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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Earlver versions of this work were presented at IGG 40, Trento (February 2014), at the University of the Basque Country (UPV-EHU, March 2014), at CGG 24, Madrid (May 2014), at a SynCart research seminar at the University of Geneva (February 2015) and at IWSC in Beijing (December 2015). The authors thank the FWO for its financial support (FWO project 3G0A4912 (Haegeman) and postdoctoral grant FWO13/PDO/024 (Danckaert)). We thank Elizabeth Bogal-Allbritten, Timothy Gupton, Eric Lander and Bryan Leferman for comments and judgements, and Adriana Belletti, Jeff Lidz, Terje Lohndal, Jairo Nunes, Andrew Radford, Milan Rezáč, Luigi Rizzi, Ur Shlonsky, and Vidal Valmala for their suggestions and comments. Needless to say, we remain entirely responsible for the way we have used their comments.
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](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](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, [we expect [t, 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, [we expect [t, 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.

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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:

\[
\text{(7)}
\]

\[
\begin{array}{c}
\text{FinP} \\
\text{Fin'} \\
\text{Fin°} \\
\text{SubjP} \\
\text{Subj°} \\
\text{Subj'} \\
\text{TP} \\
\text{[CRIT]} \\
\text{T'} \\
\text{T°} \\
\end{array}
\]

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)):

\[
\text{(8)} \text{ a. For [+F] a criterial feature, X+F is in a Spec-head configuration with A+F.}
\]

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. 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 interogatives in (10a,b):

\[\textbf{(9)}\]

\begin{align*}
\text{SubjP} \\
\text{XP}_\phi & \quad \text{Subj'} \\
\text{Subj}_o & \quad \text{TP} \\
\end{align*}

\[\textit{[CRIT]}\]

\[\textbf{(10)}\]

\begin{align*}
\text{a.} & \quad *\text{Qui}_i \text{ crois-tu que [SubjP } & \text{va partir]?} \\
& \quad \text{who think-you that will leave} \\
\text{b.} & \quad \text{Que}_i \text{ crois-tu que [SubjP Jean a fait } & \text{will leave} \\
& \quad \text{what think-you that Jean has done} \\
& \quad \text{‘What do you think (that) John did?’} \\
\end{align*}

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 \textit{wh}-subject to bypass SpecSubjP. In French this is manifested by the replacement of the regular complementizer \textit{que} by \textit{qui} (10c):

\[\textbf{(10)}\]

\begin{align*}
\text{a.} & \quad \text{Qui crois-tu qui va partir?} \\
& \quad \text{who think-you \textit{qui} will leave} \\
\text{b.} & \quad \text{Que crois-tu que Jean a fait qui va partir?} \\
& \quad \text{what think-you that Jean has done qui will leave} \\
& \quad \text{‘Who do you think will leave?’} \\
\end{align*}

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

\[\textbf{(8)}\]

\begin{align*}
\text{b.} & \quad \text{For [+F] a criterial feature, } X+F \text{ is locally c-commanded by } A+F. \\
\end{align*}

\[\textbf{(9)}\]

\begin{align*}
\text{ΦinP} \\
\text{Φin}_o & \quad \text{SubjP} \\
\text{Subj}_o & \quad \text{TP} \\
\end{align*}

\[\textit{[CRIT]}\]

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

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

\[\text{3} \quad \text{We are abstracting away from possible cases of subextraction.}\]
Because the constituent in SpecΦinP φ-agrees with the head, SpecΦinP qualifies as an A-position (Rizzi 1991) (see below for some discussion). Note also that SpecΦinP 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 CP1, the immediately dominating clause is labelled CP2 etc. Similarly, the lowest TP is labelled TP1, that immediately dominating one is TP2.

For the cases of regular subject extraction in English (12a), it is assumed that the left periphery of the complement clause is reduced to ΦinP1 (R&S 2006: section 9). In this configuration the SCrit on Subj1 is satisfied by the φ-features on Φin1, themselves licensed by the wh-moved subject in SpecΦin1. In the complement clause, T1 probes and agrees with the subject who (not shown) to which it assigns nominative case. Similarly, matrix agreement on T2 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):
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 θ-agreement relation in θ-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.

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 is felt is attributable to the fact that the programme is now specifically about McDonald’s restaurants. (http://www.cedma-
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, seems (that) ti 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, it is felt, ti is attributable to …
   b. … any quotes which, it was felt, ti 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, ti were thought, ti 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, ti is thought, ti 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, were felt t₁ 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, were felt [they can use t₁ 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 are hoped (*that) that they 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. 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, they say/it is said [CP2 *t*; are hoped [CP1 *t*; 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, it was suspected [CP1 *t*; had initially caused the infection]].

b. *???This is a mutation of the virus [CP3 which, it was reported [CP2 *t*; it was suspected [CP1 *t*; 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, it was reported [*t*; to be suspected [ *t*; 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, are hoped [CP2 the government will confirm [CP1 *t*; it will help 150 families facing eviction]]]

b. * the new city funds, [CP3 which, are said [CP2 it is hoped [CP1 *t*; 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

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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 Φin1. These φ-features themselves are licensed by the wh-subject which transits through SpecΦin1. (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


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. *(pictures 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 Φin), 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 SpecΦin1P, T2 cannot actually probe which in SpecΦin1P, 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 SpecΦinP1 to SpecSubjP2 would illicitly extend an A-chain across a CP-boundary. Recall that Φin1-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 Φin-insertion 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 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.

(36)

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].
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 $\Phi$-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), $\Phi$ 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 $\Phi$2 actually becomes available by virtue of T2-agreement with the (hyperactive) $wh$-subject. In R&S (2007) $\Phi$ 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$\Phi$1, 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$\Phi$1 ‘requalifies’ as the ‘local’ subject of CP2. If this is on the right track, the more liberal use of $\Phi$ is a by-product of the (exceptional) hyperactivity of $wh$-subjects.

Assuming $\Phi$-insertion indeed to become available in CP2, then, once again, by assumption, the $\varphi$-features of the enriched $\Phi$2 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$\Phi$1 to Spec$\Phi$2: Spec$\Phi$P being an A-position (see above for motivation), movement from Spec$\Phi$P1 to Spec$\Phi$P2 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 $\varphi$-features of $\Phi$2 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 $\Phi$2 incorporates into the criterial Force2 head, creating a complex head $\Phi$2-Force2. In the resulting configuration, the $\varphi$-features of $\Phi$2 are in a local relation with the $wh$-subject in SpecForceP2. Put differently, in the specifier position of the complex Force2-$\Phi$2, the $wh$-subject will be able to satisfy both the criterial condition of Force2 and to license the $\varphi$-features on $\Phi$2.

In recent work on Hebrew relativization, Shlonsky (2014) proposes that $\Phi$ 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 $\Phi$ 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 $\Phi_{\text{in}}$ 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$\Phi_{\text{in}P1}$ 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$\Phi_{\text{in}P1}$, 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) $\Phi_{\text{in}}$-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) $\Phi_{\text{in}}$ 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, 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. SpecΦinP, the position implicated in subject extraction, is an A-position. In the case of object extraction, ΦinP 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, was reported [CP2 ____i was suspected [CP1 t, had initially caused the infection]].
   b. ? the new city funds, [CP3 which, 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, 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 Φin-incorporation (or Φin-(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)). 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.

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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.

References

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