

A particle-like use of *hwæþer*
Wisdom's questions in Boethius

Regine Eckardt (University of Konstanz)

George Walkden (University of Konstanz)

*NB: This is an Author Accepted Manuscript (AAM) version reflecting changes made in the peer review and editing process, but not the publisher's PDF. See <https://doi.org/10.1075/la.276.02eck> for further specifics. This chapter appeared in Xabier Artiagoitia, Arantzazu Elordieta and Sergio Monforte (eds.), *Discourse Particles: Syntactic, semantic, pragmatic and historical aspects*, 41–64 (Amsterdam: John Benjamins). When citing, please use the page numbers given there. The publisher holds the copyright and should be contacted for permission to re-use or reprint the material.*

Abstract. The paper investigates unembedded *hwæþer* questions in Old English (OE). We argue that they represent an intermediate stage in the development of *hwæþer* ‘which of the two’ to modern English *whether*. Syntactically, we find a range of quasi-subordinating uses of *hwæþer* in questions that all have in common that the speaker expresses a pedagogical question. Pedagogical questions are questions the speaker knows the answer to, but is urging the addressee to consider while drawing their own conclusions. In the OE Boethius, *hwæþer* can convey this use-conditional pragmatic

flavour for polar questions. It thus comes close in function to other use-conditional particles.

1. Introduction

This chapter deals with the syntax, semantics, and pragmatics of Old English questions introduced by the particle-like element *hwæþer*, as in (1).

- (1) Hwæðer nu gimma wlite eowre eagan to him getio
whether now jewels looks your eyes to them attract
heora to wundrienne
them.GEN to wonder.INF
‘Does the beauty of jewels attract your eyes, to wonder at them?’
(OE Boethius 13: 40–41; Godden & Irvine 2009: 266)

Unembedded *hwæþer*-questions such as (1) have figured prominently in the literature on historical English syntax since Traugott (1972) and Allen (1980); see section 3 for discussion. It is generally acknowledged that they serve as an alternative to verb-fronting (V1) clauses as a syntactic strategy for forming direct polar questions. What has not been addressed in this literature, however, is the circumstances conditioning the use of *hwæþer*-questions. In particular, the implicit assumption in the literature has so far been

that the two strategies are in free variation, with no semantic or pragmatic difference (or at least nothing is said on the issue). This is the lacuna that the present paper aims to fill: did *hwæþer*-questions mean the same as V1 questions, and how does this relate to their syntactic properties?

The pragmatic-semantic-syntactic proposal presented in this paper builds on recent advances in the study of non-canonical questions at the interfaces. Our approach has several features that set it apart from previous research. First, we look at all *hwæþer*-questions, not just unembedded ones. Secondly, we attempt to reach a descriptively adequate characterization of their common pragmatic function across question types, and of the semantic and pragmatic contribution of *hwæþer* itself. The analysis of unembedded *hwæþer*-questions that we present is thus backed by the full range of uses, as opposed to earlier syntactic proposals (see section 3) that have not always taken the overall picture into account.

The paper is structured as follows. Section 2 presents the data sources and evidence base that we draw upon, the range of uses of *hwæþer* in basic descriptive terms, and some observations on its distribution and pragmatics. In section 3 we discuss and evaluate previous proposals and research on Old English *hwæþer*-questions. Section 4 presents our own analysis in detail. Section 5 summarizes and outlines further questions.

2. Data sources and evidence base

2.1 *The Old English Boethius*

In this paper we draw data primarily from a single text, the Old English translation of Boëthius's *De consolatione philosophiae* (Consolation of Philosophy), henceforth referred to as the Old English Boethius. Our initial search of the York-Toronto-Helsinki Parsed Corpus of Old English Prose (YCOE; Taylor et al. 2003) revealed that this single text provides well over half of the total number of unembedded *hwæþer*-questions in the corpus.

The text takes the form of a dialogue between Boethius himself and a female figure who is an anthropomorphic personification of Philosophy. The West Saxon Old English translation is preserved in two manuscripts: MS C, a mixed prose/verse manuscript from the mid-tenth century, and MS B, a prose manuscript dating to the late eleventh or early twelfth century. Traditionally it was thought that King Ælfred himself translated Boethius from Latin, but this is now disputed (Godden 2007; Bately 2009, 2015). Godden & Irvine (2009, I: 146) propose that the text was produced between 890 and 930 by “an unknown writer of substantial learning, not necessarily connected with King Alfred or his court”.

For our purposes, what is important is that the Old English Boethius is a very free translation, perhaps better termed a recomposition. The five books of the original, each comprising 11–24 sections, have been reshaped

into a single text, composed of 42 sections in MS B. The first person narrator sometimes seems to be Boethius, and at other times an everyman figure, and is also referred to as *Mod* ‘mind’; the Philosophy figure, his interlocutor, is gendered using both masculine (*Wisdom* ‘wisdom’) and feminine (*Gesceadwisnes* ‘reason/discernment’) nouns, sometimes both at once. The Old English version diverges from the Latin in a number of ways, some trivial, some significant: for instance, the Old English Boethius makes much more use of first- and second-person forms than the Latin original. Godden & Irvine (2009: 50) state that “the author did not intend anything like a literal or even a free translation”. For this reason we can safely assume that the syntactic patterns we find in the Old English Boethius reflect autochthonous norms and are not merely artefacts of translation. For a detailed overview of the text’s form and substance we refer the reader to Guenther Discenza (2015). The Old English Boethius has been edited several times, by Fox (1864), by Sedgefield (1999), whose version is included in the YCOE, and most recently by Godden & Irvine (2009; see their overview of previous editions in I, 215–221). Our examples are presented in the form in which they occur in this latter critical edition, including translations. Where examples are taken from other Old English texts, they follow the YCOE (Taylor et al. 2003), and the references given are YCOE token IDs.

2.2 Range of syntactic uses

This section surveys five types of *hwæþer* questions that are attested in Boethius. Type 1 shows *hwæþer* as a *wh*-pronoun in the sense ‘which (of the two)’.

- (2) hwæþerne woldest þu deman wites wyrþran
whether.ACC would you deem punishment.GEN worthier
þe ðone þe ðone unscyldgan witnode,
eitherthe that the innocent.ACC punished
ðe ðone þe þæt wite þolade?
or the that this punishment.ACC suffered
‘Which (of the two) would you judge worthier of punishment, the
one who punished the innocent, or the one who suffered this punish-
ment?’
(OE Boethius 38: 220)

The case morpheme *ne* in *hwæðerne* underscores its nominal status, and the example is obviously not an instance of the unembedded *hwæþer* clauses described above. The question pronoun *hwæþer* is cognate with Gothic *hwapar*, both descended from Proto-Germanic **h^waperaz* (Nielsen 1998: 78–79; Ringe 2006: 290), and the question pronoun sense is the only attested sense in Gothic (Parra-Guinaldo 2013: 155–161; Walkden 2014: 146–147).

The choice in (2) – between the good man and the evil man – is left implicit, but can also be given explicitly as in the following example (not from Boethius). Again the two alternatives are introduced by *þe ... þe* ‘either ... or’.

(3) þa þæt folc gesamnod wæs þa cwæð Pilatus, hwæþer
There the people collected was then said Pilatus, whether
wylle ge þæt ic eow agyfe þe Barrabban ðe þone hælynd
want you that I you give or Barabbas or the saviour
ðe is Crist gehaten?

that is Christ called?

‘When the people was assembled, Pilate said: Which one do you want that I should give you, Barabbas or the saviour who is called Christ?’ (cowsgosp,Mt_[WSCp]:27.17.2019)

Type 2 are questions about the addressee’s beliefs, opinions or own conclusions, as in (4).

(4) hwæðer þu woldest cweðan þæt he wære unwyrðe
whether you wanted say that he be.SUBJ unworthy
anwealdes and weorðscipes
power.GEN and honor.GEN

‘would you say that he was unworthy of power and honour?’

(OE Boethius 27: 40–41)

These examples have in common a matrix clause with a verb of saying, thinking or belief and an embedded clause that contributes the proposition *p* in question. Type 2 examples also occur as embedded clauses (see ex. (10) below) and we argue in Section 4 that such embedded Type 2 examples constitute the bridging examples that allowed for reanalysis and eventually led to modern *whether*.

Type 3 are unembedded *hwæper* questions, illustrated by (1) in Section 1 above. The sentence conveys a polar question. Its syntactic structure resembles the one of embedded clauses, in that the verb *getio* occurs late in the clause and is in the subjunctive. While the syntax of Type 2 and 3 differ, the speaker's intentions are the same in either type of question, as we argue in section 2.4 below.

Examples of type 4 show *hwæðer* as a question complementizer. The embedded clause *hwæðer p* provides a clausal argument for the matrix verb, for instance the verb *acsian* 'ask' in the following examples (see also (8)).

- (5) ðry weras ... axodon ... hwæðer se halga Petrus
 three men asked whether the holy Peter
 þær wununge hæfde
 there dwelling had.SUBJ
 'Three men asked whether Saint Peter lived there'
 (coelive,+ALS[Peter's_Chair]:109.2346)

- (6) Sege me nu hwæðer þu mid rihte mæge seofian
say me.DAT now whether you with right may lament
þina unsælþa (...)
your misfortunes ...
‘Tell me now whether you can rightly lament your misfortunes ...’
(OE Boethius 10: 16–17)

Following earlier authors, we assume that these examples essentially show the syntax and semantics of embedded *whether* clauses in Modern English (ModE). However, there is a group of such examples that are no longer licit in ModE. They are illustrated in (7) and we class them as a separate Type 5.

- (7) Wenst þu hwæðer he mæge yfel don?
think you whether he may.SUBJ evil do?
‘Can he [= God] do evil, do you think?’
(OE Boethius 35: 150)

Syntactically, example (7) could qualify as a case of an embedded polar question with complementizer *hwæþer*. Semantically, however, the example violates a semantic universal. Karttunen (1977) was the first to point out that the verb *believe* and near-synonyms prohibit embedded questions. The same prohibition was found in more and unrelated languages, and indeed verified in all languages where the construction has been tested (Uegaki 2016,

2019). Semanticists therefore hypothesize that the prohibition most likely rests on an incompatibility between the epistemic nature of *believe*-verbs and the interpretation of embedded questions. Turning to the interpretation of data in Boethius, we must thus either propose that the writer and his contemporaries spoke a variety that violates semantic universals, or alternatively that the underlying structure of the – seemingly unproblematic – example (7) remains yet to be revealed. Our analysis in Section 4 takes the latter course.

Let us finally quantify the types of uses. In Boethius, there is a total of uses of

Type 1 “hwæþer of the two, X or Y?” n=2

Type 2 “hwæþer you believe that q?” n=27

Type 3 “hwæþer q?” n = 19

Type 4 embedded questions “I wanted to ask you hwæþer p.” n=11

Type 5 embedded questions “Do you believe hwæþer p?” n=8

Adding up type 4 and 5, we have 19 examples where *hwæþer* shows in the syntactic position of a complementizer in an embedded clause, as opposed to 48 unembedded *hwæþer* clauses, and two uses of the nominal *wh*-pronoun *hwæþer*.

2.3 More observations on unembedded *hwæþer*-questions

This section presents some further formal facts about Types 2 and 3, the unembedded *hwæþer*-questions, especially ways in which they differ from other unembedded questions found in Old English.

First, while *wh*-questions display verb-second syntax in all the early Germanic languages (Eypórssón 1995; Walkden 2014: 114–121), unembedded *hwæþer*-questions consistently have the verb in a late position (Traugott 1972: 73; Allen 1980); this holds for all of the examples in Boethius. This fact has been crucial in determining the syntactic analysis of this type of question, to which we will return in section 3. Van Gelderen (2009: 140 n. 4) challenges the generalization on the basis of two apparent counterexamples with V2 constituent order, one of which is given in (8).

- (8) Hwæðer wæs iohannes fulluht þe of heofonum þe of mannum
whether was John.GEN 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)

However, both examples can be read as instances of Type 1 (‘which of the two’), with two non-propositional disjuncts given as alternatives; see Walkden (2014: 148) for discussion.

Secondly, Type 2 and 3 unembedded *hwæþer*-questions more often than not contain the words *nu* (23x in Boethius) or *þonne* (3x in Boethius). These are originally temporal adverbs meaning ‘now’ and ‘then’ respectively. Van Kemenade & Links (2020) argue that these elements in Old English have grammaticalized into discourse particles comparable to those found in Dutch and German. These particles are much more common in unembedded *hwæþer*-questions than they are in *wh*-questions in general.

2.4 The pragmatics of unembedded *hwæþer*-questions

This section takes a closer look at the meaning of unembedded *hwæþer* questions. Previous authors generally propose that they convey polar questions and are in fact synonymous to verb-initial polar questions.¹ However, general principles of synonymy avoidance stand against this assumption (Levinson 2000). We therefore expected to detect a specific pragmatic flavour for unembedded *hwæþer* questions.

This expectation is met by the data. Unembedded *hwæþer* questions in Boethius are indeed used as ‘Socratic questions’ in pedagogic discourse. In the dialogue between Wisdom (W) and Boethius (B), only W ever asks

¹ There are some exceptions to this. Traugott (1972: 73) characterizes unembedded *hwæþer*-questions as favoured in cases of doubt or incredulity (cf. Fischer et al. 2000: 84), and Mitchell (1985, I: 682) suggests that many such questions are rhetorical. Cf. also Godden & Irvine (2009, I: 196) on the prominent role of questions in general, and rhetorical questions in particular, in the Old English Boethius. None of these authors investigate the meaning of *hwæþer*-questions in detail, however.

unembedded *hwæper* questions (in 48 instances). Our initial example occurs in a debate as to whether the possession of valuables (such as gold or jewels) can make a man happy. W argues that richness is unsuited as a means to achieve universal happiness, as it is necessarily restricted to few, excluding many: “Are the riches of this middle earth worthy of a man when no one can fully have them? Nor can they enrich any man, unless they bring another to poverty.” W then provokes B:

- (9) Hwæðer nu gimma wlite eowre eagan to him getio
whether now jewels looks your eyes to them attract
heora to wundrianne
them.GEN to wonder.INF
‘Does the beauty of jewels attract your eyes, to wonder at them?’
(OE Boethius 13: 40–41; = (1) above)

W immediately answers the question herself (“I know that they do so”). This example is typical: W knows the answer in *all* uses of unembedded *hwæper* questions, sometimes answering herself, sometimes simply moving on, and sometimes offering B the opportunity to answer. B generally agrees, but opposes the insinuated answers in two cases. The polarity of the answer can be positive or negative.

Wisdom’s intention in posing an unembedded *hwæper* question is to invite the addressee, Boethius, to think about the question by himself. We

find this intention in many philosophical dialogues, specifically in classical ‘Socratic’ questions as a means to provoke independent thinking. The intention is explicated in Type 2 questions like (3) ‘would you say that he is unworthy of power and honour?’ Questions in verb-final syntax, in combination with particles, are known to convey special speaker intensions in other languages, as for instance in *ob...wohl, was...wohl* questions in German (Eckardt & Beltrama 2019, Truckenbrodt 2006). Unembedded *hwæper* questions pattern with these in that they ask for the addressee’s opinion about Q. We propose that this speaker attitude played a central role in the diachronic development of unembedded *hwæper* questions, and should be captured as use-conditional content (Gutzmann 2015).

Socratic questions in Boethius are limited to unembedded *hwæper* questions. Embedded *hwæper* questions in Boethius (Type 4) can convey information seeking questions, as in the following utterance of B.

- (10) Ac ic wolde þe acsian *hwæðer* we ænigne frydom habban,
 and I wanted you ask whether we any freedom have
 oððe ænigne anweald hwæt we don
 or any power (as to) what we do
 hwæt we ne don
 what we not do
 ‘But I would like to ask you whether we have any freedom, or any
 power as to what we do or not do’

(OE Boethius 40: 101–103)

This indirect question act by B is information seeking, not pedagogical or biased.

3. Old English *hwæþer*: the state of the art

3.1 *The standard syntactic story*

Previous literature on Old English *hwæþer* has largely focused on its syntax in uses of Types 2–3, and in particular the fact that the verb does not occur in second position, as already mentioned in section 2.3. The conventional analysis, going back in its essence to Allen (1980: 791), is that there are two *hwæþers* in Old English.² One is a NP (or DP) proform meaning ‘which (of the two)’, and is used in questions of Type 1. The other is a complementizer, and is used in questions of Types 2–5. In current terms, the proform is in Spec,CP and the complementizer is in C⁰. Type 1 questions can then be verb-second with subject-verb inversion when the fronted proform is not itself a subject, as the verb is free to move to C⁰. In the other types, by contrast, since *hwæþer* occupies C⁰, the verb cannot move there, and must

² Cf. its treatment in Bosworth & Toller’s dictionary (1898: s.v. *hwæþer*), which lists it as both a conjunction and a pronoun.

remain in a lower position.³ This fits well with the classic intuition, attributed to den Besten (1989), that asymmetric V2 in languages like German is driven by the complementary distribution of the complementizer and the finite verb, which both in a sense compete for the same position.

Some form of this analysis has been adopted by most subsequent authors writing on Old English *hwæþer*, e.g. Kiparsky (1995: 142), van Gelderen (2009), Parra-Guinaldo (2013), Walkden (2014: 144–155). Van Gelderen (2009) also presents a diachronic scenario for the emergence of complementizer *hwæþer* and its subsequent history in Old and Middle English (cf. also Ukaji 1997, Parra-Guinaldo 2013). The basic narrative is that the pronoun that moves to Spec,CP is reanalysed in some contexts as an operator first Merged there, an instance of lexical split driven by the Late Merge Principle (“Merge as late as possible”; van Gelderen 2004), and then as a complementizer in C⁰, driven by the Head Preference Principle (“Be a head, rather than a phrase”; van Gelderen 2004). The complementizer stage is the one that predominates in Old English, and evidence for this is furnished by the lack of verb movement to the C-domain (van Gelderen 2009: 142).

³ Exactly what position the verb occupies in ‘verb-late’ *hwæþer*-questions (either embedded or unembedded) is a matter of some debate. ‘Verb-late’ here means simply that the verb surfaces in a position that is lower in the clause than C⁰ (and hence later in linear order, since the Old English CP is uniformly head-initial).

3.2 Synchronic problems with the standard syntactic story

The consensus analysis sketched in the previous subsection is not unreasonable, but it leaves several questions unanswered both synchronically and diachronically. We will begin by outlining the problems with the synchronic analysis.

First, Old English did not ordinarily permit independent clauses introduced by complementizer elements (e.g. with the unambiguous C⁰ elements *þæt* or *þe*).⁴ Finding exactly such a phenomenon with *hwæþer*-questions and not elsewhere is at the very least mysterious. Secondly, the proposal provides no explanation for the pragmatic facts adduced in section 2.4.

Finally, and perhaps most significantly, the idea that the complementizer is in complementary distribution with the finite verb and hence blocks V-to-C movement is not by itself sufficient to derive the clause type asymmetries found in Old English. This is so for two main reasons. i) There is ample evidence that more than one position for verb movement is needed in Old English main clauses, and a good case can be made that these are distinct head positions in the C-domain (see Walkden 2014, 2017, 2021 and references cited there). Thus, simply saying that the verb and the complementizer compete for a single C⁰ position may seem reasonable for questions, but is insufficient to account for clause type asymmetries in Old

⁴ In this sense, Types 2 and 3 *hwæþer*-questions can be viewed as instances of ‘insubordination’ (Evans 2007; cf. Traugott 2017 for a perspective from the history of English).

English more broadly.⁵ ii) Old English embedded clauses are verb-late even when there is demonstrably no overt complementizer present (Walkden & Booth 2020: section 3). This is the case, for instance, in regular embedded *wh*-questions, where the *wh*-item is uncontroversially in a specifier position in the embedded C-domain. This is also the standard analysis of Old English relative clauses headed by a demonstrative pronoun of the *se* paradigm.

We can conclude that the standard analysis of *hwæþer* as a C⁰ head in *hwæþer*-questions of Types 2–3 does not derive their synchronic properties.⁶

3.3 Diachronic problems with the standard syntactic story

Turning to diachronic concerns, the first issue is whether all stages in the change of *hwæþer* from a moved pronoun to a first Merged operator in Spec,CP to a head in C⁰ (as in van Gelderen's 2009 proposal) are attested. The pronominal stage corresponds to our Type 1, and the head stage corresponds to our types 2–3 (assuming that verb-late correlates with *hwæþer* being a head, as in embedded *wh*-questions). The operator stage, however,

⁵ See Roberts (1996) and Salvesen & Walkden (2017) for discussion of the syntactic positions of complementizers in OE.

⁶ An intriguing alternative to the standard analysis is provided by Berizzi (2010), who suggests that there is a silent IS IT THAT between *hwæþer* and the following clause (2010: 129–131). This is closer in spirit to the account we develop in section 4, and is somewhat more descriptively adequate than the standard analysis, though there is also a substantial element of stipulation.

For present-day English, it is disputed whether *whether* is in C⁰ or Spec,CP; see e.g. Nakajima (1996) for the C⁰ analysis and Den Dikken (2006) for the Spec,CP analysis. Resolving this debate is beyond the scope of this paper.

does not seem to be attested in Old English. We might expect this to manifest itself as a V2 question with all the other formal properties of Types 2–3, but these do not seem to be attested.

Another issue concerns the context for the change. Assuming, as standard, that grammaticalization involves reanalysis (Campbell 2001: 141; Hopper & Traugott 2003: 59), we might ask what the bridging contexts were that enabled reanalysis. The discussion in van Gelderen (2009) suggests that the change took place in embedded contexts. However, it seems implausible to us that a Type 1 question could be reanalysed as a question of Types 2–3. These types are simply too different formally (case marking, verbal mood, verb position) and semantically for a potential bridging context to arise. The alternative found in the literature is that Types 2–3 have their origin instead as indirect/embedded questions (Mitchell 1985, I: 681, citing earlier work; Fischer et al. 2000: 54; Walkden 2014: 150), which is what our analysis in section 4 will also propose.

Finally, even putting all of the above concerns aside, none of the previously proposed scenarios really motivate why *hwæþer*, as a *wh*-pronoun, should all of a sudden turn into a complementizer for *polar* questions. Functionally and logically these two things are different beasts, and saying that *hwæþer* becomes a C⁰ element alone does not explain why it should also take on this particular function. In principle, of course, a synchronic analysis of *hwæþer* in 800 needn't provide this, but of two accounts, one that does is superior to one that does not.

Having outlined a number of potential issues for existing accounts of the synchrony and diachrony of *hwæþer*-questions in English, we now put forward our own proposal.

4. The stages and uses of *hwæþer*-questions

This section proposes stages in the diachronic development of *hwæþer*, including the use as pedagogical questions. Our ordering of uses is restricted by the following assumptions.

- In stage 1, *hwæþer* is a question pronoun with the meaning ‘which of the two’. This use is the earliest attested one.
- In the final stage, *hwæþer* is a question complementizer for polar questions. This use is attested latest and persists today.
- Reanalysis must have taken place, as the logical type of *hwæþer* is different in the first and last stage.
- Grammars that support different types of *hwæþer* questions in adjacent stages must be minimally different. Any reordering of stages would stipulate adjacent grammars that differ more.

We submit that these principles allow us to hypothesize the diachronic order of sentence types even without a data record based on corpora. The reasoning could be likened to reasoning in archaeology where a sparse record of

specimens can be tied together by assumptions about universal evolutionary processes.

Section 4.1 treats original *hwæþer* in the question pronoun sense. Section 4.2 proposes possible bridging examples, and 4.3 discusses their re-analysis. Section 4.4 argues that type 2 and type 4 examples can be viewed as actualizations of the resulting grammar if we allow for a limited amount of non-canonical steps in syntax/semantics. Section 4.5. relates them to canonical questions with partial *wh*-movement in OE, thus confirming that pedagogical questions in OE come in many varieties. This supports our final proposal in 4.6: unembedded *hwæþer* questions have grammaticized the restriction to pedagogical discourse as their use-conditional content.

4.1 Gothic

We take our start from Gothic *hwapar* in the sense ‘which of two’, which we assume stands in for the unattested Northwest Germanic precursor stage of Old English *hwæþer*. *hwapar/hwæþer* shares the meaning of *which* over a contextually given domain *D* of size 2. We propose that *D* is instantiated by an assignment function *g* that captures deictic parameters in context. *D* can be specified by appositive clauses (as in the choice between Barabbas or Christ in example (3) above) or by context alone. The logical type of elements in domain *D* is determined by the predicate to which *hwæþer*

contributes. In syntax, *hwæþer* is base-generated as an argument and then raised to Spec,CP in both embedded and matrix questions.

Stage 1:

Syntax: *Hwæþer* is argument of the matrix clause verb.

Hwæþer is raised to Spec,CP and leaves a coindexed trace t_i .

Semantics: $\llbracket \text{hwæþer} \rrbracket^{w,g} = D$, Psp: $|D| = 2$

$\llbracket \text{hwæþer} \rrbracket^{w,g} = \{A,B\}$ combines with further parts of the sentence by pointwise composition (Hamblin 1973).

Hwæþer is of flexible type. D can be domains of type e or of type

$\langle s,t \rangle$, as in sentences like *hwæþer do you believe, S or T?*

The following derivation illustrates the syntax and meaning of a simple example (with **ad** being the addressee of the utterance in context). The interpretation of questions proceeds by combining sets of denotations, resulting in a set of possible answers (Hamblin 1973). The shift from declarative to question meaning is usually triggered by question syntax as opposed to declaratives, but we will argue that speakers at this stage would also opportunistically use this mode to compute meanings for sentences in non-canonical syntax.

(11) *Hwæþer do you want, Barabbas or Christ?*

1. LF structure: [hwæþer₁ do you want t₁]
2. $\llbracket \text{you want } t_1 \rrbracket^{w,g} = \{ \text{WANT}_w(\text{ad}, t_1) \}$
3. $\llbracket \text{hwæþer}_1 \rrbracket^{w,g} = \{ \text{Barabbas, Christ} \}$
4. $\llbracket \text{hwæþer}_1 \text{ you want } t_1 \rrbracket^{w,g}$
 $= \llbracket \text{hwæþer}_1 \rrbracket^{w,g} \oplus \llbracket 1 \rrbracket^{w,g} \oplus \llbracket \text{you want } t_1 \rrbracket^{w,g}$
 $= \llbracket \text{hwæþer}_1 \rrbracket^{w,g} \oplus \{ \lambda t_1 . \text{WANT}_w(\text{ad}, t_1) \}$
 $= \{ \text{Barabbas, Christ} \} \oplus \{ \lambda t_1 . \text{WANT}_w(\text{ad}, t_1) \}$
 $= \{ \lambda w . \text{WANT}_w(\text{ad}, \text{Barabbas}), \lambda w . \text{WANT}_w(\text{ad}, \text{Christ}) \}$

The analysis thus predicts the following denotation: {‘You want Barabbas’, ‘You want Christ’}. In an information seeking question, the speaker requests the addressee to tell which of the two is the case. This stage is still attested in Old English, in the form of questions of Type 1.

4.2 *Embedded sentences of Type 2*

The next crucial step focusses on examples that allow for an analysis as part of the Gothic (and pre-Old English) grammar, as well as an analysis closer to modern *hwæþer*. Given that all later versions of *hwæþer* are restricted to sentences in subordinate clause syntax, we must start from sentences where

hwæper occurs in an embedded context. We argue that *hwæper* should moreover be an argument of a verb of belief or opinion, as we find it in the following example (speaking about the transient nature of wealth).

- (12) Sege me nu hwæðer þu æfre gehyrdest þæt he
say me now whether you ever heard.SUBJ that it
angum þara þe ær us wære eallunga þurhwunode.
to-any those who earlier us was entirely persisted.
'Tell me now whether you have ever heard that it [= wealth] per-
sisted in full for any of those who were before us.'
(OE Boethius 29: 8–9)

If we allow for a small irregularity in the explication of the alternatives, the structure of the embedded clause could rest on Gothic *hwapar*.

- (13) ... *hwæper* ('which') you heard: That wealth stayed with any of
those before us (or that it never stayed).

The assumed structure (13) is situated between sentences with an explicated domain of choice ('that it stayed or that it did not stay') and those with an implicit domain of choice. The choice between *p* and *non-p* as a complement of *you heard* could be easily construed from *p* alone. The structure of

the embedded question shows *hwæþer* as a complement of *hear*, with an explicated domain ‘that S or that non-S’.

(14) [*hwæðer*_i [IP þu gehyrdest t_i]] [þæt S (or þæt non-S)]

Bear in mind that we do not claim that *specifically* (12) was a first bridging example. Assuming the structure in (14), the example can be analysed as in Section 4.1 and yields the following denotation.

(15) { ‘you heard that wealth stayed with someone before us’,
‘you heard that wealth never stayed with anyone before us’ }

This question provides the complement of the matrix clause *sege me nu* ‘Tell me now’. This imperative requests the addressee to tell which of the two propositions is true – which is tantamount to answering the question in (15).

4.3 Reanalysis

Embedded Type 2 examples can be produced and analysed by the Gothic (and general early Germanic) grammar, assuming that the explicated domain of *hwæþer* can be partially elided (cf. the proposal in Walkden 2014: 154–155). The hearer has to first construe an elided *non-S* in order to interpret

$\llbracket hwæþer \rrbracket^{w,g} = \{S, \text{non-}S\}$. It would be less costly to assume that *hwæþer* directly combines with a proposition *S* to form $\{S, \text{non-}S\}$, as proposed for *whether* in Modern English (Hamblin 1973).⁷ With this assumption, *hwæþer* no longer is a cataphor but enters an operator-argument relationship with *þat S*. At LF, the most plausible position for it would be next to complementizer *þat*. The new syntactic structure of (13) is given in (16).

(16) $[_{CP} hwæþer_i [_{IP} þu \quad gehyrdest [t_i \quad þæt S]]]$
 whether you heard.SUBJ that S

We have to leave the details of the complex subordination *hwæþer þat* open. As the CP in (16) is a complement clause of *sege me nu*, *hwæþer* plays a double role as a syntactic subordination (for matrix clause *sege me nu*) and a question word, combining with *that S* in the lowest clause. Plausibly, *hwæþer* is first Merged in the lower Spec,CP and moves to the higher position; this could be taken to correspond to the operator stage of van Gelderen (2009).

(17) LF structure: $[_{IP} þu \quad gehyrdest [hwæþer_i \quad þæt S]]$
 1. $\llbracket hwæþer \rrbracket^{w,g} = \lambda p \lambda q (q = p \vee q = \neg p)$
 2. $\llbracket hwæþer S \rrbracket^{w,g} = \lambda q (q = \llbracket S \rrbracket \vee q = \neg \llbracket S \rrbracket)$

⁷ To be precise, Hamblin's denotation for *Is it the case that* can also serve as denotation for the question complementizer *whether*.

$$3. \llbracket \text{þu gehyrdest} \rrbracket^{w,g} = \{ \lambda p. \text{HEARD}_w(\mathbf{ad}, p) \}$$

combines with (2.) pointwise to yield

$$4. \{ \lambda w. \text{HEARD}_w(\mathbf{ad}, \llbracket S \rrbracket), \\ \lambda w. \text{HEARD}_w(\mathbf{ad}, \neg \llbracket S \rrbracket) \}$$

{you heard p, you heard non-p }

Combined with the meaning of *sege me nu*, we predict the literal meaning ‘Tell me: Did you hear that S, or did you hear that not-S’. The overall sentence is still a request to the addressee to say which of S, non-S they believe to be true (she has hearsay evidence for, to be precise).

Two factors stand in favour of the proposed reanalysis. Firstly, the denotation of *hwæþer* in (17.1) is the denotation of its modern descendant.⁸ Secondly, *hwæþer* changed from cataphor to function, which is in line with the general trend of grammaticalization leading towards functional elements.

However, the new structure suffers from new syntactic irregularities. The supposed syntax attributes a double status to *hwæþer* as a syntactic complementizer-like element in the higher clause and a semantic operator in the lower clause. This might be a reason why speakers experimented further with the pattern. The next section argues that both type 2 and type 4

⁸ We use the easier-to-read notation $\lambda p \{p, \neg p\}$ in the following.

examples can be viewed as new variants where syntactic and semantic functions of *hwæþer* are in better match.

4.4 Varieties of actualization: Type 2 and Type 5 examples

The present section turns to type 2 and type 5 examples, building on (17) in the preceding section. Let us begin with type 2, unembedded *hwæþer* questions about speaker's beliefs. We assume that they arise by simply leaving out the matrix sentence in (17).

- (18) *hwæðer þu woldest cweðan þæt he wære unwyrðe*
whether you wanted say that he be.SUBJ unworthy
anwealdes and weorðscipes
power.GEN and honour.GEN
'would you say that he is unworthy of power and honour?'
(OE Boethius 27: 40–41)

Hwæðer combines with *þu woldest cweðan* where the finite verb precedes the non-finite verb. This order is typical for subordinate clauses in Germanic languages that exhibit the verb-final/verb-second opposition. Type 2 examples thus pattern with the embedded question in (12) and speakers extended the pattern to non-embedded questions. This might suggest that the embedders ('say me') did not add to the semantics of the utterance, but this

remains speculative. Using the semantic operations in (17), (18) can be analysed as follows.

(19) LF structure:

[_{IP} hwæðer þu woldest cweðan [_{t_i} þæt he wære unwyrðe anwealdes and weorðscipes]]

1. $\llbracket \text{hwæðer} \rrbracket^{\text{w,g}} = \lambda p \{ p, \neg p \}$

is used in its modern sense.

2. $\llbracket \text{þæt he wære unwyrðe anwealdes and weorðscipes} \rrbracket^{\text{w,g}}$

$= \lambda w. \text{UNWORTHY}_w(\mathbf{He}, \mathbf{Power\&Honour}) =: \mathbf{p}$

The embedded clause contributes the proposition ‘he was unworthy of power and honour’, abbreviated as **p** in the following.

3. We interpret *hwæðer* in its underlying position, combining with **p**.

$\llbracket \text{hwæðer-þæt he wære unwyrðe anwealdes and weorðscipes} \rrbracket^{\text{w,g}}$
 $= \{ \mathbf{p}, \neg \mathbf{p} \}$

We compute the question meaning of ‘Is he unworthy of power and honour?’

4. The matrix clause contributes the predicate ‘you want to say q’:

$\llbracket \text{þu woldest cweðan} \rrbracket^{\text{w,g}} = \{ \lambda q. \text{SAY}(\mathbf{ad}, q) \}$

5. Matrix clause and embedded question compose pointwise:

$\{ \lambda w. \text{SAY}(\mathbf{ad}, \text{UNWORTHY}_w(\mathbf{He}, \mathbf{Power\&Honour})),$

$\lambda w. \text{SAY}(\mathbf{ad}, \neg \text{UNWORTHY}_w(\mathbf{He}, \mathbf{Power\&Honour})) \}$

The resulting question can be paraphrased as ‘Do you say that he is unworthy etc., or do you say that he is not unworthy etc. – which of the two is it?’ Remarkably, *hwæþer* in C seems to force pointwise composition at the matrix level (qualifying *hwæþer þu woldest cweðan* as a question) although *hwæþer* still semantically combines at the lower clause level. As a result we derive a pedagogical question meaning.

Although this type occurs with highest frequency in Boethius, it shares the markedness of the examples in 4.3: The relation between *hwæþer* and *þat* is still unclear. Moreover, we must assume that pointwise composition was licensed beyond the CP level of questions.⁹ We still believe that the analysis in (19) is on the right track, not least as it allows us to account for examples that seem to violate a semantic universal: we now turn to type 5 examples, illustrated in (20).

(20) Wenst þu hwæðer he mæge yfel don?
 think you whether he may.SUBJ evil do?

‘Can he [= God] do evil, do you think?’

(OE Boethius 35: 150)

⁹ We follow (Uegaki 2019) in assuming that question-embedding predicates take questions as their semantic argument. They thus ‘absorb’ alternatives (Shimoyama 2006: 158) and stop pointwise composition. While Shimoyama (2006) offers convincing arguments for alternative expansion beyond clause boundaries in Japanese, the general picture for embedded questions in Germanic languages doesn’t support alternative expansion as a standard move. For instance, English **Did Tom believe who wins the race?* cannot be interpreted in the sense ‘who did Tom believe to be the winner?’, as general alternative expansion would predict.

The example shows an embedded question as a seeming complement clause of *wenan*. The verb *wenan*, cognate to German *wähnen*, has the same meaning as ‘believe’ in ModE, including erroneous belief. Believe verbs are generally incompatible with question complements (compare **He believed who came*).

Our preceding stage offers an alternative analysis for this type, assuming that (21) shows *hwæþer* overtly in the position we assumed for LF in (19). It is in the standard position to take the embedded clause as its argument. The predicate *wenan* and the matrix question syntax explicate the intended speech act.

(21) Wenst þu hwæðer he mæge yfel don?
 think you whether he may.SUBJ evil do?

1. LF: [wenst þu [hwæþer he may do any evil]]

2. $\llbracket \text{hwæþer } S \rrbracket^{\text{w,g}}$

= { ‘he may do evil’, ‘he may not do evil’ }

3. $\llbracket \text{wenst þu } t_i \rrbracket^{\text{w,g}} = \{ \lambda p_i . \text{BELIEVE}_w(\mathbf{ad}, p_i) \}$

4. pointwise composition of (2) and (3):

$\{ \lambda w . \text{BELIEVE}_w(\mathbf{ad}, \text{‘he may do evil’}), \lambda w . \text{BELIEVE}_w(\mathbf{ad}, \text{‘he may not do evil’}) \}$

Let us assess the properties of the proposed structure. *Hwæper* no longer co-exists with complementizer *þæt*, and overt and LF positions match. Yet, the syntax-semantics interface in the matrix clause is still non-canonical: The clause shows subject-verb inversion, standardly triggered by a [Q] feature in the matrix clause CP-domain. Yet, if there is such a feature it must necessarily remain uninterpreted.¹⁰ Instead, pointwise composition jumps in again to derive the (desired) question meaning.

In sum, we find that type 2 and type 5 sentences both serve to convey questions about the opinions and beliefs of the addressee (used as pedagogical questions where the speaker knows the answer already). Yet, both ways of expressing this come along with slight irregularities in syntax and semantics. While we cannot decide whether speakers saw these irregularities, we want to point out that OE had a type of questions where all these irregularities were healed. While they were not included in the record in Section 2, we nevertheless want to relate them to our data.

4.5 Irregularities resolved? Hwæper questions with partial wh-movement

This section presents questions where a matrix *what*-question ‘what do you think’ combines with a subordinate *hwæper* question, as we see in (22).

¹⁰ Cf. Godden & Irvine’s (2009, I: 196) suggestion that *wenst þu* in Boethius may have the function of an interrogative tag.

- (22) Hwæt wenst du nu, (...) hwæðer he sie swa ungesælig
 what believe you now (...) whether he is.SUBJ so unworthy
 swa se þe nanwuht godes næfþ?
 as he who not.any good.GEN not-has
- ‘What do you think now, (...) ? Would he [who has some element of
 good in him] be as unfortunate as one who had nothing good?’
- (OE Boethius 38: 108–110)

(22) can be paraphrased as ‘what do you think about the following question: Is *he* who has at least some good in him as unworthy as *he* who has no good at all?’ Similar examples in modern Dutch, German and Russian are studied as ‘partial *wh*-movement’ (see Fanselow 2017 for an overview), and the pattern in (22) is attested for more types of embedded questions in Old English as well. As OE data do not offer evidence for movement, *wh*-doubling or scope marking complementizers in general, we favour a base-generation analysis in which the two *wh*-elements do not form a syntactic chain, following Dayal (1994, 2000), Felser (2001). We assume that the *hwæþer*-question rests on the word’s newer sense and serves to specify the search domain of *hwæt* in the matrix clause. According to this view, semantic composition proceeds in the following steps.

(23) Semantic composition of (22)

1. $\llbracket \text{he sie swa ungesælig swa se þe nanwuht godes næfþ} \rrbracket^{w,g} = \mathbf{p}$

2. $\llbracket \text{hwæþer S} \rrbracket^{w,g} = \{ \mathbf{p}, \neg\mathbf{p} \}$

3. $\llbracket \text{wenst þu t}_i \rrbracket^{w,g} = \{ \lambda p_i . \text{BELIEVE}_w(\text{ad}, p_i) \}$

4. $\llbracket \text{hwæt}_i \rrbracket^{w,g}$ resumes $\llbracket \text{hwæþer S} \rrbracket^{w,g}$,

therefore $\llbracket \text{hwæt}_i \rrbracket^{w,g} = \{ \mathbf{p}, \neg\mathbf{p} \}$

5. question denotation by standard composition of (3) and (4):

$$\llbracket \text{hwæt wenst þu t}_i \rrbracket^{w,g}$$
$$= \{ \lambda w . \text{BELIEVE}_w(\text{ad}, \mathbf{p}), \lambda w . \text{BELIEVE}_w(\text{ad}, \neg\mathbf{p}) \}$$

This question type avoids several of the irregularities of the preceding examples. Firstly, pointwise semantic composition of question pronoun and verbal predicate remains within the CP. Secondly, *hwæþer* is analysed as a question complementizer that is located in Spec,CP of the embedded clause, as standard would have it. Thirdly, the question type generalizes to other types of embedded questions in OE as well as in other Germanic languages. This corroborates our claim that sentence (22) avoids idiosyncratic steps in the derivation that were needed to account for question types 2 and 5.

4.6 Type 3: Unembedded *hwæþer* questions

We turn to our initial example ‘*Hwæðer nu gimma wlite eowre eagan to him getio, heora to wundrianne*’, where *hwæþer* occurs in a polar question in verb-final syntax. There is no verb of saying or belief, but the speaker still aims to ask a pedagogical question. We propose that this shows a further step in grammaticalization: speaker intentions have fostered into use-conditional content. The question conveys that the speaker already knows the answer and requests the addressee to form their own opinion.

Let p = ‘jewels attract your eyes’ be the prejacent and S be the corresponding clause *gimma wlite eowre eagan to him getio*. We propose that the example involves a homonymous complementizer *hwæþer*_{exp} that conveys use-conditional content. We moreover assume that (1) has a tacit embedding predicate *sege me* ‘tell me ...’ which accounts for the subordinate clause syntax of the prejacent, and is restricted to the expressive complementizer *hwæþer*_{exp}. We notate two-dimensional content as $\langle \pi \bullet \varepsilon \rangle$ with the propositional content π and use-conditional content ε . Use-conditional content will be promoted to the top level in semantic composition (Potts 2005, Gutzmann 2015). Semantic composition proceeds as follows.

(24) LF with tacit embedding predicate¹¹

[[sege me]_ø [CP hwæþer_{exp} C^ø [TP S]]]

(25) $\llbracket \text{hwæþer}_{\text{exp}} \rrbracket^{\text{w,g}}$

= $\lambda p < \{p, \neg p\} \bullet$ ‘sp knows answer to $\{p, \neg p\}$ and sp requests ad to think about $\{p, \neg p\}$ ’ >

turns p into question $\{p, \neg p\}$, and conveys: ‘the speaker knows the answer to $\{p, \neg p\}$ and requests addressee to give their opinion on $\{p, \neg p\}$.’

(26) $\llbracket \text{hwæþer jewels attract your eyes} \rrbracket^{\text{w,g}}$

= $< \{ \text{‘jewels attract your eyes’}, \text{‘jewels don’t attract your eyes’} \}$

\bullet sp knows answer to Q and sp requests ad to think about Q >

Q = $\{ \text{‘jewels attract your eyes’}, \text{‘jewels don’t attract your eyes’} \}$

(27) $\llbracket \text{sege me } t_i \rrbracket^{\text{w,g}} = \lambda p_i . \text{TELL!}_w (\text{ad}, p_i)$

(28) Composition with question Q, propagate expressive content.

$< \lambda w . \text{TELL!}_w (\text{ad}, Q) \bullet$ sp knows answer to Q and sp wants ad to think about Q >

¹¹ We have represented *hwæþer* as occupying Spec,CP in (24), but nothing rests on this either syntactically or semantically.

The composition in (28) rests on the composition of *verba dicendi* with questions Uegaki (2016, 2019). We gloss the contribution of imperatives as TELL!¹² The imperative requests the addressee to provide suitable answers. The expressive content conveys that the speaker knows the answer but wants to hear the addressee's opinion.

Treating (1) as a request for an answer may seem too strong, given that Wisdom rarely waits for B to respond. However, the source text contains numerous explicit imperatives of the form '*Sege me Q*' where Wisdom likewise never stops to wait for B to answer.

(29) Ac gesege me nu, ic ascige þe, þu Boethius,
 and tell me now. I ask you.NOM you.VOC Boethius
 hwi þu swa manigfeald yfel hæfdest (...)?
 why you.NOM so manifold evil had.SUBJ (...)?
 'But tell me now, I ask you Boethius, why you experienced such
 great evil [and so much hardship in office while you held it]?
 (OE Boethius 27: 27–28)

In fact, B here never has a chance to respond. The first utterance by B after (29) answers an entirely different question that has emerged in the meantime. We therefore assume that requests in (1), as well as (29) and

¹² For a formal treatment of imperatives see (Portner 2007).

elsewhere, can be overruled by Wisdom's actual aims, much in the same way as indirect speech acts can generally overrule literal speech acts (Searle 1969).

5. Summary and outlook

The Old English Boethius offers a rich spectrum of embedded and unembedded *hwæþer* questions that we analyzed as stages in the development of a question pronoun (similarly attested in Gothic) to a question complementizer in Modern English. We argue that unembedded *hwæþer* questions are pedagogical questions. While the analysis of most examples requires special assumptions about their syntax and semantics, we propose a partial ordering where every new construction deviates minimally from the preceding construction(s). Type 1 "*hwæþer* of the two, X or Y?" rests on the earlier question pronoun. We propose that embedded Type 2 examples "Tell me *hwæþer* you believe that q?" are the most likely bridging structure that can be captured by earlier and later grammatical stages. We submit that no other attested construction in Boethius can be captured by an earlier *and* later grammar with fewer extra assumptions. From these, we suggest, Type 2 examples "*hwæþer* you believe that q?" arose by elision of the matrix clause. We assume that type 5 questions "Do you believe *hwæþer* p?" are the first in our ordering to show *hwæþer* in the position of a question complementizer.

Semantic composition in type 5 uses pointwise composition of matrix predicate and complement question (as in Type 2 examples), which renders the syntax-semantics interface slightly irregular. Yet, the type patterns with so-called partial movement, following the resumptive account in Dayal (1996).

Type 3 questions *hwæþer p?* in subordinate clause syntax exhibit an expressive homonym *hwæþer_{exp}* and a tacit matrix imperative ‘tell me ...’. *Hwæþer_{exp}* comes close to modal particles, as it serves to contribute use-conditional content. It did not develop into a proper modal particle, as suggested by Coniglio’s hypothesis that modal particles rest on earlier homonymous adverbs (Coniglio, this volume).

Finally, Boethius includes embedded questions of the form “I wanted to ask you *hwæþer p*”, listed as Type 4 above. These can be captured by *whether* in its modern syntax and semantics. We leave the derivation to the readers.

Our proposal rests on the evaluation of a single historical text, and should be tested against further data. Yet, we maintain that the OE Boethius can be viewed as a diachronic “sediment” where many, perhaps all stages in the grammar of *hwæþer* are conserved.¹³ Among the documented uses, some rest on a less ideal syntax-semantics interface than others. They leave the syntactic status of *hwæþer* vague, they rest on LF positions of a complementizer that differs from its surface position, or they use semantic modes of

¹³ On further potential analogies between geology and historical linguistics see Walkden (2019).

composition at non-standard places in the derivation. From a theoretical point of view, it is tempting to hypothesize that these slight irregularities spurred further variation until *hwæþer* in its modern grammar had emerged. This view could also reconcile the conceptual opposition between gradual and categorial change – small categorial changes leading to irregular lexical entries could be conceived of as gradual in that they already bear the seeds of further changes to come. We will leave this theme for future research.

References

- Allen, Cynthia L. 1980. *Whether* in Old English. *Linguistic Inquiry* 11: 789-793.
- Bately, Janet M. 2009. Did King Alfred actually translate anything? The integrity of the Alfredian canon revisited. *Medium Ævum* 78: 189-215.
- Bately, Janet M. 2015. Alfred as author and translator. In *A companion to Alfred the Great*, Nicole Guenther Discenza & Paul E. Szarmach (eds), 113-142. Leiden: Brill.
- Berizzi, Mariachiara. 2010. Interrogatives and relatives in some varieties of English. PhD dissertation, Università degli Studi di Padova.
- Bosworth, Joseph and T. Northcote Toller. 1898. *An Anglo-Saxon dictionary, based on the manuscript collections of the late Joseph*

- Bosworth*. Oxford: Clarendon. <<https://bosworthtoller.com/>> (11 March 2021).
- Brandner, Ellen. 2010. On the syntax of verb-initial exclamatives. *Studia Linguistica* 64(1): 81-115.
- Campbell, Lyle. 2001. What's wrong with grammaticalization? *Language Sciences* 23: 113-161.
- Caponigro, Ivano and Jon Sprouse. 2007. Rhetorical questions as questions. In *Proceedings of Sinn und Bedeutung* 11, Estela Puig-Waldmüller (ed), 121-133.
- Coniglio, Marco. this volume. On the adverbial origin of German modal particles. This volume, xx-xx.
- den Besten, Hans. 1989. On the interaction of root transformations and lexical deletive rules. In Hans den Besten (ed.), *Studies in West Germanic syntax*, 14–100. Amsterdam: Rodopi. First published as den Besten, Hans. 1983. On the interaction of root transformations and lexical deletive rules. In *On the formal syntax of the Westgermania*, Werner Abraham (ed), 47-131. Amsterdam: John Benjamins.
- Dayal, Veneeta. 1994. Scope marking as indirect *wh*-dependency. *Natural Language Semantics* 2: 137-170.
- Dayal, Veneeta. 2000. Scope marking: Cross linguistic variation in indirect dependency. In *Wh-scope marking*, Uli Lutz, Gereon Müller and Armin von Stechow (eds), 157-194. Amsterdam: John Benjamins.

- Den Dikken, Marcel. 2006. *Either*-float and the syntax of co-ordination. *Natural Language and Linguistic Theory* 24, 689. DOI: <https://doi.org/10.1007/s11049-005-2503-0>
- Eckardt, Regine & Andrea Beltrama. 2019. Evidentials and Questions. In *Empirical Issues in Syntax and Semantics* 12, Chris Pinon (ed), 121-155. Paris: CNRS.
- Eckardt, Regine. 2020. Conjectural questions: the case of German Verb-final 'wohl' questions. *Semantics and Pragmatics* 13. DOI: <https://doi.org/10.3765/sp.13.9>
- Evans, Nicholas. 2007. Insubordination and its uses. In *Finiteness: Theoretical and empirical foundations*, Irina Nikolaeva (ed), 366–431. Oxford: Oxford University Press.
- Eyþórsson, Þórhallur. 1995. Verbal syntax in the early Germanic languages. PhD dissertation, Cornell University.
- Fanselow, Gisbert. 2017. Partial *wh*-movement. In *The Blackwell companion to syntax*, Martin Everaert & Henk van Riemsdijk (eds). Oxford: Blackwell.
- Felser, Claudia. 2001. *Wh*-expletives and secondary predication: German partial *wh*-movement reconsidered. *Journal of Germanic Linguistics* 13, 5-38.
- Fischer, Olga, van Kemenade, Ans, Koopman, Willem, & van der Wurff, Wim. 2000. *The syntax of early English*. Cambridge: Cambridge University Press.

- Fox, Samuel. 1864. *King Alfred's Anglo-Saxon Version of Boethius De consolatione philosophiae, with a literal English translation, notes, and glossary*. London: H. G. Bohn.
- Godden, Malcolm. 2007. Did King Alfred write anything? *Medium Ævum* 76: 1-23.
- Godden, Malcolm, & Irvine, Susan (eds). 2009. *The Old English Boethius: an edition of the Old English versions of Boethius's De consolatione philosophiae*. 2 vols. Oxford: Oxford University Press.
- Guenther Discenza, Nicole. 2015. The Old English Boethius. In *A companion to Alfred the Great*, Nicole Guenther Discenza & Paul E. Szarmach (eds), 200-226. Leiden: Brill.
- Gutzmann, Daniel. 2015. *Use conditional meaning*. Oxford: Oxford University Press.
- Hamblin, C. L. 1973. Questions in Montague English. *Foundations of Language* 10(1): 41-53.
- Hopper, Paul J. and Elizabeth C. Traugott. 2003. *Grammaticalization*. 2nd edn. Cambridge: Cambridge University Press.
- Karttunen, Lauri. 1977. Syntax and semantics of questions. *Linguistics and Philosophy* 1(1): 3-44.
- Kiparsky, Paul. 1995. Indo-European origins of Germanic syntax. In *Clause structure and language change*, Adrian Battye & Ian Roberts (eds), 140-169. Oxford: Oxford University Press.
- Mitchell, Bruce. 1985. *Old English syntax*. 2 vols. Oxford: Clarendon.

- Nakajima, Heizo. 1996. Complementizer selection. *The Linguistic Review* 13, 143-164.
- Nielsen, Hans Frede. 1998. *The continental backgrounds of English and its insular development until 1154*. Odense: Odense University Press.
- Parra-Guinaldo, Victor. 2013. *Reanalysis of Old English hwæðer in the left periphery*. PhD dissertation, Arizona State University.
- Potts, Christopher. 2005. *The Logic of Conventional Implicature*. Oxford: Oxford University Press.
- Portner, Paul. 2007. Modals and Imperatives. *Natural Language Semantics* 15(4), 351-383.
- Reis, Marga. 2000. On the parenthetical features of German *Was ... w*-constructions and how to account for them. In *wh-Scope Marking*, Uli Lutz, Gereon Müller & Arnim von Stechow (eds), 359-408. Amsterdam: John Benjamins.
- Ringe, Don. 2006. *From Proto-Indo-European to Proto-Germanic* [A linguistic history of English vol. 1]. Oxford: Oxford University Press.
- Roberts, Ian. 1996. Remarks on the Old English C-system and the diachrony of V2. In *Language change and generative grammar*, Ellen Brandner and Gisela Ferraresi (eds), 154–164. Linguistische Berichte, Sonderheft 7. Opladen: Westdeutscher Verlag.
- Rohde, Hanna. 2006. Rhetorical Questions as Redundant Interrogatives. *San Diego Linguistic Papers* (2), 134–168. <<http://repositories.cdlib.org/ucsdling/sdlp2/7>> (25 March 2021).

- Salvesen, Christine Meklenborg and George Walkden. 2017. Diagnosing embedded V2 in Old English and Old French. In *Micro-change and macro-change in diachronic syntax*, Eric Mathieu & Rob Truswell (eds), 168-181. Oxford: Oxford University Press.
- Sedgefield, Walter J. (ed). 1899. *King Alfred's Old English Version of Boethius De Consolatione Philosophiae*. Oxford: Clarendon.
- Searle, John. 1969. *Speech Acts*. Cambridge: Cambridge University Press.
- Shimoyama, Junko. 2006. Indeterminate Phrase Quantification in Japanese. *Natural Language Semantics* 14(2), 139-173.
- Theiler, Nadine, Roelofsen, Floris and Aloni, Maria. 2017. What's wrong with believing whether? In *Semantics and Linguistic Theory (SALT) 27*, Maryland.
- Taylor, Ann, Warner, Anthony, Pintzuk, Susan, & Beths, Frank. 2003. York-Toronto-Helsinki Parsed Corpus of Old English Prose. Heslington, York: University of York. <<https://www-users.york.ac.uk/~lang22/YCOE/YcoeHome.htm>> (25 March 2021).
- Traugott, Elizabeth C. 1972. *A history of English syntax: a transformational approach to the history of English sentence structure*. New York, NY: Holt, Rinehart & Winston.
- Traugott, Elizabeth C. 2017. 'Insubordination' in the light of the Uniformitarian Principle. *English Language and Linguistics* 21(2): 289-310.
- Truckenbrodt, Hubert. 2006. On the semantic motivation of syntactic verb movement to C in German. *Theoretical Linguistics* 32(3): 257-306.

- Truckenbrodt, Hubert. 2013. Selbstständige Verb-Letzt-Sätze. In *Satztypen des Deutschen*, Jörg Meibauer (ed), 232-246. Berlin: De Gruyter.
- Uegaki, Wataru. 2016. Content nouns and the semantics of question-embedding. *Journal of Semantics* 33(4): 623-660.
- Uegaki, Wataru. 2019. The semantics of question-embedding predicates. *Language and Linguistics Compass* 2019. DOI: <https://doi.org/10.1111/lnc3.12308>
- Ukaji, Masatomo. 1997. A History of *Whether*. In *Studies in English Linguistics: A Festschrift for Akira Ota on the Occasion of His Eightieth Birthday*, Masatomo Ukaji, Toshio Nakao, Masaru Kajita & Shuji Chiba (eds), 1236-1261. Tokyo: Taishukan.
- van Gelderen, Elly. 2004. *Grammaticalization as economy*. Amsterdam: John Benjamins.
- van Gelderen, Elly. 2009. Renewal in the left periphery: economy and the complementizer layer. *Transactions of the Philological Society* 107, 131-195.
- van Kemenade, Ans, & Links, Meta. 2020. Discourse particles in early English: Clause structure, pragmatics and discourse management. *Glossa: A journal of general linguistics* 5(1): 3, 1-23.
- Walkden, George. 2014. *Syntactic reconstruction and Proto-Germanic*. Oxford: Oxford University Press.

- Walkden, George. 2017. Language contact and V3 in Germanic varieties new and old. *Journal of Comparative Germanic Linguistics* 20(1): 49-81.
- Walkden, George. 2019. The many faces of uniformitarianism in linguistics. *Glossa: a journal of general linguistics* 4(1), 52: 1-17.
- Walkden, George. 2021. Do the wealthy stay healthy? Rich agreement and verb movement in early English. *Journal of Historical Syntax* 5 (30), 1-28.
- Walkden, George and Hannah Booth. 2020. Reassessing the historical evidence for embedded V2. In *Rethinking verb second*, Rebecca Woods & Sam Wolfe (eds), 536-554. Oxford: Oxford University Press.