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How do you sluice when there is more than one CP?

JEROEN VAN CRAENENBROECK

3.1 Introduction

As is well known, sluicing refers to the phenomenon whereby an interrogative clause is reduced to a mere *wh*-phrase. Consider a basic example in (1).

- (1) Ed saw someone, but I don't know *who*.

In this sentence, the IP part of the embedded clause *who Ed saw* is deleted, leaving only the *wh*-phrase. Schematically, the structure of this clause can be represented as in (2) (see Merchant 2001: 3).

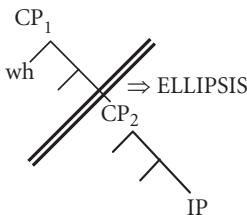
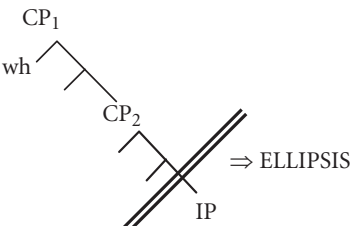
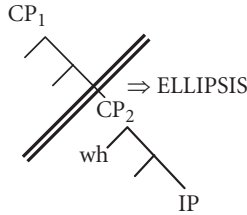
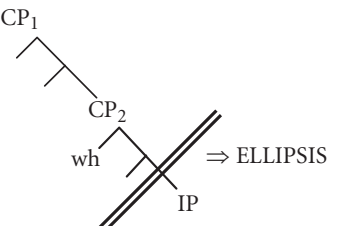
- (2)
-
- ```

graph TD
 CP --> who["who
[+wh]"]
 CP --> C_prime["C'"]
 C_prime --> C0["C0
[+Q]"]
 C_prime --> IP["IP"]

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In this partial derivation, the *wh*-phrase *who* first moves to the specifier position of the embedded CP, and at PF, the phonological content of the IP is deleted. (See Merchant (2001, to appear b), van Craenenbroeck and Merchant (to appear) for ample argumentation in favor of a PF-deletion analysis of sluicing.) What this abstract representation does not take into account, however, is that what was traditionally conceived of as a single projection, i.e. CP, might in fact constitute a conglomerate of more than one functional projection (see in particular Rizzi (1997) and much literature in its wake). Needless to say, such a view would necessitate a further refinement of the analysis schematically represented in (2). For example, if *wh*-movement targets a low CP-projection, material that surfaces in higher CP-layers (either through movement or as the result of base generation) should in principle be able to survive the deletion process that is part of sluicing. On the other hand, if the *wh*-phrase surfaces in a high

CP-layer, it might be a low CP-projection that is deleted in sluicing, rather than IP. In order to make these issues more concrete, consider the simplified and partial tree structures in (3). In these representations, the unitary CP of the analysis in (2) has been split up into two separate projections (neutrally labeled CP<sub>1</sub> and CP<sub>2</sub> here), and the combination of the two parameters mentioned above (the position targeted by the *wh*-phrase on the one hand and the projection undergoing deletion on the other) yields four logical possibilities.

- (3) a. *wh* in SpecCP<sub>1</sub>, deletion of CP<sub>2</sub>      b. *wh* in SpecCP<sub>1</sub>, deletion of IP
- 
- 
- c. *wh* in SpecCP<sub>2</sub>, deletion of CP<sub>2</sub>      d. *wh* in SpecCP<sub>2</sub>, deletion of IP
- 
- 

Arguably, the structure represented in (3c) is not a well-formed instance of sluicing. Here, the *wh*-phrase is contained inside the projection that is deleted (i.e. CP<sub>2</sub>), and as a result it does not show up overtly. Given that the presence of an overt remnant (*wh* or otherwise; see van Craenenbroeck and Lipták (2005, 2006, to appear)) is a defining characteristic of sluicing, this structure is not a licit instantiation of this construction. Moreover, under the uncontroversial assumption that ellipsis sites cannot contain any focus-marked material (Merchant 2001: Chapter 1), this structure is illicit regardless of whether it represents an instance of sluicing or not. Given that a sluiced *wh*-phrase is invariably focus-marked (Hartman 2007), it cannot be part of a structure that is elided, and the partial derivation depicted in (3c) should crash. This leaves the three options in (3a), (3b), and (3d) as possible structural representations of sluicing in a split CP.

As discussed by van Craenenbroeck and Lipták (2005, 2006, to appear), the configuration in (3d) is attested in many languages. As a way of illustrating this, consider the Hungarian example in (4) (Merchant 2001: 81–2).

- (4) A gyerekek találkoztak valakivel de nem emlékszem, hogy  
 the children met someone.with but not I.remember that  
 kivel.  
 who.with

‘The children met someone, but I don’t know who.’ [Hungarian]

It is well established that in Hungarian, *wh*-movement targets a low CP-projection, traditionally referred to as FocP (see for example Lipták (2001) and references cited there). Given that the CP-layer hosting the declarative complementizer *hogy* ‘that’ dominates FocP, it is not contained in the ellipsis site and should be able to survive deletion. The presence of *hogy* to the left of the sluiced *wh*-phrase in (4) shows that this is indeed the case. Moreover, given that topicalization targets a position in between *hogy* and FocP in Hungarian, it too should be immune to sluicing. The example in (5) (van Craenenbroeck and Lipták to appear: 17–18) shows that this prediction is borne out.<sup>1</sup>

- (5) ?Tudom, hogy a diákok és a tanárok is meghívtak valakit,  
 know-1SG that the students and the teachers also invited someone  
 de nem tudom, hogy a diákok kit.  
 but not know-1SG that the students whom

‘I know that the students and the teachers each invited someone, but I don’t know who the students invited.’ [Hungarian]

What (4) and (5) illustrate, then, is that the configuration in (3d) represents one possible form the interaction between the syntax of sluicing and the split-CP hypothesis can take: When the *wh*-phrase targets a low CP-projection and IP is deleted, the higher left peripheral layers remain available and can contain overt material. In this paper I focus on the other two configurations the taxonomy in (3) yields, i.e. the structures in (3a) and (3b). I show that even if a moved *wh*-phrase ends up in the highest available CP-layer, there is still variation as to which part of the clausal structure undergoes deletion, i.e. IP in some cases and a low CP-projection in others.

This paper is organized as follows. In the next section I introduce and defend a particular instantiation of the split-CP hypothesis. I show that—at least in Dutch, German, Frisian, and English—there are good reasons to assume that the derivation of a *wh*-question involving a complex *wh*-phrase like *which boy* differs substantially from one featuring a simple *wh*-phrase such as *who* or *what*. In Section 3.3, I combine this view on the CP-domain with the syntax of sluicing, and argue that the interaction between the two leads to the conclusion that sluicing does not always delete the same

<sup>1</sup> In this example several variables have to be controlled for. On the one hand, the fronted element cannot represent new information, for then it would be a focus and hence in complementary distribution with the *wh*-phrase in SpecFocP. On the other hand, it cannot be entirely old information either, because then it would undergo deletion with the rest of IP. This delicate balance probably explains the mild deviance of the example in (5).



move from their IP-internal base position through SpecCP<sub>2</sub> (where they check an operator feature) onto SpecCP<sub>1</sub> (to check a clause typing feature), complex wh-phrases are base-generated in SpecCP<sub>1</sub> (and check their clause typing feature in situ), while an empty operator moves from the IP-internal base position to SpecCP<sub>2</sub> (to check the operator feature).

The proposal just sketched bears some resemblance to existing accounts of the CP-domain and/or the syntax of wh-movement. Most notably, it fits into the line of research exemplified by Munaro (1998), Poletto and Pollock (2002), Zanuttini and Portner (2003), and others, which argues that there is a correlation between the internal complexity of a wh-phrase and its left-peripheral syntax, i.e. simple and complex wh-phrases target different positions in the left periphery. Moreover, the idea that (a particular group of) wh-phrases can be base-generated in SpecCP is one that can be found in the literature on Irish (see in particular McCloskey (1979, 1990)) and on wh-adverbials (Reinhart 1981, Rizzi 1990, Culicover 1991). Finally, the combination of base-generating a wh-phrase in a left-peripheral position and concomitant empty operator movement is reminiscent of languages that employ a cleft strategy to form wh-questions (see Cheng (1991) for discussion). In spite of these parallelisms, however, it is clear that the specific proposal in (6) differs substantially from the accounts mentioned. For example, although base-generating a wh-phrase in the left periphery is not a new idea, no one has to my knowledge proposed that only complex wh-phrases make use of this strategy. Similarly, while the different left-peripheral syntax of simple and complex wh-phrases is not a new topic, it has so far not been applied to the set of languages under discussion here (Dutch, Frisian, German, and English). Summing up, it is clear that the current proposal as it stands is in need of some empirical support. This is what I turn to in the next section.

### 3.2.2 *Backing up the proposal*

In this section I review five sets of data, each of which provides empirical support for a particular aspect of the analysis introduced in the previous section. These arguments should have the combined effect of strengthening the proposal as a whole. All the examples will be drawn from Germanic, more specifically from Dutch, German, Frisian, and English.

3.2.2.1 *Two head positions* Although most of the existing proposals for splitting up CP concentrate on non-Germanic languages such as Italian or Hungarian, a language like Dutch also contains clear indications that CP is not the unitary projection it was once believed to be. As was pointed out by Hoekstra and Zwart (1994, 1997) and Bennis (1997, 2000), the fact that Dutch allows the interrogative complementizer *of* ‘if’ and the declarative complementizer *dat* ‘that’ to co-occur both in embedded wh-questions and in embedded yes/no-questions suggests that there are two head

positions present in the left periphery in this language. Consider in this respect the examples in (7).

- (7) a. Ik weet niet of dat Jan gaat komen.  
 I know not if that John goes come  
 ‘I don’t know if John will come.’
- b. Ik vraag me af wie of dat je zoekt.  
 I ask me PRT who if that you seek  
 ‘I wonder who you’re looking for.’ [colloquial Dutch]

Following Hoekstra and Zwart and Bennis, I assume that *of* ‘if’ occupies the head position of CP<sub>1</sub>, while *dat* ‘that’ heads CP<sub>2</sub>.<sup>2</sup> As the presence of more than one functional head is still one of the most convincing arguments in favor of splitting up CP, the data in (7) provide strong support for the proposal outlined in the previous section. However, given that the Hoekstra/Zwart/Bennis analysis of (7) is not uncontested—Sturm (1996) suggests that the sequence *of dat* ‘if that’ represents one single morphologically complex complementizer heading a single CP—I want to present an extra argument in its favor. This will have the added effect of strengthening another aspect of the analysis presented above, namely the claim that complex wh-phrases do not leave a trace in SpecCP<sub>2</sub>.

The data I want to discuss concern the fact (first noted by Hoekstra (1994)) that in a small number of Dutch dialects the complementizer *of* ‘if’ can precede rather than follow the wh-phrase in an embedded wh-question. As shown in (8), the dialect of Strijen is one of them.<sup>3</sup>

- (8) Ik weet niet of met wie Jan oan et proate was.  
 I know not if with who John on it talk was  
 ‘I don’t know who John was talking to.’ [Strijen Dutch]

The prediction raised by such data for the lexical status of the string *of dat* ‘if that’ is clear. If this sequence represents one single complementizer, wh-phrases should be unable to occur in between *of* ‘if’ and *dat* ‘that’ (given uncontroversial assumptions about lexical integrity). If, on the other hand, *of* ‘if’ and *dat* ‘that’ head different projections, wh-phrases might in principle be able to land in the specifier position

<sup>2</sup> Note that my analysis diverges markedly from that of Hoekstra and Zwart when it comes to the identification of these two CPs. They argue that the high CP-projection is targeted exclusively by wh-phrases, while the lower one only hosts topicalised phrases. The Strijen Dutch data in (9) form a clear counterexample to this claim. My account is more akin to that of Bennis. He claims that CP<sub>1</sub> is the projection specialized in clause typing. We disagree, however, when it comes to CP<sub>2</sub>. Bennis suggests it is a projection in which subordination is marked (and he calls it SubP), while I will argue that it is the projection where operator features are checked.

<sup>3</sup> This phenomenon appears to be dying out in the dialects of Dutch: Of the four Strijen Dutch speakers I consulted, only two allowed the complementizer to precede the wh-phrase (while all allowed it to follow), and for the dialect of Amsterdam, where the phenomenon has also been reported, I was unable to find a speaker allowing the pattern.

of the projection headed by *dat* ‘that’, in which case they would appear in between the two complementizers. As the example in (9) illustrates, it is the second of these two predictions that is borne out.

- (9) Ik weet niet of met wie dat Jan oan et proate was.  
 I know not if with who that John on it talk was  
 ‘I don’t know who John was talking to.’ [Strijen Dutch]

That fact that *met wie* ‘with whom’ can occur in between *of* ‘if’ and *dat* ‘that’ is a clear indication that these two complementizers head different projections, *pace* Sturm (1996). Moreover, the examples in (8) and (9) are relevant for another aspect of my analysis as well. They seem to suggest that in the dialect of Strijen, *wh*-phrases have the option of landing in the specifier position of  $CP_2$  without moving on to  $SpecCP_1$ .<sup>4</sup> As such, these data make a very strong prediction with respect to complex *wh*-phrases. If they are base-generated in  $SpecCP_1$ , they should be unable to be preceded by *of* ‘if’. Complex *wh*-phrases cannot optionally land in  $SpecCP_2$  because they never move through that projection in the first place. As is shown in (10), this prediction is borne out.

- (10) Ik vroag me af <\*of> welke jonge <of> die maisjes gistere  
 I ask me off if which boy if the girls yesterday  
 gezien hebbe.  
 seen have  
 ‘I wonder which boy the girls saw yesterday.’ [Strijen Dutch]

Summing up, the Strijen Dutch data I have looked at in this section turn out to provide strong support for two independent aspects of the analysis of the CP-domain introduced in the previous section. On the one hand, the fact that *wh*-phrases can occur in between *of* ‘if’ and *dat* ‘that’ shows that *of dat* ‘if that’ is not a single, morphologically complex complementizer. On the other hand, the absence of complex *wh*-phrases to the right of *of* ‘if’ suggests that they never land in  $SpecCP_2$ .

3.2.2.2 *The operator/non-operator status of wh-phrases* The analysis in (6) suggests that there is a substantial featural difference between simple and complex *wh*-phrases. While the former move through  $SpecCP_2$  to check an operator feature, the latter are base-generated in  $SpecCP_1$  and only check a clause-typing feature. In other words, simple *wh*-phrases are syntactic operators, but complex ones are not. Interestingly, precisely this conclusion was reached on entirely independent grounds in much syntactic literature published in the eighties and early nineties. For example, much of the

<sup>4</sup> I will have nothing to say about what causes the variation between the dialect of Strijen and, say, standard Dutch. For lack of a more insightful explanation, one could claim that the clause-typing feature on  $C_1^0$  is optionally strong in this dialect. It is clear that more research is needed on this topic. See also van Craenenbroeck (2010: 39–40), who shows that Frisian is similar to Strijen Dutch in this respect.

data that was discussed in the context of English *wh-in-situ* (in multiple *wh*-questions) is amenable to a similar analysis (Reinhart 1987, 1990, Pesetsky 1987, Hornstein and Weinberg 1987, Guéron and May 1987). The most well-known piece of data in this respect concerns the contrast in (11).

- (11) a. \*What did who buy?  
b. What did which boy buy?

While simple *wh*-phrases are subject to Superiority, complex ones are not.<sup>5</sup> This contrast receives a straightforward account under the assumption that simple *wh*-phrases, unlike their complex counterparts, are syntactic operators. Specifically, in (11a) the operator feature on  $C_2^0$  has failed to attract the closest bearer of a matching feature (i.e. *who*), and as a result the derivation is ruled out as a violation of Attract Closest (or some other comparable locality principle). The complex *wh*-phrase *which boy* in (11b) on the other hand does not bear an operator feature (it is not a syntactic operator), and so the derivation converges. Summing up, Superiority contrasts like the one in (11) support the assumption that complex *wh*-phrases, unlike simple ones, are not syntactic operators (see Reinhart (1987) for similar reasoning based on weak crossover violations at LF).<sup>6</sup>

Another set of data that leads to this conclusion comes from contrastive left dislocation (CLD) in Dutch. Consider the examples in (12).

- (12) a. Die jongens<sub>i</sub>, die<sub>i</sub> ken ik niet *t*<sub>die</sub>.  
those boys DEM know I not  
'Those boys, I don't know.'  
b. \*Iedereen<sub>i</sub>, die<sub>i</sub> ken ik niet *t*<sub>die</sub>.  
everybody DEM know I not [Dutch]

The sentence in (12a) represents a typical instantiation of CLD: A phrase (in this case the DP *die jongens* 'those boys') is merged in the left periphery of the clause, while a coreferential demonstrative pronoun moves from the IP-internal base position to the V2-position of the clause (see Hoekstra and Zwart (1997) and Hoekstra (1999) for arguments in favor of this analysis for Dutch and Frisian CLD, and see Grohmann (2001) for general discussion of CLD in Germanic). What the example in (12b) illustrates is that the CLD-ed phrase cannot be a bare quantifier (see Cinque (1986) for a

<sup>5</sup> Note that I am following Hornstein and Weinberg (1987), Reinhart (1987), Guéron and May (1987), Aoun et al. (1987), and Aoun and Li (2003) in assuming the relevant factor distinguishing (11a) from (11b) to be syntactic complexity rather than d-linking (as in Pesetsky (1987, 2000), Comorovski (1996), and Dayal (2006)). See Aoun and Li (2003: Chapter 2) and van Craenenbroeck (2010: 40–42) for relevant discussion.

<sup>6</sup> In this short discussion I cannot do justice to the vast literature on Superiority, nor is it my ambition to do so. Rather, what I wanted to show is that the basic facts in (11) follow naturally from the present proposal under an Attract Closest account of Superiority (cf. Chomsky (1995: 296)). See Pesetsky (2000), Dayal (2003), Fanselow (2004), Barss (2000), Aoun and Li (2003), and references cited there for further discussion of Superiority.



similar claim about Italian clitic left dislocation). Now consider from this perspective the contrast in (13).

- (13) a. ??Welke jongens die ken je niet?  
           which boys DEM know you not  
       b. \*Wie die ken je niet?  
           who DEM know you not

Not surprisingly, when a *wh*-phrase occurs in the left-peripheral CLD position, the result is less than perfect. A CLD-ed constituent should be fully referential, which *wh*-phrases clearly are not. What is interesting, however, is that there is once again a contrast between simple and complex *wh*-phrases. While the latter yield a relatively deviant result, the former are categorically excluded from CLD. Given the view on the CP-domain developed in this paper, the cause for the ungrammaticality of (13b) is the same as that in (12b), i.e. CLD disallows bare quantifiers. The fact that there is a contrast with complex *wh*-phrases is an indication that these do not function as a syntactic operator.

Summing up, the operator/non-operator distinction between simple and complex *wh*-phrases is both well-grounded in the generative research tradition and supported by a variety of facts.

3.2.2.3 *Spelling out intermediate copies* The proposal outlined in the previous section postulates a difference in derivational history between simple and complex *wh*-phrases. While the former are merged in the IP-internal base position and move successive-cyclically to their ultimate left-peripheral landing site, the latter are base-generated in that landing site and do not move at all. This implies that if there is a construction in which the derivational history of a phrase can be made visible, a contrast should emerge between the two types of *wh*-phrase. Consider from this perspective the data in (14) (Nunes 2004: 38, 39, 42n35).

- (14) a. Wen glaubt Hans wen Jakob gesehen hat?  
           who thinks Hans who Jakob seen has  
           ‘Who does Hans think that Jakob saw?’  
       b. Mit wem glaubst du mit wem Hans spricht?  
           with whom think you with whom Hans speaks  
           ‘Who do you think Hans is talking to?’  
       c. \*Wessen Buch glaubst du wessen Buch Hans liest?  
           which book think you which book Hans reads

[colloquial German]

These sentences exemplify the construction known as *wh*-copying. Although they each represent a single *wh*-question, they contain more than one *wh*-phrase. Following a long research tradition, Nunes (2004) proposes to analyze *wh*-copying as

involving movement chains in which more than one copy has been spelled out (see also Hiemstra (1986), du Plessis (1977), McDaniel (1989), Höhle (1990), Fanselow and Mahajan (2000), and Fanselow and Ćavar (2001) for earlier, comparable accounts). Thus, in the example in (14a), the wh-phrase *wen* ‘who’ has undergone run-of-the-mill successive-cyclic movement, but instead of spelling out only the highest copy in this movement chain (as is standard), the PF-component chooses—for whatever reason and through whatever mechanism—to also spell out the intermediate copy in the SpecCP of the embedded clause. What is interesting from the present perspective, however, is that not all types of wh-phrase can partake in this construction. Specifically, while simple wh-phrases (14a) and PPs containing them (14b) are allowed, complex wh-phrases like *wessen Buch* ‘whose book’ (14c) are systematically excluded. This is precisely what one would expect from the point of view of the theory developed here. Complex wh-phrases are base-generated in the left periphery of the clause. As a result, they leave no intermediate copies, and their non-occurrence in wh-copying follows straightforwardly.

3.2.2.4 *The empty operator* As den Dikken (1992) pointed out in his discussion of operator movement in Dutch imperatives, there are various ways of detecting the presence of an empty operator in Dutch. One of them concerns preposition stranding. As is well known, Dutch is what one could call a partial preposition stranding language, in that prepositions can only be stranded in a very restricted set of contexts, i.e. when the element stranding the preposition is either an empty operator or a so-called R-pronoun (van Riemsdijk 1978b). Consider two representative examples in (15).

- (15) a. Die sleutel is te klein [Op<sub>i</sub> om het slot mee t<sub>i</sub> open te maken.]  
           that key is too small for the lock with open to make  
           ‘That key is too small to open the lock with.’  
       b. Waar<sub>i</sub> heb jij dat slot mee t<sub>i</sub> open gemaakt?  
           where have you that lock with open made  
           ‘What did you open that lock with?’ [Dutch]

The example in (15a) is an instance of tough-movement (one of the prototypical empty operator constructions), while in the question in (15b), the R-pronoun *waar* ‘where’ has been wh-moved to SpecCP. In both cases, a preposition has successfully been stranded by the moving element, thus illustrating the generalization presented above. A fact that has gone unnoticed so far, however, is that there is a contrast between simple and complex wh-phrases when it comes to preposition stranding. It is illustrated in (16).

- (16) a. \*Wie wil je niet mee samenwerken?  
           who want you not with cooperate  
           ‘Who won’t you cooperate with?’

- b. ?Welke jongen wil je niet mee samenwerken?  
 which boy want you not with cooperate  
 ‘Which boy won’t you cooperate with?’ [Dutch]

While simple wh-phrases clearly cannot strand a preposition, their complex counterparts fare much better, in many cases even yielding a fully grammatical result.<sup>7,8</sup> In light of these data, one could argue that complex wh-phrases are a third type of element—besides empty operators and R-pronouns—that can strand a preposition in Dutch, but it would be difficult to find a common characteristic that distinguishes empty operators, R-pronouns, and complex wh-phrases on the one hand from simple non-R wh-phrases on the other. However, if the derivation of wh-questions with complex wh-phrases involves empty operator movement, the contrast in (16) is precisely what one would expect. This conclusion is further corroborated by the contrast in (17).

- (17) a. \*Met wie wil je niet mee samenwerken?  
 with who want you not with cooperate  
 ‘Who won’t you cooperate with?’  
 b. ?Met welke jongen wil je niet mee samenwerken?  
 with which boy want you not with cooperate  
 ‘Which boy won’t you cooperate with?’ [Dutch]

Not only can complex wh-phrases strand a preposition, but they can also be merged as a PP in spite of the fact that the IP-internal gap is nominal. Once again, the theory developed here allows for a straightforward explanation. Given that it is an empty operator that strands the preposition, the left-peripheral wh-phrase is not required to be of the same categorial type as the IP-internal gap. The fact that this option is not available in (17a) suggests that simple wh-phrases do not make use of this empty operator strategy.

3.2.2.5 *Truncating the CP-domain* The final aspect of my analysis for which I want to present supporting evidence concerns the CP-domain-internal hierarchical difference between simple and complex wh-phrases. While the latter invariably occupy the highest specifier available, the former first target the lower of the two CP-layers. This

<sup>7</sup> There is some variability in the judgments here. Not all speakers find examples like (16b) fully acceptable. All the speakers I have consulted share the intuition that there is a contrast between (16a) and (16b), though. I suspect normative judgments are blurring the picture somewhat. See also Merchant (2001: 95–96, n6) for some remarks concerning idiolectal variation with respect to preposition stranding in Dutch.

<sup>8</sup> Interestingly, Takami (1992) reports similar contrasts even for a fully-fledged preposition-stranding language like English. In contexts where preposition stranding is traditionally argued to be less felicitous (e.g. from adjunct PPs), complex wh-phrases are more acceptable than minimal ones. Consider these two examples (Takami 1992: 223):

- (1) a. ??What did you feel dizzy after?  
 b. Which brand of cigarette did you feel dizzy after?

predicts that if  $CP_1$  is missing, complex wh-phrases can no longer occur, while simple ones might. Moreover, given that *of* ‘if’ occupies the head position of  $CP_1$ , the absence of complex wh-phrases should correlate with the absence of this complementizer. I want to propose that (one type of) free relatives instantiate precisely this hypothetical truncation scenario. Consider the examples in (18).

- (18) a. Wat op tafel ligt is voor jou.  
       what on table lies is for you  
       ‘What lies on the table is for you.’  
       b. \*Welk boek op tafel ligt is voor jou.  
       which book on table lies is for you  
       c. Wat dat op tafel ligt is voor jou.  
       what that on table lies is for you  
       ‘What lies on the table is for you.’  
       d. \*Wat of op tafel ligt is voor jou.  
       what if on table lies is for you [Dutch]

These sentences exemplify the so-called definite usage of free relatives, i.e. those free relatives that can be paraphrased by means of a definite description (see Grosu and Landman (1998) for discussion). The contrast between (18a) and (18b) shows that in this type of free relative, complex wh-phrases are disallowed, while simple ones can freely occur. (see Groos and van Riemsdijk (1981: 204–5) for the original observation and similar data from German, and see Grosu (1994) for more general discussion of these “anti-pied-piping effects”.) Moreover, as the minimal pair in (18c–d) shows, while the complementizer *dat* ‘that’ can occur in this construction, its interrogative counterpart *of* ‘if’ cannot (see also Hoekstra (1993) for similar remarks about Frisian). As was pointed out above, these judgments are exactly what one would expect from the point of view of the theory developed in this paper. Complex wh-phrases and the interrogative complementizer pattern together because both of them only occur in  $CP_1$ . Hence, when this projection goes missing, they cannot show up.

### 3.2.3 Summary and two outstanding issues

In Section 3.2.2 I discussed a variety of data in support of the proposal made earlier, and showed that the various assumptions making up that proposal can be backed up by independent evidence. Before returning to sluicing, I want to briefly highlight two issues that were left unresolved by my treatment of the CP-domain and wh-movement.

The first concerns the precise dividing line between simple and complex wh-phrases and its relation to operatorhood. In particular, what determines whether a wh-phrase belongs to one or the other category, and is there any inherent reason why phrases in the first category are syntactic operators, while those in the second one are not? I want to suggest that it is the presence of a nominal restriction (or N-restriction for short) that makes complex wh-phrases complex. A DP such as *which*

*book* is a prototypical instance of a complex wh-phrase (*book* being the N-restriction), while a wh-adverb like *why* is on the opposite end of the complexity scale. Using the presence of an N-restriction as the defining criterion for complexity has two advantages. First of all, it assigns an intermediate status to the wh-elements *who* and *what*. On the one hand, they can be treated as bare wh-pronouns that have no N-restriction, while on the other, they can also be analyzed as involving an implicit restriction (say, ‘person’ in the case of *who* and ‘thing’ in the case of *what*). This double analysis is reminiscent of the distinction between “bare” personal pronouns, such as *us*, and pronouns that are combined with a nominal, such as *us linguists* (see Noguchi (1995: 37–43) for discussion). This is a desirable result, because it is well known that *who* and *what* differ from wh-adverbs like *how* and *why* in that they sometimes display non-operator behavior (Superiority being the prime example; see in this respect also note 5 above). If the presence of an N-restriction is what determines how complex a wh-phrase is, the dual behavior of these wh-pronouns follows naturally. A second advantage of this approach concerns the definition of operatorhood. Wh-phrases that have an N-restriction denote a set and can therefore be interpreted *in situ* (e.g. through choice functions or as the result of unselective binding). Assuming that such an *in situ* strategy is more economical than movement (see Tsai (1994) for an explicit implementation of this assumption), the operator/non-operator status of simple versus complex wh-phrases follows naturally: Only complex wh-phrases denote a set, and as a result only complex wh-phrases can—and therefore, by Economy, must—be interpreted as a non-operator.<sup>9</sup> Although the finer details of this proposal need to be worked out further, using the presence of an N-restriction as the defining criterion for complexity seems to yield promising results.

A second issue that requires some attention concerns reconstruction. If complex wh-phrases are base-generated in the left periphery of the clause, one would expect them to be unable to reconstruct into the IP-internal base position, contrary to fact. There are two possible ways of dealing with this discrepancy. One would be to slightly modify the proposal, and to have complex wh-phrases move from the IP-internal base position to SpecCP<sub>1</sub> in one fell swoop, i.e. without having them stop over in SpecCP<sub>2</sub>. Seeing as they are non-operators, they cannot check the operator feature on C<sub>2</sub><sup>0</sup>, and as a result, there is no reason for them to move to (or through) this projection. In such a scenario, an empty operator would have to be merged in SpecCP<sub>2</sub> to check the operator feature of C<sub>2</sub><sup>0</sup>. The problem with this alternative is that it is not straightforwardly compatible with some of the evidence presented in Section 3.2.2 (e.g. the preposition-stranding data and the facts concerning wh-copying). An alternative way

<sup>9</sup> The formulation here seems to suggest that languages like English and Dutch should allow complex wh-phrases to stay *in situ* in simple wh-questions, which is not the case. Note, however, that apart from the fact that an operator/variable-dependency needs to be formed, wh-questions are also subject to a clause-typing requirement. In a wh-*in-situ* language like Chinese, there are clause-typing particles to take care of this (Cheng 1991), but in Dutch and English, this requirement forces the wh-phrase to occur clause-initially.

of approaching the reconstruction problem would be to give up the assumption that all cases of reconstruction have to be analyzed as the result of activating a lower copy in a movement chain. In particular, there is a list of constructions (clefts, pseudo-clefts, Italian CLLD, Dutch CLD, etc.) that clearly display connectivity effects, but seem to resist an analysis in terms of syntactic movement. It might well be that for these constructions one has to resort to alternative (e.g. semantic) reconstruction mechanisms. If that turns out to be the case, *wh*-questions with complex *wh*-phrases would constitute another construction that needs to be added to this list.<sup>10</sup>

All in all, then, it seems fair to say that the proposal outlined in Section 3.2.1 is not only well supported by a variety of data from a variety of languages, but the problems it encounters and the questions it raises also receive a fairly natural account. In the next section I turn to the interaction between this proposal and the syntax of sluicing.

### 3.3 The split CP-domain meets sluicing

This section examines the interaction between the split CP-system outlined above and the syntax of sluicing. Merchant (2001: 55–61, 2004) proposes that the deletion process characteristic of sluicing should be implemented by means of a syntactic feature, which he dubs [E]. This feature is merged with the  $C^0$ -head whose complement is to be elided, and it combines the syntactic, semantic, and phonological effect of ellipsis. Put differently, the [E] feature represents all the relevant information distinguishing elliptical—in this case sluiced—clauses from their non-elliptical counterparts. Consider the representations in (19) (Merchant 2004: 670–672).

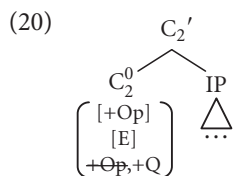
- (19) a. the syntax of [E]:  $E_{[u_{wh}^*, u_{Q^*}]}$   
 b. the phonology of [E]:  $\phi_{IP} \rightarrow \emptyset/E\_$   
 c. the semantics of [E]:  $\llbracket e \rrbracket = \lambda p: e\text{-GIVEN}(p) [p]$

These formulas indicate what the syntactic, phonological, and semantic contribution of the [E] feature is to the derivation. For example, the rule in (19b) states that the phonological representation of IP is reduced to null (i.e. elided) when it is in the complement position of (a head bearing) the [E] feature (though see Gengel (2007) for a different approach). The representation in (19c) contains the recoverability requirement on ellipsis: The semantic composition of a clause containing the [E] feature can only proceed (i.e. a clause can only be elided) when there is a suitable antecedent available (for in-depth discussion of the notion of *e-GIVENNESS*, see Merchant (2001: Chapter 1)). More relevant from the present perspective, however, are the syntactic licensing requirements on [E] represented in (19a). As was pointed out by Lobeck

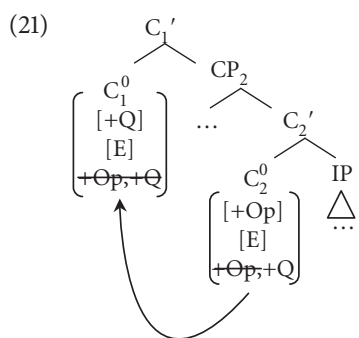
<sup>10</sup> As an aside, it is worth pointing out that several of the constructions mentioned in the main text are assumed to involve operator movement, i.e. it might be the case that moving an operator from the base position into the left periphery is as effective a reconstruction strategy as activating a lower copy in a movement chain. I leave this issue as a topic for further research.

(1995), only the null  $C^0$  of constituent questions allows its complement to be elided by sluicing. Merchant’s theory captures this observation by assuming that the [E] feature is itself endowed with [+wh, +Q] features. Moreover, these features are uninterpretable (and hence in need of checking) and strong (indicated by the star in (19a)), which implies that they have to be checked in a local relationship, not as the result of a long-distance agreement mechanism such as Agree (though see Aelbrecht (2010) for an implementation in terms of Agree). This ensures that [E] is only syntactically licit when merged with the null  $C^0$  of constituent questions, which in turn implies that only the complement of this type of  $C^0$  can be sluiced.

As was already pointed out in Section 3.1, Merchant presents his analysis from the point of view of a single, unsplit CP. Specifically, the [+Q] feature and the [+wh] feature are situated on one and the same head. The previous section has argued for a more refined view, in which the clause-typing feature (i.e. [+Q]) is checked in  $CP_1$ , while the operator feature (which I call [+Op]) is situated on  $C_2^0$ . In order to see what consequences this has for the syntactic licensing requirements of the [E] feature, I will now go through an abstract sample derivation of a wh-question. Assume that  $C_2^0$  has just been merged on top of IP, and that it is marked with the [E] feature. In this local configuration, the operator feature of [E] can be checked against that of  $C_2^0$ . This is shown in (20).



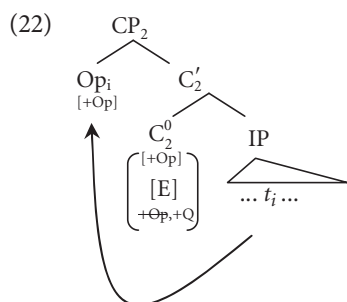
Next,  $C_1^0$  is merged (abstracting away momentarily from possible phrasal movement to Spec $CP_2$ , but see below). It attracts [E], which can then check its [+Q] feature. This is represented in (21).



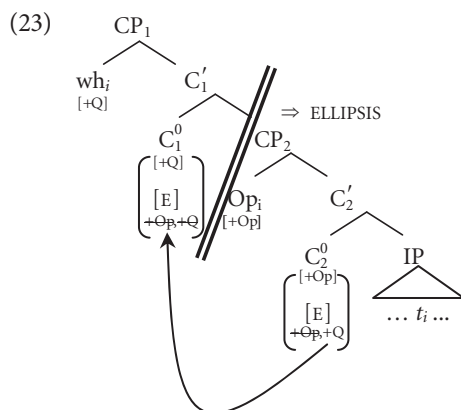
At this point in the derivation, the [E] feature is syntactically fully licensed. This means that it is now in a position from which it can trigger deletion. Given that the [E] feature always deletes the complement of the head on which it resides, the abstract

derivation depicted in (20–21) leads to the conclusion that it is the lower CP-layer, rather than IP, that is deleted when sluicing targets a split CP-system. As it stands, however, this conclusion is too general, as we have not yet taken into account the fact that the derivation might also involve phrasal movement to SpecCP<sub>2</sub>. The remainder of this section shows that this movement in some cases blocks the [E] feature from moving to C<sub>1</sub><sup>0</sup>, causing sluicing to delete IP instead of CP<sub>2</sub>.

The first type of derivation we need to consider is one involving a complex wh-phrase. Recall that complex wh-phrases are base-generated in SpecCP<sub>1</sub> and involve empty operator movement to SpecCP<sub>2</sub>. This latter step is represented in (22).

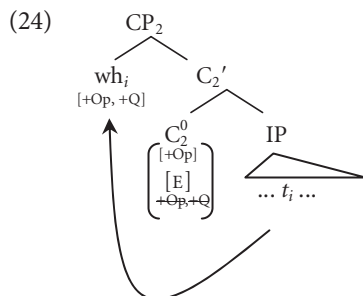


At this point, the [E] feature is still not fully licensed (its [+Q] feature has not been checked). This means that it has to move to C<sub>1</sub><sup>0</sup>, just as in the abstract representation in (21). Subsequently, the complex wh-phrase is merged in SpecCP<sub>1</sub>, and the derivation of the sluiced clause is complete: The wh-phrase resides in SpecCP<sub>1</sub>, and the [E] feature triggers deletion of CP<sub>2</sub>. This is shown in (23).

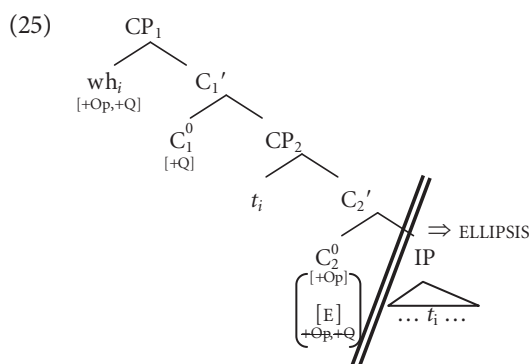


Now consider a derivation involving a simple wh-phrase. Recall that in this case, there is no empty operator. It is the wh-phrase itself which moves from the IP-internal base position through SpecCP<sub>2</sub> onto SpecCP<sub>1</sub>. At the level of CP<sub>2</sub>, this yields the following representation.





Note that in this structure there is an alternative way for the [E] feature to become syntactically fully licensed. Unlike the empty operator in the structure in (22), the simple wh-phrase is endowed not only with an operator feature, but also with a clause-typing feature. This means that [E] can now check its [+Q] feature in a local (spec/head-)relation against the [+Q] feature of the wh-phrase. As a result, it no longer needs to move to  $C_1^0$  in order to be licensed, and it triggers deletion of IP. After the wh-phrase has moved on to SpecCP<sub>1</sub>, the derivation can be represented as in (25).



Summing up, the derivational difference introduced in the previous section between simple and complex wh-phrases turns out to have considerable repercussions for the syntax of sluicing in that it is the internal complexity of the sluiced wh-phrase that determines which part of the clausal structure is elided: the lower CP-layer in the case of complex wh-phrases and IP in the case of simple wh-phrases. This conclusion follows straightforwardly from the assumption that the feature responsible for ellipsis triggers deletion as soon as it is syntactically fully licensed. In the next section I explore some of the empirical consequences of this finding.

### 3.4 Corroborating evidence: Stranding to the right of a sluiced wh-phrase

The previous section has argued that sluicing with complex wh-phrases deletes CP<sub>2</sub>, while in sluicing with simple wh-phrases IP is elided. This predicts that material that

surfaces in SpecCP<sub>2</sub> should be able to survive sluicing when the sluiced wh-phrase is simple, but not when it is complex. In this section I show that this prediction is borne out. I discuss two subtypes of sluicing in which overt material occurs to the right of a sluiced, simple wh-phrase. In the first case a preposition has been stranded in SpecCP<sub>2</sub> by the moving wh-phrase, while in the second case a demonstrative pronoun moves independently of the wh-phrase to this specifier position. The fact that both these constructions are disallowed in sluicing with complex wh-phrases will provide strong support for the theory argued for in this paper.

This section is organized as follows. In Section 3.4.1 I focus on the construction dubbed *swiping* by Merchant (2002). *Swiping* receives a very straightforward and natural analysis under the assumptions outlined above. In Section 3.4.2 I turn to a construction attested in various dialects of Dutch and in Frisian and show that it involves focus movement of a demonstrative pronoun from an underlying cleft construction into SpecCP<sub>2</sub>. Section 3.4.3 sums up and concludes.

#### 3.4.1 *Swiping*

“Swiping” is an acronym that stands for sluiced wh-word inversion with prepositions in Northern Germanic (Merchant 2002: 289) (see also Ross (1969), Rosen (1976), van Riemsdijk (1978a), Lobeck (1995), Chung et al. (1995), Kim (1997), Culicover (1999), Richards (1997, 2001), Culicover and Jackendoff (2005), Hasegawa (2007), Hartman and Ai (2007), Hartman (2007), van Craenenbroeck (2010), and Larson (2011)).<sup>11</sup> An example is given in (26).

(26) Peter went to the movies, but I don't know who with.

In this sentence, the normal order of preposition and wh-phrase (in which the former precedes the latter: *with who*) has been reversed. As a result, it looks like the preposition has been stranded to the right of the sluiced wh-phrase. Interestingly, not all wh-phrases can partake in swiping. Consider the contrast in (27).

- (27) a. Lois was talking, but I don't know who to.  
b. \*Lois was talking, but I don't know which person to.

These examples show that while swiping is perfectly well-formed with simple wh-phrases such as *who* or *what*, it is systematically excluded with complex ones like *which person*. Under a traditional approach to wh-movement that treats simple and complex wh-phrases alike, this distinction cannot be straightforwardly accommodated. From the point of view of the theory developed in the preceding two sections, however, the contrast in (27) is precisely what one would expect. In order to see why this is the case, I now go through a step-by-step derivation of the swiped clause in (27a), starting

<sup>11</sup> For reasons of space I do not provide a comparison between existing accounts of swiping and the one developed in this section. See Merchant 2002: 298–301 and van Craenenbroeck 2010: 81–101.

from the point at which  $C_2^0$  is merged into the structure. The relevant representation is given in (28).

$$(28) [C_2' C_2^0_{[+Op, [E]; \mp Op, +Q]} [IP \text{ Lois was talking } [PP \text{ to } who_{[+Op, +Q]}]]]$$

Recall that  $C_2^0$  is endowed with an operator feature targeting the (operator feature of the) wh-phrase *who*. Moreover, given that this is the derivation of an elliptical (i.e. sluiced) clause, the [E] feature also resides on  $C_2^0$  (see the previous section for discussion). This feature is itself marked [+Op, +Q], and given that it is in a local relation with  $C_2^0$ , its [+Op] feature can be checked in this configuration. The next step in this derivation involves the movement of the wh-phrase *who* to SpecCP<sub>2</sub> in order to check the operator feature of  $C_2^0$ . In so doing, *who* pied-pipes the preposition *to*, so that the entire PP *to who* surfaces in SpecCP<sub>2</sub>. This is illustrated in (29).

$$(29) [CP_2 [PP \text{ to } who_{[+Op, +Q]}] [C_2' C_2^0_{[+Op, [E]; \mp Op, +Q]} [IP \text{ Lois was talking } [PP \text{ to } who_{[+Op, +Q]}]]]]]$$

Recall that the wh-phrase in this configuration checks not only the operator feature of  $C_2^0$ , but also the [+Q] feature of [E]. This means that [E] has to move no further in order to become syntactically fully licensed, and that it will later (i.e. at PF) trigger deletion of IP (i.e. the complement of the head on which it resides).

Next,  $C_1^0$  is merged. It bears a strong clause-typing feature (see (30)), and it attracts the wh-phrase *who* to its specifier, stranding the preposition *to* in SpecCP<sub>2</sub>. This is shown in (31).

$$(30) [C_1' C_1^0_{[+Q]} [CP_2 [PP \text{ to } who_{[+Op, +Q]}] [C_2' C_2^0_{[+Op, [E]; \mp Op, +Q]} [IP \text{ Lois was talking } [PP \text{ to } who_{[+Op, +Q]}]]]]]$$

$$(31) [CP_1 who_{[+Op, +Q]} [C_1' C_1^0_{[+Q]} [CP_2 [PP \text{ to } who_{[+Op, +Q]}] [C_2' C_2^0_{[+Op, [E]; \mp Op, +Q]} [IP \text{ Lois was talking } [PP \text{ to } who_{[+Op, +Q]}]]]]]]]$$

Finally, at PF, [E] triggers deletion of IP, and the lower copy in the movement chain of *who* is also deleted. This yields the representation in (32).

$$(32) [CP_1 who_{[+Op, +Q]} [C_1' C_1^0_{[+Q]} [CP_2 [PP \text{ to } who_{[+Op, +Q]}] [C_2' C_2^0_{[+Op, [E]; \mp Op, +Q]} [IP \text{ Lois was talking } [PP \text{ to } who_{[+Op, +Q]}]]]]]]]$$

What remains, then, is the wh-phrase *who* in SpecCP<sub>1</sub>, together with the stranded preposition *to* in SpecCP<sub>2</sub>. In other words, the derivation just sketched has successfully yielded the swiped clause in (27a). At the same time, it is also clear why the example in (27b) is not well-formed. In sluiced clauses involving a complex wh-phrase, it is CP<sub>2</sub> rather than IP that is deleted. This means that any material that occurs in SpecCP<sub>2</sub> is contained in the ellipsis site and hence cannot show up to the right of the sluiced wh-phrase.

Summing up, the contrast in (27) can be straightforwardly accounted for under the theory advocated in this paper. As such, swiping represents a first illustration of

the interaction between the split CP-system outlined in Section 3.2 and the syntax of sluicing. Before moving on to the second subtype of sluicing, however, I want to briefly highlight another aspect of my analysis. It concerns the movement operation represented in (31), where the wh-phrase *who* strands the preposition *to* in SpecCP<sub>2</sub> on its way to SpecCP<sub>1</sub>. At first glance, this looks like a violation of the ban on preposition stranding in intermediate positions (Postal 1972). Consider an illustration of this principle in (33).

(33) \*Who<sub>i</sub> do you think [<sub>PP</sub> for *t<sub>i</sub>*]<sub>k</sub> she bought a present *t<sub>k</sub>*?

In this sentence, the entire PP first moves to the embedded SpecCP, where the wh-phrase *who* subsequently strands the preposition *for* on its way to the SpecCP of the matrix clause. The fact that this example is not well-formed is taken by Postal (1972) to be an indication that preposition stranding is not allowed in intermediate positions of successive-cyclic A'-movement. This suggests that the movement operation in (31) should be as ungrammatical as the one in (33). In both cases a preposition is stranded in the intermediate step of a successive-cyclic wh-movement operation. I want to suggest that the representation in (31) indeed violates the above-mentioned principle, but that this violation is undone by the PF-deletion of IP. Assume that what is wrong with the example in (33) is the fact that it contains a non-uniform chain at PF. Specifically, the wh-movement chain of (*for*) *who* contains (at least) one DP-link and two PP-links. PF cannot parse (i.e. linearize) such a non-uniform chain, and as a result the derivation crashes. Now note what happens in the representation in (32). Here, the [E] feature ensures that the entire IP is deleted at PF. This means that all but the highest PP-link in the wh-movement chain become invisible to PF. As a result, all that remains is the movement chain of *who* from SpecCP<sub>2</sub> to SpecCP<sub>1</sub>, which consists entirely of DP-links and can easily be parsed by PF. In other words, by deleting part of the wh-movement chain, ellipsis (in this case sluicing) allows swiping to circumvent the ban on preposition stranding in intermediate positions. This line of reasoning has two advantages. First of all, it fits into a growing body of literature arguing that ellipsis can be used to rescue what would otherwise be an illegitimate derivation or representation (see Merchant (2008) for an overview). Secondly, it accounts not only for the ungrammaticality of (33) and the well-formedness of (27a), but also for the fact that the word order characteristic of swiping is disallowed in non-elliptical wh-questions (a fact also noted by Merchant (2002: 297–8)). Consider a representative example in (34).

(34) \*Who to was Lois talking?

At first sight, it is unclear what rules out this example. It can be derived exactly as in (28–32) except for the deletion of IP: First the entire PP *to who* moves to SpecCP<sub>2</sub>, and then the wh-phrase strands the preposition on its way to SpecCP<sub>1</sub>. I propose that the ungrammaticality of this example is due to the ban on preposition stranding in

intermediate positions. That is, just like the sentence in (33), the one in (34) contains a non-uniform chain which causes the derivation to crash at PF. Given that in this case ellipsis does not come to the rescue to undo this violation, the example is ruled out. This means that the analysis of swiping I have proposed accounts not only for the contrast between simple and complex *wh*-phrases, but also for more general properties of swiping. I take this to be a further indication that the approach pursued in this paper is on the right track.

### 3.4.2 Spading

The second subtype of sluicing has received much less attention in the literature than swiping. It was first briefly discussed for Frisian by Hoekstra (1993) and later more extensively for Frisian and dialectal Dutch by van Craenenbroeck (2010). Consider a representative example from the dialect of Wambeek in (35).

- (35) A: Jef eid iemand gezien. B: Wou da?  
           Jeff has someone seen           who that  
       ‘A: Jeff saw someone. B: Who?’ [Wambeek Dutch]

In B’s reply in this dialogue, the sluiced *wh*-phrase *wou* ‘who’ is followed by the demonstrative pronoun *da* ‘that’. I will henceforth refer to this construction as “spading”, which is an acronym for sluicing plus a demonstrative in non-insular Germanic (van Craenenbroeck 2010: 13).<sup>12,13</sup> I argue that spading represents a second illustration of the interaction between sluicing and the split CP-system outlined in Section 3.2.

This section is organized as follows. In Section 3.4.2.1 I explore the basic spading data somewhat further. I argue that the structure underlying this construction is that of a cleft with a *wh*-pivot. Section 3.4.2.2 contains the analysis of spading. I demonstrate that the basic properties of this construction follow straightforwardly from the assumptions presented in the preceding sections. Finally, in Section 3.4.2.3, I show that swiping and spading can co-occur in one and the same language (Frisian) and that the properties of this combined construction are entirely as expected.

<sup>12</sup> Just as in English, the distal demonstrative pronoun in the dialect of Wambeek is homophonous with the declarative complementizer. This means that it is not *a priori* clear whether the element following the *wh*-phrase in (35) is a demonstrative pronoun or a complementizer. Note, however, that in the latter case, this sentence would constitute an example of a complementizer occurring in a matrix *wh*-question, a constellation otherwise unattested in this dialect. Moreover, dialects which morphologically distinguish between the distal demonstrative pronoun and the declarative complementizer invariably use the former in spading. See van Craenenbroeck (2010: 14–16) for in-depth discussion of the categorial status of *da* ‘that’.

<sup>13</sup> Spading is attested in various dialects of Dutch, Frisian, Eastern Norwegian, and certain varieties of German. Moreover, a construction similar to spading can be found in French, Serbo-Croatian, and Czech. However, in these languages, the occurrence of a demonstrative pronoun to the right of a *wh*-phrase is not restricted to sluicing contexts. I leave a cross-linguistic unification of spading and these related constructions as a topic for further research. See van Craenenbroeck (2010: 102–105) for some discussion of the French construction.

3.4.2.1 *Background: Spading stems from a cleft with a wh-pivot* In this section I argue that the structure underlying a spading example such as B's reply in (35) (repeated below as (36)) is not that of the regular wh-question in (37), but rather that of the cleft in (38).<sup>14</sup>

(36) Wou da?  
who that  
'Who?'

(37) Wou ei Jef gezien?  
who has Jeff seen  
'Who did Jeff see?'

(38) Wou is da da Jef gezien eit?  
who is that that Jeff seen has  
'Who is it that Jeff saw?' [Wambeek Dutch]

The arguments in support of this claim all have the same logical structure. I first identify a property with respect to which clefts with a wh-pivot and "regular" sluicing—which I assume to be derived from a non-cleft wh-question; see Merchant (2001: 120–7) for discussion—display diverging behavior, and then show that spading patterns with clefts rather than with regular sluicing. For reasons of brevity, I only present two such arguments here. For a more fully worked out argumentation, I refer the reader to van Craenenbroeck (2010: 19–25).

The first argument concerns the case of sluiced and spaded wh-pronouns. For obvious reasons, this can only be demonstrated for those dialects that morphologically mark case on wh-pronouns. As is illustrated in (39) and (40), the dialect of Waubach is one of these (see Hinskens (1993: Section 6.3.19) for a more elaborate discussion of the Waubach case system).

(39) A: 't Kunt murrege inne noa 't fees.  
it comes tomorrow someone to the party  
B: Wea (kemp noa 't fees)?  
who-NOM comes to the party  
'A: Someone is coming to the party tomorrow. B: Who (is coming to the party)?' [Waubach Dutch]

(40) A: Ich han inne gezieë.  
I have someone seen  
B: Wem (has-te gezieë)?  
who-ACC have-you seen  
'A: I saw someone. B: Who (did you see)?' [Waubach Dutch]

<sup>14</sup> Note that the element occupying the matrix SpecIP-position in the example in (38) is the demonstrative pronoun *da* 'that' and not—as in English—the personal pronoun (*he*)t 'it'. See van Craenenbroeck 2010: 19–20, 56–62, 256n12, 256n16 for further discussion of the two types of clefts and their relation to spading.

What these examples show is that in both non-elliptical and elliptical (i.e. sluiced) wh-questions, subject wh-phrases are marked nominative in the dialect of Waubach, while their object counterparts surface in the accusative form. This distinction breaks down, however, in clefts with a wh-pivot. There, both object and subject wh-phrases are marked nominative. This is shown in (41) and (42).<sup>15</sup>

(41) Wea is dat dea noa 't fees kemp?  
 who-NOM is that REL to the party comes  
 'Who is it that is coming to the party?' [Waubach Dutch]

(42) Wea is dat dea-s-te gezieë has?  
 who-NOM is that REL-CA-you seen have  
 'Who is it that you saw?' [Waubach Dutch]

This means that the case of a spaded wh-phrase provides a first testing ground for the central claim made in this section. If spading derives from an underlying cleft, both subject and object wh-phrases should surface in the nominative form, unlike in "regular" sluicing. As is shown in (43) and (44), this prediction is borne out.<sup>16</sup>

(43) A: 't Kumt murrege inne noa 't fees. B: Wea dat?  
 it comes tomorrow someone to the party who-NOM that  
 'A: Someone is coming to the party tomorrow. B: Who?' [Waubach Dutch]

(44) A: Ich han inne gezieë. B: Wea dat?  
 I have someone seen who-NOM that  
 'A: I saw someone. B: Who?' [Waubach Dutch]

The second argument concerns the fact that sluiced wh-phrases can be modified by *nog* 'else', while cleft pivots cannot (see in this respect also Merchant (2001: 36–7) on so-called 'contrast sluices'). This holds regardless of whether *nog* 'else' is pied-piped by the wh-pivot or not. Consider some representative examples in (45) and (46).

(45) A: Jef ei nie alliejn Lewie gezien. B: Nije? Wou nog?  
 Jeff has not just Louis seen no who else  
 'A: Jeff hasn't just seen Louis. B: No? Who else?' [Wambeek Dutch]

(46) \*Wou <nog> was da <nog> da Jeff gezien eit?  
 who else was that else that Jeff seen has  
 [Wambeek Dutch]

Again, spading patterns with clefts and not with regular sluicing in disallowing the wh-phrase to be modified by *nog* 'else', irrespective of its linear order vis-à-vis the demonstrative pronoun. This is shown in (47).

<sup>15</sup> In the gloss in (42), REL stands for 'relative pronoun' and CA for 'complementizer agreement'.

<sup>16</sup> As pointed out in van Craenenbroeck (2009) the case facts are more subtle than is suggested in the main text. As this refinement does not affect the point made here, I leave it undiscussed.

- (47) A: Jef ei nie alliejn Lewie gezien. B: Nijeje? Wou <\*da> nog  
 Jeff has not just Louis seen no who that else  
 <\*da>?  
 that  
 'A: Jeff hasn't just seen Louis. B: No? Who else?' [Wambeek Dutch]

Summing up, in this section I have established that spading is a subtype of sluicing that differs from regular instances of sluicing in that it is derived from an underlying cleft with a *wh*-pivot, rather than from a regular *wh*-question.

### 3.4.2.2 *The analysis of spading: Focus movement of the demonstrative to SpecCP<sub>2</sub>*

The previous section has shown that spaded clauses stem from an underlying cleft with a *wh*-pivot. This means that the spading example in (35) can now be schematically represented as in (48) (where the use of strikethrough signals PF-deletion).

- (48) A: Jef eid iemand gezien. B: Wou is da ~~da~~ Jef ~~gezien~~ eit?  
 Jeff has someone seen who is that that Jeff seen has  
 'A: Jeff saw someone. B: Who?' [Wambeek Dutch]

As it stands, this representation faces a problem. It seems to suggest that spading involves non-constituent deletion, a theoretically unappealing move. For this reason I propose that the demonstrative pronoun in spading undergoes (focus) movement to the left periphery of the clause. The representation in (48) can then be replaced by the one in (49).

- (49) Wou<sub>k</sub> da<sub>i</sub> ~~t<sub>i</sub> is t<sub>k</sub> da~~ Jef ~~gezien~~ eit?  
 who that is that Jeff seen has  
 'Who?' [Wambeek Dutch]

The hypothesis that *da* 'that' undergoes focus movement to the left periphery is corroborated by two other properties of spading. Firstly, in this construction it is always the demonstrative pronoun that bears main stress, and never the *wh*-phrase—as is the case in regular sluicing. Given the close correlation between focus (movement) and stress, this is precisely what one would expect from the representation in (49). Secondly, unlike in regular sluicing, spaded clauses carry a negative presupposition. For example, by adding the demonstrative pronoun to the sluiced *wh*-phrase, speaker B in the dialogue in (48) indicates that he did not expect Jeff to have seen someone (e.g. because he knows that Jeff stayed home alone all day). Given that in the cleft underlying B's reply, the demonstrative pronoun refers back to the preceding statement in the discourse (see van Craenenbroeck (2010: 56–62) for discussion), this reading is entirely predictable. Specifically, by focusing *da* 'that', the sentence 'Jeff saw someone' is singled out from all the possible activities Jeff could have been engaged in, and is given high salience. In other words, it is the focus on the demonstrative pronoun that creates the negative-presupposition reading.



This leaves the question of the landing site of the postulated movement operation. That is, where does the demonstrative pronoun move to? Given the view on the CP-domain developed in Section 3.2, the most natural place for the demonstrative to land in would be SpecCP<sub>2</sub>. Recall that CP<sub>1</sub> is the projection in which clause-typing features are checked, which makes it ill-suited as a landing site for focus movement (focus not being a clause type). Moreover, in their exploration of the left periphery in Italian and its dialects, Benincà and Poletto (2004) show that foci systematically target the lower half of the CP-domain, which in my proposal would translate as CP<sub>2</sub>. Thirdly, focus constructions are typically characterized as operator/variable-dependencies (see e.g. Rizzi (1997)). That too would suggest that C<sub>2</sub><sup>0</sup> is the most natural head for the focus feature. Accordingly, I propose that the demonstrative in a spading example undergoes focus movement to SpecCP<sub>2</sub> triggered by a matching feature on C<sub>2</sub><sup>0</sup>. In order to make this more concrete, I now go through the derivation of the example in (48), starting from the point at which the matrix C<sub>2</sub><sup>0</sup> is merged. This is shown in (50).

- (50) [C<sub>2</sub>' C<sub>2</sub><sup>0</sup> [+Op, +F, [E]; +Op; +Q] [IP da<sub>[+F]</sub> is wou<sub>[+Op, +Q]</sub> da Jef gezien  
           that is who that Jeff seen  
           eit]]  
           has

C<sub>2</sub><sup>0</sup> is endowed with both an operator feature and a focus feature (abbreviated here as [+F]). The former targets (the operator feature of) the wh-phrase *wou* 'who', while the latter probes the focus feature of the demonstrative pronoun. Moreover, given that spading is a subtype of sluicing, C<sub>2</sub><sup>0</sup> also hosts the [E] feature, which checks its operator feature against that of C<sub>2</sub><sup>0</sup>. Next, two movement operations take place. First the demonstrative pronoun moves to SpecCP<sub>2</sub> to check its focus feature, and then the wh-phrase moves to the inner specifier of C<sub>2</sub><sup>0</sup> to check its operator feature (i.e. it tucks in; see Richards (2001: Chapter 3)). This is represented in (51).

- (51) [CP<sub>2</sub> da<sub>[+F]</sub> [CP<sub>2</sub> wou<sub>[+Op, +Q]</sub> [C<sub>2</sub>' C<sub>2</sub><sup>0</sup> [+Op; +F; [E]; +Op; +Q] [IP da<sub>[+F]</sub> is  
           wou<sub>[+Op, +Q]</sub> da Jef gezien eit]]]]

Recall that in this local configuration, [E] can check its [+Q] feature against that of the wh-phrase in SpecCP<sub>2</sub>. It is now syntactically fully licensed, and at PF will trigger the deletion of IP. The next step in the derivation involves the merger of C<sub>1</sub><sup>0</sup>. This head is endowed with a clause-typing feature targeting that of the wh-phrase. Accordingly, *wou* 'who' moves to SpecCP<sub>1</sub>. This is shown in (52).

- (52) [CP<sub>1</sub> wou<sub>[+Op, +Q]</sub> [C<sub>1</sub>' C<sub>1</sub><sup>0</sup> [+Q] [CP<sub>2</sub> da<sub>[+F]</sub> [CP<sub>2</sub> wou<sub>[+Op, +Q]</sub> [C<sub>2</sub>' C<sub>2</sub><sup>0</sup> [+Op; +F;  
           [E]; +Op; +Q] [IP da<sub>[+F]</sub> is wou<sub>[+Op, +Q]</sub> da Jef gezien eit]]]]]]

Finally, at PF, [E] triggers the deletion of IP, and the copy of *wou* 'who' in SpecCP<sub>2</sub> is deleted as well. This yields the representation in (53).

- (53)  $[_{CP_1} \text{wou}_{[+Op,+Q]} [_{C_1'} C_1^0 \text{t}_{[+Q]} [_{CP_2} \text{da}_{[+F]} [_{CP_2} \text{wou}_{[+Op,+Q]} [_{C_2'} C_2^0 \text{t}_{[+Op,+F; [E];+Op,+Q]} [_{IP} \text{da}_{[+F]} \text{is wou}_{[+Op,+Q]} \text{da Jef gezien eit}]]]]]]]$

What remains is the wh-phrase *wou* ‘who’ in SpecCP<sub>1</sub> and the focus-moved demonstrative pronoun in SpecCP<sub>2</sub>, i.e. the derivation has successfully yielded an instance of spading. Moreover, the analysis just outlined predicts that spading should be disallowed with complex wh-phrases. Recall that sluicing with complex wh-phrases deletes CP<sub>2</sub> rather than IP. This implies that any material that occurs in CP<sub>2</sub> (either as the result of base-generation or through movement) should be unable to surface to the right of a sluiced complex wh-phrase. As shown in (54), this prediction is borne out.

- (54) A: Jef eid ne student gezien. B: Welke student (\*da)?  
 Jeff has a student seen which student that  
 ‘A: Jeff saw someone. B: Who?’ [Wambeek Dutch]

As was first observed for Frisian by Hoekstra (1993: 9–11), complex wh-phrases are excluded from spading. This construction thus constitutes a second illustration of the interaction between the split CP-domain outlined in Section 3.2 and the syntax of sluicing.

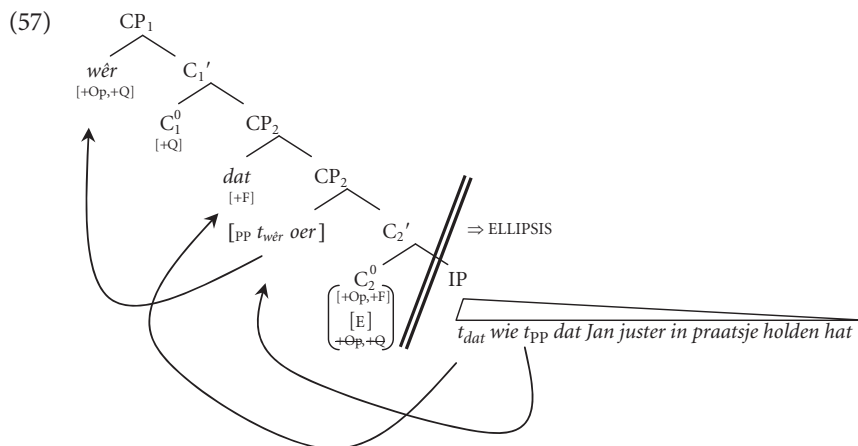
3.4.2.3 *Spading meets swiping: The case of Frisian* Nothing in the analyses of swiping and spading prevents the two phenomena from co-occurring. In particular, if the underlying structure of a sluiced clause is a cleft with a PP-contained simple wh-phrase as pivot, that wh-phrase should be able to strand its preposition in SpecCP<sub>2</sub> in addition to the demonstrative pronoun moving to that position. As illustrated in (55), Frisian instantiates precisely such a scenario.

- (55) A: Jan hat juster in praatsje holden.  
 John has yesterday a talk held  
 B: Wêr dat oer?  
 where that about  
 ‘A: John gave a talk yesterday. B: What about?’ [Frisian]

In B’s reply in this dialogue, a sluiced wh-phrase (in this case the R-pronoun *wêr* ‘where’) is followed by the demonstrative pronoun *dat* ‘that’, which is in turn followed by the stranded preposition *oer* ‘about’. As such, this example combines swiping with spading. This conclusion is further corroborated by the fact that complex wh-phrases are excluded from the pattern illustrated in (55). This is shown in (56).

- (56) A: Jan hat juster in praatsje holden.  
 John has yesterday a talk held  
 B: \*Hokker boek dat oer?  
 which book that about  
 ‘A: John gave a talk yesterday. B: About which book?’ [Frisian]

In order to see how the derivation of (55) proceeds, consider the tree structure in (57).



The IP in this structure contains a cleft which is roughly the equivalent of ‘What is it that John gave a talk about yesterday?’. When  $C_2^0$  is merged on top of this structure, the demonstrative pronoun *dat* ‘that’ first moves to SpecCP<sub>2</sub> to check the focus feature on  $C_2^0$ . Then, the wh-PP moves to check the operator feature of  $C_2^0$ , and it tucks in beneath the demonstrative pronoun. Finally,  $C_1^0$  is merged. It bears a strong clause-typing feature attracting the wh-phrase *wêr* ‘where’ to its specifier. As a result of this movement, the preposition *oer* ‘about’ is stranded in the inner specifier of CP<sub>2</sub>. On top of all this,  $C_2^0$  is also endowed with the [E] feature. Given that [E] can check both its [+Op] and [+Q] features in a local environment, it remains on  $C_2^0$  throughout the derivation. This means that at PF, it triggers the deletion of IP (the complement of the head on which it resides). What this derivation yields, then, is an elliptical clause consisting of a wh-phrase followed by a demonstrative pronoun followed by a stranded preposition, i.e. it has successfully derived the combination of swiping and spading.

### 3.4.3 Summary

In Section 3.4 I have examined one of the empirical predictions made by the theoretical proposal outlined in Section 3.3. If sluicing with complex wh-phrases differs from sluicing with simple wh-phrases in the amount of structure that is elided (CP<sub>2</sub> in the former case, IP in the latter), material that appears in SpecCP<sub>2</sub> should be able to survive the deletion process in one case but not the other. I have discussed two subtypes of sluicing that display precisely the expected pattern. In swiping, a preposition is stranded in SpecCP<sub>2</sub> by the wh-phrase on its way to SpecCP<sub>1</sub>, while in spading, a demonstrative pronoun (focus-)moves to this position independently of the wh-phrase.

### 3.5 Conclusion

This paper has explored the interaction between the split-CP hypothesis and the syntax of sluicing. I have shown that when there is more than one CP, there is also variation as to which part of the clausal structure is deleted by sluicing. When *wh*-movement targets a low CP-layer (as in Hungarian), IP is deleted, but when it targets a high CP-layer, it can be either IP or a low CP-projection that is deleted.

The analysis of the CP-domain in Section 3.2 postulates an important difference between simple and complex *wh*-phrases. While the former move from their IP-internal base position through the lower CP-projection (CP<sub>2</sub>) and onto the higher one (CP<sub>1</sub>), the latter are base-generated in SpecCP<sub>1</sub> and involve empty operator movement from the IP-internal base position to SpecCP<sub>2</sub>. This has non-trivial consequences for the syntax of sluicing (Section 3.3). While simple *wh*-phrases are able to license the feature responsible for ellipsis *in situ* (i.e. on C<sub>2</sub><sup>0</sup>), the empty operator involved in *wh*-movement with complex *wh*-phrases is not. As a result, the ellipsis feature has to move on to C<sub>1</sub><sup>0</sup>. Under the assumption that it always triggers deletion of the complement of the head on which it resides, this line of reasoning leads to the conclusion that in sluicing with complex *wh*-phrases, CP<sub>2</sub> is deleted, while in sluicing with simple *wh*-phrases, IP is deleted.

This conclusion was put to the test in Section 3.4, which examined two subtypes of sluicing in which overt material is stranded to the right of the sluiced *wh*-phrase. The first one, dubbed “swiping” by Merchant (2002), involves preposition stranding in SpecCP<sub>2</sub> by the moving *wh*-phrase on its way to SpecCP<sub>1</sub>, while the second one, “spading”, features a demonstrative pronoun that undergoes focus movement to SpecCP<sub>2</sub>. The fact that both swiping and spading are illicit with complex *wh*-phrases provides strong additional support for the proposal.