1. Introduction: Exceptional sub-extraction?

It has been observed since Chomsky (1973) that sub-extraction out of subject DPs is not licensed, whereas sub-extraction out of object DPs seems to be fine (the Subject Condition; see also Davies & Dubinsky, 2003; Stepanov, 2001; Uriagereka, 1999), as shown in (1).

   b. Who did you buy [DP a picture of ti]? (Postal, 1974)

However, it has also been observed (e.g., Bošković, 1997) that sub-extraction out of Exceptionally Case-Marked (ECM-ed) embedded clause subject somehow seems to be better (though somewhat marginal), as shown in the contrast between (2a) and (2b).¹

(2) a. *Who did [DP the picture of ti] surprise John?
   b. ?Who did John believe [DP the picture of ti] to be on sale?

Assuming the Raising-to-Object analysis of ECM (Bošković, 1997; Lasnik, 1999a, 1999b; Lasnik & Saito, 1991; Postal, 1974), this raises a problem for recent minimalist accounts of Subjacency (e.g., Davies & Dubinsky, 2003; Uriagereka, 1999) that tries to derive the Subject Condition effect in (1), since the DP that receives Accusative Case in (2b) is essentially raised from the embedded clause subject position, hence (in principle) having properties that should be susceptible to Subject Condition. For example, Nunes & Uriagereka (2000) and Uriagereka’s (1999) Multiple Spell-Out account of Subjacency derives Subject Condition by a linearization requirement (cf. Kayne, 1994) that constituents that merge in derived positions (i.e., specifiers and adjuncts) must be pre-linearized. This analysis predicts that once a DP enters a derivation as a subject in the embedded clause, that DP is already linearized and hence should not allow sub-extraction from it at any later stage in the derivation.

¹ The judgment on this contrast somewhat varies across speakers. Howard Lasnik (p. c.) points out that Chomsky himself has provided different judgment on extraction out of ECM-ed subject (see Chomsky, 1973; Chomsky, 2005; Postal, 1974)
In this squib, based on the idea that DPs are spelled-out when its Case feature is checked (Hornstein, 2001), I argue that the \textit{wh}-phrase that appears to be extracted out of the Case-Marked DP is in fact sideward-moved (Nunes, 2004) out of non-Case-Marked copy remaining in the Focus Phrase that is adjoined to the root CP.

2. **Proposal: Case, Focus and Sideward Movement**

2.1 Four assumptions

Before illustrating my proposal, I will briefly discuss the four assumptions that I am making in the subsequent discussions. First, I assume Hornstein’s (2001; Chapter 5) approach that Case feature exists for the purpose of rendering DPs ‘visible’ to PF (and LF) interfaces, such that only the DP (among its multiple copies) whose Case feature is checked is pronounced (spelled-out) at the PF interface. This approach elegantly explains \textit{why} such things as Case features exist in grammar, and provides a way of explaining why only one of the copies is pronounced under the copy theory of movement.

Second, I assume that this approach can be compatible with a relaxed version of Uriagereka’s (1999) Multiple Spell-Out account. Uriagereka’s system linearizes all the constituents that merge into derived positions, but assuming the Case-based Spell-Out account of Hornstein’s discussed above, we could argue that, for example, DPs are spelled-out when its Case feature is checked. With respect to adjuncts, however, there is no Case feature that linearizes them, and hence must be linearized upon merging to the root, as argued in Uriagereka. This hybrid approach of spell out will be crucial in my proposal to be discussed below.

Third, along with Rooryck (1997), I assume that raising complements of \textit{seem/believe} in English involve Event Focus, such that the event denoted in the complement clause is compared with a set of other possible events that resemble it. He shows that raising predicates are morphologically related in a number of languages (e.g., In Dutch, \textit{dunken} for \textit{seem} and \textit{denken} for \textit{believe}), and they are semantically similar in that the event focus involved in \textit{It seems to me/I believe that John ate chocolate} basically produces the following meaning: There is an event that resembles/is almost identical to the event of John eating chocolate (see Rooryck 1997 for more details of this proposal). Finally, I assume that Sideward Movement (Nunes, 2004) is a legitimate operation in natural language grammar.

With these four assumptions, I propose my account of the contrast in (2) in the next section.

2.2 Extraction out of ECM-ed subject (or lack thereof)

First, I adopt Herburger’s (2000) analysis of the internal structure of Focus Phrase (adopted
in Hornstein, Lasnik & Uriagereka, 2005), illustrated in (3).²

\[ \text{(3)} \]
\[
\begin{array}{c}
\text{FP} \\
\text{Matrix} \quad \text{F'} \\
\text{(focus)} \\
\text{F} \quad \text{restriction}
\end{array}
\]

I further incorporate Dayal’s (1994) analysis of \textit{wh}-scope marking constructions and argue that in the \textit{seem/believe}-type Event Focus constructions, the Focus Phrase (FP) is adjoined to the root CP. However, the derivations for the Focus Phrase and the matrix clause proceed in different workspace. Let us observe parts of the derivation in (4):

\[ \text{(4)} \]
\[
\begin{array}{c}
\text{vP} \\
\text{believe}
\end{array}
\quad \begin{array}{c}
\text{FP} \\
\text{F'} \\
\text{F} \\
[[\text{DP the picture of who}] \text{ to be on sale}]
\end{array}
\]

At this stage, the FP is already complete: the TP (as an event) to be event-focused is already generated, and by moving to [Spec, FP], the whole event denoted by TP is focused. On the other hand, \textit{believe} in the matrix clause needs to check Case (or have its Case feature checked: this does not make a difference for the present analysis), so the DP \textit{the picture of who} is copied and merged (i.e., sideward moved) to [Spec, vP] of the matrix clause. This is how this DP receives (or is licensed to have) Accusative Case. This part of the derivation is illustrated in (5):

\[ \text{Note that Rooryck (1997) assumed that the Event Focus is realized by moving the embedded clause TP into [Spec, CP] of the embedded clause. It may seem that this analysis should also yield the predicted results given that the original copy of the A-moved DPs could be the source of sub-extractions. However, as I will explain later, I need to rule out such possibilities so that I can still retain the standard Subject Condition effects (e.g., in simple transitive clauses).} \]
Note that at this point, according to the assumption about Case given in section 2.1, this DP *the picture of who* is spelled-out, such that sub-parts of this DP will be unavailable for subsequent operations. However, note that the original DP *the picture of who* inside FP is still there without its Case feature being checked, and this is indeed crucial in accounting for why *wh*-movement is still possible: After (5), the derivation of the matrix clause proceeds further, and when C with a strong Q feature enters the derivation, the copy of *who* inside FP can be sideward moved to check the Q feature, rather than the *who* in the DP that was already merged to [Spec, vP] in the matrix CP. This part of derivation is illustrated in (6):

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3 The idea that case assignment makes DPs unavailable for further operations has been proposed (e.g., Chomsky, 2000 claims that DPs whose Case feature is checked becomes inactive), but this Spell-Out-by-Case proposal offers a very principled reason for such observations.
Then, FP is (linearized and) adjoined to the root CP and the derivation is complete. In the linearization process, the instance of *who* will be pronounced at the [Spec, CP] position, hence the *who* in all the other copies of the picture of *who* DP are not pronounced. Also, the copy of this DP in the [Spec, vP] position has Case, and therefore only this one will be pronounced, and the rest of the copies inside FP remaining unpronounced. In this way, we can correctly predict the contrast observed in (2): Crucially, extraction out of a subject is possible when the subject has not been checked for Case. In the present analysis, it is the presence of the original copy of the embedded clause subject in FP that allows sub-extraction, and not the DP that moved to the matrix clause for Case checking.

This raises an immediate question: if we assume that a copy of a Case-assigned DP allows sub-extraction, then we should never observe a standard Subject Condition effect, since the subject that raises to [Spec, TP] for Case leaves its original copy in [Spec, vP], from which sub-extraction should be possible! However, the assumption that the original is left behind in [Spec, vP] is not warranted: In fact, Lasnik (1999a) *inter alias* examined scope behavior in various A-movement phenomena and concluded that A-movement does not leave a trace. If this line of argument is correct, then we would correctly predict that sub-extraction out of the original DP in standard Subject Condition cases would still hold.

The present analysis also predicts that in other constructions which involve Focus Phrase adjunction should also allow sub-extraction of the same sort. For example, assuming again Rooryck’s (1997) analysis that Raising-to-Subject construction also involves Event Focus of the similar sort, we predict that sub-extraction out of the subject DP in such constructions to be possible. In fact, according to the data in (7) taken from Chomsky (2005), this prediction is borne out.

(7) ok [Of which car]_{j} is [the driver t_{j}]_{i} likely to t_{i} cause a scandal?

As we have seen, the present analysis involving Focus and sideward movement can correctly account for when apparent ‘exceptional’ sub-extraction out of subject DPs is possible.

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4 In this approach, it may be difficult to explain why the *wh*-phrase in the DP in [Spec, vP] is not pronounced, though some sort of re-merging approach may offer a possible account.

5 Chomsky (2005) argues that sub-extraction out of subject DPs in root unaccusative or passive constructions appear to be fine, but none of my informants agreed with this judgment, and hence this judgment seems somewhat dubious. I leave these cases open for future research.

6 Though with a slightly different derivation and analysis, Hornstein et al. (2005) also show that the grammaticality of sub-extraction out of post-verbal subject DPs in Spanish may also be related to Focus Phrases.
2.3 Two remaining empirical problems

However, the present analysis is not without problems. Let us examine two serious potential empirical problems. Firstly, if we assume that the clause with event focus is generated in the adjunct clause adjoined to CP, then we predict that the negation in the matrix clause will not license NPI in the FP since it will not be c-commanded by Neg. However, this prediction is not borne out, as shown in (8).

(8) ok  John did not believe Mary to have hit any men.

Secondly, the present analysis predicts that even when the ECM-ed DP is raised to the matrix subject position via passives, the acceptability should not change since the wh-phrase inside the Focus Phrase would still be available for sub-extraction. However, contrary to this prediction, the passivized version of the sentence (2b: repeated as 9b) appears to be degraded according to my informant:

(9) a. ?* Who was the picture of believed to be on sale?
     b. ? Who did John believe the picture of to be on sale?

With respect to the first problem, it may be possible to argue that somehow the neg-feature is percolated to FP, such that it licenses NPI (though it is not obvious how). The second problem seems to be more problematic, in that the derivation of (9a) and (9b) should be different only by one step: i.e., movement of ECM-ed subject from the matrix object position to the matrix subject position, and therefore there seems to be very little room to explore to find explanations for the contrast in (9). I leave these issues open for future research.

3. Conclusion

In this squib, I argued that extraction out of ECM-ed subject in fact does not exist: The sub-extraction applies to the original copy of the wh-phrase left inside the Focus Phrase (which is later adjoined to the root CP), such that the Case-marked DP itself in the matrix clause does not engage in the sub-extraction process. Though we noted some potential empirical problems in the end, the present analysis offers a nice account for why sub-extraction out of subject DPs is possible for both Raising-to-Object and Raising-to-Subject constructions.
4. References


