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The mapping of form and interpretation: the case of optional WH-movement in French

Eric Mathieu*

*Department of Phonetics and Linguistics, University College London,
Gower Street, London WC1E 6BT, UK*

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Abstract

French questions come into two brands: a movement version and an in-situ alternative. In this context, the present paper argues for a flexible one-to-one mapping between form and interpretation: fronting of the nominal typically correlates with one reading, while the in-situ nominal may, but need not, correlate with another. The contention is nevertheless that there is no such thing as optional WH-movement in French: the EPP/D feature associated with [+WH] in C is always strong; what varies is the placement of the noun. In the dialect/register reviewed in this study, the default interpretation associated with the in-situ position is non-specific while the raising of the noun favours a specific interpretation. Moreover, it is argued that pragmatically, in this variant of French, in-situ fronted-questions are adequate in a prominent context whereas their WH-in-situ counterparts are only felicitous in a non-prominent context. One assumption on which the proposal is based is that single WH-constructions in French are instances of split-DP constructions: a bare operator is separated from its associated semantic nominal restriction in the course of the derivation. Finally, it will be shown that the semantic and discourse properties of in-situ/stranded nominals in the variety of the language examined in this paper follow from the fact they are semantically incorporated. They denote, not an argument, but a property, crucially without scope of their own. Coupled with the assumption that French WH in-situ constructions are split-constructions, the fact that in-situ WH-nominals are semantically incorporated explains the intervention effects exhibited by such constructions. The existential quantifier is provided by the verb. Thus, the existential quantifier will necessarily take scope under all other scopal elements present in the sentence, including negation.

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* Tel.: +33-2-40746963.

E-mail address: eric@ling.ucl.ac.uk (E. Mathieu).

1. Introduction

In the spirit of Adger (1996), Williams (1997), Fanselow and Cavar (2001), this paper argues that there are cases in the grammar where different forms can correspond to different interpretations. In particular, I demonstrate that French fronted questions correlate with one reading while their in-situ variants correlate with another, and that optionality of WH-movement in French is therefore not real. The EPP/D feature associated with [+WH] in C is always strong: what varies is the placement of the nominal (Watanabe, 1993; Chomsky, 1995, 2001).

The mapping of form and interpretation under scrutiny in this paper may nevertheless take different forms and is not restricted to the pairing of syntactic position and interpretation. It will be shown for instance that differences in terms of object agreement (on past participles) are also relevant in the mapping of form and interpretation for stranded nominals. It is thus important to note from the outset that my proposal differs from those accounts that argue for a strict mapping between syntactic position and interpretation (cf. Diesing, 1992, according to whom a presuppositional NP must appear in a high position while a non-presuppositional NP must appear in a low position and de Hoop, 1992, whose view on the syntax-semantics mapping is less strict, but who nevertheless associate presuppositional NPs with high NP positions).

My account is more in line with Van Geenhoven's (1998) view according to which the link between NP position and interpretation is not tight at all, but only an *indication* of the targeted interpretation. For example, in Dutch, there are two ways of indicating the relevant semantic distinction between wide scope and narrow scope indefinites: high and low NP positions on the one hand, and case marking as discussed by de Hoop (1992) on the other. These choices are not universal but language-specific. These remarks will become relevant when the surface versus the covert form of split-DP constructions are discussed, and when inherent D-linked WH-phrases are mentioned towards the end of the paper.

The kind of French described in this paper is a dialect/register that is quite different from the type of French examined by Chang (1997) and related proposals. The variant of French under review in this paper is roughly: spoken French, as used in France (excluding other Francophone countries). This brand of French cuts across regional boundaries: this is why I hesitate to call it a dialect only, hence the dialect/register term that will be used.¹

After this brief introduction, Section 2 presents the basic properties of French WH in situ. Then, Section 3 introduces Chang's (1997) observations about French interrogatives. In Section 4, Cheng and Rooryck's (2000) analysis is presented. Next, Section 5 presents new facts about French WH-phrases in situ and briefly describes the semantic and discourse properties of such elements in the register/dialect reviewed in this paper. Section 6 introduces the theory of semantic incorporation proposed by Van Geenhoven (1998). Section 7 provides evidence for the idea that stranded nominals, including French WH-phrases in situ, are semantically incorporated. The conclusion can be found in Section 8.

¹ The register/dialectal split has been acknowledged before in the literature (cf. Vergnaud and Zubizarreta, 2002; Starke, 2002).

2. French *wh* in situ

French has the possibility of fronting a *wh*-phrase or of leaving it in situ.²

- (1) a. Tu vois qui ce soir? (French)
you see who this evening
- b. Qui_i'est-ce que tu vois t_i ce soir?
who is-this that you see this evening
'Who are you seeing tonight?'

In some non-standard forms of the language, the in-situ alternative is also possible in indirect questions, although this is much more limited (there is dialectal/register variation here, not all speakers of French accept such sentences):³

- (2) a. Je sais pas c'est où. (French)
I know not it is where
- b. Je sais pas où c'est.
I know not where it is
'I don't know where it is.'

For example, (3a) is not grammatical. (3b) is the only option:⁴

- (3) a. *Je me demande il a fait quoi. (French)
I myself ask he has done what
- b. Je me demande ce qu'il a fait.
I myself ask this that he has done
'I wonder what he has done.'

Aoun et al. (1981) and Lasnik and Saito (1992) account for the optionality of French *wh* movement by suggesting that French has a 'mixed' system with regard to the formation of

² Single *wh*-in-situ questions in French are thus not only used as echo, but also as standard questions asking for new information. Echo questions are responses from an utterance that takes the form of a question seeking confirmation of some part, in effect repeating that utterance. They do not involve quantification (cf. Hendrick and Rochemont, 1988; May, 1985: 61–62). Moreover, echo questions involve heavy stress of the *wh* phrase in situ and/or rising intonation. This is not the case with the questions that concern us. In this paper, French *wh* in situ or French *wh*-phrases in situ are terms that will refer solely to the cases of single *wh* interrogatives. I will not discuss multiple *wh* questions in any detail. Therefore, '*wh* in situ' does not mean '*wh* in situ in multiple *wh* contexts'.

³ The very fact that *wh* in situ is allowed in some indirect environments suggests that Bošković's (1998) account cannot apply to all variants of French. Bošković accounts for the non-availability of in-situ question words in indirect interrogatives in the type of French he describes by allowing strong features to be inserted only at the root, following assumptions from Merge.

⁴ The reason why (3a) is ungrammatical might be because French uses what looks like free relative clauses for indirect questions. Thus, (3a) might be ill-formed, not because *wh*-movement is banned in indirect questions, but because it is banned in free relatives.

WH interrogatives. On this view, French is like English in that a WH-expression can be moved overtly to Spec-CP, and like Chinese in that the WH-expression can remain in situ.

It has recently been noticed, however, that, whereas the distribution of argumental WH in situ in Chinese single WH interrogatives is not restricted, the distribution of French argumental WH in situ in the same environment is very limited (cf. Chang, 1997; Bošković, 1998, 2000; Mathieu, 1999; Cheng and Rooryck, 2000). In particular, such questions display intervention effects with a whole range of scopal elements. These effects are systematically absent with the movement alternative:

- (4) a. *Il ne voit pas qui? (French)
 he NE sees not who
 b. Qui_i'est-ce qu'il ne voit pas t_i?
 who is-this that he NE sees not
 'Who doesn't he see?'

In Chinese, negation does not block the licensing of the WH-phrase in situ:

- (5) Yanhan bu xiquan shenme? (Chinese)
 Yanhan Neg like what
 'What doesn't Yanhan like?'

In previous work (cf. Mathieu, 2002), I have shown that the kind of intervention effects exhibited in (4a) follows from the fact that a split-DP structure is created (the operator is separated from its semantic restriction) and from the semantic and discourse nature of the nominal that remains behind. This nominal will be referred to as a stranded nominal throughout this paper. The idea is thus that, contrary to appearances, (1a) and (4a) are split-DP constructions. The bare operator is phonologically null.⁵

- (6) [_{Spec-CP} Op_i Tu vois t_i qui ce soir]?

In other split-DP constructions, DP-splitting manifests itself overtly:

- (7) a. Combien_i as-tu lu t_i de livres? (French)
 how-many have you read of books
 b. Combien de livres_i as-tu lus t_i?
 how-many of books have you read-MAS.PL
 'How many books have you read?'

Note that there is a difference in terms of agreement between (7a) and (7b). The verb agrees with the object when full movement occurs (Kayne, 1989), but it does not when

⁵ I assume that WH-phrases like *qui* and *quoi* are simple indefinites. I take the *qu* morpheme to be an existential, rather than a question morpheme. *Qu* can be found in *quelqu'un* and *quelque chose*, words that are not interrogatives. I assume that the difference between *quelqu'un* and *qui* on the one hand, and *quelque chose* and *quoi* on the other is that only *qui* and *quoi* are specified as [+WH] (but crucially they are not specified as [+Q]).

only the *wh* bare operator raises to Spec-CP. Usually, this agreement pattern cannot be heard, but if the past participle ends with a consonant, it is then possible to hear the agreement pattern:

- (8) a. Combien de boîtes_i as-tu ouvert_{es} t_i? (French)
 how-many of cans have you open-PL.FEM.
 b. Combien_i as-tu ouvert/*es t_i de boîtes?
 ‘How many cans have you opened?’

According to Obenauer (1994), agreement in cases like (8a) is optional:

- (9) Combien de boîtes_i as-tu ouvert t_i? (French)

On Obenauer’s view, when agreement is instantiated the interpretation is specific (a set of cans is presupposed), whereas when no agreement shows up on the verb, the reading is one according to which there is no existential presupposition associated with cans (see also Déprez, 1998). For reasons that will become clear later in the paper, I want to argue that (9) is equivalent to a split construction: the *de boîtes* part automatically reconstructs at LF (see Frampton, 1991; Dobrovie-Sorin, 1994; Williams, 1994; Cresti, 1994; Heycock, 1995 for similar ideas). In short, when I speak of two different forms that correspond to two different interpretations, I will refer to DP-splitting versus non-DP-splitting abstracting away from surface form. DP-splitting is thus taken to be relevant at LF—the sole syntactic level in minimalism (see footnote 7). In Section 5, I will not simply assume, but will motivate my claim that questions such as (9) are split constructions.⁶

Split *combien de* constructions are well-known from the work of Obenauer (1976, 1983, 1994) and Rizzi (1990)—see also de Swart (1992) and Doetjes (1997)—and like the construction in (4a) it exhibits weak island effects:

- (10) a. *Combien_i n’as-tu pas lu t_i de livres? (French)
 how-many_{NE} have you not read of books
 b. Combien de livres_i n’as-tu pas lus t_i?
 how-many of books_{NE} have you not read-MAS.PL
 ‘How many books haven’t you read?’

That split-DP constructions systematically exhibit weak islands is a well-known fact (see, for example, de Swart, 1992, among many others, for German *was für* and Dutch *wat voor* constructions).

Note that the in-situ variant of (8) is also possible in French: (11). In this case I assume that (11) has a Logical Form similar to that of (8b). The only difference between (8b) and (11) is that while in (8b) the null operator is phonologically

⁶ In this paper, I will not address the question of what triggers pied-piping or cross-linguistic variation with regard to this pied-piping, nor will I address the puzzle that split-DPs pose for structure-dependency (what raises appears to be a part of a constituent, and not a constituent). I refer the reader to Mathieu (submitted) where these questions are addressed in full.

pied-pied, in (11) it is not (see Dobrovie-Sorin, 1994 for the idea that since DP-splitting is possible overtly, there is no reason to assume that it is not available at LF):⁷

- (11) Tu as lu combien de livres? (French)
 you have read how-many of books
 ‘How many books have you read?’

We predict that (11) should exhibit intervention effects. The prediction is borne out:⁸

- (12) *Tu n’as pas lu combien de livres? (French)
 you_{NE} have not read how-many of books
 ‘How many books haven’t you read?’

It is natural to want to account for (4a) in terms of Relativized Minimality or its minimalist equivalent (be it Shortest Move (SM), the Minimal Link Condition (MLC), Attract Closest (AC) or the Phase Impenetrability Condition (PIC)), but this will not do. It has been shown indeed for French *wh* in situ (cf. Mathieu, 1999, 2002) and for split *combien de* constructions (de Swart, 1992) that the notion of A-bar specifier is neither necessary nor sufficient to describe weak island inducers. As for the MLC, AC and the PIC, it is still unclear at this stage of minimalist research how these conditions can account for weak islands other than *wh*-islands and for the asymmetry between argument and adjuncts when it comes to extraction. Therefore, these principles, as they stand, are not very useful for our purposes.⁹

Following a tradition started by de Swart (1992), Szabolcsi and Zwarts (1992/1993) and Honcoop (1998), I have argued elsewhere that the intervention effects in French *wh*-in-situ constructions are best accounted for in terms of scope. I will not repeat here the technical arguments with regard to the null operator I have postulated in French *wh*-in-situ constructions. I refer the reader to Mathieu (1999, 2002).

In the present paper, I want to concentrate solely on the structural and semantic nature of the stranded nominal. Not only will it help us understand why split-DP constructions exhibit weak islands effects, but it will also enable us to judge whether the hypothesis

⁷ In fact, following minimalist assumptions, this is a requirement, since the derivation from the Numeration to LF is assumed to be uniform. There are not, two, but one cycle.

⁸ Reviewer #1 brings up example (11) and comments that its existence predicts a three-fold reading if the one–one correspondence between form and content were true. First, it is important to note that when I speak of two forms–two meanings, I take it to mean that the two forms in question are LF forms. From this perspective, this means that (7a) and (11) (and (9) in fact) are identical at LF and thus receive the same interpretation (i.e. the same-truth conditions and the same discourse interpretations). In sum, the combination of (7a), (7b) and (11) do not show that there are three forms (and thus perhaps three different potential meanings available), but only two. Secondly, nowhere in the paper do I claim that there is a strict correspondence between form and interpretation in the grammar across the board. The strong version of the one-to-one correspondence thesis is easily refuted. I restrict my cases to so-called optional *wh*-movement in French and argues that, along with a few other examples cross-linguistically, it shows evidence that in *some cases* there is indeed a one-to-one correspondence between form and interpretation.

⁹ It is not clear, in fact, that these conditions *should* account for weak islands other than *wh*-islands. It could be the case that while *wh*-islands pattern with strong islands and can be accounted for by conditions such as the Phase Impenetrability Condition, but other weak islands are semantic in nature.

mentioned at the outset can be verified, namely that the two forms that are projected in French questions correspond to a different meaning each.

Before we proceed, however, Chang (1997) will be reviewed. Chang's work focused on the interpretive properties of French *WH* in situ and has been used by many other researchers who have worked on French *WH* in situ (Boeckx, 1999). I will show that the type of French she describes does not correspond to all varieties of French. I will also call into question certain assumptions that she makes with regard to presupposition.

3. Chang (1997)

Chang's (1997) observations on French *WH* in situ are now well known, and have been used by almost everyone working on the topic. However, the type of French that she describes is just one variant of the language and her judgements about the discourse properties of in-situ *WH* phrases are not shared by this author or by the informants that I have consulted. Unfortunately, many of the studies that have appeared on the subject in recent years have also inherited certain theoretical flaws that her analysis contains, e.g. presupposition and related phenomena.

Chang's novel observation is that French *WH*-movement correlates with one reading while the in-situ version correlates with another. This is exactly what the present paper argues, and from this perspective we offer nothing new. However, in the next section it will be shown that there is a dialect/register of French where the readings Chang refers to are the exact opposite of what she proposes. A new view of the semantic and discourse properties of French *WH* in situ will be offered later in this paper; a view which is much more in line with the interpretation that this type of questions receives in the variety of French described in this paper.

Chang (1997) claims that French in-situ questions are associated with a 'strongly presupposed context'. These questions seek "details on an already established (or presupposed) situation". It is claimed that (13a) is only felicitous if the speaker assumes the event of Marie's buying something.

- (13) a. Q Marie a acheté quoi? (French)
 Marie has bought what
 'What has Marie bought?'
 b. A *Rien.
 'Nothing.'
- (14) a. Q Qu'est-ce que Marie a acheté? (French)
 what that Marie has bought
 'What has Marie bought?'
 b. A Rien.
 'Nothing.'

Chang argues that the presuppositional constraint on WH in situ in French is not reducible to the more common notion of D-linking in the sense of Pesetsky (1987). In that study, D-linked questions ask for answers in which the individuals that replace the WH-phrases are drawn from a set that is presumed to be salient both to speaker and hearer. French WH-in-situ questions are not associated with a presupposed answer set: the question in (13a) is not asking for the identification of a particular object out of a list.

As Cheng and Rooryck (2000) put it: “rather it appears that the presupposition crucial for WH-in-situ involves the entire VP: [in (15)] the birthday context leads to a presupposition of buying presents”:

- (15) a. Q C’est l’anniversaire de Pierre la semaine prochaine (French)
it is the birthday of Pierre the next week.
‘It’s Pierre’s birthday next week.’
- b. A Et tu vas lui acheter quoi?
and you will for-him buy what
‘And what will you buy him?’
- (Cheng and Rooryck, 2000: 5)

The idea is thus that in-situ French questions involve presuppositions while the movement alternative does not.


The proposal is very similar to Obenauer (1994). In his study, Obenauer claims that French WH-phrases in situ are associated with a presupposed context. The question is simply asking details on that established situation. He also gives an example that supposedly shows that WH in situ is used in special circumstances. Compare (16a) and (16b):

- (16) a. Salut! Comment tu vas? (French)
hi how you go
‘Hi! How are you?’
- b. Alors, tu vas comment?
so, you go how
‘So, how are you?’


Obenauer claims that (16a) is not right in an ordinary context. The in-situ variant requires a rich context, for example, in the case one visits a friend who is in hospital. He claims that the question is interpretable only like an interrogative asking for the health condition of the addressee. I have very different judgements. As will become obvious in the latter parts of the paper, in my dialect/register of French, French WH-phrases in situ behave in fact more like the *de*-phrase in situ in split *combien de* constructions. According to my own judgements and those of the native speakers that I have consulted in-situ nominals in single in-situ WH-constructions receive in fact the same interpretation as stranded nominals in split *combien de* constructions.

4. Cheng and Rooryck (2000)

As is well known, French has three strategies to ask yes–no questions: the use of *est-ce que* (cf. (17a)), so-called complex inversion (cf. (17b)) or simply rising intonation (cf. (17c)):

- (17) a. Est-ce que Jean a acheté un livre? (French)
is-this that Jean has bought a book
- b. Jean a-t-il acheté un livre?
Jean has he bought a book
- 
- c. Jean a acheté un livre?
Jean has bought a book
'Did Jean buy a book?'

Cheng and Rooryck's account is based on the idea that the intonation in (18) is comparable to that in (17c); both are claimed to have a rising contour:¹⁰

- 
- (18) Marie a acheté **quoi**?
Marie has bought what
'What did Marie buy?'

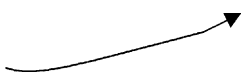
According to Cheng and Rooryck WH phrases in situ are licensed by the yes–no question operator. This is true of both French *and* Chinese. The difference between French and Chinese is that in French WH feature movement is necessary to set the value of the Q morpheme, which is otherwise underspecified, to Q/WH.

- (19) Q Marie a acheté **quoi**?
[Q:] ----- WH

The idea that WH-phrases in situ are licensed by the yes–no question operator is supposed to explain the presuppositional property of French WH-in situ first reviewed by Chang

¹⁰ Simpson (1995, 2000) has a similar proposal.

(1997). Yes–no questions that are marked only by intonation also require a presupposed context:

- (20) a. Are you cooking tonight?

 b. You're cooking tonight?

(20a) can be uttered as a neutral question. In contrast, (20b) cannot. Cheng and Rooryck argue that in uttering a question like (20b), the speaker presupposes that the hearer is cooking that evening. The speaker thus expects a positive answer to his question. They suggest that the property of the intonation can be made explicit to the extent that (20b), but not (20a), can be followed by tags such as *I take it, I assume*. This question can thus be uttered when the speaker sees that the hearer is in the kitchen, apparently preparing for dinner. The problem with this view is that with a tag, the intonation is not necessarily rising. This indicates that presupposition and rising intonation are not necessarily connected.¹¹

Finally, Cheng and Rooryck discuss strongly non-D-linked WH-phrases such as what the hell (French equivalent: *que diable*, cf. Obenauer, 1994) and *qui-ça* WH-phrases:

- (21) a. Que diable a-t-elle fait? (French)
 what hell has-she done
 b. *Elle a fait que diable?
 she has done what hell
 'What the hell has she done?'
- (22) a. Tu as vu qui ça (cette après-midi)? (French)
 you have seen who that (this afternoon)
 b. *Qui ça as-tu vu?
 who that have-you seen
 'Who have you seen?'

(Cheng and Rooryck, 2000: 16)

We will come back to these examples in Section 7.

¹¹ If I understand the proposal correctly, the prediction must be that Chinese WH in situ are always interpreted presuppositionally. This does not appear to be the case, however.

5. New facts

It turns out that not all dialects/registers of French contain in-situ WHphrases that are presuppositional. In the variant of French examined in the present paper, “*rien*” (nothing) is a perfectly good reply to the question in (13a). Similarly, there is no necessary existential presupposition associated with (15b): the question can receive an answer such as “*rien*”. The readings provided by my informants converge on my native intuitions.

Consider other examples, where in-situ questions are perfectly acceptable with a negative answer:

- (23) a. Q Tu fais quoi dans la vie? (French)
 you do what in the life
 ‘What do you do for a living?’
- b. A Rien. Je suis au chômage.
 nothing. I am at unemployment
 ‘Nothing. I am unemployed.’
- (24) a. Q Tu veux manger quoi ce soir? (French)
 you want to eat what this evening
 ‘What do you want to eat tonight?’
- b. A Rien. J’ai pas faim.
 nothing. I have not hunger
 ‘Nothing. I am not hungry.’

A search carried out on the internet has yielded a corpus where many instances of negative answers to in-situ questions turn up. If there are contexts which seem to confirm Chang (1997) judgements about French WH-in situ (cf. (25)), many others are more in line with the dialect/register studied in this paper:

- (25) - Bonsoir, tu vas bien... (French)
 - Ca va... C’est vrai, tu n’étais jamais venu... Pourquoi as-tu encore disparu?
 - Oui, merci... Et toi, le bar à l’air de marcher...
 ...
 - **Tu bois quoi?**
 - Un verre de vin blanc, si tu as... Tu connais mes goûts...
http://polar.nnx.com/nouvelles/fleury_macho_boy.pdf

- (26) - **Tu fais quoi** vendredi soir? (French)
 The hearer says:
 - Euh. . . **Je sais pas**, et toi?
 (and the other one says: Je vais voir la Momie II, tu vois quelque chose d'autre à faire?)
<http://www.cof.ens.fr/bocal/2000-2001/BOcal374.pdf>
- (27) J'allais partir. Pat est de passage pour chercher sa paie et faire des souhaits de bonne année. - Ha salut! Tu t'en va toi aussi? - Bin oui. . . - **Tu fais quoi ce soir?** - Bah **rien de particulier**. - Maude et moi on va bouffer et après on va voir The Lord Of The Ring. Tu veux venir? - Bin certain. . . Alors je sert des mains, fait des voeux moi aussi et nous voilà partis.
<http://www.chez.com/wolf13/021230.htm> (French)
- (28) <ton mari> **Tu fais quoi ce soir?** on se fait une bouffe? (French)
 <Carole> **Pas possible**, je danse demain!
http://m6music.m6.fr/html/evenements/popstars/fanzone/chat_carole2.shtml
- (29) - Vous faites **quoi** exactement dans la vie?
 - En ce moment **rien**. J'avais un mi-temps chez MacDonald. Mais j'ai démissionné. J'en avais marre de sentir la frite.
<http://www.rennet.org/cyber/polar/polar13.htm>
- (30) - Laissez-moi n'importe où. Là, au carrefour, ça ira.
 - Mais t'es con! Ce soir, ils sont tous occupés. On peut se faire de la thune en cassant un magasin.
 - Non, laissez-moi là.
 - T'es naze, lança Ahmed, il n'y a rien à ce carrefour, même pas un métro. Ca va te mener **où?**
 - Aucune importance, je ne vais **nette part** alors, je suis arrivé.
http://www.jp-petit.com/science_fiction/conte_de_Noel.htm

In short, there exist variants of French that Chang (1997) and related work have ignored and where French WH-phrases in situ are not presuppositional. Negative answers to in situ questions are definitely possible in some dialects and these interrogatives can clearly be used in contexts where no pre-established situation is given. The variant of French that I am describing here seems to be very close to that described by Starke (2002). This author

gives a very convincing illustration of the fact that French *wh* in situ need not be presuppositional:

- (31) a. Tu fous quoi? (French)
 you “do” what
 ‘What (the hell) are you doing?’
- b. T’as foutu quoi pendant tout ce temps?
 you have “done” what during all this time
 ‘What (the hell) have you spent all this time doing?’
- c. Tu crois qu’ils vont foutre quoi, cet après-midi?
 you think that they will “do” what this afternoon
 ‘What do you think that they will do, this afternoon?’
 (Starke, 2002: 52)

The argument is as follows: the kind of objects that *foutre* (literally: copulate/fornicate) takes is restricted to only a set of items carrying no presuppositions, *rien* (nothing) (cf. (32a)).¹² On the other hand, *faire* takes the standard range of objects as complements (cf. (32b)):

- (32) a. Je vais rien foutre, cet après-midi. (French)
 I will nothing “do”, this afternoon
 ‘I won’t do a thing this afternoon.’
- b. Je vais faire/*foutre mes devoirs/une promenade/la vaisselle/un gâteau.
 I will do/“do” my homework/a stroll/the washing up/a cake

Second, in the form of French Starke (2002) describes “nothing” is a perfectly good answer to a question like that in (13a). The conclusion Starke reaches is thus that it cannot be the case that French *wh*-phrases in situ *necessarily* require a form of presuppositional semantics.

Before I close this section, there is a theoretical point that is worth making: Chang’s observations and all the analyses based on her proposal seem to go against much of what is said about questions and presuppositions in the literature. Although I basically agree with the idea that fronted questions do not necessarily involve presuppositions, much more consideration should have been given to the topic;¹³ if only to show that the account is in fact consistent despite original evidence to the contrary. It has been argued in the literature

¹² And to some idiomatic meanings, as Starke correctly points out: *foutre le feu* ‘set on fire’. Here, the object has no existential import.

¹³ This criticism is not solely directed at Chang (1997), but to all other accounts of French *wh* in situ that have followed her judgements and analysis.

that the answer in (33b) to a question like that in (33a) is anomalous (cf. [Erteschik-Shir, 1997](#)):¹⁴

- (33) a. Q What did he give to Mary?
 b. A # Nothing, she didn't get a present.

[Mittwoch \(1979: 402\)](#) regards an answer such as the one in (33b) as a “correction of the speech act in asking it (the question)”, since a question “presupposes that the set which the WH-element stands for is not empty or more informally that there is an answer.” In fronted questions, the VP is part of the presupposition. The idea that WH-questions involve presuppositions originates in [Hintikka \(1976, 1983\)](#). According to this author, the presupposition of a question is involved in spelling out its desideratum. Alternative questions like (34) are said to presuppose the truth of (exactly) one of the alternatives:

- (34) Is John a sales assistant or a manager?

As for constituent questions, they are assumed to have existential presuppositions, i.e. there is at least one instance satisfying the predicate:¹⁵

- (35) Who did you invite for dinner?

[Groenendijk and Stokhof \(1994\)](#) and earlier work from these authors show that it is in fact very difficult to find real cases of existential presupposition with (fronted) WH-questions. Consider the following two examples:

- (36) a. Who's that?
 b. Who's coming to the party tomorrow?

[Groenendijk and Stokhof](#) argue that questions like (36a) have an existential presupposition, but that it seems due to the demonstrative rather than the WH-phrase. As for examples like (36b), they argue that, although there may an expectation on the part of the questioner that there is someone coming to the party, it does not seem to be a presupposition. The reason

¹⁴ Reviewer #1 brings up the following example which he/she finds cannot be answered by “nobody” unless one is/admits to be a notorious robber: *Who did you rob yesterday at 10 o'clock?*. He/she also argues that the whole event is presupposed. First, I disagree that this question cannot be answered by “nobody”. Obviously, with the addition of *yesterday* and *ten o'clock* the sentence brings with it a rich context. The question is not unlike the following kind of interrogative: *Have you stopped beating your wife?*, which presuppose a situation and an entity. None the less, this kind of complex questions can be answered by ‘actually, I didn't rob anyone’ or ‘actually, I've never beaten my wife’ respectively.

¹⁵ Other theories (e.g. [Higginbotham and May, 1981](#)) concentrate on the uniqueness presupposition which is supposed to distinguish between singular and plural WH-phrases. I choose to ignore this point, since it is less directly relevant to the present discussion.

being that “nobody” is a perfectly straightforward answer, and not a rejection of the question as such. I follow Geurts (1999) in arguing that it is the whole question that acts as a presupposition inducer. In other words, when a speaker asks a question, the speaker expects an answer (unless perhaps the question is rhetorical, but this is a different case, since rhetorical questions are not information seeking in the first place). In conclusion, fronted questions in French are not presuppositional. Note that the same arguments apply to *WH* in situ in single *WH* constructions. An in-situ interrogative requires an answer, but no presupposition of the set which the *WH*-element stands for is instantiated. This is of course very different in the case of multiple *WH* constructions, where it appears that there is indeed a presupposition associated with the *WH*-element in situ. Compare (37) with (36b):

(37) Who danced with who(m) at the party?

This requires a so-called D-linked context according to which two sets of people are taken for granted.

Finally, it is rather surprising that intervention effects should be instantiated in French *WH* in-situ constructions if the *WH*-phrases are D-linked. It is indeed a well-known fact that D-linked *WH*-phrases are capable of escaping weak islands (compare (38a) and (38b)) and do not exhibit superiority effects (compare (39) and (40))—see Cinque (1990) among many others:

(38) a. ?*Qu'est-ce que tu te demandes comment réparer?* (French)
 what is-this that you yourself ask how to-repair
 ‘What do you wonder how to repair?’

b. *Quel voiture est-ce que tu te demandes comment réparer?*
 Which car is-this that you yourself ask how to-repair
 ‘Which car do you wonder how to repair?’

(39) a. *Qui a acheté quoi?* (French)
 who has bought what
 ‘Who bought what?’

b. **Qu'est-ce que qui a acheté?*
 what is-this that who has bought
 *‘What did who buy?’

(40) a. *Quel homme a acheté quel livre?* (French)
 which man has bought which book
 ‘Which man has bought which book?’

b. *Quel livre est-ce que quel homme a acheté?*
 which man is-this that which man has bought
 ‘Which book has which man bought?’

Despite these two objections (presupposition on the one hand and locality on the other), I will take for granted that French WH-phrases in situ in the register/dialect surveyed by Chang (1997) introduce a presupposition and I will fact try to account for the parameter.

To summarise this section: single WH interrogatives (in-situ or not) are not necessarily associated with presuppositions of the WH-element. In the dialect under scrutiny here, the only “strong” presupposition associated with in-situ questions (and with questions in general) is the requirement that the question comes with an answer.

Since I have announced that there are nevertheless two different readings associated with fronted questions and in-situ questions in French, I now need to spell out what these different interpretations are.

6. Semantic incorporation

In this section, I argue that stranded nominals in split-constructions are semantically incorporated. This includes French WH-phrases in situ. First, Van Geenhoven’s (1998) theory of semantic incorporation is introduced, then her analysis is extended to split-*combien de* constructions and French in-situ questions, adding further evidence for noun incorporation of stranding nominals after that. Finally, it is shown that the syntactic constraints on noun incorporation also apply to split constructions.

I have already noted elsewhere (cf. Mathieu, 2002) that there are striking similarities between the semantic properties of stranded nominals and certain nouns discussed by Van Geenhoven (1998). She has herself discovered common scope properties between split topic nominals in West Germanic languages (Van Riemsdijk, 1989), incorporated nouns in West Greenlandic (Sadock, 1980) and bare plurals (Carlson, 1977).

These constructions and the ones introduced here can receive a unified treatment. Let me begin with a short description of the constructions Van Geenhoven (1998) uses in her thesis, starting with split topic constructions, then turning to noun incorporation and finally to bare plurals.

In split topic constructions, the nominal raises to a topic position while the quantifier with which it is associated remains in situ. First, if a universal quantifier intervenes between the raised nominal and the adjectival numeral, the scope of the noun is fixed. It cannot achieve scope over the universal quantifier (cf. (41)):

- (41) a. Jedes Kind hat fünf Katzen gesehen. (German)
 every child has five cats seen
 ‘As for cats, every child saw five such animals.’
 ‘There are five cats such that every child saw them.’
- b. Katzen_i hat jedes Kind fünf t_i gesehen.
 cats has every child five seen
 ‘As for cats, every child saw five such animals.’
 * ‘There are five cats such that every child saw them.’

(Van Geenhoven, 1998: 125)

When full movement occurs, the sentence is ambiguous, but crucially in this case the whole phrase is a topic (or a focus depending on how one views the Spec-CP position in the language under discussion), not simply the nominal *Katzen*:

- (42) Fünf Katzen_i hat jedes Kind t_i gesehen. (German)
 five cats has every child seen
 ‘As for cats, every child saw five such animals.’
 ‘There are five cats such that every child saw them.’

Second, while (43a) means ‘There are some black spiders that Lisa didn’t see in the cellar’, (43b) is ungrammatical:

- (43) a. Lisa hat im Keller einige schwarze Spinnen nicht gesehen. (German)
 Lisa has in-the cellar some black spiders not seen
 b. *Schwarze Spinnen hat Lisa im Keller einige nicht gesehen.

As noticed by Van Geenhoven (see also Bittner, 1994) the scope of incorporated nouns in WG is also fixed. (44) can mean ‘It is not the case that Juuna got one letter from Kaali’ but not ‘There is one letter from Kaali that Juuna did not get’ (The term ‘incorporation’ is used in de Hoop, 1992 in connection with such ‘narrow scope only’ indefinites):

- (44) Juuna Kaali-mit ataatsi allagar-si-nngi-l-a-q. (West Greenlandic)
 Juuna-_{ABS} Kaali-_{ABL} one-_{INST.SG} letter-get-NEG-IND-[-TRJ]-3SG
 (Van Geenhoven, 1998: 5)

Finally, bare plurals contrary to non-bare plurals cannot receive wide scope (this was first noticed by Carlson, 1977). Compare (45) with (46):

- (45) Everyone read books on giraffes.
 ‘Everyone was reading different books on giraffes.’
 *‘There were books on giraffes that everyone was reading.’
- (46) Everyone read some books on giraffes.
 ‘Everyone was reading different books on giraffes.’
 ‘There were books on giraffes that everyone was reading.’

The contrast between singular indefinites and existential bare plurals comes out clearly when the predicate is negated. (47) can mean ‘It is not the case that John saw spots on the floor’, but not ‘There were spots on the floor such that John didn’t see them’:

(47) John didn’t see spots on the floor. $\neg \exists; * \exists \neg$

Now a short description of the scope freezing properties of split-topics, incorporated nominals and bare plurals has been given, let me turn to Van Geenhoven’s (1998) proposal. Her thesis contains two basic claims.

First, a narrow scope indefinite denotes a property. It is interpreted as a predicate of a variable introduced by the verb (it is therefore a co-predicate rather than an argument).¹⁶ In other words, the predicate is absorbed by the verb as the predicate of that verb’s internal argument’s variable. This absorption is what is dubbed ‘semantic incorporation’. The idea is that the valence of the verb which incorporates the noun is reduced by one. A transitive sentence becomes intransitive (x does y \emptyset x y -does). (48a) is the semantic representation for a transitive, i.e. non-incorporating verb while (48b) is the semantic representation for an intransitive, i.e. incorporating verb:

- (48) a. $\lambda y \lambda x$ [Verb (x , y)]
 b. $\lambda P \lambda x \exists y$ [Verb (x , y)] \wedge P(y)

Evidence for the idea that stranded/incorporated nominals are predicates comes from the fact that they cannot yield partitive readings:

- (49) Jensi marlun-nik manni-tu-ssa-a-q. (West Greenlandic)
 Jensi-_{ABS} two-_{INST.PL} egg-eat-FUT-IND-[_{-TRJ}]-3SG
 ‘Jens will eat two eggs.’
 (Van Geenhoven, 1998: 44)

(50) I bought books.

(49) cannot mean that Jensi will eat two of a set of eggs previously mentioned in the discourse any more than (50) can mean that I bought specific books. In short, incorporated nominals have a different (more restricted) semantics than an unincorporated object, as the incorporated element is usually interpreted as non-specific in reference.

The second basic claim that Van Geenhoven (1998) makes is that the existential interpretation of a predicative indefinite is contributed by the verb. Thus, semantically

¹⁶ Van Geenhoven’s account thus differ from Heim (1982) and Kamp’s (1981) view of indefinites in that she argues that the indefinite NPs do no themselves introduce a variable.

incorporated indefinites are interpreted as nominal expressions that do not have quantificational force of their own.¹⁷ The main argument for the idea that the link between the semantically incorporating version of a verb and its non-incorporating counterpart is located in the lexicon is that some verbs are strictly incorporating and other verbs are strictly non-incorporating.

It is a fact indeed that either bare plurals are interpreted as generics or they are interpreted as existentials:

- (51) a. John loves books.
b. John bought books.

(51a) cannot mean that John loves some specific books while (51b) cannot mean that John generally/generically bought books.

On Van Geenhoven's view, there are thus two kinds of verbs: incorporating verbs and non-incorporating verbs. Indefinites do not introduce a variable at LF nor do they introduce a discourse referent. It is the verb that introduces a discourse referent (a nominal is considered to be discourse transparent if it can serve as the antecedent of a pronoun in subsequent discourse). The variable corresponds to the internal argument at LF and is bound by the dynamic existential quantifier which is introduced by the incorporating verb.

The difference between a narrow scope or non-specific indefinite and a wide scope or specific indefinite is that the former is interpreted as a property only, while the latter carry both predicative content and a free variable that can be accommodated (this alternative is a repair strategy achieved in the pragmatics, which is somehow costly/ marked). In the latter case, indefinites denote an open proposition. Whether an indefinite is interpreted as a property only or as a free variable depends on the verb. The choice is thus in the lexicon.

Incorporated nouns introduce a novel variable. Evidence for such a view comes from the following example where incorporated nominals may serve as the antecedents of anaphora:

- (52) Suulut timmisartu-lior-p-u-q. (West Greenlandic)
Soren-_{ABS} airplane-made-_{IND-[-TR]-3SG}
Suluusa-qar-p-u-q aquute-qar-llu-ni-lu.
wing-have-_{IND-[-TR]-3SG} rudder-have-_{INF-3SG-PROX}-and
Soren made an airplane_i. It_i has wings and it_i has a rudder.
(Van Geenhoven, 1998: 48, original example from Sadock, 1980)

- (53) Mark was eating potato chips_i. He bought them_i at the supermarket.
(Van Geenhoven, 1998: 48)

¹⁷ But, here again, Van Geenhoven differs from the traditional Discourse Representation Theory and File Card Semantics in that the quantificational source of the indefinite is not provided by a default existential operator.

The idea that the existential quantifier is provided by the verb explains why incorporated and bare nouns are scopeless. They can never take wide scope over, say, negation or universal quantifiers, because the existential quantifier is too low in the structure.

Before we end this section, it is important to come back to the remarks on the mapping between form and interpretation that were made at the outset. On Van Geenhoven's (1998) view, such a mapping is not strict, but flexible. A good example of this idea is shown by (54), which is famously ambiguous.

- (54) Every man loves a woman.
- (i) 'There is a woman such that every man loves that woman.' $\exists > \forall$
- (ii) 'Every man loves a different woman.' $\forall > \exists$

Van Geenhoven argues that the narrow scope reading for the indefinite is achieved via semantic incorporation of the nominal into the verb. It is interpreted as 'Every man is a woman-lover'. The wide scope interpretation and thus the notion of specificity is pragmatic in nature: it is achieved via accommodation. The special nature of the wide scope reading is illustrated by the fact that many people have a preference for interpreting (54) in the narrow way (hence, Van Geenhoven's Accommodation Condition *Unless there is sufficient evidence for an indefinite to be accommodated, it is semantically incorporated*, p. 207). This remark goes hand in hand with what has been found in the interpretation of indefinites with children. For example, Krämer (2000) shows that children acquire the predicative interpretation of indefinites early whereas the free variable interpretation is acquired later because it requires discourse integration (i.e. access to or information about the representation of discourse).

To summarise this section: narrow scope indefinites are semantically incorporated. They denote a property and their existential quantification comes from the verb.

7. Stranded nominals as semantically incorporated

7.1. Semantic evidence

I relate the scope freezing properties of the constructions Van Geenhoven describes to the scope freezing properties of stranded nominals in split *combien de* constructions (cf. de Swart, 1992) and French WH in situ (Mathieu, 1999)—the theory can in fact be extended to many more split-DP constructions, whether or not they are overt, see Mathieu (2002) for details and Heyd (2003) and Heyd and Mathieu (2003):

- (55) a. *Combien_i ont-ils tous lu t_i de livres?* (French)
 how-many have they all read of books
- b. *Combien de livres_i ont-ils tous lus t_i?*
 how-many of books have they all read-_{MAS.PL}
 'How many books have they all read?'
- (de Swart, 1992: 391)

As noticed by de Swart (1992), (55b) is ambiguous whereas (55a) is not. In (55b) the universal quantifier can take wide scope: we ask for all persons how many books they have

read. This is the so-called pair-list reading: ‘John read 3, Mary read 5, Peter read 7’. Under the narrow scope interpretation, we ask for a single number, i.e. how many books are such that everyone has read them. This is the so-called individual reading. On the other hand, (55a) has only the reading according to which the universal quantifier takes scope over the WH phrase. The interpretation according to which the WH phrase takes wide scope is not available. In other words, (55a) cannot be answered by: ‘5’. It can be answered only by: ‘John read 3, Mary read 5, Peter read 7.’ Note that a distinction between the WH operator and the indefinite contained in the WH phrase must be made. In (55a), the WH operator takes wide scope (the sentence is not ungrammatical and is interpreted as a question), but the indefinite with which it is associated takes obligatory narrow scope.

Note that according to Obenauer (1992), the two readings in question (wide scope for the universal or wide scope for the existential) are projected on two distinct forms: presence or absence of past participle agreement. When agreement is present, the WH-phrase takes wide scope over the universal. When agreement is absent, the universal takes wide scope over the WH-phrase. I assume that the non-agreement version of (55b) has the same syntactic structure as (55a), and is therefore a split-DP construction (see Section 2 for discussion of this point).

Turning back to the main point, note that negation is also not possible when *combien de livres* is split ((10) and (12) repeated here for convenience):

(10) a. *Combien_i n’as-tu pas lu t_i de livres? (French)
how-many_{NE} have you not read of books

(12) *Tu n’as pas lu combien de livres? (French)
you_{NE} have not read how-many of books
‘How many books haven’t you read?’

In (56a), it is impossible to obtain a wide scope reading for the WH-phrase (imagine a neutral context whereby (56a) is uttered out of the blue, *not* a presupposed context), and although it is not so easy to get a pair-list interpretation, it is not completely ruled out (this means that the readings reported here are different from those described by Chang, 1997 who judges such examples as completely ungrammatical). On the other hand, (56b) is typically associated with a specific/individual reading:¹⁸

(56) a. Ils ont tous fait quoi? (French)
they have all done what
b. Qu_i’est-ce qu’ils ont tous fait t_i?
what that they have all done
‘What did they all do?’

¹⁸ Reviewer #1 reports that his judgements in Portuguese (a language which apparently has both WH-movement and WH-in situ) are in fact the reverse (*√>WH:WH>√). He/she asks how can this state of affairs be considering the fact that Portuguese and French are similar. I want to question that assumption. I believe that there are many differences between the two languages (in terms of agreement, word order, overt subjects, etc.). Beside, my proposal is made for French and not for the whole of Romance. I do not expect the syntactic and semantic nature of WH in situ to be the same cross-linguistically unless shown otherwise.

Recall also that French WH-phrases in-situ constructions exhibit intervention effects with negation. Suppose we interpret these locality phenomena in terms of scope, then the idea is that the WH-phrase in situ cannot take wide scope over the negative element:

- (4) a. *Il ne voit pas qui? (French)
 he_{NE} sees not who
- b. Qui_i'est-ce qu'il ne voit pas t_i?
 who is-this that he_{NE} sees not
 'Who doesn't he see?'

On the basis of these facts, I want to argue that stranded nominals in split *combien de* and French WH-in-situ constructions are semantically incorporated. They denote a property. The scope freezing property of stranded nominals thus follows naturally from the fact that they are predicative indefinites. On the traditional assumption that NegP is higher than VP, the scope of the semantically incorporated nominal is therefore obligatorily under the scope of the negative operator in (10a), (12) and (4), since existential quantification is introduced by the verb. In the case of (55) and (56), the universal quantifier is high in the clause after Quantifier Raising or similar scope mechanisms (e.g. Quantifying In) has applied. It automatically takes scope over the existential quantifier introduced by the verb, the latter being stuck in that position (Infact, intervention effects and semantic incorporation may be reduced to move basic properties of semantics, see Butler and Mathieu, 2004 for details).

Split *combien de* constructions in French are thus parallel to the following examples where the WH-phrase 'how many' has raised to a sentence-initial position and the nominal with which the WH-phrase is associated has incorporated into the verb:

- (57) a. Qassi-nik qimmi-qar-p-i-t? (West Greenlandic)
 how-many-INST-PL dog-have-INTER-[-TR]-2SG
 'How many dogs do you have?'
- b. Qassi-nik aalisaga-tur-p-i-t?
 how-many-INST-PL fish-eat-INTER-[-TR]-2SG
 'How many fish have you eaten?'

(Van Geenhoven, 1998: 20)

So far, the proposal can be applied not only to the dialect/register reviewed in this paper, but also to the dialect/register examined by Chang (1997) and related accounts. What is different is the discourse properties of the stranded nominal. Apart from the partitive examples which will apply to both registers/dialects, the discussion and data that follow probably apply only to the dialect/register studied in this paper. The judgements from the variant of French discussed by Chang (1997) might indeed be different, but these have not been tested. We will, however, propose a parameter account of the differences between the two different registers/dialects at the end of the paper.

One important similarity between stranded nominals in split-DP constructions on the one hand and incorporated nominals in West Greenlandic/bare plurals/split topics in Germanic on the other is that they are not compatible with a partitive reading. This has been independently noticed by [Obenauer \(1994: 193\)](#):

- (58) a. ?*[_{CP} Combien_i as-tu lu t_i de mes articles]? (French)
 how-many have-you read of my articles
- b. [_{CP} Combien de mes articles_i as-tu lus t_i]?
 how-many of my articles have-you read-MAS-PL
 'How many of my articles have you read?'

WH-phrases in situ are not compatible with a partitive reading either. (59a) cannot mean something like 'which x , x a thing out of a set of things, you read x ?'. This means that they introduce a new discourse referent. In contrast, (59b) is perfectly compatible with such a reading:¹⁹

- (59) a. *[_{CP} Op_i Tu as lu t_i quoi]? (French)
 you have read what
- b. [_{CP} Qu_i'est-ce que tu as lu t_i]?
 what is-this that you have read
 Intended: 'What x , x a thing out of set of things, you have read x ?'

Third, evidence for the claim that WH-phrases in situ introduce a new discourse referent comes from the fact that they too can serve as antecedents for discourse anaphora:²⁰

- (60) Combien as-tu mangé de pommes_i aujourd'hui? (French)
 how-many have-you eaten of apples today
 Elles_i ont toutes disparu!
 they have all-FEM.PL disappeared
 'How many apples have you eaten today? They've all disappeared!'
- (61) Tu as pris quoi_i comme dessert? (French)
 you have taken what as dessert
 Il_i était bon?
 it was good
 'What did you have as dessert? Was it good?'

¹⁹ In fact, in the dialect/register described by [Chang \(1997\)](#) and related proposals, French in-situ WH phrases are also subject to this constraint.

²⁰ Here, we expect variation between speakers. Such examples should not be part of the kind of French described by [Chang \(1997\)](#).

To summarise this section: a first series of tests has shown that stranded nominals in split constructions behave like incorporated nouns. The hypothesis put forward was therefore that stranded nominals are semantically incorporated. In the next section, more evidence for this idea is provided.

7.2. Syntactic evidence

The first observation/claim of this section is that the lack of past participle agreement in the form of French examined in this paper correlates with semantic noun incorporation. Following my basic assumptions so far in this paper, when semantic incorporation does not take place, past participle agreement is instantiated; when semantic incorporation does take place, no past participle agreement can be seen. Recall that I assumed in Section 2 that when the agreement is absent in the case of full WH-movement we were in fact dealing with a split construction (the *de*-phrase automatically reconstructs).

- (62) a. [CP Combien ((de boîtes)) as-tu ouvert (de boîtes)]? (French)
 b. [CP Combien as-tu ouvert de boîtes]?
 c. [CP Combien de boîtes as-tu ouvertes]?
 ‘How many cans have you opened?’

In short, lack of agreement is the mark of semantic incorporation. Interestingly, when nouns incorporate in languages like WG, this anti-agreement phenomenon shows up as well. In (63), the verbal inflection lacks object agreement otherwise shown when incorporation does not take place:²¹

- (63) Arnajaraq eqalut-tur-p-u-q. (West Greenlandic)
 Arnajaraq-_{ABS} salmon-eat-_{IND-[-TR]-3SG}
 ‘Arnajaraq ate salmon.’
 (Van Geenhoven, 1998: 15)

Second, I note that noun incorporation is impossible with agents, and so is DP splitting:

- (64) a. H-ate-?se:-? ne?o-tsi?kt-a?. (Onondaga)
 3_{MS-REFL}-crawl-_{ASP} le-_{PRE}-louse-_{SUF}
 b. *H-ate—tsi?kti-?se:-?.
 3_{MS-REFL}-louse-crawl-_{ASP}
 ‘The louse crawls.’
 (Baker, 1988: 87)

²¹ Anti-agreement of this kind has also been reported for Mohawk (Baker, 1996: 316).

- (65) a. Khwien-ide 0-teurawe-we. (Southern Tiwa)
dog-SUF A-run-PRES
b. 0-khwien-teurawe-we.
A-dog-run-PRES
'The dog runs.'
(Baker, 1988: 89)
- (66) a. Combien de personnes_i ont rigolé? (French)
how-many of persons have laughed
b. *Combien ont rigolé de personnes?
'How many people have laughed?'
- (67) a. Qui_i est-ce qu'il a dit qui t_i avait éternué? (French)
who is-this that he has said that-AGR has sneezed
b. *Il a dit que qui avait éternué?
he has said that who had sneezed
'Who did he say sneezed?'

Third, whereas unergative verbs never allow noun incorporation, unaccusative verbs do. Again, I note that this is exactly what we find in DP-splitting (the DP subject is a theme):²²

- (68) a. Ka-hi-hw-i ne?o-hsahe?t-a?. (Onondaga)
3N-spill-CAUS.ASP le-PRE-bean-SUF
b. Ka-hsahe?t-ahi-hw-i.
3N-bean-spill-CAUS-ASP
'The beans spilt.'
(Baker, 1988: 89)

²² There are some rare languages where there is no restriction on the grammatical role of the incorporated nominal, allowing, in special instances, even subject incorporation. Hungarian is a case in point (cf. Farkas and de Swart's, 2003 recent work on semantic incorporation):

- (i) Gyerek sírt a közelben. (Hungarian)
child cry-PAST-3 the vicinity.in
'A child was crying in the vicinity.'
(Farkas and de Swart, 2003:10)

However, even in a permissive language like Hungarian, incorporation of subjects of i-level predicates is ruled out:

- (ii) *Gyerek okos. (Hungarian)
child clever
'The child is clever.'
(Farkas and de Swart, 2003:10)

The ban on incorporation of subjects of i-level predicates is crosslinguistically stable.

- (69) a. [_{CP} Combien d'étudiants en linguistique_i [_{IP} t'_i sont arrivés t_i]]? (French)
how-many of students of linguistics are arrived
- b. [_{CP} Combien_i [_{IP}t_i sont arrivés t_i d'étudiants en linguistique]]?
'How many students of linguistics have arrived?'
- (70) a. Qui_i est-ce qu'il a dit qui t_i était entré dans le cinéma? (French)
who is-this that he has said that-_{AGR} had entered in the cinema
- b. Il a dit que qui était entré dans le cinéma?
he has said that who had entered in the cinema
'Who did he say entered the cinema?'

Fourth, direct object incorporate freely while indirect objects incorporate only if no lower ranked noun (e.g. a direct object) is present in the sentence (West Greenlandic allows only noun incorporation of direct objects, other languages with noun incorporation are more flexible):

- (71) *Ta-hliawra-wia-ban ('u'u-de). (Southern Tiwa)
1aS/A/A-woman-give-PAST baby-SUF
'I gave it (the baby) to the woman.'
(Baker, 1988: 279)
- (72) a. De combien de livres as-tu besoin? (French)
of how-many of books have-you need
- b. De combien as-tu besoin de livres?
of how-many have-you need of books
'How books do you need?'
- (73) a. Combien de livres as-tu donné à Jean? (French)
how-many of books have-you given to Jean
- b. Combien as-tu donné de livres à Jean?
how-many have-you of books to Jean
'How many books have you given to Jean?'
- (74) a. A combien de personnes as-tu donné un livre? (French)
to how-many of persons have-you given a book
- b. *A combien as-tu donné un livre de personnes?
to how-many have-you given a book of persons
'To how many people have you given a book?'

Fifth, splitting with *combien* is much better with stage-level predicates than with individual-level predicates. Noun incorporation is possible with stage-level predicates, but not with individual-level predicates:

- (75) a. *Combien de personnes_i adores/connais/détestes-tu t_i?* (French)
 how-many of persons adore/know/detest-you
 b. *?* Combien_i adores/connais/détestes-tu t_i de personnes?*
 ‘How many people do you adore/know/hate?’
- (76) a. *Combien de personnes_i adores/connais/détestes-tu t_i?* (French)
 how-many of persons adore/know/detest-you
 b. *?* Combien_i adores/connais/détestes-tu t_i de personnes?*
 ‘How many people do you adore/know/hate?’
- (77) a. *Qu_i’est-ce que tu adores/connais/détestes t_i?* (French)
 what is-this that you adore/know/detest
 b. *?* Op_i Tu adores/connais/détestes t_i quoi?*
 ‘What do you adore/know/hate?’

Finally, whereas arguments can freely incorporate (provided they have the right grammatical function and thematic role), only certain adjuncts can incorporate and in some languages no adjuncts at all. According to Baker (1988), adjuncts cannot incorporate since it would violate the Empty Category Principle. An example from Southern Tiwa is given in (78):

- (78) a. *Guaha a ia he po, ka e mohe he aho.* (Southern Tiwa)
 work_{ABS}-he at night but sleep at day
 b. **Gahua po a ia, ka e mohe aho.*
 work-night_{ABS}-he but sleep-day
 ‘He works at night, but sleep during the day.’

(Baker, 1988: 87)

On Baker’s (1988) view, incorporation can be captured by head movement, one of the transformations assumed in generative grammar that derives surface forms from their underlying Deep Structures. Incorporated nouns are moved out of their original position at deep structure into an surface-position adjoined to V, leaving a trace that is governed by the raised noun, thereby satisfying the Empty Category Principle (ECP). The NP which is headed by the trace of the incorporated noun must be an argument of V, otherwise it would not be theta-marked by V and, therefore, not governed. According to Baker’s theta-role-based definition of government, adjuncts and subjects are thus not eligible for incorporation.

However, this restrictive view of incorporation has been questioned in recent years. Uriagerika (1996) discusses incorporation from adjunct position and takes a more flexible view of the government relationship required for incorporation. Similarly, Li (1990) gives examples of adjectival adjuncts which are incorporated into verbs in Chinese resultative compounds. In addition, in languages like Maori, it is possible for the head of an adverbial modifier (a proximal particle) to incorporate onto a higher functional head (PROX1 = near the speaker, PROX2 = near the hearer, PROX.DIST = distant from both speaker and hearer):

- (79) a. Te kurii nei. (Maori)
 DEF.SG dog PROX1
 ‘This dog (by me)’
- b. Te kurii naa.
 DEF.SG dog PROX2
 ‘That dog (by you).’
- c. Te kurii raa.
 DEF.SG dog PROX.DIST
 ‘That dog (over there).’

(Dooley Collberg, 1997: 29)

- (80) a. Ngaa kurii nei/naa/raa. (Maori)
 DEF.PL dog PROX1/PROX2/PROX.DIST
 ‘These/those/those dogs.’
- b. Teenei/teenaa/teeraa kurii.
 ‘This/that/that dog.’
- c. Eenei/eenaa/eeraa kurii.
 ‘These/those/those dogs.’

(Dooley Collberg, 1997: 29)

The following examples provide further evidence for the possibility of incorporation from adjuncts. Spencer (1995: 455) quotes a vast amount of Chukchi sentences illustrating that all kinds of adjuncts can be incorporated. He points out, however, that “particularly common seems to be the case where a verb of motion or position incorporates a locative adverbial” (p. 458):

- (81) tE-ralko-waNerEn. (Chukchi)
 1_{SG}-tent-sew
 ‘I am sewing in the tent.’

(Spencer, 1995: 458)

The above facts explain the following contrast (I owe the following example to Sophie Heyd):

- (82) a. En combien d'années as-tu fini ta thèse? (French)
 in how-many of years have-you finished your thesis
- b. *En combien as-tu fini ta thèse d'années?
 in how-many have-you finished your thesis of years
 'How many years did it take you to finish your thesis?'

The temporal adjunct cannot incorporate in (82b). However, splitting is much better with 'dans' and with 'avec', locative and instrumental adjuncts, respectively:

- (83) a. Dans combien de pays as-tu voyagé? (French)
 in how-many of countries have-you travelled
- b. ?Dans combien as-tu voyagé de pays?
 in how-many have-you travelled of countries
 'In how many countries have you travelled?'
- (84) a. Avec combien de voitures êtes-vous arrivés? (French)
 with how-many of cars are-you arrived
- b. ?Avec combien êtes-vous arrivés de voitures?
 with how-many are-you arrived of cars
 'With how many cars have you arrived?'
 (context: a group of people arrive at a wedding in several cars)

The situation with WH-phrases in situ is slightly different, since it is more flexible. Not only *où* (where) is possible in situ, but so is *quand* (when):

- (85) a. Tu vas où? (French)
 you go where
 'Where are you going?'
- b. ??Tu a vu un piano où?
 you have seen a piano where
 'Where have you seen a piano?'
- c. Tu viens quand?
 you come when
 'When are you coming?'

Note that in (85a), *où* is probably fully argumental, since it is impossible in French to say **tu vas*. The *WH*-phrase is therefore likely to be a full argument of the verb. (85b) is not as grammatical as (85a). This is probably because *où* is here an adjunct (the question has an echo flavour).

The fact that *quand* may appear in situ might appear more problematic. However, it turns out to be possible for temporal adverbs to incorporate in some languages that allow incorporation. The following example shows that apparently an unlimited number of adjuncts can be incorporated into a verb—in this case, an instrumental and two temporal adverbials:

- (86) mEn-nEki-ure-qepl-uwicwen-mEk (Chukchi)
 1PL.S.IMPER-night-long.time-ball-play-1PL.S
 ‘Let’s spend a long time playing ball tonight.’
 (Spencer, 1995: 458)

There is thus clear differences between *combien de* constructions and constructions with *WH*-phrases in situ in French; differences that normally cut across different languages. However, from a minimalist perspective (cf. Chomsky, 1995), these differences are expected, since parameters are reduced to the lexicon. Languages need not be wholly consistent whether they choose a particular setting of a parameter. Indeed, both settings may appear depending on the construction involved.

As for *comment* (how) it is possible in situ only on the interpretation ‘method of arriving’ not state of the driver (for related observations, see Cinque, 1990):

- (87) Tu es arrivé comment? (French)
 you have arrived how
 ‘How have you arrived?’
 a. En voiture.
 ‘By car.’
 b. *Fatigué.
 ‘Tired.’

Finally, *pourquoi* (why) cannot appear in situ on the ‘reason’ interpretation. (88b) is possible, but has a cause interpretation only:

- (88) a. *Tu es parti pourquoi? (French)
 you are left why
 ‘Why have you left?’
 b. Tu es parti pour quoi?
 you are left for what
 ‘What for have you left?’

Note that unlike Baker's analysis, Van Geenhoven's (1998) approach has got the possibility to account for the incorporation of adjuncts by turning them into arguments of the verb, using some kind of extension of the verb's semantics. If incorporated nominals denote a property, then they are not arguments, and it is thus predicted that other more traditional elements that denote properties can be incorporated. The prediction is borne out. In West Greenlandic, adjectives and even verbs can incorporate:

- (89) a. Illu angi-v-uq. (West Greenlandic)
 house-_{ABS} big.be-_{IND}-[_{-TR}]-_{3SG}
 'The house is big.'
 (Van Geenhoven, 1998: 15)
- b. Aani-p miiqqa-t Juuna-mut paari-sur(i-v)-a-i.
 Aani-_{ERG} children-_{ABS-PL} Juuna-_{DAT} look.after-think-_{IND}-[_{+TR}]-_{3SG-3PL}
 'Aani thinks that Juuna is looking after the children.'
 (Van Geenhoven, 1998: 16)

I will follow Van Geenhoven's analysis and take it for granted that adjuncts can incorporate. In the next section, I turn to the discourse properties of stranded nominals.

7.3. Discourse evidence

There are several types of noun incorporation languages, and the pragmatics of the phenomenon varies from one language to another. Mithun (1984) divides NI languages into four groups according to functional criteria. Type I NI is found in Oceanic, Mayan, Aborigine, Turkish, and English (*to baby-sit*) among others. It involves lexical compounding that express conventionalized activities. The incorporated nominal is generic and cannot receive a referential interpretation. If the referent is new, an independent NP must be used.

Type II NI is found in Tupinambá, Blackfoot and Yucatec Mayan. In these languages NI is used to manipulate the case marking of various participants in a sentence, thus it is relevant to the verb and its internal arguments. After NI, the direct object slot is left open, and an oblique NP can be promoted to direct object status while the demoted direct object is still present as the IN.

In Type III NI (e.g. Chukchi, Nahuatl and Tanoan), the incorporated nominal receives a referential interpretation. It can be definite and specific, it can introduce a referent into discourse, and it can function as the antecedent of discourse anaphora. NI is used to background a particular referent, making it less salient in discourse.

Type IV NI functions as a classifier system; a semantically general noun is incorporated by the verb, which remains transitive, and the IN can be modified by a more specific external NP (e.g. Mohawk).

It appears that West Greenlandic as described by [Bittner \(1994\)](#) and [Van Geenhoven \(1998\)](#) is close to type III, yet differs from those languages belonging to that class, in that in WG incorporated nouns are referential, but cannot be definite. They are always interpreted as non-specific:

- (90) Juuna allagar-si-v-u-q. (West Greenlandic)
 Juuna-ABS letter-get-IND-[-TR]-3SG
 (i) ‘Juuna got a letter/letters.’
 (ii) # ‘Juuna got the letter(s).’

Second, incorporated nouns cannot receive a partitive reading (cf. (57) repeated here for convenience).

- (57) a. Qassi-nik qimmi-qar-p-i-t? (West Greenlandic)
 how-many-INST.PL dog-have-INTER-[-TR]-2SG
 ‘How many dogs do you have?’
 b. Qassi-nik aalisaga-tur-p-i-t?
 how-many-INST.PL fish-eat-INTER-[-TR]-2SG
 ‘How many fish have you eaten?’

([Van Geenhoven, 1998: 20](#))

Third, they cannot be used as anaphoric expressions, i.e. they cannot be used to refer to a familiar object:

- (91) a. Qaammatit qassiit matuma siortinagut Juuna puurtukka-nik (West Greenlandic)
 months several of.this before Juuna-ABS parcel-INST
 Allakka-nil-lu nassip-p-a-ra
 letter-INST.PL.and send-IND-[-TR]-1SG.3SG
 ‘Several months ago, I sent a parcel_i and some letters.
 b. Ullumi aatsaat puurtugar-si-v-u-q, ...
 today only parcel-get-IND-[-TR]-3SG
 (i) ‘Only today he got a parcel, ...’
 (ii) # ‘Only today he got the parcel_i, ...’

([Van Geenhoven, 1998: 37](#))

As shown by [Van Geenhoven \(1998\)](#), if one wants to use a nominal expression to pick up the parcel mentioned, one has to use an NP in a transitive, i.e. a non-incorporating configuration:

- (92) Ullumi aatsaat puurtukka-t tiq-u-a-i. (West Greenlandic)
 today only parcel-_{ABS.PL} get-_{IND-[+TR]-3SG.3PL}
 ‘Only today he got the parcel_i, ...’
 (Van Geenhoven, 1998: 38)

Stranded nominals are like WG incorporated nominals, they are not presuppositional and cannot receive a definite reading. It has already been argued that stranded nominals cannot receive a partitive interpretation. In addition, stranded nominals cannot be used as anaphoric expressions. Suppose a speaker A utters (93). Only the question in (93iii) is acceptable, the incorporating interrogatives in (93i) and (93ii) are not felicitous:

- (93) Pendant son voyage, Jean a pris beaucoup de photos_i. (French)
 during his trip Jean has taken many of pictures
 ‘During his trip, Jean took many pictures.’
- *Et combien est-ce que Jean a pris de photos_i?
 - Et combien de photos_i est-ce que Jean a pris?
 - Et combien de photos_i est-ce que Jean a prises?

The test can be repeated for simple WH-phrases:

- (94) J’ai fait quelque chose_i de très intéressant pendant les vacances. (French)
 I have made some thing of very interesting during the holidays
 ‘I did something very interesting over the holiday.’
- *Alors, dis-nous, tu as fait quoi_i? on meurt d’envie de le savoir.
 so, tell us you have done what one dies of envy to it know
 ‘So, tell us, what have you done? We’re dying to know.’
 - Alors, dis-nous, qu’est-ce que tu as fait? on meurt d’envie de le savoir.
 so, tell us what is-this that you have done one dies of envy to it know
 ‘So, tell us, what have you done? We’re dying to know.’

A second test has to do with irrealis contexts. In the kind of French studied here, WH-phrases in situ cannot possibly be definite, since they can appear in conditional and subjunctive clauses:²³

²³ Here again, we expect variation between speakers, the form of French described by Chang (1997) should not allow these examples or at least they are not predicted under any theory that follow or agree with her judgements.

- (95) a. Tu ferais quoi dans ces cas-là? (French)
 you do-COND what in these cases-there
 ‘What would you do in those cases?’
- b. Tu veux qu’on t’offre quoi pour ton anniversaire?
 you want that one you offer-SUBJ what for your birthday
 ‘What do you want us to give you for your birthday?’

Third, *wh*-phrases in situ are not very felicitous in contexts of iteration, where a context (a situation and its participants) has already been established:

- (96) A la fête, Jean a revu deux de ses anciens amis. (French)
 at the party, Jean has reseen two of his old friends
 At the party, Jean saw two of his old friends again.
- a. Qui est-ce que Jean a vu à la fête?
 who is-this Jean has seen at the party
 ‘Who did Jean see at the party?’
- b. *Jean a vu qui à la fête?
 ‘Jean has seen who at the party?’

Fourth, French *wh*-phrases in situ can appear in existential contexts. As has been shown by Milsark (1977), Heim (1987), Keenan (1987) and McNally (1992), so-called strong/definite quantifiers cannot combine with the existential predicate:

- (97) a. *There is every book on the table.
 b. *There is the book on the table.
 c. There is some book on the table.
 d. There is a book on the table.

However, *de*-phrases and *wh*-phrases in situ can clearly appear in existential contexts, indicating that, in the dialect/register under scrutiny here, they introduce a new discourse referent:²⁴

- (98) a. Ya **quoi** à la télé? (French)
 there’s what on TV
<http://michelcambon.free.fr/dessinsactu/pages/telerealite>

²⁴ Again, it is predicted that these examples are ungrammatical in the other dialect/register mentioned in the main text.

- b. Ya **quoi** à Nantes?
there's what in Nantes
<http://faluche.naoned.free.fr/Naoned.htm>
- c. Y a **quoi** dans tes cartons?
there's what in these boxes
http://perso.clubinternet.fr/yodok/paris22022003/soiree_fev_203-Pages/Image177.html
- d. D'abord ya **quoi** dans l'ordinateur?
Actually there's what in the computer
<http://www.cybermomes.net/preaoscolaire/pagesdecouverteinternet/Bcompoordi1.html>
- e. Il ya **quoi** comme matos pour le serveur de adsl-facile
there's what as material for the verver of adsl-easy
<http://www.adslfacile.com/Forums/ViewTopic.asp?ForumID=21&PostID=7114>
- (99) a. **Combien** est-ce qu'il y a **de films** c'soir à la télé? (French)
how-many is-this that there is of films this evening at the telly
'How many films are there on TV tonight?'
- b. **Combien** y a-t-il **de langues différentes** sur Terre?
how-many there is of languages different on Earth
'How many different languages are there on Earth?'
<http://www.cybersciences.com/Cyber/2.0/Q7627.asp>
- c. **Combien** y a-t-il **de Chines**?
how-many there is of Chinas
'How many Chinas are there?'
<http://www.warc.ch/up014/14-f.html>
- d. **Combien** y a-t-il **de débris** en orbite autour de la Terre?
how-many there are debris in orbit around of the Earth
'How many are debris in orbit around the Earth are there?'
<http://www.cybersciences.com/Cyber/2.0/Q2768.asp>
- e. **Combien** y a-t-il **de fumeurs** au Canada?
how-many there are smokers in Canada
'How many smokers are there in Canada?'
http://www.hcsc.gc.ca/hecssesc/tabac/recherches/esutc/trends/how_many.html
- f. **Combien** y a-t-il **d'abonnés** aux offres Télévision UPC?
how-many are there of subscribers to the offers Television UPC
'How many subscribers to the offers Television UPC are there?'
http://www.upcfrance.com/services/television/questions/q_0000000616.shtml

- g. **Combien** y aura-t-il de **coupures de billets** en euros?
 how-many will there be of bank notes in euros
 ‘How many bank notes in euros will there be?’
<http://www.euro-institut.org/Reponses.htm>
- (100) a. Nillataartarfim tallima-nik manne-qar-p-uq. (West Greenlandic)
 fridge-LOC five-INST.PL egg-have-IND-[-TR]-3SG
 ‘There are five eggs in the fridge.’
- b. Festi-mi qallunaar-passua-qar-p-u-q.
 party-LOC white.man-many-have-IND-[-TR]-3SG
 ‘There were many Danes (lit. white men) at the party.’
 (Van Geenhoven, 1998: 27)

On the basis of these facts, I propose that an in-situ question in the type of French reviewed here correlates with a non-specific reading. The predicate introduced by the indefinite is absorbed by the verb as the predicate of that verb’s internal argument’s variable. The valence of the verb which incorporates the noun is reduced by one. The transitive sentence becomes intransitive which means that the nominal is dethematized semantically (the theme or patient has been absorbed), and pragmatically, the noun is non-prominent.

These ideas fit with Mithun’s (1984) thesis according to which the primary function of noun incorporation is the manipulation of discourse structure and the expression of a conventionalized activity or the background of a given referent. Noun incorporation, thus leads to athetic statement in the sense of Sasse (1987). In-situ interrogatives are thus what we might call thetic questions: they are about an event, not about an entity (the idea of athetic *question* is novel, but the thetic versus non-thetic distinction is of course well-motivated, cf. Sasse, 1987).

In sum, the idea is that stranded nominals are new topics. They are like shifted topics (in the sense of Aissen, 1992), in that they are not given, yet differ from them in that they are not what the sentence is about. They thus share with continuing topics (again in the sense of Aissen, 1992) the property of being minus aboutness. Table 1 summarises the differences between shifted, continuing and new topics.

The concept of new topic is extremely closed to that of lower-order topic. Lower-order topics are non-prominent entities (backgrounded elements), whereas higher-order topics are prominent (foregrounded elements) (Sasse, 1984). Whereas foregrounding highlights

Table 1

	New	Old	Aboutness
Shifted topics	+	–	+
Continuing topics	–	+	–
New topics	+	–	–

the most important information in the sentence (this notion is thus close to that of theme), background information means the less important information under discussion. It is not necessarily old or presupposed or given, and not necessarily unstressed. In fact, stranded nominals in interrogatives receive main stress. Old information is typically marked as unstressed. The following examples can thus be taken as evidence that stranded nominals are not presupposed:

- (101) Combien_i as-tu lu t_i DE LIVRES? (French)
 how-many have-you read of books
 ‘How many books have you read?’
- (102) Op_i Tu as vu t_i QUI? (French)
 you have seen who
 ‘Who have you seen?’

To sum-up, in the register/dialect described in this paper (b) is most natural in a context where there’s a party and the host is asking what everyone is drinking. The host is not presupposing that everyone is drinking something (it may turn out that there’s a guest A who does not want a drink). No presupposed or visible set of drinks need be present.

- (103) a. Qu’est-ce que tu veux boire? (French)
 what is-this that you want to drink
- b. Tu veux boire quoi?
 you want to drink what
 ‘What do you want to drink?’

(103b) is thus interpreted as a complex predicate (you’re drink-have what?). The idea is that the WH-phrase in situ is non-prominent/less salient in discourse, it is not what the sentence is about. The question is about an event and not about a drink. On the other hand, raising correlates with foregrounding of the nominal: the noun is promoted to the fore of the discourse. The question is now about a drink and not about the event of drinking.

7.4. A parameter

A final word about those registers/dialects where WH-phrases in situ are associated with a D-linked reading. There are two logical options available to us: (i) WH-phrases in situ in those registers/dialects undergo semantic incorporation, but are interpreted as D-linked; (ii) the WH-phrases in situ do not undergo semantic incorporation, instead they introduce a free variable that is existentially closed off. The latter alternative has the advantage that it

remains faithful to Van Geenhoven's original proposal in that the incorporated nominal is always non-specific. The former alternative is consistent with Mithun's (1984) observation that there is cross-linguistic variation with respect to whether an incorporated nominal can be specific or non-specific and to whether or not it introduces a discourse referent. The discourse transparency of incorporated nominals, thus depends very much on the language under consideration, on the morphological number of the IN (and on the type of anaphor, but I will leave this point aside, since it is not directly relevant here).

Farkas and de Swart (2003) show the relevance of these last two factors in Hungarian (of which I will discuss only the first). Whereas in languages like West Greenlandic, and Chamorro, for instance, incorporated nominals (which are unmarked for number) are discourse transparent, in Hindi (cf. Dayal, 1999) and Hungarian morphologically singular incorporated nouns are discourse opaque while morphologically plural ones are discourse transparent. As argued by Farkas and de Swart (2003) the discourse properties of numberless incorporated nominals in Hungarian points to the necessity of allowing more fine-grained distinctions.

In addition, recall that in some language (e.g. Chukchi, Nahuatl, Tanoan), the incorporated nominal can be a definite or a specific nominal, introduce a referent into discourse, and can function as the antecedent of discourse anaphora. In those languages, NI is used to background a given referent, making it less salient in discourse.

I believe it is fairly easy to decide between Option (i) and option (ii). Since in those registers/dialects where WH-phrases in situ are interpreted as D-linked, the scope of the WH-phrase in situ is nevertheless fixed (on the assumption that intervention effects can be accounted for in terms of scope), it must be the case that the WH-phrase in situ is semantically incorporated. The scope freezing property of incorporated is fairly robust cross-linguistically and the fact that all registers/dialects seem to have WH-phrases in situ associated with no scope leads to the conclusion that these WH-phrases do indeed undergo semantic incorporation.

Note also that, according to Chang (1997), French WH-phrases in situ in the register/dialect researched by her do not receive a partitive interpretation. It is thus likely that the kind of D-linking associated with such phrases has nothing to do with specificity associated with wide scope indefinites. Although D-linked these elements do not introduce a free variable. How they are interpreted, however, remains to be established.

If the WH-phrases in situ in the Chang register/dialect are indeed semantically incorporated, then it means that the battery of syntactic tests that we performed on French WH-in situ will extend to those cases. A crucial difference between the two dialects, however, should concern the discourse properties of WH-in-situ phrases (anaphoric potential, etc.). It remains to be seen, however, what these differences are in the detail. A thorough comparison between the two registers/dialects is needed. However, due to lack of space, this is not the place to undergo such a lengthy comparison.

Before concluding, let me go back to the cases discussed by Cheng and Rooryck, i.e. strongly non-D-linked WH-phrases such as *que diable* and *qui-ça* WH-phrases. I argue that *que diable* phrases cannot remain in situ because they are non-referential. They are clearly argumental in the sense that they receive a theta-role, but they are not interpreted referentially. Following, Rizzi's (1990) suggestion about *pourquoi* (why), I assume that *que diable* is base-generated in Spec-CP and cannot appear in situ (see also Pesetsky, 1987,

who shows that strongly non-D-linked WH words such as “what the hell” must undergo movement). In sum, one condition for WH-phrases in French to appear in situ is that they be referential.

As for *qui-ça* WH-phrases, they are, as noted by Cheng and Rooryck (2000), the exact opposite of the *que diable* cases. I assimilate them to inherent D-linked WH-phrases in situ:

- (104) a. Tu as bu quelle bière? (French)
 you have drunk which beer
- b. Quelle bière as-tu bu?
 ‘Which beer have you drunk?’
- (105) a. Tu as bu laquelle? (French)
 you have drunk the-which
- b. Laquelle as-tu bu?
 ‘Which beer have you drink?’

Because *qui-ça* phrases come with a deictic element *ça*, they are interpreted as inherently D-linked. Typical D-linked elements are which/quel-DPs: they are inherently partitive (cf. Pesetsky, 1987; Heim, 1987). Since *qui-ça* WH-phrases are D-linked, they can appear in situ, they pass the referentiality test. Therefore, they are perfectly acceptable in such contexts. Note that my proposal is not to equate necessarily a structural position with a single interpretation. The in-situ alternative is not obligatorily associated with a non-D-linked reading. If the element that is selected is inherently D-linked, then of course the interpretation will be that of D-linking. But note that by the same token it is not because such D-linked elements are possible in situ does not make all other WH-phrases in situ in French necessarily presuppositional.

Note that there are two differences between *qui-ça* WH-phrases and which/quel-DPs. Whereas which/quel-DPs can raise to a sentence-initial position (that I take to be Spec-CP), *qui-ça* WH-phrases can appear only in situ. Like Cheng and Rooryck (2000) I will leave open the question of what forces a strongly D-linked WH-phrase such as *qui-ça* to be in situ, since I do not have anything interesting to add here. The second difference between *qui-ça* WH-phrases and which/quel-DPs is to do with their possible interpretation. Whereas which/quel-DPs are ambiguous between a kind and a specific interpretation, *qui-ça* WH-phrases are not: they are interpreted only as specific.

There is a subtle meaning difference between the in-situ option and the movement alternative in (104) above. (104b) means ‘which particular beer out of a set of beers have you drunk?’ while (104a) means something like ‘what kind of beer have you drunk with respect to a presupposed set of beer kinds’ (e.g. a white beer). The same contrast is attested in (105).

Interestingly, Van Geenhoven discusses such differences between kind and non-kind interpretations in relation to West Greenlandic and shows that in WG an object-partitive

question is realized as a transitive (i.e. non-incorporating) configuration while a kind-partitive question is realized as an intransitive (i.e. incorporating) one (in WG there are two different lexical entries for “which”):

- (106) a. Illu sorleq pisiari-v-iuk? (West Greenlandic)
house-_{ABS} which-_{ABS} buy-_{INTER-[+TR]-2SG·3SG}
(i) ✓Which of the houses did you buy?
(ii) *What kind of house did you buy?
- b. Sorlem-mik illu-si-p-i-t?
which-_{INST} house-buy-_{INTER-[-TR]-2SG}
(i) *Which of the houses did you buy?
(ii) ✓What kind of house did you buy?

I argue that which/quel-DPs incorporate only on the kind interpretation, otherwise they are interpreted as open propositions.

To sum-up, stranded nominals in split constructions are semantically incorporated. They denote a property and are always interpreted as non-specific. On the other hand, raised nominals are interpreted as specific (they are not semantically incorporated). Moreover, stranded nominals are lower-order topics, i.e. non-prominent entities while raised nominals are higher-order topics, i.e. prominent indefinites. Moreover, whereas there are some cross-linguistically stable properties of incorporated nominals (for example, their inability to take wide scope over other elements in their sentence, a property that was noted in very early work on noun incorporation; impossibility of incorporating subjects of *i*-level predicates, see footnote 23), other properties are not stable and vary from language/dialect to another. This would explain why there is dialectal variation in the semantic and pragmatic properties of French *WH*-in situ.

8. Summary and concluding remarks

I have postulated movement of a phonologically null operator in the case of French *WH*-in-situ questions and accounted for the intervention effects exhibited by them in terms of scope. More specifically, I have argued that French *WH*-in-situ questions are split-DP constructions involving stranding of the nominal with which the *WH*-operator is associated. In the dialect/register that has been scrutinized in this paper, when the noun appears in that position, it is not referring to a specific entity. On the contrary, the stranded nominal is interpreted as a non-specific indefinite: it introduces a new, and not an old discourse referent. In my register/dialect, there is no semantic presupposition associated with *WH*-in situ; the only “strong” presupposition associated with in-situ questions (and with questions in general) is the requirement that the question comes with an answer. Pragmatically, a *WH*-phrase in situ is a lower-order topic, i.e. a non-prominent entity (this appears to be true for all registers/dialects reported). Full movement questions

(without agreement), on the other hand, involve a foreground context. In the latter case, the *wh*-phrase refers to a specific entity. Pragmatically, the raised nominal is a higher-order topic, i.e. a prominent entity.

Split-constructions of the kind discussed in the present paper shed light on the nature of optionality. To the extent that the conclusions reached in this chapter are sound, they provide evidence for the claim that *wh* movement in French is not optional, contrary to what has been claimed in the literature, but obligatory. The EPP feature in C is always strong (cf. Watanabe, 1993; Chomsky, 1995, 2001). What is optional is the fronting of the nominal with which the *wh*-operator is associated. Whereas movement of the *wh*-operator is syntactically driven, movement of the nominal with which the operator is associated is not. The choice between raising the noun or leaving it in situ is determined by discourse properties, not by pure syntax. The findings of this paper are thus in agreement with Cheng and Rooryck (2000), and more generally with recent work that argues for the idea that some movement phenomena are triggered while others are not. Certain dislocation phenomena are thus achieved outside narrow syntax (Holmberg, 1999 on Object shift, Zubizarreta, 1998 on P-movement, etc.).

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