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Lieven Danckaert, Tijs d'Hulster, Liliane Haegeman. Deriving idiolectal variation: English wh-raising. Bidese, Ermenegildo; Cognola, Federica; Moroni, Manuela Caterina. Theoretical Approaches to Linguistic Variation, 234, John Benjamins, pp.145-176, 2016, Linguistik Aktuell/Linguistics Today, 9789027257178. 10.1075/la.234.06dan . halshs-01535146

**HAL Id: halshs-01535146**

**<https://shs.hal.science/halshs-01535146>**

Submitted on 8 Jun 2017

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## Deriving idiolectal variation:

### English *wh*-raising

Lieven Danckaert, Tijs D’Hulster & Liliane Haegeman (UGent/FWO, GIST)<sup>1</sup>

#### 1. Introduction

Standard English has a contrast between subject-to-subject raising out of a non-finite clause (1a), which is fully acceptable, and raising out of a finite clause (1b), which is considered to be strongly unacceptable, with or without the *that*-complementizer:

- (1) a. John<sub>i</sub> seems to t<sub>i</sub> read a book.  
b. \*John<sub>i</sub> seems (that) t<sub>i</sub> reads a book.

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<sup>1</sup> An earlier version of this work was presented at IGG 40, Trento (February 2014), at the Master programme of the University of the Basque Country (UPV-EHU, March 2014), at CGG 24, Madrid (May 2014), and at a research seminar of the SynCart project at the University of Geneva (February 2015). Both authors would like to thank the FWO for its financial support ((postdoctoral grant FWO13/PDO/024 (Danckaert) and FWO project 3G0A4912 (D’Hulster & Haegeman)). We thank Elizabeth Bogal-Allbritten, Timothy Gupton and Eric Lander for comments and judgements, and Adriana Belletti, Jeff Lidz, Terje Lohndal, Jairo Nunes, Andrew Radford, Milan Řezáč, Luigi Rizzi, Ur Shlonsky, Vidal Valmala and the members of GIST for challenging comments on an earlier version of this paper and for helpful suggestions.

The deviance of (1b) is standardly captured in terms of a ban on ‘Improper Movement’, i.e. the descriptive generalization which bans movement from an A’-position to an A-position (see among others Chomsky 1973; Fukui 1993; Müller & Sternefeld 1993). However, apparent cases of finite raising such as the ones in (2), in which the relevant segment is underlined, are produced and are accepted by some speakers.<sup>2</sup> Superficially, such examples seem to be instances of the illicit pattern in (1b) with raising of a subject from within a finite clause:

- (2) a. There were no signs of violence and a postmortem examination is due to take place tomorrow [Tuesday], which<sub>i</sub> is hoped t<sub>i</sub> may provide further information.

(<http://www.theguardian.com/artanddesign/2013/mar/18/david-hockney-friend-dies-hospital>)

- b. Organizations that provide counseling and legal assistance to various tenant populations will now have the opportunity to bid for

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<sup>2</sup> Although we will not be concerned with frequencies in this paper, a small informal pilot study conducted on the basis of the GLoWbE corpus (Corpus of Global Web-based English; <http://corpus2.byu.edu/glowbe/>) on 08.01.2014 suggests that the pattern we are looking at is productively used. The following results were obtained: for the string *which/who/that it is hoped will* (finite complement with regular A’ subject extraction) we found 70 hits; *which/what/that is hoped to* (canonical raising with *wh*-subject): 29 hits; *which/what/that is hoped will* (finite *wh*-raising): 27 hits. In other words, for this particular predicate (*be hoped*) there were almost as many occurrences of the *wh*-raising pattern as of regular raising.

the new city funds, which<sub>i</sub> are hoped t<sub>i</sub> will help up to 150 families facing eviction.

([http://sfist.com/2013/10/01/mayors\\_office\\_will\\_throw\\_some\\_cash.php](http://sfist.com/2013/10/01/mayors_office_will_throw_some_cash.php))

- c. A recording was also made of each School and was then used to transcribe the minutes and any quotes which<sub>i</sub> were felt t<sub>i</sub> were relevant to the process.

(<http://orgprints.org/22387/1/Jason%20Horner%20Masters%20thesis.pdf>)

In these examples, a long moved subject triggers agreement in both the embedded and the matrix clause. This is clearest in (2c), in which the relative operator *which*, whose antecedent is the plural noun phrase *any quotes*, triggers plural agreement both in the clause from which it is extracted (*were relevant*) and in the superordinate clause (*were felt*). The majority of English speakers reject such examples and instead accept the alternatives in (3), with an expletive subject in the raising clause. The superordinate agreement is then with the expletive:

- (3) a. There were no signs of violence and a postmortem examination is due to take place tomorrow, which<sub>i</sub> it is hoped t<sub>i</sub> may provide further information.
- b. Organizations that provide counseling and legal assistance to various tenant populations will now have the opportunity to bid for

the new city funds, which<sub>i</sub> **it** is hoped <sub>t<sub>i</sub></sub> will help up to 150 families facing eviction.

- c. A recording was also made of each School and was then used to transcribe the minutes and any quotes which<sub>i</sub> **it** was felt <sub>t<sub>i</sub></sub> were relevant to the process.

The data in (2) depart from the subject extraction pattern standardly observed in English. We will assume that such examples are generated by the grammar of a subset of speakers of English, or put differently, that this is idiolectal variation due to underlying microvariation in the grammar. Our goal in this paper is to identify the locus of this variation. Using a cartographic framework, we develop an analysis framed against the background of Rizzi's (2006) approach to subject extraction, including his concept of 'Subject Criterion'. The observed inter-speaker variation will be related to whether or not a CP-selecting predicate can incorporate the ( $\phi$ -enriched) Fin head of its complement clause. For reasons that will become clear shortly, we will refer to the pattern in (2) as *wh*-raising.

The paper is organized as follows: the remainder of section 1 provides some additional illustrations of the relevant data. Section 2 is an inventory of the core properties of *wh*-raising. In section 3, we discard a number of accounts of the pattern investigated. Section 4 lays out our theoretical assumptions and section 5 presents our analysis, the key component of which is our hypothesis of Fin-incorporation. We will also discuss, and discard, some alternative implementations of our analysis which, though simpler and therefore more attractive, are not empirically adequate. Section 6 is a brief conclusion.

Additional attested examples of the *wh*-raising pattern are given in (4) and (5): (4) illustrates relative clauses and (5) interrogatives.<sup>3</sup> There are also instances of the same pattern with comparative *wh*-movement, which are given in (6). We will not discuss such examples further here, but they would be captured by the analysis we propose.

- (4) a. It is set at rates which<sub>i</sub> are considered t<sub>i</sub> will not deter the development and growth as set out in the Core Strategy, or impact on affordable housing provision.

([http://www.leeds.gov.uk/docs/FPI\\_CIL\\_10%20Draft%20Charging%20Schedule%20-%20Oct%202013%20LR.pdf](http://www.leeds.gov.uk/docs/FPI_CIL_10%20Draft%20Charging%20Schedule%20-%20Oct%202013%20LR.pdf))

- b. This launches what<sub>i</sub> is hoped t<sub>i</sub> will be a ten-year effort that will require as much as \$25 million each year (COCA COCA:1992:MAGNatlParks)

- (5) a. What<sub>i</sub> is thought t<sub>i</sub> has happened to him? (Sentence produced by BBC reporter, BBC radio 5 Live, reported in Radford 2004: 429)

- b. There were many church council meetings in which the church leaders decided on which books should comprise the “bible”. They disagreed as to [which books]<sub>i</sub> were thought t<sub>i</sub> were “Godly

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<sup>3</sup> Note that (5a) is the only attested example of *wh*-raising we have which originates from a non-written source. At this point we are not in a position to conclude that the phenomenon is typical of written language.

inspired”. (GloWbE; ABC News, Was Jesus Married? Ancient Papyrus Mentions His ‘Wife’;

<http://abcnews.go.com/blogs/headlines/2012/09/was-jesus-married-ancient-papyrus-mentions-his-wife/>)

- (6) a. A little steam in Radstock, even if a little smaller than<sub>i</sub> is hoped t<sub>i</sub> will run on the line, could once again be seen at Radstock. (BNC, Steam Railway News. 474 s-units)
- b. Keep more balloons available than<sub>i</sub> is thought t<sub>i</sub> will be necessary. ([http://www.ehow.com/how\\_10049417\\_make-balloon-princess-wand.html](http://www.ehow.com/how_10049417_make-balloon-princess-wand.html))

Informally speaking, the examples in (2), (4) and (5) seem to be ‘hybrids’ between cases of (non-finite) subject raising and examples of long *wh*-movement out of a finite clause. One might consider them as ‘blends’ (cf. Bolinger 1961, Coppock 2010 among many others) of two clauses: for instance (2c) could be seen as a combination of the two licit structures below, a raising pattern (2c’) and a regular *wh*-movement pattern (2c’’) .<sup>4</sup>

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<sup>4</sup> A related (but different) strand in the literature studies what Lakoff (1974) calls ‘amalgams’ and van Riemsdijk (2000) ‘grafts’ (see also van Riemsdijk (2001, 2006, 2010) and Kluck (2011)). An example is given in (i) (from Lakoff (1974: 321), his (1)):

- (i) John invited you’ll never guess how many people to his party.

- (2) c'. any quotes which were felt to be relevant to the process  
c''. any quotes which it is felt were relevant to the process

One view would be that such ‘blends’ are not part of the grammar of (certain) speakers, but rather that they are an ‘extragrammatical’ phenomenon.<sup>5</sup> In our paper, we will take a different route: we take such examples to illustrate idiolectal micro-variation and thus to be generated by the grammar of a subset of speakers, and we examine how a grammar that allows the derivation of these ‘hybrid’ patterns would have to differ from that which does not generate them. We have based our account on (i) anecdotally encountered attested data like those in (2), (4a) and (5a), (ii) material from additional searches in online corpora like (4b) and (5b), and (iii) the intuitions of five native speaker informants who accept the pattern, and who are in agreement with all judgements reported below.

It is standardly assumed that in a regular raising configuration such as that in (2c’) the non-finite complement clause is structurally reduced and lacks a left periphery, allowing the subject to move into the matrix domain. On the other hand, in

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In this example, the underscored part seems to be a parenthetical (presumably a sluice), but in contrast with regular parentheticals, it shares material with its host clause (viz. *many*). Although we do not exclude that (a subset of) our data can be analysed in terms of grafts, we will not pursue such an analysis here.

<sup>5</sup> This would be in the spirit of work such as, for instance, Otero (1972), Sobin (1994), or Straum & Sag (2008), for instance, to mention but a few references, in which widely attested examples are considered ‘acceptable’ but ‘ungrammatical’.



the extraction pattern in (2c'') it is assumed that the *wh*-subject moves out of the complement clause via an intermediate step in the embedded left periphery, which in this case is somewhat reduced. Anticipating our discussion: we will propose that the *wh*-raising patterns are made possible as the result of the incorporation of a functional head in the C-domain of the embedded clause to the head of the selecting predicate in the higher clause.

## **2. A descriptive inventory**

### *2.1. The core properties*

We will start the discussion with a descriptive overview of the main properties of the *wh*-raising pattern.

#### *2.1.1 Only wh-movement*

First of all, and very importantly, in the configuration we are dealing with (cf. (2), (4) and (5)), a *wh*-subject is extracted from a finite clause, moves to the higher clausal domain and triggers subject-verb agreement in both the embedded and the matrix clause. Though there are occasional attestations of non-*wh*-subjects giving rise to this type of superordinate agreement, like for instance (7), our informants reject these examples and the attestations are far less easy to come by.

- (7) The manufacturing and natural resources sector will lead the vertical markets with total spending expected to reach \$478 billion in 2013, up 2.3 per cent from \$467 billion in 2012. However, IT spending rates are expected will bottom out in 2013 and will be resilient over the long run [...]. (Google search 18.01.2014; <http://www.gartner.com/newsroom/id/2238915>)

Based on the judgements of our informants, we assume that only *wh*-subjects give rise to the finite raising configuration.<sup>6</sup>

### 2.1.2 Double agreement

In the examples we investigate, a *wh*-subject triggers agreement in both the embedded clause - as expected - and in a superordinate clause: the latter agreement sets these examples apart from canonical instances of long subject extraction. In (2c) for instance, repeated here in a simplified form in (8), plural *which* agrees both with the lower copula *were* and with the higher auxiliary.

- (8) any quotes  $which_i$  were felt  $t_i$  were relevant to the process.

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<sup>6</sup> Put differently, the generalization is that while the agreement in the superordinate clause is available with A'-moved constituents, it is not so with A-moved constituents. The A/A'-discrepancy that emerges from this contrast is reminiscent of acquisition facts described in Hirsch & Wexler (2004), where it is shown that English children acquire raising with *wh*-subjects earlier than regular A-raising. Thanks to Luigi Rizzi for pointing this out to us.

### 2.1.3 Only subject extraction

Even for speakers allowing *wh*-raising, a long moved *wh*-object cannot give rise to agreement in a superordinate clause: examples such as (9) are not attested and are rejected by our informants.

- (9) \* the new city funds, [which<sub>i</sub> are hoped [**they can use** t<sub>i</sub> [to help 150 families facing eviction]]]

### 2.1.4 That-trace effect

In all the attested examples of *wh*-raising, the complement clause from which the subject is extracted lacks an overt complementizer and our informants reject examples such as (10), where the *that*-complementizer is present. In terms of the *that*-trace effect, the extraction from the lower clause in the *wh*-raising configuration is identical to the standard pattern.

- (10) the new city funds, which<sub>i</sub> are hoped (**\*that**) t<sub>i</sub> will help up to 150 families facing eviction

### 2.1.5 The selecting predicate

In the attested examples the higher clause in which the *wh*-subject triggers agreement contains a one place predicate. More precisely, in all our examples the higher

predicate is a raising predicate including raising verbs such as *seem*, *appear*, passive predicates such as *said*, *felt*, *hoped*, and adjectival predicates such as *likely*.<sup>7</sup>

### 2.1.6 Locality restrictions

The pattern under investigation is subject to a series of locality restrictions which are absent in more familiar cases of *wh*-movement. To facilitate the discussion we will use numerals to identify the clausal domains implicated in *wh*-raising: the clause from which the *wh*-subject is initially extracted is assigned the index 1, and will be referred to by means of the shorthand label CP1, the immediately dominating raising clause is CP2, etc. Similarly, the lower TP is indicated as TP1, the immediately dominating one as TP2, etc.

First of all, we observe that further extraction of the *wh*-subject triggering agreement in CP2 to CP3 is ruled out regardless of whether the *wh*-subject agrees with T3. Instead, the moved *wh*-subject must halt in the left periphery of CP2. The a-examples below with double agreement are accepted by our informants. The b-examples, in which the *wh*-subject triggers agreement in CP2 and CP3, resulting in triple agreement, are not.

- (11) a. the new city funds, [<sub>CP2</sub> which<sub>i</sub> **are** hoped [<sub>CP1</sub> t<sub>i</sub> **will** help up to 150 families facing eviction]]]

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<sup>7</sup> The specific set of predicates that allow the pattern remains to be established. In particular, it appears surprising that our speakers allow the double agreement with the adjective *probable*, which is standardly claimed not to allow for subject to subject raising (Hudson 1972), but for the speakers in question *probable* is also acceptable with subject-to-subject raising.

- b. ??\*the new city funds, [CP3 which<sub>i</sub> **are** said [CP2 t<sub>i</sub> **are** hoped [CP1 t<sub>i</sub> **will** help up to 150 families facing eviction]]]
- (12) a. This is a mutation of the virus [CP2 which<sub>i</sub> **was** suspected [CP1 t<sub>i</sub> **had** initially caused the infection]]].
- b. \*/??This is a mutation of the virus [CP3 which<sub>i</sub> **was** reported [CP2 t<sub>i</sub> **was** suspected [CP1 t<sub>i</sub> **had** initially caused the infection]]].

As seen in (12c), *wh*-raising thus differs from regular raising patterns in which recursion is acceptable:

- (12) c. This is a mutation of the virus [CP3 which was reported [TP2 **to** be suspected [TP1 **to** have initially caused the infection]]].

In addition, further *wh*-movement of a *wh*-subject that has triggered *wh*-agreement in CP2 into a higher clause is considered degraded by our informants, regardless of the nature of the predicate in CP3 (one place or otherwise):

- (13) a. ? the new city funds, [CP3 which<sub>i</sub> **they say** [CP2 t<sub>i</sub> are hoped [CP1 t<sub>i</sub> will help up to 150 families facing eviction]]].
- b. ? the new city funds, [CP3 which<sub>i</sub> **it is said** [CP2 t<sub>i</sub> are hoped [CP1 t<sub>i</sub> will help up to 150 families facing eviction]]].

In fact, there is a stronger restriction to the effect that *wh*-raising is limited to two adjacent clauses: the configuration in which a *wh*-subject triggers agreement in a domain dominating its extraction site is restricted to CP2, i.e. the clause immediately dominating that from which extraction takes place, as illustrated in the a-examples in (14)-(15). The variants in the b-examples, in which a *wh*-subject moves out of CP1, skips CP2 and triggers agreement in CP3, are not attested and are rejected by our informants, regardless of whether the intermediate clause has a lexical (14b) or an expletive subject (15b):

- (14) a. the new city funds, [CP2 which<sub>i</sub> are hoped [CP1 t<sub>i</sub> will help 150 families facing eviction]].
- b. \* the new city funds, [CP3 which<sub>i</sub> are hoped [CP2 **the government will confirm** [CP1 t<sub>i</sub> will help 150 families facing eviction]]].
- (15) a. the new city funds, [CP2 which<sub>i</sub> are said [CP1 t<sub>i</sub> will help up to 150 families facing eviction]].
- b. \* the new city funds, [CP3 which<sub>i</sub> are said [CP2 it is hoped [CP1 t<sub>i</sub> will help up to 150 families facing eviction]]].

### 2.1.7 Summary

A summary of the descriptive overview just given is provided in Table 1:

1.	Only under <i>wh</i> -movement
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2.	Double agreement
3.	Only subject extraction
4.	Familiar constraints on <i>wh</i> -subject movement ( <i>that</i> -trace)
5.	One-place raising predicate in the matrix clause
6.	Locality restrictions: no unbounded reiteration

Table 1: main properties of the *wh*-raising pattern.

Observe that among these six properties some are typically associated with A-movement (agreement, raising and lack of unbounded dependencies), and others are properties of A'-movement (only *wh*-elements, *that*-trace effects). Our analysis to be presented in section 5 will capture this apparently hybrid behaviour.

## 2.2 Some similar patterns in English and in Romance

Before we proceed, we will briefly list a number of phenomena, mostly in English, which also illustrate a configuration in which a *wh*-moved subject takes part in syntactic processes typical for A-movement (such as case and agreement) in a clause higher than the one it is extracted from.<sup>8</sup>

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<sup>8</sup> On *wh*-agreement, compare also Polinsky & Potsdam (2001), who analyse data from Tsez as involving agreement of a matrix verb with an embedded constituent, which they argue undergoes covert topicalization to the LP of the subordinate clause.

### 2.2.1 Wh-agreement with long moved subjects in American English

First, our *wh*-raising data are reminiscent of the American English pattern discussed in Kimball & Aissen (1971) and Kayne (1995), in which a *wh*-moved constituent triggers agreement in a superordinate clause: in (16a) the plural *wh*-subject *who* triggers agreement with *think* in spite of the presence of the singular subject *Clark*:

- (16) a. Mark knows the people who<sub>PL</sub> Clark<sub>SG</sub> think<sub>PL</sub> are in the garden.  
(from Kimball & Aissen (1971: 241, their (1b); cf. Kayne 1995)).

However, the patterns differ in that a moved subject can recursively overrule agreement in a higher clause:

- (16) b. the boys who<sub>PL</sub> Tom think(s) Dick believe(s) Harry expect(s) to be late. (Kayne 1995: 193, his (17))

Though the two patterns are at first sight similar, it is at this point not clear whether they require a unified account (for one thing, *wh*-raising does not seem to be restricted to American English).<sup>9</sup>

### 2.2.2 Accusative case on long *wh*-moved subjects in English

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<sup>9</sup> Note however that our proposal developed below in terms of Fin-incorporation to a higher head does share properties with the account in Kayne (2000), who derives the patterns in (16) by Agr to C movement.



Second, our data are also reminiscent of English examples such as (17a), in which a *wh*-subject of a finite clause is unexpectedly realized by the accusative *whom*, whose source is the selecting verb *expect* (Quirk et al. 1985: 368, 1299; Sigley 1997: 217; Quinn 2005: 357-359).

- (17) a. This is the candidate whom we expect will win the competition.

Such examples could also be analysed as blends, with (17a) as a blend of (17b) and (17c):

- (17) b. This is the candidate whom we expect to win the competition.

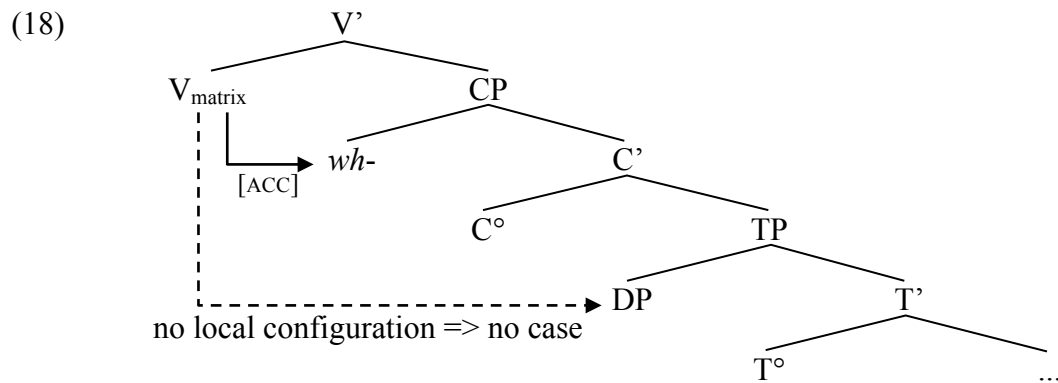
- c. This is the candidate who we expect will win the competition.

Some descriptive grammars such as Quirk et al. (1985: 1299) consider examples such as (17a) hypercorrect and due to a confusion ‘of the finite with the non-finite form’, but others (Jespersen 1927: vol. III.2, 197-198; Payne & Huddleston 2002: 466-467) consider them acceptable. For the latter, examples such as (17a) would be generated by the grammar of at least some speakers. In formal accounts for the accusative form of the subject it has been proposed that by virtue of transiting through the embedded left periphery, the *wh*-subject attains a local relation with the higher verb - here *expect* - and is assigned accusative case (Kayne 1995; Haegeman 2008), but see also Lasnik & Sobin (2000) for a different view on these patterns.

Observe that, as is the case for *wh*-raising, the marked case pattern in (17a) displays an asymmetry between *wh*- and non-*wh*-subjects, in that only the former can be assigned case from a higher verb.

- (17) d. \*We expect him/her/them will win the competition.

This is expected since in the canonical subject position, DP subjects would not attain a sufficiently local configuration with the case assigning verb in the superordinate clause. In contrast, such a local relation between a case assigning matrix predicate and *wh*-subjects will obtain at the point where the latter are located in the intermediate landing site in the embedded CP:



### 2.2.3 DP/*wh*-asymmetries and ECM

Third and finally, it has also been observed that with some verbs the ECM pattern is not available with DP subjects while it is available with *wh*-extraction. This is shown for English in (19) and for Italian in (20) (for similar patterns in French, see Postal 1974: 53; Kayne 1981; Rizzi 1982; Ura 1993)).

- (19) a. \* I assure you John to be the best student.  
 b. John, who<sub>i</sub> I assure you t<sub>i</sub> to be the best student... (Kayne (1980: 79-80), his (34) and (33); see also Ura (1993: 251), his (26a,b))
- (20) a. \*? Possiamo ritenere [queste persone aver sempre  
 be.able.1.PL believe.INF these people have.INF always  
 fatto il loro dovere].  
 done the their duty  
 ‘We can believe these people have always done the their duties.’  
 (Rizzi 1982: 79, his (3c))
- b. [Quante di queste persone]<sub>i</sub> possiamo ritenere  
 how.many of these people be.able.1.PL believe.INF  
 [ t<sub>i</sub> aver sempre fatto il loro dovere]?  
 have.INF always done the their duty  
 ‘How many of these people can we believe to have always done  
 their duties?’ (Rizzi 1982: 78, his (2c))

It has been proposed in the literature that the relevant infinitival complement clauses have a left-peripheral space, i.e. they are CPs rather than bare TPs. Thus, in the default case, a DP in the specifier of the infinitival TP is not close enough to the selecting verb to be assigned case. On the other hand, a *wh*-moved subject will transit through the left periphery of the complement clause, and will become accessible to the case assigning selector in the higher clause, much in the same way as was the case for the data described in the previous section (cf. the tree in (18)).

What we retain from the examples in (19) and in (20) is that one side effect of the *wh*-movement of the subject is that it brings it closer to the functional heads in the dominating TP. Anticipating the analysis in section 5, below we will also conclude that in the case of English *wh*-raising, *wh*-movement plays a crucial (but not on its own decisive) role in creating a local relation between a T head in a dominating clause and the  $\varphi$ -features of the *wh*-subject of the finite complement clause.

### 3. Two unlikely syntactic analyses

This section briefly sets aside two syntactic analyses which, though deriving some of the attested data, cannot account for the restrictions listed in section 2.1.

#### 3.1 *A null expletive*

One might hypothesize that speakers who accept the *wh*-raising configuration postulate a null expletive subject in the raising clause:

- (21) \* Organizations that provide counseling and legal assistance will now have the opportunity to bid for the new city funds, which it/Ø are hoped will help up to 150 families facing eviction.

However, this analysis raises several questions. First, in English null expletives are standardly taken to be restricted to root clauses (Weir 2012; Haegeman 2013).

Furthermore, while an *it*-expletive (overt or covert) in the canonical subject position triggers singular agreement, the defining property of our attested examples is that agreement in the raising domain is determined by the moved *wh*-constituent. Example (2c) is repeated here for convenience:

- (22) A recording was [...] used to transcribe the minutes and any quotes  
[which<sub>i</sub> were felt [ t<sub>i</sub> were too low]].

Along similar lines, one might postulate that the superordinate clause itself is actually a parenthetical, with a null expletive subject, inserted between the *wh*-subject in the left periphery and its extraction site in the clause in which it originates, as illustrated, for instance, in (23a). Thus (2b) would have the representation in (24), where the commas indicate the parenthetical status of the clause:

- (23) a. These are organizations which, I think, will be able to help up to  
150 families.

- (24) the new city funds, which<sub>i</sub>, it/∅ is hoped, t<sub>i</sub> will help up to 150 families  
facing eviction.

However, this analysis again fails to account for the agreement between plural *wh*-subjects and the raising verb. Moreover, the restriction to *wh*-subjects is unexpected: parenthetical placement does not privilege *wh*-subjects (23b).

- (23) b. These organizations, I think, will help up to 150 families facing eviction.

### 3.2 Hyperraising

The patterns we are looking at share properties with some variants of finite raising patterns that have been discussed in the literature, but in each case, there are important distributional differences, and in particular none of these variants show the restriction to *wh*-subjects. We illustrate some such patterns here.<sup>10</sup>

One pattern that comes to mind is that referred to as English ‘copy-raising’ (Rogers 1971, 1972, 1974a,b; Asudeh 2002), illustrated in (25), in which the copy of the subject of the raising verb is spelt out by a pronoun in the finite complement clause of the raising verb:

- (25) Richard<sub>i</sub> seems/appears like/as if/as though he<sub>i</sub> won.

However, unlike the *wh*-raising configuration under discussion, copy-raising is not restricted to *wh*-subjects (as shown in (25)), it features a pronoun in the lower clause and there is also overt complementizer material (*as if*, *as though*) in the lower clause.

Brazilian Portuguese (BP) has been reported to allow raising out of finite CPs with (Martins & Nunes 2010) or without (Rodrigues 2004; Martins & Nunes 2005,

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<sup>10</sup> Compare also Roussou (2001) and Zeller (2006) who discuss raising out of subjunctive finite clause from Modern Greek and the Bantu language Nguni respectively. See also Béjar & Massam (1999). On (apparent) hyperraising without double agreement in Spanish, see Fernández-Salgueiro (2005).

2010) an overt coreferential pronoun in the embedded domain. (26) is from Martins & Nunes (2010), cf. their (3a,b):

- (26) [Os meninos]<sub>i</sub> parecem [CP que t<sub>i</sub> / eles<sub>i</sub> viajaram ontem].  
the boys seem-3PL that / they traveled-3PL yesterday  
'The boys seem to have traveled yesterday.'

The Portuguese pattern resembles the English *wh*-raising pattern discussed here in that one constituent seems to trigger agreement in two finite clauses. However, as shown by (26), the BP pattern is not restricted to *wh*-subjects and again in some variants there is an overt complementizer *que* in the embedded clause.

Third, the *wh*-raising pattern we are looking at is also reminiscent of Bantu hyperraising reported in Carstens (2011) and in Carstens & Dierckx (2013). Consider for instance the Lubukusu examples in (27) and (28) (from Carstens & Dierckx 2013, their (3)). In (27), the one place predicate *seem* takes a finite complement whose subject only triggers agreement in the complement clause:

- (27) Ka-lolekhana (mbo) babaandu ba-kwa.  
6SA-seem (that) 2people 2SA.PST-fall1  
'It seems that the people fell.'

In contrast, in (28) the subject is raised from the lower finite clause and also triggers agreement in the superordinate clause:

(28) Babaandu ba-lolekhana (mbo) ba-kwa.

2people 2SA-seem (that) 2SA.PST-fall

‘The people seem like they fell/The people seem to have fallen.’

Again, as shown in the examples, Bantu hyperraising is not restricted to *wh*-subjects.

#### **4. Theoretical framework: the Subject Criterion**

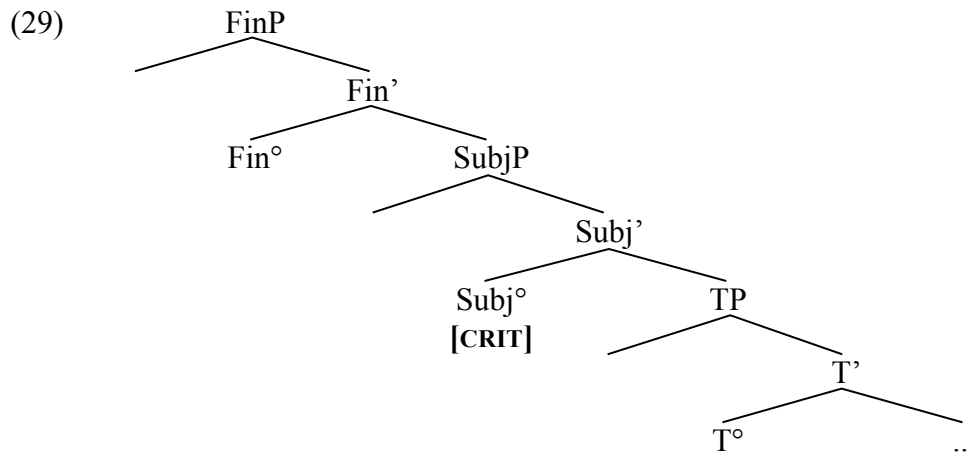
In this section we outline the assumptions that will underlie our analysis. Since the data crucially involve subject extraction, we have opted for the framework developed in Rizzi (2006) and Rizzi & Shlonsky (2006, 2007). These authors postulate a specialized functional head *Subj* associated with the clausal subject. As this head is ‘criterial’ (in a sense to be defined below), this line of analysis seeks to reduce the EPP to the Subject Criterion, and account for certain familiar restrictions on subject extraction in terms of criterial freezing (cf. Shlonsky 2014). We first summarize the components of their analysis which are crucial for our discussion.

##### *4.1 Clausal hierarchy: The articulated subject domain*

Based on Cardinaletti’s (1997, 2004) proposal for an articulated subject field, Rizzi (2006) postulates that the TP domain of a finite clause is dominated by a projection *SubjP*, which hosts the subject of predication. In line with Rizzi’s (1997) proposals for the articulated left periphery, *SubjP* in turn is dominated by *FinP*, the lowest left-



peripheral projection whose head encodes the finiteness properties of the clause. (29)  
is the relevant hierarchy:



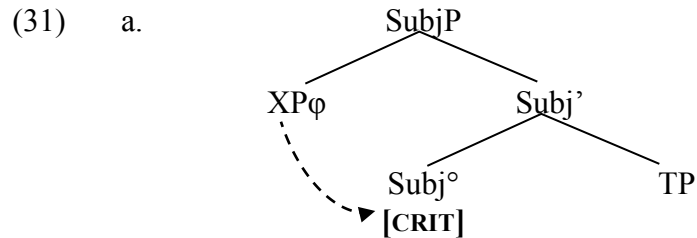
#### 4.2 Criterial Freezing and subject extraction

In (29), the subject properties associated with the traditional TP are split between SubjP and TP. T determines finite subject-verb agreement and licenses nominative case on the agreeing subject DP, and SpecSubjP is the actual position for non-*wh*-subjects. Importantly, SubjP is a criterial projection. A criterial requirement is defined as in (30a) (R&S 2006: 138, their (53)):

- (30) a. For [+F] a criterial feature, X+F is in a Spec-head configuration with A+F.

Criterial features include [*wh*] (or [Int]), [Top], [Foc], [Rel] and [Subj]. All criterial configurations induce Criterial Freezing of the constituent in the specifier position (on syntactic freezing effects, see Wexler & Culicover 1980 and subsequent literature). Obviously, if Subj is criterial and if the satisfaction of a criterion leads to freezing, the prediction is that once it has satisfied the Subject Criterion (henceforth

SCrit) by moving to SpecSubjP, the subject is frozen in place and cannot be extracted from SpecSubjP, as illustrated by the subject-object asymmetry shown by long extraction in the French interrogatives in (32) below.

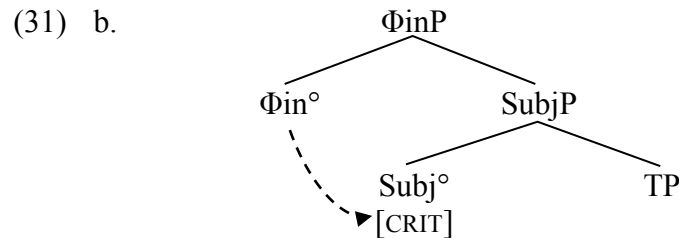


- (32) a. \*Qui<sub>i</sub> crois-tu que [<sub>SubjP</sub> t<sub>i</sub> va partir]?  
 who think-you that will leave
- b. Que<sub>i</sub> crois-tu que [<sub>SubjP</sub> Jean a fait t<sub>i</sub> ]?  
 what think-you that Jean has done  
 ‘What do you think (that) John did?’

However, since subjects can in some cases be extracted from finite clauses, as shown in French (32c), the grammar must have specific mechanisms to make subject extraction compatible with satisfaction of the SCrit. In French, the effect of such a mechanism is manifested by the replacement of the regular complementizer *que* by *qui*, known as the *que/qui* alternation:

- (32) c. Qui crois-tu qui va partir?  
 who think-you *qui* will leave  
 ‘Who do you think will leave?’

To account for (32c) Rizzi & Shlonsky (2007: 138-139) propose that *qui* is the reflex of a special occurrence of Fin which is enriched with nominal ( $\varphi$ ) features (cf. Taraldsen 2001), which they represent as Fin-*i* and which satisfies the SCrit. In our paper, we will adopt their hypothesis and represent the enriched variant of Fin, Rizzi & Shlonsky's Fin-*i*, as  $\Phi$ in.

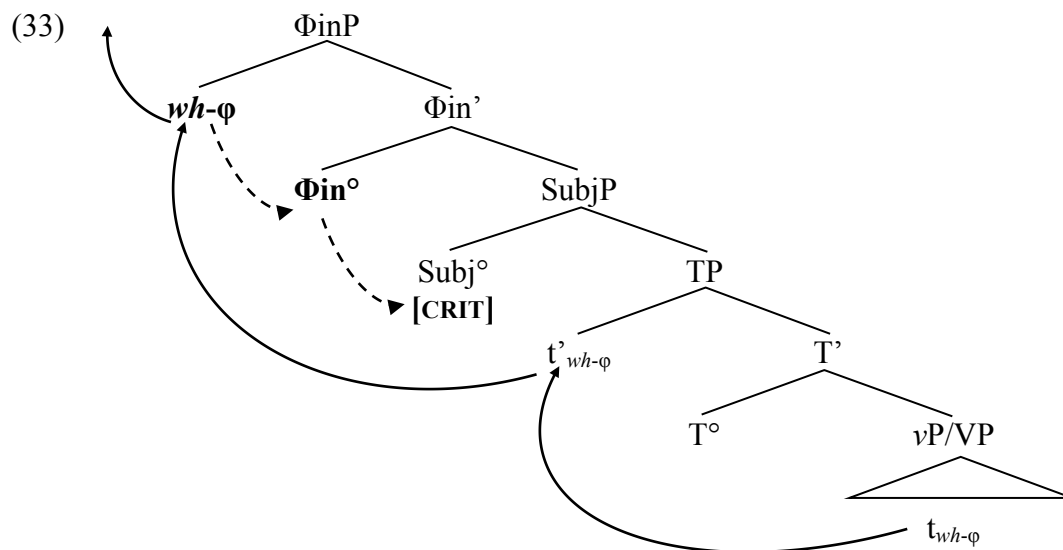


Observe that, in geometrical terms, the relation between SpecSubjP with Subj in (31a) is identical to that between  $\Phi$ in and Subj in (31b), in that the configuration is strictly local, with no (phrasal or otherwise) node intervening between the Subj-head and the element satisfying the criterion. Rizzi & Shlonsky (2007: 138-139) restate the criterial condition as follows:

- (30) b. For [+F] a criterial feature, X+F is locally c-commanded by A+F.

However, with respect to the presence of  $\Phi$ in, Rizzi & Shlonsky introduce an important proviso: the  $\varphi$ -features on  $\Phi$ in have to be licensed independently. According to Rizzi & Shlonsky, this is achieved by the presence of a constituent with (matching)  $\varphi$ -features in Spec $\Phi$ inP (33). On its way to its criterial landing site, the subject *wh*-phrase moves through Spec $\Phi$ inP and licenses the  $\varphi$ -features of  $\Phi$ in.

Importantly, Spec $\Phi$ inP itself is not a criterial position, meaning that it is not a halting place.



The effect achieved in derivation (33) is that of a kind of indirect ‘two step satisfaction’ of the SCrit by the *wh*-subject: the extracted *wh*-subject does not satisfy the SCrit directly, but, indirectly, it plays a role in satisfying the SCrit by licensing the features on  $\Phi$ in.

We also assume that given that the constituent in Spec $\Phi$ inP  $\phi$ -agrees with the head, Spec $\Phi$ inP is an A-position (cf. Cardinaletti 1992, Haegeman 1996 for arguments from V2).

#### 4.3 Subject extraction and the SCrit in English

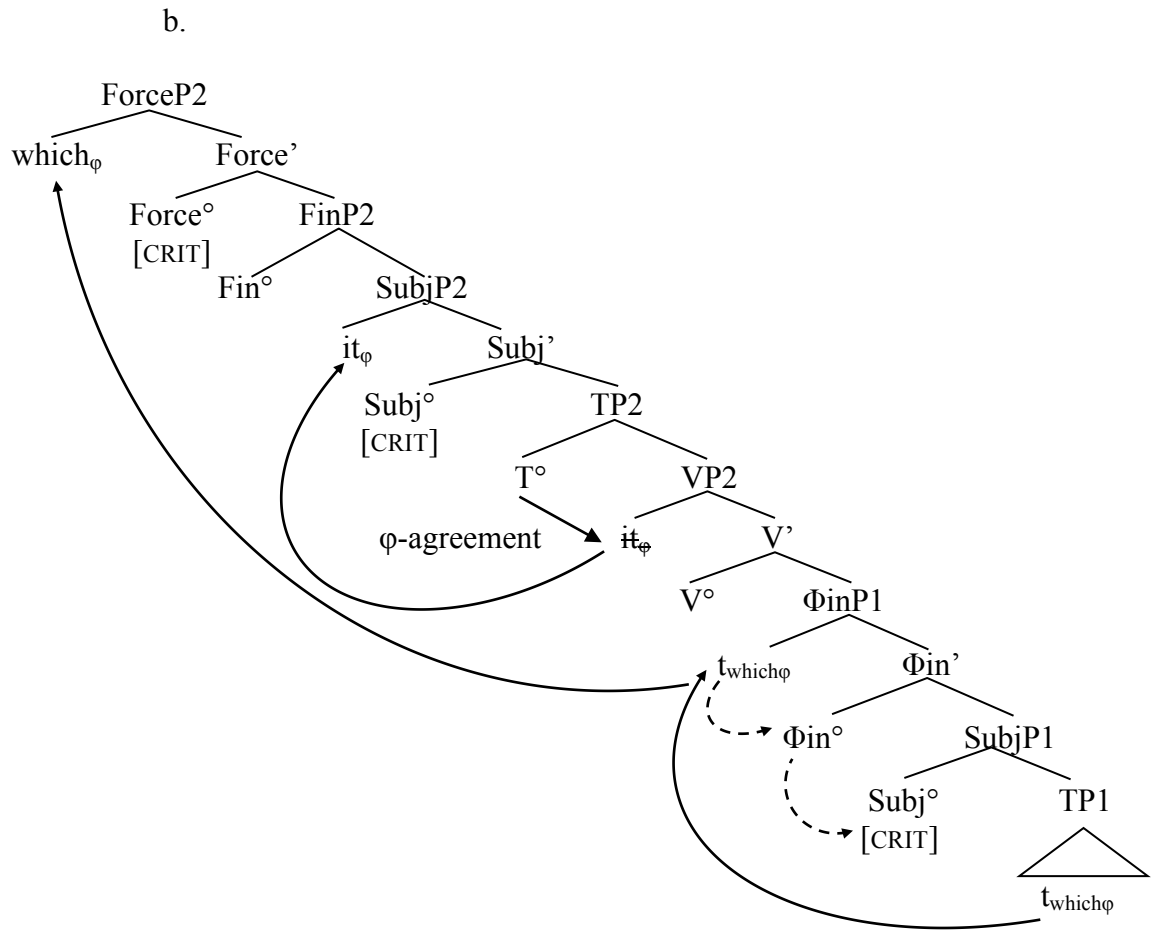
Let us return to subject extraction English, concentrating first on the pattern accepted by all speakers and illustrated in (34a). We assume that, as is the case for French, the SCrit can be satisfied by the  $\phi$ -features on the (enriched)  $\Phi$ in and that, as before,

these features in turn are licensed by the *wh*-moved subject transiting through SpecΦinP. With Rizzi & Shlonsky (2006), we assume that the finite complement clause in (34a) is ‘truncated’, with only ΦinP1 remaining of the CP1 layer (see Rizzi & Shlonsky 2006: section 9 for motivation). Representation (34b) shows the crucial ingredients of the analysis: the *wh*-subject triggers agreement with the finite verb of the clause from which it moves; it does not trigger agreement on the matrix verb *think*, which agrees with its own subject *you*.

- (34) a. Who do you think came?  
 b. [CP2 *who*<sub>i</sub> do you think [<sub>ΦinP1</sub> *t*<sub>i[φ]</sub> Φin [<sub>SubjP1</sub> CRIT [<sub>TP1</sub> *t*<sub>i[φ]</sub> came]]]]?
- 

This analysis carries over to long *wh*-extraction from a complement clause embedded under a one place predicate as in (35a). The analysis is summarized in (35b): agreement in the complement clause is triggered by the plural subject *which* <quotes>; matrix T-agreement is with the expletive subject *it*.

- (35) a. quotes which it was felt were relevant to the process



The pattern discussed above is the unmarked case, but, as we have shown, for a subset of speakers, (35a) can alternate with the *wh*-raising configuration in (36), in which the matrix clause lacks the expletive pronoun, and the plural relativizer *which* triggers plural agreement in the matrix clause:

- (36) A recording was also made of each school and was then used to transcribe the minutes and any quotes [CP<sub>2</sub> which were felt [CP<sub>1</sub> were relevant to the process]].

We develop our analysis for these data in the next section.

## 5. English *wh*-raising and the SCrit

In the *wh*-raising configuration (36), the extracted subject (*which*, or *which* quotes in a head raising analysis), triggers T-agreement in both the embedded clause - as is standard - as well as in the immediately dominating raising domain. T agreement with the *wh*-subject in the superordinate domain is unexpected and we consider this to be our main *explanandum*. In what follows we discuss possible derivations of this exceptional agreement.

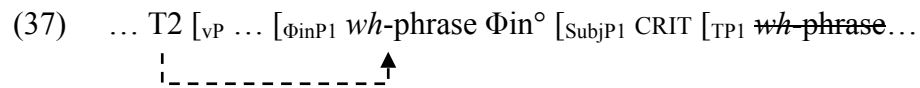
In the ‘canonical’ configuration of long subject extraction featuring the expletive subject *it* like those in (3), agreement between the superordinate T and the *wh*-subject of the embedded clause is not possible because T and the *wh*-subject are not in a local relation: in its base position the *wh*-subject is too far from the higher T and when it moves to its left-peripheral criterial position it cannot legitimately attain the local configuration required for agreement. So in the unmarked case, the higher T cannot agree with the embedded *wh*-subject.

The grammar of speakers who allow *wh*-agreement must therefore have a marked property to allow the features of the embedded *wh*-subject to become accessible to the higher T.

### 5.1 *Phi*-to-*V* incorporation



The agreement between matrix T2 and the long-moved *wh*-subject constitutes the key difference between the *wh*-raising pattern and the generally available pattern with *wh*-extraction across an *it*-expletive. The relevant structural configuration is schematically given in (37). (37) is provisional, below we will refine the representation.



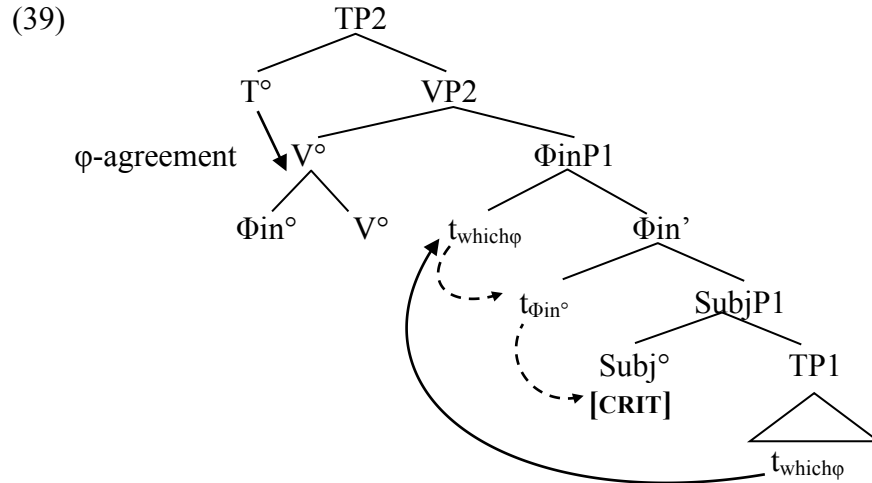
We assume that agreement between T2 and the *wh*-subject as illustrated by the agreement between *any quotes which* and *were (felt)* in (38a) blocks insertion of an *it*-expletive as the superordinate subject (38b), and hence makes the regular mode of satisfying the SCrit, insertion of an XP in SpecSubjP, unavailable in the superordinate clause:

- (38) a. to transcribe any quotes which were felt were relevant to the process.  
 b. \* to transcribe any quotes which it were felt were relevant to the process.

The agreement in the superordinate clause in (38a) is ‘exceptional’, in that it is not available in the grammar of all speakers for reasons of locality: T2 cannot normally attain a sufficiently local relation with the *wh*-subject. Therefore the key question is how in the *wh*-raising configuration, the *wh*-subject can legitimately attain a close

enough relation with T2 to trigger agreement. Our hypothesis is that the locality problem can be overcome because the  $\varphi$ -features of the lower *wh*-subject become indirectly accessible to T2. More precisely, we propose that the embedded  $\Phi_{in1}$ , which at some point of the derivation has the *wh*-subject as its specifier, incorporates into the selecting predicate head (V2) in the superordinate domain. Recall that, with Rizzi & Shlonsky (2006), we assume that a clause from which a subject is extracted is structurally reduced ('truncated'):  $\Phi_{inP1}$  is the highest projection in the embedded left periphery; it is in a strictly local configuration with the matrix V which selects it. The complex head 'V2+ $\Phi_{in1}$ ' resulting from the incorporation is itself in a local relation with T2, and as a result, T2 can agree with the  $\varphi$ -features on that V2+ $\Phi_{in1}$  complex. Thanks to incorporation, the  $\varphi$ -features of the *wh*-subject are closer to the superordinate T-head than they would be in a grammar without the incorporation.

Under this analysis, the derivation of the examples under consideration is thus not strictly speaking one in which the superordinate T2 agrees with the *wh*-subject in Spec $\Phi_{inP1}$ , as suggested in (37), but rather one in which superordinate T2 agrees with the  $\varphi$ -features on V2/ $\Phi_{in1}$ , which themselves have been licensed by the *wh*-subject:



Our hypothesis that  $\Phi_{in1}$  incorporates to V2 is reminiscent of analyses of null complementizers in terms of C-to-V incorporation (see for instance Pesetsky (1991) and Bošković & Lasnik (2003); see also Hornstein & Lightfoot (1991) for a different implementation). However, we have to assume that contrary to null complementizers,  $\Phi_{in1}$  incorporation to V2 is restricted to a subset of speakers, so as to rule out generalized  $\Phi_{in}$  agreement in cases of subject extraction for all speakers.

### 5.2. Satisfying the SCrit in the superordinate clause

We have proposed that thanks to  $\Phi_{in1}$  incorporation to the selecting predicate, the superordinate T2 agrees (indirectly) with the *wh*-subject. As a consequence, because T2 agrees with the  $\phi$ -features of  $\Phi_{in1}$ , it is not possible to insert an expletive in the canonical subject position of the superordinate clause. This means that in the matrix domain the SCrit cannot be satisfied by means of such an expletive.

SpecSubjP is a criterial position: a constituent moving there is frozen. As the relative operator *which* (*quotes*) has to end up in the left-peripheral criterial position

for relativization, it cannot itself move to the matrix SpecSubjP2 to satisfy the matrix SCrit because this would induce freezing. In addition, if SpecSubjP is an A-position, such a movement would imply an illicit extension of an A-chain beyond the finite CP boundary (cf. Sigurðsson 2012: 207). We come back to this particular point in section 5.4.1 below.

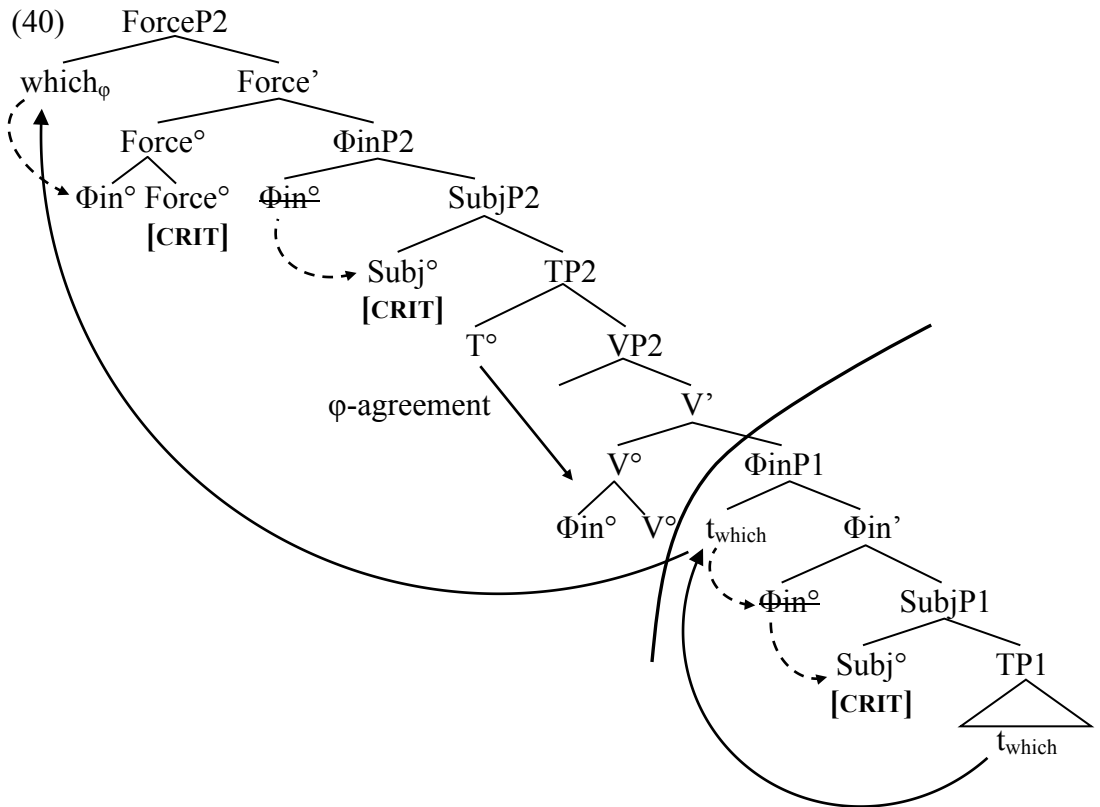
It follows that in the matrix domain, the SCrit also has to be satisfied indirectly, via the insertion of the ‘nominal’  $\Phi_{in2}$ . Recall that the  $\phi$ -features in  $\Phi_{in}$  have to be licensed (e.g. by a constituent which is on its way to a criterial position). An obvious candidate to license the  $\phi$ -features of  $\Phi_{in2}$  is the moving subject *wh*-phrase. However, on its way to its criterial position (say SpecForceP (Rizzi 1997) or SpecRelP (Shlonsky 2014)), the subject *wh*-phrase cannot move from the embedded Spec $\Phi_{inP1}$  to the matrix Spec $\Phi_{inP2}$ . This is because Spec $\Phi_{inP}$  is an A-position, so movement from Spec $\Phi_{inP1}$  to Spec $\Phi_{inP2}$  would again illicitly extend an A-chain beyond the finite CP (see again section 5.4.1).

On the scenario sketched so far, then, the  $\phi$ -features on  $\Phi_{in2}$ , which are crucial for the satisfaction of the superordinate SCrit, are in danger of remaining themselves unlicensed. We propose that  $\Phi_{in2}$  itself incorporates into the criterial head Force2. This creates a complex head through which the  $\phi$ -features of  $\Phi_{in2}$  become accessible to the specifier of the complex head  $\Phi_{in2}$ -Force2.<sup>11</sup> Thus when the relative *wh*-phrase lands in the specifier position of Force2- $\Phi_{in2}$ , it can satisfy both the criterial

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<sup>11</sup> In his work on relativization in Hebrew Shlonsky (2014) proposes that  $\Phi_{in}$  and the criterial head in whose specifier relative operators are hosted (Rel in his system) can form one syncretic head. His proposal can be reinterpreted along the lines set out here.

condition on Force2 as well as the licensing the  $\varphi$ -features on  $\Phi_{in2}$ . A detailed tree diagram of this derivation is given in (40):



In other words, in our proposal the ‘exceptional’ nature of *wh*-raising patterns is captured by assuming two applications of Φin-incorporation: in the lower domain, Φin1 incorporates to the selecting lexical head, in the higher domain, Φin2 incorporates to the selecting Force.

One possibility to formulate a unified account of this analysis would be to say that what differentiates the ‘exceptional’ English grammar with *wh*-raising from the (more generally available) grammar without *wh*-raising is the availability of a ‘defective’ Φin-head which obligatorily incorporates via head movement. Let us assume that deficient Φin does not impose any requirements on the nature of the head it incorporates to, but that the operation canonically obeys the Head Movement Constraint. Φin-to-*X* incorporation in the case of a clause from which the subject is

extracted and which, following Rizzi & Shlonsky (2006), we assume to be truncated up to  $\Phi_{in}$ , will then target the lowest head of the immediately higher clause (say ‘V’), whereas at the next cycle, in which the full left periphery is articulated,  $\Phi_{in}$  incorporates to a left-peripheral head. This approach allows us to reduce the ‘exceptional’ properties of the *wh*-raising pattern to a single property of a single lexical item, the ‘deficient  $\Phi_{in}$ ’, available to some speakers. By relating the variation to a single head, we effectively interpret the idiolectal variation in terms of nanovariation in the sense of Biberauer et al. (2014).

Observe that since the relevant speakers also have the ‘canonical’ pattern of subject extraction, we must assume they also have the ‘regular’ variant of  $\Phi_{in}$  which does not incorporate.

We now proceed to show that the analysis outlined above successfully captures the locality restrictions on *wh*-raising discussed in section 2.1.6.

### *5.3 Restrictions on wh-raising: The ‘halting effect’*

Recall that the *wh*-raising pattern cannot be reiterated beyond the clause that displays the marked agreement: concretely ‘exceptional’ *wh*-agreement is only available in CP2. In section 2.1.6, we identified two subcases of an unacceptable continuation of *wh*-movement into CP3. In the first, *wh*-agreement applies in both CP2 and CP3, which is severely degraded. A relevant example (cf. (11b)) is repeated here for convenience:

- (41) ??\* the new city funds, [<sub>CP3</sub> which<sub>i</sub> **are** said [<sub>CP2</sub> t<sub>i</sub> **are** hoped [<sub>CP1</sub> t<sub>i</sub> **will** help up to 150 families facing eviction]]]

Additional patterns are illustrated in (42) (= (13b) and (15b)), in which a *wh*-subject is extracted to the left periphery of CP3. In (42a) it triggers agreement in CP2 but fails to do so in CP3, whereas it is the other way around in (42b). In both cases, the clause which does not feature T-agreement with the relative pronoun has its own (lexical or expletive) subject. These examples are also judged degraded:

- (42) a. ? the new city funds, [<sub>CP3</sub> which<sub>i</sub> **it is said** [<sub>CP2</sub> t<sub>i</sub> are hoped [<sub>CP1</sub> t<sub>i</sub> will help up to 150 families facing eviction]]].
- b. \* the new city funds, [<sub>CP3</sub> which<sub>i</sub> are said [<sub>CP2</sub> it is hoped [<sub>CP1</sub> t<sub>i</sub> will help up to 150 families facing eviction]]].

We ascribe the (unexpected) relative acceptability of an example like (42a) (as compared to (41)) to the availability of an alternative reading where the string in boldface *it is said* functions as a parenthetical inside CP2, which is of course predicted to be grammatical. In any event, we take it that there is a marked contrast between the examples in (41)-(42) on the one hand, and the licit *wh*-raising pattern involving only one layer of embedding on the other, and that the degraded status of (41) and (42) is due to one and the same factor.

In both CP1 and CP2, the availability of *wh*-raising depends on the incorporation of the  $\Phi_{in}$ -head. In the case of CP1,  $\Phi_{in1}$ -to-V2 incorporation makes the  $\phi$ -features of the lower  $\Phi_{in1}$  accessible to the matrix T2. At the level of CP2,



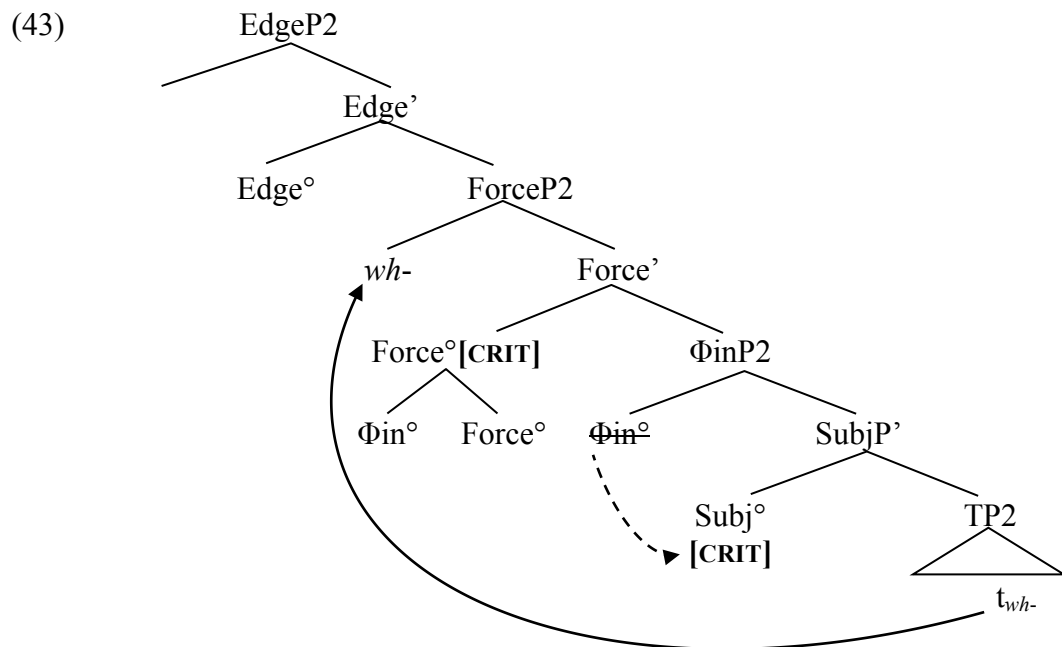
$\Phi_{in2}$  incorporates to Force<sub>2</sub>. Assuming that in relative clauses, SpecForceP<sub>2</sub> is a criterial position - possibly by virtue of a feature Rel -  $\Phi_{in2}$ -to-Force<sub>2</sub> incorporation would effectively stop the moved *wh*-subject at the CP<sub>2</sub> level, because the *wh*-subject will be frozen in its criterial position. The exceptional double agreement cannot be reiterated, as a result of Criterial Freezing. For cases of A'-movement different from relativization, a similar freezing effect would obtain if  $\Phi_{in2}$  incorporates into a left-peripheral criterial head (say Top<sub>2</sub> or Foc<sub>2</sub>).

However, to exclude (41) and (42), we also need to exclude the derivation in which the *wh*-subject would target a criterial position in a clausal domain dominating CP<sub>2</sub>, and in which a non-terminal step of successive cyclic *wh*-movement targets an intermediate, non-criterial 'edge' position in the left periphery of CP<sub>2</sub>. If  $\Phi_{in2}$  could incorporate into a non-criterial head in CP<sub>2</sub>, the *wh*-subject 'in transit' could locally license the features of the (incorporated)  $\Phi_{in2}$ , after which it could move on to e.g. SpecForceP<sub>3</sub>. This derivation can be avoided if the incorporation of  $\Phi_{in}$  to such non-criterial left-peripheral heads can be excluded. Although this question does touch upon a number of issues of the cartography of the left periphery which go well beyond the scope of this paper, we briefly present two options that come to mind. The choice depends on the general issue of how to handle successive cyclic movement in the cartographic and criterial framework and it hinges on the identification of criterial vs. non-criterial left-peripheral positions.

By assumption, Fin and  $\Phi_{in}$  are not criterial. Criterial heads are endowed with contentful features like [Top], [Foc], [Int]. In addition, to derive successive cyclicity of movement, Rizzi (2006: 110-111) postulates there is a non-criterial version of the criterial heads, which contains the purely formal counterpart of the criterial features

and whose role is to trigger movement without giving rise to any interpretive (scope/discourse) effect. With respect to the case at hand, we would have to stipulate that  $\Phi_{in}$  can only incorporate into a head with a contentful feature, not into one with a mere formal feature. As a result, in the case of a continuation of the A'-chain beyond CP2, the features of the intermediate  $\Phi_{in2}$  would themselves never be licensed.

Alternatively, we could differentiate terminal and intermediate steps of A'-movement more strongly and propose that, whereas the former target the criterial positions in the articulated CP, the latter escape from a CP domain via an 'indiscriminate' edge position dominating ForceP, the highest projection of the CP-domain. The need for postulating such a scenario is argued for in Danckaert (2012), where the landing site of intermediate movement is labeled 'EdgeP'. The relevant structure is diagrammed in (43):



If we assume that in the *wh*-raising pattern, CP2 is not truncated but projected up to ForceP2, it would follow from the Head Movement Constraint (which dictates that head movement take place in a strictly local fashion) that  $\Phi_{in2}$  incorporates into a criterial head. As a result, assuming that the licensing of the  $\varphi$ -features of the  $\Phi_{in2}$ -head has to involve a strictly local (spec-head) configuration too, the extracted *wh*-subject would have to move to the specifier of the criterial head, where it would be frozen in place.

The unavailability of repeated *wh*-raising could then be related to the distance between  $\Phi_{in2}$  and EdgeP: en route to a higher criterial position in CP3, the *wh*-subject must extract from CP2 via the EdgeP2. Consequently, it will not be able to attain a sufficiently local configuration with  $\Phi_{in2}$  to license the  $\varphi$ -features of the latter. For some additional scenarios we also refer to section 5.4.

As it happens, the locality constraints on *wh*-raising are even stronger than what can be deduced from the cases just discussed. In fact, *wh*-raising always involves a biclausal configuration. As shown by (44) (= (13b)), in addition to the unacceptable patterns in (41) and (42), non-local *wh*-raising targeting CP3 across a clause with a (lexical or expletive) subject is also unacceptable.

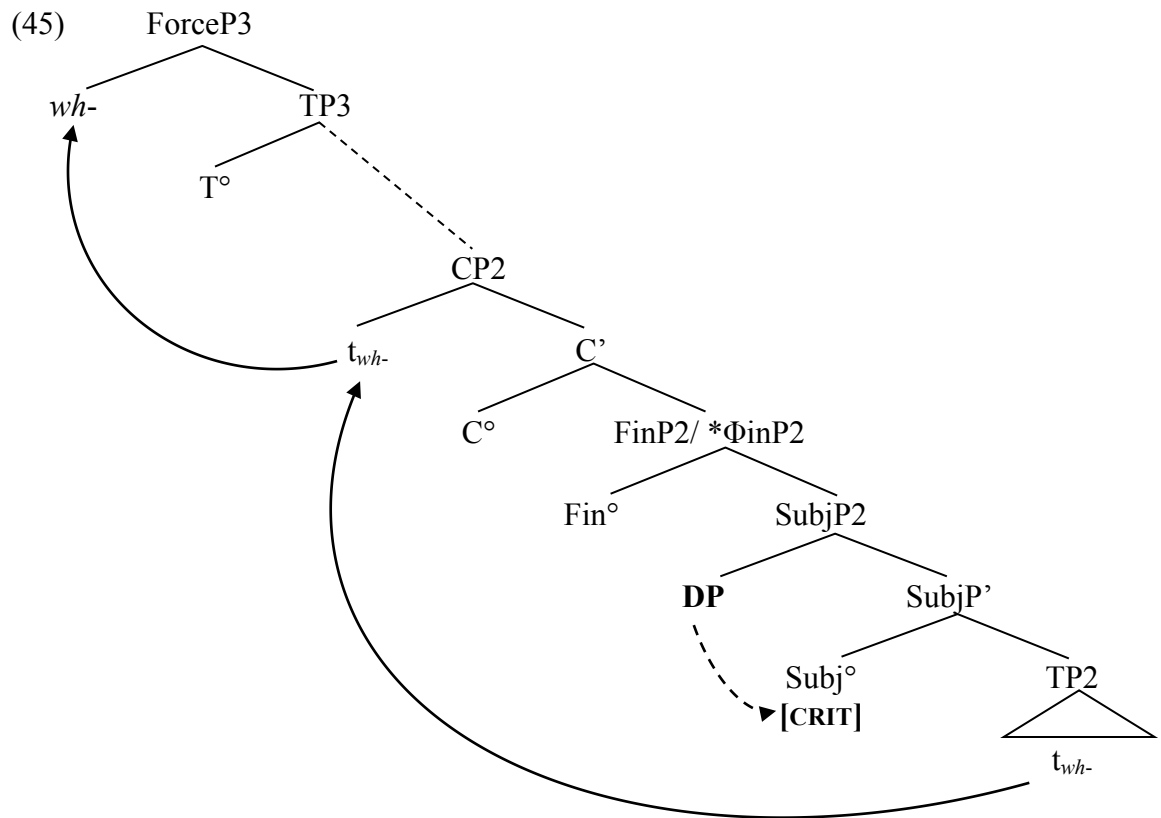
- (44) \* the new city funds, [<sub>CP3</sub> which<sub>i</sub> are hoped [<sub>CP2</sub> the government will confirm [<sub>CP1</sub> t<sub>i</sub> will help 150 families facing eviction]]].

In (44) the relative pronoun *which* would trigger agreement in CP1 (*will*), then move on to CP3, where it would also agree with the auxiliary *are*; in the intermediate clause

(CP2) agreement on *will* is triggered by the DP *the government* in the canonical subject position.

Our analysis excludes such patterns as follows. In order to derive *wh*-agreement with a superordinate T2, we assume that the relevant T2 agrees with the embedded  $\Phi_{in1}$ , whose  $\phi$ -features are licensed by the *wh*-subject. We also assume that the embedded  $\Phi_{in1}$  becomes accessible to T2 because  $\Phi_{in1}$  incorporates to V2.

In the offending example (44), T2 of the intermediate CP2 agrees with *the government*, which will also satisfy the SCrit in SubjP2. It follows that in this case a featurally enriched  $\Phi_{in2}$  is not required and therefore not inserted in the intermediate clause. If the  $\Phi_{in2}$  head is not available at the topmost layer of CP2, the  $\phi$ -features of the *wh*-subject will not be accessible to the highest T3 head. Since *wh*-agreement with T3 ultimately depends on the availability of an accessible  $\Phi_{in2}$ -head in the immediately lower CP2, the *wh*-agreement pattern cannot arise. As shown in the tree in (45) (where we label the intermediate landing site of the *wh*-item as '(Spec)CP2', which can either be EdgeP or the non-criterial variant of ForceP), there is no point in the derivation where T3 can plausibly agree with (the  $\phi$ -features of) the moving *wh*-subject:



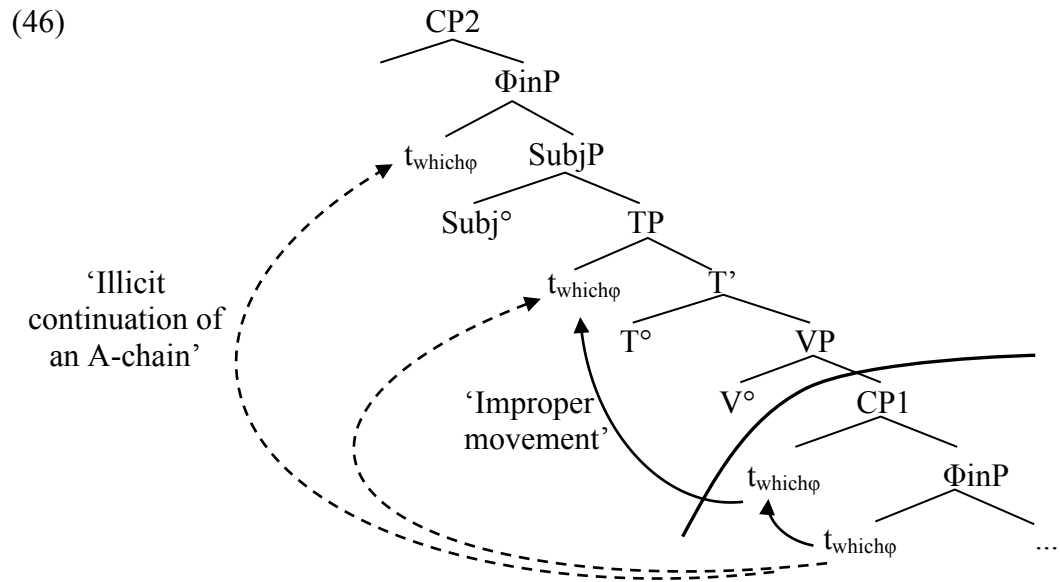
#### 5.4 Discarding some alternative analyses

It might be objected that the derivations we propose are complex and involve some stipulations that unduly enrich the system. In this section, we examine some alternative derivations which at first sight are less stipulative and thus more plausible. However, attractive though they may seem, they are problematic at various points, so we cannot maintain them.

##### 5.4.1 Illicit continuations of the A-chain

The two scenarios sketched (and discarded) in this section have the advantage that they are simpler, in that they do not make use of  $\Phi$ in incorporation, the mechanism which we postulated to account for *wh*-agreement.

To allow for the agreement of the superordinate T2-head with the moved *wh*-subject, the  $\varphi$ -features of the moved *wh*-subject need to attain a local configuration with T2. Diagram (46) summarizes three illicit derivations: the full arrows represent the ‘improper movement’ derivation hinted at earlier, and the dotted arrows represent the other two derivations to be discussed presently, in which an A-chain is extended beyond the top node of CP1.



We briefly discuss the details of these derivations.

Adopting Rizzi & Shlonsky's (2006, 2007) approach to subject extraction we assume that in the lower domain the SCrit is satisfied by the enriched  $\Phi_{in}1$ , which in turn is licensed by the movement of the *wh*-subject (*which* <quotes>) moves from the lower Spec $\Phi_{in}P1$ , where it licenses the  $\phi$ -features on  $\Phi_{in}1$ , through an edge position in the complement clause (here labelled 'CP1') to the matrix SpecTP2, and then reaches its landing site, a criterial position (say ForceP2) via the matrix Spec $\Phi_{in}P2$ . In SpecTP2, the *wh*-phrase could agree with T2. In both the embedded domain and the matrix domain the SCrit would be satisfied in the 'indirect' way, through the  $\phi$ -features on  $\Phi_{in}$ . However, we can assume that this derivation is not available, because it involves 'improper' movement from an A' position (the embedded edge position) to a matrix A position.

As an alternative one might propose that the *wh*-subject moves in one step from the embedded Spec $\Phi$ inP1 to the matrix SpecTP2, and then on to its final criterial landing site. Again, the moved *wh*-subject could then agree with T2; in both the extraction domain and the immediately dominating clause, the SCrit would be satisfied indirectly, by virtue of the  $\phi$ -features on  $\Phi$ in1 and  $\Phi$ in2 respectively. However, the movement step from Spec $\Phi$ inP1 to SpecTP2 can again be assumed to be illicit, as there are reasons to believe that A-movement across a finite CP-boundary is not available. Quoting Sigurðsson (2012: 207): “CPs are A-islands; that is, A-relations, including T-licensing, are blocked from being established across C-boundaries” (see also Rizzi & Shlonsky 2007: 146).<sup>12</sup>

Finally, in a variant of the previous analyses, the *wh*-subject could be argued to move directly from the lower Spec $\Phi$ inP1 to the matrix Spec $\Phi$ inP2. This is again an illicit continuation of an A-chain beyond the upper boundary of a tensed domain.

#### 5.4.2 *Against a restructuring alternative*

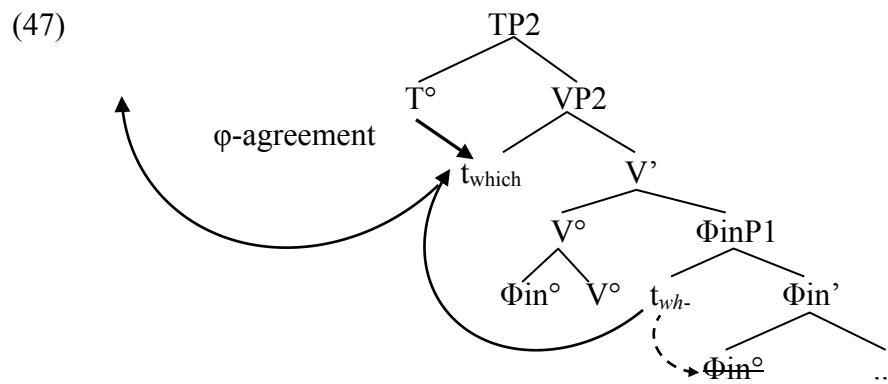
An alternative scenario might be to maintain  $\Phi$ in1-to-V incorporation, as in our proposal in sections 5.1-5.3, but to associate this with a more radical effect on the structure. As a result we could dispense with  $\Phi$ in2 incorporation at the CP level. So far we have assumed that the embedded clausal domain from which the *wh*-subject is extracted is truncated at  $\Phi$ inP1, i.e. the embedded clause still has a ‘CP’ layer and, as discussed in section 5.4.1, this residue of the CP layer prevents (long) A-movement of

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<sup>12</sup> Note that under the assumption that this generalization is exceptionless, the Brazilian Portuguese and Lubukusu data discussed in section 3.2 will have to be analysed accordingly: one could think that they either do not involve repeated A-movement, or that they do not involve a (full) biclausal structure.



the *wh*-subject. An alternative would be to assume that the incorporation of  $\Phi_{in1}$  to the predicate head restructures the two clauses into one and suspends the lower CP-boundary, allowing A-movement from the lower clause into the higher one. In this scenario, the *wh*-subject could move from Spec $\Phi_{inP1}$  to SpecVP2 and T2 could agree with the *wh*-subject in SpecVP2.



The advantage of this alternative is that no special version of T-agreement needs to be called upon. Rather, T2 would canonically probe down the tree and agree with the highest DP in its VP complement. However, the full restructuring account leads to a number of incorrect predictions which we briefly list here.

First of all, if  $\Phi_{in1}$ -to-V2 incorporation genuinely leads to a collapse of the clausal domain then the movement of the subject to the higher SpecTP2 is in effect a case of raising and the restructuring process should be able to reapply at the level of CP2, hence *wh*-raising (with ‘marked’ agreement) should be recursive. As we have seen (sections 2.1.6 and 5.3), this prediction is incorrect.

Second, If  $\Phi_{in1}$  to V2 incorporation leads to a restructuring and to what is tantamount to a raising configuration, *wh*-raising should allow for quantifier floating in the intermediate clause, contrary to fact:

- (48) a. They took a statement from the student participants, who were all said to have been involved in the boycott.
- b. \* They took a statement from the student participants, who were all said had been involved in the boycott.

Along the same lines, one might expect that just as is the case in regular raising, *wh*-raising is compatible with Adverb Climbing (in the sense of Edelstein 2012), the phenomenon whereby an adjunct modifier of the lower domain appears in the raising domain (for a first discussion see Kayne 1975, see also Bok-Bennema & Kampers-Manhe 1994 and especially Edelstein 2012). This is an incorrect prediction:

- (49) a. Interest is set at rates which are **next year** expected to encourage the development and growth as set out in the Core Strategy
- b. \*Interest is set at rates which are **next year** expected will encourage the development and growth as set out in the Core Strategy

For these reasons, in spite of its initial appeal, the restructuring analysis does not seem superior to that developed in sections 5.1 to 5.3.

## 6. Conclusion

In this paper we consider a pattern of subject *wh*-extraction which we have labelled *wh*-raising. In this pattern, an extracted *wh*-subject is apparently able to trigger T-agreement in the next clause up. The pattern is standardly considered ungrammatical but in view of the attestations and the fact that a subset of speakers accept the sentences we have interpreted the data as evidence for idiolectal grammatical variation, whereby the grammar of a subset of speakers generates the relevant examples.

After having outlined the main properties of the pattern and the theoretical background which we are assuming, i.e. Rizzi's theory of subject extraction, we develop a syntactic account for such patterns that crucially relates the availability of *wh*-raising to the nature of the left-peripheral head 'Φin' (i.e. φ-enriched Fin) which is involved in licensing subject extraction. We propose that in the grammar of speakers who allow *wh*-raising, this Φin head can be deficient and has to incorporate in the next higher head. The agreement of the lower *wh*-subject with a dominating T is then the result of this incorporation.

In our analysis, then, the locus of the idiolectal variation described here resides in the properties of one specific instantiation of the left peripheral head Fin and could be viewed as an case of nanovariation in the sense of Biberauer et al. (2014).

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