

Variation in English subject extraction: the case of hyperactive subjects

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Abstract

Starting from the well known observation that for some speakers of English, *wh*-subjects extracted across a transitive predicate can bear accusative case, we investigate the syntax of the pattern in which a subject is *wh*-moved across a passive predicate. For a minority of speakers, in this second pattern the moved *wh*-subject can trigger agreement with the predicate in the matrix clause, yielding an apparent case of finite raising which we will call *wh*-raising. In attempt to offer a unified account of these two structures, we suggest that both are possible in a grammar that allows for DPs to be ‘hyperactive’ (Carstens 2011) and to take part in A-operations (i.e. syntactic phenomena related to Case and agreement) in more than one clause. The analysis that we propose is couched in the cartographic framework, and adopts the approach to subject extraction from Rizzi (2006) and Rizzi & Shlonsky (2006, 2007).

1. Accusative long *wh*-moved subjects

Though frowned upon by prescriptive grammars, examples such as those in (1), in which an accusative form of the pronoun *who* serves as a subject relativizer are easy to come by in written English sources and have given rise to some discussion in the literature (Kayne 1995; Haegeman 2008):

- (1) a. For example, when individuals form an electoral preference, they are in nearly all instances supporting a candidate **whom** they expect will win the election. (<https://www.jstor.org/stable/pdf/3792425.pdf>)
- b. [London Council] has begun mailing pass holders **whom** it thinks have relocated or passed away, requesting proof of identity. (*Observer* 16.6.13 page 50 col 3)
- c. Ball-breaking Saira picked James, Raj, and, bafflingly, her old adversary Paul, **whom** she may not have realised is her male Doppelganger. (*Observer Review* 8.5.5 page 12 col 8)
- d. After all, she must have been in plays as an actor with people **whom** she knew were going to do a bad job, however good the director was. (*Observer* 23.10.5 page 3 col 5)
- e. Death of a President has attracted a lot of criticism, mostly from people **whom** you suspect haven’t seen it. (*ABC Independent on Sunday* 15.10.6 page 18 col 2)

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- f. Sarah does not regret her surgery. She is envious of the 20-year olds **whom** she has heard are having it now. (*Observer* 31.7.5 page 2 col 5)
- g. This could easily have applied to Bruce Reynolds, **whom** the Guardian reported was a fan of Norman Mailer, JG Ballard and Scott Fitzgerald. (*Observer* 3.3.13 page 40 col 5)
- h. Sebby seemed still to be talking about Cecil, **whom** she'd forgotten for a moment was the pretext for this whole party. (*The Stranger's child*, A. Hollinghurst, Picador, 2012, page 197)
- i. She addresses her story to her lover, **whom** she had deduced is a spy, mostly through an inner monologue. (*Observer* 16.6.13 page 39 col 2)

The alternative phrasing for the examples that would be accepted by all speakers is given in (2), in which the accusative form *whom* is replaced by the nominative *who*.

- (2) a. For example, when individuals form an electoral preference, they are in nearly all instances supporting a candidate **who** they expect will win the election. (<https://www.jstor.org/stable/pdf/3792425.pdf>)
- b. [London Council] has begun mailing pass holders **who** it thinks have relocated or passed away, requesting proof of identity.
- c. Ball-breaking Saira picked James, Raj, and, bafflingly, her old adversary Paul, **who** she may not have realised is her male Doppelganger.
- d. After all, she must have been in plays as an actor with people who she knew were going to do a bad job, however good the director was.
- e. Death of a President has attracted a lot of criticism, mostly from people **who** you suspect haven't seen it.
- f. Sarah does not regret her surgery. She is envious of the 20-year olds **who** she has heard are having it now.
- g. This could easily have applied to Bruce Reynolds, **who** the Guardian reported was a fan of Norman Mailer, JG Ballard and Scott Fitzgerald.
- h. Sebby seemed still to be talking about Cecil, **who** she'd forgotten for a moment was the pretext for this whole party.
- i. She addresses her story to her lover, **who** she had deduced is a spy, mostly through an inner monologue.

(1j) and (2j) illustrate the same alternation with an embedded *wh*-interrogative: in (1j) the interrogative *whom* is the subject that has been extracted the embedded clause, the pattern that is not generally accepted, and (2j) is the generally accepted variant.

- (1) j. In addition to asking the traditional vote question, the NBC News Online Survey conducted by SurveyMonkey asked Americans **whom** they expected would win their party's nomination. (<http://www.msnbc.com/msnbc/democratic-voters-overwhelmingly-predict-clinton-will-win-nomination>)
- (2) j. In addition to asking the traditional vote question, the NBC News Online Survey conducted by SurveyMonkey asked Americans **who** they expected would win their party's nomination.

In this paper we restrict the discussion of accusative subjects to the relativization pattern, but we assume that the analysis presented will carry over to interrogatives.

In the secondary literature, the configurations in (1) are sometimes considered ungrammatical (Quirk et al. 1985: 368, 1299). They could be analysed as performance errors, and more particularly as ‘amalgams’ or ‘blends’ (in the sense of Bolinger 1961, Coppock 2010, among others), i.e. a combination of parts of two (or more) fully well-formed syntactic structures. For instance, (3) could be seen as a blend of (3a) and (3b).²

- (3) This is the candidate [whom_i [we expect [t_i will win the competition]]].
- a. This is the candidate whom we expect to win the competition.
 - b. This is the candidate who we expect will win the competition.

On the other hand, there is also a tradition going back to Jespersen (1927: vol. III.2, 197-198), and including Payne & Huddleston (2002: 466-467) of authors who do consider the pattern acceptable. Following this line of thinking, a formal analysis was developed in Kayne (1995) in the generative framework (see also Haegeman 2008). Informally, the source of the accusative on *whom* is considered to be the selecting matrix verb *expect*.

- (4) This is the candidate [whom_i [we expect [t_i will win the competition]]].

The present paper starts out from the data in (1) and discusses their analysis in terms of the criterial approach to subject extraction developed by Rizzi & Shlonsky (2006, 2007). We will recast Kayne’s original analysis in this framework.

Having done that, we will pursue the ramifications of the analysis for the passive alternative to (1), where the acceptable patterns are taken to be those in (5a) and (5b). (5c) with an accusative subject cannot be generated because the source of the accusative case is removed by passivization of the matrix predicate.

- (5) a. This is the candidate who it is expected will win the competition.
 b. This is the candidate who is expected to win the competition.
 c. *This is the candidate whom is expected will win the competition.

However, in addition to (5a) and (5b), examples such as (5d) are also attested:

- (5) d. This is the candidate who is expected will win the competition.

We will refer to this last pattern as *wh*-raising. This type of example is usually considered to be ungrammatical and again such examples might be seen as a blend of (5a) and (5b), as shown in (6):

- (6) a. This is the candidate who is expected to win the competition. (= 5b)
 b. This is the candidate who it is expected will win the competition. (= 5a)

We will show that examples such as (5d) can be derived by the same grammar that derives examples like (1), combined with some specific assumptions about the articulation of the left periphery.

² See also Lasnik & Sobin 2000 for a discussion of *whom* in terms of grammatical viruses. These authors specifically address patterns such as (1) as ‘slippers’, i.e. ungrammatical patterns that “might easily get by without being noticed, having some reasonable degree of naturalness about them” (2000: 356). For their critique of the ‘ECM’ style analysis see their note 16.

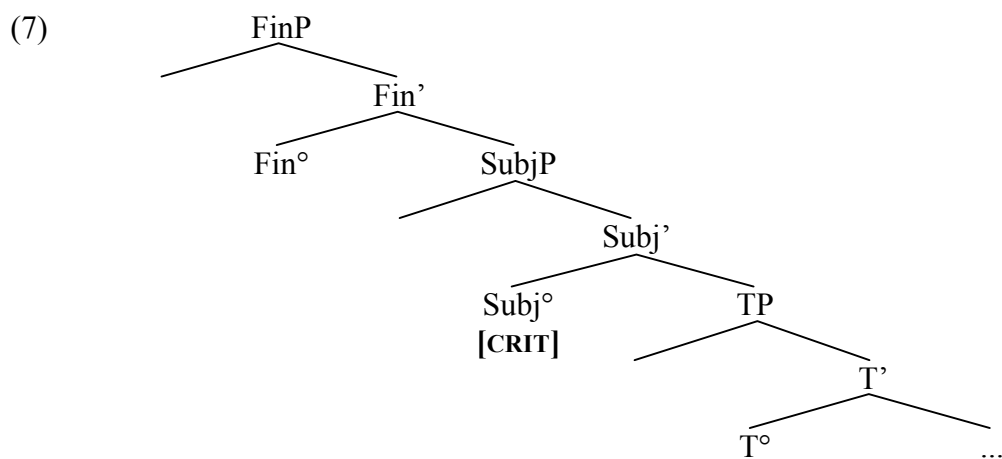
Our paper is organized as follows. Section 2 presents the criterial approach to subject extraction developed by Rizzi (2006) and Rizzi & Shlonsky (2006, 2007) and applies it to English. Section 3 updates Kayne’s original analysis of accusative *wh*-subjects in terms of Rizzi & Shlonsky’s criterial approach. Section 4 examines the effect of passivization on *wh*-subject extraction and introduces the *wh*-raising data. Section 5 offers a formal analysis of *wh*-raising in terms of the criterial approach to subject extraction. Section 6 briefly discusses a number of remaining problems which go beyond the scope of the present paper. Section 7 summarizes the paper.

2. Cartography and the Subject Criterion

The focus of the present paper is what could be called ‘non-canonical’ subject extraction in English, that is patterns of subject extraction which are degraded for many speakers and which pose a challenge for the analysis of standard cases of subject extraction. Before entering into the discussion of these patterns we present the framework we will be adopting.

2.1 SubjP, the Subject Criterion and subject extraction

In the cartographic tradition a consensus is emerging that what is often considered to be a unique subject position on the edge of TP must be decomposed (Cardinaletti 1997, 2004; Rizzi 2006, 2015). At least three structural ingredients are related to the canonical subject: (i) T as the locus where subject-verb agreement is established, and as the functional head that assigns nominative case, (ii) SubjP, hosting the subject of predication, as a criterial A-position (see below for discussion) and (iii) FinP as the lowest left-peripheral projection of the clause (Rizzi 1997), which plays a crucial role in patterns of subject extraction. The subject domain could thus be represented in terms of three structural layers:

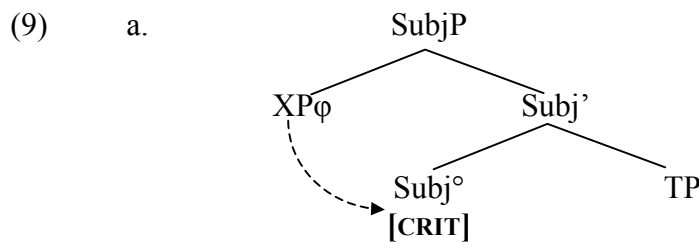


In Rizzi & Shlonsky’s (from now on R&S) approach to extraction, SubjP is a criterial projection, that is a projection whose head comes with a criterial requirement, defined as in (8a) (R&S 2006: 138, their (53)):

- (8) 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]: a criterial configuration involving any of these features induces Criterial Freezing of the constituent in the specifier of

the criterial head.³ A constituent which has satisfied the Subject Criterion (henceforth SCrit) by moving to SpecSubjP is thus frozen in place, as illustrated by the well established subject-object asymmetry in the French interrogatives in (10a,b):



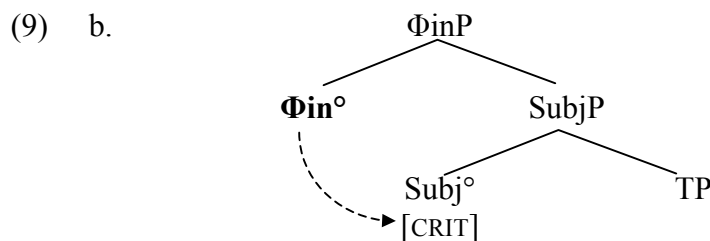
- (10) a. *Qui_i crois-tu que [SubjP ____i va partir]?
 who think-you that will leave
- b. Que_i crois-tu que [SubjP Jean a fait ____i]?
 what think-you that Jean has done
 ‘What do you think (that) John did?’

R&S (2006, 2007) propose that in cases of subject extraction in fact the SCrit itself is satisfied by a specialized mechanism thus allowing the *wh*-subject to bypass SpecSubjP. In French this is manifested by the replacement of the regular complementizer *que* by *qui* (10c):

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

For R&S (2007), *qui* in (10c) is a manifestation of the functional head Φ_{in} which is enriched with ϕ -features (see also Rizzi 1990, Taraldsen 2001). We represent the enriched Φ_{in} here as ‘ Φ_{in} ’. By locally c-commanding the Subj head, the ϕ -features on Φ_{in} can satisfy the SCrit. R&S (2007: 138-139) therefore restate the criterial condition as follows:

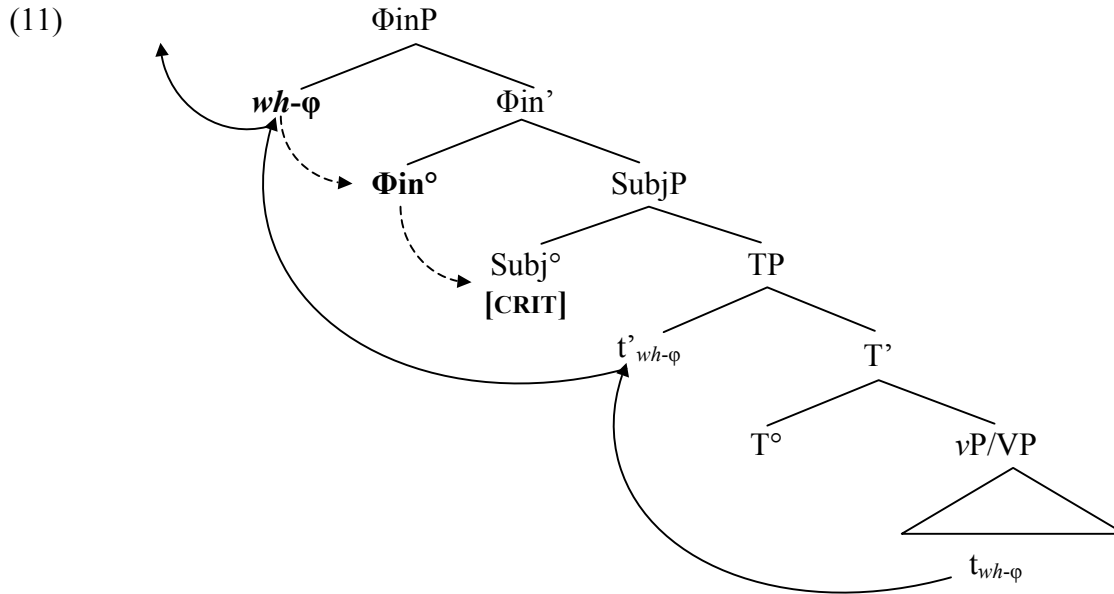
- (8) b. For [+F] a criterial feature, X+F is locally c-commanded by A+F.



Observe that the relation of SpecSubjP with Subj in (9a) is geometrically identical to that between Φ_{in} and Subj in (9b).

In addition, R&S also propose that the ϕ -features on enriched Φ_{in} do not come for free, but have to be independently licensed. The licencing is achieved by the *wh*-moved subject; on its way to its ultimate left-peripheral landing site, the *wh*-subject moves through Spec Φ_{in} and licenses the ϕ -features of Φ_{in} .

³ We are abstracting away from possible cases of subextraction.



Because the constituent in $\text{Spec}\Phi\text{inP}$ ϕ -agrees with the head, $\text{Spec}\Phi\text{inP}$ qualifies as an A-position (Rizzi 1991) (see below for some discussion). Note also that $\text{Spec}\Phi\text{inP}$ is not a criterial position.

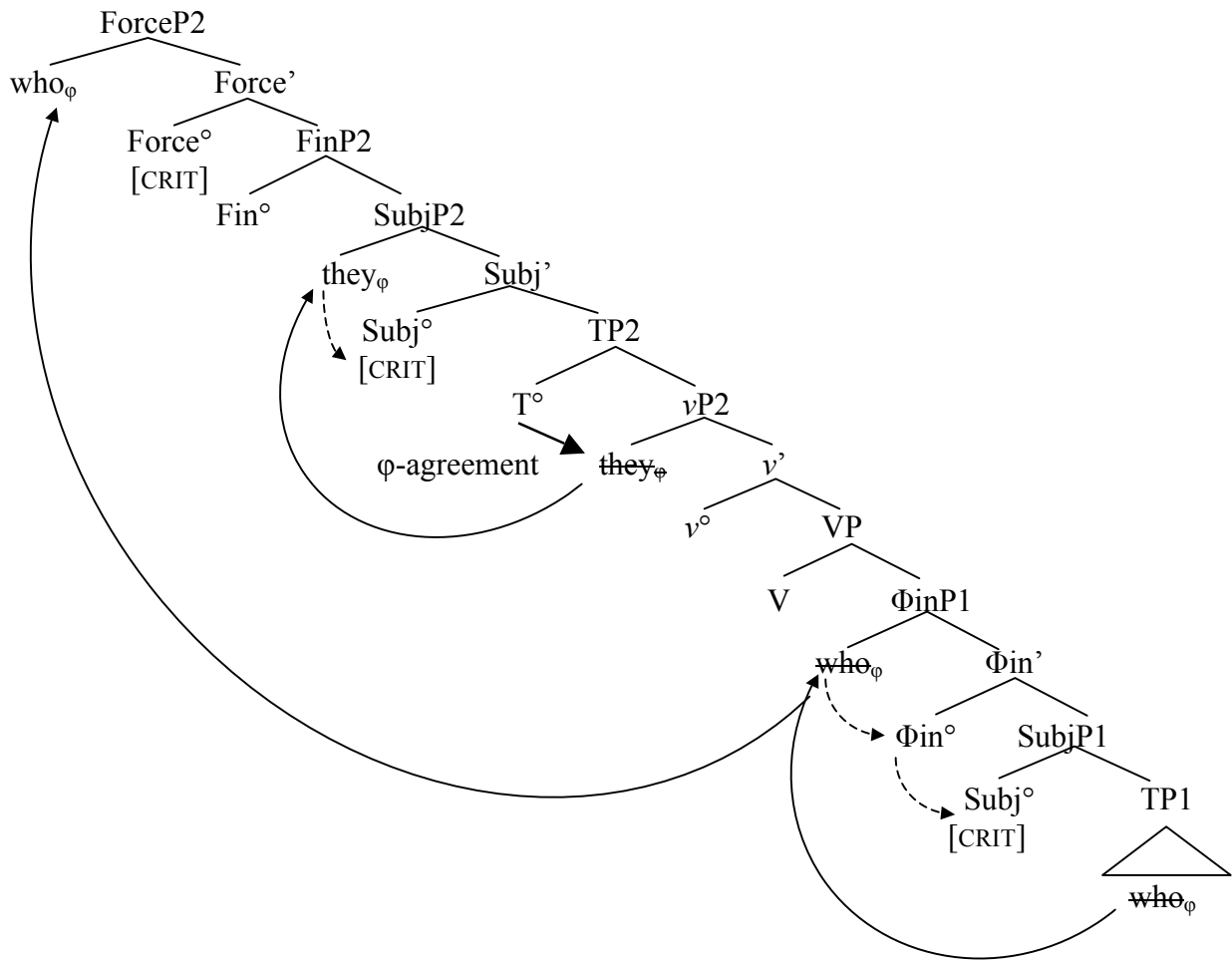
2.2 Nominative subject extraction from English finite clauses

We first discuss the ‘unmarked’ mechanisms for subject extraction in English. For ease of discussion, we identify the clausal domains in a given derivation by means of numerals: the clause from which the *wh*-subject is moved is assigned the index 1, and is labelled CP_1 , the immediately dominating clause is labelled CP_2 etc. Similarly, the lowest TP is labelled TP_1 , that immediately dominating one is TP_2 .

For the cases of regular subject extraction in English (12a), it is assumed that the left periphery of the complement clause is reduced to ΦinP_1 (R&S 2006: section 9). In this configuration the SCrit on Subj_1 is satisfied by the ϕ -features on Φin_1 , themselves licensed by the *wh*-moved subject in $\text{Spec}\Phi\text{in}_1$. In the complement clause, T_1 probes and agrees with the subject *who* (not shown) to which it assigns nominative case. Similarly, matrix agreement on T_2 is triggered by the nominative subject *they*. The derivation of a standard case of nominative subject extraction in English can be summarized as in (12b):

(12) a. the candidate who they expect will win the competition

b.



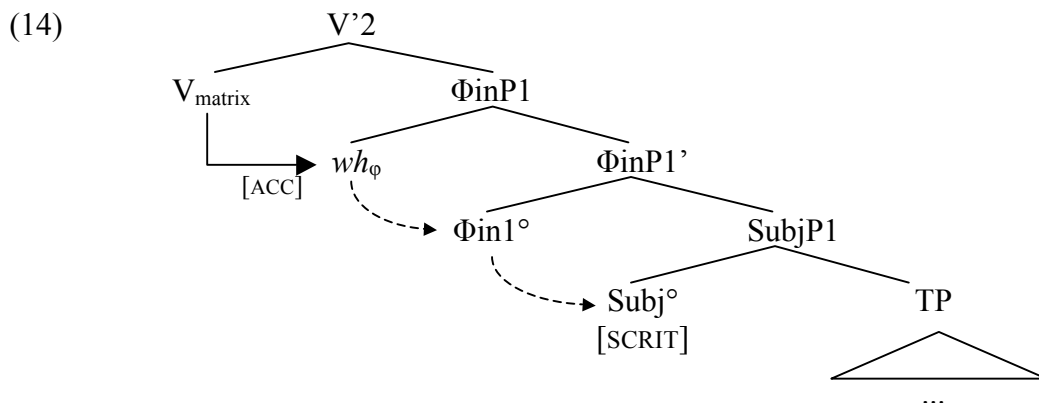
3. Accusative subject extraction from English finite clauses

As shown by the pair in (13) there is an asymmetry between *wh*- and DP subjects with respect to the availability of accusative marking on the subject of the finite embedded clause. While a subject extracted from a finite clause embedded under *expect* may (for some speakers) have accusative case, an *in situ* subject of a finite clause cannot feature accusative case:

- (13) a. This is the candidate whom we expect will win the competition.
 b. *We expect him/her/them will win the competition.

Formal accounts of the accusative subject extraction in (13a) make crucial use of an intermediate step in the derivation of such examples. We will assume that by and large subject extraction in (13a) proceeds as that for the nominative variant as outlined in section 2.2 above, and in particular that the SCrit in the embedded clause is satisfied via the delayed mechanism sketched in (11) and (12) above. With respect to the source of the accusative case on the *wh*-phrase, consider the subsection of the diagram in (12b) as reproduced in (14): on its way to its final landing site, the *wh*-subject transits through SpecΦinP1 (an A-position, see below). This left-peripheral position is never reached by a regular DP subject which (obligatorily) halts in the embedded (criterial) SpecSubjP. The transiting *wh*-subject in (14)

has thus reached a position which is structurally closer to the matrix V than the position occupied by the regular embedded DP subjects. On the basis of the configuration in (14), the hypothesis is that the transitive matrix verb can case mark the transiting *wh*-subject:



Our analysis in (14) is a criterial update of Kayne's (1995) analysis. However, some important observations need to be made in relation to the proposal. First, for the derivation to converge, we have to assume that SpecΦinP1, the position occupied by the *wh*-constituent, is an A-position, an assumption made independently in R&S (2007). The assumption that SpecΦinP1 is an A-position follows if ϕ -agreement relation in ϕ -features between a head and its specifier defines the latter as an A-position (Rizzi 1990, 1991). Second, the matrix V must be able to case-mark a *wh*-subject which has already independently been assigned nominative case by the embedded T. This means that the nominative case must be able to be overruled by or combined with a newly assigned case. Finally, for case assignment by the matrix V to be possible, the hypothesis must be that the matrix V can probe the nominative *wh*-phrase in SpecΦinP1, i.e. that the *wh*-phrase which has been assigned nominative case in the embedded clause does not itself become syntactically inactive for A probing. Put differently, we have to assume that this *wh*-constituent is an example of what Carstens (2011) refers to as a hyperactive DP, i.e. a Goal which is not subject to Chomsky's 2000 'Activity Condition'. Assuming that not all speakers of English allow for hyperactive DPs we could account for the variation in the judgements of data such as those in (1).

4. Passive alternatives

4.1. The canonical patterns

Let us now examine the passive alternatives of (1), i.e. cases in which the matrix verb is passivized. Assuming that the source of the accusative case on the extracted subject *whom* is the active case assigning matrix verb (cf. (14)), we predict that the accusative case is no longer available in the context of a passive matrix verb, thus ruling out (15). In this example, the matrix passive predicate is associated with an expletive subject *it* and the embedded *wh*-subject is extracted to the higher left periphery.

(15) *This is the candidate **whom** it is expected will win the competition.

It is clear that in this example the source of the accusative case, active *expect*, is no longer available. A cursory Google search confirms this hypothesis: while a search for examples such as (16) gave some hits, there are - as predicted - no attestations of the string *whom it is/was expected will*.

- (16) a. Now retired, Croft, who voted for D.C. Council member Tommy Wells (D-Ward 6) in the primary, is grudgingly supporting Bowser, **whom** he expects will win on autopilot. (https://www.washingtonpost.com/local/dc-politics/bowser-catania-dc-mayoral-race-rests-on-an-uninspired-electorate/2014/09/13/285c3f58-387a-11e4-bdfb-de4104544a37_story.html)
- b. For example, when individuals form an electoral preference, they are in nearly all instances supporting a candidate **whom** they expect will win the election. (<https://www.jstor.org/stable/pdf/3792425.pdf>)

The unmarked passive counterparts to (1) are examples such as those in (17), i.e. either the matrix passive predicate is associated with an expletive subject *it* and the nominative *wh*-subject is A'-extracted to the higher left periphery (17b), or alternatively a raising pattern is adopted in which the *wh*-subject first raises to the matrix clause by regular A-movement and then undergoes A'-extraction.

- (17) a. This is the candidate who it is expected will win the competition.
 b. This is the candidate who is expected to win the competition.

We will come back to structures similar to (17a) in section 6 at the end of this paper.

4.2. The third pattern

4.2.1 *Wh*-raising

As mentioned in section 1 (cf. (5d)), in addition to the unmarked patterns in (17), a third option is well attested and is accepted by some speakers. (18) contains some relevant examples with the passive predicate *expected* in the matrix clause:

- (18) a. [...] because the woman is the one who is expected will take the child in cases of a split up and cannot be expected to get a job and look after the kids. (<http://forums.digitalspy.co.uk/showthread.php?t=255844>)
- b. Instead of having a National and Provincial President, there will be only one, who is expected will be the president of the next host diocese. (Cecily Butcher, www.bathurstanglican.org.au/_literature_145490/AN_May_13, page 8)

In these examples it looks as if the *wh*-extracted subject *who* has undergone raising from the finite embedded clause to become the subject of the passive matrix clause. Because the pattern in (18) and (19) is tied to *wh*-movement and is unavailable with a DP subject (20), as will be shown presently, we refer to it as *wh*-raising.

Examples such as those in (18) are easy to come by. Additional attestations are given in (19). In (19a), the singular relative operator *which*, which takes as its antecedent the DP *the standard of hygiene*, agrees with both the matrix (*is felt*) and the embedded (*is attributable*) predicate; in (19b), plural *which*, (with *any quotes* as its antecedent) triggers plural agreement on both *were (felt)* and *were (relevant)*. The apparent *wh*-raising effect is even clearer in this last example because the relevant subject is plural, and the relativized plural *wh*-constituent triggers agreement in both the embedded and the matrix clause, in the latter case of course unexpectedly so.

- (19) 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->

europa.eu/rapid%20E-Learning%20in%20Action%20(Oct%202011).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>)

Standardly, subject raising from within a finite clause is illicit, regardless of the presence of the complementizer *that*: an example like (20) violates 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 R&S 2007: 146). This descriptive generalization remains to be fully accounted for, but we will assume here that it is essentially correct.

- (20) *John_i seems (that) t_i reads a book.

Native-speaker informants unanimously reject (20), but *wh*-raising data such as (18) and (19) are attested, and they are also accepted by some speakers.

Speakers rejecting *wh*-raising replace the examples by the alternatives in (21), with an expletive subject in the *matrix* clause. All speakers who accept *wh*-raising also accept (21).

- (21) 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.

For completeness' sake, we provide (22) and (23), which illustrate interrogative and comparative variants of the *wh*-raising pattern. In this paper we will restrict the discussion to the relativization pattern, but we assume that the analysis carries over to other types of A'-movement.

- (22) [The church leaders] disagreed as to which books_i were thought t_i were “Godly inspired”. (GloWbE corpus; 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/>)

- (23) Keep more balloons available than_i is thought t_i will be necessary.
(http://www.ehow.com/how_10049417_make-balloon-princess-wand.html)

As was the case with the accusative *wh*-subjects discussed in section 1, the examples in (18), (19), (22) and (23) are standardly considered unacceptable. The examples seem to be ‘hybrids’ between long *wh*-movement and subject raising. The simplified example (24) could be seen as a combination of the infinitival raising example in (24a) and the finite *wh*-movement pattern in (24b):

- (24) any quotes which were felt were relevant to the process
a. any quotes which were felt to be relevant to the process
b. any quotes which it was felt were relevant to the process

As before, one might consider such patterns as belonging to a class of ‘blends’ or ‘amalgams’ which are extra-grammatical rather than a proper part of a speaker’s linguistic competence. We adopt a different perspective, and analyse the relevant examples as the product of the grammar of some speakers. We will argue that the availability of such examples for some

speakers can indeed be correlated with the availability of accusative *wh*-subjects discussed above and can be made to follow from the analysis we have provided for such subjects in the preceding sections. Extending R&S's (2007) analysis of subject extraction, we will propose that grammars generating (24) and comparable examples have a special device for licensing the subject position in the raising domain (CP2).

The empirical basis of our account consists of (i) the intuitions of five native speaker informants who find the *wh*-raising pattern acceptable, (ii) anecdotally encountered attested data like those given above and (iii) material from searches in online corpora. In what follows, we first give a descriptive overview of the main properties of the *wh*-raising pattern.

4.2.2 The core properties

4.2.2.1 Double agreement

The hallmark of the *wh*-raising pattern discussed here is double agreement, which is overtly displayed in cases with a plural subject. In addition to triggering agreement in the clause from which it is extracted, a *wh*-subject (surprisingly) also agrees with the verb in the immediately superordinate clause. In (25), repeated here for convenience, plural *which* agrees with the lower copula and with the higher auxiliary.

(25) 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, double agreement is incompatible with analysing the matrix domain as a parenthetical.

4.2.2.2 The *wh*-restriction

Although admittedly there are occasional attestations of the pattern with non-*wh*-subjects, such as the attested (26), informants who accept the basic pattern in (25), reject double agreement configurations with non-*wh*-subjects. Therefore, we will provisionally consider such cases ungrammatical (as signalled by the parenthesized asterisk), and in what follows we will analyse a grammar that can generate cases like (25), but not (26).

(26) (*) 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>)

We note that the *wh*-/DP asymmetry makes an analysis in terms of copy-raising (Asudeh 2002) or hyperraising (Carstens & Diercks 2013, among many others) unlikely because both these phenomena are not restricted to *wh*-subjects.

4.2.2.3 Subject restriction

Since we have so far framed our discussion in terms of what appears to be non-canonical subject extraction, we have only provided examples of subject extraction with double agreement. It is important to underline that this is not a coincidence: unlike *wh*-subjects, *wh*-objects cannot trigger agreement in a superordinate clause: examples such as (27) are not attested, and our informants reject them.

(27) *they will transcribe any quotes [*which*_i were felt [*they* can use *t*_i in the court case]].

4.2.2.4 That-trace effects

The *wh*-raising configuration discussed here gives rise to the familiar *that*-trace effect. (28) with the overt complementizer in the extraction domain is rejected by our informants:

- (28) 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.

4.2.2.5 The biclausal restriction

There are also no attestations such as (29), with further *wh*-movement of the *wh*-subject to CP3, and again such examples are rejected by our informants.⁴ Thus the descriptive generalization is that *wh*-raising implicates two adjacent finite clauses. After triggering agreement in CP2, the extracted *wh*-subject halts in its left periphery.

- (29) ? 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]]].

While informants accept double agreement as in (30a), they consider triple agreement as in (30b) unacceptable.

- (30) 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]]].

Observe that in this respect the ‘marked’ *wh*-raising pattern differs from ‘regular’ subject raising from a non finite clause: the raising analogue of (30b) is acceptable:

- (30) 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, configurations such as those in (31), in which a *wh*-subject would first move out of CP1, skips CP2 and then triggers agreement in CP3, are unattested and they are also rejected by our informants, the lexical (31a) or expletive (31b) nature of the subject in the intermediate clause being immaterial.

- (31) 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]]]

5. Deriving *wh*-raising

In this section we will examine how the marked pattern that we have labelled *wh*-raising can be derived. Before doing so, we go over the analysis of licit *wh*-extraction from clauses embedded under passive predicates. We will account for the fact that *wh*-raising is unacceptable for most speakers in terms of the Activity Condition (i.e. the unavailability of hyperactive DPs), which also accounts for the fact that accusative subject extraction from finite clauses is unacceptable for the majority of speakers. Then we will argue that the

⁴ We ascribe the fact that (29) was in fact judged as better than (30b) and (31a,b) to the availability of an alternative reading where the string *it is said* functions as a parenthetical inside CP2.

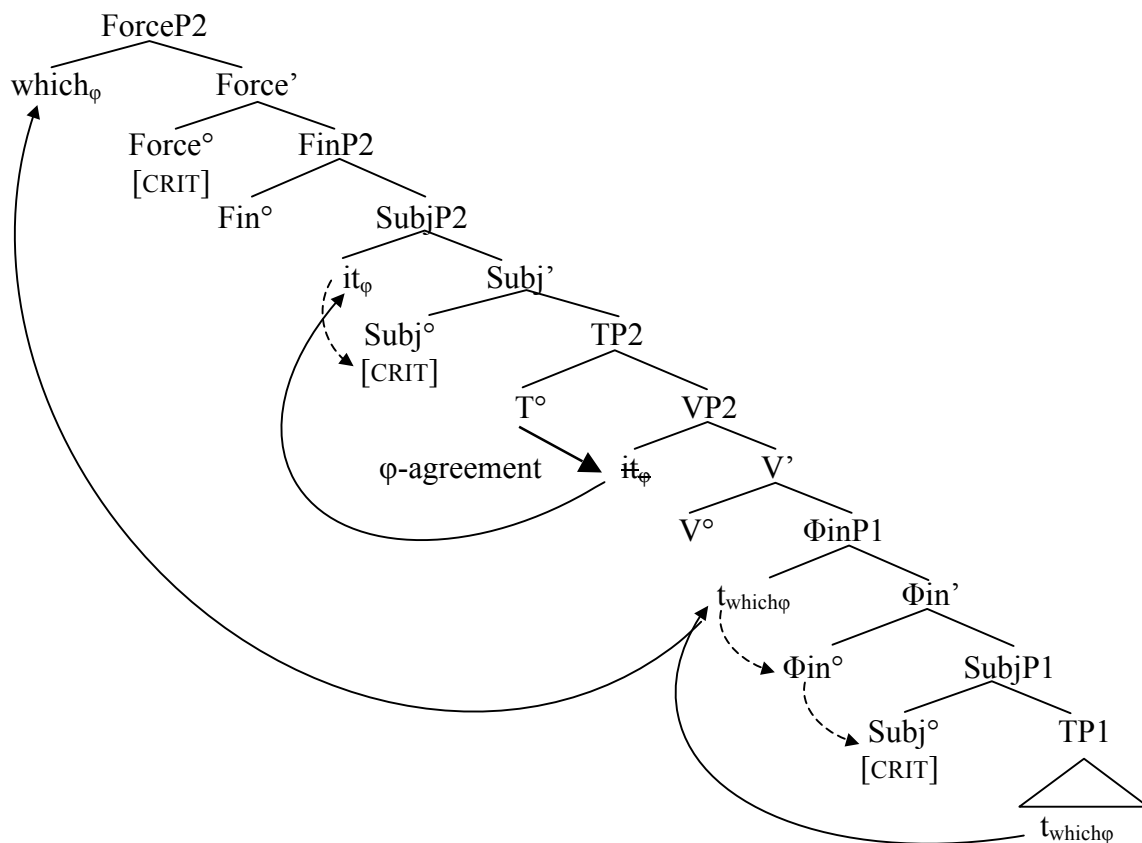
acceptability of the pattern for some speakers is due to (i) the fact that their grammar does allow for hyperactive DPs - a property which was also invoked to account for accusative subject extraction in section 3 - combined with (ii) a specific device to satisfy the Subject Criterion in the matrix domain.

5.1. Licit extraction

First consider (32a), in which a subject is extracted from a finite clause embedded under a passive matrix verb. As discussed in section 2.1, in the embedded clause the SCrit on Subj1 is satisfied by the ϕ -features on the enriched Φ in1. These ϕ -features themselves are licensed by the *wh*-subject which transits through Spec Φ inP1. (32b) is a representation. 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*.

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

b.



5.2. Grammars without *wh*-raising

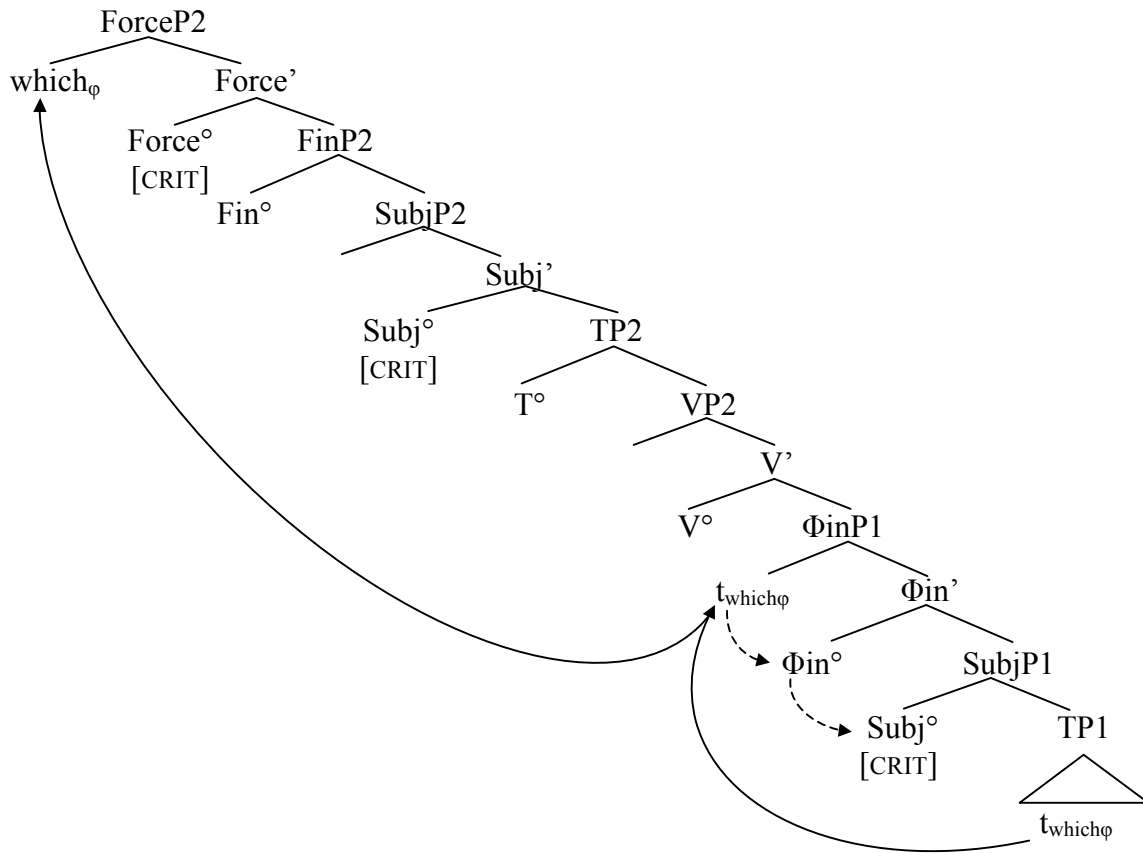
Most speakers reject the pattern referred to here as *wh*-raising, which was illustrated in (19b) and which is repeated as (33a) for convenience.

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

Informally speaking, (33a) looks like the result of embedding a finite clause from which the subject is successfully extracted (viz. by virtue of an instantiation of Φ in), under a finite

clause with a passive predicate. A partial representation of (33a) is given in (33b), with V2 a passive predicate.

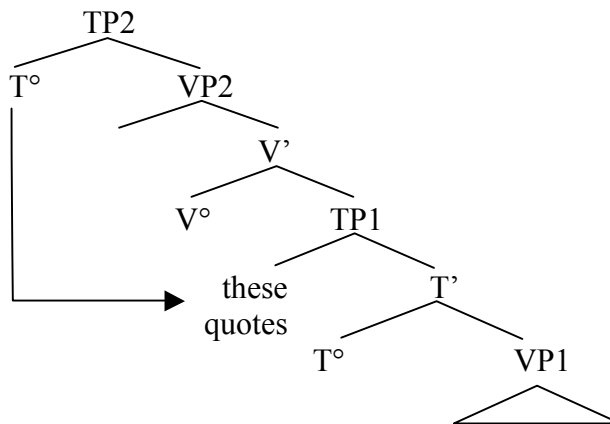
(33) b.



One might propose that double agreement is ruled out because T2 is too far from the subject in SpecΦinP1, being separated from it by the (articulated) VP layer. However, this explanation is unsatisfactory since what seems like the same configuration allows probing of the subject in the lower domain in the case of regular raising: this is illustrated in (34a), with a partial representation in (34b):

(34) a. These quotes were felt to be relevant to the process.

b.



Assuming the structural properties of the finite matrix clauses in (33a) and (34a) to be the same, then if the finite matrix T can probe the DP subject in the specifier of the highest projection of the non finite complement clause (by hypothesis TP) to induce subject raising and assign nominative case, then, all things being equal, the same probing/case checking relation should be available in the case in which the matrix clause embeds a finite complement and in which the subject can reach a position as close to T2 as that of the subject *these quotes* in (34b).

Another way of ruling out the double agreement is by saying that, though configuration (33b) as such allows T2 to probe the lower subject *which* in Spec Φ in1P, T2 cannot actually probe *which* in Spec Φ in1P, because, having been assigned nominative case by T1, *which* has no longer any uninterpretable features. As a result, *which* has become syntactically inactive and thus invisible to higher probes. The example would thus ultimately be ruled out by a version of the Activity Condition (Chomsky 2000) barring A-probing of a constituent which has all its (A) features valued. In this respect, *wh*-raising is ruled out for the same reason that rules out accusative case marking on subjects extracted from finite clauses.

In addition, observe that even if the double agreement as such could be achieved, an additional problem will arise in relation to the satisfaction of the matrix SCrit. Once T2 agrees with the embedded subject, insertion of an expletive will be blocked because this element, itself a nominal, will not be able to agree with and be case marked by T2. Thus the matrix SCrit cannot be satisfied by an expletive. In addition, because the relative operator *which* (*quotes*) ultimately has to end up in a left-peripheral position, it cannot itself satisfy the SCrit by moving to SpecSubjP2 for at least two reasons. The first is that SpecSubjP2 is criterial and hence the moved *wh*-phrase would be frozen in SubjP. Second, movement from Spec Φ inP1 to SpecSubjP2 would illicitly extend an A-chain across a CP-boundary. Recall that Φ in1-insertion was invoked by R&S to ensure the satisfaction of the SCrit in the context of subject extraction in CP1 (12b), but these authors (2007: 145-146) restrict the availability of Φ in-insertion to the clause from which the subject is extracted. Φ in-insertion being unavailable at the level of CP/Fin2, there is no alternative strategy to satisfy the SCrit, and *wh*-raising is correctly excluded.

5.3. Grammars with *wh*-raising

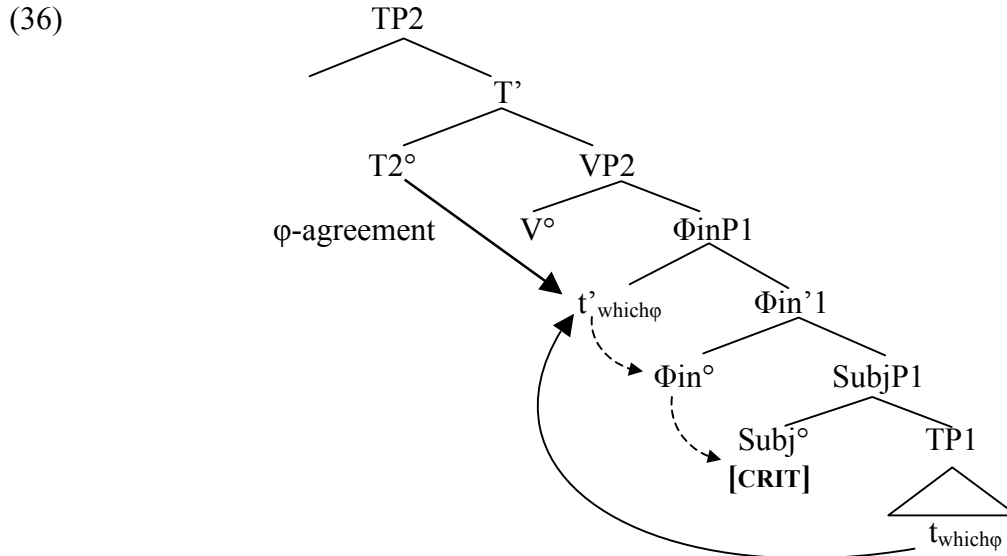
In this section we explore what are the properties of the grammars of those speakers who do in fact accept and produce *wh*-raising, illustrated in (35a), in which a *wh*-moved subject triggers T-agreement in both the embedded clause - as expected - and in the immediately dominating passive clause.

(35) a. % to transcribe any quotes which were felt were relevant to the process

In the discussion of why this pattern is excluded for the majority of speakers we identified two sources of ungrammaticality, relating to the application of the Activity Condition and to the satisfaction of the SCrit in the higher domain. Both of these would have to be overcome by a grammar with *wh*-raising. First, the grammar with *wh*-raising has to somehow cancel the effects of the Activity Condition and allow the embedded *wh*-subject to be ‘hyperactive’ so as to become accessible to the T-head of the raising clause: agreement with T2 will then prevent insertion of an expletive subject in the higher clause. In addition, the grammar generating *wh*-raising has to make available a marked way of satisfying the SCrit in the higher domain.

5.3.1 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 (35a) is schematized in (36), to be modified below.



Recall that to derive the accusative subject extraction we have postulated that the relevant speakers allow for a hyperactive DP, that is a DP which having been case marked remains available for A-probing. For the relevant speakers a case assigning active V can probe a hyperactive (nominative) *wh*-phrase in SpecΦinP1 (cf. section 3). To derive *wh*-raising we similarly need to assume that the relevant speakers allow for hyperactive DPs. If such DPs are available, then in the relevant configuration, the matrix T2 will be able to probe the hyperactive *wh*-phrase in SpecΦinP1. As discussed in relation to (34) above, the relevant configuration is that which must independently be taken to allow probing in the case of regular raising, so locality considerations should not arise. If hyperactive DPs are available, then T2 agreement can be derived. We may hypothesize that the agreement is available to all speakers who accept accusative subject extraction (that is, if the relevant speakers (still) make a principled distinction between *who* (nominative) and *whom* (accusative)). As a by-product T2 can case mark the *wh*-phrase but in this configuration the (nominative) case that overlays the earlier (nominative) case is identical.

5.3.2 The matrix SCrit

As discussed, even if T2 agreement can be achieved (as a consequence of there being a hyperactive DP in the relevant local relation to T2), this will not be sufficient to derive *wh*-raising. A second issue that remains to be addressed is the question how the SCrit is satisfied in the matrix domain of *wh*-raising patterns.

We have already pointed out in section 5.2 that T2-agreement with the hyperactive *wh*-subject will block expletive insertion in the matrix SpecTP2 (35b).

(35) b. * to transcribe any quotes which [_{SubjP2} it were felt were relevant to the process].

Moving the *wh*-subject from SpecΦinP1 to SpecSubj2P cannot be invoked because, on the one hand, this illicitly extends the A-chain beyond the finite CP1, and, on the other, it will

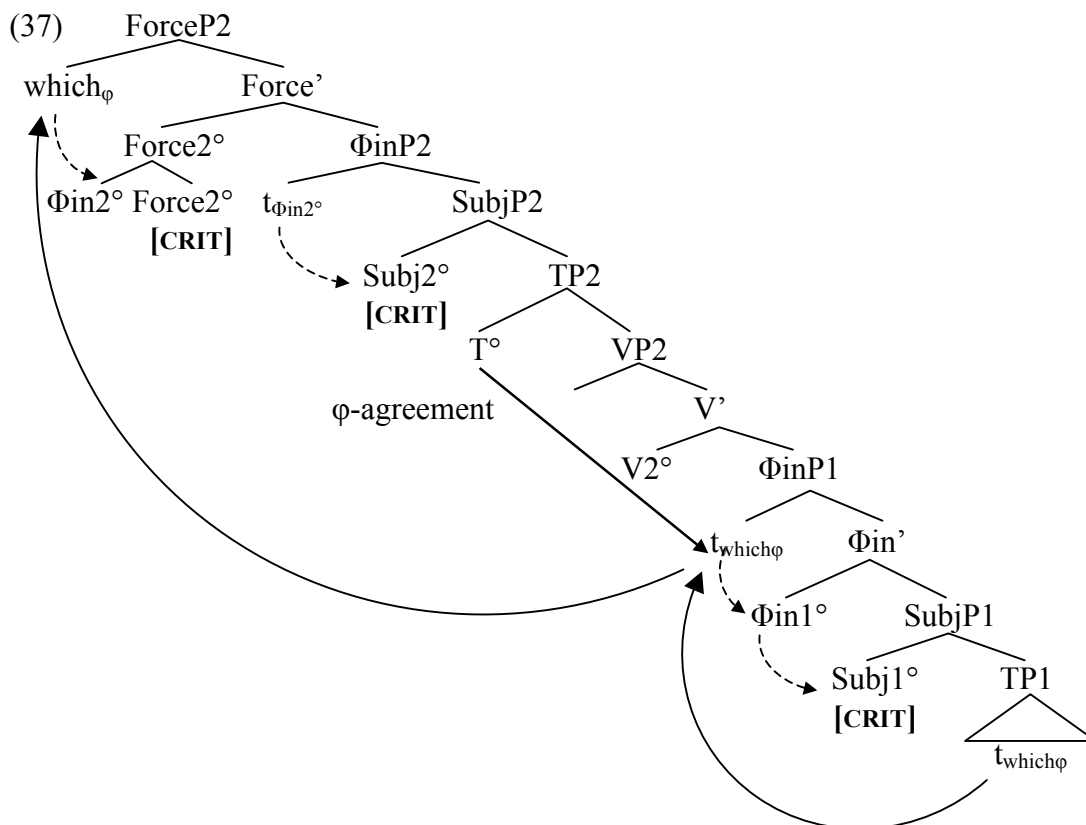
lead to criterial freezing, and hence the *wh*-subject in SpecSubj2P will be frozen in place and will be unable to reach the peripheral criterial position associated with its *wh*-feature. This means that even if speakers dispose of hyperactive DPs as an option in their grammars, and thus will accept accusative *wh*-subjects, they will still not accept *wh*-raising.

To capture the grammars of speakers who do accept *wh*-raising we propose that for those speakers Φ in-insertion can also be deployed at the matrix level, thus satisfying the matrix SCrit. Although in the implementation in R&S (2007: 137; 145-146), Φ in 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 Φ in2 actually becomes available by virtue of T2-agreement with the (hyperactive) *wh*-subject. In R&S (2007) Φ in is available as a last resort when the local SCrit cannot be satisfied by the ‘local’ subject of the clause. For speakers who allow T2 to probe the *wh*-subject in Spec Φ in1, SCrit1 cannot be satisfied. The idea would be that for the relevant speakers as a result of being probed by T2 the *wh*-subject in Spec Φ in1 ‘requalifies’ as the ‘local’ subject of CP2. If this is on the right track, the more liberal use of Φ in is a by-product of the (exceptional) hyperactivity of *wh*-subjects.

Assuming Φ in-insertion indeed to become available in CP2, then, once again, by assumption, the ϕ -features of the enriched Φ in2 have themselves to be licensed independently. As is the case for the regular pattern discussed in (32) this is achieved by the *wh*-subject which targets a left-peripheral criterial position, say SpecForceP2 (Rizzi 1997) or SpecRelP (Shlonsky 2014). However, the *wh*-subject cannot move from Spec Φ inP1 to Spec Φ inP2: Spec Φ inP being an A-position (see above for motivation), movement from Spec Φ inP1 to Spec Φ inP2 would again illicitly extend an A-chain beyond a finite clause boundary. So an additional alternative scenario needs to be invoked which will ensure that the ϕ -features of Φ in2 are licensed.

The extracted *wh*-subject ultimately targets a criterial position associated with its *wh*-feature. Let’s label the relevant criterial head provisionally Force2. Thus the moved *wh*-subject ends up in a local relation with Force2. Let us assume that the enriched head Φ in2 incorporates into the criterial Force2 head, creating a complex head Φ in2-Force2. In the resulting configuration, the ϕ -features of Φ in2 are in a local relation with the *wh*-subject in SpecForceP2. Put differently, in the specifier position of the complex Force2- Φ in2, the *wh*-subject will be able to satisfy both the criterial condition of Force2 and to license the ϕ -features on Φ in2.

In recent work on Hebrew relativization, Shlonsky (2014) proposes that Φ in and the criterial head whose specifier hosts the relative operator (say Rel) can form one syncretic head. Note that this proposal ultimately can be traced back to Rizzi (1997), where it was proposed that in the absence of any topical or focal material Fin and Force are syncretic. Our incorporation analysis can be reformulated along such lines. (37) summarizes the derivation:



We do note one potential problem of implementation. Assuming that Force2 (or Rel2) and Φ in are indeed syncretic, the question should be raised whether the specifier of the syncretic head is an A-position or an A'-position. If the former, moving the *wh*-subject from Spec Φ inP1 to the specifier of this syncretic head will violate the ban on the continuation of the A-chain. Plausibly, the internal articulation of the features in the syncretic head can provide a solution to this problem. For reasons of space we do not pursue this point here.

So far our derivation of *wh*-raising requires a number of ingredients (listed below), two of which (i)-(ii) were shown to be independently required to derive accusative *wh*-subjects. Ingredient (iii), we argue, follows from (i) and (ii). A variant of the fourth ingredient has independently been proposed in work on subject extraction.

- (i) We have to assume that Spec Φ inP1, the position occupied by the *wh*-constituent, is an A-position. This assumption was motivated in the context of the discussion of accusative *wh*-subjects.
- (ii) The *wh*-constituent is hyperactive. The matrix T must be able to probe a *wh*-subject which has already independently been assigned nominative case by the embedded T, i.e. once the *wh*-phrase has received structural case it does not itself become syntactically inactive for A probing. The assumption that English has hyperactive *wh*-DPs is independently needed to account for accusative *wh*-subjects.
- (iii) Φ in-insertion is available beyond the clause from which the *wh*-subject is extracted. This can plausibly be considered a by-product of T-agreement initiated from the higher clause which makes the *wh*-subject available as a potential *wh*-subject in the higher domain.
- (iv) Φ in can incorporate to a criterial head.

The grammar of speakers allowing *wh*-raising is set apart by the combination of these features.

5.3.3 Deriving the restrictions

5.3.3.1 The subject restriction

As discussed in section 4.2.2.3 only (local) subjects give rise to *wh*-raising. (27) repeated here as (38) is ungrammatical:

- (38) *they will transcribe any quotes [_{CP2} which_i were felt [_{CP1} they can use ____i in the court case]].

In order to exclude this derivation, we assume that matrix T can only probe a constituent in an A-position. Spec Φ inP, the position implicated in subject extraction, is an A-position. In the case of object extraction, Φ inP is not projected. We also assume that generic edge positions do not qualify as A-positions.

5.3.3.2 The biclausal restriction

Recall from section 4.2.2 that there is a biclausal restriction to the *wh*-raising configuration. Specifically, the following configurations are all degraded: (i) triple agreement, illustrated in (39a), (ii) *wh*-raising to CP2 with further movement to CP3, illustrated in (39b), and (iii) ‘skipping CP2’ (i.e. successive cyclic movement to CP2, and *wh*-raising to CP3), illustrated in (39c):

- (39) a. */??This is a mutation of the virus [_{CP3} which_i was reported [_{CP2} ____i was suspected [_{CP1} t_i had initially caused the infection]]].
b. ? the new city funds, [_{CP3} which_i they say/it is said [_{CP2} ____i are hoped [_{CP1} ____i will help up to 150 families facing eviction]]].
c. * the new city funds, [_{CP3} which_i are said [_{CP2} it is hoped [_{CP1} ____i will help up to 150 families facing eviction]]].

The degradation of (39c) follows from the analysis: T3 would have to probe the *wh*-subject at the edge of CP2. We assume that edge positions are A'-positions and thus not eligible for A-probing.

One way to exclude (39a,b), is to ensure that the SCrit in the intermediate clauses (CP2) cannot be satisfied. To do so we would have to stipulate that Φ in-incorporation (or Φ in (Fin) syncretism along the lines of Shlonsky 2014) is restricted to criterial left-peripheral heads, i.e. heads which are ‘contentful’ independently.

6. Raising verbs and adjectives: for future research

We have focussed on *wh*-raising with passive raising predicates, and we have argued that the ingredients of the analysis for the derivation of accusative *wh*-subjects constitute the core of the analysis of *wh*-raising.

Indeed, the connection of *wh*-raising with the active patterns is not an innocent trait of the discussion. Though we have not attempted a systematic corpus study, it should be noted that our attestations for *wh*-raising are overwhelmingly with passive verbal predicates. Attestations such as (40) with regular raising verbs or adjectives are much harder to come by:

- (40) a. After the final hole we spoke with the guy at the booth, who turned out was the owner (<https://silentconsort.wordpress.com/tag/high-and-low-context-cultures/>)
 b. Other individual lake rules that have hit the books over the years - which are likely will go away - are a bass slot limit at Applegate Lake and crappie rules at Emigrant, says David Haight, an ODFW assistant fish biologist in Central Point. (<http://www.mailtribune.com/article/20150610/ENTERTAINMENTLIFE/150619950>. Mark Freeman)

This is probably not accidental. Our informants who accept *wh*-raising with passive verbal predicates produced mixed judgments for examples like those in (40). One speaker accepts *wh*-raising with *appear* and rejects it with *likely*, another speaker has the opposite judgements finding the pattern degraded with *appear* and fine with the adjective, for a third informant both the raising verb and the raising adjective give slightly degraded results.

In fact, it has been noted in the literature (Kayne 1980: 77; see also Stowell 1981 and Bošković 2015), that for many speakers, finite complement clauses to raising verbs and raising adjectives resist subject extraction. The judgements in (41) are from Bošković & Lasnik 2003: 538-539), reproduced in Bošković (2015: 12, his (44) and (43)) and those in (42) are from Haiman (1974: 79), reported in Kayne (1980: 77, his (31) and (30)).⁵ Observe that in both cases the lower clause is not an island given that object extraction is grammatical, as shown by the b-examples:⁶

- (41) a. *?Who does it appear likes Mary?
 b. Who does it appear that Mary likes?
- (42) a. *Who is it likely will forget the beer?
 b. What is it likely (that) Max will forget to bring?

However, there is speaker variation, in particular with raising verbs (see also Kayne 1980: 78 n. 5). For raising adjectives too, there may be variation: one informant we consulted accepted (43a) and found (43b) only marginally degraded.

- (43) a. This is a problem which it is **unlikely** will ever be solved to everyone's satisfaction.
 b. ?This is a problem which it is **not likely** will ever be solved to everyone's satisfaction.

The status of *wh*-raising with raising verbs and with raising adjectives remains to be established and it should obviously be correlated with the status of *wh*-subject extraction in (41a), (42a) and (43), a point that independently merits further study.

⁵ The judgements are complex. With respect to (42) Kayne (1980: 77) says: "Although "*" vs, "OK" may perhaps be overstated, it seems clear to us that there exists differential behavior here [...]"

⁶ To assess the status of subject extraction in these contexts, it is necessary to rule out a reading in which strings like *it is likely* or *it appears* acts as a parenthetical: this reading disappears in direct interrogatives (cf. (41) (*do*-support) and (42) (T-to-C movement)), or when the impersonal predicate is negated (42). In the last case, the sentential negation licenses an NPI in the lower complement clause, indicating that this clause is properly embedded in the *likely*-clause. See also Bresnan (1977: 194 n. 7) and Kayne (1980).

7. Summary

In this paper we have looked at two non-canonical patterns of subject extraction in the grammar of English which are accepted only by a subset of speakers, but which we assume are generated by the internalized grammar of those speakers. In particular, we have revisited the relatively well established cases where a subject is *wh*-moved across a transitive predicate, resulting in the extracted subject unexpectedly bearing accusative case. In addition, we have discussed what would appear to be the passive analogue of the previous structure, whereby a *wh*-subject (and a *wh*-subject only) can take part in what looks like A-raising from within a finite clause. Adopting the approach to subject extraction developed in Rizzi (2006) and Rizzi & Shlonsky (2006, 2007), we have suggested an analysis in which the two structures under investigation share a number of properties, most notably the potential for a given DP to be ‘hyperactive’ (cf. Carstens 2011), in the sense that it can receive structural case and trigger agreement more than once.

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