

## Grammaticalization of *whether*: Stages from *wh*-pronoun to question complementizer

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**The issue.** The Modern English (ModE) question complementizer *whether* goes back to a *wh*-pronoun *hwæper* in Old English (OE) and its precursor *hwāpar* in Gothic. OE *hwæper* means ‘which’ and presupposes a search domain of size 2, as illustrated in (1).

- (1) *hwæper*            *ðincð þe þonne betre, þe ðæt soð, þe seo soðfesnes?*  
which (of two) seems you then better or the true, or the truth? [AUG]

The search domain can be implicit or explicitly named, as in (1). While there is little doubt that ModE *whether* emerged from this pronoun, little attention has so far been paid to an important intermediate stage on this grammaticalization path.

**New data.** In Old English, unlike in ModE, *hwæper* questions can occur in unembedded contexts, as in (2).

- (2) *hwæper nu gimma wlite eowre eagan to him getio*  
whether now jewels looks your eyes to them attract  
*heora to wundriganne*  
their to wonder

‘Do jewels attract your eyes, to marvel at their shine?’ [BOE]

(2) conveys a polar question and *hwæper* is no longer used in the sense ‘which’. Yet, the matrix status of (2) is also inconsistent with ModE *whether* as complementizer. *Hwæper*-questions have figured prominently in the literature on historical English syntax (e.g. Traugott 1972; Allen 1980; van Gelderen 2009; Parra-Guinaldo 2013; Walkden 2014). It is generally assumed that they serve as an alternative to verb movement (V1) as a strategy for forming direct polar interrogatives. Little attention has been paid to the special pragmatic function of unembedded *hwæper* questions; likewise lacking are accounts for the syntax-semantics interface of unembedded *hwæper* questions like (2). The present paper argues that they express *pedagogical questions* in e.g. philosophical discourse, and are a developmental step between OE *hwæper* ‘which’ to the ModE question complementizer.

**Sources.** Data is drawn from the OE Boethius, *Consolation of Philosophy* (BOE, c. 900) and Augustinus’ *Soliloqui* (AUG, c. 900), which contribute the major part of unembedded *hwæper* entries in the YCOE corpus (Taylor 2003). Syntactically, these questions are exceptional in being verb-late, and showing the verb in subjunctive, thus patterning with embedded questions rather than matrix questions. Semantically, the uses of *hwæper* in BOE are also exceptional: Of 18 uses of *hwæper*-questions embedded under a matrix predicate, we find 6 embedded as complements of the verb *wenan* (‘believe’). These violate the robustly attested semantic universal that *believe*-verbs never take question complements (Karttunen 1977, Theiler et al. 2017, Uegaki 2019).

**Pragmatics.** Pedagogical *hwæper* questions in BOE/AUG are questions where the speaker knows the answer already and requests the addressee to form their own belief about the question. Example (2) is typical: Wisdom asking Boethius, always knows the answer (sometimes providing it herself, sometimes not allowing Boethius to answer, sometimes guiding Boethius toward a particular answer.) The dialogues between Reason and Augustinus in AUG follow the same structure. The full context, given in (3), reveals the omniscience of Wisdom.

- (3) 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. **Do jewels attract your eyes, to marvel at their shine? I know that they do so.**

**Patterns and analysis.** Pedagogical questions in our sources occur in various patterns, including unembedded *hwæper p?*, unembedded *hwæper you believe that p?* like (4), and the seemingly embedded form in (5).

- (4) *Hwæðer ðu wolde cweþan þæt he waere unwryþe anwealdes and weorðscipes*

hwæþer you wanted say that he was unworthy power and dignity  
'(If you now should see some very wise man, who had very excellent dispositions,  
and was, nevertheless, very poor, and very unhappy,) would you say that he is  
unworthy of power and dignity?' (BOE)

- (5) *Wenst þu hwæþer he mæge ænig yfel don?*  
think you whether he may.SUBJ any ill do?

'Do you think that (\*whether) he (i.e., God) can do anything evil?' (BOE)

Our syntactic/semantic analysis of pedagogical *hwæþer*-questions argues that the variants lead from OE *hwæþer* 'which' questions to ModE *whether* in the following micro stages.

**Stage 1:** In questions like (1) about propositional alternatives *p or not p*, the *not-p* part is elided:

*Hwæðer do you believe, p or not p? > Hwæðer do you believe p?* (elided: *or not p*).

**Stage 2:** To simplify composition in the elided structure, *hwæðer* is reanalysed so as to map *p* onto the alternatives { *p, not-p* } before composition with the matrix verb *believe*. This can be seen as an instance of *avoiding pragmatic overload* (Eckardt 2009), as it leads to a more transparent syntax-semantics mapping.

**Variants at stage 3:** The reanalysed *hwæðer* newly occurs in the syntactic position preceding *p*, yielding sentences like (5) *Do you believe hwæðer p?* While this new linearization allows for a better match between syntax and semantics — the operator *hwæðer* is now adjacent to its argument — the semantic composition is still non-standard. This will allow us to explain why (5) didn't, in fact, violate any semantic universals.

The 'unembedded' *hwæþer*-questions like (1) are accounted for by assuming a tacit matrix predicate, which explains their similarity to embedded clauses. Eventually, all stage 3 variants of nonstandard *hwæðer* questions denote the issue {<sup>^</sup>THINK(hearer, *p*), <sup>^</sup>THINK(hearer,  $\neg p$ )}, as is overtly expressed in examples like (4). All variants thus express a request to the hearer to form an opinion about the preadjacent *p*, i.e., a pedagogical question.

**Stage 4:** From these intermediate variants, the modern entry of *whether* emerges by combining the syntactic function *complementizer* with the semantic operation of *question formation*.

The data record of *hwæþer* is particularly challenging, as we lack sources that offer evidence for the developmental ordering of the constructions in stage 2 – 4. Our case therefore can elucidate the diachronic semantic principles that allow us to form hypotheses about the order of appearance of constructions that happen to only be preserved collectively in few remaining source texts.

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