Syntacticizing blends: the case of English wh-raising

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1. Introduction

The focus of this paper is the attested English examples in (1), in which a long

relativized subject unexpectedly triggers agreement in both the embedded and the

matrix clause. In (1a), the singular relative operator *which*, referring to the antecedent

NP *the standard of hygiene*, agrees with both the matrix (*is felt*) and the embedded (*is

attributable*) predicate; in (1b), plural *which*, (with *any quotes* as its antecedent)

triggers agreement on both *were (felt)* and *were (relevant).*

(1)   a.   McDonald's has also seen an increase in the standard of hygiene across restaurants which$_i$ is felt t_i is attributable to the fact that the programme is now specifically about McDonald's restaurants. (http://www.cedma-europe.org/newsletter%20articles/Kineo/McDonald's%20UK%20-%20Rapid%20E-Learning%20in%20Action%20(Oct%2011).pdf)

         b.   A recording was also made of each School and was then used to transcribe the minutes and any quotes which$_i$ were felt t_i were relevant to the process. (http://orgprints.org/22387/1/JasonHornerMastersthesis.pdf)

At first sight, such examples seem to be instances of subject raising from within a finite clause, which is standardly illicit, regardless of the presence of the complementizer *that*: (2) can be said to violate a constraint according to which A-movement cannot cross a CP boundary. 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). Although this descriptive generalization remains to be fully accounted for, we will assume here that it is essentially correct.

(2)   *John$_i$ seems (that) t_i reads a book.

Native-speaker informants unanimously reject (2), but data such as (1) are attested, and accepted by some speakers. Speakers rejecting (1) replace the examples by the alternatives in (3), with an expletive subject in the matrix clause. Speakers who accept (1) also accept (3).

(3)　　a.　　… the standard of hygiene across restaurants which$_i$ **it** is felt t_i is attributable to …

　　　b.　　… any quotes which$_i$ **it** was felt t_i were relevant to the process.

Because the pattern in (1) is tied to *wh*-movement and is unavailable with a DP subject (2) (see section 2.1.3), we refer to it as *wh*-raising. Using a cartographic framework, we will develop an analysis for (1) framed against the background of Rizzi & Shlonsky's (2007) approach to subject extraction.

The paper is organized as follows: the remainder of section 1 provides further illustrations of the relevant data. Section 2 inventorizes the core properties of *wh*-raising. Section 3 lays out our theoretical assumptions and section 4 presents our analysis. Section 5 is a brief summary.

(1) illustrates *wh*-raising with relativization, (4) and (5) are interrogative and comparative variants of the *wh*-raising pattern. For reasons of space we discuss only the relativization pattern.

(4)　　[the church leaders] disagreed as to which books$_i$ were thought t_i were "Godly 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/)

(5)   Keep more balloons available than$_i$ is thought t$_i$ will be necessary.
        (http://www.ehow.com/how_10049417_make-balloon-princess-wand.html)

The examples in (1), (4) and (5) seem to be 'hybrids' between subject raising and long *wh*-movement. (1b) could be seen as a combination of the raising pattern in (1b') and the *wh*-movement pattern in (1b"):

(1)   b'.   any quotes <u>which were felt</u>   to be relevant to the process
        b".   any quotes which it was   <u>felt   were relevant to the process</u>

One might consider such hybrid patterns as belonging to a class of 'blends' or 'amalgams' which are extragrammatical rather than part of a speaker's linguistic competence (cf. Bolinger 1961, Coppock 2010, among others). In this paper, we will adopt a different perspective, and analyse the relevant examples as the product of the grammar of some speakers. Although we will do justice to the fact that some properties of the *wh*-raising pattern are characteristic of A-movement, and others of A'-movement, our syntactic analysis crucially involves at least one ingredient that is present neither in (1b') nor in (1b'').

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Specifically, we examine how the grammar generating *wh*-raising would differ from the grammar which does not. Extending Rizzi and Shlonsky's (2007) analysis, we propose that grammars generating (1) have a special device for licensing the subject position of the raising domain.

The empirical basis of our account consists of (i) the intuitions of five native speaking informants who accept the pattern, (ii) anecdotally encountered attested data like those above and (iii) material from searches in online corpora.

2. The empirical data

2.1. The core properties

2.1.1 Double agreement
The hallmark of *wh*-raising in (1), (4) and (5) is the fact that, in addition to triggering agreement in the clause from which it is extracted, a *wh*-subject also agrees with the verb in the immediately superordinate clause. In (1b), repeated here in a simplified form in (6), plural *which* agrees with the lower copula and with the higher auxiliary.

(6)   any quotes which$_i$ were felt t$_i$ were relevant to the process

The double agreement makes an analysis postulating a null variant of the subject expletive *it* in the higher clause implausible, since (null) *it* should trigger singular

agreement. Similarly, the double agreement is incompatible with analysing the matrix domain as a parenthetical.

2.1.2 The selecting predicate

The higher clause in which the *wh*-subject triggers agreement contains a raising predicate including verbs such as *seem, appear,* passive predicates such as *said, felt, hoped*, and adjectives such as *likely*.

2.1.3 Only wh-*movement*

Although admittedly there are occasional attestations of the pattern with non-*wh*-subjects, such as (7), all our informants, including those who accept the basic pattern in (1), reject double agreement configurations with non-*wh*-subjects. Therefore, we consider such cases ungrammatical (as signalled by the parenthesized asterisk), and in what follows we will analyse a grammar that can generate cases like (1), (4) and (5), but not (7).

    (7)   (*) However, <u>IT spending rates are expected will bottom out in 2013</u> and will be resilient over the long run [...]. (Google search 18.01.2014; http://www.gartner.com/newsroom/id/2238915)

The asymmetry between *wh*-subjects and DP subjects makes an analysis in terms of copy-raising (Asudeh 2002) or hyperraising (Carstens & Dierckx 2013, among many others) unlikely because these patterns are not restricted to *wh*-subjects.

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2.1.4 Subject restriction

Wh-objects cannot trigger agreement in a superordinate clause: examples such as (8)

are not attested, and rejected by our informants.

(8)   *they will transcribe any quotes which$_i$ were felt [they can use t$_i$ in

the court case].

2.1.5 That**-*trace effect*

The extraction of the subject in the *wh*-raising configuration gives rise to the familiar

that-trace effect. Our informants reject (9) with an overt complementizer in the

extraction domain:

(9)   These organisations will now have the opportunity to bid for the new

city funds, which$_i$ are hoped (*that) t$_i$ will help up to 150 families

facing eviction

2.1.6 The biclausal restriction

For ease of discussion, we use numerals to identify the clausal domains in a given

derivation: the clause from which the *wh*-subject is extracted is assigned the index 1,

and labelled CP1, the immediately dominating clause is CP2 etc. Similarly, the

lowest TP is labelled TP1, the immediately dominating one TP2.

Wh-raising involves two and only two adjacent finite clauses. Having triggered

agreement in CP2, the moved *wh*-subject halts in the left periphery of the same

clause. There are no attestations such as (10), with further *wh*-movement of the *wh*-subject to CP3, and such examples are rejected by our informants:[2]

(10)   ? the new city funds, [CP3 which$_i$ they say/it is said [CP2 t$_i$ are hoped [CP1 t$_i$ will help up to 150 families facing eviction]]].

Informants who accept double agreement (11a) reject triple agreement (11b).[3]

---

[2] We ascribe the fact that (10) was in fact judged as better than (11b) and (12a,b) to the availability of an alternative reading where the string *it is said* functions as a parenthetical inside CP2.

[3] Our data are reminiscent of the *que/qui* alternation in French illustrated in (i). However there are salient differences: on the one hand, the *que/qui* alternation is manifested only in the clause from which the subject is extracted (ia), and on the other, long movement is possible, with the *que/qui* alternation being manifested in the lowest domain only:

(i)   a.   la   personne   que/*qui   je   pense   *que/qui
                the   person   that/*qui   I   think   *that/qui
                pourra   résoudre   le   problème
                will.be.able   solve.INF   the   problem
                'the person that I think will be able to solve the problem'
        b.   la   personne que/*qui   tu   as   dit   que/*qui   tu
                the   person   that/*qui   you   have   said   that/*qui   you
                penses   *que/qui pourra   résoudre   le   problème
                think   *that/qui will.be.able   solve.INF   the   problem
                'the person that you have said that you think will be able to solve the problem'

(11)   a.   This is a mutation of the virus [$_{CP2}$ which$_i$ was suspected [$_{CP1}$ t$_i$

had initially caused the infection]]].

           b.   */??This is a mutation of the virus [$_{CP3}$ which$_i$ was reported [$_{CP2}$ t$_i$

was suspected [$_{CP1}$ t$_i$ had initially caused the infection]]].

In this respect, *wh*-raising is different from regular raising, as the raising analogue of (11b) is acceptable:

(11)   c.   This is a mutation of the virus [$_{CP3}$ which$_i$ was reported [t$_i$ to be

suspected [t$_i$ to have initially caused the infection]]].

Finally, the alternatives in (12), in which a *wh*-subject moves out of CP1, skips CP2 and triggers agreement in CP3, are also unattested and rejected by our informants, regardless of whether the intermediate clause has a lexical (12a) or an expletive subject (12b).

(12)   a.   * the new city funds, [$_{CP3}$ which$_i$ are hoped [$_{CP2}$ the government

will confirm [$_{CP1}$ t$_i$ will help 150 families facing eviction]]].

           b.   * the new city funds, [$_{CP3}$ which$_i$ are said [$_{CP2}$ it is hoped [$_{CP1}$ t$_i$

will help up to 150 families facing eviction]]].

We thank an anonymous reviewer for bringing up these data. See also the discussion of text example (21).

2.2 Some similar patterns in English

In *wh*-raising, with respect to the clause that dominates its extraction site, an A'-moved subject surprisingly gives rise to T-agreement, a behaviour typical for A-movement. There are similar patterns elsewhere in the grammar of English, some of them also restricted to a subset of speakers.

2.2.1 Accusative long wh-*moved subjects*

Wh-raising is reminiscent of examples such as (13), in which the *wh*-subject of a finite clause is realized by *whom*, whose accusative source is taken to be the selecting verb *expect* (Quirk et al. 1985: 368, 1299). Such configurations are sometimes considered ungrammatical (cf. Quirk et al. 1985: 1299), and they could also be analysed as blends, with (13) a blend of (14a) and (14b).

(13)   This is the candidate [whom$_i$ [we expect [t$_i$ will win the competition]]].

(14)   a.   This is the candidate <u>whom we expect</u> to win the competition.

           b.   This is the candidate who we <u>expect will win the competition</u>.

As is the case for *wh*-raising, (13) displays an asymmetry between *wh*- and DP subjects, in that only the former can be assigned accusative case from a higher verb.

(15)   *We expect him/her/them will win the competition.

Formal accounts for the accusative form of the *wh*-subject propose that by virtue of transiting through the embedded left periphery, the *wh*-subject enters into a local relation with the higher verb - here *expect* - and is assigned accusative case (cf. Kayne (1995) and Haegeman (2008), but see Lasnik & Sobin (2000) for a different view). The ungrammaticality of (15) is expected: a DP in the embedded SpecTP cannot enter into a local configuration with the selecting verb.

(16)

```
                              V'2
                             /    \
               V_matrix          CP1
                  |             /    \
                  └──▶ wh-          C'
                 [ACC]             /    \
                                  C°    TP1
                                       /    \
                 ┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄▶ DP        T'
            no local configuration => no ACC    /    \
                                              T°      ...
```
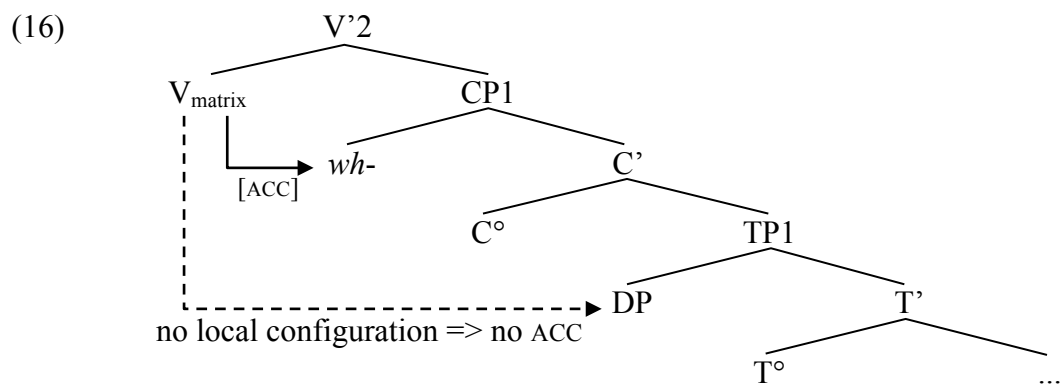
Observe that for (16) to converge, the matrix V must be able to probe and case-mark a *wh*-subject which is independently assigned nominative case by the embedded T. This means that a constituent which is assigned case need not become syntactically inactive. We might then conclude that at least in some cases English has 'hyperactive' DPs (cf. Carstens 2011), i.e. DPs which remain active for probing in spite of having already been assigned structural case (or more broadly, DPs that take part in A-operations in more than one clausal domain).

2.2.2 Wh-*agreement with long moved subjects in American English*

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The *wh*-raising data in (1) are also reminiscent of an American English pattern

discussed in Kimball & Aissen (1971) and Kayne (1995) illustrated in (17), in which

the *wh*-subject *who* unexpectedly triggers plural agreement with the matrix predicate

think, in spite of the presence of the singular subject *Clark*. Only a subset of speakers

accept this pattern.

(17)   % Mark knows the people who$_{PL}$ Clark$_{SG}$ think$_{PL}$ are in the garden. (from

Kimball & Aissen (1971: 241, their (1b); cf. Kayne 1995)).

Once again, in (17) the T probe associated with the matrix verb *think* must be able to

probe and agree with a case marked DP in the embedded domain. This might thus be

seen as another instantiation of a 'hyperactive' DP.

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

The asymmetry between *wh-* and DP subjects in (1)/(7) is also found with some ECM

complements, as shown in (18). Assuming that the infinitival complements in (18)

have a left-peripheral space, i.e. that they are CPs rather than bare TPs, a DP in the

infinitival SpecTP is not close enough to the selecting verb for case marking. By

transiting through the left periphery of the complement clause, a *wh*-moved subject

becomes accessible to the higher case marker (cf. (16)). For Romance analogues see

Kayne (1981) and Rizzi (1982).

(18)   a.   *I assure you John to be the best student.

b.   John, who$_i$ I assure you t$_i$ to be the best student... (Kayne 1980:

79-80, his (34) and (33))

3. Cartography and the Subject Criterion

We here adopt the approach to subject extraction developed by Rizzi (2006), Rizzi &

Shlonsky (2006, 2007) (henceforth R&S) and Shlonsky (2014), which recasts the

EPP in terms of the Subject Criterion and accounts for restrictions on subject

extraction in terms of Criterial Freezing.

3.1 SubjP, the Subject Criterion and subject extraction

Following Cardinaletti (1997, 2004), Rizzi (2006) postulates that T is the locus where

subject-verb agreement is established and that TP is dominated by SubjP, which hosts

the subject of predication. SubjP is dominated by FinP, the lowest left-peripheral

projection, which encodes the finiteness properties of the clause (Rizzi 1997).

(19)

```
          FinP
         /    \
              Fin'
             /    \
          Fin°    SubjP
                 /    \
                     Subj'
                    /    \
                Subj°     TP
                [CRIT]   /   \
                             T'
                            /   \
                          T°     ...
```
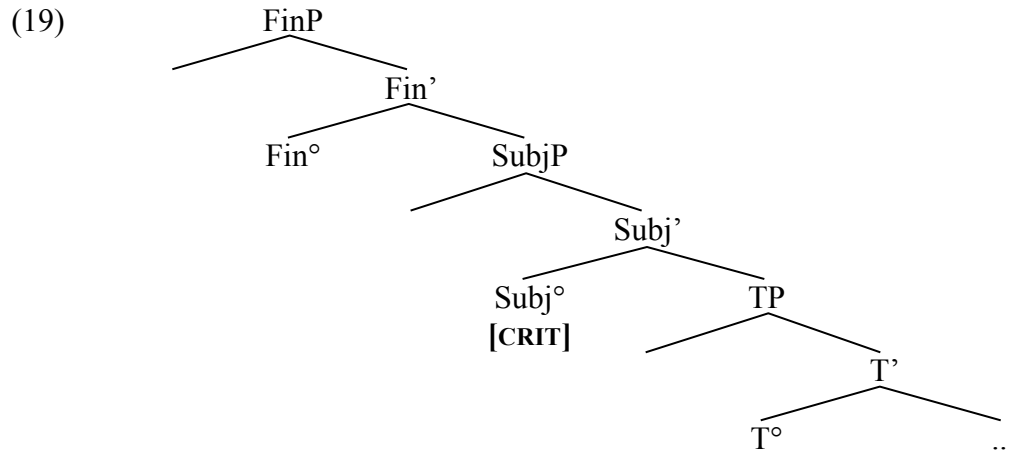
SubjP is a criterial projection. A criterial requirement is defined as in (20a) (R&S 2006: 138, their (53)):

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

Criterial features comprise [*wh*], [Top], [Foc], [Rel] and [Subj]. Criterial configurations induce Criterial Freezing of the constituent in the specifier of the criterial head.[4] A constituent which has satisfied the Subject Criterion (henceforth SCrit) by moving to SpecSubjP is thus frozen in place, as illustrated by the subject-object asymmetry in the French interrogatives in (21a,b):

(21)   a.   *Qui$_i$ crois-tu   que [$_{SubjP}$ t$_i$ va   partir]?

               who   think-you   that   will   leave

---

[4] We are abstracting away from possible cases of subextraction.

       b.   Que$_i$ crois-tu   que [$_{SubjP}$ Jean a   fait t$_i$]?

             what   think-you   that   Jean has done

             'What do you think (that) John did?'

Rizzi & Shlonsky (2006, 2007) assume that grammatical instances of subject

extraction bypass SpecSubjP, and that the SCrit is satisfied by a specialized

mechanism manifested by the replacement of the regular complementizer *que* by *qui*

(21c):

    (21)   c.   Qui   crois-tu   qui   va   partir?

               who   think-you   *qui*   will   leave

               'Who do you think will leave?'

According to Rizzi & Shlonsky (2007), *qui* in (21c) is a manifestation of Fin enriched

with φ-features (see also Rizzi 1990), which we represent here as 'Φin'. The authors

assume that through the local c-command relation with the Subj head, the φ-features

on Φin satisfy the SCrit. Rizzi & Shlonsky (2007: 138-139) therefore restate the

criterial condition as follows:

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

               A+*F*.

In addition, they postulate that the φ-features on Φin have to be independently

licensed: on its way to its ultimate left-peripheral landing site, the *wh*-subject moves

through SpecΦin and licenses the φ-features of Φin. SpecΦin is not a criterial

position, meaning that it is not a halting place. (22) summarizes the derivation. As the

constituent in SpecΦinP φ-agrees with the head, SpecΦin qualifies as an A-position

(Rizzi 1991).

(22)
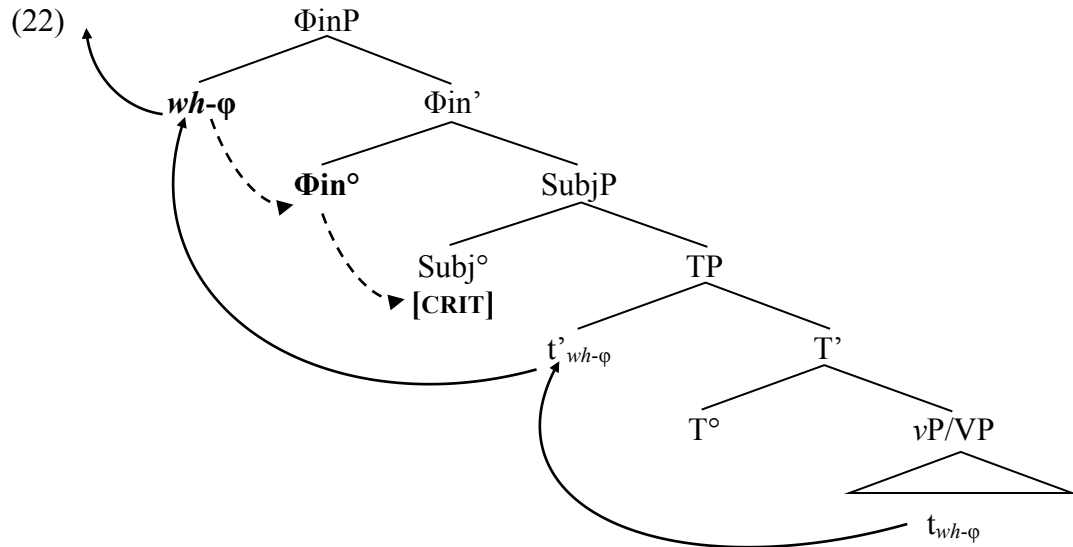
3.2 Subject extraction from English finite clauses

3.2.1. Licit extraction

In regular subject extraction in English (23a), we follow Rizzi & Shlonsky (2006:

section 9) and assume that the left periphery of the complement clause in (23a) is

reduced ('truncated') to ΦinP1. The SCrit on Subj1 is satisfied by the φ-features on

Φin1, themselves licensed by the *wh*-moved subject in SpecΦin1. (23b) shows the

main ingredients of the analysis. In the complement clause agreement on T1 is

triggered by the plural subject *which <quotes>* (not shown); matrix agreement on T2

is triggered by the expletive subject *it*.

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

　　b.

ForceP2
- which_φ
- Force'
  - Force° [CRIT]
  - FinP2
    - Fin°
    - SubjP2
      - it_φ
      - Subj'
        - Subj° [CRIT]
        - TP2
          - T° — φ-agreement
          - VP2
            - ~~it_φ~~
            - V'
              - V°
              - ΦinP1
                - t_whichφ
                - Φin'
                  - Φin°
                  - SubjP1
                    - Subj° [CRIT]
                    - TP1
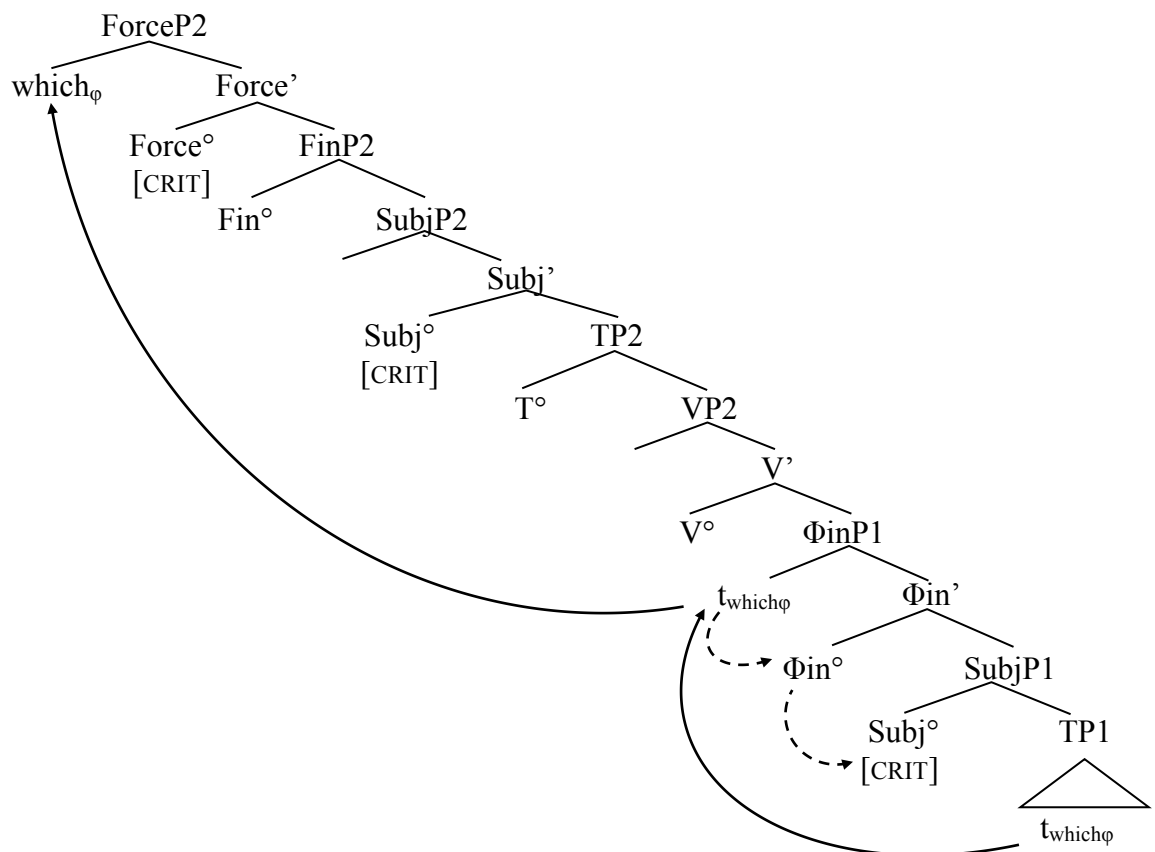   - t_whichφ
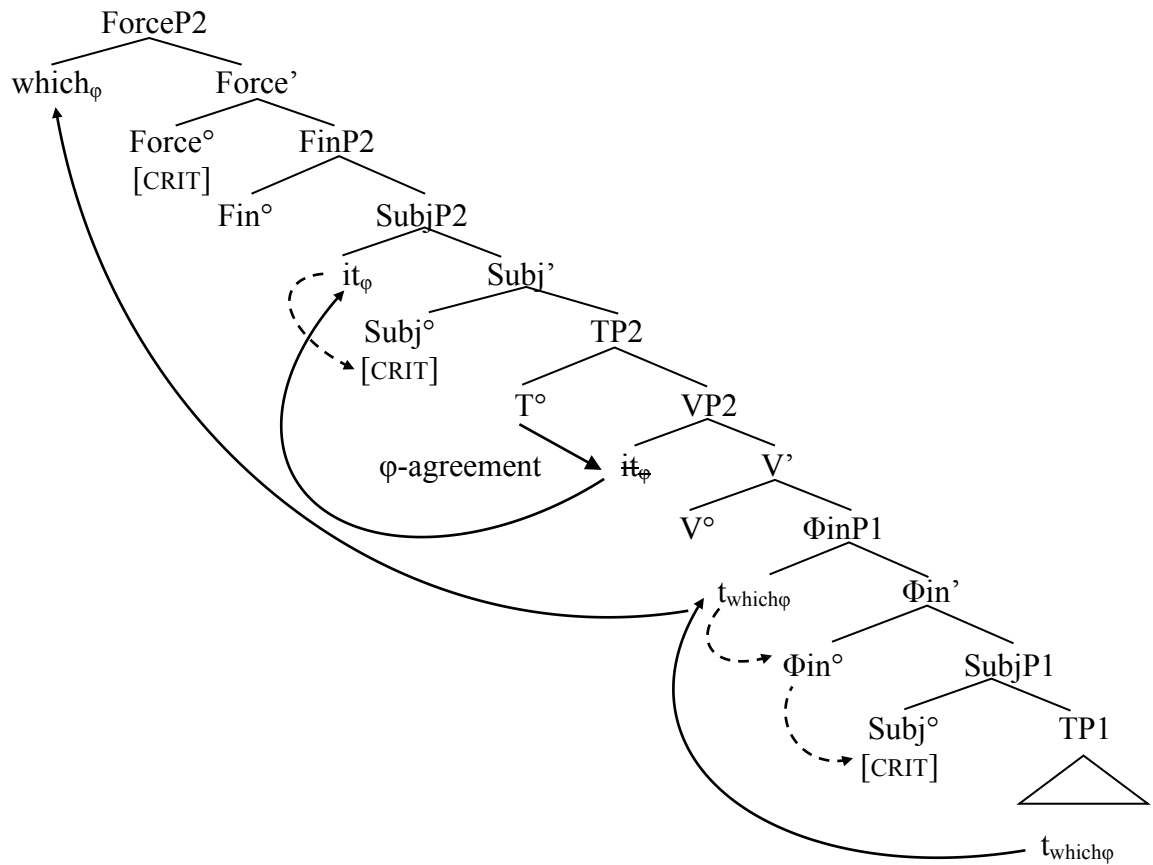
3.2.2. *The unavailability of* wh-*raising*

For most English speakers *wh*-raising, illustrated in (1) and repeated as (24a), is

unacceptable. Let us examine how the pattern can be ruled out in R&S's account.

(24)　　a.　　*quotes which were felt were relevant to the process

Informally speaking, (24a) is the result of embedding a finite clause from which the subject is successfully extracted (viz. by virtue of an instantiation of Φin), under a finite raising predicate. Thus a partial representation of (24a) would be as in (24b), with V2 a raising predicate.

(24)   b.

One way of ruling out the double agreement is by saying that T2 cannot probe the lower subject *which* because having been assigned nominative case, the valued case-features of the latter become syntactically inactive and thus invisible to higher case

probes. However, in sections 2.2.1 and 2.2.2 we did come across what seem to be instances of 'hyperactive' (subject) DPs in English, in structures that are acceptable to some speakers. Below, we will suggest that for a subset of speakers T2 can actually probe a hyperactive nominative subject in $\Phi inP1$, giving rise to the double agreement effect.

Before addressing this point, observe that even if the double agreement as such can be derived, a problem arises in relation to the satisfaction of the matrix SCrit. Since T2 agrees with the embedded subject, insertion of an expletive is blocked, as this element will not be able to agree with and be case marked by T2. Because the relative operator *which (quotes)* ultimately has to end up in a left-peripheral position, it cannot itself move to SpecSubj2 to satisfy the SCrit because, SpecSubjP2 being criterial, this would induce freezing. Furthermore, such movement would illicitly extend an A-chain across a CP-boundary. For the satisfaction of the SCrit in the context of subject extraction in CP1, $\Phi in1$ insertion was invoked, but R&S (2007: 145-146) restrict the availability of Φin to the clause from which the subject is extracted. Φin-insertion being unavailable at the level of CP/Fin2, there is no alternative strategy to satisfy the SCrit, and *wh*-raising is correctly (in the case of speakers rejecting (1)) excluded. We will solve this apparent problem in the next section.[5]

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[5] Note in passing that if the relevant embedded structure could be truncated to SubjP1 the system would not preclude T2 from agreeing with a DP subject in the canonical subject position of the lower clause. Again, though, the SCrit in the higher clause cannot be satisfied since SubjP1 is a criterial position and hence the relevant DP subject would not be able to move any higher.

4. The grammar of wh-raising

In *wh*-raising (25a), the extracted subject triggers T-agreement in both the embedded clause - as expected - and in the immediately dominating raising domain.
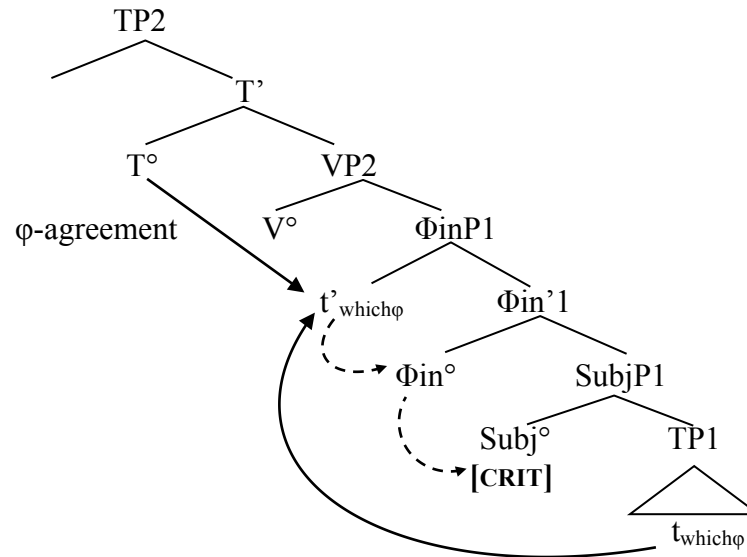
(25) a. % to transcribe any quotes which were felt were relevant to the process

As a first marked property, the grammar with *wh*-raising must allow the features of the embedded *wh*-subject to be 'hyperactive' so as to become accessible to the T-head of the raising clause: this will prevent insertion of an expletive subject in the higher clause. Given that other cases of such hyperactivity are arguably found in (varieties of) English (cf. section 2.2), let us propose that the strategy is available to the relevant speakers. But in addition, the grammar generating *wh*-raising must also have an 'exceptional' way of satisfying the SCrit in the higher domain.

4.1 Hyperactivity and T2 agreement

The configuration for the agreement between matrix T2 and the long moved *wh*-subject evidenced by the agreement between *<any quotes> which* and *were (felt)* in (25a) is schematized in (26), to be modified below.

(26)

TP2
T'
T° VP2
φ-agreement V° ΦinP1
t'whichφ Φin'1
Φin° SubjP1
Subj° TP1
[CRIT]
twhichφ

At this stage, we need to stipulate that the hyperactive DP must occupy an A-position, since otherwise any DP on the edge of an embedded CP could trigger superordinate T-agreement, contrary to fact (cf. the subject restriction in section 2.1.4). Assuming that taking part in operations related to case and agreement is what defines A-positions (cf. Rizzi 1990, 1991), we will assume that this stipulation is at least intuitively plausible.

4.2 The matrix SCrit

As mentioned above, T2-agreement with the *wh*-subject blocks insertion of an *it*-expletive in SpecTP2 (25b), making the regular mode of satisfying the SCrit, insertion of an XP in SpecSubjP2, unavailable:

    (25)   b.   * to transcribe any quotes which [SubjP2 it were felt were relevant

                      to the process].

In the absence of a regular subject in TP2, the SCrit associated with Subj2 has to be satisfied differently. Moving the *wh*-subject to SpecSubjP is not an option because it would illicitly extend the A-chain beyond the finite CP1, and it will lead to freezing.
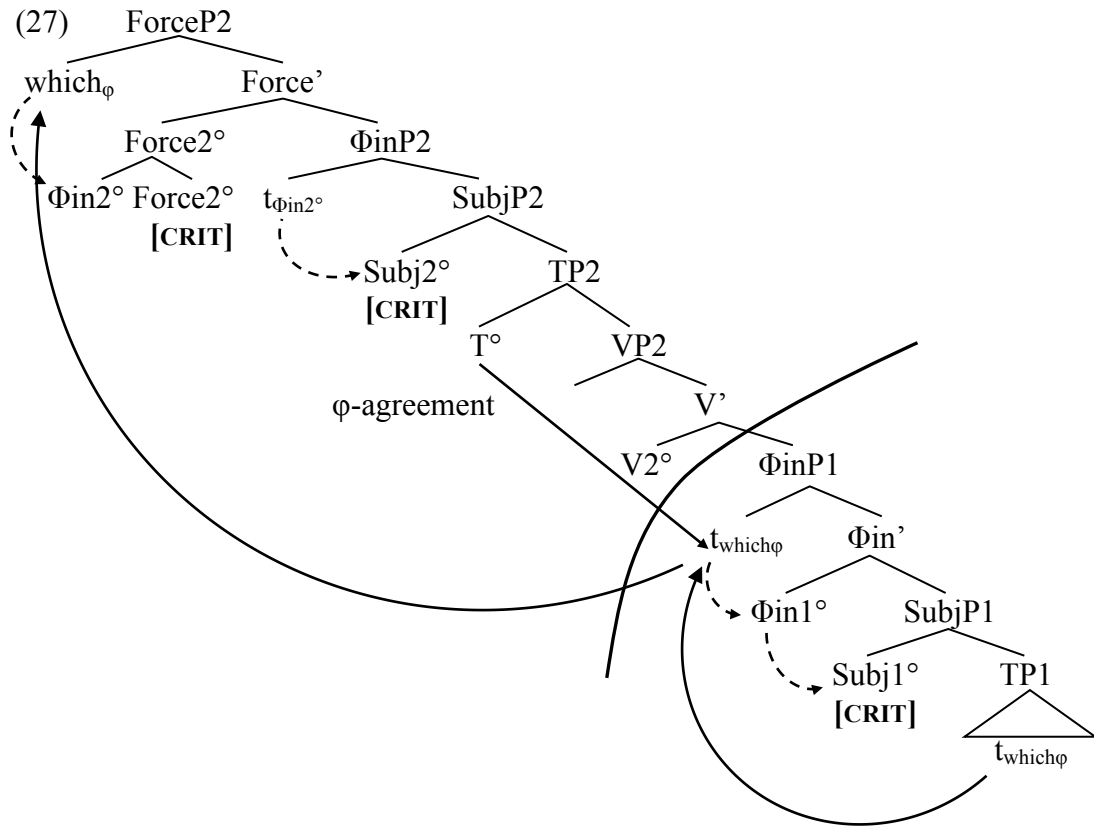
Our hypothesis is that while for most speakers Φin-insertion is restricted to the embedded clause (i.e. Φin1), speakers accepting *wh*-raising can also insert it at the matrix level, thus satisfying the matrix SCrit. Although for Rizzi & Shlonsky (2007: 137; 145-146) Φin can only be inserted in contexts of 'local' subject extraction (i.e. in the clause in which an extracted subject is base generated), we can hypothesize that insertion of Φin2 actually is licensed by virtue of T2-agreement with the (hyperactive) *wh*-subject. The idea would be that by virtue of its agreement with T2, the *wh*-subject can also 'requalify' as the 'local' subject of CP2. If this is on the right track, the more liberal use of Φin follows from the exceptional hyperactivity of *wh*-subjects.

Assuming Φin-insertion indeed to be available also in CP2, once again the φ-features of Φin2 have to be licensed independently: we take it that this is achieved by the *wh*-subject which targets a left-peripheral criterial position, say SpecForceP2 (Rizzi 1997).[6] However, the *wh*-subject cannot move from SpecΦin1 to SpecΦin2: SpecΦin is an A-position and movement from SpecΦin1 to SpecΦin2 would again illicitly extend an A-chain beyond a finite clause boundary. We therefore need to propose an alternative scenario to license the φ-features of Φin2.

Recall that the *wh*-subject targets a criterial position, Force2 and thus attains a local relation with Force2. Assume that Φin2 incorporates into the criterial Force2
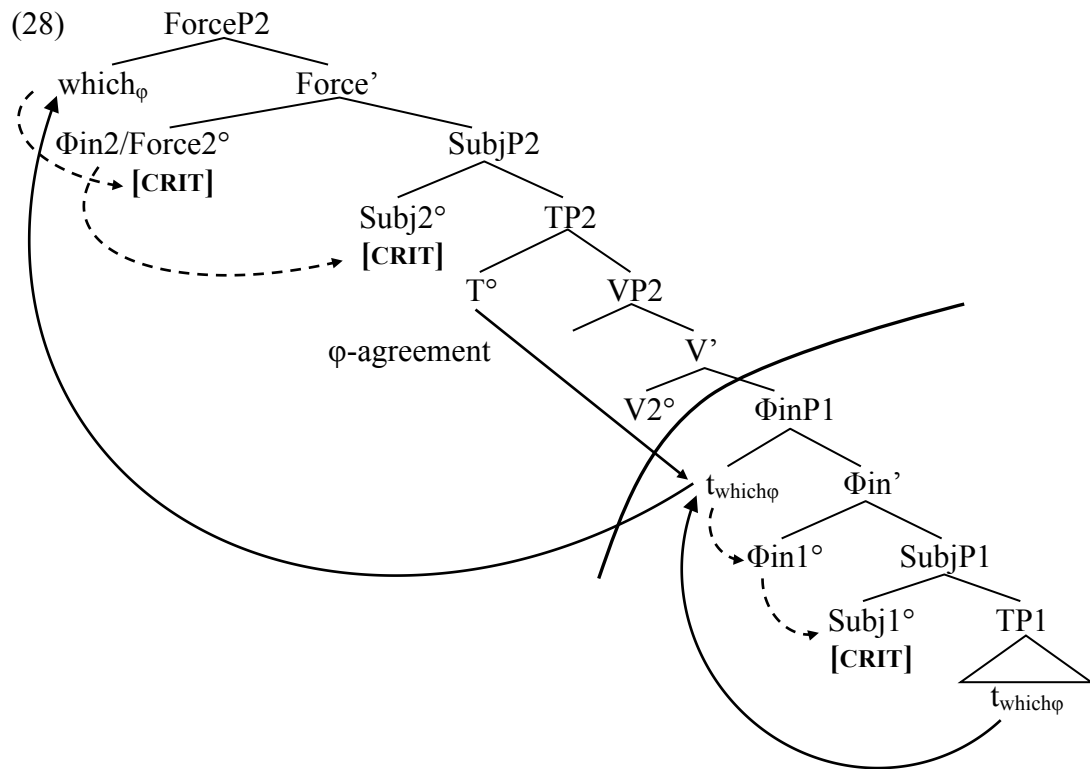
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[6] The relevant position might also be labelled SpecRelP as in Shlonsky (2014).

head. Through the creation of the complex head Φin2-Force2, the φ-features of Φin2 attain the required local relation with the *wh*-subject in SpecForce2. Thus in the specifier position of Force2-Φin2, the *wh*-subject simultaneously satisfies both the criterial condition of Force2 and licenses the φ-features on Φin2. (27) summarizes the derivation:

(27)
```
              ForceP2
          /            \
      whichφ          Force’
                   /          \
              Force2°         ΦinP2
             /      \        /      \
        Φin2° Force2°   tΦin2°      SubjP2
           [CRIT]              /          \
                          Subj2°          TP2
                          [CRIT]       /        \
                                      T°         VP2
                               φ-agreement      /    \
                                              V2°      ΦinP1
                                                     /       \
                                               twhichφ       Φin’
                                                          /        \
                                                       Φin1°       SubjP1
                                                              /            \
                                                          Subj1°           TP1
                                                          [CRIT]         /  \
                                                                      twhichφ
```

In work on Hebrew relativization Shlonsky (2014) proposes that Φin and the criterial head in whose specifier relative operators are hosted (Rel) can constitute one syncretic head. This proposal goes back to Rizzi (1997), where it was proposed that Fin and Force do not occur as separate heads in the absence of any topical or focal material. Our incorporation analysis can be reformulated along such lines. Recall that Rel is a criterial head. In Shlonsky's original proposal, Φin (or nominal Fin, in his

terms) and Rel can only be syncretic in the case of short extraction, since for him Φin is restricted to the lowest level of extraction (i.e. Φin1 and not Φin2). In our proposal, for the grammars which generate *wh*-raising, i.e. allow T2-agreement with the hyperactive *wh*-phrase in Spec Φin1, Φin may be inserted at higher levels, and thus in terms of Shlonsky's analysis we would hypothesize that Φin can be syncretic with the criterial head targeted by the long moved *wh*-phrase. To the extent that *wh*-interrogatives are also available in the case of *wh*-raising (see (4)) we would have to assume that Φin can also be syncretic with an interrogative criterial head. However, assuming a scenario in which Force2 and Φin are syncretic, the question will arise whether the specifier of the syncretic head is an A position or an A' position. If the former, then the movement of the *wh*-subject from SpecΦin1 violates the ban on the continuation of the A-chain. Possibly, the internal articulation of the features in the syncretic head might provide a solution to this problem. For reasons of space we do not pursue this point here.

(28)

ForceP2

which_φ — Force'

Φin2/Force2°
[CRIT]

SubjP2

Subj2°
[CRIT]

TP2

T°
φ-agreement

VP2

V'

V2°   ΦinP1

t_whichφ   Φin'

Φin1°   SubjP1

Subj1°
[CRIT]

TP1

t_whichφ

4.3 Deriving wh-*raising: taking stock*

In our analysis, the 'exceptional' nature of English *wh*-raising is captured by the following three assumptions:

(i)   T2 can probe a (nominative) case-marked *wh*-subject in an embedded SpecΦinP1. The goal DP can be said to be 'hyperactive' (in the sense of Carstens 2011).

(ii)   Φin is not restricted to the periphery of the clause from which the subject is locally extracted.

(iii)   Φin can incorporate to (or be syncretic with) a criterial head.

As for (i), the hypothesis that a cased *wh*-DP 'exceptionally' remains syntactically active finds some parallels in English discussed already in sections 2.2.1 and 2.2.2. Extending Rizzi & Shlonsky's approach (ii) plausibly follows from (i), (iii) exploits (ii) in combination with Shlonsky's (2014) analysis of Hebrew relatives.

The exceptional features (i)-(iii) are integrated in the grammar that derives the canonical pattern, hence a grammar generating *wh*-raising also generates the 'canonical' pattern of subject extraction.

In what follows we show to what extent our hypothesis can capture the remaining restrictions on *wh*-raising described in section 2. We will start with the ban on *wh*-raising of non-subjects.
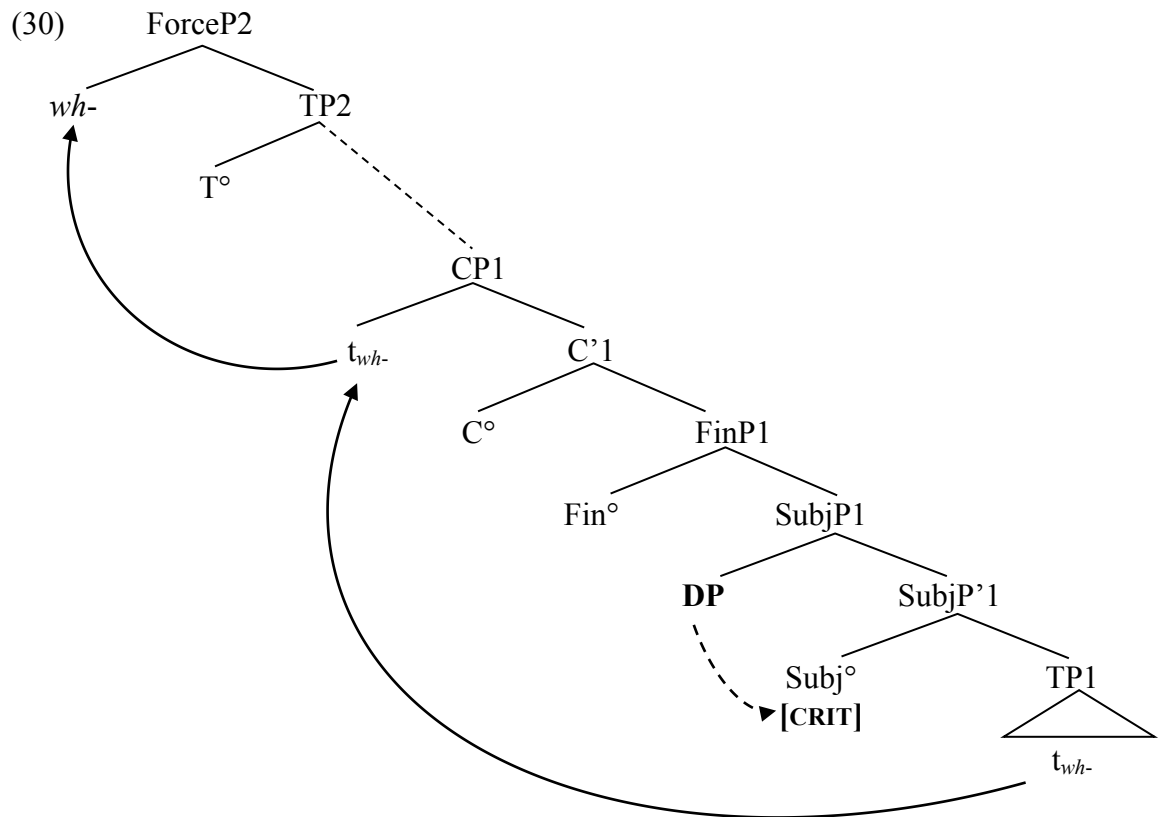
4.4 The subject restriction

As discussed in 2.1.4 only (local) subjects give rise to *wh*-raising. (8) repeated here as (29) is generally ungrammatical.

> (29)   *they will transcribe any quotes [$_{CP2}$ which$_i$ were felt [$_{CP1}$ they can use
>
>   t$_i$ in the court case].

In the intended derivation of (29), in CP1, the subject DP *they* triggers agreement (*can*). The *wh*-object of *use* moves on to the edge of CP1, where it would agree with T2 *were*. As before, the *wh*-constituent could then continue to its criterial position in CP2. In CP2 the SCrit could not be satisfied in the regular manner, but Φin2 could be invoked, being licensed by agreement with the moved *wh*-constituent.

In order to exclude this scenario, we stipulated that T must probe a constituent in an A-position. The edge position of CP1 which hosts the *wh*-object is an A'-position and a DP in that position can thus not give rise to T2 agreement. Expletive insertion at the level of TP2 will lead to satisfaction of the SCrit in preference to the costlier - and redundant - operation of Φin-insertion.

(30)

ForceP2
- *wh*-
- TP2
  - T°
  - CP1
    - t*wh-*
    - C'1
      - C°
      - FinP1
        - Fin°
        - SubjP1
          - **DP**
          - SubjP'1
            - Subj°
              [CRIT]
            - TP1
              - t*wh-*

Note that a crucial ingredient of our account of the 'subject restriction' is the (independently motivated) assumption that clauses whose thematic subject is A'-moved are truncated and do not have a full-fledged left periphery, and hence no A'-edge (see again Rizzi & Shlonsky 2007 for additional discussion).

4.5 The biclausal restriction

The scenario outlined above also rules out (31) (= (12a)), i.e. one of the three illicit cases of *wh*-raising which do not obey the 'biclausal restriction' introduced in section 2.1.6. In (31) a subject extracted from CP1 gives rise to *wh*-agreement with T3 but not T2:

(31)   * the new city funds, [CP3 which$_i$ are hoped [CP2 the government will confirm [CP1 t$_i$ will help 150 families facing eviction]]]

This example can be excluded in the same way as *wh*-raising of non-subjects. If T only probes DPs in A-positions, we correctly predict T3 not to be able to probe for the *wh*-subject when the latter occupies an A'-position on the CP2 edge.

At this point we still have to account for the unavailability of the two other subcases of illicit continuation of *wh*-movement discussed in section 2.1.6. In the first, in (32) (= (10)), the moved *wh*-subject agrees with T2 and moves to the left periphery of CP3, without agreeing with T3, with its own (lexical or expletive) subject. In the second, (33) (= (11b)), *wh*-agreement illicitly applies in both CP2 and CP3.

(32)   ? the new city funds, [CP3 which$_i$ they say/it is said [CP2 t$_i$ are hoped [CP1 t$_i$ will help up to 150 families facing eviction]]].

(33)   */??This is a mutation of the virus [CP3 which$_i$ was reported [CP2 t$_i$ was suspected [CP1 t$_i$ had initially caused the infection]]].

In our account, *wh*-raising crucially depends on the fact that Φin is available at levels higher than CP1 and that it incorporates to (or is syncretic with) a criterial head, whose specifier hosts the moved *wh*-subject. Due to criterial freezing the *wh*-subject will halt there.

In (32) and (33) a non-terminal step of cyclic *wh*-movement targets a non-criterial 'edge' position in the left periphery of the intermediate CP2. To allow the licensing of the features of Φin2, the *wh*-moved subject has to attain a spec-head relation with Φin2. As the continuation of an A chain beyond the finite CP1 is excluded, this would be achieved via the incorporation strategy described above. Φin2 would have to incorporate into the non-criterial head in CP2, with the *wh*-subject in transit locally licensing the features of Φin2. However, this derivation is unavailable because in our account Φin-incorporation is restricted to criterial heads. Note that at this point this restriction on Φin-incorporation is stipulated. The motivation for the ban on Φin-incorporation to a non-criterial head depends on how successive cyclic movement is handled in the cartographic and criterial framework. In Danckaert et al. (to appear) we have outlined some possible ways in which this restriction can be derived. For reasons of space we refer the reader to that discussion.

5. Summary

This paper considers *wh*-raising in English, a pattern in which a *wh*-subject triggers T-agreement in a clausal domain immediately dominating its merge site. For most

speakers this pattern is unacceptable. Adopting Rizzi & Shlonsky's (2007) approach to subject extraction, we relate the acceptability of *wh*-raising for some speakers to the distribution of the left-peripheral φ-enriched head Φin, which plays a crucial role in subject extraction. We propose that in a grammar with *wh*-raising, extracted subjects can exceptionally be 'hyperactive' (cf. Carstens 2011) and enter into A-relations (receive nominative case and trigger subject-verb agreement) in more than one clause. As a result, Φin is more liberally available than in the grammar lacking hyperactive DPs, and in particular Φin can also contribute to satisfying the Subject Criterion at domains higher than the clause from which the subject is initially extracted.

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