



German V2 and Doubly Filled COMP in West Germanic

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Received: 22 August 2018 / Accepted: 28 August 2019 / Published online: 11 August 2020
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Abstract The paper addresses the issue of Doubly Filled COMP effects in embedded interrogatives in West-Germanic languages, with particular attention paid to German: in these patterns, an overt interrogative operator co-occurs with an overt complementiser. Such configurations are ruled out from standard West-Germanic varieties, while they are attested in non-standard dialects. The paper argues that there are both theoretical and empirical arguments against the postulation of a Doubly Filled COMP Filter, proposing instead that the insertion of a visible complementiser in non-standard dialects in fact follows from the properties of the general syntactic paradigm in which empty complementisers are generally not possible. It is shown that doubling is not restricted to embedded constituent questions, but it may occur in polar questions as well. Further, the finiteness feature can be checked off by verb movement, as is the case in V2 patterns in German (and generally in Germanic, including historical English) and in T-to-C-movement in English. In this way, the property of V2 is linked to Doubly Filled COMP; in either case, there is no need to postulate a cartographic template with multiple projections but a minimal, merge-based model is sufficient and in fact favourable. The proposed model aims at accounting for the possible correlations between the properties of the head element and the properties of the fronted element merged as a specifier (if there is any). Finally, the observed syntactic differences between standard varieties and dialects in West Germanic can be attributed to minimal lexical differences.

Keywords Complementiser · Doubly Filled COMP · Embedded interrogatives · Finiteness · Verb movement · Wh-movement

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1 Introduction

In Standard English, Standard German and Standard Dutch, there is no overt complementiser with an overt interrogative or relative operator. This is illustrated in (1) for English embedded interrogatives:

- (1) I don't know **who** (***that**) has arrived.

As can be seen, the complementiser *that* is not permitted in Standard English in embedded constituent clauses. The same holds for relative clauses:

- (2) This is the city **in which** (***that**) I live.

The traditional idea regarding (1) and (2) is that there is a “Doubly Filled COMP Filter” prohibiting lexical material in both the specifier and the head of the same XP projection (see Koopman 2000, going back to Chomsky and Lasnik 1977). In the original proposal made by Chomsky and Lasnik (1977, 446), the idea is that the *wh*-element and the complementiser both appear in the position “COMP” and are therefore essentially in complementary distribution (see also the observations made by Reis 1985).¹ However, as noted by Chomsky and Lasnik (1977) as well, this is not necessarily true in all dialects and historical periods of the English language. In fact, there are many West-Germanic varieties with Doubly Filled COMP in embedded clauses (as well as other languages showing the same pattern); as reported by Weiß (2013, 778), this is the case in practically all German dialect areas. The examples in (3) show Doubly Filled COMP in non-standard English:

- (3) a. They discussed a certain model, but they didn't know **which model that** they discussed.
(Baltin 2010, 331, ex. 1)
b. It's down to the community **in which that** the people live.
(Van Gelderen 2013, 59, ex. 8)

On the other hand, the Doubly Filled COMP Filter is apparently not obeyed in main clauses (see also the discussion in Koopman 2000): English demonstrates T-to-C movement in interrogatives, which makes the CP doubly filled in constituent questions, and the V2 order in German and Dutch main clauses likewise results in both the specifier and the head of the CP being filled by overt material. Crucially, these patterns show the relevant doubling effect across dialects and do not have “filtered” variants like (1) and (2).²

¹ As pointed out by Bayer (2015, 26), *wh*-elements and complementisers were always taken to be in complementary distribution by the topological fields model (see Höhle 1986). Bayer (2015, 26) also points out that this kind of approach was taken up by Kathol (2000) in a HPSG-framework, but while this line of argumentation makes good predictions for certain data, it fails to account for the doubling patterns attested in Bavarian. Cases like (3) above also refute the idea that complementary distribution is a satisfactory explanation.

² Depending on the analysis, Doubly Filled COMP patterns like (3) and (4)/(5) may factually involve doubling in the CP (that is, an overt specifier and an overt head in the same projection) or they may be analysed as involving different projections, which hence in essence satisfies the Doubly Filled COMP

Consider the examples for main clause interrogatives in Standard English:

- (4) a. **Who has** seen Peter?
 b. **Who did** Peter see?

In this case, doubling in the CP involves a *wh*-operator in [Spec,CP] and a verb in C. T-to-C movement is visible by way of *do*-insertion in (4b), though not in (4a): in principle, one might analyse (4a) as not involving the movement of the auxiliary to C, but the Doubly Filled COMP effect clearly arises in (4b), just as in (3).

Similarly, in German (and Dutch) V2 there is a verb moving to C, while another constituent moves to [Spec,CP] due to an [edge] feature (see Den Besten 1989; Fanselow 2002; Fanselow 2004a; Fanselow 2004b; Frey 2005). Consider:

- (5) a. **Mein Schwiegervater hat** morgen Geburtstag.
my.M father.in.law has tomorrow birthday
 'My father-in-law has his birthday tomorrow.'
 b. **Morgen hat** mein Schwiegervater Geburtstag.
tomorrow has my.M father.in.law birthday
 'My father-in-law has his birthday tomorrow.'

As can be seen, the fronted finite verb is preceded by a single constituent in each case, leading to the violation of the Doubly Filled COMP Filter.

Given this, it is clear that the Doubly Filled COMP Filter should be more restricted in its application domain. For instance, one could say that an operator and a complementiser with largely overlapping functions are not permitted to co-occur in standard West-Germanic languages, or the Doubly Filled COMP Filter could be formulated as some kind of an economy principle. Still, the problem remains that the notion of the Doubly Filled COMP Filter implies that the C head and [Spec,CP] would be filled without the Filter, and the Filter is responsible for 'deleting' the content of C.

Regarding this, at least two major questions arise. First, it should be clarified what requirement is responsible for filling C even in the presence of an overt operator in [Spec,CP], as in (3). Second, the question is what kinds of elements may appear in C: in particular, if elements other than complementisers can satisfy the requirement of filling C, then the deletion approach is probably mistaken.

These problems arise irrespective of whether one adopts a classical X-bar theoretical approach (which is the framework the Doubly Filled COMP Filter was formulated in) or a merge-based approach. In addition, the question arises how the Doubly Filled COMP Filter could be implemented in a merge-based minimalist framework, where X-bar theoretic notions can at best be taken to be descriptive designators that are derived from more elementary principles, in the vein of Kayne (1994) and Chomsky (1995). Under this view, the position of an element (specifier, head, complement) depends on (i) what its relative position is when it is merged

Footnote 2 continued

Filter. This latter view is taken by Koopman (2000) and more recently by Baltin (2010); the problems of this view will be discussed in the next section. The present section merely serves to introduce the data.

with another element, and (ii) which element is chosen to be the label. By contrast, the notion of the Doubly Filled COMP Filter implies that a phrase is generated with designated, pre-given head and specifier positions, and that there are additional rules on whether and to what extent they can be actually “filled” by overt elements. In a merge-based account, there are no literally empty positions as no positions are created independent of merge: zero heads and specifiers reflect elements that are either lexically zero or have been eliminated by some deletion process (e.g., as lower copies of a movement chain or via ellipsis). In other words, Doubly Filled COMP effects should be accounted for in a way other than referring to a pre-given XP.

In the present article, I am going to propose that Doubly Filled COMP constructions truly involve doubling within a single CP. Apart from relying on a merge-based structure-building process (rather than on assuming pre-given templates), the proposed analysis is minimalist in the sense that it intends to assume as little structure as possible (that is, only structure that is either morphosyntactically or semantically motivated). Moreover, doubling is not restricted to ‘operator+complementiser’ combinations. In line with this, I claim that there is no Doubly Filled COMP Filter: standard varieties differ in allowing lexical null complementisers. In turn, doubling arises in order to fill the C, and, in particular, to lexicalise a [fin] feature on C, and this requirement is independent of whether the specifier element is overt or not: this property underlies English T-to-C movement and V2 in German and Dutch main clauses.

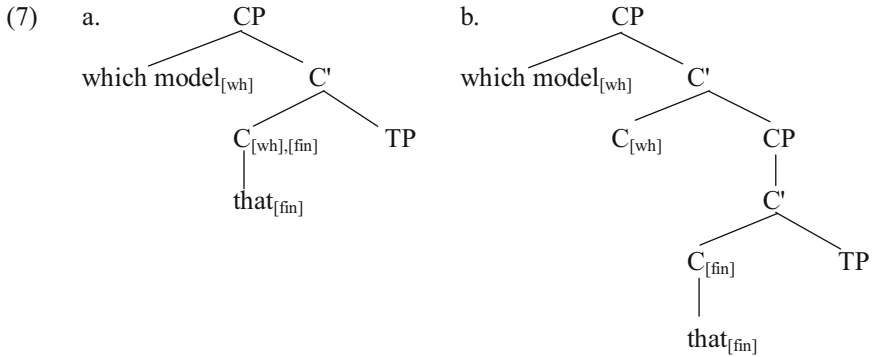
2 Approaches to Doubly Filled COMP

In principle, there are three possible scenarios regarding the Doubly Filled COMP Filter (DFCF). One possibility is to say that the DFCF is subject to parametric variation: some dialects (such as standard West-Germanic languages) have it, while others (such as Alemannic) do not. This is problematic, as the operation domain of the DFCF should be more refined, as pointed out in Sect. 1: even standard West-Germanic languages have constructions that do not obey the DFCF in a strict sense. Moreover, a considerably specific rule like the DFCF should not be a parameter in itself. Another possibility is to say that the DFCF is universal and apparent violations actually involve multiple CP projections (e.g., Baltin 2010). A third possibility is to say that there is no DFCF at all, and dialects differ in whether they allow null complementisers or whether they require filling the C with overt material: this approach would reduce the observed differences to lexical differences (in line with the proposal made by Borer 1984).

Let us first consider doubling in embedded interrogatives, more specifically, in constituent questions, as illustrated in (6) below:

- (6) They discussed a certain model, but they didn’t know **which model that** they discussed.
(Baltin 2010, 331, ex. 1)

Essentially, there are two possible structures, given in (7) below:



The tree in (7a) represents a classical Doubly Filled COMP pattern, as proposed, for instance, by Bayer (1984), while the tree in (7b) shows the structure proposed by Baltin (2010), using a split CP to avoid the violation of the DFCF. The features given here are interrogative, [wh], and finiteness, [fin], standing for the properties that have to be encoded in the CP-domain as determined by the matrix predicate.

There are several problems with (7b). First, the rigid split of functions between the two projections is highly questionable. Note that Baltin (2010) uses designated labels for these projections, but the differences are expressed here by features, as this is more compatible with the approach pursued in this paper. The rigid separation of functions such as Force and Fin is similar to a cartographic approach (cf. Rizzi 1997), yet the analysis given by Baltin (2010) is fundamentally intended to be a minimalist one. In a merge-based account, the element *that* should be directly merged with the *wh*-phrase (here: *which model*), which does not allow for (7b), where an empty lower specifier and an empty higher C head are postulated: (7b) would be valid if there were evidence for empty elements in these positions. However, there is no compelling evidence for the existence of a higher head, other than assuming that the moved operator needs this feature on a separate head, but this assumption itself is not motivated. To include the relevant attracting feature in the syntax, it can be located on the very same head that encodes [fin] as well. Since both features are present on the head of the clause, they are automatically visible to a matrix predicate as well.

Regarding (7b), a rigid separation of the two CPs would indeed be needed in order to avoid the violation of the Minimal Link Condition (see Fanselow 1990, 1991; Chomsky 1995): the operator in (7b) does not move to the closest possible [Spec,CP].³ The problem may in principle be avoided by saying that the lower C head cannot attract the operator, and an additional complementiser has to be inserted. This comes for free if one assumes that the lower C head has no attracting feature, and a separate complementiser has to be merged first to attract the *wh*-

³ See Van Craenenbroeck (2010, 241–243) for similar considerations regarding *wh*-movement: while he assumes more or less designated CP projections for clause-typing and operator movement, movement is supposed to take place to the lower CP projection, the higher CP being potentially available for the direct merger of elements.

phrase. However, such an argumentation clearly would not hold for relative clauses. A rigid separation is not tenable—see the discussion below—and relative clauses showing Doubly Filled COMP effects would therefore violate the Minimal Link Condition. Finally, if (7b) is possible for non-standard varieties, it remains to be explained why it cannot appear in standard varieties, as finite subordinators (without attracting elements to their specifier) are available in these dialects, too.

In addition to the problems indicated above, it should be mentioned that the structure adopted by Baltin (2010) serves to avoid a potential problem regarding sluicing. The assumption, going back to Merchant (2001), is that sluicing results from an ellipsis feature, [E], located on a functional head: this [E] feature instructs PF to eliminate the complement. Under this view, sluicing leaves the head itself intact. As also observed by Baltin (2010), the complementiser head in Doubly Filled COMP patterns cannot be overt; taking the sluiced counterpart of (6), the pattern is as follows:

(8) They discussed a certain model, but they didn't know **which model** (*that).

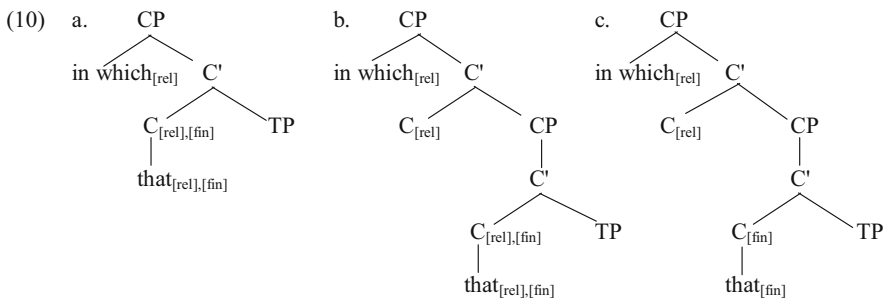
Assuming that the complementiser *that* is located in a lower CP projection and the [E] feature is located on a higher C head, Baltin (2010) claims that the obligatory elimination of *that* falls out naturally from a double CP, as in (7b). The argumentation of Baltin (2010) is contingent upon the notion of sluicing not affecting the element in C. However, as pointed out by Bayer (2015, 30–32), for instance, this is not necessarily true: one may equally assume that the head is affected by sluicing as well, except when the deletion of the head element would result in the loss of non-recoverable material. In addition, one may also argue that the non-elimination of the complementiser in cases like (8) is prosodically ill-formed: the [E] feature also instructs PF to assign main stress to the element in the specifier (that is, the element preceding the [E] feature in the linear structure), which is to be followed immediately by the elided part: the overt complementiser violates this split pattern as it is neither silent nor stressed. Moreover, the complementiser normally forms one phonological unit with the following TP, which is again violated if it is overt when the TP is sluiced. Finally, this requirement may well be independent of the status of the element in the functional head as a complementiser: as shown by Bacskai-Atkari (2018b, 173–193) for elliptical comparative clauses, the locus of the ellipsis feature and the projection to which a lexical verb moves up show a correlation such that the [E] feature and an overt lexical verb seem to be in complementary distribution. Taking up this line of argumentation, it may be the case that in a sluicing pattern like (8) the presence of the [E] feature on C automatically implies the impossibility of an overt *that* in the same head, making the insertion of a zero complementiser necessary. If so, one may even retain the idea that sluicing does not per se eliminate the head: it is rather that the head has to be empty in the first place.

Let us now see some additional arguments from relative clauses. Baltin (2010) only considers embedded interrogatives, where relying on the Force-Fin (or Foc-Fin) distinction is a more straightforward matter. However, the Doubly Filled COMP Filter going back to the original proposal of Chomsky and Lasnik (1977, 434–435) was actually used for relative clauses in the first place, given the apparent

interchangeability of the relative pronoun strategy and the complementiser strategy in various (but not all) respects. A refutation of the existence of Doubly Filled COMP patterns, then, should make reference to how the analysis carries over to relative clauses. Doubling effects are indeed also attested in relative clauses, as demonstrated by the following English example:

- (9) It's down to the community **in which that** the people live.
(Van Gelderen 2013, 59, ex. 8)

The question is whether a functional split of two CPs like in (7b) is possible (with the features [rel] and [fin]).⁴ In interrogatives, *that* is a mere subordinator, but in relative clauses, *that* is available as a relative complementiser in Standard English as well. Hence, the question arises whether the complementiser in Doubly Filled COMP patterns in relative clauses is a mere subordinator, or whether there are two relative CPs. Three possible structures are given in (10) below:



⁴ While analyses like that of Chomsky and Lasnik (1977) treated relative operator movement as *wh*-movement (since both operator movements target the CP in Germanic), the two clause types are distinct in many ways (for instance, with respect to the information structural properties of the operator element: relative operators are GIVEN, while *wh*-operators are focus-marked). This distinction is also evident in languages like German where *wh*-operators are morphophonologically distinct from relative operators. This indicates that the two clause types are distinct and cannot be reduced to, for example, distinct positions occupied by the same element. Rizzi (1997) considers relative to be a clause type (distinct from interrogative), claiming that complementisers “express the fact that a sentence is a question, a declarative, an exclamative, a relative, a comparative, an adverbial of a certain kind, etc., and can be selected as such by a higher selector” (283). He adds that this “information is sometimes called the clausal Type (Cheng 1991), or the specification of Force (Chomsky 1995)”, whereby he adopts the latter terminology (Rizzi 1997, 283). I would like to take up this line of thought by marking the clause-typing feature as [rel] and not as [wh] in relative clauses (this distinction being, in fact, common in the literature). Without any clause-typing feature encoded in the left periphery, the unmarked clause type would be declarative. The [rel] specification also restricts the clause in its distribution: it is an embedded clause (as opposed to embedded interrogatives, not a complement clause but an adjunct clause). As far as the connection between the relative clause and the matrix clause is concerned, I assume a matching analysis rather than a head raising analysis; see the recent study of Salzmann (2017, 55–179) on arguments in favour of the matching analysis, and see also Lees (1960, 1961), Chomsky (1965) and Sauerland (1998, 2003) for similar views. In such analyses, “the relative operator takes an instance of the external head as its complement”, which is then deleted in PF “under identity with the external head” (Salzmann 2017, 134). No such matching is attested in embedded interrogatives, there being no head noun. However, note that the present paper is not primarily concerned with the syntax of relative clauses and most claims made here would be in fact compatible with other major analyses (head external and head raising).

The three diagrams schematically represent three different scenarios. In (10a), we have a regular Doubly Filled COMP pattern.⁵ In (10b) and (10c), the CP is doubled, with the difference that while in (10b) the lower complementiser is specified as [rel], in (10c) it is not; that is, in (10c) the complementiser is merely a finite subordinator. The problems with doubling structures were mentioned already in connection with (7b) above. In (10b), a representation like (7b) violates the Minimal Link Condition because the operator should move to the lower [Spec,CP]; that is, it should be merged directly with the first attracting head. Again, one may assume that the lower head has no attracting feature, but if so, the structure first involves the insertion of a non-attracting relative head and subsequently of an attracting relative head, the latter merely for the sake of accommodating the operator (or for maintaining the idea that there are two separate projections with distinct heads). The structure in (10c) requires a rigid separation of functions.

Regarding English, since *that* is available as a finite complementiser outside of relative clauses, one may indeed suppose that there is a functional separation like in the case of embedded interrogatives. In that case, the same arguments apply: importantly, the question arises why standard dialects, in which *that* is available both as a finite complementiser more generally and as a relative complementiser more specifically, do not have doubling patterns in the first place. More importantly, however, the availability of doubling patterns in embedded interrogatives does not imply the availability of doubling patterns in relative clauses. As also discussed by Van Gelderen (2009), doubling patterns are attested in embedded interrogatives much more frequently than in relative clauses. The kind of left periphery proposed by Baltin (2010) does not predict such an asymmetry to be possible: once the individual elements are available in the given dialect (which is the case across dialects in West Germanic) and a double CP is allowed (which would be possible according to Baltin in indeed most dialects of West Germanic), there is no principled reason why this should be allowed in one case but not the other.

The tendency in English relative clauses, both in spoken Standard English and in non-standard varieties, is to employ single *that* as a relative complementiser (see Romaine 1982; Montgomery and Bailey 1991; Van Gelderen 2004, 2009; Tagliamonte et al. 2005 for spoken English; and Herrmann 2005 for present-day dialects). In other words, English *that* can be hardly taken to be merely a finite complementiser in addition to the relative operator; rather, the relative operator may appear overtly alongside or instead of the complementiser. In fact, English *wh*-based relative pronouns had their origin in similar doubling patterns as well: in Middle English, the *wh*-based relative operators constituted an innovation alongside the regular relativiser *that* (see Van Gelderen 2009). At any rate, this kind of doubling

⁵ Unlike in embedded interrogatives, where the operator is [wh] and the complementiser merely [fin] (see (7a)), the doubling pattern in (8a) involves two [rel] elements. Bacskai-Atkari (2019) suggests that this is due to a difference in the interpretability of the [rel] feature: it is interpretable, [i:rel], on demonstrative-based pronouns and on demonstrative-based complementisers, but it is uninterpretable, [u:rel], on *wh*-based pronouns and on *wh*-based complementisers. Hence, in any configuration involving an [i:rel] and an [u:rel] feature, regular feature checking takes place. This analysis predicts that the doubling of two [rel] elements is only possible in asymmetric patterns, that is, either of the form *wh+d* (as in English) or of the form *d+wh* (as in German). This prediction is borne out for Germanic doubling patterns.

pattern did not include *that* as a mere finite complementiser: rather, it was a relative complementiser in the first place, alongside which a relative operator lexicalising the gap in the relative clause could also appear.

Let us now turn to data from South German dialects, which indicate that a rigid separation is not empirically supported and doubling patterns in relative clauses involve a relative complementiser. In South German dialects, doubling in embedded interrogatives involves *dass* ‘that’ (cf. Bayer and Brandner 2008) and in relative clauses it involves the complementiser *wo*⁶ (see Brandner and Bräuning 2013; Weiß 2013; Fleischer 2017). Consider the following examples:

- (11) a. I frog-me, **fia** **wos** **dass**-ma an zwoatn Fernseher braucht.
I ask-REFL for what that-one a second TV needs
 ‘I wonder what one needs a second TV for.’
 (Bavarian; Bayer and Brandner 2008, 88, ex. 3a)
- b. ... dea Mo (**dea**) **wo** seine Schu verlor a hot
the man PRON.DEM PRT his shoes lost has
 ‘the man who has lost his shoes’
 (Alemannic/Bavarian; Brandner and Bräuning 2013, 132, ex. 2)

The example in (11a) shows a regular embedded constituent question involving the finite complementiser *dass*, while the relative clause in (11b) contains *wo*, the regular relative complementiser in the given dialects. This indicates that doubling in relative clauses involves the real doubling of two [rel] elements, and no functional split between two CPs possible (cf. Bacskai-Atkari 2018c). Regarding doubling in German relative clauses, it must be stressed that the regular pattern involves *wo* in these dialects (Brandner and Bräuning 2013), and the relative pronoun can lexicalise the operator under certain conditions. The complementiser *wo* relativizes all types of head nouns (see also Fleischer 2004; Brandner 2008): adding an overt relative pronoun results in a doubling pattern (which was observed early on; see Weise 1917).

This again indicates that the double CP analysis proposed by Baltin (2010) is not favourable for relative clauses either. Note that this does not mean that a double CP analysis would be downright impossible: however, it would require a number of additional assumptions (without independent motivation), as opposed to the claim made by Baltin (2010) that the patterns fall out automatically from the cartographic template. Importantly, Baltin (2010) does not bring forward arguments against a single CP in Doubly Filled COMP patterns (or elsewhere) but seeks to exclude the existence of such patterns on pre-theoretical grounds. As there is no compelling evidence for additional projections, and since a double CP analysis seems to run into certain problems, I assume that a Doubly Filled COMP analysis (with a single CP) is favourable on the whole, and this is the analysis I am going to pursue in the rest of this paper (also providing additional arguments).

⁶ This complementiser is surface-identical to the *wh*-operator meaning ‘where’. While the two are etymologically indeed related, the complementiser *wo* does not actually stem from the reanalysis of the operator *wo*, as shown convincingly by Brandner and Bräuning (2013, 138–141), but rather from an equative particle of the same form (Brandner and Bräuning 2013, 150–165).

3 Embedded constituent questions

Recall that there are essentially three possible scenarios regarding the Doubly Filled COMP Filter. First, the DFCF may be subject to parametric variation: under this view, some dialects (such as standard West-Germanic languages) have it, while others do not. This is problematic, as the operation domain of the DFCF should be more refined (see Sect. 1); moreover, the DFCF should not be a parameter in itself. Second, the DFCF may be universal: accordingly, apparent violations of the Filter actually involve multiple CP projections (see, for instance, Baltin 2010). This is again problematic, as was pointed out in Sect. 2 above in detail. Third, there may be no DFCF at all, which is of course favourable in minimalist terms not relying on filters in the syntactic derivation: in this approach, the economy of derivation versus the requirement to fill the head may be thought of as competing requirements, and Doubly Filled COMP patterns may be handled similarly to T-to-C or V2 patterns. In the present section, I am going to argue in favour of this approach.

If one were to assume that a separate [wh] CP and a separate [fin] CP are available (and both are designated projections)—see (7b)—one would expect that doubling is available with all *wh*-elements. However, Bayer and Brandner (2008) show that this is not universally the case as many Alemannic and Bavarian speakers show an asymmetric pattern (see also Bayer 2015). This is demonstrated by the examples below:

- (12) a. I frog-me, **fia** **wos** **dass**-ma an zwoatn Fernseher braucht.
I ask-REFL for what that-one a second TV needs
 ‘I wonder what one needs a second TV for.’
 (Bavarian; Bayer and Brandner 2008, 88, ex. 3a)
- b. I hob koa Ahnung, **mid** **wos** **fia-ra** **Farb** **dass**-a zfrien waar.
I have no idea with what for-a colour that-he content would.be
 ‘I have no idea with what colour he would be happy.’
 (Bavarian; Bayer and Brandner 2008, 88, ex. 4a)
- c. * I woass aa ned, **wer** **dass** allas am Sunndoch in da Kiach gwen is.
I know too not who that all at Sunday in the church been is
 ‘I don’t know either who all has been to church on Sunday.’
 (Bavarian; Bayer and Brandner 2008, 88, ex. 5a)
- d. * I wett gern wisse, **wa** **dass** i do uusfülle muss.
I would gladly know what that I there out-fill must
 ‘I’d like to know what I have to fill out there.’
 (Alemannic; Bayer and Brandner 2008, 88, ex. 5b)

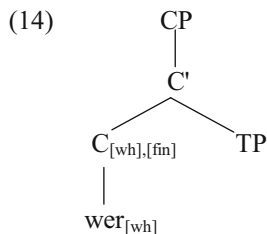
As can be seen, there is a difference between *wh*-elements for the speakers in question: phrase-sized *wh*-phrases involving more material than a simple *wh*-word—see (12a) and (12b)—occur with *dass*, while word-sized *wh*-elements like *wer* and *was* (also *wo* ‘where’)—see (12c) and (12d)—do not. Note also that the split between (12a)/(12b) and (12c)/(12d) does not hold for all speakers in the dialect areas, as there are speakers who accept (12c) and (12d) both with and without *dass* (see Weiß 2013). However, for the present discussion, speakers showing the

asymmetry in question are more relevant because they exhibit a kind of variation related to *wh*-elements that cannot be explained by the structure in (7b), which would predict that the doubling of [wh] and [fin] is possible across all *wh*-elements in a uniform fashion. The kind of asymmetry given in (12) is simply not predicted by Baltin (2010): if the *wh*-element targets a projection above the one containing the finite complementiser, the size of the *wh*-element in the higher specifier should not have an effect on whether the lower complementiser is available or not. Since asymmetry occurs within a single dialect, it cannot be attributed to a parametric setting either: this rules out both approaches that would treat the Doubly Filled COMP Filter as a parameter and ones that avoid Doubly Filled COMP patterns by postulating a double CP: in either case, *wh*-elements should behave in a uniform way in the same dialect under this view as well. In other words, the double CP proposed by Baltin (2010) is not restrictive enough to accommodate asymmetrical dialects.

However, if the *wh*-element and the complementiser are taken to be in the same projection, the asymmetrical pattern is predicted to be possible. Bayer and Brandner (2008) argue that the asymmetry arises because in (12c) and (12d), *wer/was* and *dass* are in complementary distribution (in line with earlier observations made in the literature; see Sect. 1), and this is possible because a head-sized *wh*-element may target the C head position instead of the specifier. Note that this does not involve actual grammaticalisation: for instance, contrastive *wh*-elements with focal stress occur with *dass* even for speakers rejecting *dass* in examples like (12c) and (12d):

- (13) Ich woass **WO** **dass** er abfahrt aber noit WENN.
I know where that he leaves but not,yet when
 ‘I know WHERE it (the train) will leave but not WHEN.’
 (Bayer and Brandner 2008, 93, ex. 18, quoting Noth 1993, 424)

Adopting the proposal of Bayer and Brandner (2008), the structure involving single *wer* in Bavarian/Alemannic is schematically represented below:



Two potential problems seem to arise from a minimalist perspective. First, (14) represents a problem of labelling, inasmuch as there seems to be a discrepancy between the label of *wer* in its base position (as a subject P, it should be DP or at

least D) and the label of *wer* in the left periphery (which is C). In other words, if merging *wer* with the TP gives the former to be the label (projecting further), then it is not the same category as when the C head is filled by a complementiser proper. Assuming that matrix predicates like *fragen* ‘ask’ select for interrogative CP clauses (with or without *dass*), the clause should be labelled a CP, but then the relevant category cannot come from *wer*. Second, (14) represents a problem for Chain Uniformity: apparently, *wer* originates as a phrase and moves to a head position.

Regarding Chain Uniformity, Bayer and Brandner (2008) argue that *wer* is both minimal and maximal in both of its positions, and they propose a morphological condition of chain uniformity, according to which a surface-identical X and a surface-identical XP can both be members of the same chain. If so, the proposed structure is in line with the notion of Chain Uniformity given by Chomsky (1995).

Regarding the labelling problem, Bayer and Brandner (2008) propose that *wh*-elements can be equipped with a latent C-feature in dialects that show asymmetrical patterns (with head-sized *wh*-phrases prohibiting, other *wh*-phrases requiring the insertion of the finite complementiser). However, this assumption is problematic inasmuch as the C-feature is ad hoc and restricted to the dialects showing the particular pattern, which ultimately renders a somewhat circular argumentation. In order to define what a C-feature is, one should also have a clear definition for what belongs to the category C. Proper complementisers impose restrictions on whether the clause is finite or not (which is not the case with *wh*-elements). They usually carry some clause-typing feature (such as interrogative), though specifically finite complementisers like *that* or *dass* that appear in Doubly Filled COMP patterns in embedded interrogatives seem to be underspecified in this respect: while they can undoubtedly appear in declarative clauses otherwise, it would be difficult to argue that in cases like (9) or (12) they type an interrogative clause as declarative. On the other hand, elements moving to the CP are known to be potential candidates for reanalysis into a complementiser (as discussed, e.g., by Van Gelderen 2009), blurring the boundary between complementisers and other elements related to clause typing.

Note that exactly the same problem arises for V2 in German main clauses by V moving to C (see Fanselow 2004b, 10–32): the element is labelled as V in its base position but seems to project the CP in the landing site. Fanselow (2004b) proposes a head movement operation that factually makes the verb the head element, encoding finiteness. In Bare Phrase Structure, the labelling problem can be substantially reduced by not applying pre-defined labels such as C or D/V to the elements in question; instead, the elements that project are the labels themselves, and the relevant features such as [wh] or [fin] are still visible for other elements in the structure. I will return to the issue in Sect. 5 and will provide a more refined analysis there.

In line with this, I propose that the phenomenon in (14) is related to the general ability of C hosting elements other than complementisers in the language. This is related to the V2 property of German and indeed most Germanic languages, including English historically; note that while Modern English is not V2 anymore, T-to-C movement in main clause interrogatives works exactly the same way in this respect. In other words, non-standard dialects with Doubly Filled COMP effects

extend the property of a ban on a phonologically empty C to embedded interrogatives.

4 Embedded polar questions

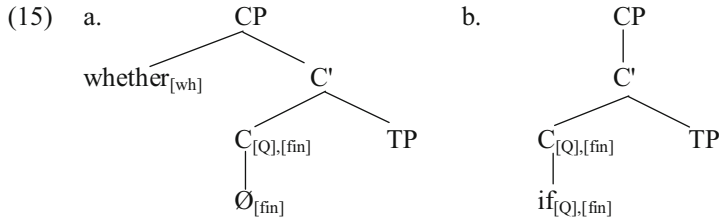
So far, I have dealt with doubling in constructions with overt operators: *wh*-operators are necessarily overt in constituent questions as they express non-recoverable information and they are focussed. Relative operators may also be covert (in relative clauses, there is a recoverable gap corresponding to the lexical head). In fact, polar interrogatives also contain an operator: this may be overt or covert (it is essentially a yes/no operator corresponding to *whether*, marking the scope of covert *or*; see Larson 1985). This operator is inserted directly into the CP (Bianchi and Cruschina 2016); hence no movement is required from within the clause.

In principle, an interrogative feature on the C head may be checked off by inserting an element equipped with the relevant feature either into the head itself or into the specifier, in line with the Clausal Typing Hypothesis of Cheng (1991); see also Bayer and Brandner (2008, 89) and Zimmermann (2013, 86) for German. In English embedded polar interrogatives, either the complementiser *if* or the operator *whether* is overt: semantically, both of them can be treated as lexicalisations of the polar operator,⁷ but while *if* imposes restrictions on finiteness, *whether* does not. Using the model employed in the previous section as well, the configurations are represented in (15) below:

⁷ Semantic operators may or may not show operator properties like phrase movement in terms of their syntax; specifically, they may appear as complementisers or grammaticalise into ones, which may in certain cases lead to the reinforcement of the given semantic property by an additional element. A well-known case is negatives: referred to as the Jespersen cycle, a negative head may be reinforced by an additional negative operator, which may ultimately take over the function of marking negation altogether (see, for instance, Wallage 2008; Hoeksema 2009; Van der Auwera 2009). The structure in (15b) suggests that a doubling pattern should be in principle possible in embedded polar questions as well. As noted by Van Gelderen (2004), such patterns are not frequent but are still possible, at least in non-standard varieties:

- (i) The local authority will know **whether if** they let the council house to the tenant.
(BNC-FC3-80, Van Gelderen 2004, 96, ex. 82)

Unlike negation, however, where both elements (e.g., *ne* and *not* in Middle English, *ne* and *pas* in Modern French) are specified as [neg] only, the elements *whether* and *if* differ crucially in terms of the [fin] feature; in other words, doubling is not perfect as the head element still encodes a property that cannot be lexicalised by the specifier element (I will return to the question why this should be so in this section). Importantly, however, cases like (i) show clearly that the positional distinction given in (15) is justified.



Unlike in constituent questions, where the feature involved is [wh], I assume that the clause-typing feature required by the head is [Q]; see Bayer (2004) on the separation of the two features. Crucially, [wh] implies disjunction, [Q], and hence inserting an operator equipped with [wh] also checks off [Q]. I will return to the difference later in the section.

Given the structure in (15b), it is not difficult to see why a combination like **if that* is not possible in English: both elements are complementisers that would compete for the same position. The insertion of *that* is not necessary since *if* satisfies the lexicalisation requirement on [fin] in C. The same applies to German: a doubling pattern of the form **ob dass* is not possible in dialects like Alemannic either (Ellen Brandner, p.c.).⁸ The importance of this is primarily the following: an analysis with a separate designated interrogative CP and a finite CP, such as (7b), as in Baltin (2010), would predict that this is possible: in that case, the higher (Force) head would be filled by *if/ob* and the lower (Fin) head by *that/dass*.

Note that the reason behind this cannot be a ban on multiple complementisers per se, as multiple complementisers (involving multiple projections) are indeed possible in certain constructions. This is also the case in Alemannic, where the doubling pattern *als wie* ‘than as’ is possible in comparatives (see Jäger 2010, 2016; Bacskai-Atkari 2014).⁹ The same applies to combinations like *as if* in hypothetical

⁸ No such combination is attested in Hessian according to the SyHD-atlas, and Bayer (1984) does not mention it for Bavarian either (even though he analyses several combinations involving *dass*). According to Gillmann (2018), combinations of the form ‘connector+*dass*’ were widespread in the 17th century but came to disappear till the end of the 18th century, with the exception of certain grammaticalised cases.

⁹ The exact implementation of double heads differs in the cited sources: Jäger (2010, 2016) assumes a ConjP above the CP, while Bacskai-Atkari (2014) assumes two CPs. At any rate, there is ample evidence for the head status of both elements in German comparatives (in fact, not only just in the doubling pattern but also when either element appears on its own). This indicates that double functional heads in the left periphery are indeed possible, provided that there is ample syntactic and semantic evidence for the existence of two projections. The structure of comparatives cannot be discussed in the present paper; the point here is that the present proposal does not the least try to claim that a more complex left periphery should be impossible altogether: rather, cases like *als wie* are simply different in their syntax from the Doubly Filled COMP patterns under scrutiny. The lack of evidence for two projections in embedded interrogatives does not undermine the justification of two projections in comparatives; similarly, the existence of two functional projections in comparatives does not imply that the same phenomenon must be attested in embedded interrogatives.

comparatives (see Bacskai-Atkari 2018a for a recent discussion).¹⁰ The point is that the reason for the non-existence of **ob dass* is not a ban on double complementisers but is rather related to their being in complementary distribution in the particular construction under scrutiny (that is, polar interrogatives).

The question arises whether Doubly Filled COMP effects are possible in embedded polar questions at all. In Standard Dutch, similarly to English and German, there is no doubling (see Bayer 2004, following Hoekstra 1993). However, the combination of *of dat* is possible in various dialects (as reported by Barbiers 2009, 1612–1613, there is considerable variation in this respect). Consider:

- (16) a. Peter vroeg **of dat** Mary houdt van boeken.
Peter asked.3SG if that Mary holds of books
 ‘Peter asked if Mary liked books.’
 (Bacskai-Atkari and Baudisch 2018, 27–28)
- b. Ik vraag me af **of dat** Ajax de volgende ronde haalt.
I ask me PRT if that Ajax the next round reaches
 ‘I wonder whether Ajax will make it to the next round.’
 (Bayer 2004, 65, ex. 14, quoting Hoekstra 1993)

As can be seen, non-standard dialects of Dutch treat *of* on a par with *wh*-operators with respect to the availability of an overt finite complementiser: note that doubling patterns are also attested with ordinary *wh*-elements across dialects (with considerable differences in the actual patterns; see Barbiers 2009, 1612–1613; Van Craenenbroeck 2010; see also Bayer 2004, following Hoekstra 1993). In line with Boef (2013, 141–142), I assume that *of* is the question operator (see the discussion at the beginning of this section). As such, it may or may not be equipped with a [fin] feature; compare (15) for English. In Standard Dutch, as well as in varieties that do not have the combination of *of dat*, *of* is specified as [fin] and is incompatible with another finite complementiser (*dat*). However, in those varieties that treat *of* on a par with other interrogative operators, *of* is not specified as [fin]

¹⁰ Hypothetical comparatives involve the combination of a comparative and a conditional C head:

- (i) Peter sieht (so) müde aus, **als ob** er die ganze Nacht nicht
Peter looks so sleepy out as if he the.F whole.F night not
 geschlafen hätte.
slept.PTCP have.COND.3SG
 ‘Peter looks (so) sleepy as if he had not slept the whole night.’
- (ii) Peter sieht (so) müde aus, **als hätte** er die ganze Nacht
Peter looks so sleepy out as have.COND.3SG he the.F whole.F night
 nicht geschlafen.
not slept.PTCP
 ‘Peter looks (so) sleepy as if he had not slept the whole night.’

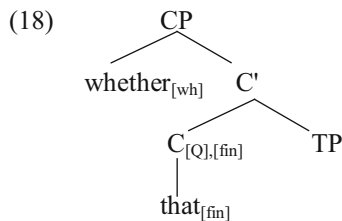
While patterns like (ii) may at first suggest that the combination involves a clause-typing complementiser in Force and a verb marking finiteness in Fin, patterns like (i) more clearly indicate that this cannot be the case. Nevertheless, the left periphery of such clauses involves two distinct C heads, as operator movement to the lower specifier is semantically motivated (Bacskai-Atkari 2018a, 102–103). Such combinations, just like *als wie* in comparatives, are not predicted by the Force-Fin distinction, as both elements in question are primarily related to clause-typing (‘Force’). They are, however, compatible with the kind of CP-recursion proposed by Vikner (1995) and Vikner, Christensen, and Nyvad (2017).

and hence may co-occur with *dat*. Co-occurrence with *dat* seems to be largely optional (Barbiers 2009, 1612); this is expected if a head-sized element may either appear as a specifier or in the C head, as was discussed in Sect. 3 (and see also the following discussion for English *whether*). Barbiers (2009, 1612–1613) reports that there is considerable inter-speaker and intra-speaker variation regarding the preferences in the relevant patterns: this is again expected in the present approach since elements like *of* are not tied to a pre-given position in a syntactic template. Just like with head-sized *wh*-elements in German dialects, the preference for the head position may be very strong or rather weak, resulting in different grammatical outputs.

In English, the combination *whether that* is attested historically and in modern non-standard varieties (see Van Gelderen 2009). Consider the following Middle English examples from the *Cursor Mundi*:

- (17) a. O þis watur he gert ilkan Drinc, **quer** he wald or nan
of this water he gives each drink whether he wanted or not
 ‘Of this water he gives each to drink whether he wanted it or not.’
 (*Cursor Mundi* 5517–6618, Van Gelderen 2009, 155, ex. 62)
- b. If þai ani child miht haue, **Queþer þat** it ware scho or he
if they any child might have whether that it were she or he
 ‘If they might have any child, whether it were a she or he.’
 (*Cursor Mundi* 10205, Van Gelderen 2009, 155, ex. 61)

As can be seen, the element *whether* appears on its own in (17a), while it is combined with *that* in (17b). Note that the two examples are not only taken from the same text, but both of them are alternative questions. Hence, *whether* may co-occur with *that* in embedded clauses without there being interpretive differences (the same applies to all periods). This gives a structure like (18):



The doubling pattern is essentially the same as the one in (10a) above for constituent questions. Given that ordinary *wh*-elements may appear in C, as in (14), this should be available for *whether* as well, since it is also head-sized and is even directly inserted into the CP-domain anyway. This appears to be the case indeed. As Van Gelderen (2009) points out, Doubly Filled COMP patterns with *whether* are quite rare in modern dialects in comparison to Doubly Filled COMP patterns with ordinary *wh*-elements (whereby complex *wh*-elements are more likely to occur in Doubly Filled COMP constructions). This suggests a similar asymmetry as in

Alemannic constituent questions, namely that *whether* is preferably inserted under the C node in polar questions in the given dialects.

Regarding the relative position of *whether*, there is another issue that needs to be addressed, which concerns its distribution in earlier periods. The word *whether* itself clearly contains a *wh*-base, and it is a reflex of Proto-Germanic **hwaþeraz*/**hweþeraz*, for which Walkden (2014, 154) reconstructs a ‘which of two’ reading, since this reading is present in all early Germanic languages and is in fact the only reading attested in Gothic (see Walkden 2014, 146–154 for details).¹¹

In Modern English, *whether* is restricted to embedded clauses, unlike ordinary *wh*-elements, which are permitted in main clauses as well. However, *whether* was used in main clauses even till Early Modern English (*do*-insertion was reanalysed as a polarity marker in this period; see Wallage 2015). Consider the following examples:

- (19) a. **Hwæðer wæs** iohannes fulluht þe of heofonum þe of mannum
whether was John's baptism that of heavens or of man
 ‘Was the baptism of John done by heaven or by man?’
 (*West Saxon Gospel*, Van Gelderen 2009, 141, ex. 15)
- b. **Hwæðer** ic mote lybban oððæt ic hine geseo
whether I might live until I him see
 ‘Might I live until I see him?’
 (Aelfric *Homilies*, Van Gelderen 2009, 141, ex. 16, quoting Allen 1980)
- c. And the Lord seide to Caym, Where is Abel thi brother? The which
 answeyde, I wote neuere; **whether am** I the keper of my brother?
 ‘And the Lord said unto Cain, Where is Abel thy brother? And
 he said, I know not: Am I my brother’s keeper?’
 (Wycliffe Bible older version, Genesis 4.9)
- d. And the Lord seide to Cayn, Where is Abel thi brother? Which
 anlswerde, Y woot not; **whether** Y am the kepere of my brothir?
 ‘And the Lord said unto Cain, Where is Abel thy brother?
 And he said, I know not: Am I my brother’s keeper?’
 (Wycliffe Bible newer version, Genesis 4.9)
- e. **Whether did** he open the Basket?
 ‘Did he open the basket?’
 (The Tryal of Thomas Earl of Macclesfield)
 (source: Salmon, Thomas and Sollom Emllyn (1730) *A complete
 collection of state-trials, and proceedings for high-treason,
 and other crimes and misdemeanours: 1715–1725*)

¹¹ The cognates of *whether* in other modern Germanic languages have different uses; for instance, German *weder* ‘neither’ is not used in interrogatives. The forms *either* (and *neither*) are also related to *whether*, and all of these elements ultimately express disjunction.

Examples (19a) and (19b) are from Old English, examples (19c) and (19d) are from Middle English,¹² and example (19e) is from Early Modern English. As can be seen, *whether* can co-occur with a fronted lexical verb in Old and Middle English (see (19a) and (19c)) and with *do* in Early Modern English (see (19e)). Van Gelderen (2009) argues that these patterns demonstrate regular T-to-C movement of the verb (note that the lexical verb moves to T in Early English), and hence *whether* is in [Spec,CP]. At the same time, *whether* may occur on its own (see (19b) and (19d)). Van Gelderen (2009) assumes that *whether* is a grammaticalised complementiser in these cases. This stance is, however, quite problematic, as pointed out by Walkden (2014, 149–150) as well. Grammaticalisation follows essentially from economy principles (feature economy), also in the framework used by Van Gelderen (2009). If an element grammaticalises into a complementiser, it is unlikely to be preserved as an operator with exactly the same functions. Van Gelderen (2009) made her proposal for Old English, but Middle English data, as in (19c) and (19d), suggest that the non-complementiser operator use was very much alive. Moreover, doubling patterns are attested later than Middle English as well (either with *that* or with verb movement). In addition, *whether* is not sensitive to finiteness, unlike complementisers: its use in non-finite clauses is attested in Early English as well.

There is thus reason to believe that *whether* is an operator in all cases. The question arises how variation regarding verb movement can be handled. Regarding Old English, Walkden (2014, 149–150) proposes that there are two distinct operators: *whether* is either a base-generated yes–no operator (triggering no verb movement) inserted directly into the [Spec,CP] position (cf. also Bianchi and Cruschina 2016), or it is an operator with a ‘which of two’ meaning moving to [Spec,CP] like ordinary *wh*-operators (and triggering verb movement). This presupposes a fundamental difference between polar questions (see (19b)) and alternative questions (see (19a)). The problem is that this distinction is not empirically tenable for Middle English. As can be seen in (19c) and (19d), polar questions allow patterns both with and without verb fronting. The same applies to alternative questions, as shown in the minimal pair in (20):

- (20) a. And Rachel and Lya answeyden, **Whe|ther han** we eny thing
of residewe in faculteis and erytage of the hows of oure fader?
‘Then Rachel and Leah answered and said to him, “Is there still
any portion or inheritance for us in our father’s house?”’
(Wycliffe Bible earlier version, Genesis 31.14)
- b. And Rachel and Lya answeriden, **Wher** we han ony thing residue in
the catels, and eritage of oure fadir?
‘Then Rachel and Leah answered and said to him, “Is there still
any portion or inheritance for us in our father’s house?”’
(Wycliffe Bible later version, Genesis 31.14)

¹² Unless indicated otherwise, the Middle English data are from the Michigan Corpus of Middle English Prose and Verse (<https://quod.lib.umich.edu/c/me/about.html>).

Table 1 Polar and alternative questions in the Five Books of Moses (Wycliff Bible)

Question type	Element(s) in CP	Earlier version	Later version	Total
polar (71 items)	<i>whether</i>	50 (70,42%)	64 (90,14%)	114
	<i>whether+V</i>	12 (16,90%)	2 (2,82%)	14
	<i>whether that</i>	1 (1,41%)	1 (1,41%)	2
	<i>if</i>	2 (2,82%)	1 (1,41%)	3
	V	5 (7,04%)	2 (2,82%)	7
	other	1 (1,41%)	–	1
alternative (35 items)	<i>whether</i>	22 (62,86%)	32 (91,43%)	54
	<i>whether+V</i>	–	2 (5,71%)	2
	other	13 (37,14%)	1 (2,86%)	14

As indicated, the two examples are from the two versions of the Wycliffe Bible: the locus is exactly the same. To give a better idea of the distribution of various patterns, I conducted a corpus search on the two versions of the Wycliffe Bible. Table 1 shows the results for the Five Books of Moses (Genesis, Exodus, Leviticus, Numbers, Deuteronomy), indicating also the differences between polar and alternative questions (the ‘other’ option refers to cases where one of the translations uses a construction other than an interrogative).

Interestingly, the most common pattern in either version and either clause type is single *whether*. This contradicts the assumption made by Fischer (1992, 279) that verb fronting patterns with *whether* are far more frequent than non-fronting patterns in Middle English. However, the non-complementiser use is clearly active, and *whether* is not restricted to finite clauses in Middle English either. Consider:

- (21) a. Whether such is the fasting that I chese, bi the dai a man to tormenten his soule? **whether** to binde togidere as a cercle his hed, and sac and asken to arazen?
 ‘Is it a fasting that I have chosen to be a day for a man to afflict his soul? To bow down his head as a circle, and to make ready a sackcloth and ashes?’
 (Wycliffe Bible earlier version, Isaiah 58.5)
- b. Whether sich is the fastyng which Y chees, a man to turlmente his soule bi dai? **whether** to bynde his heed as a sercle, and to make redi a sak and aische?
 ‘Is it a fasting that I have chosen to be a day for a man to afflict his soul? To bow down his head as a circle, and to make ready a sackcloth and ashes?’
 (Wycliffe Bible later version, Isaiah 58.5)

The optionality of verb movement in polar questions is reminiscent of the South German dialectal patterns discussed in connection with polar questions in the previous section. Accordingly, I propose that *whether* is a *wh*-operator in all cases in (19) and (20), and that it is either merged as a specifier to a C head lexicalised by

another element (*that* in embedded questions and, historically, a finite verb in main clause questions),¹³ or it is located in the complementiser position. I will return to the question why the latter option seems to be favoured at the end of this section.

The behaviour of *whether* thus contrasts with *if*, which is a complementiser in all periods in polar questions. Since most of the doubling patterns attested with *whether* are historical, one might wonder whether similar patterns can be detected in German historically. In Old German (Old Saxon and Old High German), the cognates of *whether* and *if* are attested (cf. Axel 2007, who categorises all these elements as complementisers, contrary to the assumption here).

In Old Saxon, both the operator (*h*)*wedar* ‘whether’ and the complementiser *ef* ‘if’ are attested. I carried out a corpus analysis, using the DDD Referenzkorpus Altddeutsch (Old German Reference Corpus). The results are given in Table 2 (both texts are from the 9th century).

Examples are given in (22):

- (22) a. *endi frâgodun, ef he uuâri that barn godes*
and asked.3PL if he was.3SG the son God's
 ‘and they asked whether he was the son of God’
 (*Heliand* 11)
- b. *ne rôkead, huueðar gi is ênigan thanc antfâhan*
not worry.IMP.2PL whether you it some thank receive.2PL
 ‘do not worry whether you get some reward’
 (*Heliand* 18)
- c. *endi he frâgoda sân, huilic sie ârundi ûta gibrâhti,*
and he asked.3SG instantly,which they.ACC business out brought.3SG
uueros an thana uuracsîð huueðer lêdiad gi
man in this.ACC foreign.land whether bring.2PL you
uundan gold te geþu huilicun gumuno?
wrought gold to gift.DAT some men.GEN
 ‘and he instantly asked, what business had brought them out from their
 land into this foreign land and whether you are bringing wrought gold
 as a gift to someone?’
 (*Heliand* 7)

The Old Saxon pattern is similar to the English one in that the distribution of *whether* and *if* shows the relevant difference: there are no examples for *ef* occurring with a fronted verb, while (*h*)*wedar* may occur with or without a fronted verb.

¹³ Note that the availability of one doubling pattern does not imply the necessity of the other doubling pattern. In Present-day English, *whether that* is possible in main clauses, but *whether* is excluded from main clauses altogether, as this pattern was superseded by T-to-C movement during Early Modern English. This is most probably due to economy: in main clauses, verb fronting and a distinctive interrogative intonation are sufficient to type the clause; that is, there is no need for an additional morphosyntactic marker, unlike in embedded clauses. The pattern involving *whether* was in fact never the majority pattern and even main clause questions with *whether* could employ additional verb movement. The same considerations apply to Dutch *of* as well: even in dialects where it is available as an operator (see below), it is not expected to be possible in main clause interrogatives, as such an option is not directly related to its syntactic status.

Table 2 Polar questions in Old Saxon

	<i>ef</i>	(<i>h</i>) <i>wedar</i>	(<i>h</i>) <i>wedar</i> +V
Genesis	1	1	–
Heliand	5	2	1

Table 3 Polar questions in Old High German

	<i>ibu</i> +V	<i>ob</i>	<i>ob</i> +V
Benediktiner Regel (9th c.)	1	–	–
Otfrid (9th c.)	–	11	–
Tatian (9th c.)	–	8	1
Ludwigslied (9th c.)	–	2	–
Psalm 138 (9–10th c.)	–	1	–
St. Galler Schularbeit (11th c.)	–	1	–
Benediktbeurer Glaube und Beichte III (12–13th c.)	–	1	–

However, the number of all occurrences is very low (there are altogether 10 examples, as indicated in Table 2), and hence the results are not fully conclusive in terms of the exact behaviour of the respective elements. Still, at least the behaviour of either element is expected on the basis of the English data. The six examples from *Heliand* containing *whether* are also reported by Walkden (2014, 150–151), who likewise concludes that Old Saxon essentially patterns with the Old English data.

In Old High German, the cognates of *if* are attested (*ibu* and *ob*). Again, I used the DDD Referenzkorpus Altdeutsch (Old German Reference Corpus); the results are given in Table 3.¹⁴

Examples are given in (23):

- (23) a. fona himile simblum sihit ubar parn manno,
from heaven always sees onto children men's
 daz sehe, **ibu ist** farstantanti edo suahhanti cotan
that see.SBJV.3SG if is understood or sought God.ACC
 'from Heaven, he always sees onto men's children, to see if God
 is understood or sought'
 (Benediktiner Regel 7)
- b. láz nu, gisehemes **oba come** Helias losenti inan
let.IMP.2SG now see.1PL if comes Elias save.INF he.ACC
 'let us see if Elias will come to save him'
 (Tatian 208)
- c. Pilatus uuntrota **oba** her iu entoti
Pilate wondered.3SG if he already died.3SG
 'Pilate wondered if he was already dead.'
 (Tatian 12)

¹⁴ As discussed by Walkden (2014, 151–152, 155), the element *whether* had a 'which of two' interpretation in Old High German, contrasting with Old English and Old Saxon.

The data show that in two cases the verb immediately follows the element *ibulob*. In principle, one may assume that the patterns involve verb fronting, but there is very little evidence pointing in this direction (albeit it cannot be excluded either). No clear dialect differences can be established either: both the *Benediktiner Regel* and *Tatian* come from the Upper German dialect area, as most of the texts in the table above (only the *Ludwigslied* is Central German): the *Benediktiner Regel* is Alemannic, *Tatian* is East Franconian, and the *Otfrid* is South Rhine Franconian. One problem regarding verb fronting is that Old High German word order was considerably less fixed in this respect than Modern German is (see, for instance, Hinterhölzl and Petrova 2010 and Coniglio et al. 2017 on variation in verb position). In other words, the fact that the verb is not clause-final, as we would expect it to be in Modern German, does not automatically imply actual verb fronting. While the same argument may be brought up in connection with Old Saxon (*h*)*wedar*, note that (*h*)*wedar* essentially has the same distribution regarding possible contexts as Old English *whether* (Walkden 2014, 150–151), and hence there is independent motivation for assuming that it is not a finite complementiser. Regarding Old High German *ob*, however, there is no such independent evidence, and *ob* is indeed used as a complementiser in later periods as well. The point is that the lack of doubling patterns with *ob* in German seems to have been the case in the earliest period already.

Still, this section has shown that Doubly Filled COMP patterns may arise in polar questions as well, since the requirement to lexicalise the C head applies here just like it does in constituent questions. However, lexicalising the C head by an overt element in polar questions does not imply the necessity of doing so in constituent questions: this is exemplified by, for instance, present-day standard West-Germanic languages, where embedded polar questions are introduced by the complementiser *if/oflob*, while embedded constituent questions contain an empty complementiser that is merged with the *wh*-element. The same applies historically, too: while the Old High German examples for polar questions contain *ob* regularly a complementiser, this does not imply that an overt finite complementiser is inserted into C in embedded constituent questions, as demonstrated by the following example as well:

- (24) quid **uuelih namo** thir sí
 say.IMP.2SG what name you.DAT is
 ‘say what name is yours’
 (*Tatian* 53)

The example in (24) contains a complex *wh*-phrase, which is more likely to induce a Doubly Filled COMP pattern than a simple *wh*-word (see the discussion in the previous section); yet no Doubly Filled COMP pattern arises (either by complementiser insertion or by verb fronting), indicating that there is no necessary implication relation between question types.

There are two important observations to be made in this respect. First, language change and variation are gradient in nature (Traugott and Trousdale 2010) and hence it is expected that there is variation between constituent questions and polar

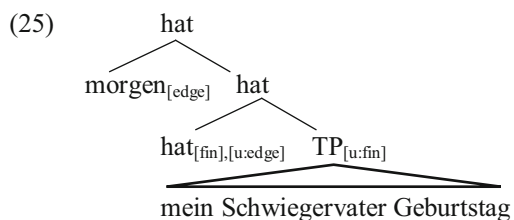
questions, just like there is variation in V2 according to sentence types (Westergaard 2007, 2008, 2009). Second, as pointed out previously, the feature specification of the interrogative head is slightly different between polar and constituent questions: it is [Q] in polar questions and [wh] in constituent questions (see Bayer 2004 for the separation of the two).

Polar questions are crucial regarding Doubly Filled COMP patterns because the availability of doubling patterns with a finite complementiser and with verb movement shows that Doubly Filled COMP patterns are not restricted to constituent questions. On the other hand, the stronger preference for avoiding doubling and in favour of lexicalising only C also indicate that Doubly Filled COMP patterns do not reflect a preference for doubling per se.

5 The analysis

The main idea underlying the proposed analysis is that Doubly Filled COMP effects stem from the necessity of filling the C head with an overt element (cf. also the descriptive observation made by Lenerz 1984, 85–86 and the condition of ‘C-visibility’ by Pittner 1995). Note that this requirement should be interpreted as a very strong tendency and it does not categorically exclude the possibility of zero complementisers in the lexicon. Depending on the language (variety), zero complementisers may be severely restricted in their appearance, though. The lexicalisation of the operator follows from independent reasons: in constituent questions, the operator carries new information and is essentially focused, and as such it cannot be left unpronounced. Clause-typing operators have to move to the left.

Let me start with German V2 clauses. Taking the example in (5b), the left periphery of a finite declarative main clause is as follows in Bare Phrase Structure:



The [u:fin] feature must be checked off on TP, and this is carried out by a finite verb. There is no overt finite complementiser available for main clause declaratives in German (as is regularly the case in Germanic languages), resulting in a surface V2 pattern. English crucially differs here: one may assume either that no further layer above the TP is generated in main clause declaratives at all, or that a zero finite complementiser is available in the lexicon; at any rate, English does not show V2 patterns (any more). Regarding verb movement, I adopt the idea of Fanselow (2004b, 30) that this movement is triggered by an unchecked feature on TP (IP) that arises due to verb movement and can be checked off by re-moving the verb to a

higher position. In the particular implementation assumed here, a [fin] feature of TP has to be checked off: while TP was in fact projected from the verb, the strong feature cannot be checked automatically. The only possibility is to re-merge (move) the verb possessing the [fin] feature: this ultimately produces a finite clause (as the satisfied finiteness feature projects as a label), which, without the addition of clause-type markers proper (e.g., interrogative elements), is declarative. In other words, there is no separate element or designated layer necessary for encoding clause type as long as it is the unmarked declarative. The representation in (25) above indicates that the verb is not a complementiser itself, yet it occupies the relevant position, and by virtue of the [fin] feature it makes the clause finite just as a finite complementiser would do.

The remaining question concerns the [edge] feature and the movement of a phrase (here: *morgen*) to the first position. At the point of re-merging the verb with TP, the [fin] feature is active on the head. Müller (2011) provides a modified definition of the Edge Feature Condition (modifying the definition of Chomsky 2000, 109), claiming that edge features “can only be inserted as long as the phase head is active,” and a phase head “is active as long as it has (structure-building or probe) features to discharge,” and “otherwise it counts as inactive” (171). Seen in this light, in (25), the active phase head with a yet unchecked feature triggers the insertion of the [edge] feature, which in turn triggers the movement of an XP to the specifier. In this sense, the fact that a finite verb is re-merged and that a specifier in the CP emerges are related: note that this does not mean any surface V2 requirement (see also Fanselow 2009), as the XP may in principle be covert (as will be discussed for certain clause-typing operators, but also in topic drop constructions; see Trutkowski 2016).¹⁵

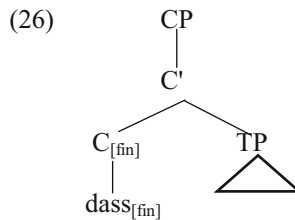
¹⁵ The analysis proposed here so far accommodates not only V2 but also V1 patterns (see also the discussion regarding interrogatives below). One might wonder what the status of V3 orders is, as neither [fin] nor [edge]—the features responsible for V2—seem to rule out surface V3 orders. V3 orders can be observed in German (and beyond) historically and synchronically: a well-known contemporary case is Kiezdeutsch, as illustrated by the following example, taken from Wiese (2009, 787):

- (i) Morgen ich geh Arbeitsamt.
 tomorrow *I* *go* *jobcentre*
 ‘Tomorrow I will go to the job centre.’

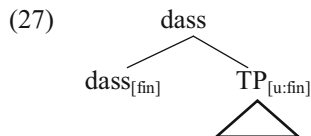
In this case, the verb (*geh*) appears as the third element in the linear configuration, preceded by the adverbial *morgen* ‘tomorrow’ and the subject *ich* ‘I’. V3 orders are unlikely to be the result of the verb failing to move up to C and remaining in T (Walkden 2017). While there is some variation with respect to the elements located in the two specifiers, the findings discussed by Wiese (2009), Freywald et al. (2015), and Walkden (2017) suggest that the lower specifier is most typically a pronominal subject (though non-pronominal subjects and light adverbials such as *hier* ‘here’ and *da* ‘there’ also occur), and the higher specifier is most typically a frame-setting adverb. As Walkden (2017, 64) argues, adverbial elements may be merged directly into the CP-domain, while the lower specifier is filled by an XP moving from within the TP. I assume that the adverbial is added as an additional specifier of the same CP projection (instead of stipulating a higher C head with some additional feature), since multiple specifiers are possible in a merge-based account. Considering the structure-building mechanisms involving [fin] and [edge] given in (25), the [fin] feature is regularly checked by the verb (*geh*) and the [edge] feature is checked off by the subject. Since there are no more unchecked features on C, the C is inactive and no [edge] feature is added anymore. This correctly predicts that any element added as a higher specifier (or adjunct) cannot be an argument moving up to the left periphery, as this would require an [edge] feature. Naturally, the

Regarding English, the idea is that the TP has no uninterpretable finiteness feature: note that lexical verbs do not move up to T in English, unlike in German. At any rate, there is no verb movement to C and hence no [edge] feature is inserted, resulting in the lack of V2, as opposed to other Germanic languages.

The case of finite subordination in declaratives is illustrated in (26) for German (English largely works the same way):



In this case, the complementiser *dass* is inserted, which is equipped with an interpretable [fin] feature. Given this, the feature [fin] on *dass* does not make the C head active and thus no [edge] feature is inserted. The clause is typed as finite by the complementiser: this information is necessary for the matrix predicate. The diagram in (26) uses traditional X-bar labels for ease of representation; note that the Bare Phrase Structure is largely identical:



Essentially the same applies to English *that*-clauses as well, with the important difference that English also allows a zero declarative complementiser. Consider:

- (28) a. I think (**that**) Mary likes wine.
 b. Ich denke, *(**dass**) Maria Wein mag.
I think.1SG that Mary wine likes
 'I think that Mary likes wine.'
 c. Ich denke, Maria **mag** Wein.
I think.1SG Mary likes wine
 'I think that Mary likes wine.'

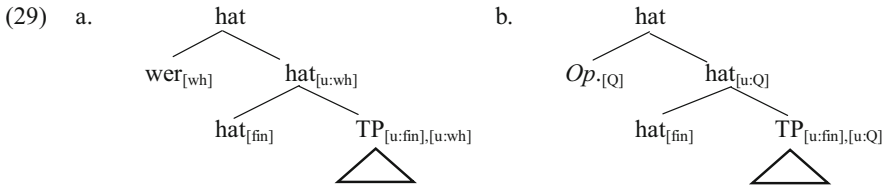
As can be seen, *that* in (28a) is optional, while in German either *dass* is obligatory, as in (28b), or verb movement occurs, as in (28c). Note that English *that* is not always interchangeable with the zero complementiser (for instance, it is not permitted in subject clauses), and authors such as Stowell (1981), Kayne (1984), and

Footnote 15 continued

restrictions applying to the elements in the specifiers would merit further discussion, and the analysis proposed here merely aims at showing how the [edge] and [fin] features can be related to V3 constructions.

Pesetsky (1995) have argued that the zero finite complementiser has the same distribution as traces or can even be treated as a trace (see also the discussion in Rizzi 1997, 318–320). Nevertheless, the point is that the absence of an overt *that* does not necessarily lead to ungrammaticality and it does not trigger verb movement either. Regarding German, it should be mentioned that verbs differ with respect to whether they allow embedded V2 or not: for instance, the verb *bezweifeln* ‘doubt’ allows only a *dass*-clause but not verb fronting. There exist various hypotheses on how the two groups can be separated on formal grounds: a traditional idea is that embedded V2 is allowed by ‘bridge verbs’ (Vikner 1995; see also Green 1976), but this distinction is problematic on empirical grounds, as pointed out by Featherston (2004) and Meklenborg Salvesen and Walkden (2017); see also Hooper and Thompson (1973) for discussion.¹⁶ The point here is simply that verb fronting and the insertion of a finite complementiser may be equivalent options in certain respects, in this case in terms of lexicalising [fin].

Let us turn to matrix interrogatives. Constituent and polar questions are illustrated for German below (essentially the same applies for English):



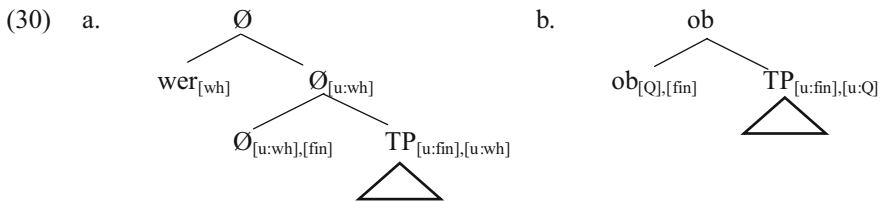
The [fin] feature is lexicalised by verb movement just like in German V2 declaratives; see (25) above. Again, the C head is active, yet the [edge] feature is not inserted, since the operator feature—[Q] or [wh]—triggers movement anyway. The interrogative element is necessarily overt in constituent questions but not in polar questions (at least not in German, but see the discussion concerning historical patterns involving English *whether* in the previous section); however, main clause interrogatives have a distinctive intonation, too. In the case of (29b), the presence of the covert operator results in a surface V1 order in German, as opposed to V2 in constituent questions and in declaratives.

Importantly, movement from T to C is triggered in English in main clause interrogatives as well, unlike in declaratives. This indicates that a zero

¹⁶ There are also different analyses of embedded V2. For instance, Den Besten (1983) treats these clauses as main clauses (V2 being a ‘Main Clause Phenomenon’ in asymmetric V2 languages like German and Dutch); there are various problems with this analysis; see also Heycock (2006). On the other hand, there are analyses treating embedded V2 clauses as proper complement clauses (see Weerman 1989; Hooper and Thompson 1973). Reis (1997) takes a middle way in that she takes embedded V2 clauses to be syntactically relatively unintegrated subclauses (essentially argument clauses that are not located in the complement position of the verb but adjoined to the VP). This is slightly problematic for a merge-based account, and the differences concern primarily the final syntactic position of the subclause and they do not undermine the fact that the matrix verb imposes restrictions in the left periphery of the subclause. For these reasons, I assume that embedded V2-clauses are selected by a matrix verb. Under this view, certain verbs select a complement headed by *dass*, while others select a finite CP complement and do not impose further restrictions on the head. If embedded V2 is possible, it is derived in the same way as (25).

complementiser with a [fin] feature is available in English only in declaratives, but it cannot type the clause as [wh]/[Q]. Assuming that an abstract feature bundle is added in the syntax (see Chomsky and Lasnik 1977) and lexicalised by a matching lexical element, if and to the extent there is one, in the present case there would be simply no complementiser element in the English lexicon to satisfy these requirements. The resulting property of English interrogatives (traditionally referred to as T-to-C movement) is most probably a remnant of the original V2 property of the language; the point is that the lexicalisation of the finite C head may vary across clause types (not just across languages and dialects).

Bearing this in mind, let us consider embedded interrogatives in Standard German and Standard English. The relevant representations are given in (30):

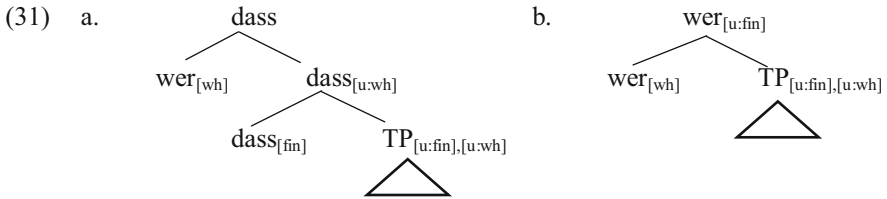


In both cases, the C head is lexicalised by a complementiser: in (30a), an operator appears additionally as a specifier, while in (30b) the complementiser lexicalises [Q] on its own. The case in (30b) is thus straightforward: there is an overt [Q] complementiser with an interpretable [fin] feature. In German, this configuration matches the full syntactic paradigm that we have discussed in connection with main clauses and embedded clauses, in that an overt element is in C. In English, the same configuration matches the embedded paradigm and main clause interrogatives.

The case under (30a), representing Standard German (and English) embedded constituent questions, is more of a challenge. Namely, unlike in all the other cases in (29) and (30), a zero complementiser is licensed. The assumption is that in Standard German, a zero complementiser with a [wh] and [fin] specification is part of the lexicon and is interpretable if it is licensed by a matrix predicate (in other words, such a complementiser is excluded from main clauses). At any rate, this feature specification makes sure that while the element in C (that is, the element directly merged with the TP) is not overt, at least the element merged as a specifier is (given that *wh*-elements are necessarily overt, as discussed earlier): this prevents the generation of phonologically empty projections.

Importantly, (30a) is exceptional in the German paradigm given in (29) and (30) above (but note that relative clauses show the same pattern in this respect, as Standard German allows only relative pronouns). Regarding English, the pattern in (30a) is not in accordance with the rest of the interrogative paradigm and is hence in this sense also exceptional; however, the zero complementiser is possible in embedded declaratives as well, and in this sense the exceptionality is less striking than in German.

Let us now turn to the dialectal patterns of embedded constituent questions (in English and German). Consider the following representations:

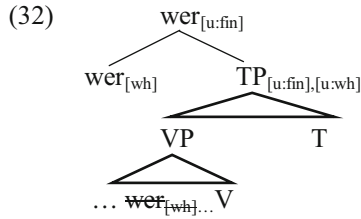


The structure in (31a) is essentially the same as the one in (30a), with the important difference that the complementiser is overt in (31a) but not in (30a). This stems from an underlying lexical difference between the standard language and dialects: in Standard German, the lexicon contains a zero complementiser specified as [fin] and [wh], while there is no such zero complementiser in (Doubly Filled COMP) dialects. The idea is that an abstract feature bundle is inserted in syntax, which is then replaced by a matching lexical item: this lexical item may fully match the features in question, as in (26) above, or it may provide a partial match, as in (31a). While *dass* is incompatible with the [wh] feature in Standard German and is therefore categorically excluded from interrogatives, it is not sensitive to this feature in dialects that allow its insertion in the relevant clauses. In either case, since the [wh] feature is uninterpretable on the complementiser, the movement of the *wh*-element is triggered; further, the [wh] feature on the *wh*-element itself requires fronting due to reasons of semantic scope. The analysis thus far covers symmetric dialects that uniformly allow (e.g., West Flemish; see also Haegeman 1992) or prohibit (e.g., Standard German) Doubly Filled COMP in embedded interrogatives (see the distinctions made by Bayer and Brandner 2008, 94).

In (31b), the situation is somewhat different. This configuration is possible in asymmetric dialects (the ones from Alemannic and Bavarian described by Bayer and Brandner 2008 in detail). Just as in the case of (31a), the abstract feature bundle is lexicalised by a partially matching element, but instead of the finite complementiser, it is the fronted *wh*-element: this element is crucially underspecified for the [fin] feature. Unlike the [wh] feature, which at any rate requires the fronting of the element it is located on, the same is not true for [fin], as in all cases where a complementiser is inserted, the fronting of the verb is not triggered in West Germanic. Configurations like (31b) are licensed only in embedded clauses since the non-lexicalised [fin] feature has to be licensed; main clauses are obligatorily finite and cannot depend on a licensing element from a higher clause.

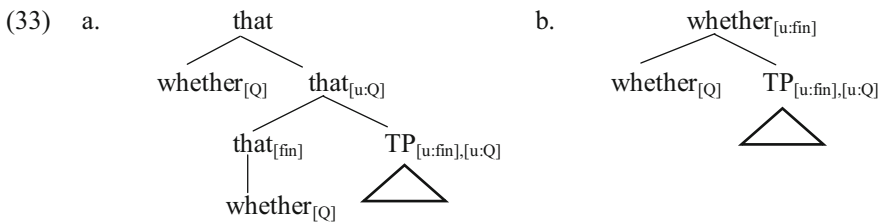
As pointed out in Sect. 3 already, the relevant features matter in terms of clause typing, and additional labels such as C or V do not play a role in Bare Phrase Structure. The relevant features (such as interrogative or finiteness) can be carried by other elements as well, as long as there is no categorial restriction from the matrix predicate. The configuration in (31b) is compatible with a matrix predicate requiring a [wh] complement, while it would not be possible with a matrix predicate requiring a [wh] complement headed by a C element specifically.

The movement of the element *wer* to the left periphery in (31a) is illustrated in (32) below:



The representation in (32) differs from that of Bayer and Brandner (2008, 89–90) in that here no additional labels are assumed (the TP and the VP are used only to indicate abstract structure, but these nodes could also be substituted by actual lexical material). This in turn means that there is no additional C feature: the [wh] feature suffices to account for the observed phenomena. The element *wer*, as said above, is a head-sized element, meaning that it does not project a phrase: when merged in the VP, it is not selected as the label of any resulting syntactic node. Consequently, it can move out as a head, targeting the next available head position, which is the sister of TP: there is no triggering position in between.¹⁷

The situation is essentially the same in the case of polar questions:



Given the similarity between (31) and (33), the question arises why polar interrogatives may be systematically different from constituent questions in preferring the lack of doubling, as was discussed in connection with Old German and English data. As was already mentioned in Sect. 4, the separation of the features [wh] and [Q] is necessary (see the arguments provided by Bayer 2004). This constitutes a lexical difference and as such it is quite likely that a given dialect may have a phonologically zero complementiser specified as [Q] and [fin] but not one specified as [wh] and [fin]—and vice versa.

One of the most important arguments in favour of the separation of the two features [Q] and [wh] is that there are various languages that allow the co-presence

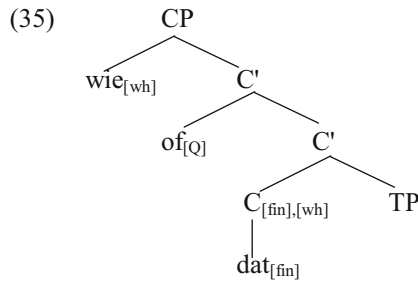
¹⁷ Naturally, it would be interesting to examine how such asymmetries behave in long-distance *wh*-movement, where the effect of the intermediate (local) CP should be visible as well. Such a configuration, however, would require not only one embedded interrogative, but its matrix clause should be embedded itself as well, given that the movement of head-sized *wh*-elements to C in German is restricted to embedded clauses. This question should be investigated by future research.

of distinct elements associated with disjunction, [Q], and with interrogativity, [wh]; see Bayer (2004). This is possible in certain Dutch dialects as well.¹⁸ Consider:

- (34) Ze weet **wie of dat** hij had wilen opbellen.
she knows who if that he had want call
 ‘She knows who he wanted to call.’
 (Bayer 2004, 66, ex. 17, citing Hoekstra 1993)

Note that the Q-element *of*, just like English *if* and historically German *ob*, is not restricted to embedded polar questions but it can appear in conditionals as well, indicating that it is a disjunctive rather than a true interrogative element. Bayer (2004, 66) argues that, while *wh*-elements in Standard Dutch are disjunctive, they lack this feature in the relevant dialects, which thus express disjunction and interrogativity on different elements (as is the case in Korean and Japanese as well; see Bayer 2004, 63–65). Without entering into further discussion regarding this point, I am going to adopt this view in the following.

The proposed structure for the left periphery of the embedded clause in (34) is shown in (35):



The structure differs from that of Bayer (2004, 75), who considers *of* to be the head of a separate Disjunction Phrase: I assume that it can be merged directly as a disjunctive operator, just like in (16). By merging the Q-element with the finite

¹⁸ Just as in the case of polar questions, there is considerable variation in this respect. Barbiers (2009, 1612) reports that patterns like (34) are mostly attested in the Netherlands, just as sequences like *wie of*, while sequences like *wie dat* are more typical in Belgium and the south. Standard Dutch uses only single *wie*. Many speakers allow more than one variant (Barbiers 2009, 1613). The attested optionality (alongside inter-speaker variation) is predicted by the feature-based approach proposed here, since there can be more than one way of checking off the relevant features depending on the lexical properties of the given elements. Interestingly, there appears to be another aspect of variation regarding embedded constituent questions in Dutch: as discussed by Van Craenenbroeck (2010, 243–246), simple *wh*-phrases and complex *wh*-phrases do not pattern exactly the same way in certain dialects, such as Frisian and Strijen Dutch. The difference is not between head-sized and phrase-sized elements, though, unlike what was discussed in connection with South German dialects (see Sect. 3). Rather, it seems that *wh*-phrases may have different feature specifications regarding the [Q] feature, making the appearance of an additional [Q] marker necessary in some cases. Again, an analysis like the one proposed by Baltin (2010) would not predict this to be possible, since a designated projection for all *wh*-phrases is not expected to co-occur with a [Q] marker in the first place and even so, it should not be able to impose restrictions on the lexicalisation of a lower functional head.

complementiser, the [wh] feature is not effectively checked off and hence the phrase remains active, allowing a second merger operation that involves the movement of the *wh*-element. Essentially, both operators are specifiers regarding their relative positions to the head (neither of them is adjoined via head adjunction). This is naturally possible in a merge-based model, while it would be ruled out by strict X-bar rules. Note that the relative position of the *wh*-element with respect to the disjunctive operator does not violate the Minimal Link Condition: the *wh*-element moves to the closest available specifier, as there is no skipped position since *of* and *dat* are not heads of separate projections. Structures like (35) are of relevance here since the proposed account can thus accommodate more complex combinations as well, without resorting to a rigid cartographic distinction between designated phrases.

The final question to be discussed here concerns the (non-)availability of verb movement to C in embedded clauses. As was discussed in connection with (28), this option is not entirely ruled out in Modern Standard German either, and examples from Old German also suggest that this may have been an option in embedded polar interrogatives as well (see Sect. 4). As mentioned earlier, the key factor here seems to be the matrix verb, which may impose selectional restrictions on its complement clause: it may require a CP headed by *dass* (as is the case with *bezweifeln* ‘doubt’), but it may simply require a finite CP, which allows V2 patterns as well (as is the case with *denken* ‘think’). That restrictions from the matrix clause are crucial is indicated also by other dependent clause types that are not taken by a matrix predicate. Consider the following examples:

- (36) a. Plan an escape route, **if** fire should break out.
 b. Plan an escape route, **should** fire break out.

In these cases, as far as the lexicalisation of finiteness is concerned, the English conditionals in (36c) and (36d) are equivalent. The point is that verb movement is not excluded from embedded clauses per se, but it is rather restricted by certain elements appearing or not appearing in the matrix clause. The ban on verb movement in embedded interrogatives can ultimately be drawn back to selectional restrictions.

6 Conclusion

This paper examined Doubly Filled COMP patterns in West-Germanic interrogatives. It was argued that the Doubly Filled COMP Filter cannot be considered a parameter; on the other hand, it is evidently not universal either, so that it is ultimately favourable to dismiss the idea that there is a Doubly Filled COMP Filter at all.

Regarding syntactic structure, I argued that Doubly Filled COMP patterns do not involve two CPs with distinct functions (that is, a cartographic template) but there is rather a single CP, whereby a complementiser is merged with the TP, and the *wh*-

operator is then merged directly (via internal merge), without hence postulating additional empty heads.

It was shown that doubling does not occur for the sake of doubling: the dialects in question do not explicitly require two overt elements in the CP (corresponding to the C head and the specifier in traditional terms): the *wh*-element is overt for obvious semantic reasons, just like in standard West-Germanic languages, and the difference lies in these dialects requiring the lexicalisation of the C head by overt material: in other words, they lack zero complementisers in the lexicon that are possible in other varieties. Depending on the dialect, doubling is not necessarily restricted to constituent questions, but it is also possible in polar questions.

Further, the lexicalisation of the C head is not necessarily carried out by a complementiser: it can take place via the movement of a *wh*-element or of a verb. In essence, the lexicalisation of the C head is attested in the entire syntactic paradigm, whereby the restrictions on the kinds of elements permitted in C are restricted by the matrix predicate (if there is any). Crucially, the general property of V2 in German and indeed most Germanic languages (except for English, which however demonstrates regular T-to-C movement in main clause interrogatives) is related to Doubly Filled COMP patterns in dialects: dialects are consistent with the general syntactic paradigm in that they do not allow a zero complementiser in the exceptional environment where the clause is embedded and specified as [wh] (or [Q], for that matter). The present paper proposed a minimalist, feature-based model that accounts for how multiple elements can be accommodated in the CP and how the lexical properties of the C element influence the properties of the specifier element, if any.

In this way, the differences observed between standard varieties of West Germanic and dialects can be drawn back to lexical differences, in line with Borer (1984). Finally, Doubly Filled COMP patterns are not seen as exceptional in the proposed model but they are in fact consistent with the more general syntactic properties of the respective languages.

Acknowledgements Open Access funding provided by Projekt DEAL. This research was funded by the German Research Fund (DFG), as part of my project ‘The syntax of functional left peripheries and its relation to information structure’ (BA 5201/1-1), carried out at the University of Potsdam. I owe many thanks to Gisbert Fanselow for various discussions on this topic, as well as Malte Zimmermann, Craig Thiersch, Ellen Brandner, Marco Coniglio, Helmut Weiß and Oliver Schallert for their helpful comments and questions on earlier versions of the analysis. Extra thanks go to Gereon Müller and Jeroen van Craenenbroeck for their insightful questions to my related presentation at GLOW 39 in 2016 in Göttingen. I would also like to thank the three anonymous reviewers for their inspiring and constructive suggestions on the present paper. My research behind (and well beyond) this paper benefited a lot from discussions with the late Ilse Zimmermann; this paper is dedicated to her memory.

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References

- Allen, Cynthia. 1980. *Whether* in Old English. *Linguistic Inquiry* 11(4): 789–793.
- Axel, Katrin. 2007. *Studies on Old High German syntax: Left sentence periphery, verb placement and verb-second*. Amsterdam: John Benjamins.
- Bacsikai-Atkari, Julia. 2014. Cyclical change in Hungarian comparatives. *Diachronica* 31(4): 465–505.
- Bacsikai-Atkari, Julia. 2018a. Complementizers and negative polarity in German hypothetical comparatives. In *The grammatical realization of polarity contrast: Theoretical, empirical and typological approaches*, ed. Christine Dimroth and Stefan Sudhoff, 89–108. Amsterdam: John Benjamins.
- Bacsikai-Atkari, Julia. 2018b. *Deletion phenomena in comparative constructions: English comparatives in a cross-linguistic perspective*. Berlin: Language Science Press.
- Bacsikai-Atkari, Julia. 2018c. Deutsche Dialekte und ein anti-kartografischer Ansatz zur CP-Domäne. In *Syntax aus Saarbrücker Sicht 2: Beiträge der SaRDs-Tagung zur Dialektsyntax*, ed. Augustin Speyer and Philipp Rauth, 9–29. Stuttgart: Steiner.
- Bacsikai-Atkari, Julia. 2019. *Doubling in Germanic relative clauses*. Paper presented at Generative Grammatik des Südens 2019 (GGs 45), Frankfurt, Goethe-Universität Frankfurt, 19–21 July 2019.
- Bacsikai-Atkari, Julia, and Lisa Baudisch. 2018. *Clause typing in Germanic: A questionnaire and its results*. <https://publishup.uni-potsdam.de/frontdoor/index/index/docId/40681>. Accessed 7 April 2018.
- Baltin, Mark. 2010. The nonreality of doubly filled Comps. *Linguistic Inquiry* 41(2): 331–335.
- Barbiers, Sjef. 2009. LOCUS and limits of syntactic microvariation. *Lingua* 119(11): 1607–1623.
- Bayer, Josef. 1984. COMP in Bavarian Syntax. *The Linguistic Review* 3: 209–274.
- Bayer, Josef. 2004. Decomposing the left periphery: Dialectal and cross-linguistic evidence. In *The syntax and semantics of the left periphery*, ed. Horst Lohnstein and Susanne Trissler, 59–95. Berlin: Walter de Gruyter.
- Bayer, Josef. 2015. Doubly-Filled Comp, wh head-movement, and derivational economy. In *Representing structure in phonology and syntax*, ed. Marc van Oostendorp and Henk van Riemsdijk, 7–40. Berlin: De Gruyter.
- Bayer, Josef, and Ellen Brandner. 2008. On wh-head-movement and the Doubly-Filled-Comp Filter. In *Proceedings of the 26th West Coast Conference on Formal Linguistics*, ed. Charles B. Chang and Hannah J. Haynie, 87–95. Somerville, MA: Cascadia Proceedings Project.
- Bianchi, Valentina, and Silvio Cruschina. 2016. The derivation and interpretation of polar questions with a fronted focus. *Lingua* 170: 47–68.
- Boef, Eefje. 2013. *Doubling in relative clauses: Aspects of morphosyntactic microvariation in Dutch*. Utrecht: LOT.
- Borer, Hagit. 1984. *Parametric syntax*. Dordrecht: Foris.
- Brandner, Ellen. 2008. Patterns of doubling in Alemannic. In *Microvariation in syntactic doubling*, ed. Sjef Barbiers, Olaf Koenenman, Marika Lekakou, and Margreet van der Ham, 353–379. Leiden: Brill.
- Brandner, Ellen, and Iris Bräuning. 2013. The particle *wo* in Alemannic: Only a complementizer? *Linguistische Berichte* 234: 131–169.
- Cheng, Lisa. 1991. *On the typology of wh-questions*. PhD dissertation. Cambridge, MA: MIT.
- Chomsky, Noam. 1965. *Aspects of the theory of syntax*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries. In *Step by step: Essays on Minimalism in honor of Howard Lasnik*, ed. Roger Martin, David Michaels, and Juan Uriagereka, 89–155. Cambridge, MA: MIT Press.
- Chomsky, Noam, and Howard Lasnik. 1977. Filters and control. *Linguistic Inquiry* 8(3): 425–504.
- Coniglio, Marco, Sonja Linde, and Tom Ruette. 2017. Relative clauses in Old High German: A corpus-based statistical investigation of their syntactic and information-structural properties. *Journal of Germanic Linguistics* 29(2): 101–146.
- den Besten, Hans. 1983. On the interaction of root transformations and lexical deletive rules. In *On the formal syntax of the Westgermania*, ed. Werner Abraham, 47–131. Amsterdam: John Benjamins.
- den Besten, Hans. 1989. *Studies in West Germanic syntax*. Amsterdam: Atlanta.
- Fanselow, Gisbert. 1990. On the nature of proper government and syntactic barriers. In *Issues in Germanic syntax*, ed. Werner Abraham, Wim Kosmeijer, and Erich Reuland, 33–48. Berlin: Mouton de Gruyter.
- Fanselow, Gisbert. 1991. *Minimale Syntax*. Groningen: Rijksuniversiteit Groningen.

- Fanselow, Gisbert. 2002. Quirky subjects and other specifiers. In *More than words*, ed. Ingrid Kaufmann and Barbara Stiebels, 227–250. Berlin: Akademie-Verlag.
- Fanselow, Gisbert. 2004a. Cyclic phonology–syntax–interaction: Movement to first position in German. In *Interdisciplinary Studies in Information Structure vol. I.: Working papers of the SFB632*, ed. Shinichiro Ishihara, Michaela Schmitz, and Anne Schwarz, 1–42. Potsdam: Universitätsverlag Potsdam.
- Fanselow, Gisbert. 2004b. Münchenhausen-style head movement and the analysis of verb second. In *Three papers on German verb movement*, ed. Ralf Vogel, 9–49. Potsdam: Universitätsverlag Potsdam.
- Fanselow, Gisbert. 2009. Bootstrapping verb movement and the clausal architecture of German (and other languages). In *Advances in comparative Germanic syntax*, ed. Artemis Alexiadou, Jorge Hankamer, Thomas McFadden, Justin Nuger, and Florian Schäfer, 85–118. Amsterdam: John Benjamins.
- Featherston, Samuel. 2004. Bridge verbs and V2 verbs – the same thing in spades? *Zeitschrift für Sprachwissenschaft* 23(2): 181–209.
- Fischer, Olga. 1992. Syntax. In *The Cambridge History of the English Language, Vol. II: 1066–1476*, ed. Norman Blake, 207–408. Cambridge: Cambridge University Press.
- Fleischer, Jürg. 2004. A typology of relative clauses in German dialects. In *Trends in linguistics: Dialectology meets typology*, ed. Bernd Kortmann, 211–243. Berlin: Mouton de Gruyter.
- Fleischer, Jürg. 2017. Relativsatz-Einleitung. In *SyHD-atlas*. <http://www.syhd.info/apps/atlas/#relativsatz-einleitung>. Accessed 28 March 2017.
- Frey, Werner. 2005. Zur Syntax der linken Peripherie im Deutschen. In *Deutsche Syntax: Empirie und Theorie*, ed. Franz Josef d’Avis, 147–171. Göteborg: Acta Universitatis Gothoburgensis.
- Freywald, Ulrike, Leonie Cornips, Natalia Ganuza, Ingvild Nistov, and Toril Opsahl. 2015. Beyond verb second – A matter of novel information-structural effects? Evidence from German, Swedish, Norwegian and Dutch. In *Language, youth and identity in the 21st century: Linguistic practices across urban spaces*, ed. Jacomine Nortier and Bente A. Svendsen, 73–92. Cambridge: Cambridge University Press.
- van Gelderen, Elly. 2013. *Clause structure*. Cambridge: Cambridge University Press.
- Gillmann, Melitta. 2018. Wiewohl daß der Türck in Polen eingefallen: *The loss of the German connector-dass-construction*. Paper presented at 40th Annual Conference of the German Linguistics Society (DGfS 2017), workshop: Lost in change: Causes and processes in the loss of grammatical constructions and categories, Stuttgart, Universität Stuttgart, 7–9 March 2018.
- Green, Georgia M. 1976. Main clause phenomena in subordinate clauses. *Language* 52: 382–397.
- Haegeman, Liliane. 1992. *Theory and description in generative syntax: A case study in West Flemish*. Cambridge: Cambridge University Press.
- Herrmann, Tanja. 2005. Relative clauses in English dialects of the British Isles. In *A comparative grammar of British English dialects: Agreement, gender, relative clauses*, ed. Bernd Kortmann, 21–124. Berlin: Mouton de Gruyter.
- Heycock, Caroline. 2006. Embedded root phenomena. In *The Blackwell companion to syntax, Vol. 1*, ed. Martin Everaert and Henk van Riemsdijk, 174–209. Oxford: Blackwell.
- Hinterhölzl, Roland, and Svetlana Petrova. 2010. From V1 to V2 in West Germanic. *Lingua* 120(2): 315–328.
- Hoeksema, Jack. 2009. Jespersen recycled. In *Cyclical change*, ed. Elly van Gelderen, 15–34. Amsterdam: John Benjamins.
- Hoekstra, Eric. 1993. Dialectal variation inside CP as parametric variation. In *Dialektsyntax*, ed. Werner Abraham and Josef Bayer, 161–179. Opladen: Westdeutscher Verlag.
- Hooper, Joan, and Sandra Thompson. 1973. On the applicability of root transformations. *Linguistic Inquiry* 4: 465–497.
- Höhle, Tilman. 1986. Der Begriff ‘Mittelfeld’: Anmerkungen über die Theorie der topologischen Felder. In *Akten des Siebten Internationalen Germanistenkongresses 1985, Göttingen, Germany*, ed. Albrecht Schöne, 329–340. Tübingen: Niemeyer.
- Jäger, Agnes. 2010. Der Komparativzyklus und die Position der Vergleichspartikel. *Linguistische Berichte* 224: 467–493.
- Jäger, Agnes. 2016. *Vergleichskonstruktionen im Deutschen: Diachroner Wandel und synchrone Variation*. Habilitationsschrift. Köln: Universität zu Köln.
- Kathol, Andreas. 2000. *Linear syntax*. Oxford: Oxford University Press.
- Kayne, Richard. 1984. *Connectedness and binary branching*. Dordrecht: Foris Publications.
- Kayne, Richard. 1994. *The antisymmetry of syntax*. Cambridge, MA: MIT.
- Koopman, Hilda. 2000. *The syntax of specifiers and heads*. London: Routledge.

- Larson, Richard. 1985. Bare NP-adverbs. *Linguistic Inquiry* 16(4): 595–621.
- Lees, Robert B. 1960. *The grammar of English nominalizations*. The Hague: Mouton.
- Lees, Robert B. 1961. The constituent structure of Noun Phrases. *American Speech* 36: 159–168.
- Lenerz, Jürgen. 1984. *Syntaktischer Wandel und Grammatiktheorie: Eine Untersuchung an Beispielen aus der Sprachgeschichte des Deutschen*. Berlin: Walter de Gruyter.
- Meklenborg Salvesen, Christine, and George Walkden. 2017. Diagnosing embedded V2 in Old English and Old French. In *Micro-change and macro-change in diachronic syntax*, ed. Eric Mathieu and Rob Truswell, 168–181. Oxford: Oxford University Press.
- Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands, and the theory of ellipsis*. Oxford: Oxford University Press.
- Montgomery, Michael, and Guy Bailey. 1991. *In which*: A new form in written English. *American Speech* 66: 147–163.
- Müller, Gereon. 2011. *Constraints on displacement: A phase-based approach*. Amsterdam: John Benjamins.
- Noth, Harald. 1993. *Alemannisches Dialekthandbuch vom Kaiserstuhl und seiner Umgebung*. Freiburg: Schillinger.
- Pesetsky, David. 1995. *Zero syntax*. Cambridge, MA: MIT Press.
- Pittner, Karin. 1995. The case of German relatives. *The Linguistic Review* 12(3): 197–231.
- Reis, Marga. 1985. Satzeinleitende Strukturen im Deutschen: Über COMP, Haupt- und Nebensätze, W-Bewegung und die Doppelkopfanalyse. In *Erklärende Syntax des Deutschen*, ed. Werner Abraham, 271–311. Tübingen: Narr Verlag.
- Reis, Marga. 1997. Zum syntaktischen Status unselbständiger Verbzweit-Sätze. In *Sprache im Fokus: Festschrift für Heinz Vater zum 65. Geburtstag*, ed. Christa Dürscheid, Karl Heinz Ramers, and Monika Schwarz, 121–144. Tübingen: Niemeyer.
- Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of grammar*, ed. Liliane Haegeman, 281–337. Dordrecht: Kluwer.
- Romaine, Suzanne. 1982. *Socio-historical linguistics*. Cambridge: Cambridge University Press.
- Salzmann, Martin. 2017. *Reconstruction and resumption in indirect A'-dependencies: On the syntax of prolepsis and relativization in (Swiss) German and beyond*. Berlin: Mouton de Gruyter.
- Sauerland, Uli. 1998. *The meaning of chains*. PhD dissertation. Cambridge, MA: MIT.
- Sauerland, Uli. 2003. Unpronounced heads in relative clauses. In *The interfaces: Deriving and interpreting omitted structures*, ed. Kerstin Schwabe and Susanne Winkler, 205–226. Amsterdam: John Benjamins.
- Stowell, Tim. 1981. *Origins of phrase structure*. PhD dissertation. Cambridge, MA: MIT.
- Tagliamonte, Sali, Jennifer Smith, and Helen Lawrence. 2005. No taming the vernacular! Insights from the relatives in northern Britain. *Language Variation and Change* 17: 75–112.
- Traugott, Elizabeth Closs, and Graeme Trousdale. 2010. Gradience, gradualness and grammaticalization: How do they intersect? In *Gradience, gradualness and grammaticalization*, ed. Elizabeth Closs Traugott and Graeme Trousdale, 19–44. Amsterdam: John Benjamins.
- Trutkowski, Ewa. 2016. *Topic drop and null subjects in German*. Berlin: De Gruyter.
- van der Auwera, Johan. 2009. The Jespersen cycles. In *Cyclical change*, ed. Elly van Gelderen, 35–71. Amsterdam: John Benjamins.
- van Craenenbroeck, Jeroen. 2010. Complex wh-phrases don't move On the interaction between the split CP-hypothesis and the syntax of wh-movement. In *The Complementizer Phrase: Subjects and operators*, ed. E. Phoivos Panagiotidis, 236–260. Oxford: Oxford University Press.
- van Gelderen, Elly. 2004. *Grammaticalization as economy*. Amsterdam: John Benjamins.
- van Gelderen, Elly. 2009. Renewal in the left periphery: Economy and the complementiser layer. *Transactions of the Philological Society* 107(2): 131–195.
- Vikner, Sten. 1995. *Verb movement and expletive subjects in the Germanic languages*. Oxford: Oxford University Press.
- Vikner, Sten, Ken Ramshøj Christensen, and Anne Mette Nyvad. 2017. V2 and cP/CP. In *Order and structure in syntax I: Word order and syntactic structure*, ed. Laura R. Bailey and Michelle Sheehan, 313–324. Berlin: Language Science Press.
- Walkden, George. 2014. *Syntactic reconstruction and Proto-Germanic*. Oxford: Oxford University Press.
- Wallage, Phillip. 2008. Jespersen's cycle in Middle English: Parametric variation and grammatical competition. *Lingua* 118: 643–674.

- Wallage, Phillip. 2015. Identifying the role of pragmatic activation in changes to the expression of English negation. In *Negation and polarity: Experimental perspectives*, ed. Pierre Larrivé and Chungmin Lee, 199–227. Heidelberg: Springer.
- Weerman, Fred. 1989. *The V2 conspiracy: A synchronic and a diachronic analysis of verbal positions in Germanic languages*. Dordrecht: Foris Publications.
- Weise, Oskar. 1917. Die Relativpronomina in den deutschen Mundarten. *Zeitschrift für deutsche Mundarten* 12: 64–71.
- Weiß, Helmut. 2013. Satztyp und Dialekt. In *Satztypen des Deutschen*, ed. Jörg Meibauer, Markus Steinbach, and Hans Altmann, 764–785. Berlin: Walter de Gruyter.
- Westergaard, Marit. 2007. English as a mixed V2 grammar: Synchronic word order inconsistencies from the perspective of first language acquisition. *Poznan Studies in Contemporary Linguistics* 43: 107–131.
- Westergaard, Marit. 2008. Acquisition and change: On the robustness of the triggering experience for word order cues. *Lingua* 118: 1841–1863.
- Westergaard, Marit. 2009. *The acquisition of word order: Micro-cues, information structure and economy*. Amsterdam: John Benjamins.
- Wiese, Heike. 2009. Grammatical innovation in multiethnic urban Europe: New linguistic practices among adolescents. *Lingua* 119: 782–806.
- Zimmermann, Malte. 2013. Ob-VL-Interrogativsatz. In *Satztypen des Deutschen*, ed. Jörg Meibauer, Markus Steinbach, and Hans Altmann, 84–104. Berlin: Walter de Gruyter.

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