gothic (and presumably Proto-Germanic) system of C-domain discourse particles was related to the restricted activation of the expanded left periphery in later Northwest Germanic languages, though more research would be needed in order to substantiate such a claim.

3.6 Chapter summary

In this chapter I have presented an analysis of declarative main clauses in the early Germanic languages. I argued that it was likely that Proto-Northwest Germanic had an active left periphery, with verb-movement to Fin^0 yielding V3 and occasional V4 orders, and that generalized V2 as found in ON, OS and later OHG was an innovation. In sections 3.3 and 3.4 I argued that V1 and verb-late were probably also structural possibilities in Proto-Northwest Germanic, with different interpretations related to different clausal forces. Section 3.5 suggested that Gothic might be amenable to an analysis along the same lines.

The reconstructions in this chapter have been limited in scope not only by difficulties of interpretation but also by the correspondence problem as discussed in chapter 2. Nevertheless, concrete proposals have been made about the prehistory of the Germanic languages, and these can be assessed on the basis of our knowledge of the data as well as what we know about the progression of syntactic change. In addition, in the process, new facts about constituent order in the early Germanic languages have been brought to light: in particular, that OS had generalized V2 to a

much higher degree than OE, comparable with late OHG, and that verb-late clauses in OE are systematically different in interpretation from verb-earlier clauses. It may be, as Lightfoot (2002a: 114) asserts, that reconstructions are 'unlikely to tell us anything new about the nature of change'. However, this chapter has shown that the close comparative work required to approach questions of reconstruction can lead us to unearth new facts about historically attested languages, and that the process of reconstruction may therefore be more fruitful than previously thought.

Chapter 4: The *wh*-system of early Germanic

4.1 Introduction

This chapter capitalizes on the intuition that syntactic reconstruction is lexical reconstruction in order to reconstruct aspects of the early Germanic *wh*-system. Lexical-phonological reconstruction has enabled us to posit forms for the early Germanic *wh*-pronouns going all the way back to Proto-Indo-European (see e.g. Ringe 2006, 289–290; Lehmann 2007, §3.4.5). The forms Ringe reconstructs for Proto-Germanic are given in table 4.1. One separate neuter form exists, $*h^w at$ in the nominative and accusative singular; only Gothic has separate feminine forms, and these are arguably secondary developments (Prokosch 1939: 279).

Table 4.1: Proto-Germanic interrogative pronouns (Ringe 2006: 290)

	Nom.	Acc.	Gen.	Dat.	Instr.
Masc.	$*h^w as$ ($*h^w is?$)	$*h^w an\bar{\rho}$	$*h^w es$ ($*h^w as?$)	$*h^w ammai$	$*h^w \bar{e}$, $*h^w \bar{i}$
Neut.	$*h^w at$				
Fem.	$*h^w \bar{o}$	$*h^w \bar{\rho}$	$*h^w ez\bar{o}z$	$*h^w ez\acute{o}i$ (?)	$*h^w ez\bar{o}$

In addition to these nominal interrogative pronouns 'who' and 'what', non-argumental forms, originally derived from the above paradigm, can be reconstructed for Proto-Germanic: $*h^w ar$ 'where', $*h^w ana$ 'when', $*h^w \bar{o}$ 'how'. For 'why', a form of the instrumental argumental pronoun, combined with a preposition, was used. In addition there were the forms $*h^w aþeraz/*h^w eþeraz$, discussed in section 4.4.

The task of the syntactic reconstructor is then to pair these forms, along with corresponding functional heads in the C-domain, with an appropriate syntax. Though much has been said about the syntax of interrogatives in Germanic (e.g. Kiparsky 1995, Eythórsson 1995, Fuß 2003, Ferraresi 2005: 134–136, Axel 2007: 173–189, within the generative tradition alone), many things remain to be said. In this chapter I first give an overview and analysis of constituent order in the *wh*-system, following on from the discussion of declarative main clauses in chapter 3. The following sections are devoted to more detailed examinations of individual *wh*-elements. Section 4.3 analyses attested cases of 'underspecification' of reflexes of $*h^w at$ in the early Germanic languages, in the sense of Munaro & Obenauer (1999); section 4.4 discusses the forms $*h^w aþeraz/*h^w eþeraz$ and their reflexes in the early Germanic languages. A theme of this chapter is that comparative work on the grammars of living languages can inform work on historically attested languages and on reconstruction.

4.2 Word order in wh-interrogatives

4.2.1 V2 in wh-interrogatives

Direct *wh*-interrogatives in the early Germanic languages have often been held up as cases in which V-to-C movement can be observed, contrary to the earlier view that Proto-Germanic was consistently verb-final. Examples (1)–(5) illustrate *wh*-V$_{fin}$ order in Gothic, ON, OE, OHG and OS.

(1)   ƕa skuli þata barn wairþan?
         what shall that child become
         'What shall that child become?'
         (Gothic Bible, Luke 1:66; Eythórsson 1996: 110)

(2)   hverr fell af láginni?
         who.MASC fell off log.DEF
         'Who fell off the log?'
         (Hkr I.335.9; Faarlund 2004: 227)

(3)   Hwi wolde God swa lytles þinges him forwyrnan
         why would God such small.GEN thing.GEN him deny.INF
         'Why would God deny him such a small thing?'
         (cocathom1,+ACHom_I,_1:181.74.71; van Kemenade 1987: 112)

(4)   bihuuiu uuard christ in liihhi chiboran?
         why became Christ in flesh born
         'Why was Christ born in the flesh?'
         (*Isidor* 487; Axel 2007: 55)

(5)   huî uuilliad gi sô slâpen?
         why want you so sleep.INF
         'Why do you want to sleep so?'
         (*Heliand* 4777)

The V2 pattern with *wh*-items in the early Germanic languages is extremely robust. For Gothic, Ferraresi (2005: 45) states that 'subject-verb inversion in questions is not the rule', and that the order in which the subject precedes the verb is more common. However, Eythórsson (1995: 24) observes that 'in *wh*-questions there is a tendency for the verb to follow the *wh*-phrase directly', even when this leads to deviations from the Greek original, as in (1). He concludes that 'verb movement to C takes place in *wh*-questions' (1995: 26). Fuß (2003) considers a number of apparent counterexamples to the V2 generalization in Gothic and argues that, since

in all such examples the constituent order is identical to that of the Greek, V-to-C movement can be said to be systematic in the grammar of this language.

For ON, Faarlund (2004: 231) takes it as given that direct *wh*-interrogatives are V2. A search of the IcePaHC corpus (Wallenberg *et al.* 2011) reveals that 1151 (93.2%) of 1235 direct *wh*-interrogatives are V2, and many of the 84 exceptions can be read as indirect *wh*-interrogatives or exclamatives.

For OE, Kiparsky (1995: 144–145) states that 'wh-questions always have verb-second order', and hence that 'wh-phrases induce verb second'. Fischer *et al.* (2000: 106) state that constituent questions are exceptionlessly V2. A search of the YCOE (Taylor *et al.* 2003) gives 2124 (97.7%) of 2173 direct *wh*-interrogatives as V2.[1] As with ON, many of the 49 exceptions can be read as indirect *wh*-interrogatives or exclamatives.

For early OHG, Axel (2007: 54, fn. 31) reports that 22 of 25 examples of *wh*-interrogatives in the *Isidor* and all 14 instances in the Monsee Fragments are V2. She also cites Dittmer & Dittmer (1998) as investigating four chapters of the *Tatian* and finding that 10 of the 11 examples of *wh*-interrogatives found are V2. For later OHG, Axel (2007: 55, fn. 32) cites Näf (1979: 161–162) as finding that all 113 examples in Notker's *Consolatio* translation are V2, often deviating from the Latin. In Williram's Song of Songs there are eight examples of *wh*-interrogatives, all of which are V2.

In the OS *Heliand*, there are 49 independent *wh*-interrogatives. 42 of these are V2. One of the remaining examples is a clause introduced by *hueđer*, which will be discussed further in section 4.4. The remaining six counterexamples all involve *te huî* or *be huî* 'why'.

The generalization that such clauses involve a species of V-to-C movement of the finite verb (Eythórsson 1995: 333) seems to be on firm ground, then, at least numerically speaking.[2] The remainder of this subsection is devoted to 'cleaning up' the remaining recalcitrant examples in the hope of making the generalization exceptionless. These examples may also shed light onto the precise nature of V-to-C movement within a theory that assumes a more fine-grained C-system.

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[1] The 64 additional examples of non-V2 *wh*-interrogatives introduced by *hwæþer* are accounted for in section 4.4.

[2] On even safer ground is the hypothesis that the early Germanic languages – and Proto-Germanic – were *wh*-movement languages, and not, for instance, *wh*-in-situ languages as is the case for modern Chinese (Huang, Li & Li 2009: 260–281). I am not aware of a single counterexample.

4.2.2 Particles, pronouns, topics and the fine structure of the left periphery of *wh*-interrogatives

The three non-V2 examples in the OHG *Isidor*, and the one non-V2 example in the *Tatian* (Dittmer & Dittmer 1998: 106), all involve elements intervening between the *wh*-pronoun and the finite verb. In addition, examples of this kind can be found in the *Tatian*. Two examples, from Axel (2007: 244–245), are given below.

(6) uuanan uns sint in uuostinnu so manigu brot?
whence us.DAT are in desert.DAT so many bread.PL
'Where are we to get so much bread in a desert?'
(*Tatian* 295,23)

(7) uuer mih sazta zi duomen oder teilari ubar íúuúih
who me installed to judge or divider over you
'Who made me a judge or arbiter over you?'
(*Tatian* 353,22)

This order may mimic the order of the Latin original, as in (7), but it also occurs independently, as in (6). Though data are sparse, it seems to be the usual pattern when pronominal elements are present: there are two other examples like (6) in the *Isidor*, and only one in which the pronoun follows the finite verb (Axel 2007: 245).

A similar set of examples can be found in Gothic, as observed by Ferraresi (2005: 42–43) and Fuß (2003: 198–199).

(8) duƕe jus mitoþ ubila in hairtam izwaraim?
why you.PL think evil in hearts.DAT your.DAT
'Why do you think evil in your hearts?'
(Gothic Bible, Matthew 9:4)

(9) ƕaiwa þu qiþis þatei frijai wairþiþ?
how you.SG say that free become
'How do you say you will become free?'
(Gothic Bible, John 8:33)

Fuß (2003: 199) observes that in these examples the word order is parallel to that of the Greek original, and concludes on this basis that they 'do not tell us anything about the syntax of Gothic'. This is problematic in that we must assume that these examples are fully ungrammatical in Gothic if we do not wish to posit this pattern as

a native one. The hypothesis is also undermined by the occurrence of such examples
in OHG ((6)–(7)) and also in OE, albeit very rarely, as in (10).

(10)　　To hwon þu sceole for owiht þysne man habban ... ?
　　　　to what.INSTR you should for anything this.ACC man have.INF
　　　　'Why should you esteem this man at all?'
　　　　(coblick,LS_32_[PeterandPaul[BlHom_15]]:179.139.2278)

Although extremely rare, such examples arguably parallel the cases of V3 in early
West Germanic declarative main clauses assessed in chapter 3, and hence suggest
that there may have been a stage in which the left periphery of *wh*-interrogatives
was more complex than simple V2. On the other hand, this requires these examples
to be analysed as relics, and there is no secure basis for this reasoning (see Campbell
1990: 81–86 for discussion of the problem of identification of archaisms); they could
equally well be innovations, or perhaps even scribal errors or ungrammatical, as Fuß
(2003: 199) suggests. However, it is at least possible that examples such as (6)–(10)
indicate that more than one constituent could move to the left periphery in early
Germanic *wh*-interrogatives. Perhaps this option, as opposed to the far more frequent
V2, was marginally available, analysed as archaic by speakers/authors, and therefore
restricted in its distribution; this would explain its occurrence in the Gothic Bible
only when corresponding exactly to the Greek original, and would save us having to
posit the existence of ungrammatical strings in this text.[3]

　　　　Another set of examples involves topics apparently preceding the *wh*-word.
Such cases can be found in Gothic, ON Eddic poetry, OE and OHG.

(11)　　izwara ƕas raihtis wiljands kelikn timbrjan ... ?
　　　　you.GEN.PL who.NOM then wanting tower build
　　　　'For which of you, wanting to build a tower, ... ?'
　　　　(Gothic Bible, Luke 14:28; Eythórsson 1995: 100)
(12)　　af heilom hvat varð húnom mínom?
　　　　of healthy.DAT what became sons.DAT my.DAT
　　　　'What became of my healthy sons?'
　　　　(*Vǫlundarkviða* 32: 3–4; Eythórsson 1995: 101)

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[3] However, there are also examples of Gothic *wh*-interrogatives in which the verb occurs late on the
hypothesis that the particles involved are C^0-oriented (Eythórsson 1995: 102; Fuß 2003: 200–205). I
have no account for these.

(13) Se behydda wisdom and se bedigloda goldhord, hwilc fremu is ænigum

the hidden wisdom and the concealed gold-hoard, which benefit is any.DAT

on aðrum þæra?

in either.DAT them.GEN

'The hidden wisdom and the concealed gold-hoard, what benefit does either

of them bring?'

(coaelhom, + AHom_9:40.1326)

(14) [christes chiburt]ᵢ huuer siaᵢ chirahhoda?

Christ's birth who her.ACC recounted

'Who recounted the birth of Christ?'

(*Isidor* 106; Axel 2007: 209)

Kiparsky (1995: 143–145) suggests that the possibility of having a topic to the left of the *wh*-phrase was general to early Germanic (see also Hale 1987a, b on Vedic Sanskrit and Hittite).[4] The evidence is not unequivocal, however. Though there are other such examples in Gothic (cf. Ferraresi 2005: 44), Eythórsson (1995: 99–101) stresses that (11) is the only one that does not match the Greek original, and furthermore it is possible for *izwara hvas* to be analysed as a single constituent. The cases in (13) and (14) from OE and OHG, also rare, contain resumptive elements, and hence these can be argued to involve clause-external hanging topics, not necessarily hosted in the clausal left periphery.[5] The only unproblematic example of a moved topic above the *wh*-phrase is (12), then. This is the only example in the Eddic poetry corpus, though, as Eythórsson (1995: 101) remarks, it may be significant that it is attested in one of the oldest of the Eddic poems. In any case, I concur with Eythórsson (1995: 99) that this single example should not be taken to indicate that this possibility was general in early Germanic, *contra* Kiparsky (1995).

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[4] Kiparsky's own OE example involves an adverbial clause to the left of a *wh*-phrase. However, these cases are not probative, as there is evidence that such clauses were not originally integrated into the main clause in Germanic (Axel 2002, 2004; Axel & Wöllstein 2009).

[5] The classical diagnostics for left-dislocations, which are assumed to be movement-derived (Cinque 1977, Benincà & Poletto 2004), and hanging topics, which are not, are difficult to apply to these languages. Axel (2007: 209) analyses *christes chiburt* in (14) as nominative: if this were the case, then (14) would have to be analysed as a hanging topic. However, due to morphological syncretisms it could just as well be in the accusative.

4.2.3 Verb-late order in OS *wh*-interrogatives

Six examples of verb-late order can be found in the OS *Heliand*. All of these involve the wh-phrase *te huî* or *be huî* 'why', literally a preposition followed by an instrumental form of the interrogative pronoun. Two examples are given below; the remaining examples can be found on lines 3816–3817, 5182, 5342 and 5967.

(15) Bihuuî thu hêr dôpisli fremis undar thesumu folke ... ?
      to-what.INSTR you here baptism do under this.DAT people.DAT
      'Why are you performing baptisms among these people?
      (*Heliand* 927–928)

(16) fader alomahtig ... te huî thu mik sô farlieti ... ?
      father almighty ... to what.INSTR you me so forsook
      'Almighty Father, why have you forsaken me?'
      (*Heliand* 5635–5636)

Similar examples, also involving an item meaning 'why', can be found in Old English.

(17) Hwy þu la Drihten æfre woldest þæt seo wyrd swa hwyrfan sceolde?
      what.INSTR you INTJ Lord ever wanted that the fate so turn should
      'Why, o Lord, would you ever want Fate to turn thus?'
      (coboeth,Bo:4.10.17.127)

(18) Eala, ge eargan & idelgeornan; hwy ge swa unnytte sien & swa aswundne?
      INTJ you wretched.PL & lazy.PL what.INSTR you so useless be & so idle
      'Oh, you wretched and lazy people, why are you so useless and idle?'
      (coboeth,Bo:40.139.7.2771)

(19) For hwan þu us, ece god, æfre woldest æt ende fram þe
      for what.INSTR you us eternal God ever wanted at end from you
      ahwær drifan?
      anywhere drive.INF
      'Why, o Lord, would you ever want to drive us from you?'
      (Paris Psalter, Psalm 73)

While from a language-internal perspective these cases may seem problematic, viewed through a cross-linguistic lens such examples are not so difficult to account for. Peculiarities with *wh*-items meaning 'why' have long led linguists to attribute a different syntactic structure to *why*-questions than to other *wh*-questions (e.g. Rizzi

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1990: 46–48; Hornstein 1995: 147–150; Ko 2005; Stepanov & Tsai 2008). Most recently, Shlonsky & Soare (2011) have proposed that *why* is externally Merged in the specifier of a functional projection, ReasonP, above negation and adverbials, then undergoes movement (in its short construal) to the specifier of IntP. The cartography of the left periphery they assume follows Rizzi (2001b) and is given in (20).

(20)   ForceP > IntP > TopP > FocP > WhP > Fin(ite)P

Crucially, other *wh*-phrases, including *why* itself when it originates in a lower clause (long construal), move to SpecWhP, not SpecIntP. This difference in landing site may correlate with a difference in verb-movement.

More must be said than this, however, since both OS and OE have *why*-questions that do appear to involve movement of the finite verb to the left periphery. In OS there are 15 examples of V2 *why*-questions as opposed to 6 where the verb is in a later position. Something else needs to be said about the distribution of V2, therefore.

I suggest that the conditioning factor for verb-movement is whether the *why*-question is a 'true' question, i.e. a genuine request for information, as opposed to a 'special' question such as a rhetorical question (Obenauer 2004; see Berizzi 2010: 9–13 for discussion).[6] It has been demonstrated that 'true' and 'special' questions may differ syntactically. In those examples without movement, such as (15)–(19), the interpretation is unlikely to be as a request for information. In (15) the speakers are asserting that John the Baptist has no right to perform baptisms, since he is not one of the prophets. Examples (16), (17) and (19) are questions to God, and we can reasonably assume that the speakers are not expecting their question to be responded to (directly); a number of other examples are of this nature. Finally, in (18) the speaker is not genuinely requesting that the wretched and lazy people give reasons for their being useless and idle.

V2 *why*-questions, on the other hand, are most naturally analysable as true questions. In example (22), for instance, the disciples are asking Jesus why he wants to return to the Jews.

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[6] Obenauer (2004) in fact identifies three types of 'special' questions: surprise/disapproval questions, rhetorical questions and Can't-find-the-value-of-*x* questions.

(21) te huî sind gi sô forhta?

for what.INSTR are you so afraid

'Why are you so afraid?'

(*Heliand* 2253)

(22) te huî bist thu sô gern tharod, ... fro mîn, te faranne?

for what.INSTR are you so keen there lord my to travel.INF

'Why are you so keen to travel there, my lord?'

(*Heliand* 3987–3988)

The fact, then, that the verb-late interrogatives in OE and OS a) all involve *why* and b) can all be analysed as special questions means that it is not necessary to weaken to a statistical generalization the claim that (genuine) interrogatives in early Germanic involve verb-movement to the left periphery: the variation can all be accounted for in a categorical manner, as is desirable given the considerations laid out in section 2.2.2. I will not here speculate on whether the 'special *why* construction' can be reconstructed for Proto-Northwest Germanic or Proto-Germanic.

4.3 Underspecified *ʰʷat?*

The OE word *hwæt* is well-known within Anglo-Saxon studies as the first word of the epic poem *Beowulf*. In editions of *Beowulf* this *hwæt* is often followed by a comma (e.g. Klaeber 1922) or an exclamation mark (Kemble 1835, Harrison & Sharp 1893). It is commonly held that the word can be 'used as an adv[erb]. or interj[ection]. Why, what! ah!' (Bosworth & Toller 1898: 571) as well as in its normal sense, familiar from modern English, as the neuter singular of the interrogative pronoun *hwā* 'what'.

In this section I present new evidence from OE and OS constituent order which suggests that the additional punctuation after 'interjective' *hwæt* and its OS cognate *huat* is inappropriate: not only are *hwæt* and *huat* not extra-metrical, they are also unlikely to be extra-clausal in the vast majority of cases of their occurrence.[7] I argue that 'interjective' *hwæt* is not an interjection or an adverb but rather is parallel to modern English *how* as used in exclamative clauses such as 'How you've changed!'. In other words, it is *hwæt* combined with the clause that follows it that delivers the interpretive effect of exclamation, not *hwæt* alone.

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[7] In the rest of this section I use *hwæt* as a cover term for both OE *hwæt* and OS *huat*, as the behaviour of the two is almost identical. Where differences exist, these will be flagged up in the text. I gloss the item simply as 'hw.' throughout.

4.3.1 The traditional view

As alluded to earlier, *hwæt*, as well as being the nominative/accusative neuter singular of the interrogative pronoun, was able to perform an extra role in OE, as in the first line of *Beowulf*:

(23) Hwæt we Gardena   in geardagum ·
      þeodcyninga   þrym gefrunon
      hu ða æþelingas   ellen fremedon ·
      'We truly know about the might of the nation-kings in the ancient times of
      the Spear-Danes how princes then performed deeds of valour'
      (*Beowulf* 1–3; Bammesberger 2006: 3)

Bammesberger (2006) follows Stanley (2000) in suggesting that *hwæt* 'can function more or less as an adverb' (2006: 5), and accordingly translates it as 'truly'. Other translations include 'What ho!' (Earle 1892), 'Lo!' (Kemble 1837), 'Hear me!' (Raffel 1963), 'Yes,' (Donaldson 1966), 'Attend!' (Alexander 1973), and 'So.' (Heaney 1999). The OED states that *hwæt* can be 'used to introduce or call attention to a statement' in older English, citing the above example among others. Mitchell & Robinson (1998: 45) and Mitchell & Irvine (2000) go so far as to analyse this instance of *hwæt* as an extra-metrical 'call to attention', although this is far from universally accepted (cf. e.g. Stanley 2000: 555; Bammesberger 2006: 7, fn. 5).

This use of *hwæt* is found not only in early OE verse but also in prose, as in the following examples from the writings of Ælfric and the translation of Bede's *Historia ecclesiastica gentis Anglorum*:

(24) **hwæt** se soðlice onwriið his fæder scondlicnesse
      hw. he truly discovers his father.GEN nakedness.ACC
      'he certainly uncovers the nakedness of his father'
      (cobede,Bede_1:16.70.15.657)
(25) **Hwæt** ða Eugenia hi gebletsode
      hw. then Eugenia$_i$ her$_i$ blessed
      'Then Eugenia blessed herself'
      (coaelive,+ALS_[Eugenia]:171.295)

In OS, the cognate item *huat* can be found with an apparently similar interpretation, and in the editions this is similarly partitioned off from the clause following it by a comma (e.g. Sievers 1878, and the *Heliand* text in Behaghel & Taeger 1996) or an

exclamation mark (e.g. the *Genesis* text in Behaghel & Taeger 1996).

(26)   **Huat**, thu thesaro thiodo canst menniscan sidu
       hw. you this.GEN people.GEN know.2SG human custom.ACC
       'You know the customs of these people'
       (*Heliand* 3101–3102)

(27)   '**huat**, ik iu godes rîki', quað he, 'gihêt himiles lioht'
       hw. I you.DAT God's kingdom.ACC said he promised heaven's light
       '"I promised you God's kingdom," he said, "heaven's light."'
       (*Heliand* 4572–4573)

Grimm (1837: 448–451) remarked that within Germanic this use of the interrogative pronoun was specific to these two languages,[8] emphasising that the sense was not interrogative here, since the pronoun was not followed directly by the verb as in true interrogatives; furthermore, he demonstrates that the pattern cannot be merely an artefact of translation from a Latin original, since *hwæt* in OE translations (e.g. of Bede's *Historia*) is often inserted even when it corresponds to nothing overt in the original. Grimm notes that it always stands at the beginning of a clause, and that it often serves to introduce speech, or even a whole poem as in the case of *Beowulf*. His conclusion is that it is 'purely an exclamation, albeit in a very moderate sense'.[9]

       Brinton (1996) analyses *hwæt* as a pragmatic marker, suggesting that its function is 'very similar to that of *you know* in Modern English' (1996: 185). As she notes (1996: 30–31), the definitions of pragmatic markers found in the literature seem to bear little resemblance to one another. Östman (1982), for example, includes the suggestion that pragmatic particles 'tend to occur in some sense cut off from, or on a higher level than, the rest of the utterance' (1982: 149); as will be demonstrated later in this section, this is unlikely to have been the case for *hwæt*. Brinton's discussion reveals a remarkable range of functions for *hwæt*: for instance, it may serve to introduce an insulting 'verbal assault' on the addressee, but may also express deference or solidarity (1996: 188). *Hwæt* is also not uniform with respect to

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[8] It is striking that OHG exhibits no trace of this use. Hopper (1977) speculates that *dat* 'that' in line 35b of the OHG *Hildebrandslied* may be a scribal error for *wat*, and notes that this would fill the surprising lacuna. However, his hypothesis cannot be confirmed, and given the heavy OS influence on the *Hildebrandslied* the occurrence of *wat* here would not be a reliable indication that the construction was native to OHG. In addition, Stanley (2000: 527, fn. 7) refers to Cleasby & Vigfusson (1874) for some potential Old Norse examples of *hvat* as an interjection, although states that these are 'certainly rare'. Although I have not investigated these in detail, the examples given (1874: 297) do not seem parallel to those in OE and OS in which *hwæt* precedes a clause.

[9] 'ein bloßer ausruf, jedoch in sehr gemäßigtem sinn' (1837: 450).

the status of information it introduces: it may indicate that the information to follow is common or familiar, serve to renew interest in that information and/or focus attention on its importance, but it may also precede new information (1996: 187–8). However, several useful observations are made: for instance, that *hwæt* frequently (but not exceptionlessly) occurs with a first or second person pronoun (1996: 185). Brinton also discusses a potential path of grammaticalization of *hwæt* from its origins as an argumental interrogative pronoun (1996: 199–206). She suggests that it has lost its characteristics as a pronoun, e.g. its inflectional morphology and syntactic position, and undergoes 'decategorialization' to a particle or interjection. A situation of layering, in the terminology of Hopper & Traugott (2003: 124), thus obtains, with *hwæt* continuing to function as an argumental interrogative in the grammar of OE.

Garley, Slade & Terkourafi (2010) also discuss *hwæt* in relation to *Beowulf*, and their article provides a useful summary of the received wisdom regarding the word. They take it to be a discourse-structuring formula, 'a marker employed in the representation of spoken discourse' (2010: 218). Supporting this, all 25 of the OS examples I have found in the *Heliand* occur in the speech of a character within the text. It 'signals the character's intention to begin a dialogue or a narrative' (2010: 219); eight OE poems other than *Beowulf* begin in this way (2010: 219), and 15 of the 25 OS examples initiate a character's speech, as in example (27) above. This might also explain the frequency of first and second person pronouns in clauses preceded by *hwæt* noted by Brinton. Less commonly discussed, however, are the cases in which *hwæt* cannot be assimilated to this discourse-initiating role. Garley, Slade & Terkourafi note that it may also occur in the middle of a character's speech, as in the remaining 10 OS examples, e.g. (26) above. Even more problematic than this is its occurrence (e.g. (24), (25)) in texts such as Ælfric's Lives of Saints, and in particular the translation of Bede's *Historia ecclesiastica gentis Anglorum*, which are far less bound up with prototypical orality and in which it therefore makes little sense to view *hwæt* as being representative of speech or functioning as a 'call to attention'. Although *hwæt* clearly had this discourse-opening function in OE and OS, then, this function does not suffice alone to characterize its meaning.[10]

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[10] For completeness it should be mentioned that in OE and OS, *hwaet* could also serve as an indefinite pronoun:

    (i)   Heo is uoluntas, þæt is wylla, þonne heo **hwæt** wyle
             she is uoluntas that is will when she hw. wants
             'It is *voluntas*, that is will, when it wants anything'
             (coaelive, +ALS_[Christmas]:189.147)

4.3.2 Problems with the traditional view

Stanley (2000) provides a recent and extensive discussion of *hwæt* in OE, although without discussing clausal word order. His conclusions are much the same as Grimm's, and in addition he adduces metrical evidence to show that *hwæt* cannot have been a strong interjection: if it were stressed, then various instances of it in verse would have led to double alliteration, 'breaking a basic prosodic rule' (2000: 554). Against the Mitchell & Robinson view that *hwæt* was extra-metrical he argues that 'if an opening word were felt to be divorced from the phrase that follows we might have expected it to be occasionally followed by a mark of punctuation, as is *hwætla* in a good Ælfric manuscript' (2000: 555). In actual fact, OE manuscripts never show punctuation between *hwæt* and a following clause (2000: 525), and the same is true of OS: no punctuation mark is ever found between *huat* and a following clause in any of the manuscripts of the *Heliand* containing a relevant example (Cotton, Munich, Straubing).[11] Furthermore, Stanley points out that Ælfric's own grammar of Latin and OE[12] (edition Zupitza 1880) did not include *hwæt* as an interjection, commenting that 'Ælfric's omission is surprising seeing that this word when used to open a sentence appears to function often as an interjection' (2000: 541).

So far, then, we have seen that the traditional view of *hwæt* as an adverb or interjection (Bosworth & Toller 1898) outside the clause and potentially

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(ii)   he uuirkid manages **huat**
            he works many.GEN hw.
            'he works many wonders'
            (*Heliand* 3934)

Behaghel (1923: 366–367) suggests that in OE, and in all other older Germanic languages except OS, *hwæt* was restricted to contexts that we would now describe as licensing negative polarity items (cf. Baker 1970, Haspelmath 1997, Giannakidou 1998 and Rowlett 1998 for discussion of this concept). He argues that the use of *hwæt* in positive contexts in OS, as in (ii), must be an innovation, since only one putative example can be found in Gothic (Galatians 2: 6) while it is relatively frequent in OS. The meaning of OE *hwæt*, when used as an indefinite, was therefore presumably closer to Modern English 'anything', whereas OS *huat* could additionally mean 'something'.

[11] The Cotton manuscript, Caligula A VII, I was able to check personally at the British Library. The other two were checked by means of digitalized versions made available online by the *Bayerische Staatsbibliothek*.

[12] It has been argued (e.g. Law 1987) that Ælfric's grammar is not a grammar of OE at all, since its primary intended use is as an aid to learners of Latin. However, 'when Ælfric explains that language is made of *andgytfullic stemn*, when he shows how patronyms are formed in English, when he divides English nouns into twenty-eight categories and English adverbs into twenty-three, he is analyzing English as a grammatical entity' (Menzer 2004: 122–123).

extrametrical, possibly serving as a 'call to attention' (Mitchell & Robinson 1998), suffers from a number of problems, many already noted by Grimm (1837) and Stanley (2000). These are listed below for ease of reference:

(a)   *Hwæt* must usually be analysed as unstressed;

(b)   no punctuation between *hwæt* and the following clause is ever found;

(c)   a contemporary grammarian did not analyse *hwæt* as an interjection;

(d)   *hwæt* is not exclusively found in texts connected to primary orality, and does not always serve to initiate speech.

Constituent order facts are also problematic for the interjection hypothesis. Traditional philological works on syntax make little mention of constituent order in connection with *hwæt*. Behaghel (1923–1932) does not mention the construction at all. Visser (1969: 1547) provides several examples of what he considers to be SV word order with initial interrogative *hwæt*, but as Mitchell (1985: 680) points out 'these can all be taken as non-dependent exclamations'. Hopper (1977: 483) suggests that the *hwæt*-construction is quasi-formulaic and may therefore be likely to have the 'archaic' verb-final order, but does not go into any detail on this point. Likewise, Mitchell (1985: 299–300, fn. 95) suggests that interjections like *efne* 'lo!/behold!' and *hwæt* may influence word order, but does not elaborate on this. More recently, within a generative framework, Koopman (1995), in his discussion of verb-final main clauses in OE prose, observes that 'influence of style is ... noticeable in the word order after the interjection *hwæt*' (1995: 140; see also Ohkado 2005: 246).

        However, the constituent-order patterns found in both OE and OS are too pervasive and significant to be ascribed to archaism or stylistic choices alone. Under the hypothesis that *huat* is an extra-clausal interjection, separated from the clause itself by a comma in writing which corresponds to a pause in speech, the null hypothesis as regards the constituent order of the following clause would be that no difference would obtain between these and other main clauses. This prediction is not, however, borne out by the data in Table 4.2.[13] Here all the non-interrogative clauses preceded by *huat* in the *Heliand* have been considered, and are compared to all the other non-conjunct main clauses in the *Heliand*. Although the number of *huat*-clauses is very small, once again, the difference between the two types of clause is

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[13] *hwæt* and *huat* themselves are not treated as clausal constituents in the figures given in Table 4.2 and beyond, nor is the *þa* normally collocated with *hwæt* by Ælfric, since, if the null hypothesis is that these were true extra-clausal particles, it should not be assumed that they were clausal constituents when assessing this hypothesis. Instead these elements are discounted for the purpose of counting constituents.

clearly statistically significant (p < 0.0001). For anyone who takes *huat* to be clause-external, this result must surely be a mystery: if *huat* influences the constituent order of the clause that follows it, it must be a part of that clause, and hence not an 'interjection'.

Table 4.2: Frequency and percentage of V1/V2 vs. V-later *huat*-clauses vs. non-*huat* main clauses in the *Heliand*

	V1/V2		V-later		Total
	N	*%*	N	*%*	N
Huat	9	36.0	16	64.0	25
Non-*huat* (main)	2078	88.5	270	11.5	2348
Total	2087	–	286	–	2373

Comparing clauses followed by *huat* to (non-conjunct) subordinate clauses, as in Table 4.3, is also instructive. Here the difference between the two types of clause is not statistically significant at the 0.05 level (p = 0.2545). This suggests that we should hypothesize that these two types of clause pattern together; in other words, clauses introduced by *huat* have the word order of subordinate clauses.

Table 4.3: Frequency and percentage of V1/V2 vs. V-later *huat*-clauses vs. non-*huat* subordinate clauses in the *Heliand*

	V1/V2		V-later		Total
	N	*%*	N	*%*	N
Huat	9	36.0	16	64.0	25
Non-*huat* (sub)	567	25.8	1629	74.2	2196
Total	576	–	1645	–	2221

Similar results are found for OE. In the translation of Bede's *Historia ecclesiastica gentis Anglorum*, 20 of the 29 clauses preceded by *hwæt* (69.0%) have the verb in a position later than second, and in Ælfric's Lives of Saints, excluding five examples of the true interjection *hwæt la* (cf. Stanley 2000), 112 clauses preceded by *hwæt* can be found, 63 of which have the verb in a position later than second (56.3%). The results of contingency tests based on these data are clear.[14] As in the OS *Heliand*,

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[14] Frequency data for main and subordinate clauses in the *Historia* translation and Ælfric's Lives of Saints have been obtained by searching the relevant parts of the YCOE (Taylor *et al.* 2003) using CorpusSearch 2.0 (Randall 2005–2007) and taking hit frequency counts. Although the data is presented here in a single table for ease of exposition, for the purpose of the Fisher's exact tests I compared *hwæt*-clauses to main clauses and subordinate clauses separately.

main and subordinate clauses pattern distinctly differently in the *Historia* translation (p < 0.0001). While the constituent order in *hwæt*-clauses and main clauses is once again dramatically different (once again p < 0.0001), the difference between constituent orders in *hwæt*-clauses and in subordinate clauses falls well short of significance (p = 0.5657). The argument for *hwæt*-clauses patterning with subordinate clauses in this text is thus even stronger than for the *huat*-clauses in the *Heliand*.

Table 4.4: Frequency and percentage of V1/V2 vs. V-later *hwæt*-clauses vs. non-*hwæt* clauses in Bede's *Historia*

	V1/V2		V-later		Total
	N	%	N	%	N
Main (non-*hwæt*)	1898	69.9	819	30.1	2717
Subordinate	1863	37.8	3067	62.2	4930
Hwæt	9	31.0	20	69.0	29
Total	3770	–	3906	–	7676

Table 4.5: Frequency and percentage of V1/V2 vs. V-later *hwæt*-clauses vs. non-*hwæt* clauses in Ælfric's *Lives of Saints*

	V1/V2		V-later		Total
	N	%	N	%	N
Main (non-*hwæt*)	3204	76.8	969	23.2	4173
Subordinate	3467	61.5	2168	38.5	5635
Hwæt	49	43.7	63	56.3	112
Total	6720	–	3200	–	9920

Ælfric's Lives of Saints is a substantial OE text dated around 996–997. Although direct sources in Latin can be identified, Ælfric's translation is generally argued (e.g. by Bethurum 1932) to be very free and idiomatic, making it a suitable object for syntactic investigations. This text has a very different range of constituent order patterns from that found in the translation of Bede's *Historia*. While the position of the verb differs substantially between main and subordinate clauses (p < 0.0001), subordinate clauses themselves far more often have the verb in an early position than in the translation of Bede. As a result, *hwæt*-clauses, which more frequently have the verb later, differ very significantly from both main (p < 0.0001) and subordinate (p = 0.0002) clauses. Here, then, it cannot be said that *hwæt*-clauses pattern with subordinate clauses; instead they seem to follow a pattern of their own, with the verb

much more likely to be later than in other clauses in general.

The fact that broadly the same results are obtained for OE and OS – a general preference for verb-later order in *hwæt*-clauses – makes it unlikely that the constituent order differences between *hwæt*-clauses and other main clauses are the result of innovation in both languages; although parallel innovation (perhaps contact-facilitated) cannot be ruled out, by the criterion of diachronic parsimony it should be assumed that the verb-late pattern was the original one, and that *hwæt*-clauses patterned with subordinate clauses from their inception.

To recapitulate: in terms of constituent order, clauses introduced by *hwæt* in OE and OS pattern statistically with subordinate clauses (including dependent questions and free relatives), rather than with main clauses as would be expected if *hwæt* were a free-standing interjection. In combination with the other issues raised by Stanley (2000) and enumerated in this subsection, the constituent order data therefore give us strong reason to doubt that *hwæt* had such a syntactic role or status. In the next subsection I hypothesize as to the correct interpretation and analysis of *hwæt*-clauses.

4.3.3 An underspecification analysis

As a starting point for an investigation into the role of *hwæt* it is instructive to look at other languages in which the interrogative pronoun appears to exhibit polysemy. Munaro & Obenauer (1999) present three such languages: German, French and Pagotto (a sub-variety of the northeastern Italian dialect of Bellunese). Interestingly, the sets of meanings contributed by the interrogative pronouns in these (not very closely related) languages do not appear to differ arbitrarily but instead intersect in several key ways. Firstly, in all three of these languages the interrogative pronoun can be used non-argumentally to mean 'why' or 'how' in questions, as in examples (28) from German, (29) from French[15] and (30) from Pagotto:

(28)   **Was** rennst du so schnell?
        what run you so fast
        'Why are you running so fast?' (Munaro & Obenauer 1999: 184)

(29)   **Que** ne partez-vous?
        what NEG leave-you
        'Why don't you leave?' (Munaro & Obenauer 1999: 208)

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[15] The French examples are essentially only acceptable in negative contexts if at all; Munaro & Obenauer report that this use of *que* is rare in all registers.

(30)　**Cossa** zìghe-tu?

　　what shout-you

　　'Why are you shouting?' (Munaro & Obenauer 1999: 191–192)

Similar examples can be found in OE ((31)) and OS ((32)), as well as in Old Norse ((33) and (34)):

(31)　　**Hwæt** stendst þu her wælhreowa deor?

　　　Hw. stand you here cruel beast

　　　'Why are you standing here, cruel beast?'

　　　(coaelive, + ALS_[Martin]:1364.6872)

(32)　　**huat** uuili thu thes nu sôken te ûs?

　　　hw. will you this.GEN now seek to us

　　　'why do you now complain about this to us?'

　　　(*Heliand* 5158)

(33)　　**hvat** þarftú at spyrja at nafni minu?

　　　what need-you to ask to name.DAT mine.DAT

　　　'Why do you need to ask my name?'

　　　(Cleasby & Vigfusson 1874: 297)

(34)　　**hvat** mun ek þat vita?

　　　what may I that know

　　　'How could I know that?'

　　　(Cleasby & Vigfusson 1874: 297)

Latin also permits this non-argumental use of the interrogative pronoun *quid*:

(35)　　**quid** plura disputo?

　　　what more dispute.1SG

　　　'Why do I dispute at greater length?'

　　　(Cic. Mil. 16, 44; Lewis & Short 1879)

(36)　　**quid** venisti?

　　　what came.2SG

　　　'Why have you come?'

　　　(Plaut. Am. 1, 1, 209; Lewis & Short 1879)

Such non-argumental uses of interrogative pronouns can also be found in Arabic (Ruba Khamam, p.c.), Ancient Greek (Brian Joseph, p.c.), Dutch, some varieties of

Norwegian (Vangsnes 2008), and the early Celtic languages (Lewis & Pedersen 1937: 226–229).

Secondly, German ((37)), French ((38)) and Pagotto ((39)) also permit the interrogative pronoun to occur non-argumentally in exclamatives; German *was* and French *que* alternate in this role with the more usual *wie* and *comme* respectively.

(37) **Was** du dich verändert hast!
      what you REFL changed have
      'How you've changed!'
(38) **Que** il vous aime!
      what he you loves
      'How he loves you!' (Munaro & Obenauer 1999: 211)
(39) **Cossa** che'l ghe piaze, al gelato!
      what that.CL him please.3SG the ice-cream
      'How he loves ice cream!' (Munaro & Obenauer 1999: 211)

Dutch also permits exclamatives using the interrogative pronoun *wat*, as in (40) (cf. Corver 1990):

(40) **Wat** ben jij veranderd!
      what are you changed
      'How you've changed!'

Such a construction is also possible for older speakers of Afrikaans (Theresa Biberauer, p.c.). For present purposes, the important thing to note about all these examples is that certain other languages systematically exhibit a range of possible uses/meanings for their interrogative pronoun that are not possible with modern English *what*.

Munaro & Obenauer discuss two possible analyses of this state of affairs: either these *wh*-words are identical in phonological form by chance, or the two are closely and intrinsically related (1999: 185). The first view, ascribing the variety of meanings of what looks like the interrogative pronoun to accidental homophony of a variety of lexical items, cannot be ruled out, as there are many cases of such homophony throughout attested human languages: indeed, it seems plausible that this is the case with the OE adjective *hwæt* 'quick, active, vigorous, stout, bold, brave', which is generally agreed to be related in no way to the interrogative pronoun *hwæt* but instead to be derived from the verb *hwettan* 'to whet' (cf. e.g. Bosworth & Toller 1898: 571). However, as Munaro & Obenauer point out (1999:

222), when the same range of meanings for the interrogative pronoun crops up in language after language it becomes increasingly unlikely that this is due to chance homophony, especially when the languages in question are not closely related.

Munaro & Obenauer instead pursue an analysis in which the relevant interrogative pronoun in German, French and Pagotto may in each of these languages be semantically underspecified for certain features. They adduce distributional syntactic data from these languages to illustrate this. For instance, normal *wh*-words can be co-ordinated in German, as in (41) and (42), but this is not possible with 'why'-like *was* or 'how much'-like *was*, as illustrated in (43) and (44).

(41)   Wann und warum hast du mit Max gesprochen?
       when and why have you with M. spoken
       'When and why did you speak to Max?'
       (Munaro & Obenauer 1999: 226)

(42)   Wie laut und wie lange er geschrien hat!
       how loud and how long he shouted has
       'How loud and how long he shouted!'

(43)   *Wann und **was** hast du mit Max gesprochen?
       when and what have you with M. spoken
       'When and why did you speak to Max?'

(44)   ***Was** und wie lange er geschrien hat!
       what and how long he shouted has
       'How much and how long he shouted!'

These non-argumental uses of *was* are also unable to function as contrastive focus and cannot appear in truncated questions (Munaro & Obenauer 1999: 227); the same restrictions hold, *mutatis mutandis*, in French and Pagotto (1999: 229–233).

In the spirit of Cardinaletti & Starke (1999), who account for the difference between strong and weak pronouns cross-linguistically in terms of structural impoverishment, Munaro & Obenauer propose that a piece of word-internal syntactic structure is absent from the structure of underspecified *wh*-items. They do not state explicitly what the missing piece of structure is, but they suggest that it 'must be linked to the expression of argumenthood, and contain the semantic restriction ... [+thing]' (1999: 236). The correct interpretation of the *wh*-item – as an argument in certain questions when fully specified, as 'why' or 'how' when underspecified and non-argumental in questions, and as 'how' or 'how much' when underspecified in exclamatives – must be vouchsafed by the particular context in which it occurs. Specifically, in its non-argumental use speakers prefer the *wh*-item to be

accompanied by an expression of the speaker's attitude, particularly of surprise: this is inherently present in exclamatives, and can be expressed in e.g. German questions by use of a modal particle such as *denn*, or by a particular intonation pattern.

Jäger (2000) and Holler (2009), within Minimalist and HPSG syntactic frameworks respectively, have also argued independently that there must exist a form of *was* in German that is underspecified for [thing] and therefore non-argumental, as in examples (28) and (37) above.[16] If the underspecification logic outlined above holds in general, then it is tempting to analyse the OE and OS interrogative pronoun *hwæt* along the same lines as modern German *was*, French *que* and Pagotto *cossa* etc., namely as a *wh*-item which may occur non-argumentally in an underspecified form. Although it is not possible to test for contrasts such as those in (41)–(44) in OE or OS for obvious reasons, the corpus data we have are compatible with the analysis outlined above. So where does this lead us with regard to examples of clauses such as (23)–(27)? Clearly, as observed by Grimm (1837: 449), these clauses cannot be interrogative, since the word order is not that of matrix questions, *hwæt* cannot be argumental in these clauses, and no sensible interrogative interpretation is available in the contexts in which they occur. The remaining possibility is that these clauses are in fact exclamatives.

Munaro & Obenauer (1999) have little to say about the analysis of exclamatives, or how the underspecified interrogative pronoun receives its interpretation of 'how' or 'how much', speculating only that 'since it is structurally and ... semantically deficient in ways parallel to 'why'-like WHAT, the interpretation it eventually gets should again be construed from elements of the sentential context' (1999: 248). To pursue the matter further we must turn to analyses of exclamatives themselves, since the hypothesis that *hwæt*-clauses are exclamatives can only be tested through comparison with the properties and structures of exclamatives in general.

Current and past analyses of exclamatives have generally proposed that a key component of the interpretation of exclamatives is that their content must involve something related to degree/scalarity (e.g. Bolinger 1972, Corver 1990, D'Avis

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[16] Another set of data potentially supporting the underspecification analysis of German *was*, as Munaro & Obenauer (1999: 236) note, is constituted by 'expletive *wh*'-clauses such as (i).

(i) Was glaubst du, wen Maria getroffen hat?
   what believe you who M. met has (Felser 2001: 5)

Since the literature on this phenomenon cross-linguistically is substantial and the correct analysis controversial (cf. Dayal 1996, Horvath 1997 and Felser 2001, 2004 *inter alia*), it will not be discussed further here.

2002, Zanuttini & Portner 2003, Sæbø 2005, Rett 2008, 2009). For simplicity's sake I will adopt here the semantic proposal of Rett (2008, 2009), who suggests the following two restrictions on the content of exclamatives:

(45) **The Degree Restriction** (Rett 2008: 147; her (4))
    An exclamative can only be used to express surprise that the degree property which is its content holds of a particular degree.

(46) **The Evaluativity Restriction** (Rett 2008: 155)
    The content of the exclamative must additionally be evaluative: the degrees it makes reference to are restricted such that they must exceed a contextual standard.

The Degree Restriction is key for our purposes. Consider (47) (from Rett 2008: 147; her (5b)):

(47)   What languages Benny speaks!

This can be taken to express surprise at the number of languages Benny speaks, even in the absence of any overt degree morphology, for example in the context where Benny is an American and you expect him to speak only English (the 'amount reading'). Another context might be one where Benny is a Romance linguist and you expect him to speak only Romance languages, but in fact he speaks languages from other obscure/exotic language families; this is the 'gradable reading' of (47), in which surprise is being expressed at the degree to which the languages Benny speaks are exotic. Note that no overt gradable predicate 'exotic' is present in the sentence, but this interpretation is nevertheless available. Rett takes this to mean that a null gradable predicate **P**, an adjective (or adverb) which receives its value from context, must be posited for the gradable reading as a 'necessary evil' (2008: 149). In a situation where you expect Benny to speak Portuguese and Romanian but discover that he instead speaks French and Italian, on the other hand, uttering (47) would be expressively incorrect. The impossibility of this 'individual reading' of (47) leads Rett to conclude that the degree reading, and hence the Degree Restriction, is an essential part of exclamativity: 'non-degree readings are *impossible* interpretations of exclamatives' (2008: 151; emphasis original).

It follows that syntactic constructions used to express *wh*-exclamatives must be able to denote a degree property (Rett 2008: 168–169). The two possible candidates are (degree) constituent questions and free relatives. The one systematic syntactic difference between these two types of construction in modern English is

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that subject-auxiliary inversion is required in constituent questions (contrast (48) and (49)) and impossible in free relatives ((50)–(51)); in English, subject-auxiliary inversion is impossible in traditional *wh*-exclamatives too ((52)–(53); though cf. footnote 17).

(48)   How big is your car?

(49)   *How big your car is?

(50)   *I don't know how big is your car.

(51)   I don't know how big your car is.

(52)   *How big is your car!

(53)   How big your car is!

Questions and free relatives differ morphosyntactically in many languages other than English, and here Rett makes a stronger claim: 'in any such language I know of, exclamatives pattern in their morphosyntax with free relatives rather than with questions' (2008: 173), although she cautions that 'a thorough crosslinguistic study of these constructions is necessary to give any serious weight to this claim'.[17] In Hebrew, for instance, exclamatives and free relatives require an overt complementizer, but questions do not (2008: 175–176). While Rett's semantic analysis is in principle neutral as to whether the morphosyntactic structure underlying *wh*-exclamatives is that of a question or a free relative, then, she favours the latter view.

If we assume that *hwæt*-clauses are exclamatives, the data from OS and OE cast some doubt on Rett's claim. In these languages, a *swa* wh *swa* construction is typically used for free relatives, as in (54) and (55) (Mitchell & Robinson 2007: 80).

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[17] Some examples exist that are difficult to account for under this generalization. See Nye (2009) for a discussion of 'how pseudo-questions', an inversion-exhibiting construction in Modern English that shares many interpretive properties with traditional *wh*-exclamatives although appearing formally identical to constituent questions at first sight:

(i)   How cool is that?!

German exclamatives can also be V2 instead of V-final, subject to some restrictions:

(ii)   Was hast du dich verändert!
        what have you REFL changed
        'How you've changed!'

(54) Swa hwær swa ic beo, hie beoð mid me

so where so I be, he is with me

'Wherever I am, he is with me'

(coboeth,Bo:7.17.18.274)

(55) that it sô giuuerðen scal, sô huan sô thius uuerold endiod

that it so become shall so when so this world ends

'that it shall be so, when this world ends'

(*Heliand* 4046)

As in the modern Scandinavian languages, a *wh*-element is not usually used alone to introduce a relative clause (see Berizzi 2010: 77–80 for discussion). It is only in Middle English that this modern use becomes prevalent (Mitchell & Robinson 2007: 73–74), although a few examples can be found in both OE and OS:

(56) forðan ic leng næbbe **hwæt** ic on his lacum aspende

because I longer NEG-have hw. I on his service spend

'because I no longer have anything to spend in his service'

(coaelive, + ALS[Lucy]:66.2205)

(57) hie ... ne lêt that manno folc uuitan, *huat* sia uuarahtun

he ... NEG let the men.GEN people know hw. they did

'He did not let the people know what they were doing'

(*Heliand* 5393–5394)

However, a third possibility, not discussed by Rett, is that exclamatives pattern with *indirect* questions. Indirect questions in OE (Mitchell & Robinson 2007: 73) and OS are introduced by *wh*-words, as in examples (58) and (59).

(58) se halga Thomas ... acsode urne Dryhten hwænne Antecristes cyme wære

the holy Thomas ... asked our Lord when Antichrist's coming were

'St Thomas asked our Lord when the Antichrist would arrive'

(coverhom,HomU_6_[ScraggVerc_15]:1.1850)

(59) Thô frâgode sie the hêlago Crist, aftar huemu thiu gelîcnessi gilegid uuâri

then asked them the holy Christ, after whom the picture laid were

'Then Jesus asked them who the picture was of'

(*Heliand* 3825–3826)

As I demonstrated in 4.3.2, *hwæt*-clauses pattern with subordinate clauses in terms of verb position. Constituent questions in OE are exceptionlessly V2 (cf. e.g. Fischer

et al. 2000: 106), and the same seems to hold for OS, once a few specific classes of apparent counterexample have been properly analysed (see sections 4.2.3 and 4.4). In contrast, in indirect questions such as (58), in free relatives such as (56), as in other subordinate clauses and in *hwæt*-clauses, the verb is in a later position in OE (Fischer *et al.* 2000: 61) and in OS. The modified generalization thus seems to hold for OE and OS, as well as for at least modern English and German; a fuller investigation is beyond the scope of this dissertation.[18]

What about the interpretation of these 'exclamative' *hwæt*-clauses? Consider examples (24)–(27), repeated below as (60)–(63) for ease of reference.

(60)　**hwæt** se soðlice onwriið his fæder scondlicnesse
　　　　hw. he truly uncovers his father.GEN nakedness.ACC
　　　　'he certainly uncovers the nakedness of his father'
　　　　(cobede,Bede_1:16.70.15.657)

(61)　**Hwæt** ða Eugenia hi gebletsode
　　　　hw. then Eugenia$_i$ her$_i$ blessed
　　　　'Then Eugenia blessed herself'
　　　　(coaelive,+ALS_[Eugenia]:171.295)

(62)　**Huat**, thu thesaro thiodo canst menniscan sidu
　　　　hw. you this.GEN people.GEN know.2SG human custom.ACC
　　　　'You know the customs of these people'
　　　　(*Heliand* 3101–3102)

(63)　'**huat**, ik iu godes rîki', quað he, 'gihêt himiles lioht'
　　　　hw. I you.DAT God's kingdom.ACC said he promised heaven's light
　　　　'"I promised you God's kingdom," he said, "heaven's light."'
　　　　(*Heliand* 4572–4573)

Example (60) receives a straightforward and satisfying analysis as an exclamative. According to Rett's analysis outlined in this section, underspecified *hwæt* must receive a degree reading, and a natural item for it to range over is the verb *onwréon* 'to unbind/unwrap'. The interpretation of the clause would thus be 'How he truly uncovers the nakedness of his father!' In example (61), the interpretation is no less straightforward, since 'to bless' is an intuitively gradable predicate. (61) can then be understood as meaning 'To what an extent Eugenia then blessed herself!' A similar analysis can be given for the OS example in (62). If the predicate that *huat* ranges

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[18] Abels (2010: 141, fn. 1) points out an additional difficulty for the proposal that exclamatives are free relatives: if so, they would be expected to occur only in positions that accept NPs, which does not seem to be the case.

over is understood as the verb 'to know', the clause then relates to the extent of the addressee's knowledge: 'How well you know the customs of these people!'

(63) is less straightforward. At first sight it appears that there is no predicate for *huat* to range over, since the verb 'to promise' does not seem gradable in any intuitive sense. However, Rett's analysis allows for a null gradable predicate **P** which receives its value from context (recall that this null predicate is independently necessary to account for English examples such as (47) under the gradable reading). In this case we can posit a null adverb which receives a meaning 'earnestly', 'faithfully' or something along those lines. (63) could then be viewed as meaning 'How earnestly/faithfully I promised you God's kingdom!'

We are now in a position to revisit example (23), the first sentence of *Beowulf*. Complications other than *hwæt* mean that the correct analysis of this sentence is disputed; indeed, whole articles have been devoted to these few lines alone (e.g. Bammesberger 2006). I repeat it, without translation, as (64) below.

(64)   **Hwæt** we Gardena in geardagum þeodcyninga þrym gefrunon
　　　 hw. we Spear-Danes.GEN in year-days nation-kings.GEN power heard-of
　　　 (*Beowulf* 1–2)

Here the verb, *frínan* 'to learn by enquiry', can straightforwardly be read as gradable. The exclamative hypothesis suggests that this clause can be read as 'How much we have heard of the might of the nation-kings of the Spear-Danes'. Of the translations so far put forward, this interpretation has the most in common with Morgan's (1952) rendering as 'How that glory remains in remembrance'.

Other well-known poetic examples are also compatible with the exclamative hypothesis. For instance, *Dream of the Rood* begins with such a clause:

(65)   **Hwæt** ic swefna cyst secgan wylle
　　　 hw. I dreams.GEN best tell will
　　　 (*Dream of the Rood* 1)

Once again, the verb 'to want' is clearly gradable, and so a reading along the lines of 'How I want to tell you of the best of dreams' is indicated by the exclamative hypothesis. Similarly (66), from the verse text *Juliana*, is neatly amenable to an exclamative analysis:

(66)   Iuliana! **Hwæt** þu glæm hafast

        J! Hw. you beauty have

        (*Juliana* 167)

The gradable element here is *glæm* 'beauty', suggesting a reading of 'Juliana! How beautiful you are...'. The content of the relevant *hwæt*-clauses seems to present no problem for the hypothesis that their illocutionary force is that of exclamatives, then.

        In addition, *hwæt* used in this way appears to survive sporadically into early Middle English. Brinton (1996: 201) gives some examples from Chaucer, including (67) and (68).

(67)   **What**, welcome be the cut, a Goddes name!

        hw. welcome be the cut by God's name

        'what, welcome be the cut, by God's name'

        (*Canterbury Tales*, prologue, 854)

(68)   Sires, **what**! Dun is in the myre!

        sires hw. dun is in the mire

        'Sirs, what! The dun-coloured horse is in the mire!'

        (*Canterbury Tales, Manciple's Tale*, 5)

Both of these examples occur in the direct speech of characters in the text, as is normal for OE *hwæt*. Each also suggests an interpretation consistent with the exclamative hypothesis. The first can be read as 'How welcome is the cut, by God's name!' The second, in which the dun-coloured horse in the mire is taken as a metaphor for events having come to a standstill, can be read as 'How things have slowed down!'

        Further pieces of potential evidence for the exclamative hypothesis for OE *hwæt* come from later texts: occasional apparent degree-exclamatives with *what* are found in texts dating to as late as the sixteenth century. The OED gives (69), from 1440:

(69)   A! lorde, **what** the wedir is colde!

        ah lord hw. the weather is cold

        'Ah! Lord, how cold the weather is!'

        (*York Mystery Plays* 14, 71)

Berizzi (2010: 140) also gives examples of 'why'-like *what* from Shakespeare. It cannot be ruled out, of course, that this pattern arose separately and is unrelated to

OE *hwæt* as found in e.g. the first line of *Beowulf.* However, parsimony alone is enough to suggest that this (rare) degree-exclamative use of *what* in Middle and Early Modern English may represent not an innovation but the tail-end of a much older pattern.

Finally, the exclamative hypothesis has the merit of bringing into line a few further observations not accounted for by the traditional view. Brinton (1996: 189–191) considers, and rejects, the hypothesis (attributed to personal communication from Elizabeth Traugott, and defined only broadly) that *hwæt* functions as an 'evidential'; however, she does note that 'it does frequently precede a clause containing an evidential or an evidential-like form' (1996: 190). It is possible that the intuition is in fact not about evidentiality *per se*, but about factivity. Under the exclamative hypothesis proposed here, *hwæt* introduces an exclamative clause, and it is well known that such clauses presuppose factivity (cf e.g. Zanuttini & Portner 2003, Abels 2010). If *hwæt*-clauses are factive, this explains why the intuition that *hwæt* has an epistemic element to its meaning seems to ring true. The exclamative hypothesis is also consistent with the suggestion made by Grein in his *Sprachschatz der angelsächsischen Dichter* (1912 [1864]: 367) that *hwæt* could be used with the same meaning as exclamatory *hu* 'how', and therefore that it should be distinguished from an interjection, with punctuation in editions reflecting this. As Stanley (2000: 551, fn. 75) notes, Grein's suggestion was not adopted by later editors of OE and OS. However, the evidence adduced in this paper also suggests that this punctuation is superfluous, and that there is a partial parallel to be drawn between *hwæt* and exclamatory *hu* 'how'.

A reasonable objection at this point is that the exclamative hypothesis is just one view of the reading of *hwæt*-clauses; it could turn out that there are other hypotheses consistent with the data. However, the hypothesis presented here has significant advantages over the traditional account of the function and meaning of *hwæt* as outlined in section 4.3.1: it accounts for the word order facts, it does not need to maintain that *hwæt* is an interjection (with all the concomitant problems of this stance; see section 4.3.2), and it brings the behaviour of *hwæt* into line with that of a range of other interrogative pronouns observed cross-linguistically. Furthermore, it is falsifiable: it predicts that *hwæt*-clauses must be amenable to, or at least coercible into, a degree reading. Any alternative proposal must be able to do at least as well, or better, on these counts.

4.3.4 The diachrony of underspecification

A related side problem is how *hwæt* came to be potentially underspecified in the first place. Intuitively, the change toward underspecification, and the loss of the restriction [+thing] (and thus of the necessity of argument status), seems to be a 'natural' change. In studies of grammaticalization such 'semantic bleaching' has often been observed (cf. e.g. Hopper & Traugott 2003), and principles of acquisition such as 'minimize feature content' (Longobardi 2001: 294) have often been posited in the generative literature on syntactic change; see also the discussion of directionality in section 2.3.3. In OHG, for example, there are no examples of the cognate interrogative pronoun *(h)waz* in a non-argumental role (though cf. footnote 8), and hence no evidence that the cognate interrogative pronoun was underspecified for the feature [thing] – and yet Modern German *was* 'what' is, as illustrated in the previous section, providing another example of this change. Lass's (1997) criterion of process naturalness, discussed in 2.4.3, thus suggests a progression from argumental to non-argumental. The fact that modern English *what* may no longer semantically underspecified in the same way, as shown by the ungrammaticality of examples such as *What did you do that?* and *What you've grown!* with intended readings of 'Why did you do that?' and 'How you've grown!' respectively, can be explained as the result of a separate change, namely the loss of underspecified *what* as a lexical item. The 'layering' situation which obtained in OE, with both argumental and non-argumental *hwæt* as lexical options in the language, was thus effectively counteracted.[19]

    As regards the origin of this underspecification in the prehistory of the Germanic languages, the logic of language contact and the wave model may be able to help us. Among the early Germanic languages, OE, OS and (to a lesser extent) Old Norse display underspecification, while Gothic and Old High German do not. If

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[19] Berizzi (2010: 139–146) in fact gives some examples of 'why'-like *what* from modern English, including (i) and (ii) (as well as some from Early Modern English).

    (i)   Malcolm, **what** are you walking like that?
            (Malcolm in the Middle – Season 2, Ep. 17, *Surgery* (2001))
    (ii)   **What** don't you go first, Andy?
            (Margot Adler, Radio Transcript, Air Date: 27/02/2006)

In my idiolect these examples are completely ungrammatical. It is unclear whether this pattern should be considered a continuation of the OE pattern via transmission or whether it represents an independent innovation. In view of the variation in provenance of these examples, the latter may be more likely.

we accept the traditional family grouping discussed in section 1.4, then either way we must postulate two changes: either underspecification was innovated in Proto-Ingvaeonic and Old Norse, or it was lost in OHG and Gothic. A criterion of economy in terms of number of changes, then – Lass's (1997) simplicity criterion discussed in section 2.4.3 – does not help us here. Departing from the strict tree model, however, the change could be traced back to an early Northwest Germanic dialect continuum: we have ample evidence that considerable contact between what was to become the Ingvaeonic languages and what was to become Proto-Scandinavian must have taken place, and that there was a high degree of mutual intelligibility. One hypothesis, then, could be that the underspecification of the interrogative pronoun was an innovation diffused across the Northwest Germanic dialect continuum but which did not make it as far southeast as the pre-OHG area of Europe.

Furthermore, data exist which may help us to pin down the exact reanalysis that caused this change to happen. Interrogative examples such as (70) are occasionally found in the *Heliand*:

(70)   **huat** uualdand god habit guodes gigereuuid
         hw. ruling G. has good.GEN prepared
         'what good things Lord God has prepared (for us)' (*Heliand* 2533–2534)

Here *huat* can still be analysed as argumental, as in essence it forms a unit with *guodes* to mean 'what of good [things]'. Such discontinuous constituents were a possibility in many early Indo-European languages: see e.g. Matthews (1981: 255) and Hale (1998: 16) on Latin, and Devine & Stephens (1999) on Greek. As the possibility of discontinuity became rarer, learners who had not acquired this possibility would require another analysis for clauses such as (70). Analysis of *huat* as underspecified in such cases, specifically non-argumental and generated in the left periphery of the clause rather than extracted by *wh*-movement from a nominal constituent further down the tree, would be one solution to this problem, with *guodes* itself analysed as a genitive argument of the main verb: the clause would then receive the interpretation 'how Lord God has prepared good things (for us)'. Once *huat* had become detached from its position in the paradigm of argumental interrogative pronouns and was able to be interpreted as underspecified 'how', it could then be extended unproblematically to exclamatives as in the construction discussed in 4.2. We thus have an argument, albeit not a watertight one, for reconstructing underspecified *h^wat* as a North Sea Germanic innovation.

To summarize section 4.3, then, I have argued that the traditional view of Old English *hwæt* as an interjection meaning simply 'lo!' or 'listen!', as proposed by Grimm (1837) and assumed 'by all Anglo-Saxonists' (Stanley 2000: 541), is unsatisfactory. This is because a) *hwæt* must usually be analysed as unstressed where it occurs in metrical texts, b) no punctuation between *hwæt* and the following clause is ever found, c) the contemporary grammarian Ælfric did not analyse *hwæt* as an interjection, and d) *hwæt* is not exclusively found in texts connected to primary orality, and does not always serve to initiate speech. Most dramatically of all, clauses preceded by *hwæt* pattern with subordinate clauses, not with main clauses, with respect to the position of the verb. It is difficult to imagine how the presence of an extra-clausal interjection could have such a dramatic effect on clausal word order. Regardless of whether my own proposal is accepted, these facts must be accounted for by any satisfactory theory of *hwæt*.

According to the alternative analysis pursued in section 4.3.3, there were two variants of *hwæt* in OE: both were interrogative, but one was underspecified for the feature [thing] and thus able to assume a non-argument role. Non-interrogative clauses preceded by *hwæt* are *wh*-exclamatives parallel in interpretation to Modern English *How you've changed!*; it was demonstrated that a cross-section of such clauses were amenable to this kind of interpretation. If the logic of this section is accepted, then the implications for editors and translators of OE and OS texts are significant. In section 4.3.4 it was also suggested, more tentatively, that the underspecification of *hwæt* may have originated in late Northwest Germanic through reanalysis of interrogatives containing discontinuous nominal constituents. There is thus no call to reconstruct underspecification for Proto-Germanic itself.

Note that this proposal is in no way incompatible with the view that *hwæt*, or perhaps more precisely clauses beginning with *hwæt*, were characteristic of speech, and were used to initiate discourse with particular pragmatic functions. Here we must distinguish sharply between the grammatical properties of a lexical item or clause and the way it is used by speakers of the language. It could perfectly well have been the case that it was customary among speakers of early Ingvaeonic languages, for whatever reason, to start one's speech with an exclamative; at least, this is as plausible as starting one's speech with an interjection. The 'exclamative hypothesis', then, does not quibble with the view that *hwæt* had this function; it simply argues that this function alone is insufficient to characterize the grammatical properties and interpretation of *hwæt* and clauses beginning with it.

4.4 Whether

Modern English *whether* has a number of strange properties as compared to other members of the *wh*-system. It cannot appear in a main clause context, with or without inversion, as shown by the ungrammaticality of (71)–(72).

(71)   *Whether did you go fishing yesterday?

(72)   *Whether you went fishing yesterday?

It is often suggested to be a subordinate clause complementizer parallel to *if* (e.g. Freidin 1992: 81). However, van Gelderen (2009b: 156) and Berizzi (2010: 122) argue that *whether* cannot be analysed as a complementizer, since unlike *if* it blocks *wh*-movement from a lower clause (73), can be coordinated with *not* (74), and can occur with prepositions (75).

(73)   Who do you wonder if/*whether I saw?

(74)   I asked whether/*if or not you had gone fishing.

(75)   It depends on whether/*if he comes.

None of these arguments is fully convincing. The coordination argument is not watertight, since *if and when* is possible. Similarly, it could be argued that occurrence with prepositions is limited to clauses which can be embedded under a null nominal. Rosenbaum (1967) proposed that all clauses were dominated by a nominal projection, and Kiparsky & Kiparsky (1970) propose it for factives; more recently, Adger & Quer (2001) have revived the hypothesis for certain types of clause.[20] Finally, judgements such as those in (73) are not clear-cut for many speakers (see Sobin 1987, Snyder 2000). Adger & Quer analyse *whether* as a SpecCP element, but note (2001: 21, fn. 15) that nothing rests on whether it is in SpecCP or in C^0.

       Cognates in the other modern Germanic languages have different roles. For instance, German *weder* is used exclusively to form a negative disjunction ('neither'). This section will not be concerned further with the correct analysis of the modern languages: see Larson (1985), Kayne (1991: 664–666), Henry (1995), Nakajima (1996), Adger & Quer (2001) and Berizzi (2010: 122–131) for analyses of modern English *whether*, and Johannessen (2003) for an analysis of modern German

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[20] However, Adger & Quer explicitly propose that *if*-clauses are embedded under a D^0 (2001: 119–121), on the basis of parallels with affective polarity items. This leaves the preposition-related facts mysterious, as they observe (2001: 121, fn. 16).

weder. Here I will discuss reflexes of *h^w*aþeraz*/*h^w*eþeraz* in the early Germanic languages, with a view to reconstructing its properties in Proto-Germanic. It will be glossed as 'whether' throughout.

4.4.1 East Germanic: *ƕaþar*

In Gothic, *ƕaþar*, a reflex of *h^w*aþeraz*, had a completely different role, serving as an argumental interrogative pronoun meaning 'which of two' (Wright 1910: 129). There are six attestations of *ƕaþar* in this role in the Gothic corpus, two of which are given below.

(76) **ƕaþar** ist raihtis azetizo qiþan: afletanda þus frawaurhteis,
whether is though easier say.INF be-forgiven you.DAT sins.NOM
þau qiþan: urreis jah gagg?
or say.INF arise and go
'Which is easier: to say "Your sins are forgiven", or to say "Arise and go"?'
(Gothic Bible, Matthew 9:5)

(77) **ƕaþar** nu þize, qiþ, mais ina frijod?
whether now these.GEN say more him loves
'Tell me: Which of these most loves him?'
(Gothic Bible, Luke 7:42)

It is also found as an indefinite in the *Skeireins*, as in (78). Various cognate forms are found as indefinites (often compounded) in the early Germanic languages; I will not consider these further here.

(78) eiþan galaubjandans sweriþa ju **ƕaþaramme** usgibaima bi wairþidai
thus believing honour now whether.DAT us give-out.1PL by ability
'Thus believing we should now give out honour to each of the two according to ability'
(*Skeireins* 5:7)

As regards constituent order, in all interrogative examples *ƕaþar* is clause-initial, and in five of the six examples the verb immediately follows the pronoun. Three of these are renderings of the same utterance, (76), in different Gospels (Matthew 9:5, Luke 5:23 and Mark 2:9), and one further example (Philippians 1:22) contains only *ƕaþar* and the verb; in addition, there is a V2 example in the *Skeireins* (3:3). (77) is the only verb-late example; however, it is possible for this to be analysed as an

embedded interrogative selected by the verb *qiþ* 'say'. Gothic *hъaþar* thus seems to behave as a regular argumental interrogative pronoun, though, as usual with Gothic, the data are sparse.

4.4.2 West Germanic: *hwæþer, hweđar, hwedar*

While the OE form *hwæþer* is a reflex of *h^waþeraz*, the OS and OHG forms *hweđar* and *hwedar* appear to be reflexes of *h^weþeraz*. I will ignore this phonological difference here.

　　Allen (1980b) gives an overview of the behaviours of OE *hwæþer*. Examples (79) and (80) (from Allen 1980b: 790) show that the 'which of two' meaning could be found, as in Gothic. In this instance, fronting of the finite verb was usual, as with other *wh*-questions.[21] Example (80) shows that the pronoun could be inflected for case; genitive examples can also be found.

(79)　**Hwæðer** cweðe we ðe ure ðe ðæra engla?
　　　 whether say we or ours or the.GEN angels.GEN
　　　 'Which should we say: ours, or the angels'?'
　　　 (cocathom1,+ACHom_I,_15:302.95.2825)

(80)　**hwæðerne** woldes þu deman wites wyrðran?
　　　 whether.ACC would you deem punishment.GEN worthier
　　　 'Which would you deem worthier of punishment?'
　　　 (coboeth,Bo:38.122.28.2444)

However, examples can also be found where *hwæþer* has a different meaning, as in (81) (from Allen 1980b: 789) and (82) (from van Gelderen 2009b: 143, fn. 6).

(81)　**Hwæðer** ic mote lybban oð þat ic hine geseo?
　　　 whether I may live until I him see
　　　 'Might I live until I see him?'
　　　 (cocathom1,+ACHom_I,_9:250.41.1601)

(82)　**Hwæþer** nu gimma wlite eowre eagan to him getio?
　　　 whether now gems.GEN beauty your eyes to him attract
　　　 'Does the beauty of gems attract your eyes to them?'
　　　 (coboeth,Bo:13.28.27.491)

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[21] An isolated case without verb-movement can be found in *Beowulf* 2530–2532, as van Gelderen (2009b: 140) observes.

In these examples, there is no obvious sense of 'which of two': instead the semantics seem to be those of a straightforward yes/no question. Furthermore, though these examples are direct interrogatives, there is no verb fronting. Allen (1980b: 791) states that this pattern is general, with only a few counterexamples from Bede, which can be discounted on the basis that 'there are also a few examples of inversion in indirect questions in this text' (1980b: 791, fn. 3). Van Gelderen (2009b: 140, fn. 4) calls Allen's claim into question on the basis of examples such as (83) and (84), in which verb-movement is visible.

(83)   **Hwæðer** wæs iohannes fulluht þe of heofonum þe of mannum
        whether was John's baptism or of heaven.DAT or of man.DAT
        'Which was John's baptism: of heaven, or of man?'
        (cowsgosp,Mt_[WSCp]:21.25.1438)

(84)   **Hwæðer** wille ge ðæt ic cume to eow, ðe mid gierde ðe mid
        whether will you that I come to you or with rod or with
        monnðwære gæste?
        gentle spirit
        'Which do you want me to come to you with: a rod, or a gentle spirit?'
        (cocura,CP:17.117.6.784)

However, as my translations suggest, I believe that these examples are 'which of two'-questions parallel to that in (79), *pace* van Gelderen's (2009b: 142) suggestion that *hwæþer* here is 'an independent question marker'. As such, (83) and (84) do not constitute counterexamples to Allen's generalization. The yes/no question use of *hwæþer* is rare after the Middle English period, and disappears entirely in the 17th century (van Gelderen 2009b: 143; Berizzi 2010: 127).

      As in modern English, subordinate clauses could begin with *whether*, as in (85) and (86). (85) is conceivably an embedded 'which of two'-question; (86) is a simplex embedded interrogative.[22]

(85)   he gecyðde **hwæðer** he mænde ðe ðæs modes foster ðe ðæs lichoman
        he asked whether he meant or the.GEN spirit's nourishment or the.GEN body's
        'He asked whether he meant the spirit's nourishment or the body's'
        (cocura,CP:18.137.18.936)

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[22] In addition, OE had an adverb *hwæþ(e)re* 'yet, however, nevertheless' (Bosworth & Toller 1898: 572; Mitchell & Robinson 2007: 380), which will not be further discussed here.

(86)   ðry weras ... axodon ... **hwæðer** se halga Petrus þær wununge hæfde

three men ... asked ... whether the holy Peter there dwelling had

'Three men asked whether Saint Peter lived there'

(coaelive, + ALS[Peter's_Chair]:109.2346)

As for the analysis of *hwæþer*, van Gelderen (2009b: 140–155) assumes that a situation of layering obtained in OE, and that there were at least two separate items: a) an argumental *hwæþer* with a semantic *wh*-feature, b) *hwæþer* first Merged in a specifier of the C-domain bearing an [*i*Q] feature, and c) *hwæþer* as a C-domain head bearing [*u*Q] (see also Kiparsky 1995: 142).[23] She argues that 'there is a clear tendency' for *hwæþer* to be a head, on the basis that the lack of verb-movement with *hwæþer* is indicative that it is blocking this movement much as complementizers in modern German and Dutch do under the traditional account (e.g. den Besten 1977). She suggests that evidence for it being a specifier would be provided by its co-occurring with another complementizer (2009b: 142–143), and that there are only 'a handful' of examples of this, some of which are amenable to other analyses. In subordinate clauses, diagnostic evidence is harder to come by; there are no clear cases of *hwæþer* preceding a complementizer in subordinate clauses (though there are some in Middle English; van Gelderen 2009b: 155), and verb-movement cannot serve as a diagnostic.

The arguments for head status are not watertight. Subordinate clauses are completely mute with respect to the issue, since we cannot test for OE to see whether *hwæþer* blocks extraction of another *wh*-element, and since the absence of verb-movement tells us nothing. Furthermore, we would not expect to see a complementizer in these clauses in any case, since OE embedded questions never display one even with normal *wh*-elements that are uncontroversially specifiers. In other words, whatever underlies the Doubly Filled COMP Filter (Chomsky & Lasnik 1977) for Modern English already held for OE embedded questions. Berizzi (2010) also provides many examples of varieties of English in which verb-movement does not occur in direct *wh*-questions, e.g. African-American English, despite the relevant *wh*-items being in specifier position. The head analysis of *hwæþer* also makes it unclear why modern English *whether* is always a specifier, as discussed at the beginning of section 4.4. Van Gelderen (2009b: 156–157) suggests that the phonological weight of *whether*, making it a rare two-syllable head, in combination with prescriptive pressure to use *whether or not*, conspired to suppress the head analysis. The phonological argument alone is unconvincing, as presumably such

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[23] Note that van Gelderen makes a (non-standard) distinction between semantic features and interpretable features, under which both are required to participate in syntactic operations.

pressure would have weighed equally against the original reanalysis of *hwæþer* from specifier to head, leaving it mysterious how such a head managed to survive for a thousand years. I am also dubious that prescriptive pressure can lead to significant structural changes in most instances. I therefore believe it preferable to posit only two interrogative *hwæþer* items for OE: an argumental 'which of two' pronoun which moves to the left periphery, and a non-argumental lexicalization of an interrogative operator that is base-generated there.

Berizzi's own hypothesis (2010: 129–131), in order to account for the lack of verb-movement in clauses with non-argumental *hwæþer*, is that there is a silent IS IT THAT between *hwæþer* and the following clause.[24] Though highly stipulative, this analysis capitalizes on the notion that even when *hwæþer* introduces a direct question the form is that of a subordinate clause. As Fischer *et al.* (2000: 54) observe, this word order, along with the fact that the verb in *hwæþer*-clauses is commonly in the subjunctive, 'betrays the origin of this type of question as an indirect question'. Indeed, it seems plausible that left-peripheral operator *hwæþer* came about through reanalysis of an indirect question as a direct one. A separate reanalysis could have led to the dissociation of argumental *hwæþer* from its first-Merged position, as described in section 4.3.4 for *hʷat, consistent with the Late Merge principle of directionality discussed in section 2.3.3.

In OS the picture is similar. Six examples of simplex interrogative *hweđar* can be found in the *Heliand*. (87) is a direct question parallel to the OE examples in (81) and (82), of the kind not found in Gothic, with lack of verb-movement. Although in this example two options are available, suggesting the possibility of a 'which of two'-reading, in the classic OE examples from Allen (1980b) the verb in the *hwæþer*-clause is not in either of the two options, and directly follows *hwæþer*. I therefore analyse this example as an OE-style direct question. (88) and (89) are embedded *wh-* and yes/no questions parallel to (85) and (86) respectively; two further examples like (89) can be found, on lines 3406 and 3848.[25]

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[24] Berizzi also posits a silent IT IS THAT for *whether*-clauses in Modern English, in order to explain the lack of the otherwise-available embedded verb-movement with this item in Hiberno-English. As support for the account, she gives examples where 'it is that' is lexicalized. However, the issue of when and why IT IS THAT remains unexpressed is not addressed.

[25] The remaining example presents a problem:

(i)   **huueđer** lêdiad gi uundan gold te geƀu huilicun gumuno?
        whether lead you wound gold to gift.DAT which.DAT men.GEN
        'To whom are you taking wound gold as a gift?' (???)
        (*Heliand* 554–555)

(87) **hueđer** thu that fan thi selbumu sprikis, ... the it thi ôđre hêr erlos sagdun?

whether you that from you self speak ... or it you other here men told

'Is that what you yourself say, or what others have told you?'

(*Heliand* 5207–5208)

(88) Thuo bigan thie heritogo thia hêri Iudeono ... frâgoian,

then began the duke the.ACC people Jews.GEN ask.INF

... **hueđeron** sia thero tueio tuomian uueldin

whether.ACC they the.GEN two.GEN free.INF would

'Then the duke asked the Jews which of the two they wanted to free'

(*Heliand* 5409–5411)

(89) ne rôkead, **huueđar** gi is ênigan thanc antfâhan

NEG think.IMP whether you it.GEN any thank receive.INF

'Do not think about whether you will receive any thanks for it'

(*Heliand* 1541)

There are no examples of direct questions with 'which of two'-readings; however, I will assume with Cordes & Holthausen (1973: 248) on the basis of the above examples that this lack is accidental, and that OS patterns with OE.

For OHG, Graff & Massmann (1838: 1217–1223) provide a list of examples with *hwedar* and related forms. (90) is a 'which of two'-reading direct question parallel to OE (80). (91) and (92) are embedded questions parallel to OE (85) and (86) respectively.

(90) Uuedaran minnota her mer?

whether.ACC loved he more

'Which of the two did he love more?'

(*Tatian* 138,9)

Here there are multiple *wh*-words and clear verb-movement, and the interpretation is unclear: no 'which of two'-reading is evidently available. It could be that *huilicun gumuno* 'to whom?' is a separate question, and the reading could then be 'Are you taking wound gold as a gift?' But this is unsatisfactory, especially as verb-movement is involved. Perhaps an analysis as an 'expletive *wh*'-clause in the sense of Felser (2001, 2004) is available.

(91)   Suohhemes auur uuir nu ziidh dhera christes chiburdi,
       seek.1PL however we now time the.GEN Christ's birth.GEN
       huuedhar ir iu quhami odho uuir noh sculim siin quhemandes biidan
       whether he already came or we still should his coming wait.INF
       'Let us now seek the time of Christ's birth, whether he already came or we
       should still be waiting for his coming'
       (*Isidor* 25,8)

(92)   uueder sie doh machotin ranas unde scinifes unde sangiunem
       whether they though made frogs and gnats and blood
       'whether they made frogs, gnats and blood'
       (Notker's *Psalter* 77,49)

Although suggesting that *hwedar* can function as a question particle, Graff &
Massmann (1838: 1217) give no examples of its use as such in direct questions, and
in all the examples that they do provide *hwedar*, or the constituent containing it,
immediately precedes the verb. If this absence is non-accidental, OHG *hwedar* does
not pattern with OE *hwæþer* and OS *hweđar*. Instead, like OE, OS and Gothic, it has
a 'which of two'-reading, and additionally (as in modern English) may introduce
indirect yes/no questions. I will return to this difference between OHG and the other
West Germanic languages in section 4.4.4.

4.4.3 North Germanic: *hvaðarr, hvárr/hvár/hvárt*

The North Germanic reflexes of Proto-Germanic *h^waþeraz* are *hvaðarr* and *hvárr*
(Heusler 1967: 78; Wessén 1966: 130). The latter is a contraction of the former,
which occurs three times in the 10th-century poetry corpus (Cleasby & Vigfusson
1874: 298). One example is given in (93).

(93)   en ek veit, at hefr heitit hans bróðir mér góðu ... hvaðarr tveggja
       but I know that has promised his brother me.DAT goods ... each two.GEN
       'But I know that each of his brothers has promised me goods'
       (Glúmr Geirason, *Gráfeldardrápa*, 12, 5–8)

Here *hvaðarr* is used as an indefinite. The far more common form is *hvárt* (neuter),
along with its masculine form *hvárr* and its feminine form *hvár*. Examples of this
contraction in interrogatives are given in (94)–(97).

(94) Hvorn viltu her þiggja teininn?

whether.ACC will-you here receive twig.DEF

'Which of the two twigs would you rather receive?'

(*Haralds saga Sigurðarsonar* 23)

(95) Eða hvárt hefir þú nakkvat sét Baldr á Helvegi?

but whether have you anything seen Baldr on Hell-way

'But have you seen anything of Baldr on the road to Hell?'

(*Gylfaginning* 49)

(96) ok biðr hana kjósa, hvárn hún vill eiga

and asks her choose.INF whether.ACC she will have

'and (he) asks her to choose which of the two she will have'

(*Hervarar Saga ok Heiðreks* 3)

(97) hvárt Baldr var svá ást sæll sem sagt er

whether Baldr was so love blessed as said is

'whether Baldr was as beloved as people said he was'

(*Gylfaginning* 49)

All the uses of OE *hwæþer* can also be found in ON. Examples (94) and (96) are examples of the cognate pronoun with a 'which of two' reading in a main clause and in a subordinate clause respectively. Examples (95) and (97) are examples of the cognate pronoun serving as a question-introducer in a main clause and in a subordinate clause respectively, possibilities also noted by Faarlund (2004: 226–227).

Unlike in OE, all these clauses have V2 word order, regardless of the reading.[26] Since the generalization of V2 is vastly more advanced in ON than it is in the other early Germanic languages, this is perhaps not surprising. Two further points need to be made about ON *hvárt*, however. First, like other *wh*-items in ON, it may occur with a complementizer, and frequently does:

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[26] Though 'embedded V2' in examples (96) and (97) is clearly not the same phenomenon as matrix V2, since, as in Modern Icelandic, in embedded clauses a constituent may intervene between the interrogative pronoun and the finite verb (see e.g. Maling 1980). Smith (1971) even takes such examples as V3. Some have taken this asymmetry to indicate that the verb only moves to T in such languages, while others maintain a CP-recursion analysis: see e.g. Vikner (1995), Schwartz & Vikner (1989, 1996) and Biberauer (2002) for discussion. I will not take a position on this issue here.

(98) Hvárt sem hann hét góðu eða illu

whether that he promised good or ill

'Whether he promised good or ill, ...'

(*Þorgils saga skarða* 1)

This strongly suggests that *hvárt* itself was a specifier, not a head, in this language. Second, it is often compounded with the genitive numeral *tveggja* 'of two', especially when used as an indefinite:

(99) Þetta var tvöfaldr spáleikr, því at hvárttveggja kom fram síðan

that was twofold prophecy because whether-two.GEN came from later

'That was a twofold prophecy, because the two things came to pass'

(*Guðmundar saga*)

This indicates that the 'which of two' meaning was weakened and needed reinforcement in ON.

4.4.4 The syntax of Proto-Germanic *h^waþeraz/*h^weþeraz

The overall picture found in the early Germanic languages with regard to reflexes of *h^waþeraz/*h^weþeraz can be summarized as in Table 4.6.

Table 4.6: Reflexes of *h^waþeraz/*h^weþeraz in early Germanic

	'Which of two'		Disjunctive question		Indefinite
	Main	Sub	Main	Sub	
Gothic	✓ (V2)	✓ (V-late)	×	×	✓
OHG	✓ (V2)	✓ (V-late)	×	✓ (V-late)	✓
OE	✓ (V2)	✓ (V-late)	✓ (V-late)	✓ (V-late)	✓
OS	?	✓ (V-late)	✓ (V-late)	✓ (V-late)	✓
ON	✓ (V2)	✓ (V2)	✓ (V2)	✓ (V-to-T)	✓

As with *h^wat, the correspondence problem here can be resolved on lexical-phonological grounds: the different items in the five languages can be safely assumed to be cognate, reflexes of *h^waþeraz/*h^weþeraz.[27] Again as with *h^wat, a

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[27] To be more accurate, the forms found in Gothic and ON, as well as OE *hwæþer*, are reflexes of *h^waþeraz, while the forms found in OHG and OS, as well as the occasionally found alternative OE form *hweder*, are reflexes of *h^weþeraz (Nielsen 1998: 78–79). I assume this phonological difference has no syntactic consequence, and that the two items behaved identically in Proto-Germanic, though

story can be told in terms of lexical split. I take the 'which of two' reading to be original and present in Proto-Germanic; this is the only reading attested in Gothic, and is supported by the availability of this reading for the cognate item in Sanskrit, *ka-tará* 'which of two', and throughout the history of Lithuanian, *katras* 'which of two' (OED; Artūras Ratkus, p.c.).

One possibility is that the disjunctive question reading was also available in Proto-Germanic. The absence of this possibility in Gothic (as well as in Sanskrit and Lithuanian) suggests that this is unlikely, however. In addition, the development of this reading can be sketched straightforwardly. At the first stage, in which only the 'which of two' reading was possible, it would also have been possible to juxtapose two independent structures in speech, as in modern English (100).

(100)   Tell me which you would prefer – that I walk, or that I cycle?

Which is still nominal and argumental in this example. We see this type of example in OE: for instance, (85). Standard processes of ellipsis could also apply to one of the conjuncts, yielding the equivalent of (101).

(101)   Tell me which you would prefer – that I walk?

This type of example, however, would have been susceptible to a clause-union reanalysis in which *which* became analysed as a disjunctive question marker.[28] I hypothesize that example (91) from OHG may have had this structure. A third stage has indirect questions being reanalysed as direct questions; this is the stage reached by OE and OS, and accounts for the presence of verb-late order in these examples.[29]

The first reanalysis, leading from stage 1 to stage 2, is characteristic of all of Northwest Germanic. As with the reanalysis of $*h^{w}at$ mentioned in the previous section, the second reanalysis, leading from stage 2 to stage 3, is only attested in OE, OS and ON. It may thus have been an innovation that was diffused across the Northwest Germanic dialect continuum at an early stage. The subsequent generalization of V2 in all types of main clauses in ON and a similar phenomenon in

this is by no means an innocent assumption.

[28] Though the absence of any reflex of the complementizer or conjunction in the disjunctive questions other than *whether* itself is unaccounted for under this approach. It is also unclear why the reanalysis took place in embedded contexts, and why languages at the second stage would not immediately permit V2 questions introduced by *whether*.

[29] Diachronically, that is. Synchronically van Gelderen's (2009b) suggestion that *hwæþer* could be a head in Old English provides one explanation, as does Berizzi's (2010) null structure hypothesis.

subordinate clauses then accounts for the presence of V2 word order with *hvárt* questions in this language.

Chapter 5: Null arguments in early Germanic

5.1 Introduction

In this chapter I discuss a further property of the early Germanic languages: the occurrence of null arguments. In contrast to other aspects of early Germanic syntax, such as constituent order, the details of this property have received little attention in the generative literature, although Sigurðsson (1993) on Old Norse, van Gelderen (2000) on OE and Axel (2007) on OHG are notable exceptions. Abraham (1991) contains some discussion of Gothic and the history of German; however, to my knowledge, the only truly comparative work on null arguments in Germanic to have appeared is Rosenkvist (2009). As Rosenkvist emphasizes, 'the resemblance between the [early Germanic] languages is quite remarkable. A possible reason why this has not been debated earlier may be that researchers have focused on one single Old Germanic language at a time' (2009: 152). However, his paper mainly reviews and summarizes the existing literature, and has a number of empirical lacunae: Gothic and Old Saxon are not mentioned at all, and the only quantitative data presented are from OHG and Old Swedish.

This chapter builds on Rosenkvist's paper, and is simultaneously broader and narrower in focus. I do not here consider the null argument property in the modern Germanic languages. In those modern Germanic varieties that do permit null arguments (e.g. Bavarian, Frisian, Övdalian), a number of differences exist that render it unlikely that the modern property is fundamentally the same phenomenon as in earlier stages of Germanic, as Rosenkvist concludes (2009: 174–175).[1] On the other hand, the scope is wider in that new quantitative data from Gothic, OE, Old Icelandic and Old Saxon are presented. As elsewhere in this dissertation, the ultimate aim is to reconstruct the syntactic properties of unattested stages of Germanic, and so an attempt is made to unify the contrasts that appear between the attested languages in a diachronically plausible manner.

In 5.2 I present data on the occurrence of null arguments from five key early Germanic languages: Gothic, Old Norse, OE, OHG and Old Saxon. Section 5.3

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[1] Axel & Weiß (2011) argue that the modern null argument dialects of German inherited this property directly from OHG, based on a putative correlation with availability of agreement in C^0, in the form either of verb-movement or of complementizer agreement. Rosenkvist (2009) argues against such a view, on the basis that a) some modern Germanic varieties, e.g. Zürich German, permit null subjects even in embedded clauses despite the absence of agreeing complementizers, and b) the person split in earlier Germanic (see section 5.2 of this chapter) is not explained. In section 5.2 I provide further evidence against this hypothesis by demonstrating that even in OHG the presence of verb-movement in subordinate clauses was not relevant to the licensing of null subjects. See table 5.12.

analyses this data within a generative framework, assessing the applicability of different theories of null arguments to the data in 5.2. I argue in 5.3.1 that the theory of identification of null subjects by rich verbal agreement, as first proposed within the generative tradition by Taraldsen (1978), is not sufficient to explain the frequency and range of null arguments attested in early Germanic, especially considering the availability of null objects; in 5.3.2 I demonstrate that a traditional topic-drop analysis is also ruled out. I also suggest, in 5.3.3, that the early Germanic languages were not obviously 'radical' null argument languages as argued by Huang (1984) for Mandarin Chinese, Japanese and Korean. My proposal, in 5.3.4 and 5.3.5, links the availability of null arguments in the early Northwest Germanic languages to agreement with a topic operator in SpecShiftP, updating a proposal made by Holmberg (2010) for Finnish, and the availability of null arguments in Gothic to agreement with SpecShiftP or a left-peripheral logophoric agent (Λ_A) or logophoric patient (Λ_P) operator. Finally, in 5.4 I look at these languages from a diachronic perspective, focusing particularly on whether the restriction to main clauses found in the Northwest Germanic languages is a retention or an innovation as well as what we are able to reconstruct for Proto-Germanic.

5.2 Null arguments across the attested early Germanic languages

5.2.1 Gothic

Wright (1910: 188) remarks that subject pronouns are rare in Gothic, and in her book-length study of the syntax of Gothic, Ferraresi (2005: 47) states that 'Gothic is a null-subject language'. However, as has been emphasized in recent years by Holmberg (2010) among others, there are various different types of null-subject language, and so it is necessary to look at the contexts in which null arguments can be found.

Ferraresi shows that expression of nominative pronouns in Gothic largely follows the (presumed) Greek *Vorlage*.[2] She offers the quantitative data in Tables 5.1 and 5.2 in support of this (2005: 48).

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[2] Ferraresi (2005) and Fertig (2000) both use Streitberg's reconstruction of this *Vorlage*, which may be problematic; cf. section 1.4.1 and Ratkus (2011: 28–32) for discussion.

Table 5.1: Subject pronouns in Gothic main clauses

	Pr V	XP Pr V	V Pr	XP V Pr
Gothic, not Greek	8	0	0	(wh) 2
Greek, not Gothic	1	0	0	0

Table 5.2: Subject pronouns in Gothic subordinate clauses

	C Pr V	C XP Pr V	C V Pr	C XP V Pr
Gothic, not Greek	23	0	0	0
Greek, not Gothic	2	0	0	0

The picture that emerges is that where there is a discrepancy between the *Vorlage* and the Gothic text it is usually (but not always) the Gothic that expresses the pronoun overtly. She notes that insertion/non-expression in Gothic is always preverbal, with the exception of a couple of *wh*-questions. Interestingly, 'in all the examples of embedded clauses where a subject pronoun has been inserted in Gothic while it is null in Greek, there is a change in the subject with respect to the main clause' (2005: 49). This tendency militates against the common picture of Wulfila as a slavish word-for-word translator, since a clear motive for inserting the subject can be identified in some cases, namely discourse clarity; at the same time, it indicates that null subjects were a native possibility in Gothic, since otherwise such insertions would be the norm and not the exception. Cf. also section 1.4.1 of this dissertation for discussion of the degree of freedom of Wulfila's translation.

The other recent study of null subjects in Gothic, Fertig (2000), also concludes that null subjects were a native possibility, noting that there are only 'a handful of cases' where the Gothic differs from Streitberg's Greek, and that they favour insertion rather than deletion. He argues against the view of Held (1903: viii), who suggests that the insertion of these pronouns was merely a stylistic preference. Fertig suggests that, if Wulfila's translation followed a strict principle of adherence to the Greek original, he would not have inserted pronouns unless virtually forced to do so by the grammar of Gothic (2000: 10). He also points out that there is no correlation between the presence of overt subject pronouns and the ambiguity of verbal endings, *pace* Streitberg (1920: 185), and speculates that the overt pronouns that we see may be just 'the tip of the iceberg' of what we would find in idiomatic Gothic (2000: 11). As regards the data themselves, Fertig observes, following Schulze (1924: 96–100), that instances of non-nominative pronouns in Greek non-finite constructions often correspond to overt nominative pronominal subjects in Gothic finite clauses, but even more often correspond to null subjects; he takes this

deviation from Greek to indicate that null subjects were a native possibility in Gothic, as does Schulze (1924: 107). Furthermore, Gothic pronouns tended to be inserted when the antecedent was non-topical, though were not always (2000: 13). Fertig uses this possibility to argue that Gothic occupied a different position in the typology of null subject languages to Greek, a conclusion I do not feel is necessarily warranted by the (extremely limited) data; instead I take the view of Held (1903: viii), that these deviations were merely stylistic.

For the present work I supplemented the work of Ferraresi (2005) and Fertig (2000) with an exhaustive investigation of the transmitted fragments of the Gospel of Matthew. The results are summarized in Table 5.3. The relevant subset of these, referential pronominal subjects, is presented in Table 5.4, which excludes full DP subjects as well as subjects elided under coordination, expletives, subject gaps in relative clauses and the understood subject of imperative clauses and optative clauses with imperative force, and is ordered by clause type. Table 5.5 presents the same data by person and number.

Table 5.3: All subjects in Gothic finite clauses in the Gospel of Matthew

	Full	Pronominal	Null	Total
Main	89 (32.4%)	15 (5.5%)	171 (62.2%)	275
Subordinate	70 (30.6%)	16 (7.0%)	143 (62.4%)	229
Conjunct	105 (42.2%)	9 (3.6%)	135 (54.2%)	249
Total	264	40	449	753

Table 5.4: Referential pronominal subjects in the Gothic Gospel of Matthew, by clause type

	Overt	Null	Total
Main	15 (13.9%)	93 (86.1%)	108
Subordinate	16 (15.4%)	88 (84.6%)	104
Conjunct	9 (15.8%)	48 (84.2%)	57
Total	40	229	269

Table 5.5: Referential pronominal subjects in the Gothic Gospel of Matthew, by person and number

Person	N	Overt	Null	Total
1	sg	11 (19.0%)	47 (81.0%)	58
	pl	2 (11.1%)	16 (88.9%)	18
2	sg	8 (27.6%)	21 (72.4%)	29
	pl	8 (14.8%)	46 (85.2%)	54
3	sg	4 (6.1%)	62 (93.9%)	66
	pl	7 (15.9%)	37 (84.1%)	44
Totals		40	229	269

The difference between main and subordinate clauses in Gothic in terms of occurrence of overt vs. null referential pronominal subjects is not statistically significant ($p = 0.8466$), and neither is the effect of person and number ($p = 0.0807$). Examples of null subjects in main and subordinate clauses respectively are given in (1) and (2).

(1)   andnemun mizdon seina
        take.3PL.PRET reward.ACC their.ACC
        'They have their reward' (Matthew 6:2)

(2)   ... ei qemjau gatairan witoþ aiþþau praufetuns
        ... that come.1SG.OPT destroy.INF law.ACC or prophets.ACC
        '...that I have come to destroy the law or the prophets' (Matthew 5:17)

Ferraresi (2005: 59) also mentions that 'due to its null subject nature, Gothic does not have [overt] expletive subjects either'. An example of the absence of an overt expletive is given in (3).

(3)   Ganah siponi ei wairþai swe laisareis is ...
        suffice.3SG disciple.ACC that become.3SG.OPT as teacher.NOM his.NOM ...
        'It is enough for the disciple that he be as his master...' (Matthew 10:25)

Where subject pronouns are included, the intended interpretation is clearly as focused or contrastive, as in (4).

(4) hausideduþ þatei qiþan ist: ni horinos. aþþan **ik** qiþa izwis ...
heard.2PL.PRET that said is.3SG NEG whore.2SG.OPT but I say.1SG you.DAT ...
'You have heard it said that you should not commit adultery. But I say to you...' (Matthew 5:27–28)

In addition, I compared these findings to the Majority Text of the Greek New Testament (see section 1.4.1 for details). In none of the 229 instances of a null referential subject in the Gothic Gospel of Matthew does the Greek text contain a corresponding overt pronoun, a result consistent with those of Ferraresi (2005) and Fertig (2000). In 33 of the 40 cases of subject pronouns in finite clauses, the pronoun directly corresponds to a Greek pronoun (though not necessarily one that is in the nominative case). In a further six cases the pronoun corresponds to a Greek third person demonstrative *ó* (singular) or *oi* (plural): this is the case in Matthew 8:32, 9:31, 26:66, 26:70, 27:4 and 27:66. In only one case in this sample does the subject pronoun in Gothic correspond to nothing overt in the Majority Text: this example is given in (5).

(5) jabai in Saudaumjam waurþeina mahteis þos waurþanons in izwis,
if in Sodom became.3PL.OPT.PRET powers.NOM those become in you
aiþþau **eis** weseina und hina dag
or they remain.3PL.OPT.PRET until this day
'if those great works done in you had been done in Sodom, they would have remained until this day' (Matthew 11:23)

The expression of the pronoun here may be linked to its presence in the apodosis of a conditional, a rare construction in Gothic; the translator may have felt that the presence of the antecedent in the protasis might not have been enough to guarantee the correct interpretation.

Null objects also appear to be possible in Gothic. I have not conducted a quantitative investigation due to the difficulty of identifying which verbs require an overt object; however, clear examples can be found, as in (6) and (7).

(6) mis tawideduþ
me.DAT done.2PL.PRET
'you have done it to me' (Matthew 25:40)
(7) iþ Iesus qaþ du imma: þu qiþis
but Jesus said to him you say
'and Jesus said to him: "So you say."' (Matthew 27:11)

These examples follow the Greek in the omission of any object. However, as we have seen, Wulfila seems to have been capable of deviating from the *Vorlage* if he had reason to do so (cf. section 1.4.1); it is therefore not unreasonable to hypothesize that null objects were natively possible in Gothic.

5.2.2 Old Norse

Whereas in most of this thesis examples and data from Old Icelandic have been used to illustrate the behaviour of the older Scandinavian languages, with regard to null arguments it is Old Swedish for which the most quantitative data is available. Falk (1993), in a paper devoted mostly to non-referential null subjects in the history of Swedish, observes that Old Swedish also permitted null referential subjects, as in (8).

(8)   þer diþi ok drak miolk af moþor spina
        there sucked and drank milk of mother.GEN teats
        'There he sucked and drank milk from his mother's teats'
        (*Tjuvabalken in Den äldre Codex af Westgöta-Lagen*, dated 1225; Falk 1993: 143, her (1a))

A thorough recent study, Håkansson (2008), also highlights the existence of such examples, although emphasizing their rarity:

(9)   þar gierþi kirchiu aþra
        there built church other
        'There they built another church'
        (*Guta Saga*; Håkansson 2008: 14, his (1.3))

Håkansson (2008: 101) also concludes that referential null subjects are most frequently found in main clauses. Of the 540 main clauses investigated, 31 (5.7%) had null subjects, as opposed to only 12 of 513 subordinate clauses (2.3%). Furthermore, whereas 44 of 765 third person referential subjects (5.8%) are null, this is the case for only 3 of 164 first person subjects (1.8%) and 0 of 132 second person subjects (Håkansson 2008: 115). As noted by Rosenkvist (2009: 158), these patterns appear to be similar to those found in OHG (section 5.2.4).

　　　　A number of works have addressed the situation in Old Icelandic. The possibility of null arguments was investigated by Nygaard (1894, 1906), and the most extensive discussion in terms of generative syntactic theory is that of

Sigurðsson (1993), building on empirical work by Hjartardóttir (1987). Here I will limit myself to discussing the data; Sigurðsson's theoretical approach will be discussed in section 5.3. Faarlund (2004: 221) also discusses the issue briefly, arguing that 'Old Norse is not a regular "*pro*-drop" language' and that 'deletion of a specified subject is rare' (2004: 223; cf. also Faarlund 1994: 56, Rögnvaldsson 1990). However, as Rosenkvist (2009: 157) laments, there appear to be no quantitative studies of null subjects comparable to those carried out for e.g. OHG. Hróarsdóttir (1996: 130) reports that she found 13 examples of referential null subjects in her sample of Icelandic between 1730 and 1750, but the numbers given are absolute, and hence there is no way of comparing this to the number of overt subjects in the sample; clausal context (main or subordinate) is also not mentioned.

Null non-referential subjects are the norm in Old Icelandic, as pointed out by Faarlund (2004: 220) and illustrated by (10) (his (68)a).

(10)   var þá myrkt af nátt
        was then dark at night
        'Then it was dark at night'

However, referential subjects and objects may also be null, as in (11) and (12) from Sigurðsson (1993) (14$^{\text{th}}$ century; his (1) and (2)).

(11)   ok kom hann þangat, ok var Hoskuldr uti, er reið í tún
        and came he there and was H. outdoors when rode into field
        'And he$_i$ came there, and Hoskuldr was outside when he$_i$ rode into the field'
(12)   dvergrinn mælti, at sa baugr skyldi vera hverjum hofuðsbani, er átti
        dwarf.DEF said that the ring should be anyone.DAT headbane that possessed
        'The dwarf said that the ring would bring death to anyone who possessed it'

A quantitative investigation of null subjects in Old Icelandic is now possible, due to the availability of a pre-final version of the IcePaHC corpus of historical Icelandic (version 0.9.1; Wallenberg *et al.* 2011). Using this corpus I have investigated the frequency of null vs. overt pronominal subjects in texts from the twelfth and thirteenth centuries. In the IcePaHC, referential null subjects (*pro*) are tagged distinctly from subjects elided under co-ordination (*con*) and null expletives (*exp*), using *pro* only when an analysis in terms of one of the other two is impossible. This makes the search for relevant examples relatively simple. The results are presented in Table 5.6; the cells which show a frequency of null subjects of greater than 2% are highlighted. This cut-off point is chosen fairly arbitrarily as a

lower bound beyond which occurrence of apparent null subjects could potentially be due simply to noise in the data.

Table 5.6: Referential pronominal subjects in Old Icelandic finite clauses in IcePaHC 0.9.1, by text and clause type

Text	Clause type	Overt	Null	Total
First Grammatical Treatise (1150.FIRSTGRAMMAR.SCI-LIN)	Main	55 (96.5%)	2 (3.5%)	57
	Subordinate	102 (80.3%)	25 (19.7%)	127
	Conjunct	25 (92.6%)	2 (7.4%)	27
	Total	182	29	211
Íslensk hómilíubók (1150.HOMILIUBOK.REL-SER)	Main	610 (98.9%)	7 (1.1%)	617
	Subordinate	1120 (98.2%)	20 (1.8%)	1140
	Conjunct	239 (95.6%)	11 (4.4%)	250
	Total	1969	38	2007
Jarteinabók (1210.JARTEIN.REL-SAG)	Main	126 (99.2%)	1 (0.8%)	127
	Subordinate	228 (87.7%)	32 (12.3%)	260
	Conjunct	144 (94.7%)	8 (5.3%)	152
	Total	498	41	539
Þorláks saga helga (1210.THORLAKUR.REL-SAG)	Main	149 (100.0%)	0 (0.0%)	149
	Subordinate	312 (97.8%)	7 (2.2%)	319
	Conjunct	117 (95.1%)	6 (4.9%)	123
	Total	578	13	591
Íslendinga saga (1250.STURLUNGA.NAR-SAG)	Main	497 (99.4%)	3 (0.6%)	500
	Subordinate	358 (97.0%)	11 (3.0%)	369
	Conjunct	248 (93.9%)	16 (6.1%)	264
	Total	1103	30	1133
Egils saga (Theta manuscript; 1250.THETUBROT.NAR-SAG)	Main	65 (98.5%)	1 (1.5%)	66
	Subordinate	94 (98.9%)	1 (1.1%)	95
	Conjunct	26 (96.3%)	1 (3.7%)	27
	Total	185	3	188
Jómsvíkinga saga (1260.JOMSVIKINGAR.NAR-SAG)	Main	263 (99.2%)	2 (0.8%)	265
	Subordinate	542 (97.5%)	14 (2.5%)	556
	Conjunct	344 (95.8%)	15 (4.2%)	359
	Total	1149	31	1180

Grey Goose Laws (*Grágás*; 1270.GRAGAS.LAW-LAW)	Main	68 (94.4%)	4 (5.6%)	72
	Subordinate	171 (85.1%)	30 (14.9%)	201
	Conjunct	58 (95.1%)	3 (4.9%)	61
	Total	297	37	334
Morkinskinna (1275.MORKIN.NAR-HIS)	Main	428 (93.4%)	30 (6.6%)	458
	Subordinate	508 (95.3%)	25 (4.7%)	533
	Conjunct	355 (90.8%)	36 (9.2%)	391
	Total	1291	91	1382

In contrast to Gothic, the proportions of null subjects in these texts are uniformly low, and never above 20%. Some texts provide better evidence of a null subject property in Old Icelandic than others: while the *Íslensk hómilíubók* and the *Egils saga* manuscript contain few unambiguous examples, for instance, the *First Grammatical Treatise* and *Morkinskinna* contain a robust number. The effect of clause type (main vs. subordinate) is significant only for the *First Grammatical Treatise* ($p = 0.0031$), *Jarteinabók* ($p < 0.0001$), *Íslendinga saga* ($p = 0.0111$) and the *Grey Goose Laws* ($p = 0.0390$). The effect in these texts – null subjects are more common in subordinate clauses than in main clauses – is the opposite of that found by Håkansson (2008) for Old Swedish and that found in the early West Germanic languages (for which see sections 5.2.3–5.2.5). For a speculation as to why this might be, see footnote 29 to this chapter.

Table 5.7: Referential pronominal subjects in finite clauses in the *First Grammatical Treatise* and *Morkinskinna*, by person and number

Text	Person	N	Overt	Null	Total
First Grammatical Treatise	1	sg	78 (100.0%)	0 (0.0%)	78
		pl	6 (100.0%)	0 (0.0%)	6
	2	sg	14 (100.0%)	0 (0.0%)	14
		pl	0	0	0
	3	sg	63 (71.6%)	25 (28.4%)	88
		pl	21 (84.0%)	4 (16.0%)	25
		Totals	182	29	211
Morkinskinna	1	sg	269 (99.3%)	2 (0.7%)	271
		pl	79 (95.2%)	4 (4.8%)	83
	2	sg	185 (99.5%)	1 (0.5%)	186
		pl	13 (100.0%)	0 (0.0%)	13
	3	sg	562 (90.1%)	62 (9.9%)	624
		pl	183 (89.3%)	22 (10.7%)	205
		Totals	1291	91	1382

Person also has a strong effect on expression, and in this respect my data agree with those of Nygaard (1906: 8–9) and Hjartardóttir (1987) for Old Icelandic as well as with those of Håkansson (2008: 106) for Old Swedish.[3] The *First Grammatical Treatise* contains no first or second person null subjects at all, and for both texts investigated the effect of first vs. non-first person is statistically significant ($p < 0.0001$ for both; cf. the discussion of the early West Germanic languages in sections 5.2.3–5.2.5). The effect of number in the third person is not significant (*First Grammatical Treatise*, $p = 0.3005$; *Morkinskinna*, $p = 0.7897$).

A problematic factor that must be noted is the potential availability of 'quirky' or 'oblique' subjects, i.e. subjects in a case other than the nominative, in Old Icelandic. Opinions vary on whether this property, widely acknowledged to hold for Modern Icelandic, also held for Old Icelandic, or whether the relevant elements are objects; Rögnvaldsson (1991, 1995), Haugan (1998), Barðdal (2000, 2009) and Barðdal & Eythórsson (2005, 2011) argue that they are subjects, whereas Faarlund (2001, 2004: 194–195) argues against this on the basis that non-subjects other than predicate complements otherwise never occur in the nominative in Old Icelandic. Since the IcePaHC corpus takes the former view and tags as subjects constituents that may be in the dative or the genitive, I have followed their annotation scheme

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[3] Dual pronouns are treated as plural for the purposes of Table 5.7.

and assumed that these constituents are indeed subjects.[4] This is important to note when comparing the data for Old Icelandic to that for other older Germanic languages. My assumption for these is that all subjects take nominative case and that non-nominative arguments cannot be subjects, which is not uncontroversial (see Harris 1973, Allen 1995, Barðdal & Eythórsson 2005) but is made largely for ease of quantitative investigation. This assumption in fact has minimal bearing on the analysis presented in section 5.3, for which the grammatical relations involved are irrelevant.

Finally, null objects are also found in early Icelandic texts such as the *First Grammatical Treatise*, e.g. (13).

(13)   leka myndi húsið, ef eigi mændi smiðurinn

         leak may house.DEF if not roof.SBJV smith.DEF

         'A house may leak if a craftsman does not roof it'

         (1150.FIRSTGRAMMAR.SCI-LIN,.71)

5.2.3 Old English

Compared to e.g. clausal constituent order, the availability of null arguments in OE has been little investigated. Conflicting claims have been made in the literature: Hulk & van Kemenade (1995: 245) state that 'the phenomenon of referential *pro*-drop does not exist in Old English'; van Gelderen (2000: 137), on the other hand, claims that 'Old English has pro-drop'. Mitchell (1985: 633) suggests that the possibility of leaving arguments unexpressed 'occurs (or survives) only spasmodically' in OE. Despite the seeming contradiction, we shall see that all three suggestions appear to be right. The availability of the YCOE (Taylor *et al.* 2003) makes it possible to conduct a quantitative investigation of null arguments on a larger scale than carried out before.

The existence of examples of subject omission in OE has been known for at least a century: Pogatscher (1901) gives an extensive list of examples, some of which are mentioned by Visser (1963–1973) and Mitchell (1985) in their general works on the history of English syntax. Although Pogatscher treats cases of coordination reduction, as found in Modern English examples such as (14), as examples of subject omission (van Gelderen 2000: 124), there are also genuine cases of null referential subjects, as in (15).

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[4] This decision taken by the annotators is intended to ease retrieval rather than as a theoretical statement, though Wallenberg, Sigurðsson & Ingason (2011) argue that there are good reasons to analyse Old Icelandic this way.

(14)   The king went to Normandy and met the bishop.

(15)   Nu scylun hergan hefaenricaes uard

now must praise heavenly-kingdom.GEN guard

'Now we must praise the lord of the heavenly kingdom'

(*Caedmon's Hymn*, Cambridge University Library MS. M, line 1; van Gelderen 2000: 126; her (16))

Example (15) is from the Northumbrian version of *Caedmon's Hymn*, dated to the 8th century. Multiple manuscripts exist, and in some, such as (16), the pronoun is present.

(16)   Nu we sculan herian heofonrices Weard.

(Bodleian Library MS. T$_1$, line 1; van Gelderen 2000: 126; her (17))

Tellingly, the scribe of Corpus Christi Oxford MS 279 (MS. O) initially copied *Nu sculan* 'Now must' but then corrected his copy to *Nu we sculan* 'Now *we* must' (cf. Kiernan 1990: 164 for discussion of the variation across manuscripts). This raises an important point, also mentioned by Pogatscher (1901: 277): if, as seems to be the case, null arguments became progressively rarer through the history of English, scribes may have made 'intelligent revisions' (Kiernan 1990: 164) of what they perceived to be errors, resulting in transmitted texts retaining a lower proportion of null arguments. Likewise, editors have frequently adopted a policy of inserting the missing overt pronouns in their editions of OE texts (Pogatscher 1901: 275–276). Both these factors are relevant for our purposes, as quantitative investigations of null arguments in OE may therefore lead to an underestimation of their actual prevalence, especially since the YCOE (Taylor *et al.* 2003) is based on critical editions rather than manuscript sources.

Like the IcePaHC, the YCOE tags referential null subjects (*pro*) distinctly from subjects elided under co-ordination (*con*) and null expletives (*exp*), using *pro* only when an analysis in terms of one of the other two is impossible. This makes the search for relevant examples relatively simple. However, a preliminary search for all instances of *pro* uncovered two classes of examples which should not be taken to support a prototypical referential null subject analysis.

Firstly, there are numerous cases where the verb is in the subjunctive and the context is that of an instruction, as in (17).[5]

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[5] (17) is also an instance of 'recipe drop' of objects (Culy 1996, Bender 1999), showing that this possibility was alive and well in the OE period.

(17)   gemenge wið buteran
         mix.sʙᴊᴠ with butter
         'Mix with butter'
         (colaece,Lch_II_[1]:3.8.2.406)

Although the sense is imperative, the verb form is clearly subjunctive; since
(*ge*)*mengan* is a class Ib weak verb, the imperative singular would be (*ge*)*meng*.
These jussive clauses have therefore been tagged in the YCOE as including a null
referential pronoun (*pro*). For simplicity's sake the figures in Table 5.8 have been
calculated on the basis of indicative clauses only, since this 'jussive *pro*' is
extremely frequent: in the *Benedictine Rule*, 29 of 30 examples of *pro* in main
clauses are of this type, and in the *Heptateuch* 48 of 52. They are also frequent in
instructional texts such as the *Herbarium* and *Bald's Leechbook*.

         The second category of *pro* that occurs with unexpected frequency is the
type illustrated in (18), involving the verb *hatan* 'to be called'. Such examples could
be analysed as involving a special type of asyndetic (subject-gap) contact relative
clause rather than a true null referential subject; see Mitchell (1985: 186), Dekeyser
(1986: 108) and Poppe (2006: 197–201).[6]

(18)   Ualens wæs gelæred from anum Arrianiscan biscepe, Eudoxius wæs haten
         Valens was taught from an Arian bishop Eudoxius was called
         'Valens was taught by an Arian bishop called Euxodius.'
         (coorosiu,Or_6:33.151.22.3215)

In the preliminary search, *Orosius* appeared to contain a larger proportion of null
subjects in main clauses than other texts, at 6.4% (34 examples). However, 27 of
these 34 examples involve the verb *hatan*, and six of the remaining seven are cases
of 'jussive *pro*' of the type discussed above. Such examples are also common in
the translation of Bede's *Historia*. Steps were therefore taken to exclude such cases
from the figures in Table 5.8.

         I investigated all texts of over 20,000 words in the corpus in their entirety, as
well as *Beowulf*, which can be found in the YCOEP corpus of poetry (Pintzuk &
Plug 2001). Table 5.8 for OE can thus be considered equivalent to Tables 5.4 for
Gothic, 5.6 for Old Icelandic, 5.11 for OHG and 5.15 for OS, in that it leaves out of
consideration other types of null subject such as expletives, subjects elided under

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[6] This construction is available in older stages of German as well (Gärtner 1981; Poppe 2006: 200).
Dekeyser (1986: 112–113) in fact argues that it is an 'offshoot' of earlier optionality in the expression
of the subject pronoun.

coordination, relative clause subject gaps and imperatives. In the majority of classical OE texts, examples of null referential arguments are so rare as to be potentially considered entirely ungrammatical. However, in certain other texts the phenomenon occurs with a frequency and distribution that cannot be attributed entirely to performance errors.

Table 5.8: Referential pronominal subjects in OE finite indicative clauses in the YCOE and YCOEP, by text and clause type

Text	Clause type	Overt	Null	Total
Ælfric's Lives of Saints (coaelive.o3)	Main	789 (99.2%)	6 (0.8%)	795
	Subordinate	1137 (99.4%)	7 (0.6%)	1144
	Conjunct	532 (96.4%)	20 (3.6%)	552
	Total	2458	33	2491
Ælfric's Homilies Supplemental (coaelhom.o3)	Main	585 (99.8%)	1 (0.2%)	586
	Subordinate	871 (99.8%)	2 (0.2%)	873
	Conjunct	501 (99.4%)	3 (0.6%)	504
	Total	1957	6	1963
Bede's History of the English Church (cobede.o2)	Main	719 (96.6%)	25 (3.4%)	744
	Subordinate	1038 (98.0%)	21 (2.0%)	1059
	Conjunct	377 (92.6%)	30 (7.4%)	407
	Total	2134	76	2210
Benedictine Rule (cobenrul.o3)	Main	144 (99.3%)	1 (0.7%)	145
	Subordinate	177 (98.3%)	3 (1.7%)	180
	Conjunct	29 (100.0%)	0 (0.0%)	29
	Total	350	4	354
Beowulf (cobeowul; from YCOE Poetry)	Main	190 (78.2%)	53 (21.8%)	243
	Subordinate	139 (93.3%)	10 (6.7%)	149
	Conjunct	24 (92.3%)	2 (7.7%)	26
	Total	353	65	418
Blickling Homilies (coblick.o23)	Main	436 (99.5%)	2 (0.5%)	438
	Subordinate	582 (99.1%)	5 (0.9%)	587
	Conjunct	345 (98.9%)	4 (1.1%)	349
	Total	1363	11	1374

Boethius, Consolation of Philosophy (coboeth.o2)	Main	902 (99.4%)	5 (0.6%)	907
	Subordinate	1095 (99.6%)	4 (0.4%)	1099
	Conjunct	260 (98.5%)	4 (1.5%)	264
	Total	2257	13	2270
Ælfric's Catholic Homilies I (cocathom1.o3)	Main	1271 (99.9%)	1 (0.1%)	1272
	Subordinate	1507 (99.7%)	4 (0.3%)	1511
	Conjunct	648 (99.1%)	6 (0.9%)	654
	Total	3426	11	3437
Ælfric's Catholic Homilies II (cocathom2.o3)	Main	1071 (99.9%)	1 (0.1%)	1072
	Subordinate	1191 (99.7%)	4 (0.3%)	1195
	Conjunct	547 (98.7%)	7 (1.3%)	554
	Total	2809	12	2821
Anglo-Saxon Chronicle C (cochronC)	Main	51 (94.4%)	3 (5.6%)	54
	Subordinate	165 (100.0%)	0 (0.0%)	165
	Conjunct	200 (89.7%)	23 (10.3%)	223
	Total	416	26	442
Anglo-Saxon Chronicle D (cochronD)	Main	66 (88.0%)	9 (12.0%)	75
	Subordinate	197 (99.0%)	2 (1.0%)	199
	Conjunct	214 (88.4%)	28 (11.6%)	242
	Total	477	39	516
Anglo-Saxon Chronicle E (cochronE.o34)	Main	115 (95.8%)	5 (4.2%)	120
	Subordinate	246 (98.8%)	3 (1.2%)	249
	Conjunct	248 (93.6%)	17 (6.4%)	265
	Total	609	25	634
Cura Pastoralis (cocura.o2, cocuraC)	Main	721 (99.6%)	3 (0.4%)	724
	Subordinate	1504 (99.7%)	5 (0.3%)	1509
	Conjunct	339 (99.4%)	2 (0.6%)	341
	Total	2564	10	2574
Gregory's Dialogues C (cogregdC.o24)	Main	747 (99.7%)	2 (0.3%)	749
	Subordinate	1409 (99.7%)	4 (0.3%)	1413
	Conjunct	651 (99.7%)	2 (0.3%)	653
	Total	2807	8	2815

Gregory's Dialogues H (cogregdH.o23)	Main	240 (100.0%)	0 (0.0%)	240
	Subordinate	424 (100.0%)	0 (0.0%)	424
	Conjunct	117 (99.2%)	1 (0.8%)	128
	Total	781	1	782
Herbarium (coherbar)	Main	451 (100.0%)	0 (0.0%)	451
	Subordinate	119 (100.0%)	0 (0.0%)	119
	Conjunct	162 (100.0%)	0 (0.0%)	162
	Total	732	0	732
Bald's Leechbook (colaece.o2)	Main	90 (76.3%)	28 (23.7%)	118
	Subordinate	94 (94.0%)	6 (6.0%)	100
	Conjunct	23 (65.7%)	12 (34.3%)	35
	Total	207	46	253
Martyrology (comart3.o23)	Main	182 (99.5%)	1 (0.5%)	183
	Subordinate	242 (98.8%)	3 (1.2%)	245
	Conjunct	206 (98.1%)	4 (1.9%)	210
	Total	630	8	638
Orosius (coorosiu.o2)	Main	344 (99.7%)	1 (0.3%)	345
	Subordinate	707 (99.3%)	5 (0.7%)	712
	Conjunct	299 (93.1%)	22 (6.9%)	321
	Total	1350	28	1378
Heptateuch (cootest.o3)	Main	748 (99.9%)	1 (0.1%)	749
	Subordinate	804 (99.9%)	1 (0.1%)	805
	Conjunct	450 (98.9%)	5 (1.1%)	455
	Total	2002	7	2009
Vercelli Homilies (coverhom)	Main	464 (98.9%)	5 (1.1%)	469
	Subordinate	609 (99.3%)	4 (0.7%)	613
	Conjunct	393 (98.3%)	7 (1.8%)	400
	Total	1466	16	1482
West-Saxon Gospels (cowsgosp.o3)	Main	1411 (99.7%)	4 (0.3%)	1415
	Subordinate	1139 (99.7%)	3 (0.3%)	1142
	Conjunct	820 (99.4%)	5 (0.6%)	825
	Total	3370	12	3382

The Homilies of Wulfstan (cowulf.o34)	Main	128 (100.0%)	0 (0.0%)	128
	Subordinate	351 (100.0%)	0 (0.0%)	351
	Conjunct	181 (100.0%)	0 (0.0%)	181
	Total	660	0	660

Many of these texts, including Ælfric's *Catholic Homilies* and *Homilies Supplemental*, as well as the *Benedictine Rule*, *Blickling Homilies*, the translation of Boethius's *Consolation of Philosophy*, the *Cura Pastoralis*, both manuscripts of *Gregory's Dialogues*, the *Martyrology,* the *Heptateuch*, the *West-Saxon Gospels*, and Wulfstan's *Homilies* show a frequency of overt subjects of 98–100% in all clause types. This arguably lends weight to Hulk & van Kemenade's (1995) claim, since one approach to such low figures is to consider these examples ungrammatical; at any rate it is easy to see why such a claim would have been made.

In Ælfric's *Lives of Saints* and *Orosius*, null subjects are found at a substantial frequency only in conjunct clauses. Why this should be the case is unclear, especially for Ælfric, in whose other writings null subjects in general are extremely rare. Perhaps the systems underlying these texts are characterized by a rule of conjunction reduction in which arguments can be shared across conjuncts 'regardless of case or grammatical function', as suggested by Faarlund (1990: 104) for Old Norse. In any case, I will leave these two texts out of consideration in what follows.

The remaining texts are Bede's *History of the English Church, Beowulf, Bald's Leechbook*, and the C, D and E manuscripts of the *Anglo-Saxon Chronicle*. All of these texts exhibit null subjects to a greater extent; the cells in table 5.8 which show a frequency of null subjects of greater than 2% are highlighted. Some examples are given below.

(19)   Wæs ærest læded to Bretta biscopum
        was first led to Britons.GEN bishops
        'He was first led to the priests of the Britons'
        (cobede,Bede_2:2.100.3.926)

(20)   þonne bið on hreþre under helm drepen biteran stræle
        then is in heart under helm hit bitter dart
        'Then he is hit in the heart, under the helmet, by the bitter dart'
        (cobeowul,54.1745.1443)

In (19) the understood subject is a blind man, who was introduced as the direct object of the previous clause. In (20) it is an unspecified king. Note that this example and others like it preclude a 'pronoun zap' analysis of OE null arguments *à la* Ross (1982) and Huang (1984) on German, since *þonne* 'then' is in initial preverbal position. For more examples of OE null subjects, particularly from *Beowulf*, see van Gelderen (2000: 126–129) and Visser (1963: 4ff).

In all of these texts, including *Beowulf*, null subjects are more common in main clauses than in subordinate clauses. The effect of clause type in *Beowulf* (main vs. subordinate, as conjunct clauses in general are rare in this text), for instance, is clearly significant ($p < 0.0001$). This result is similar to that found by Håkansson (2008) for Old Swedish, and by Eggenberger (1961) and Axel (2007) for OHG. (21) and (22) are examples of null subjects in subordinate clauses.

(21)　þætte oft þæt wiðerworde yfel abeorende & ældend bewereð
　　　　that often that noxious evil enduring and concealing prevents
　　　　'that she (the Church) often suppresses that noxious evil through endurance and connivance'
　　　　(cobede,Bede_1:16.70.33.666)
(22)　þæt þone hilderæs hæl gedigeð
　　　　that the battle-charge hale endure
　　　　'that they will survive the assault unharmed'
　　　　(cobeowul,11.293.236)

This result enables us to fill a hole in Rosenkvist's (2009) Table 4. Null subjects in OE were sensitive to clausal status as in OHG and OSw, though not in any absolute way, such that Pogatscher (1901: 261) is correct to state that it is possible for subjects to remain unexpressed both in main and subordinate clauses. Note that in both examples (21) and (22) the verb is in final position. This would be problematic for an attempt to extend to OE Axel's (2007) approach to OHG, which seeks to explain the restricted occurrence of null subjects in subordinate clauses by correlating it with V2 word order in such clauses; cf. section 5.2.4 for discussion. Six of the ten examples of null subjects in indicative subordinate clauses in *Beowulf*, and two of the six examples in *Bald's Leechbook*, cannot be analysed as involving verb-movement to the left periphery.

As in Old Icelandic (section 5.2.2) and OHG (section 5.2.4), person has a statistically significant effect on the expression vs. non-expression of subjects. Van Gelderen (2000: 132–136) makes this into a crucial part of her analysis. Table 5.9 summarizes the data, taken from a study by Berndt (1956).

Table 5.9: Referential pronominal subjects in finite indicative clauses in the *Lindisfarne Gospels* and *Rushworth Glosses*, by person and number (based on Berndt 1956: 65–68; cf. van Gelderen 2000: 133, her Table 3.1)[7]

Text	Person	N	Overt	Null	Total
Rushworth Glosses, part 1	1	sg	191 (97.0%)	6 (3.0%)	197
		pl	44 (97.8%)	1 (2.2%)	45
	2	sg	90 (88.2%)	12 (11.8%)	102
		pl	168 (89.4%)	20 (10.6%)	188
	3	sg	246 (58.2%)	177 (41.8%)	423
		pl	141 (58.0%)	102 (42.0%)	243
		Totals	880	318	1198
Lindisfarne Gospels, part 1	1	sg	212 (96.4%)	8 (3.6%)	220
		pl	53 (100.0%)	0 (0.0%)	53
	2	sg	103 (87.3%)	15 (12.7%)	118
		pl	206 (95.8%)	9 (4.2%)	215
	3	sg	116 (26.3%)	325 (73.7%)	441
		pl	108 (36.9%)	185 (63.1%)	293
		Totals	798	542	1340
Lindisfarne Gospels, part 2	1	sg	656 (98.6%)	9 (1.4%)	665
		pl	120 (99.2%)	1 (0.8%)	121
	2	sg	308 (93.3%)	22 (6.7%)	330
		pl	428 (95.7%)	19 (4.3%)	447
	3	sg	225 (18.3%)	1003 (81.7%)	1228
		pl	154 (24.5%)	475 (75.5%)	629
		Totals	1891	1529	3420
Rushworth Glosses, part 2	1	sg	528 (96.5%)	19 (3.5%)	547
		pl	100 (98.0%)	2 (2.0%)	102
	2	sg	226 (91.1%)	22 (8.9%)	248
		pl	302 (83.7%)	59 (16.3%)	361
	3	sg	186 (19.0%)	795 (81.0%)	981
		pl	124 (22.8%)	420 (77.2%)	544
		Totals	1466	1317	2783

[7] Though in his own tables (1956: 65–68) Berndt distinguishes between subjects elided under coordination and other null referential subjects (1956: 75, fn. 1), van Gelderen conflates the two categories in her figures for null subjects in Table 3.1. In Table 5.9 I have excluded Berndt's cases of subjects elided under coordination in order to ensure comparability with table 5.10 and others.

Berndt investigates two texts, the *Lindisfarne Gospels* (Northumbrian) and the *Rushworth Glosses* (of which the first part is Mercian and the second Northumbrian). Van Gelderen is able to show that statistical significance at the $p < 0.001$ level obtains in a chi-square test for the effect of third vs. non-third person in the first part of the *Lindisfarne Gospels*, for instance (2000: 132, fn. 6). Number also has an effect, with overt subjects being preferred for plurals, although the effect is only statistically significant for third person subjects and only in the Northumbrian texts. Similar facts hold for the two texts exhibiting the highest proportions of null subjects in the YCOE, *Beowulf* and *Bald's Leechbook*, as shown in table 5.10, though the proportions of null subjects in general in these texts is much lower.

Table 5.10: Referential pronominal subjects in finite indicative clauses in *Beowulf* and *Bald's Leechbook*, by person and number

Text	Person	N	Overt	Null	Total
Beowulf	1	sg	75 (97.4%)	2 (2.6%)	77
		pl	21 (100.0%)	0 (0.0%)	21
	2	sg	26 (96.3%)	1 (3.7%)	27
		pl	10 (100.0%)	0 (0.0%)	10
	3	sg	172 (80.4%)	42 (19.6%)	214
		pl	49 (71.0%)	20 (29.0%)	69
		Totals	353	65	418
Bald's Leechbook	1	sg	1 (100.0%)	0 (0.0%)	1
		pl	11 (100.0%)	0 (0.0%)	11
	2	sg	52 (100.0%)	0 (0.0%)	52
		pl	0	0	0
	3	sg	108 (77.1%)	32 (22.9%)	140
		pl	35 (71.4%)	14 (28.6%)	49
		Totals	207	46	253

In both texts the effect of third vs. non-third person is statistically significant ($p < 0.0001$ for both).[8] The effect of number in the third person is not statistically significant in either text (*Beowulf*: $p = 0.1311$; *Bald's Leechbook*: $p = 0.4427$).

Among other things, van Gelderen takes this systematicity to show that the null argument property of at least some OE texts cannot be attributed solely to Latin influence: since in Latin overt pronouns are almost never present, if the absence of

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[8] First and second person dual pronouns in *Beowulf* have been treated as plural.

pronouns in OE resulted entirely from isolated instances of over-literal translation we would expect a random distribution of null subjects across persons and numbers, which is not the case (2000: 133). I concur; furthermore, such a hypothesis would be problematic when dealing with autochthonous texts such as *Beowulf* which display many null arguments despite being universally acknowledged as having no Latin original and displaying little Latin influence.

Was OE a null subject language, then? The answer appears to be that there is variation. The texts I have investigated that display null subjects robustly have in common with those investigated by Berndt (1956) that they are Anglian (Northumbrian or Mercian) or exhibit Anglian features. Berndt (1956: 59–60) demonstrates this for the *Lindisfarne Gospels* and the *Rushworth Glosses*, in the process noting that they display a very much higher rate of null subjects than the West Saxon Corpus MS of the gospels (1956: 78–82). Fulk (2009: 96) notes that the OE *Bede* and *Bald's Leechbook* and the D and E manuscripts of the Anglo-Saxon Chronicle, though traditionally assigned to West Saxon, display Anglian features.[9] Though it is agreed that *Bald's Leechbook* in its transmitted form was composed in Winchester (Meaney 1984: 236), Wenisch (1979: 54) argues on a lexical basis that an Anglian (probably Mercian) original must have existed. As for *Beowulf*, Fulk (1992: 309–325) notes a number of Anglian lexical and morphological features. If null subjects can be considered an Anglian feature on the basis of their distribution across texts, it seems fair to suggest, tentatively, that both van Gelderen (2000) and Hulk & van Kemenade (1995) are correct: referential null subjects were not grammatical in classical OE (West Saxon), as exemplified by e.g. the works of Ælfric, but were available, subject to certain restrictions, in Anglian dialects. The key to resolving the apparent contradiction lies in dispelling the illusion of OE as a monolithic entity: the texts provide evidence for diatopic and diachronic variation.[10]

Finally, null objects can also be found in OE: Ohlander (1943), van der Wurff (1997) and van Gelderen (2000) provide a number of examples, including (23) and (24).

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[9] The only possible exception is MS. C of the Chronicle. Swanton (1996: xxiv) notes that it was produced at Abingdon 'on the border between Wessex and Mercia'. If Mercian influence can be suggested on this basis, then the (few) examples of null subjects in this text cease to present a problem for my hypothesis.

[10] Berndt (1956: 82–85) considers but rejects the hypothesis of dialectal variation, instead suggesting that the relevant criterion is closeness to the West Saxon 'standard'. However, his argument rests on the claim (justified on functional grounds) that the systematic use of first and second person pronouns was an innovation in colloquial OE; as comparative data from the other early Northwest Germanic languages shows, this is unlikely to have been the case.

(23) se here ... gesæt þæt lond and gedælde
      the army invaded the land and divided
      'The army ... invaded the country and divided it up'
      (cochronC,ChronC_[Rositzke]:881.1.762)

(24) hie ... leton holm beran / geafon on garsecg
      they let sea bear gave on ocean
      'They let the sea bear him, gave him to the ocean'
      (cobeowul,4.47.41–42)

Van Gelderen (2000: 149) claims that this is expected under her analysis, insofar as all cases are of third person. However, this does not obviously follow, given that she adopts 'a Taraldsen/Platzack [account]' of *pro*-licensing (2000: 125): such accounts predict that a null argument may occur where the verb bears agreement for that element, and OE verbs are never marked for object agreement. See section 5.3.1 for further discussion.

5.2.4 Old High German

Null subjects are also possible in OHG, as illustrated by (25) and (26).

(25) Sume hahet in cruci
      some-ACC hang-2PL to cross
      'Some of them you will crucify'
      (Monsee Fragments XVIII.17; Matthew 23:34; Axel 2007: 293)

(26) steih tho in skifilin
      stepped.3SG then into boat
      'He then stepped into the boat'
      (*Tatian* 193.1; Axel 2007: 293)

The situation for OHG is different from that of the other older Germanic languages in that recent work by Axel (2005, 2007: ch. 6, Axel & Weiß 2011) has brought the language's null subject property to the attention of linguists. Axel presents quantitative data based on the exhaustive survey of null subjects in OHG texts in Eggenberger (1961: 128, 124–126, 84–86). Table 5.11 (her Table 2) is calculated on the basis of this data, and includes only referential pronouns/null subjects and arbitrary pronouns/null subjects. These texts are all early prose texts; in later OHG, such as the writings of Notker, null subjects are basically no longer attested (Axel

2007: 298). Eggenberger does not separate conjunct clauses from other clause types for this purpose.

Table 5.11: Referential pronominal subjects in OHG finite clauses, by text and clause type (based on Axel 2007: 310, her table 2; data from Eggenberger 1961)

Text	Clause type	Overt	Null	Total
Isidor	Main	61 (56.0%)	48 (44.0%)	109
	Subordinate	85 (91.4%)	8 (8.6%)	93
	Total	146	56	202
Monsee Fragments	Main	48 (36.4%)	84 (63.6%)	132
	Subordinate	73 (84.9%)	13 (15.1%)	86
	Total	121	97	218
Tatian	Main	1434 (59.9%)	960 (40.1%)	2394
	Subordinate	1180 (92.5%)	95 (7.5%)	1275
	Total	2614	1055	3669

Within each text, the effect of clause type is statistically significant ($p < 0.0001$ in all cases). Specifically, as Axel remarks (2007: 309), null subjects are clearly rarer in subordinate clauses than in main clauses. Axel interprets this as evidence that null subjects must follow the finite verb (2007: 311), as proposed by Adams (1987b) for Old French. She argues that (27) (her (27)), for instance, can be analysed as verb-second.

(27)   uuanta sehente nigisehent
        because seeing NEG-see.3PL
        'because seeing they do not see'
        (*Tatian* 235.15)

Like van Gelderen (2000) for OE, Axel argues that null subjects in OHG cannot be explained away as loan syntax from Latin (2007: 306), since the main/subordinate clause asymmetry has no explanation if null referential subjects were not a grammatical feature of OHG itself. Furthermore, she notes that the *Hildebrandslied*, an autochthonous text, features five instances of null subjects as opposed to 29 overt pronouns. However, Axel resorts to the loan-syntax hypothesis to explain the existence of examples of referential null subjects occurring in unambiguously verb-late clauses in the *Tatian* and Monsee Fragments, since these pose a problem for her hypothesis that such subjects are only licensed when they follow the finite verb

(2007: 311), suggesting that Latin 'may have had a minor impact' here. Schlachter (2010: 161–163) finds this unconvincing, and gives several examples where Latin influence is unlikely. Furthermore, an analysis of the constituent order patterns in the examples of pronominals in subordinate clauses in the *Isidor* given by Eggenberger (1961: 128) reveals that four of the eight examples of null pronominals cannot be analysed as involving verb-movement to the left periphery under Axel's assumptions.[11] The distribution is illustrated in Table 5.12.

Table 5.12: Referential pronominal subjects in subordinate clauses in *Isidor* by possibility of verb-movement

V-movement possible?	Overt	Null	Total
Yes	26 (30.6%)	4 (50.0%)	30
No	59 (69.4%)	4 (50.0%)	63
Total	85	8	93

The difference in verb position between clauses with overt pronominals and clauses with null pronominals is not significant ($p = 0.2666$). This text thus provides no support for the hypothesis that null subjects are licensed only postfinitely in OHG. (28) is one of the four counterexamples.

(28)   nibu fona zuuem chiboran uuerdhe
        NEG-if from two born become-3SG.SBJV
        'if he is not born of two people'
        (*Isidor* 3.15)

Person also seems to have influenced the availability of null referential subjects, as in Old Swedish, Old Icelandic and OE. Axel (2007: 315, her table 3) illustrates this once more using data from Eggenberger (1961).

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[11] Clauses were analysed as potentially involving verb-movement to the left periphery if the finite verb was preceded by 0 or 1 constituents or by an XP-SubjPron sequence, in accordance with Axel's own assumptions (see chapter 3).

Table 5.13: Referential pronominal subjects in main clauses in *Isidor*, the Monsee Fragments and the *Tatian*, by person and number (based on Axel 2007: 315, her Table 3; data from Eggenberger 1961)

Text	Person	N	Overt	Null	Total
Isidor	1	sg	36 (94.7%)	2 (5.3%)	38
		pl	2 (40.0%)	3 (60.0%)	5
	2	sg	3 (60.0%)	2 (40.0%)	5
		pl	1 (100.0%)	0 (0.0%)	1
	3	sg	15 (34.1%)	29 (65.9%)	44
		pl	4 (25.0%)	12 (75.0%)	16
		Totals	61	48	109
Monsee Fragments	1	sg	10 (66.7%)	5 (33.3%)	15
		pl	2 (66.7%)	1 (33.3%)	3
	2	sg	5 (62.5%)	3 (37.5%)	8
		pl	16 (61.5%)	10 (38.5%)	26
	3	sg	12 (18.8%)	52 (81.3%)	64
		pl	3 (18.8%)	13 (81.3%)	16
		Totals	48	84	132
Tatian	1	sg	415 (80.1%)	103 (19.9%)	518
		pl	62 (69.7%)	27 (30.3%)	89
	2	sg	131 (60.9%)	84 (39.1%)	215
		pl	262 (86.2%)	42 (13.8%)	304
	3	sg	394 (46.1%)	460 (53.9%)	854
		pl	170 (41.1%)	244 (58.9%)	414
		Totals	1434	960	2394

For each text, third person null referential subjects occur at a higher rate than first or second person null referential subjects ($p < 0.0001$ in all cases).

Much as for the ON and OE texts I have investigated, the effect of number within the third person is not statistically significant for any text: for *Isidor*, $p = 0.7544$; for the Monsee Fragments, $p = 1.0000$; for *Tatian*, $p = 0.0918$. I therefore conclude, provisionally, that number has no effect on the possibility of null subjects

in OHG, and that plural and singular referential subjects were equally likely to be null.[12]

Axel (2007: 299) acknowledges that OHG does not pattern with canonical full null-subject languages such as Modern Italian, since overt subjects do not appear to be necessarily emphatic or contrastive. She also argues against a 'topic drop' analysis of OHG null arguments (see section 5.3.2) on the basis of cases such as (25) where the subject is null and a non-subject has been topicalized. She further observes that the cases of null arguments almost exclusively involve subjects, unlike in Modern German, for example, in which objects may also be null when topicalized. In general, Axel (2007) does not consider null objects, commenting, for example, that this possibility 'has hardly been discussed in the literature' (2007: 182). Nevertheless, examples can be found, such as (29).

(29)   denne varant engilâ uper dio marhâ, wechant deotâ, wîssant ze dinge
        then travel.3PL angels over the lands wake.3PL people lead.3PL to judgement
        'Then angels fly over the lands, wake the people, lead them to the judgement'
        (*Muspilli* 79–80; Lockwood 1968: 215)

Such examples would not be expected to occur *at all* under the hypothesis that the possibility of early OHG null subjects was conditioned by rich agreement, since the language lacks object agreement entirely (see section 5.3.1). With this in mind it is difficult to see how Axel's approach, which links the possibility of null arguments to post-finite position, could account for them. Although I accept that topic drop is not a suitable explanation for the OHG facts, then, the existence of examples such as (29) casts doubt on Axel's own analysis.

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[12] Axel also observes (2007: 317) that the choice between the two first person plural endings available in OHG, the shorter *-n*/*-m* vs. the longer *-mēs*, appeared to influence the availability of postverbal null subjects (cf. also Dieter 1900, Harbert 1999). Schlachter (2010: 168–169) is sceptical as to whether this is relevant to the overall system of OHG, suggesting that these clauses can be analysed as adhortatives. Since Axel does not provide quantitative evidence on this point, and since the origins and analysis of the longer ending are debatable (cf. Shields 1996, Jóhannsson 2009), I leave this issue aside here.

5.2.5 Old Saxon

The possibility for subjects to remain unexpressed in OS has occasionally been remarked upon in the literature. Pogatscher (1901: 276–277) mentions it in passing, his main sources being Heyne (1873) and Behaghel (1897), neither of whom devote more than a few pages to the topic (Heyne 1873: 212, 297; Behaghel 1897: 298). Behrmann (1879) has a more thorough discussion, observing that pronouns can be omitted when there is no nominative antecedent.

At first glance, the *Heliand* appears to contain a relatively high proportion of unexpressed subjects: the figures for the whole text are provided in Table 5.14. However, the style in which the text is written involves a considerable amount of paratactic repetition by means of clauses which could be analysed as conjoined by a null element. As a result, most of these unexpressed subjects could potentially be analysed as cases of conjunction reduction. Once these as well as null expletive subjects, subject gaps in relative clauses and unexpressed subjects in imperatives are taken out of the picture, the figures are as in Table 5.15.

Table 5.14: All subjects in OS finite clauses in the *Heliand*, by clause type

	Full	Pronominal	Null	Total
Main	1295 (50.5%)	969 (37.8%)	301 (11.7%)	2565
Subordinate	636 (28.6%)	1277 (57.5%)	307 (13.8%)	2220
Conjunct	146 (10.1%)	97 (6.7%)	1201 (83.2%)	1444
Total	2077	2343	1809	6229

Table 5.15: Referential pronominal subjects in the OS *Heliand*, by clause type

	Overt	Null	Total
Main	969 (93.4%)	68 (6.6%)	1037
Subordinate	1277 (99.4%)	8 (0.6%)	1285
Conjunct	97 (74.6%)	33 (25.4%)	130
Total	2343	109	2452

These figures for null subjects are a lower bound: it is entirely possible that some of the cases I have analysed as conjunction reduction are in fact cases of referential null subjects in non-conjunct clauses. Some examples of true referential null subjects I have found are given in (30)–(32) below.

(30) Giuuitun im thô eft te Hierusalem iro sunu sôkean
      went.3PL REFL.DAT then after to Jerusalem their son seek.INF
      'They then went to Jerusalem to seek their son'
      (*Heliand* 806–807)

(31) gisâhun iro barn biforan, kindiunge man, qualmu sueltan
      saw.3PL their children before child-young men murder.INSTR die.INF
      'They saw their young children murdered before them'
      (*Heliand* 749–751)

(32) lîbes uueldi ina bilôsien, of he mahti gilêstien sô
      life.GEN would him take if he could achieve so
      'he$_i$ would take his$_j$ life if he$_i$ could'
      (*Heliand* 1442)

In all of these cases there is no antecedent in the nominative that is present in the immediately preceding clauses, thus excluding an analysis involving conjunction reduction. In (30), for example, the understood subject is 'Joseph and Mary', yet Joseph is not mentioned in the preceding discourse. In (31) the understood subject is 'the women of Bethlehem', who are present in the preceding clause but in the dative case. Finally, (32) excludes an analysis for OS involving traditional 'topic drop': the verb has moved to the left periphery, as shown by the fact that it precedes the object pronoun, and yet a fronted item (a genitive object) is also present, in preverbal position; cf. Axel's example (25) from OHG and section 5.3.2.

In addition to the 109 examples in which neither manuscript contains an overt subject, there are also 30 examples in which one of the two main manuscripts contains a pronoun but the other does not. Two such examples are given in (33) and (34), here using the parallel edition provided by Sievers (1878).

(33) M: Oc scal ic iu te uuarun seggean
      C: Oc scal   iu te uuaron seggean
          also shall (I) you to truth   say.INF
          'I will also truly tell you ...'
          (*Heliand* 1628; Sievers 1878: 114–115)

(34) M: Ac than   uuillean te iuuuomo herron helpono biddean
      C: Ac than gi uuellean te iuuuon   herron helpono biddean
          but when (you) want.2PL to your   lord   help   request.INF
          'But when you want to ask for help from your lord, ...'
          (*Heliand* 1573–1574; Sievers 1878: 112–113)

In eight of these cases, e.g. (34), it is manuscript M that omits the pronoun; in the other twenty-two it is manuscript C, e.g. (33). It is tempting to speculate, with Pogatscher (1901: 277), that in the manuscripts in which the pronoun is present it represents an addition by a scribe of a later period and that the original contained no pronoun. However, for the purposes of the figures in tables 5.14 and 5.15 I have erred on the side of caution and treated all such examples as cases of overt pronouns.

There is a clear effect of clause type (cf. Behrmann 1879: 19): leaving second conjunct clauses out of consideration, the effect of clause-type (main vs. subordinate) is statistically significant ($p < 0.0001$). I found only eight examples in the *Heliand* of subordinate clauses that unambiguously contained a referential null subject. (34) is one of these.

(35)   that brôđer brûd an is bed nâmi
        that brother.GEN bride.ACC to his bed take.SBJV
        '... that he takes his brother's bride to his bed'
        (*Heliand* 2713)

It is therefore safe to conclude that null subjects were strongly dispreferred in subordinate clauses, if not universally disallowed; this ties in with findings for Old Swedish (5.2.2), OE (5.2.3) and OHG (5.2.4).

Next let us consider the effect of person and number on the occurrence of referential null subjects in OS.

Table 5.16: Referential pronominal subjects in the OS *Heliand*, by person and number

Person	N	Overt	Null	Total
1	sg	262 (100.0%)	0 (0.0%)	262
	pl	61 (100.0%)	0 (0.0%)	61
2	sg	247 (99.2%)	2 (0.8%)	249
	pl	230 (99.1%)	2 (0.9%)	232
3	sg	1089 (94.5%)	63 (5.5%)	1152
	pl	454 (91.5%)	42 (8.5%)	496
Totals		2343	109	2452

All but four examples of null referential subjects found were third person, though a few examples where the manuscripts differ would be counterexamples if original:

(33) and (34) are of this type, involving first person singular and second person plural subjects respectively. There is also a statistically significant effect of third vs. non-third person ($p < 0.0001$). Within the third person, the percentage of plural referential pronominal subjects that are null is higher than that of singular referential pronominal subjects. This is the opposite tendency to that found by van Gelderen (2000) based on Berndt's (1956) data, although the effect is not quite as clear-cut as the others found in this section ($p = 0.0275$).

As argued by van Gelderen (2000: 133) for OE and Axel (2007: 306) for OHG, I take it that the non-random distribution of null subjects in this text, as illustrated by tables 5.15 and 5.16, militates against the argument that their presence is due simply to Latin influence; 'pure' translation can be ruled out, since, although the *Heliand* definitely had Latin sources, primarily Tatian's *Diatessaron* (cf. Sievers 1878: xli and Haferland 2001, 2004 for discussion), the Germanicized content and alliterative style demonstrate that it represents a substantial piece of original verse composition. These distributional considerations also suggest that a purely prosodic/metrical analysis is likely to be insufficient to explain the data, all other things being equal.

Finally, as in all the other early Germanic languages under discussion, null objects can also be found in the OS *Heliand*, as illustrated by the following section of discourse explaining why not to amass a hoard of earthly treasures.

(36)   huuand it rotat hîr an roste, endi regintheoƀos farstelad, uurmi auuardiad ...
        because it rusts here to rust and thieves steal worms spoil
        'because it rusts away, thieves steal (it), worms spoil (it) ...'
        (*Heliand* 1644–1645)

5.2.6 Summary: distribution of null arguments in early Germanic

In Gothic, null referential pronominal subjects are the norm in all persons, numbers and clause types. Referential pronominal objects may also be null.

In the Northwest Germanic languages the distribution of referential null arguments is very similar (cf. Rosenkvist 2009). In all of these languages, referential null subjects are not obligatory and are outnumbered by overt pronominal subjects. The proportion of third person null referential subjects in these languages is considerably higher than that of first and second person null referential subjects.[13]

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[13] Rosenkvist (2009: 159) cites de Smet (1970) as making this claim also for Old Dutch.

Null subjects of all types are rarer in subordinate clauses than they are in main clauses (except in Old Icelandic). Finally, null objects are allowed in all of these languages.

These facts may cast doubt on Hopper's (1975: 31) assertion that 'in the early Germanic languages the use of a pronominal subject was probably usual', depending on how 'usual' is understood. These are the facts I will be attempting to account for in the next section.

5.3 Analysis of null arguments in early Germanic

5.3.1 Null arguments conditioned by rich agreement?

The traditional account of the Null Subject Parameter associated the possibility of null subject properties with rich verbal agreement, following Taraldsen (1978).[14] Some connection between rich agreement, as manifested morphologically, and the possibility of null arguments in certain languages has since been assumed by many authors, including Chomsky (1981), Rizzi (1982), McCloskey & Hale (1984), Adams (1987a, b), Platzack (1987), Jaeggli & Safir (1989), Falk (1993), Roberts (1993), Rohrbacher (1999), Müller (2005, 2008), Alexiadou (2006), Koeneman (2006), Poletto (2006), Cole (2009, 2010), Roberts (2010a) and Biberauer & Roberts (2010). These authors bring to bear data from various languages, including Modern Hebrew, Basque, Breton, Pashto and dialects of Arabic and Italian. For early Germanic the connection is assumed by van Gelderen (2000), Axel (2007) and Held (1903: 41).

Although the rich agreement connection has proved difficult to formalize, as noted by e.g. Roberts (1993), Huang (2000: 57–59), Müller (2005) and Cole (2009), the intuition is clearly too relevant to be simply abandoned. For one thing, it may apply within languages as well as across them. Sigurðsson (1993: 275) reports that in Övdalian, a Scandinavian language spoken in Sweden, null subjects may only occur in the first and second person plural, which happen to be the only two clearly distinct forms in the verbal paradigm of this language (cf. also Rosenkvist 2010). In Hebrew, subjects may only be null in tenses with rich agreement (Borer 1989).

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[14] Although Taraldsen was the first to formalize the intuition, this idea itself did not originate with him: indeed, it has a long tradition within Indo-European philology whose origins are not easy to trace. Wright (1910: 121) applies it to Gothic directly, stating that nominative pronouns were 'rarely used except to express emphasis', because the relevant features were 'sufficiently indicated by the personal endings of the verb'; cf. also Grimm (1837: 203), and Lockwood (1968: 64), who claims that this was the case for Common Germanic. Householder (1981) cites Apollonius Dyscolus as making a similar claim for Ancient Greek in the 2nd century AD.

Huang (1984: 535–536) furthermore reports that in Pashto both null subjects and null objects are found. Verbs agree with the subject except in transitive clauses expressing past events, in which case they agree with the object. Crucially, objects may only be null if object agreement is present on the verb, in which case subjects may not be, and vice versa. Abandoning any attempt to link rich agreement to null arguments, then, equates to throwing the baby out with the bathwater.[15] I will assume that in 'Italian-style' languages such as these, in which rich verbal agreement plays a role in allowing null arguments, the relevant arguments are in fact contained inside the verb. This 'I-subject' approach (or potentially 'I-object' in cases such as Pashto) is due originally to Borer (1986), and has been adopted more recently by Alexiadou & Anagnostopoulou (1998), Platzack (2004), Müller (2005), Alexiadou (2006), Holmberg (2010) and Sigurðsson (2011).[16]

In order to approach the question of whether null arguments in the early Germanic languages were connected to rich agreement, however, the notion of rich agreement needs to be operationalized. One recent and comprehensive proposal to this effect is that of Müller (2005, 2008), also adopted by Roberts (2010a), and is given in (37).

(37)   *Pro Generalization:*
        An argumental *pro* DP cannot undergo Agree with a functional head α if α
        has been subjected (perhaps vacuously) to ω-feature neutralizing
        impoverishment in the numeration.

Impoverishment is identified through the occurrence of system-wide syncretisms.

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[15] Holmberg (2005: 560), while acknowledging the existence of such a connection, suggests that it should be captured at the level of processing and not as part of syntax; cf. also Ackema & Neeleman (2007). An alternative, which remains to be explored but which is consistent with the approach to typological generalizations proposed in section 2.2, is that the correlation may be at least partially explicable diachronically rather than as a hard-wired universal. The grammaticalization of subject pronouns as clitics and then agreement affixes is a well-known phenomenon that seems to be ongoing in Modern French, and other such cases are reasonably common; cf. Fuß (2004: 167–204), Koeneman (2006: 90). Of course, an account of the derivation of the facts synchronically would still be required for each language.

[16] Roberts (2010a) argues against the I-subject approach (at least in Narrow Syntax) on the basis of evidence from Holmberg (2005) that *pro* can occupy SpecTP in Finnish: *pro* and the overt expletive *sitä* are in complementary distribution. However, this does not rule out the approach in other languages where it appears to be warranted; indeed, Holmberg (2010: 117) retracts his earlier view on this point. The Italian data from Cardinaletti (1997, 2004) presented by Roberts (2010a: 71–72), as well as the arguments of Cardinaletti & Starke (1999: 175–176), are mute with respect to the issue of whether '*pro*' is a clitic or a weak pronoun.

The Germanic language family plays a key role in motivating this generalization. As Fertig (2000: 6) notes, earlier proposals, such as those of Rohrbacher (1999) and Jaeggli & Safir (1989), had the disadvantage of making rich agreement into a necessary but not sufficient condition for the occurrence of null arguments (cf. also Poletto 2006: 159), since there exist languages with generally rich agreement, such as German, Icelandic and Faroese, which do not permit Italian-style null arguments. Müller (2005) argues that this problem does not arise for his analysis: modern German, for instance, has a system-defining syncretism in its verbal paradigm for 1st and 3rd person plural in all tenses, modern Icelandic has a system-defining syncretism for 2nd and 3rd person singular in the present tense, and both modern German and modern Icelandic have syncretic 1st and 3rd person singular forms in the past tense.[17]

　　　　Let us now see how this account fares when faced with verbal agreement in the earlier Germanic languages. Tables 5.17–5.21 provide sample verbal paradigms for Gothic, Old Icelandic, OE, OHG and OS weak verbs, abstracting away from much detail (see the references given for each language).

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[17] It is unclear, however, how Müller's system would permit partial null subject phenomena such as those found in Bavarian and Övdalian; see Rosenkvist (2010: 256–258) for discussion of these varieties. It is also not clear what (37) follows from, if anything, as Müller (2008: fn. 2) notes, though cf. Roberts (2010a: 82) for a suggestion. Cole's (2009) concept of language-specific 'morphological maximality' may fare better in this regard, although this account must stipulate the facts for Arabic, as Cole recognizes (2009: 579). Furthermore, Cole's account has no obvious way of capturing purely syntactic asymmetries in null argument distribution, such as the virtual absence of null arguments in subordinate clauses in Old French and the early Northwest Germanic languages (cf. section 5.4.2).

Table 5.17: Verb paradigm for the simple present and past tenses in Gothic: *nasjan* ('to save') (Wright 1910: 150–151)

N	Person	Present ind.	Past ind.[18]	Present subj.	Past subj.
sg	1	nasj-a	nasi-d-a	nasj-áu	nasi-dēd-jáu
	2	nasj-is	nasi-d-ēs	nasj-áis	nasi-dēd-eis
	3	nasj-iþ	nasi-d-a	nasj-ái	nasi-dēd-i
du	1	nasj-ōs	nasi-dēd-u	nasj-aiwa	nasi-dēd-eiwa
	2	nasj-ats	nasi-dēd-uts	nasj-áits	nasi-dēd-eits
pl	1	nasj-am	nasi-dēd-um	nasj-áima	nasi-dēd-eima
	2	nasj-iþ	nasi-dēd-uþ	nasj-áiþ	nasi-dēd-eiþ
	3	nasj-and	nasi-dēd-un	nasj-áina	nasi-dēd-eina

Table 5.18: Verb paradigm for the simple present and past tenses in Old Icelandic: *telja* ('to tell') (Faarlund 2004: 49–53)

N	Person	Present ind.	Past ind.	Present subj.	Past subj.
sg	1	tel	tal-d-a	tel-ja	tel-d-i
	2	tel-r	tal-d-ir	tel-ir	tel-d-ir
	3		tal-d-i	tel-i	tel-d-i
pl	1	tel-jum	töl-d-um	tel-im	tel-d-im
	2	tel-ið	töl-d-uð	tel-ið	tel-d-ið
	3	tel-ja	töl-d-u	tel-i	tel-d-i

Table 5.19: Verb paradigm for the simple present and past tenses in OE: *nerian* ('to save') (Mitchell & Robinson 2007: 46)

N	Person	Present ind.	Past ind.	Present subj.	Past subj.
sg	1	ner-ie	ner-ed-e	ner-ie	ner-ed-e
	2	ner-est	ner-ed-est		
	3	ner-eþ	ner-ed-eþ		
pl		ner-iaþ	ner-ed-on	ner-ien	ner-ed-en

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[18] The morphological segmentation of these Gothic 'long form' preterites of weak verbs is tricky, but for my purposes nothing rests on it. For overviews of the historical issues see Ball (1968), Ringe (2006: 167–168) and especially Tops (1974).

Table 5.20: Verb paradigm for the simple present and past tenses in OHG: *nerien* ('to save') (Braune & Eggers 1975: 256)

N	Person	Present ind.	Past ind.	Present subj.	Past subj.
sg	1	neri-e	neri-t-a	neri-e	neri-t-i
	2	neri-s(t)	neri-t-ōs(t)	neri-ēs(t)	neri-t-īs(t)
	3	neri-t	neri-t-a	neri-e	neri-t-i
pl	1	neri-emēs	neri-t-um	neri-ēm	neri-t-īm
	2	neri-et	neri-t-ut	neri-ēt	neri-t-īt
	3	neri-ent	neri-t-un	neri-ēn	neri-t-īn

Table 5.21: Verb paradigm for the simple present and past tenses in OS: *nērian* ('to save') (Cordes & Holthausen 1973: 109–111)

N	Person	Present ind.	Past ind.	Present subj.	Past subj.
sg	1	nēri-u	nēri-d-a	nēri-e	nēri-d-i
	2	nēri-s	nēri-d-es	nēri-es	nēri-d-is
	3	nēri-ēd	nēri-d-a	nēri-e	nēri-d-i
pl		nēri-ad	nēri-d-un	nēri-en	nēri-d-in

Apparent syncretisms can be recognized in all of these paradigms. In Müller's (2005) terms, the Ingvaeonic languages OE and OS, for example, are both characterized by the impoverishment rule in (38): plural forms are never distinguished for person. OE, in addition, is characterized by (39): forms in the subjunctive are also never distinguished for person. OHG and OS, similarly but less drastically, do not distinguish between 3rd and 1st person singular forms in the subjunctive ((40)).

(38) $[\pm 1, \pm 2] \rightarrow \emptyset/[+pl]$ __   (OE, OS)

(39) $[\pm 1, \pm 2] \rightarrow \emptyset/[+\text{subjunctive}]$ __   (OE)

(40) $[\pm 1] \rightarrow \emptyset/[-2,-pl,+\text{subjunctive}]$ __   (OHG, OS)

This rules out all three of the West Germanic languages as languages with rich agreement in Müller's sense. A different impoverishment rule is in play in Old Icelandic, namely (41), which Müller (2005: 107) notes is also operational in Modern Icelandic. This results in identity between second and third person present forms.

(41) $[\pm 2] \rightarrow \emptyset/[-1,-pl,-past]$ (Old Icelandic)

Finally, all five of these languages exhibit some form of syncretism between 1st and 3rd person singular past forms. For Old Icelandic and OE, this is solely in the subjunctive, as in (42); for Gothic, only in the indicative, as in (43); and for OS and OHG, in all singular past forms, as in (44).

(42) $[\pm 1] \rightarrow \varnothing/[-2, -pl, +\text{subjunctive}, +\text{past}]$ __   (OE, Old Icelandic)

(43) $[\pm 1] \rightarrow \varnothing/[-2, -pl, -\text{subjunctive}, +\text{past}]$ __   (Gothic)

(44) $[\pm 1] \rightarrow \varnothing/[-2, -pl, +\text{past}]$ __   (OHG, OS)

Counting up impoverishment rules, then, OE and OS are in the lead, with three apiece, followed by OHG and Old Icelandic with two, while Gothic has only one.[19] Even one should be enough to rule out the occurrence of null arguments under Müller's generalization in (37), however. Müller is in fact aware of some of the older Germanic facts (2005: 107), suggesting either that rich agreement does not license *pro* in one or more of these languages or that 'the general nature of the 1./3.SG.PAST syncretism has not yet become manifest in a system-defining impoverishment rule'. Sigurðsson (1993), Rosenkvist (2009) and Schlachter (2010) also conclude that the distribution of referential null subjects in these languages does not depend on rich agreement.

    There are independent reasons to think that rich agreement cannot account for all the patterns of null arguments found in the early Germanic languages. Firstly, all of these languages have been shown to permit null referential objects as well as null subjects, e.g. (6) and (7) from Gothic, (13) from Old Icelandic, (23) and (24) from OE, (29) from OHG and (36) from OS. Since no Germanic language exhibits object agreement morphology on the verb, this would be unexpected under the rich agreement approach, *pace* van Gelderen (2000).[20]

    Secondly, in Italian-style null subject languages where rich agreement is implicated, overt pronouns are generally only permitted in finite clauses with an 'emphatic' interpretation; in all the languages examined in section 5.2 except Gothic, however, overt pronouns outnumber null subjects. Furthermore, in Italian-style

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[19] The eagle-eyed reader may have spotted another syncretism in Gothic, between the 3rd singular and 2nd plural present indicative forms. However, these combinations of features do not form a natural class under Müller's (2005) system, and hence this syncretism cannot be formulated as an impoverishment rule.

[20] In van der Wurff (1997: 352), following Kortlandt (1983), it is suggested that the thematic vowel of Proto-Indo-European verbs may have originated as an object marker, thus sanctioning null referential objects in PIE. This analysis cannot reasonably be extended to the attested stages of Germanic, however.

languages an overt subject pronoun in a subordinate adverbial clause cannot be coreferential with the matrix subject. This obviation effect is illustrated by the Spanish example in (45), from Larson & Lujàn (1989), and the Italian example in (46), from Holmberg & Roberts (2010: 7).

(45)   *Cuando él$_i$ trabaja, Juan$_i$ no bebe.
        when he work.3SG Juan NEG drink.3SG
        'When he$_i$ works, Juan$_i$ doesn't drink.'

(46)   *Il professore$_i$ ha parlato dopo che lui$_i$ è arrivato.
        the professor has spoken after that (he) is arrived
        'The professor$_i$ spoke after he$_i$ arrived.'

However, in all of the early West Germanic languages examined in section 5.2, the opposite effect can clearly be found: null subjects are strongly disfavoured in subordinate clauses. (47), from OS, is an example of the lack of obviation effects in these languages.

(47)   Thô he$_i$ thanan scolda ... sôkien lioht ôđar,
        when he thence should.3SG seek.INF light other
        thô he$_i$ im iungron hêt gangan nâhor
        then he REFL disciples commanded.3SG go.INF nearer
        'When he$_i$ was about to die, he$_i$ told his disciples to gather round'
        (*Heliand* 576–579)

Gothic, on the other hand, appears to allow overt subject pronouns only exceptionally, as demonstrated in 5.2.1. Furthermore, it may have displayed obviation effects to an extent; recall Ferraresi's (2005: 49) observation that insertion of subject pronouns in Wulfila's translation occurred only where there was a change of subject with respect to the main clause. Of the older Germanic languages, then, only Gothic seems to pattern with Italian-style languages. This suggests that rich agreement may be relevant in the case of Gothic. It may, then, be possible to analyse the syncretism between 1st and 3rd person singular past indicative verb forms as a 'family resemblance' effect (e.g. Pinker & Prince 1988; cf. Neeleman & Szendrői 2007: 692–693) rather than as a global impoverishment rule, following Müller's (2005: 107) suggestion. However, even in Gothic not all null arguments can be accounted for in terms of rich agreement, as null referential objects are found. This

suggests that Gothic may have had two strategies for identifying null arguments, as Rosenkvist (2010) argues for Övdalian.

To summarize this subsection: it has been argued that rich agreement is unlikely to have played a role in allowing null arguments in any of the early Germanic languages, with the possible exception of Gothic. This is because a) verbal agreement is not rich enough in these languages, according to Müller's (2005) criterion; b) null objects may occur in these languages, which is not predicted by the rich agreement approach; and c) these languages (again with the possible exception of Gothic) do not display the same properties as Italian-style null subject languages with regard to the distribution of null and overt pronominal subjects. Another account for the early Germanic data must be found, then.

5.3.2 Topic drop?

Another hypothesis that could be advanced is that some or all of the null argument phenomena in early Germanic are due to topic drop or 'pronoun zap'. This process, discussed by Ross (1982) for modern German and Huang (1984: 546–548), Sigurðsson (1989) and Rizzi (1994) more broadly, allows a topic in SpecCP to be null, as in (48) and (49).

(48)   Hab' ihn schon gesehen.
         have him already seen
         'I have seen him already.'
(49)   Hab' ich schon gesehen.
         have I already seen
         'I have seen him/her/it/them already.'

Topic drop may affect objects as well as subjects, as (49) shows, and is unconnected to verbal agreement. It is restricted to elements that are in SpecCP, and as a result there can only be one null argument per clause under topic drop. Analyses of topic drop generally posit either a null operator in SpecCP binding the null argument or a DP moved to SpecCP and deleted there (Sigurðsson 2011).

Alone, however, topic drop is inadequate to account for the early Germanic facts, as argued by Sigurðsson (1993) for Old Icelandic and Axel (2007) for OHG. Sigurðsson (1993: 262) presents cases such as (50) in which an overt topic in SpecCP (here *áðr* 'before') co-occurs with a null subject.

(50) þá skar Rognvaldr hár hans, en áðr var úskorit

   then cut R. hair his but before was uncut

   'Then Rognvaldr cut his hair, but it had been uncut before'

   (Nygaard 1906: 10)

Axel (2007: 304–305) presents similar cases from OHG (e.g. (25) above), as well as examples involving yes/no interrogatives, such as (51). Since overt pronouns are never clause-initial in this clause type, there is no reason to assume a null argument or topic operator in SpecCP, as pointed out by Trutkowski (2011: 208); indeed, topic drop in questions is ungrammatical in modern German.[21]

(51) quidis zi uns thesa parabola

   say.2SG to us this parable

   'Are you telling this parable to us?'

   (*Tatian* 529.2; Axel 2007: 308, her (25a))

OS also exhibited null arguments in overt topicalization contexts (e.g. (32) above), as did OE, as illustrated by (52).

(52) Nearwe genyddon on norðwegas

   anxiously hastened on north-ways

   'Anxiously they hastened north.'

   (*Exodus* 68; van Gelderen 2000: 129, her (34))

Evidence for Gothic is a little more difficult to come by due to the greater uncertainty about verb-movement in this language. However, the interrogative clitic *-u*, which has no equivalent in the Greek *Vorlage*, is generally assumed to be in C^0 (Eythórsson 1995: 104), and yes/no interrogatives are verb-initial in Gothic, with no element in SpecCP (Eythórsson 1995: 105).[22] This being the case, under an analysis in which all null arguments in Gothic were due to topic drop we would predict overt

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[21] Examples such as (25), and its equivalents in OE such as (52), do not constitute decisive evidence against a pure topic drop analysis, since OHG and OE displayed a split CP structure in which familiar topics could occupy a left-peripheral preverbal position, as argued in chapter 3. But OS and Old Icelandic did not allow this possibility, and so I assume that classical German-style topic drop alone is insufficient across the early Germanic languages, for simplicity's sake.

[22] *-u* is enclitic to the leftmost overt head in the complex that moves to C^0, presumably by some morphophonological process. In example (53) this is the negation particle *ni*; see Eythórsson (1995: 135–140) for discussion.

subjects to be obligatory in yes/no interrogatives. This prediction is not borne out, as can be seen from (53).

(53)   niu hauseis hvan filu ana þuk weitwodjand
        NEG.PRT hear.2SG how much against you testify.3PL
        'Do you not hear how many things they testify against you?'
        (Matthew 27: 13)

A topic drop analysis predicts that only one argument may be null in a given clause, as observed in modern German (Huang 1984: 548). This is certainly false for Gothic, as shown by (6) in section 5.2.1. Finally, a topic drop analysis predicts that null arguments may not occur in subordinate clauses, as in modern German (Sigurðsson 1993: 263); as we have seen, however, all the early Germanic languages permit these, albeit at a lower frequency than in main clauses. In sum, then, in none of the five languages surveyed can a topic drop analysis alone account for all cases of null arguments found in the texts.[23]

5.3.3 Radical null argument languages?

A further major subtype is the 'radical' (or 'discourse') null-argument language, typically exemplified by East Asian languages such as Japanese, Korean, Thai and Mandarin Chinese but also including Imbabura Quechua and arguably Brazilian Portuguese and Övdalian (Huang 1984: 533–534; Cole 1987: 597–598; Roberts & Holmberg 2010: 8–10; Rosenkvist 2010: 244–247; Sigurðsson 2011). Huang (1984) argued from the start that topic drop as discussed in 5.3.2 alone could not account for the distribution of null subjects in these languages, and Cole (1987) argues that topic drop cannot account for the distribution of null objects at least in Imbabura Quechua, Korean and Thai; cf. also Neeleman & Szendrői (2007: 674–675). It is therefore necessary to assume a process, distinct from topic drop, by which certain discourse-given arguments may come to be phonologically null.

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[23] Another potential analysis that can safely be rejected is one in which apparent null subjects arise via 'SLF-coordination' (Höhle 1983, Heycock & Kroch 1994) of the kind needed to account for modern German examples like (i).

(i)   Das Gepäck ließ er fallen und rannte zum Hinterausgang
         the baggage let he fall and ran to-the rear-exit
         'He dropped the baggage and ran to the rear exit.'

This is because not all of the cases of null subjects arise in conjunct clauses.

Within and outside Minimalist theorizing, radical null arguments have received a wide range of analyses. Huang (1984) presents an analysis of null subjects in terms of control: null pronouns must be controlled in their control domain. Agr-in-Infl^0 is a potential controller in languages with subject-verb agreement; if this agreement is rich enough, as in Italian, Agr serves as controller. However, if this agreement is too weak, as in English, then Agr will fail to control the null pronoun. In Mandarin Chinese, Infl^0 does not contain Agr at all, and the control domain for null pronouns is therefore larger. Cole (1987: 611) proposes that Huang's Generalized Control Rule, which requires that an empty pronominal be coindexed with the closest nominal element, be parameterized as to whether it holds for *pro*: if it does, then referential object *pro* will be excluded, as in Mandarin Chinese, Italian and English; if not, then referential object *pro* will be permitted, as in Imbabura Quechua, Thai and Korean.

Sigurðsson (1993: 250) proposes a further identification strategy for use in Old Icelandic: free discourse indexing, by which subject and object *pro* could be identified under free coindexing with an NP in preceding discourse. He proposes that this is not the same strategy as topic drop, which in Old Icelandic allows null arguments that are not coindexed with any NP in preceding discourse, adducing data from Hjartardóttir (1987) and Nygaard (1906) to illustrate this point: null arguments without a coreferential antecedent are only possible in verb-initial main clauses (1993: 258). As it is difficult to investigate quantitatively, I have not considered the nature of the antecedent in this chapter. However, such an approach, taking into account the distinction between syntactically-conditioned and discourse-conditioned null arguments drawn by Luraghi (2003), is a desideratum for further work on null arguments in early Germanic. In any case, Sigurðsson's (1993) analysis will also be put aside, since, as with Cole's (1987) analysis, it is unclear how to formulate the parametrization of identification, particularly free discourse indexing, which involves 'free coindexing at LF with a construed clause-external topic' (1993: 260), in terms of lexical features; Sigurðsson's (1993) analysis has also been superseded by Sigurðsson (2011).

Some approaches to radical null arguments make the absence of verbal agreement a necessary condition: this is true of the analyses in Huang (1984), Jaeggli & Safir (1989), Speas (1994, 2006) and Saito (2007); Müller (2005) makes a similar suggestion. Null arguments, according to this theory, are only blocked when agreement exists but is impoverished. However, it is not true that impoverished agreement entails the absence of null arguments, as pointed out by O'Grady (1997: 87), Butt (2001) and Neeleman & Szendrői (2007: 676): one counterexample mentioned by Neeleman & Szendrői is the Oceanic language Kokota, described by

Palmer (1999), in which richness of agreement differs across paradigms but all arguments can be dropped. I will therefore assume that richness of verbal agreement is tangential to the radical null argument property or properties.

Tomioka (2003: 336) argues that radical pro-drop arises from the deletion of NPs, which is only possible in languages that do not have obligatory determiners, since otherwise these determiners would be stranded: all languages that allow radical pro-drop are thus predicted to allow (robust) bare NP arguments. Neeleman & Szendrői (2007: 678) observe that standard Japanese and Korean have obligatory case-marking, however, and so this analysis predicts, wrongly, that case particles should be stranded by NP-deletion in these languages. In addition, the Oceanic language Cheke Holo has obligatory determiners but nevertheless allows radical null arguments, providing a counterexample to the generalization that emerges from Tomioka's (2003) work.

A recent and influential proposal by Neeleman & Szendrői (2007, 2008) attempts to support and motivate the generalization in (54).

(54)   *Radical-Pro-Drop Generalization*
        Radical pro drop requires agglutinating morphology on pronouns.

The generalization is derived by three key assumptions, given in (55), in a framework not unlike that of Distributed Morphology.

(55)   *Assumptions* (Neeleman & Szendrői (2007: 679–687)
        (a)   Null arguments are ordinary DPs that fail to be spelled out at PF
        (b)   Spell-out rules may target non-terminal, non-head nodes
        (c)   The Elsewhere Principle regulates spell-out rules

The Elsewhere Principle blocks the zero spell-out rule that gives rise to null pronouns in languages with fusional pronominal morphology, since it is only one rule targeting KP (Case Phrase) and is blocked by more specific rules for spell-out of individual pronouns (e.g. 1st singular nominative), which also target KP. In languages with agglutinative pronominal morphology, spell-out rules for (parts of) pronouns target subparts of the KP and thus do not stand in an elsewhere relation to the zero spell-out rule (2007: 687–689).[24]

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[24] Assumption (a) is potentially problematic. Neeleman & Szendrői's approach provides no rationale for the fact that it is the zero spell-out rule that is the most general one in radical null argument languages, nor for the fact that this general rule spells out as zero. All else being equal, the approach therefore predicts the existence of unattested varieties, such as 'pro-*elephant*' languages, in which

The observation, based on the fact that pronouns in Japanese and Chinese exhibit agglutinating morphology for case and number respectively, is supported by a typological survey of the World Atlas of Language Structures (Haspelmath *et al.* 2005), which reveals no clear counterexamples.[25] The stronger claim that the relation is biconditional, i.e. that a language has radical pro drop iff it has agglutinating morphology on pronouns, is considered (2007: 705–706), but tentatively rejected on the basis of Finnish. Neeleman & Szendrői's analysis also does not attempt to address the pragmatic conditions under which arguments may be null, suggesting that the Accessibility Theory of Ariel (1990) might be an appropriate candidate (cf. also Ackema & Neeleman 2007, Cole 2009, 2010).

Let us now assess whether early Germanic can be said to have agglutinating pronominal morphology. The pronominal paradigms of the early Germanic languages are presented in tables 5.22 to 5.26. A few notes are in order on these paradigms. Forms preceded by an asterisk in Table 5.22 are unattested forms reconstructed for Gothic by analogy. The Old Icelandic third person forms in Table 5.23 are original distal demonstratives that have taken on the role of personal pronouns. OHG, unlike the other early Germanic languages, has lost its dual pronominal forms. Finally, it has been argued for OE that the genitive pronouns are not simplex pronouns but are inherently adjectival, since they take adjectival agreement (Caha 2009: 273–276); if so, they should be excluded from consideration when looking at Table 5.24.

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discourse-given pronouns of all specifications are spelled out as *elephant*, and 'pro-add' languages in which all and only pronouns that are discourse-new are spelled out as zero. Of course, there could be a functional or Gricean explanation for the non-existence of such varieties.

[25] Cole (2009: 562–563) suggests that Vietnamese, Aiton and Lao are counterexamples, though it should be noted that at least Vietnamese and Lao have agglutinative marking for number in at least some forms. Sato & Kim (2012) also propose that Colloquial Singapore English is a radical null argument variety without agglutinating pronominal morphology.

Table 5.22: Gothic pronouns (Wright 1910: 120)

	NOMINATIVE	ACCUSATIVE	DATIVE	GENITIVE
1 SG	ik	mik	mis	meina
2 SG	þu	þuk	þus	þeina
3 SG M	is	ina	imma	is
3 SG N	ita			
3 SG F	si	ija	izái	izōs
1 DU	wit	ugkis		*ugkara
2 DU	*jut	igqis		igqara
1 PL	weis	uns, unsis		unsara
2 PL	jus	izwis		izwara
3 PL M	eis	ins	izē	im
3 PL N	ija	*ija	*izē	
3 PL F	*ijōs	ijōs	izō	

Table 5.23: Old Icelandic pronouns (Faarlund 2004: 33–36)

	NOMINATIVE	ACCUSATIVE	DATIVE	GENITIVE
1 SG	ek	mik	mér	mín
2 SG	þú	þik	þér	þín
3 SG M	hann		honum	hans
3 SG N	þat		því	þess
3 SG F	hon	hana	henni	hennar
1 DU	vit	okkr		okkar
2 DU	it	ykkr		ykkar
1 PL	vér	oss		vár
2 PL	ér	yðr		yðar
3 PL M	þeir	þá	þeim	þeira
3 PL N	þau			
3 PL F	þær			

Table 5.24: OE pronouns (Mitchell & Robinson 2007: 18–19)

	NOMINATIVE	ACCUSATIVE	DATIVE	GENITIVE
1 SG	iċ	mē, meċ	mē	mīn
2 SG	þū	þē, þeċ	þē	þīn
3 SG M	hē	hine	him	his
3 SG N	hit		him	his
3 SG F	hēo, hīo	hīe, hī	hire	hire
1 DU	wit	unc	unc	uncer
2 DU	ġit	inc	inc	incer
1 PL	wē	ūs, ūsic	ūs	ūre
2 PL	ġē	ēow, ēowic	ēow	ēower
3 PL M	hīe, hī	hīe, hī	him, heom	hira, hiera, heora, hiora
3 PL N	hīe, hī	hīe, hī	him, heom	hira, hiera, heora, hiora
3 PL F	hīe, hī	hīe, hī	him, heom	hira, hiera, heora, hiora

Table 5.25: OHG pronouns (Braune & Eggers 1975: 238–239)

	NOMINATIVE	ACCUSATIVE	DATIVE	GENITIVE
1 SG	ih	mih	mir	mīn
2 SG	dū, du	dih	dir	dīn
3 SG M	ër	inan, in	imu, imo	sīn
3 SG N	iȝ		imu, imo	ës, is
3 SG F	siu, sī, si	sia, sie	iru, iro	ira, iru, iro
1 PL	wir	unsih	uns	unsēr
2 PL	it	iuwih	iu	iuwēr
3 PL M	sie		im, in	iro
3 PL N	siu		im, in	iro
3 PL F	sio		im, in	iro

Table 5.26: OS pronouns (Cordes & Holthausen 1973: 104–105)

	Nominative	Accusative	Dative	Genitive
1 SG	ik	mik	mī	mīn
2 SG	thū	thik	thī	thīn
3 SG M	hīē	ina	imu	is
3 SG N	it			
3 SG F	siu	sia	iru	ira
1 DU	wit	unk		unkar
2 DU	git	ink		inkar
1 PL	wī	ūnsik	ūs	ūsar
2 PL	gī	iuwik	iu	iuwar
3 PL M	sia		im	iro
3 PL N	siu			
3 PL F	sia			

It is unclear from these paradigms whether early Germanic pronouns in fact were agglutinating for case or number. The presence of dual forms in all but OHG, with their characteristic -t endings in the nominative, indicates a degree of agglutination for number, and agglutination for case may appear to be present in the accusative, genitive and dative of the 1st and 2nd persons singular. However, numerous portmanteau fusional forms are found, especially in the nominative case, and none of these fusional patterns stretches across the full paradigm in any of these languages, i.e. there is no feature value or combination of feature values such that they define a nonsingleton set of forms in which all members share phonetic material (cf. Neeleman & Szendrői 2007: 706). Furthermore, all five languages exhibit numerous syncretisms. It is therefore unclear whether we are dealing with true agglutination in any of these cases or rather 'family resemblance' in the sense of Pinker & Prince (1988). Neeleman & Szendrői (2007: 692–694) examine three Germanic languages, Dutch, Swedish and Afrikaans, and conclude that their paradigms are not in fact agglutinative. The personal pronouns of these languages do not have dual or dative forms; however, they are otherwise very similar to those of the older Germanic languages. Modern German is not considered; however, Neeleman & Szendrői (2007: 692) claim that pronominal paradigms are fusional 'in all Germanic languages'. Although the case is not clear-cut, then, assuming that Neeleman & Szendrői's (2007, 2008) proposal in (54) is a robust generalization about the distribution of radical null arguments, it does not seem promising to analyse the early Germanic languages as radical null argument languages.

5.3.4 A partial null argument analysis

The early Germanic languages do not seem to fit very well into any of the traditional categories of null argument language, then. However, they are not alone in this. Finnish and Hebrew both allow referential null arguments under certain conditions (Borer 1989, Vainikka & Levy 1999, Holmberg 2005, 2010). It has been argued that these languages, as well as others such as Icelandic, Russian, Marathi and Brazilian Portuguese, should be classed as 'a separate type of null-argument language' (Holmberg & Roberts 2010: 10–11); Modern Irish might also fall into this category (cf. McCloskey & Hale 1984).[26] In formal and written Finnish, for example, first and second person pronouns can always be left unexpressed in finite contexts, and third person pronouns can be left unexpressed when 'bound by a higher argument, under conditions that are rather poorly understood' (Holmberg 2005: 539). Referential objects may also be unexpressed in similar contexts (Huang 2000: 85–86; Frascarelli 2007: 723). Hebrew has a similar pattern in the past and future tenses, which have person marking; in the present tense, which does not, subject pronouns are obligatory (Vainikka & Levy 1999: 615). While it is not altogether clear that these languages form a coherent class (as opposed to a 'dustbin category'; indeed, Holmberg (2010: 122) argues that Finnish and Icelandic do not in fact form a group), the analytic tools developed to approach them will be useful in analysing the early Germanic languages, even though these languages may display null arguments in all persons and tenses. In particular, I here follow an approach based on Holmberg (2010), arguing that the early Germanic languages were in a sense the mirror image of languages such as modern formal Finnish.

In Holmberg's analysis, referential null subjects in partial null subject languages are DPs that bear a full set of φ-features but whose D-feature is uninterpretable ($[u\text{D}]$). T^0, which bears $[u\varphi]$-features associated with an EPP-feature, Agrees with the subject and attracts it to be second-Merged in SpecTP, thereby valuing T^0's $[u\varphi]$-features as well as the $[u\text{Case}]$ feature of the subject DP. In consistent null subject languages, T^0 (together with an incorporated φP pronoun) has a $[u\text{D}]$ feature which can be valued by Agree with a null Aboutness topic in the C-domain. In partial null subject languages, since T^0 does not bear a $[u\text{D}]$ feature, the incorporation of a φP pronoun into T^0 with a referential interpretation is not available. Finnish then has two ways of valuing the $[u\text{D}]$ feature on the subject DP. In the case of 1st and 2nd person null subjects, it is valued by agreement with a

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[26] Although the conditions on null arguments in Finnish appear to be discourse-based, Neeleman & Szendrői (2007: 705) state categorically that Finnish is not a radical null argument language in their view, as the distribution of null arguments is asymmetrical across persons.

speaker or addressee operator in the left periphery (local logophoric agent or patient, Λ_A or Λ_P, in the sense of Sigurðsson 2004: 227). In the case of 3rd person referential null subjects, it is valued through a structurally defined control relation with a DP antecedent (Holmberg 2010: 101–104; cf. also Holmberg, Nayudu & Sheehan 2009, Holmberg & Sheehan 2010). The nullness of the pronoun is then due to an extended version of chain reduction. The relevant derivation is illustrated for Finnish in (56); solid lines indicate head-movement.

(56)

Nousin junaan
boarded train
'I boarded the train'
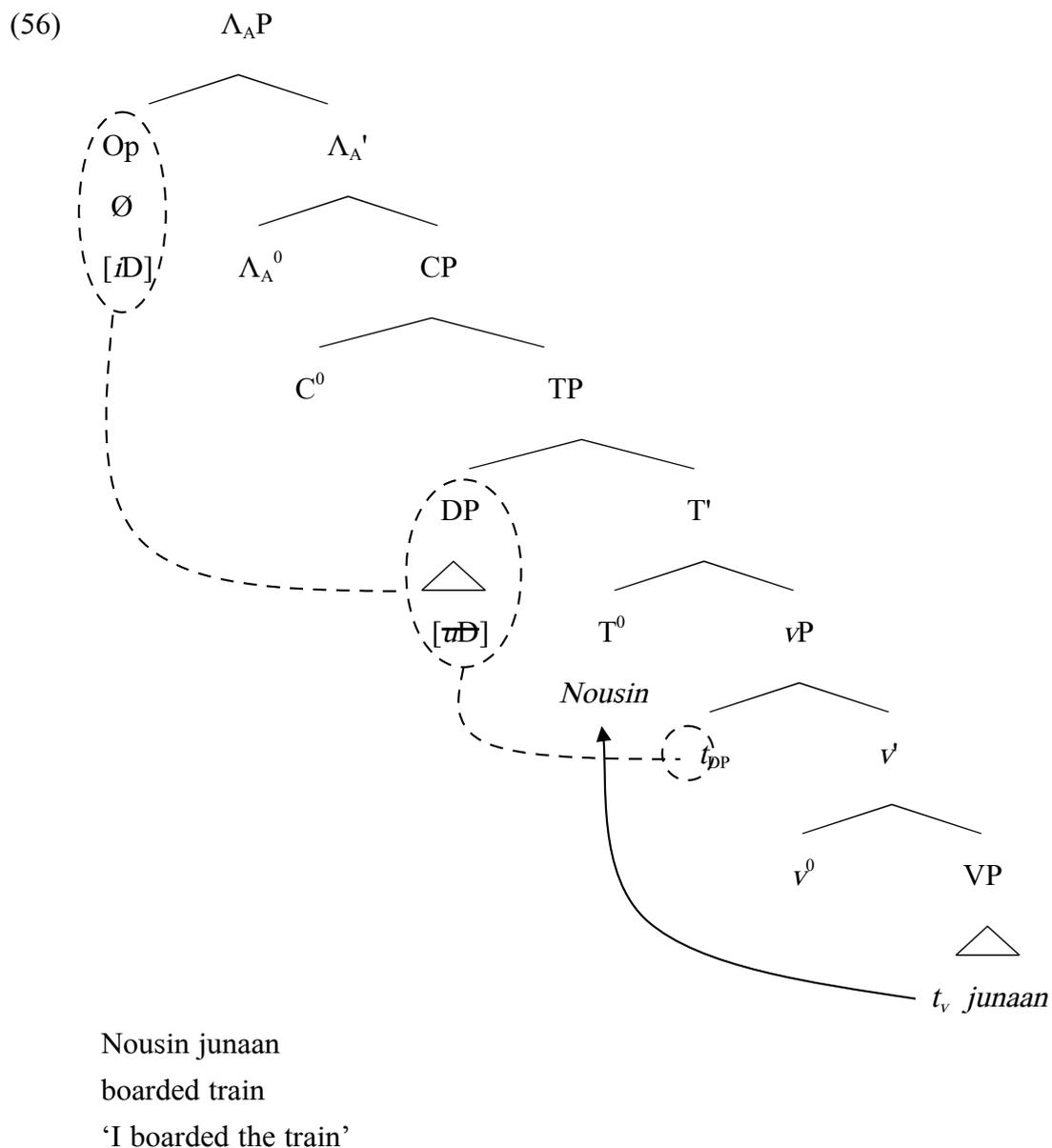
One immediate question is why a null Aboutness topic cannot control a null subject in SpecTP directly. Holmberg (2010: fn. 11) speculates on this point, but it is clear that it cannot straightforwardly be the case for Finnish main clauses, since null

referential 3rd person subjects are not allowed in this context (e.g. Vainikka & Levy 1999: 614). An analysis involving a null Aboutness topic would make the prediction that this topic could be present in main clauses in Finnish as it is in consistent null subject languages such as Italian and could thus value the [uD] feature of the null subject pronoun.

A related question is how the Agree relation between left-peripheral speech features, or Aboutness topics in the case of consistent null subject languages, and T^0 or the subject pronoun in SpecTP comes to hold. The purpose of this Agree relation in Holmberg's (2010) system is to value the [uD] feature of T^0 or the subject pronoun. To achieve this the left-peripheral category must bear a valued D-feature. In Chomsky's (2000, 2001) Agree system, however, it is the higher category that probes, and it may only do so if it bears an uninterpretable feature itself.

Both problems can be solved at once if it is hypothesized that the ability of these left-peripheral categories to probe is itself parameterized. Specifically, in a given language, operators in SpecΛ_AP, SpecΛ_PP and SpecShiftP may each independently bear a [uAnaphor] or [$u\omega$] feature alongside their valued D feature, and it is this that gives them the ability to probe and thus enter into an Agree relation with SpecTP or T^0, valuing the latter's [uD] feature as a byproduct of this.[27] Assuming for the moment that the logophoric operators in SpecΛ_AP and SpecΛ_PP pattern together in whether they bear [uAnaphor]/[$u\omega$]-features or not, this gives us a four-way typology, as illustrated in Table 5.27, which cross-cuts previous typologies of null argument languages.

Table 5.27: Typology of null-argument context-linking

	[uAnaphor]/[$u\omega$] in Λ_A, Λ_P	[uAnaphor]/[$u\omega$] in ShiftP	Examples
a)	Yes	Yes	Greek, Italian, Japanese
b)	Yes	No	Finnish, Hebrew, Marathi
c)	No	No	English, French, Bambara
d)	No	Yes	?

I would like to propose that option d) in Table 5.26 is the one instantiated by the

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[27] Landau's (2000, 2004) theory of control, followed by Holmberg (2010), employs a [–R] feature with a similar function to the [uAnaphor] feature proposed here, though he follows the approach to Agree taken by Pesetsky & Torrego (2001) in which interpretability and valuedness are distinct. Landau himself proposes that since checked features are not deleted until sent to Spellout they can probe twice (2004: 843); I do not adopt this here. The difference between [uAnaphor]-probing and [$u\omega$]-probing is elaborated upon in section 5.3.5.

early Germanic languages (putting Gothic aside for the moment). As observed by Sigurðsson (1993) for Old Icelandic, van Gelderen (2000) for OE, Axel (2007) for OHG, Håkansson (2008) for Old Swedish and in section 5.2 above, first and second person null arguments are comparatively rare. As Sigurðsson (1993: 254) observes, this is expected if null arguments are required to have discourse topicality: while it is not impossible for first and second person arguments to be Aboutness topics, this type of topicality is not easily established in direct speech, in which most of the attested cases of 1st and 2nd person null arguments are found. I therefore assume that Λ_A and Λ_P operators lacked the ability to probe in the early Northwest Germanic languages, and that the [uD] feature of a null argument could therefore only be valued by agreement with an Aboutness topic operator in SpecShiftP.

The derivation of a clause containing a null subject would proceed as follows. The subject pronoun, a DP bearing a [uD] feature, would first be Merged in SpecvP, and could subsequently be displaced to SpecTP or SpecFinP (I remain agnostic concerning the traditional EPP in these languages). Upon merger of the operator in SpecShiftP, the [uAnaphor]-feature of this operator would probe downwards, being satisfied by the first anaphoric element it encountered, typically the null DP subject. The [uAnaphor]-feature of the operator would thus be valued, as well as the [uD] feature of the null subject as a byproduct. The derivation is illustrated in (57).

(57)

ShiftP

Op
Ø
[*i*D]
[*u*An]

Shift'

Shift⁰ CP

C⁰ TP

Giuuitun

DP T'

△

[*u*D] T⁰ *v*P

[*i*An]

*t*DP *v'*

*v*⁰ VP

*t*ᵥ *im thô eft te Hierusalem*
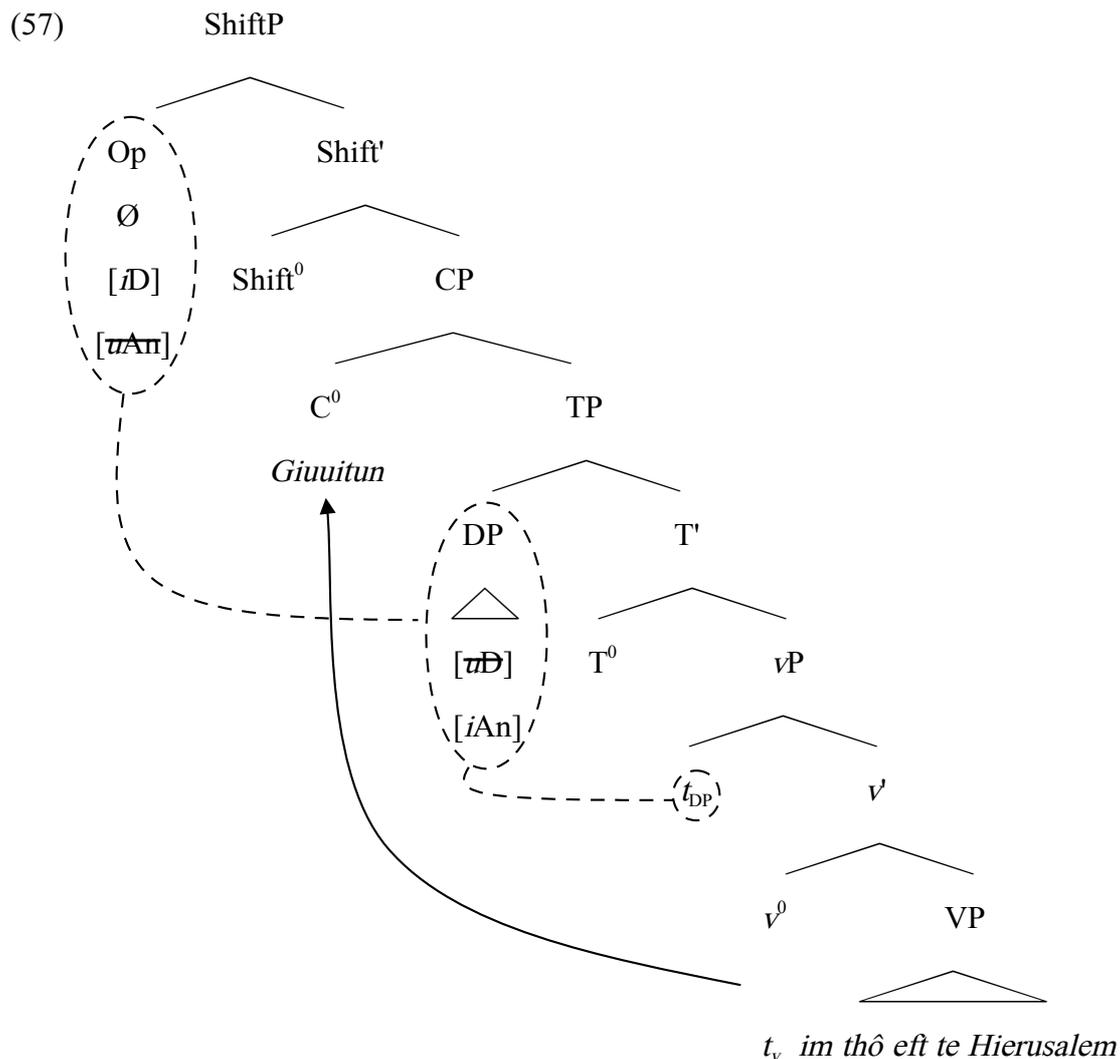
Giuuitun im thô eft te Hierusalem
went.3PL REFL.DAT then after to Jerusalem
'Then they went to Jerusalem'

Null objects would be derived in a similar way. I have assumed that Fin⁰ in these languages always bears an Edge Feature associated with the movement-triggering feature ˆ, which requires that it project a specifier but does not mind what category fills it; see chapter 3 for details. Crucially, since this movement is not Agree-based, intervention locality conditions do not apply to it, and hence the object can be moved over the subject. Then when the Aboutness topic operator is merged and probes, the first [*u*Anaphor]-bearing element it encounters will be the object rather than the subject. All partial null argument languages I am aware of allow null objects as well as null subjects: see Huang (2000: 85–86) and Frascarelli (2007: 723) on Finnish, Farrell (1990) on Brazilian Portuguese, and Taube (2012) on Hebrew.[28]

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[28] Extending the typology of partial null subject languages to allow for grammars in which only third

As was additionally established in 5.2, all the Northwest Germanic languages furthermore show an asymmetry between main and subordinate clauses with regard to the frequency of null arguments: null arguments are substantially rarer in subordinate clauses, once again displaying the mirror image of the behaviour of Finnish. This is captured if subordinate finite clauses in these languages are strong phases and do not always project their own ShiftP. If ShiftP is present in a subordinate clause, the Aboutness topic operator probes for a valued [Anaphor]-feature and may identify a null argument. If it is not present, null arguments may not be identified, since topic operators in a higher finite clause may not probe across a phase boundary. One could speculate that the presence or absence of the information-structural layer of the CP may be linked to the referentiality of the clause in the sense of Haegeman & Ürögdi (2010), or to (non-)assertiveness in the sense of Hooper & Thompson (1973) and Wiklund (2010). The presence or absence of the information-structural layer of the CP may or may not be connected to the possibility of movement of the verb into the C-domain in subordinate clauses in the West Germanic languages; I would suggest that the connection is at best indirect, however, as a number of examples of subordinate clause null subjects without verb movement can be found in OHG, as shown by Schlachter (2010: 161–163).[29]

Since there is only one ShiftP per clause (Frascarelli & Hinterhölzl 2007), it follows that in these languages only one null argument should be licensed per clause. I have not found any exceptions to this in the early Northwest Germanic languages; Gothic will be discussed in the next section.

Null arguments in partial null argument languages never seem to be obligatory, unlike in Italian and Spanish, for instance, in which obviation effects are found. This can be captured if we assume a principle of Minimize Structure like that of Cardinaletti & Starke (1999: 198), according to which the smallest structure

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person subjects may be null entails a loss in predictive power. Indeed, Vainikka & Levy (1999: 623) explicitly predict that such languages cannot exist: 'it cannot be the case that only third person subject pronouns may be omitted, while first/second pronouns must be retained'. However, other languages of a similar type have (occasionally) been noted in the literature: Shipibo, an indigenous American (Panoan) language, for instance (Camacho & Elías-Ulloa 2010), as well as potentially Old North Russian (Kwon 2009) and several Austronesian languages of the Philippines (Laurie Reid, p.c.). Deal (2005: 95) also comes to the conclusion that '1st/2nd person *pro*-drop and 3rd person *pro*-drop are independently available UG options'.

[29] The status of Old Icelandic as an exception to the generalization that null subjects are rare in subordinate clauses than in main clauses in early Northwest Germanic may be connected to the prevalence of subordinate clause V2 in this language, which is not shared by the other early Germanic languages. There is some evidence that this property is an innovation (see Eythórsson 1995, and Gade 1995: 213 on the absence of subordinate clause V2 in older *dróttkvætt* verse).

possible is always chosen.[30] Since φP is smaller than DP, in canonical null subject languages φP pronominals (null) will always be chosen over DP pronominals (overt) unless the smaller structure is independently ruled out (e.g. by a contrastivity requirement). In partial null argument languages, on the other hand, the choice is between [*i*D] and [*u*D] DPs, which are of equal size, and thus neither is preferred over the other. More needs to be said than this to explain the differences in frequency between the individual Germanic languages, but this is a start.

A final important feature of partial null subject languages, according to Holmberg (2005: 540) and Holmberg, Nayudu & Sheehan (2009: 60), is that they permit generic null subjects, unlike consistent null subject languages.[31] This is so because φP pronouns in partial null subject languages, lacking [*u*D], may not incorporate into T^0 in these languages and receive a referential interpretation, since T^0 also lacks [*u*D], hence if they are incorporated into T^0 they may only be interpreted as generic null subjects. Generic null subjects with no antecedent are certainly possible in Old Icelandic, as illustrated by (58) (see also Faarlund 2004: 220), in OHG, as illustrated by (59) (see also Axel 2007: 300–303), and in OE, as illustrated by (60), though in the West Germanic languages the use of *man*/*mon* is more common (cf. Hopper 1975: 81).

(58) en heyrði til hǫDo, þá er þór bar hverinn
      but heard.3SG to handle.GEN when that Thor carried kettle.DEF.ACC
      'But you could hear the handle rattle when Thor carried the kettle'
      (1150.FIRSTGRAMMAR.SCI-LIN,.170)

(59) Gebet, thanne gibit íu
      give.2PL, then give.3SG you.PL.DAT
      'Give, and it shall be given to you'
      (*Otfrid* 39,3; Eggenberger 1961: 102)

(60) Wiþ þæs magan springe þonne þurh muð bitere hræcð oþþe bealcet
      for the maw.GEN sore.DAT when through mouth bitterly retches or belches
      'For sores of the mouth when the patient retches or belches bitterly through the mouth'
      (colaece,Lch_II_[2]:15.1.1.2296)

It thus seems that there is a plausible case to be made for the earlier Northwest Germanic languages as partial null argument languages.

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[30] Though this type of constraint appears to require comparison of derivations.

[31] As Cole (2010: 275) points out, Övdalian seems to be a counterexample to this insofar as it is a partial null subject language.

5.3.5 Cross-linguistic reach of the proposal

In this section I briefly illustrate how the analysis and typology of null subjects in the previous section extends to other null argument languages beyond early Germanic; in the process I will return to Gothic.

I have suggested that the appropriate probing feature on left-peripheral operators may be [uAnaphor] or [$u\varphi$], and that in early Northwest Germanic the topic operator in SpecShiftP bore [uAnaphor]. The two possibilities make differing empirical predictions. In particular, when the probing feature is [$u\varphi$], a much larger class of elements count as potential 'defective interveners' in the sense of Chomsky (2000: 123), most notably the φ-feature-bearing finite verb, which I argued in chapter 3 generally moves to Fin^0 in main clauses: an instance of agreement between a left-peripheral operator and an element below the C-domain in any of these languages would therefore violate Relativized Minimality (Rizzi 1990, 2001a). Furthermore, if topicalized/focalized elements must pass through SpecFinP in V2 languages, as I also argued in chapter 3, such elements would also act as interveners in these languages, predicting the incompatibility of overt topicalization/focalization with null arguments of any kind. The question that then presents itself is whether there are any languages that differ minimally from the early Northwest Germanic languages in probing for φ-features rather than for [iAnaphor].

Modern German appears to be such a language. As discussed in 5.3.2, modern German displays a process of topic drop by which only arguments in the left periphery may be null. Since modern German is a V2 language, this leads to verb-initial clauses, and only one argument per clause may be null. Under the account given above, we can see how this happens. When the topic operator is merged, it probes for a φ-feature-bearing element. In the normal case, the first such element it will encounter will be either the subject or some argumental element that is stopping off in SpecFinP on its way up to a left-peripheral topic/focus position. Then if the derivation contains a DP bearing a [uD] feature in a position below Fin^0, this [uD] feature will be unable to be valued by the [iD] feature on the topic operator, and so the derivation will crash. The only way for this [uD] feature to be valued is for the DP-pronoun to move to SpecFinP itself, precluding topicalization and focalization of any other element.

Topic-drop is also ungrammatical in subordinate clauses, which is what we would expect given that the German finite complementizer *dass* is usually analysed as being in complementary distribution with the verb in C^0/Fin^0 (since at least den Besten 1977; cf. Vikner 1995 for extensive discussion of embedded main clause phenomena in modern Germanic). If subordinate clauses in German are FinPs, then

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we would not expect to find null arguments in these clauses.

This property is not the only null-argument-related difference between modern German and the early Northwest Germanic languages. Consider again (48) and (49), repeated below.

(48)   Hab' ihn schon gesehen.
       have him already seen
       'I have seen him already.'

(49)   Hab' ich schon gesehen.
       have I already seen
       'I have seen him/her/it/them already.'

In early Northwest Germanic, as I have shown in section 5.2, there is an asymmetry between 3rd person and 1st and 2nd person pronominal arguments in that the latter are much less likely to be null. This does not appear to be the case in modern German, where all persons can be freely omitted. Fortunately, there are independent reasons to believe that the difference between [uAnaphor]-probing and [$u\varphi$]-probing is not the only difference at work here. Trutkowski (2011) observes that examples such as (48) and (49) are not exactly parallel: while (48) is appropriate in any context, (49) may only be used in contexts where an antecedent is present in the discourse. Trutkowski takes this to indicate that a process of *out-of-the-blue drop*, affecting 1st and 2nd person subjects, must be active in German in addition to topic drop, and connects this to verbal agreement. However, since this phenomenon appears remarkably similar to the contrasts in binding between 'This paper was written by Ann and myself' and '*This paper was written by Ann and himself', noted by Ross (1970: 228), I will assume that these processes can be accounted for by assuming that Λ_A and Λ_P, the logophoric agent and patient operators in the clausal left periphery (Sigurðsson 2004, 2011), are also [$u\varphi$]-probes in this language, without making reference to verbal agreement.

What about traditional (Italian-style) null subject languages? Holmberg (2010) proposes that in these languages [uD] is present on T^0 rather than on the pronoun itself, and must be valued through agreement with a left-peripheral null topic just as the [uD] feature on the pronoun must in partial null-subject languages. The pronoun itself is a φP rather than a DP, however, and incorporates into T^0 following an approach to head-movement based on Roberts (2010b): T^0 bears [$u\varphi$]-features and establishes an Agree relation with the subject, and since the features of the φP pronoun are a subset of those of T^0 it is not spelled out. This derivation is illustrated in (61).

(61) ShiftP
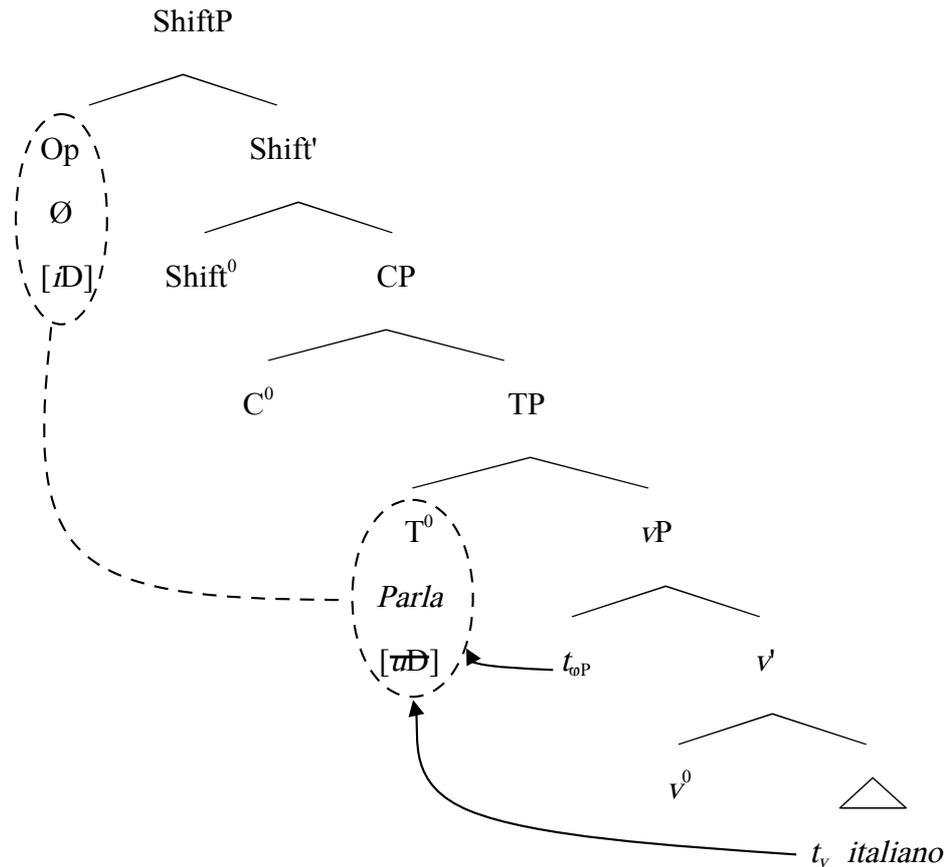
Parla italiano
speak.3SG Italian
'He/she/it speaks Italian'

Crucially, for this to be possible it must bear no features that T^0 does not also bear. If a [iAnaphor] feature is present in the derivation, then, it must be on T^0. It seems more plausible and restrictive to assume that Aboutness operators (and Λ_A and Λ_P operators) in Italian and other consistent null subject languages bear [$u\varphi$] rather than [uAnaphor] (cf. Frascarelli 2007: 718). Since for Italian there is no need to posit an EF on Fin^0 requiring that its specifier be filled, there is no way for the object to intervene between the topic operator and T^0, and hence no way to derive referential null objects in Italian; a correct position, since only null objects with arbitrary reference are allowed in this language (Rizzi 1986).

The proposal is equally extensible to the original partial null argument languages discussed by Holmberg (2010), the crucial difference with early Northwest Germanic being that in these languages it is Λ_A and Λ_P operators, rather than Aboutness topic operators, that may bear [uAnaphor].[32] In these languages, as

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[32] A complication arises with respect to the original cases of control into embedded finite clauses discussed by Holmberg (2010) and Holmberg & Sheehan (2010), since it is not desirable to stipulate

in early Northwest Germanic, but not in consistent null subject languages, null referential objects may be found.

Radical null argument languages are straightforward to account for under this proposal: they simply instantiate the possibility under which all three types of left-peripheral operator bear [*i*D] and [*u*Anaphor], and thus any argument may in principle be null in any position.[33]

Finally, it might be objected that nothing in the present account prevents English from displaying partial null argument properties in principle. However, there exist varieties of English that do permit null arguments: colloquial spoken varieties and 'diary drop', which work in a similar (though not identical) way to German topic drop (cf. Haegeman 1990, Haegeman & Ihsane 1999, Weir 2008), and potentially Colloquial Singapore English (Sato & Kim 2012). Space precludes more extensive discussion of these varieties in this context, but I take it as a desirable consequence of the present account that the possibility or impossibility of null arguments in 'weak-agreement' languages such as English is simply a matter of parametric variation.

We are now in a position to return to Gothic. In section 5.3.1 it was argued that Gothic, unlike the other early Germanic languages, displayed some of the characteristics of a consistent null subject language. This possibility is compatible with Müller's (2005) theory of morphological richness if it is assumed that the 1st–3rd singular syncretism was actually an accidental homophony, despite being system-wide. This can in fact be made to fall out of a system similar to Müller's if an alternative feature system is adopted: rather than the person features [± 1] and [± 2] we might choose to adopt Harbour's (2006) theory of person features, based on [$\pm$author], [$\pm$participant] and [hearer] (cf. also Noyer 1992). I assume that [hearer] is not active in the early Germanic languages (since it is needed only to capture languages in which a distinction between inclusive and exclusive first person is made). 1st person then is [$+$author, $+$participant]; 2nd person is [–author, $+$participant]; 3rd person is [–author, –participant]. There is no way under this system of characterizing 1st and 3rd persons only without also including 2nd person: a rule referring to [$\pm$author], [$\pm$participant] would be too permissive, and any other specification of environment would be too restrictive. It follows that syncretism rules

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that any DP may bear [*u*Anaphor]. I have no solution to this problem at present.

[33] Though the present account predicts that only one null argument per clause is possible, due to (defective) intervention, a prediction that is clearly false. Positional restrictions such as those reported by Huang (1984: 538) for Chinese must also be investigated in more detail.

collapsing 1st and 3rd person forms cannot be stated, and so cannot exist. As regards the morphological component, then, there would be no syncretisms at all in Gothic.[34]

Null objects are also found in Gothic, however. This indicates that Gothic is a language that has two means of licensing null arguments at its disposal. First of all, φP pronouns may be incorporated into T^0, which then has its [uD] feature valued by agreement with an operator, which bear [iD] and may have [uφ]-probes. Secondly, DP pronouns bearing [uD] may occur. They cannot appear in subject position, since they would then act as interveners blocking the valuation of T^0's own [uD] feature. If present in object position, however, their [uD] feature may be valued by agreement with a left-peripheral operator bearing a [uAnaphor]-probe (for which a φP pronominal subject does not count as an intervener). It is thus possible for both referential subjects and referential objects to remain phonologically null, and this is the norm for subjects. This account predicts that generic inclusive subjects cannot be null in Gothic, since φP subjects inevitably incorporate into T^0 and receive a definite interpretation; I have not found any counterexamples, though the generic inclusive subject construction is rare and potential cases all seem to follow the Greek, as in (62).

(62)   ni bi hlaib ainana libaid manna
       NEG by bread alone live.3SG man
       'Man does not live by bread alone' (Luke 4:4)

This account of Gothic, together with the account of early Northwest Germanic in section 5.3.4, sets the stage for a discussion of the diachronic development of the early Germanic languages, including the question of what to reconstruct for Proto-Germanic. This will be the focus of section 5.4.

5.4 Null arguments across the history of Germanic

5.4.1 Diachronic trajectories

I have argued that the situation in the individual early Northwest Germanic languages with regard to null arguments was the same or at least very similar, with Gothic differing from the others essentially only in being a language with [uD] in T^0. In this section I briefly discuss possible diachronic trajectories of the individual

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[34] There would also no longer be any syncretisms at all in OHG, predicting that this language too would be a consistent null subject language. Such a solution, although convenient for Gothic, is therefore not ideal.

languages. Since the 'middle' stages of these languages are outside the focus of the present study, the discussion will necessarily remain speculative.

Gothic can be set aside immediately; the available Gothic documents do not permit us to get a diachronic cross-section of the language, which is now extinct.

Modern Icelandic and Modern (Low and High) German are all topic-drop languages. In addition, Icelandic has been a symmetric V2 language essentially throughout its recorded history (see Thráinsson 2007 on the modern language, and Faarlund 2004 on earlier stages). Hróarsdóttir (1996) reports that referential null subjects were lost during the 18[35] centuries. As discussed in chapter 3, the only OHG texts that robustly exhibit V3 are the *Isidor* translation and the Monsee Fragments, with other texts displaying predominantly V2 order in main clauses; null subjects, on the other hand, persisted through the 8th and 9th centuries (e.g. in the V2 *Tatian*) and are essentially no longer found in later OHG such as that of Notker (Axel 2007: 298). The OS *Heliand* is also V2 with null arguments.

As discussed in the previous section, what differentiates a topic-drop language from a partial null argument language syntactically is the probing feature on the [*i*D]-bearing left-peripheral operator, specifically whether it is [*u*φ] or [*u*Anaphor]. Now in a V2 language, all else being kept constant, a grammar in which the left-peripheral operator bears [*u*Anaphor] will generate a set of sentences that is a superset of that generated by a grammar in which the left-peripheral operator bears [*u*φ]. Specifically, clauses such as (32) from OS, repeated below, with a fronted element preverbally as well as a null argument, can be generated by the [*u*Anaphor] grammar but not by the [*u*φ] grammar, due to intervention.

(32)   lîbes uueldi ina bilôsien, of he mahti gilêstien sô
       life.GEN would him take if he could achieve so
       'he$_i$ would take his$_j$ life if he$_i$ could'
       (*Heliand* 1442)

The Subset Principle of Berwick (1985), as stated in (63), comes into play here.

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[35] Icelandic, and to a lesser extent also German, is thus problematic for Yang's sweeping assertion that 'the combination of *pro*-drop and V2 is intrinsically unstable and necessarily gives away to an SVO (plus *pro*-drop) grammar' (2000: 243–244). Earlier Icelandic permitted null arguments for at least half a millennium despite being a V2 language, and when a change did occur it was a reduction in the possibilities for null arguments, not the loss of V2. These indicate that Yang's claim must be made more specific or else abandoned. Kashmiri, which is also V2 with null arguments of various kinds (Wali & Koul 1997: 119), may also present a problem for Yang's hypothesis insofar as it is not imminently losing either.

(63)   *The Subset Principle*
         The learner must guess the smallest possible language compatible with the
         input at each stage of the learning procedure.
         (Clark & Roberts 1993: 304–305)

(63) follows from the fact that acquirers during the critical period do not make use
of negative evidence. Since they therefore have no way to retreat from hypotheses of
feature specifications that are too permissive, they must make use of a strategy to
avoid such 'superset traps'.[36] The Subset Principle can be viewed as a third-factor-
motivated part of the learning algorithm rather than as part of grammar as such; cf.
Biberauer & Roberts (2009) for discussion of this principle in the context of
syntactic change.

        If clauses such as (32) are not robustly represented in the primary linguistic
data, then, the acquirer will default to [$u\varphi$]-probing rather than [uAnaphor]-probing
by the Subset Principle. Such clauses do seem to be rare in the languages
investigated: in my OS data (32) was the only unambiguous example. Chance
fluctuation could therefore have led to their absence in a given set of PLD. We thus
have a rationale for the change from partial null argument language to 'topic drop'
language in the histories of Icelandic and German, though the picture needs to be
investigated in more detail.[37]

        This leaves English, in which, at least in the standard variety, all forms of
referential null argument are ungrammatical in finite clauses. As observed in section
5.2.3, even most OE (West Saxon) texts do not appear to contain referential null
arguments in any robust way, leading to Hulk & van Kemenade's (1995: 245)
statement that 'the phenomenon of referential *pro*-drop does not exist in Old
English'. Assuming that earlier stages of Northwest Germanic did allow referential
null arguments (see section 5.4.2), this property must have been lost in these dialects
during and before the time that our very earliest texts were being produced. Why did
this occur in OE but not in the other early Northwest Germanic varieties?

        I suggest that the loss of null arguments in these varieties was due to the
language contact situation in the British Isles during the relevant time period,
specifically the substantial substratum of speakers of Brythonic Celtic and British
Latin. Tristram (2004: 94–99) outlines the prevalence of these speakers in Wessex
and elsewhere in the OE-speaking area, arguing that the social situation was one

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[36] For a fuller discussion of the status of the Subset Principle in syntactic acquisition and learnability
theory, see Fodor & Sakas (2005).

[37] This change equates to the 'loss of free discourse indexing as an identification strategy for null-
arguments' suggested by Sigurðsson (1993: 277) for Icelandic.

which was likely to produce imperfect second language learning of OE by subjected Britons. This type of social situation may lead to 'imposition', in the terminology of Winford (2005): transfer of linguistic material, including grammatical material, under source language agentivity. Tristram (2004) argues that this was the case for loss of the inflectional endings in the OE NP (cf. also Trudgill 2011: ch. 1), and for the rise of verbal aspect. However, Lucas (2009) shows that another type of contact-induced change is possible in this situation, which he labels 'restructuring': 'changes which a speaker makes to an L2 that cannot be seen as the transfer of patterns or material from their L1' (2009: 145).[38] Lucas illustrates this possibility using several case studies of L2 acquisition in which systematic deviations from the target grammar have been observed that cannot be interpreted as resulting from the acquirer's L1 (2009: 135–138), particularly in the domain of word order. Håkansson, Pienemann and Sayehli (2002) show, for example, that speakers of Swedish (a V2 language) learning German (another V2 language) as an L2 regularly produce non-V2 structures in their German output: a simple imposition story is clearly inadequate here.

   To such studies can be added Bini's (1993) work on null subjects. Bini showed that speakers of Spanish (a consistent null subject language) learning Italian (another consistent null subject language) as an L2, up to an intermediate proficiency level, systematically overproduce 'redundant' overt pronouns, supplementing existing studies that showed that L2 learners of Italian with English as an L1 also overproduced overt pronouns. The literature on L2 acquisition of null subject languages is vast (see Sorace *et al.* 2009 for a recent overview), but the relevant point for our purposes is that L2 learners of *any* null subject language appear to 'use overt subject pronouns as a compensatory "default" strategy' (Sorace *et al.* 2009: 464), regardless of the structure of their L1. Thus, although Brythonic Celtic probably allowed subject pronouns to be omitted, in common with many other early Indo-European varieties (Koch 1991: 24), it is not implausible to suppose that the overgeneralization of overt pronouns by L2 learners of OE, primarily speakers of Brythonic Celtic and British Latin, was responsible for the loss of the possibility of null arguments in West Saxon and in later varieties of English, since the intensity of this contact situation was unparalleled in Germanic-speaking Continental Europe of the period.[39]

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[38] For an early application of this logic, see Weerman (1993: 918–922), basing himself on Clahsen & Muysken (1986).

[39] Note that under the 'restructuring' logic given above, this conclusion holds regardless of whether Brythonic Celtic or British Latin were themselves null argument languages.

5.4.2 The main clause constraint: innovation or retention?

Assuming once again that the distribution of null arguments in Proto-Northwest Germanic was the same as that of its early North and West Germanic descendants (see section 5.4.3), one striking property to be accounted for is the rarity of null arguments in subordinate clauses. How might this be accounted for?

Recall that under the analysis given in 5.3.4, this rarity was accounted for on the basis of features that had nothing to do with null arguments as such: it was proposed that subordinate clauses in the early Northwest Germanic languages were a) usually FinPs lacking a higher information-structural layer, and b) inaccessible for agreement with elements in higher clauses. The rarity of null arguments in subordinate clauses thus falls out from an interaction with an independent property of the grammar of these languages.

However, a very similar constraint has been observed in older Romance languages, especially Old French (Foulet 1919; Vanelli, Renzi & Benincà 1986: 169–172; Adams 1987a, b; Roberts 1993: 208; Vance 1997). In the relevant subset of the medieval Romance languages, specifically Old French, some dialects of Occitan, Franco-Provençal, Northern Italian dialects and Florentine (Vanelli, Renzi & Benincà 1986: 163), null arguments were generally unavailable in subordinate clauses except where these clauses were V2. The similarity between these languages and the early Northwest Germanic languages in this respect has occasionally been remarked upon (e.g. by Axel 2007: 323).[40] It is, in my view, unlikely that this is due to chance. If so, then the direction of contact influence must be established.

Fortunately this is made simple both by the geographical distribution of the main clause constraint and by the probable language contact situation. As regards the former, the subset of the old Romance varieties that do not freely allow null subjects in subordinate clauses covers a geographically contiguous area. The same cannot be said for the complement of this subset, which includes the Iberian peninsula, southern and central Italian varieties, and Romanian (Vanelli, Renzi & Beninca 1986: 163); this area is divided at least by a wedge of main-clause-constraint varieties stretching down to the Mediterranean coast at the base of the Alps. Classic dialect geography suggests that the contiguous area should be viewed as the area of an innovation that has spread, whereas the non-contiguous area should be viewed as preserving older forms (e.g. Chambers & Trudgill 1998: 94). Furthermore, the area in which the main clause constraint is found in Medieval Romance corresponds roughly to the area controlled by Frankish tribes in the 6th–8th centuries.

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[40] Since the main clause constraint is characteristic of all the early Northwest Germanic languages, this property can be added to Mathieu's (2009) list of the 'Germanic properties of Old French'.

Figure 5.1: Frankish dominance and the main clause constraint in Romance

The light grey area represents the area controlled by the Frankish empire as of 814 AD (see Shepherd 1926: 53). The dark grey area, which is fully contained within this area, represents the extent of the early Romance languages in which the main clause constraint for null subjects is in operation (maps projected backwards based on Harris & Vincent 1988: 481–483).

It thus seems plausible that the main clause constraint in the medieval Romance varieties that exhibit it is of West Germanic origin. By contrast, if the main clause constraint had originated in Romance and spread to Germanic via contact, its presence in Old Icelandic and Old Swedish would be surprising, although diffusion across the Germanic dialect continuum cannot completely be ruled out. This reverse theory also leaves unexplained the absence of the main clause constraint in those Romance varieties that have *not* undergone heavy contact with West Germanic.

Considerations of language contact type also militate against the reverse theory. It is known that, ultimately, the Frankish language failed to prevail in France (cf. e.g. Rickard 1993: 8). Pre-Old French remained the socially dominant language, meaning that Frankish L1 speakers would have had to learn it as an L2: precisely the sort of sociolinguistic situation that can lead to imposition of linguistic material under source language agentivity in the sense of Winford (2005). A plausible psycholinguistic mechanism for the transfer of the main clause constraint from West

Germanic to northern Romance varieties thus exists, and we have an explanation for the origin of this constraint in Romance, something I believe has not been attempted before in the literature. Since Latin clearly did not have this restriction, this is a positive step. In addition, the main clause constraint must already have been present in West Germanic in order to be borrowed from it into Romance; the simplest hypothesis for its presence in both North and West Germanic is that it was a retention in both.

5.4.3 Proto-Germanic as a null argument language

To recap: I have argued in section 5.3.4 that the early Northwest Germanic languages displayed a system in which null referential pronouns are DPs bearing [uD] and [iAnaphor], finite T^0 does not bear a [uD] feature, and a left-peripheral Aboutness topic operator may bear [iD] and [uAnaphor]. Furthermore, subordinate clauses in these languages may lack the information-structural layer containing aboutness topics. Classical OE is the only exception to these generalizations, and I have argued in section 5.4.1 that a contact-based explanation is plausible for the change that took place in this language; northern OE varieties, and the early stage of OE represented by *Beowulf*, clearly exhibit null arguments, as shown by Berndt (1956) and van Gelderen (2000), with a similar distribution to those of the other early Northwest Germanic varieties.

As far as I have been able to determine, then, the syntactic situation across the early Northwest Germanic languages is one of identity.[41] The reconstruction of the same pattern for Proto-West Germanic and Proto-Northwest Germanic should therefore be uncontroversial, since, as we have seen, even sceptics like Lightfoot accept reconstruction in cases of identity (e.g. 2002a: 120). The runic evidence is not inconsistent with this picture. For instance, of 14 complete inscriptions containing first person singular verbs, two contain no corresponding pronoun (Antonsen 2002: 188–189): the Trollhättan bracteate, *tawo laþodu* '(I) make invocation', and the Sievern bracteate, *r writu* '(I) write runes' (Antonsen 2002: 213, 216). Elsewhere, full pronouns are found, either *ek* or the enclitic *-eka/-ika*. This sort of distribution is to be expected if it was possible but rare for first and second person pronouns to be null in Northwest Germanic. Unfortunately, but unsurprisingly, contexts for second

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[41] Further differences between the languages almost certainly exist. For instance, underlying the quantitative differences between the West Germanic languages presented in section 5.2 there are probably qualitative differences that I have been unable to discover. Future research will hopefully be able to shed light on these.

and third person subject pronouns are entirely unattested in the corpus of early runic inscriptions.

In section 5.3.5 I argued that the system in Gothic was extremely similar, with one key difference: finite T^0 in Gothic was able to bear a [uD] feature. This enabled φP pronouns to incorporate into T^0, receiving their 'referential index' via agreement with [iD] on a left-peripheral operator. More minor differences were that in Gothic the logophoric agent and patient operators Λ_A^0 and Λ_P^0 were able to probe in addition to the topic operator, and the probing feature on all three was [uφ].

What, then, can we reconstruct for Proto-Germanic? To claim that this language was a null subject language would not be novel. Grimm (1837: 203) makes the suggestion, as do Paul (1919: 22) and Fertig (2000: 8). Hopper (1975) is more tentative, suggesting that expletive and quasi-argumental subjects are reconstructable for Proto-Germanic (1975: 80) and drawing no firm conclusion about referential pronominal subjects (1975: 31–32). Meillet (1909: 89) and Behaghel (1928: 443) are similarly cautious. In any case, studies of null subject languages within the Principles & Parameters framework have shown us nothing if not that there are multiple types of languages omitting referential null arguments (cf. e.g. Roberts & Holmberg 2010). It is thus necessary to be more specific than this.

Proto-Germanic would clearly count as a null subject language under either the Gothic system or the Northwest Germanic system; the question, then, is which type was closer to the original. Any suggestion must be tentative given the equivocal nature of the Gothic evidence. However, all partial null argument languages for which we have written history seem to exhibit an earlier stage of being a full null subject language. Brazilian Portuguese was once such a language (Roberts 2011), like modern European Portuguese. Marathi is descended from Sanskrit, another typical null subject language (Kiparsky 2009: 55); likewise for Old Church Slavonic (Eckhoff & Meyer 2011), which is likely to be similar to the Common Slavonic ancestor of modern Russian. Though the generalization is in need of further testing, it seems that partial null argument languages occupy a late position in a 'null argument cycle', developing out of canonical null subject languages. If this is how partial null argument systems arise, then it may be the case that the Northwest Germanic system represents an innovation, and that the Gothic system is the one that should be reconstructed for Proto-Germanic.

Chapter 6: Conclusion

6.1 Summary of results

This dissertation has focused on the problem of 'reconstructing' the syntax of unattested stages of linguistic family trees. As laid out in chapter 1, we know that the Germanic languages are related by descent from a common ancestor, and a natural question to ask is: what was this language like? While comparative-reconstructive linguistics has had great success in reconstructing ancestral sound systems, it has not always accorded a central place to syntax. This dissertation approached the question of syntactic reconstruction via a detailed examination of aspects of the syntax of the early Germanic languages with a view to reconstruction of Proto-Germanic. The plausibility of these case studies was used to argue that, given an appropriate theoretical framework, the reconstruction of syntax is possible and worthwhile.

The rationale, as laid out in chapter 2, runs as follows. In certain current theories of syntax, all syntactic variation is attributed to properties of lexical items themselves, with the assembly of sentences in the mind guided by instructions attached to the lexical items being assembled. This view of variation suggests an analogy with traditional methods of reconstructing words and sounds, which depend on establishing diachronic relatedness ('cognacy') between individual sounds at different stages as well as between individual lexical items. Where in traditional reconstruction we compare a lower level unit, sounds, through their context of appearance as part of a higher level unit, the word, in syntactic reconstruction we can compare a lower level unit, lexical items, through their context of appearance in sentences. In both cases we can establish diachronic relatedness between individual items and thus proceed to reconstruction. However, the parallel only runs so far: unlike lexical items, sentences are not transmitted across generations but instead are constructed anew by each speaker. In section 2.4 I argued that this limitation, the 'correspondence problem', prevents wholesale importation of the methods of traditional reconstruction into syntax; however, I also argued that this problem is not fatal to syntactic reconstruction, as other ways of establishing correspondences can be sought.

The following three chapters applied this line of thinking to several concrete problems in the prehistory of the Germanic language family, building on research into the earliest attested languages – Old English, Old Saxon, Old High German, Old Icelandic and Gothic – that made use of electronic parsed and tagged corpora and statistical tests where available.

Chapter 3 dealt with topicalization and the position of the verb in the clause structure of early West Germanic. I argued that both verb-second and verb-third patterns can be reconstructed for neutral declarative main clauses, and that the distribution of these patterns is conditioned by information-structural factors such as given vs. new information status of constituents. This is in contrast to an earlier hypothesis, widely accepted, that verb-third clauses occur only when pronominal subjects are present; following Bech (2001) and Haeberli (2002), I adduced data from OE to show that this claim is false. By contrast, a new quantitative study of OS showed that this language did not mimic OE as previously assumed, and that the verb-third pattern of OE and OHG is not present in this language. Another suggestive finding was that 'verb-late' main clauses, which have often been considered either ungrammatical or in free variation with V2 and V3 clauses in OE, contain higher proportions of speaker-oriented adverbs and first person pronouns than other main clauses. I tentatively linked this to their bi-propositional semantics, though I was not able to demonstrate that the finding generalizes to other early Germanic languages.

Chapter 4 concerned *wh*-elements (*who*, *what* etc.) and the syntax of interrogatives in early Germanic. It was observed that *wh*-interrogatives in these languages are predominantly verb-second (Eythórsson 1995), and that the apparent exceptions to this pattern can receive a principled account. I outlined an empirical discovery about word order in OE and OS clauses preceded by the word *hwæt*, namely that the finite verb occurs consistently later in the clause than in normal declarative clauses. I argued that *hwæt* is not clause-external or extrametrical as traditionally assumed, but rather serves as part of the clause, introducing an exclamative clause parallel to modern English *How you've changed!* or colloquial modern German *Was du dich verändert hast!* This led me to propose a new reading of the first line of *Beowulf*, among other things. Finally I discussed reflexes of Proto-Germanic *h^waþeraz/*h^weþeraz, arguing that these items were originally nominal interrogative pronouns meaning 'which of two', and that the alternative use of this pronoun as a marker of disjunctive questions was an innovation within Northwest Germanic.

Chapter 5 addressed the conditions under which it was possible to leave subjects (and objects) unexpressed in early Germanic. New quantitative studies of all five of the early Germanic languages under consideration revealed features that have previously gone unnoticed: for instance, in the West Germanic languages, as well as in Old Swedish, subject pronouns are almost never left unexpressed in subordinate clauses (in contrast to main clauses). In addition, object pronouns can be unexpressed in all the early North and West Germanic languages. I argued that

Proto-Northwest Germanic was probably unlike either English or Italian with regard to this property, instead behaving more like modern Finnish or Hebrew as a 'partial null argument language', building on a proposal by Holmberg (2010). More tentatively, it was suggested that Proto-Germanic may have been a more canonical Italian-style null subject language.

6.2 Reconstructing grammars

When we reconstruct syntax, what is it that we are reconstructing? Could a speaker of Proto-Germanic, at some point in history, at least potentially have uttered a sentence that looked at least somewhat like (1) when discussing his exploits (cf. Watkins 1995)?

(1)   *Ek slōh wurmi
        I killed dragon.ACC
        'I slew a dragon.'

The question is difficult to evaluate. I have argued, in chapter 3, that V2 involving verb-movement to Fin^0 was probably a possibility for neutral declarative main clauses in early Northwest Germanic, and perhaps available in Gothic and Proto-Germanic as well. If so, the word order of (1) is unproblematic. But much depends on the information-structure and interpretation. Since the object (the dragon) is postverbal, we have to assume that it is not given information (i.e. not in SpecFamP). If the clause is evaluative, it might lack verb-movement, as suggested in section 3.4 for OE; a more expected string might then be (2).

(2)   *Ek wurmi slōh
        I dragon.ACC killed
        'I slew a dragon.'

As suggested in section 4.3, lack of verb-movement may also have been more likely in an exclamative, as in (3).

(3)   *H^{w}at ek wurmi slōh
        hw. I dragon.ACC killed
        'How (impressively) I slew a dragon!'

If Proto-Germanic was a canonical null subject language, as I have suggested in

chapter 5, then it might have been more usual to leave the subject out, as in (4), unless a contrastive interpretation was intended ('It was I').

(4)   Wurmi slōh
        dragon.ACC killed
        'I killed a dragon.'

A large number of other assumptions would also be made in claiming that (1) was a grammatical sentence of Proto-Germanic, including assumptions about verbal valency, complementation and case assignment. And even if verb-movement to the left periphery were unavailable in Proto-Germanic, a string such as (1) might be derivable through another process, for instance 'rightward movement' of the object *wurmi* under presentational focus (on which see Wallenberg 2009: 202–246).

        All this means that it is not very meaningful to talk about the reconstruction of sentences for Proto-Germanic (or any other language). As a result, I disagree with Klein's (2010: 721) claim that we should eschew the 'stultifying search for I-language'. As the above should make clear, when reconstructing syntax, fragments of grammar – of I-language – are realistically all that we can hope to construct.

        In other respects, the view espoused by this dissertation is not too dissimilar to that of Klein (2010), as well as other recent work such as Harris (2008), Willis (2011) and Barðdal & Eythórsson (2011). The reconstructions proposed here, as in these works, have been 'item-based' – making existential rather than universal claims about the grammatical inventories of protolanguages, unlike the much-criticized typological reconstructions of the 1970s. I agree with Klein that 'the closer we link our reconstructions to formal cognation, the greater our prospects of success become' (2010: 721). When cognacy can be established independently on lexical-phonological grounds, as outlined in section 2.4.2, and common directional tendencies can be employed in reconstructing a proto-form, we are on the safest ground. Conversely, when the cognacy of two syntactic lexical items has to be established on grounds of formal similarity and distributional complementarity alone, and when less is known about tendencies of directionality – as with the reconstructions to do with word order in chapter 3, for instance – our conclusions are inevitably less firm. Still, given the nature of all reconstruction (and all historical linguistics – see chapter 1) as a process of competitive myth-construction, this should not be a cause for despair.

6.3 Afterword

> A whole life cannot be spent upon syntax and etymology, and ... even a
> whole life would not be sufficient. (Johnson 1755: preface)

On the specific side, this dissertation has aimed to provide a better idea of what the syntax of Proto-Germanic may have been like. More generally, the dissertation is an extended argument for the feasibility of syntactic reconstruction, and tries to show that the hybrid approach to syntactic change outlined in chapter 2, drawing on history, philology and evolutionary biology as well as the mentalist approach to linguistics, can be both powerful and revealing.

I haven't had a whole life to work on this dissertation, only three years, and I'm not Dr. Johnson. The scope of the project – ranging over five dead languages, syntactic theory and corpus linguistics, among other things – was, in retrospect, too much, even limiting myself to the three core case studies of chapters 3, 4 and 5. That doesn't excuse any errors or omissions in this dissertation, of course, but it might make them more understandable. In the spirit of myth-making, however, I hope that the reader is encouraged to improve on the proposals made here, and to come up with better ideas, rather than rejecting the enterprise out of hand.

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