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Prying Open the Cleft

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This paper argues that the overt structure of clefts conceals a subject that is a definite description. It argues that an analysis of clefts that incorporates concealed definite descriptions explains a number of otherwise puzzling semantic properties that the cleft exhibits. The proposal is that the derivation of a cleft proceeds as in (1); I give a particular example in (2). The derivation of a cleft of the general form in (1/2a) includes a structure like that in (1/2b), a copular sentence where the subject is a description that contains a definite determiner and a null head. Two operations are important in its derivation: the extraposition of the relative, shown in (1/2c), and the morphological spell-out as *it* of the DP containing the definite determiner and the CP trace, shown in (1/2d). [2,3,4]

(1) a. It is $[\alpha]_F$ that has property Π.
b. $[_{IP}\ [_{DP}$ the 0 $[_{CP}$ OP_i that t_i has property Π $]\ ]_j\ [_{VP}\ t_j$ is $\alpha]\ ]$
c. *Extraposition*
$[\ [_{IP}\ [_{DP}$ the 0 $t_k\ ]_j\ [_{VP}\ t_j$ is $\alpha\ ]\ ]\ [_{CP}\ OP_i$ that t_i has property $\Pi\ ]_k\ ]$
d. It is α that ...
Spell-Out: $[_{DP}$ the 0 $t_k] \Rightarrow$ It

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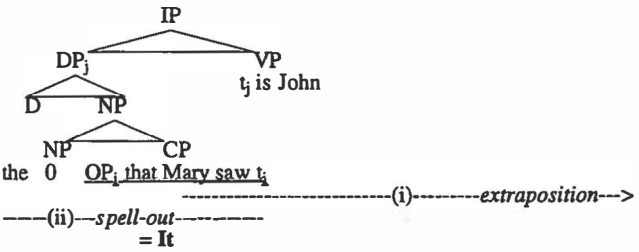
[1]I wish to thank Noam Chomsky, Michel DeGraff, Kai von Fintel, Danny Fox, Irene Heim, David McKay and David Pesetsky for very valuable suggestions and comments. Although I have discovered that the general line of analysis is by no means original, I still think that aspects of its implementation are timely.
[2]For now, being largely ignorant of its properties, I am being noncommittal about where the extraposition takes place. If as a displacement process it has little in common with other displacement processes previous to spell-out, it may be more appropriate to treat it as purely a PF phenomenon. Given the arguments in this paper that a definite description with the CP its restrictor is present at the level of interpretation, it is natural to think that, if the displacement occurs before spell-out, the displaced constituent is reconstructed by the time the sentence is interpreted.
[3]The VP structure sketched in the diagram is a considerable simplification if the analysis in Section III of the paper is correct.
[4]The lexical items given here in the representation of the base structures should not be taken too literally. As the final step in the derivation of clefts suggests, the lexical material might better be represented as feature bundles, which are spelled out in whatever way is consistent with the workings of the spell-out component.

K. Kusumoto (ed.), NELS 27, 337-351

(2) a. It is [JOHN]$_F$ that Mary saw.
b. [$_{IP}$ [$_{DP}$ the 0 [$_{CP}$ OP_i that Mary saw t_i]]$_j$ [$_{VP}$ t_j is John]]
c. *Extraposition*
[[$_{IP}$ [$_{DP}$ the 0 t_k]$_j$ [$_{VP}$ t_j is John]] [$_{CP}$ OP_i that Mary saw t_i]$_k$]
d. It is John that Mary saw
Spell-Out: [$_{DP}$ the 0 t_k] ⇒ It

(3)



The interpretation of the null head for the purposes of the example here is the same as the interpretation of *one* – it is a predicate that holds of all entities of some type or other. The basic claim, then, is that a sentence like (2a) is equivalent to a sentence like (4), and that this equivalence follows from the fact that the sentences are structurally indistinguishable.

(4) The one that Mary saw is [JOHN]$_F$.

In this paper, I give evidence not only for the structure that I assume underlies the cleft, but also for the operations of extraposition and spell-out that occur during its derivation. Of course, if a structure like the one in (1/2b) does underlie a cleft like the one in (1/2a), some process has to displace the CP, so there is evidence for extraposition just given the base structure I argue for. However, I further suggest that independently motivated constraints on extraposition can be seen to apply in the cleft. I also suggest that there is independent use for the peculiar spell-out rule in (1/2d).

The major properties of the clefts that the proposal here seeks to account for are the following:

i. Its presuppositions. A cleft of the form *It is [α]$_F$ that has property IT* has the same presuppositions as a sentence containing the definite description *the individual that has property IT.* This is explained on the analysis presented here: the cleft contains just such a definite description.

ii. Its specificational character.[5] The DPs that constitute the head of a cleft (the phrase following the copula) are constrained in their discourse function. They are constrained in precisely the same way that the postcopular DPs in so-called inverse copular sentences (Moro 1990, Heycock 1991) are. The claim here is that the copular sentence from which extraposition takes place must be an inverse copular sentence. Given a certain

[5]The literature on clefts and (especially) pseudo-clefts draws a distinction between *specificational* and *predicational* sentences. On the approach that I present here, the distinction is one between sentences that relate two objects of the same type (cf. (32)) and sentences that predicate some property of an object. If a DP that unambiguously denotes a predicate of individuals (e.g. *the bee's knees, the cat's pyjamas*) appears in a sentence along with a DP that denotes an individual, that sentence does not have specificational properties. Inverse copular sentences are examples of specificational sentences (see fn. 17).

analysis of the copula, this follows in all cases from independent constraints on extraposition, and in most cases also from independent constraints on relativization.

An important theme of the paper is that a cleft like (2a) and a copular sentence like (4) are identical in their properties, and any account that applies to one should apply to the other. The idea that clefts are copular sentences to which extraposition has applied dates back at least as far as Jespersen 1928. Early studies of clefts in generative grammar (Akmajian 1970a,b), which also argued for a rule of extraposition in clefts, claimed that the properties of clefts and pseudoclefts were the same, and that this was an indication that the cleft was derived from the pseudocleft. I am making a very similar kind of argument here with regard to clefts and sentences containing definite descriptions. Indeed, it is possible to view this paper as reviving the important components of an analysis that has fallen out of favor, and showing that they fit in nicely with current assumptions. At the same time, I am led to my proposal by an attempt to explain some basic facts that Akmajian did not attempt to explain.[6]

I assume for the purposes of this paper that focus always appears on the head of a cleft.[7]

I. The presuppositions of clefts

The first property of clefts requiring explanation has to do with the presuppositions that they carry.

A. Existence presuppositions (Halvorsen 1978, Rooth 1995)

A cleft of the form *It is* $[\alpha]_F$ *that has property* Π carries a presupposition $\exists x\ \Pi(x)$ (a presupposition that there is some individual that has property Π). As Rooth 1995 noticed, this presupposition cannot be attributed to focus on the head: parallel sentences of the form $[\alpha]_F$ *has property* Π don't exhibit the presupposition. For instance, while (5b) is an acceptable response to (5a), (5c) is not. The reason for the unacceptability of (5c) is that the presupposition of (5c) conflicts with the assertion that (5c) is making. No such conflict, however, exists in (5b).

(5) a. A: Who saw John?
b. B: [NObody]$_F$ saw John.
c. B': * It's [NObody]$_F$ who saw John.
presupposition of (c): someone saw John.

Note that it isn't the presence of the quantifier itself that causes the unacceptability of (5c):

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[6]On Akmajian's analysis, for instance, it seems to me an accident that interpretation works in such a way as to make clefts (with the initial *it*) and the parallel sentences containing definite descriptions interpretively identical. It is worth noting that Akmajian considered a derivation of clefts from sentences containing definite descriptions -- it is the first analysis entertained in Akmajian 1970a. He rejected this account on the basis of arguments that Higgins 1973/9, pp. 35 ff., later showed to be invalid. To be honest, I am giving short shrift to facts that Akmajian did intend his final analysis to explain (see Section V).

[7]This is not so obvious in examples such as (i) (discussed in Jespersen 1968 and reviewed in Halvorsen 1978).

(i) It is a poor heart that never rejoices.

The existence of clefts without focus on the head may weaken the connection between clefts and inverse copular sentences -- in part because inverse copular sentences routinely place focus on the postcopular argument. Note, however, that, given extrapositions like the one that yields (ii), it is still plausible that (i) is derived by extraposition.

(ii) That heart is a poor one that never rejoices.

(6) B'': It's [nobody *I* know]$_F$ who saw John.

One can of course duplicate these contrasts in object clefts:

(7) a. A: Who did Mary see?
b. B: Mary saw [NObody]$_F$.
c. B': *It's [NObody]$_F$ that Mary saw.
presupposition of (c): Mary saw someone.

(8) B'': It's [nobody *I* know]$_F$ that Mary saw.

Other examples that support the idea that clefts induce a presupposition that mere focus does not are examples where, under operators like negation, the presupposition of the cleft remains. In (9b), unlike in (9a), the presupposition of the cleft contradicts the assertion of the first clause. Likewise for the object clefts in (10a,b).

(9) a. Since nobody saw John, it follows that [BILL]$_F$ didn't see John.
b. #Since nobody saw John, it follows that it isn't [BILL]$_F$ who saw John.

(10) a. Since Mary eviscerated nobody, it follows that Mary didn't eviscerate [BILL]$_F$.
b. #Since Mary eviscerated nobody, it follows that it isn't [BILL]$_F$ that Mary eviscerated.

Rooth's example is similar:

(11) Situation: "In my department, a football pool is held each week, where people bet on the outcomes of games. It is set up so that at most one person can win; if nobody wins, the prize money is carried over to the next week." (Rooth 1995)

a. A: Did anyone win the football pool this week?
b. B: Probably not, because it's unlikely that [MAry]$_F$ won it, and she's the only person who ever wins.
c. B': #Probably not, because it's unlikely that it's [MAry]$_F$ who won it, and she's the only person who ever wins. (Rooth 1995)

presupposition of (c): someone won the football pool.

B. Exhaustivity of focus in clefts (Halvorsen 1978, Rooth 1995)

A cleft of the form *It is* $[\alpha]_F$ *that has property* Π carries a requirement that $\forall x\ \Pi(x) \rightarrow x = \alpha$ (a presupposition that only α has property Π[8]). The result of this requirement is that clefts are incompatible with adverbs such as *even* and *also* (as noticed by Rooth) and appear redundant in combination with adverbs such as *only*. All these adverbs are normally compatible with focus, so the requirement is something special about the cleft.

The ability of adverbs like *even*, *also* and *only* to associate with focus is shown by (12):

(12) a. It was even the case that [JOHN]$_F$ saw Mary.
b. It was also the case that [JOHN]$_F$ saw Mary.
c. It was only the case that [JOHN]$_F$ saw Mary.

[8]The presupposition is actually more complicated than I am pretending here -- see Halvorsen 1978, pp. 13 ff. for discussion.

The incompatibility of these adverbs with clefts is shown by (13):

(13) a. ?? It was even the case that it was $[JOHN]_F$ who saw Mary.
b. ?? It was also the case that it was $[JOHN]_F$ who saw Mary.
c. ? It was only the case that it was $[JOHN]_F$ who saw Mary.

(14) shows that the problem with the examples in (13) is to be traced back to the semantics of the adverb. It is in general possible for adverbs to associate with the focus on a cleft head.

(14) It was frequently the case that it was $[JOHN]_F$ who saw Mary.

To see why the presupposition of the cleft renders the examples in (13) unacceptable, consider the semantics of the adverbs.

(15) a. *It is even the case that p* is true in w iff p is true and there is a $q \in C$ such that q is true in w and $q \neq p$ and q is less likely than p to be true (in w). (C is the set of alternatives to p.)
b. *It is also the case that p* is true iff p is true in w and there is a $q \in C$ such that q is true in w and $q \neq p$. (C is the set of alternatives to p.)
c. *It is only the case that p* is true in w iff p is true in w and for all $q \in C$, if q is true in w then $q = p$. (C is the set of alternatives to p.)

Assume that focus evokes alternative propositions that are all of the form **saw(Mary)(y)** for some individual y. (Or perhaps for some group y of individuals,) Call the set of alternative propositions that focus evokes C. Now consider for instance (13a). For (13a) to be true, it must be the case that there is a q in C such that $q \neq p$ and q is true. In other words, it must be the case that there is some individual y such that $y \neq$ **John** and **saw(Mary)(y)** is true. But that contradicts the presupposition of (13a) that $\forall x$ **saw(Mary)(x) -> x = John**. Similar remarks apply in the cases of (13b) and (13c).[9,10]

C. Solution

The existence presupposition of clefts ((5)-(8)) is explained if a cleft of the form *It is(n't)* α *that has property* Π contains a concealed description *the 0 that has property* Π. This definite description has just the presupposition that the cleft exhibits.[11] While it is known

[9]Note that, in contrast to (13c), (i) seems perfectly fine. This is surprising, given that the unacceptability of (ii) and (iii) parallels the unacceptability of (13a) and (13b).
(i) It was only JOHN who saw Mary.
(ii) ?? It was even JOHN who saw Mary.
(iii) ?? It was also JOHN who saw Mary.
Why is this? Some directions that one could take are: to say that *only* permits a different interpretation in (i); to say that *only* in (i) is the adjectival *only*, displaced phonologically from a position where it modifies the null head of the definite description. In light of the contrast between the (a) and (b) examples in (iv), I would like to suggest that the solution lies in the way operators in conjoined DPs are interpreted, and that (i) is actually interpreted as containing a conjunction like the one in (v b).
(iv) a. ??It was [John as $WELL]_F$ who saw Mary.
b. It was [Bill and John as $WELL]_F$ who saw Mary.
(v) a. ?? It was [no one $ELSE]_F$ who saw Mary.
b. It was [John and no one $ELSE]_F$ who saw Mary.

[10]That this is the right description is indicated by the fact that when *also* or *even* is made to associate with a focus other than the one on the head of the cleft, the sentences improve. (Kai von Fintel, pc)
(i) It is even the case that it was frequently John who saw MAry.

[11] See Strawson 1950 for the view that definite descriptions carry presuppositions.

that presuppositional requirements sometimes appear to vanish under operators like negation, it is also known that this does not happen under certain conditions. These conditions obtain when some constituent in the same clause as the presupposition carrier but not containing the presupposition carrier is in focus (Hajicova 1984). If the head of a cleft obligatorily receives focus, then these conditions are fulfilled, so it follows that the presuppositional requirement of the definite description will always survive under operators like negation, as in (9)-(11).

In other words, the pattern in (5)-(8) reduces to the pattern in (16).

(16) a. ?? The one who saw John was [NObody]$_F$.
b. The one who saw John was [nobody *I* know]$_F$.

The exhaustivity of focus in clefts ((13)) is explained if a cleft of the form *It is* α *that has property* Π contains a concealed description *the 0 that has property* Π. The exhaustivity requirement is nothing other than the uniqueness requirement of this description. The pattern in (13)-(14), in other words, reduces to the pattern in (17).

(17) a. ?? It was even the case that the one who saw Mary was [JOHN]$_F$.
b. ?? It was also the case that the one who saw Mary was [JOHN]$_F$.
c. ? It was only the case that the one who saw Mary was [JOHN]$_F$.
(d. It was frequently the case that the one who saw Mary was [JOHN]$_F$.)

II. Other properties shared by sentences with definite descriptions

The proposal that the syntax of the cleft contains a definite description accounts for a fair number of other properties that clefts share with copular sentences whose subjects contain a definite description. Here I show that an aspect of the interpretation of clefts that might otherwise be puzzling falls out naturally from the present analysis, and is utterly unsurprising when one recognizes that the same effect obtains in parallel sentences containing definite descriptions. I then point out, echoing arguments of Akmajian 1970a,b, that conditions on dependencies apply to clefts in exactly the same way that they do to parallel sentences containing definite descriptions. The way these conditions apply to clefts thus present no more of a puzzle than the way they apply to copular sentences with definite subjects.

A. Semantic partition effects

The existence of a definite description in the basic structure of a cleft does more than get the presuppositions right. It has other interpretive effects as well. Consider first sentences like (18a/b). (Glossing over details,) It is known that, when the structure in the overt syntax is as in (18a/b) -- a structure containing an indefinite in subject position and an individual-level predicate -- this structure is interpreted as being roughly equivalent to (19). This is true even when the indefinite is focused, as in (20).

(18) a. A fireman is always intelligent. (Diesing 1992)
b. It is always the case that a fireman is intelligent.

(19) All firemen are intelligent.

(20) [A FIREman]$_F$ is always intelligent.

Now consider clefted sentences like (21a/b) that appear on the surface to parallel (18a/b).

(21) a. It is always [a FIREman]$_F$ who is intelligent.
b. It is always the case that it's [a FIREman]$_F$ who is intelligent.

If there were no definite description in (21), then one might reasonably expect that the indefinite and the predicate might compose as they do in (18). But (21) does not yield an interpretation like (19). Rather, as expected, it yields the interpretation that (22) has.

(22) It is always the case that the one who is intelligent is [a FIREman]$_F$.

Intelligent, in other words, is not interpreted as a predicate of which *a fireman* is the subject. Rather, *intelligent* is interpreted as the predicate in a relative clause that restricts a definite description, and *a fireman* is interpreted in the same way that the postcopular argument is in (22). This is predicted absolutely straigthforwardly on an analysis where (21b) is derived from a sentence that is to all intents and purposes identical to (22).

B. Conditions on anaphora and variable binding[12]

The way conditions on anaphora and variable binding apply in clefts is somewhat mysterious. However, as shown below, it is no more mysterious than the way these conditions apply in the parallel copular sentences with definite descriptions as subjects. Once again, this is unsurprising on the current analysis. In general, the claim is that with all types of dependencies, conditions on dependencies will apply to clefts in the same way as they apply to the parallel sentences with definite descriptions and the head spelled out. If the way conditions on dependencies apply in these parallel sentences is understood, then one automatically understands the way they apply in the clefts.

Comparison of the (a) and (b) examples below shows that conditions on anaphora and variable binding apply in exactly the same way in clefts and in sentences that are in all relevant respects identical to the sentences that I claim to be their sources. The (c) examples are parallel sentences where an element that corresponds to the cleft head composes in the normal way with material that corresponds to the clefted material, and the (d) examples are parallel sentences where an element that corresponds to the cleft head appears after the copula in a pseudocleft. The examples in (24) are significant in that they show that at least one condition in anaphora applies differently in these latter sorts of sentences. (26) shows that clefts exhibit weak crossover effects that parallel the effects in copular sentences with definite subjects.

(23) Apparent satisfaction of Condition A in the absence of c-command
a. It was [herSELFi]$_F$ that Mary saw first.
b. The one that Mary saw first was [herSELFi]$_F$

c. Mary saw [herSELFi]$_F$ first.
d. What Maryi saw first was [herSELFi]$_F$.

(24) a. ?It was [himSELFi]$_F$ that John wanted Mary to describe. (after Akmajian 1970b, p. 125)
b. ?The one that John wanted Mary to describe was [himSELFi]$_F$.

c. * John wanted Mary to describe [himSELFi]$_F$
d. ??What John wanted Mary to describe was [himSELFi]$_F$

[12]The phenomena discussed here form a subclass of connectedness phenomena, in the terms of Akmajian 1970a,b and Higgins 1973.

(25) Apparent variable binding in the absence of c-command
a. It was [his MOther]$_F$ that every boy saw first.
b. The person that every boy saw first was [his MOther]$_F$.

c. Every boy saw [his MOther]$_F$ first
d. What every boy saw first was [his MOther]$_F$

(26) Crossover effects
a. ?? It was every boy's [MOther]$_F$ that he saw first.
b. ?? The person he saw first was every boy's [MOther]$_F$.
(weak)
c. * He saw every boy's [MOther]$_F$ first.
d. * What he saw first was every boy's [MOther]$_F$.
(strong)

C. Conditions on NPI licensing

As shown in the (a) and (b) examples in (27)-(28), negative polarity expressions in the head of a cleft are licensed by matrix negation but cannot be licensed by embedded negation. By contrast, negative polarity expressions outside the head of the cleft are licensed by embedded negation and cannot be licensed by matrix negation. The paradigm follows naturally if at the point when negative polarity licensing takes place, the clefts have structures identical to those of the sentences sketched in the primed examples.[13]

(27) a. It isn't [anyone I KNOW]$_F$ that John saw.
b. *It is [anyone I KNOW]$_F$ that John didn't see.
a'. The one that John saw isn't anyone I know.
b'. *The one that John didn't see is anyone I know.

(28) a. *It wasn't [JOHN]$_F$ who did anything to help.
b. It was [JOHN]$_F$ who didn't do anything to help.
a'. *The one who did anything to help wasn't John.
b'. The one who didn't do anything to help was John.

It is instructive to compare these examples to similar cases involving pseudoclefts. The pseudocleft (29b) can be taken to show that the point at which negative polarity licensing is determined is a point at which some operations must have altered the surface representation. (27b) shows that it cannot be that, at that later point, the head of the cleft appears below the embedded negation.

(29) a. What John saw wasn't [anything I might REcognize]$_F$.
b. What John didn't see was [anything I might REcognize]$_F$.)

[13]It is probably worth noting that the NPI facts argue that, if the cleft contains a definite description of the sort that I envision in a copular sentence, that definite description must correspond to the precopular DP rather than the postcopular DP. This is clear from the contrast between (27a) and (i):
(i) * [Anyone I KNOW]$_F$ isn't the one that John saw.

III. The specificational character of clefts

The last property of clefts that my analysis seeks to explain has to do with a particular constraint on the interpretation of clefts. There is a certain discourse function that the head of a cleft is barred from engaging in.

A. Restrictions on the role of the head of a cleft

If we consider copular sentences that relate two DPs, in responses to questions like the ones in (30) and (31), we can talk about the DPs as having two different functions. The two appear to differ with respect to their role in the discourse. In the case of one description (*Bill, the guy on the left*), the participants in the conversation appear to assume that there is a single individual that satisfies the description and that both parties to the conversation can identify that individual. Call this description D_k (which could stand for *known*). In the case of the other description (*the President of the U.S.*), it appears to be taken for granted that, if there is a single individual that satisfies the description, it is not established which individual that is before the sentence is uttered. Call this description D_u (which could stand for *unknown*, or *up for grabs*). In the non-cleft responses below, D_k appears before the copula and D_u appears after the copula. The cleft responses show that a D_u description cannot appear as the head of the cleft.[14, 15]

(30) Situation: Two guys are standing in front of us, Bill and Bob.
a. Q: Who do you think is the President of the United States?
b. A: I think $[\text{BILL}]_F$ is the President of the United States.
D_k D_u
c. A: I think it's $[\text{BILL}]_F$ who is the President of the United States.
D_k D_u

(31) a. Q: Who do you think Bill is?
b. A: I think Bill is [the President of the United $\text{STATES}]_F$.
D_k D_u
c. A: ?? I think it's [the President of the United $\text{STATES}]_F$ who(/that) Bill is.
D_u D_k

B. A solution

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[14] Akmajian 1970b speaks of D_u as introducing a "semantic variable" whose value is specified by D_k. A conjecture as to what this means is that copular sentences relating two DPs always respond to a question *Who is* D_u*?* (31b), however, suggests that this is true only of a subset of these copular sentences (to which clefts belong).

[15] It is worth noting that the unacceptability of (31c) seems to mirror the unacceptability of the inverted answer in (i) (cf. the acceptability of the inverted answer in (ii).

(i) (Same situation as (30)-(31))
a. Q: Who do you think Bill is?
b. A: * I think [the President of the United $\text{STATES}]_F$ is Bill.
D_u D_k

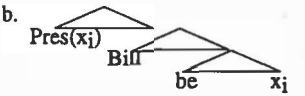
(ii) a. Q: Who do you think is the President of the United States?
b. A: I think the President of the United States is $[\text{BILL}]_F$.
D_u D_k

If one takes this to be significant, it might lead one to seek an alternative explanation to the one I entertain below. On such an explanation, both (31c) and (ib) would be ruled out by a principle that is sufficiently sensitive to surface representations that it treats the two alike. (It seems to me that such an explanation would be completely consistent with every other aspect of this paper.) Noam Chomsky (pc) pointed out the plausibility of this alternative route.

I will assume that the verb *to be*, when it relates two definite descriptions, has the following properties: (i) it selects two arguments of the type of individuals; (ii) it requires that one of its syntactic arguments be a D_u.[16] [17] The details that are needed to make sense of this are given in (32), but are not directly relevant to the discussion that follows.[18] I assume a system like that of Heim 1982, under which definite and indefinite descriptions denote open propositions. Since *to be* selects for individuals, this means that at the level of linguistic representation that is interpreted, any such description generated as a syntactic argument of *to be* will have to have raised, leaving behind an individual variable. A sentence like the one in (33a) will thus have the logical form in (33b) and be interpreted as the conjunction of two propositions.

(32) a. **be**(x)(y) is true iff y = x
b. **be**(x)(y) is defined only if there is no individual a such that the context entails that x = a

(33) a. Bill is the President of the U.S.

b. 

Given this assumption, it is not hard to see that the analysis of clefts endorsed here will result in the unacceptability of sentences like (31c). If the copula relates individuals, then the null head in the hypothesized source for the cleft will presumably be a predicate of individuals that is true of all individuals, and for the case in (31c) no different from *one*. On the approach that I have suggested, where clefts contain definite descriptions, it is clear that whatever renders (34) unacceptable will also render (31c) unacceptable. (As with the discussion of conditions on anaphora, this is not a full explanation, but rather a reduction to something that must independently be explained.)

(34) ?? The one who(/that) Bill is D_k

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[16]The assumption that the copula relates two individuals is a simplification for the purposes of this paper. The existence of clefts whose heads are something other than DPs suggests that the copula may merely require that its two arguments be of the same type.
(i) It was every IRish book that John read. (Higginbotham 1987)
(ii) It was in SPAIN that I lost my wallet.

[17]The assumption that there is any such copula may be controversial. However, if one accepts the Moro/Heycock arguments for inversion in copular sentences (see the discussion below), it is clear that there must be one copula that relates two individuals and allows inversion as well as one copula that relates an individual and a predicate and does not allow inversion. DPs that are unambiguously predicates do not invert:
(i) a. * The greatest/ a disgrace to the nation was sitting next to me on the subway.
b. Q: Who is the greatest (/ a disgrace to the nation) ?
A: * The greatest/ a disgrace to the nation is JOHN.
(cf.
(ii) a. The president of the U.S. was sitting next to me on the subway.
b. Q: Who is the President of the U.S. ?
A: The President of the U.S. is JOHN.)
Moreover, Carnie 1995 presents Irish data that suggest that there are cases where natural language represents these two instances of *to be* differently.

[18]I should mention with regard to (32) that I take contexts to be sets of assignments of values to variables, or possibly sets of world-assignment pairs as on Heim 1982, 1983.

Similarly, clefts that contain definite descriptions parallel to the ones in (35a,b) will be unacceptable. This is correct, as shown in (36a,b).

(35) a. ?? The one who is Bill
D_k
b. ?? The one who the President is
D_u

(36) a. ?? It is [the President of the U.S.]$_F$ who is Bill.
D_u D_k
b. ?? It is [BILL]$_F$ who the President is.
D_k D_u

C. A more general solution

However, there is something more to be said. The derivation of clefts I have suggested predicts that all clefts that correspond to copular sentences in which there is an ill-formed definite description will be ill-formed, and among these are sentences in which the head of the cleft corresponds to a D_u. But there are still sentences that this derivation allows in which the head of a cleft corresponds to a D_u, and these are unacceptable as well. Here is an example:

(37) a. Q: Who do you think the guy (who's) on the left is?
D_k
b. A: I think the guy (who's) on the left is [the President of the United STATES]$_F$.
D_k D_u

Since there is nothing wrong with (37b), presumably there is also nothing wrong with the structure in (38).

(38) I think the 0 who's on the left is [the President of the United STATES]$_F$.

But from (38) one should be able to derive (39), which is clearly not an acceptable answer:

(39) ?? I think it's [the President of the United STATES]$_F$ who's on the left.
D_u D_k

The solution I suggest here is that from (38) one can*not* derive (39), and that this follows from general constraints on extraposition. More specifically, the unacceptability of (39) is the product of two generalizations: (i) In a copular construction with two DP arguments, D_k arguments are base subjects; (ii) base subjects do not allow extraposition. The first generalization is due to Moro 1990; the second is a rephrasing of a conclusion from Johnson 1985.[19]

The evidence that D_k arguments are base subjects comes from Moro 1990 (see also Heycock 1991), who shows that there is an extraction asymmetry between the two DPs that a copula relates. A postcopular D_u argument can be extracted from, while a postcopular D_k argument cannot, as can be seen by considering the sentence in (40). The conclusion is that D_k arguments are base subjects (say the subject of a small clause[20]), that

[19]There is an alternate line in the literature that might predict the impossibility of extraposition in (38): Tunstall 1994 argues that only nonreferential DPs, a class of DPs that presumably excludes D_ks, can be extraposed from. See also Erteschik-Shir 1973 for referential conditions on extraction.

[20]If Moro and Heycock are correct in saying that the copula selects a small clause, then the element written *be* in (32)-(33) should be interpreted not as the copula, but rather as a phonologically null predicate in the

the surface postcopular position is their base position and that extraction from this position is blocked by Subject Condition/ CED, and that D_u arguments (generated in the small clause below the D_k argument) may raise to become overt subjects.

(40) Who do you think the President of the U.S. is the father of ?

Situation: There is a party for dignitaries and their children.

Condition 1: Speaker and addressee can identify the President of the U.S. but, looking at all the younger guests, the speaker can't figure out which is the President's daughter. (precopular argument is D_k, postcopular argument is D_u)

#Condition 2: Speaker and addressee see the dignitaries and their children walking in arm in arm, and can tell who is the father of who. But the speaker has no idea which dignitary is the President. (precopular argument is D_u, postcopular argument is D_k)

Evidence that base subjects do not allow extraposition -- something I treat simply as an unexplained generalization here (but see Johnson 1985 for a theory) -- is provided by the contrasts in (41). Subjects of unaccusatives and passives allow extraposition, while subjects of transitives do not.[21,22]

(41) a. A man arrived yesterday who was wearing a yellow hat.
b. A man was arrested yesterday who was wearing a yellow hat.
c. * A man insulted me yesterday who was wearing a yellow hat.

If D_k arguments are base subjects and base subjects do not allow extraposition, then the definite description in the source for a cleft will never be a D_k argument. Consequently, in all clefts that derive from copular sentences relating a D_k and a D_u description, the D_k will be the head of the cleft.

IV. Independent motivation for the spell-out rule

The derivation of clefts that I have proposed relies on the spell-out rule in (42). Here I suggest that the rule is not one that need be invoked especially for the purpose of accounting for clefts. There is a use for it elsewhere in the grammar. Clausal subjects, I suggest, are definite descriptions, and extraposition from a clausal subject triggers the spell-out rule.

(42) [+def] 0 t_{CP} --> it

McCloskey 1991 shows that, in the presence of conjoined clausal subjects, there is a semantic condition on agreement. As shown in (43), in cases where the two conjoined

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small clause. Alternatively, one could give up the small clause analysis, and say that the copula selects both arguments normally, the D_k argument as its specifier, but raises above its specifier position at least whenever the D_u argument raises. Either option will do for my purposes here.

[21]Simply with regard to the nature of the descriptive generalization, it is worth noting that there is no sense in which raising alone licenses extraposition, as the contrasts remain in sentences like those in (i):

(i) a. ? A man seemed to him to have entered yesterday who was wearing a yellow hat.
b. ? A man seemed to him to have been arrested yesterday who was wearing a yellow hat.
c. * A man seemed to him to have insulted me who was wearing a yellow hat.

[22]The data are actually considerably more complicated than I am pretending here: monadic unergatives seem to allow extraposition in "presentational" contexts. See Johnson 1985 for relevant discussion.

propositions are contradictory or incompatible, plural agreement seems to be required. Plural agreement is not required otherwise ((44)).

(43) a. # That I am right and that I am wrong has been claimed.
b. That I am right and that I am wrong have (both) been claimed.

(44) That the shares are overvalued and that a decline is in order is widely believed on Wall Street. (= (12), McCloskey 1991)

If we accept that clausal subjects are definite descriptions, then we can get a handle on these facts. Specifically, assume (45a) and (45b).

(45) a. Clausal subjects are DPs, definites with a null head[23].
b. Both DPs and CPs can be conjoined.

Conjoined clausal subjects exhibit singular agreement when they are made up of a single subject DP whose restrictor consists of two conjoined CPs. They exhibit plural agreement when they are made up of a conjunction of DPs, each with its own CP restrictor -- and also, I will assume, when they are made up of a single subject DP with a *plural* null head and a conjoined CP restrictor. This means that the sentences in (43a) and (43b) have the structures in (47) and (48) respectively (with paraphrases in the primed examples).

(47) a. $[_{DP}$ [+def] 0[+sg] $[_{CP}$ $[_{CP}$ that I am right] and $[_{CP}$ that I am wrong]]] has been claimed.
a'. The allegation that I am right and that I am wrong has been made.

(48) a. $[_{DP}$ $[_{DP}$ [+def] 0 that I am right] and $[_{DP}$ [+def] 0 that I am wrong]] have (both) been claimed.
a.' The allegation that I am right and the allegation that I am wrong have (both) been made.
b. $[_{DP}$ [+def] 0[+pl] $[_{CP}$ $[_{CP}$ that I am right] and $[_{CP}$ that I am wrong]]] have (both) been claimed.
b'. The allegations that I am right and that I am wrong have (both) been made.

The singular agreement in (43a/47a) indicates the presence of a singular DP with conjoined CP restrictors, and such a DP is interpreted as a contradictory proposition. In most cases, a sentence with a subject denoting a contradictory proposition is simply not what the speaker wishes to convey. Though (49) makes clear that, in cases where it *is* what the speaker wishes to convey, singular agreement is possible.

(49) People here keep claiming contradictory things. Would you believe it? [That I am right and that I am WRONG]$_F$ has been claimed.

If clausal subjects are definite descriptions, then it seems plausible that expletive-associate constructions like the ones in (50) result from the extraposition of a (possibly conjoined) CP restrictor and the application of (42).

[23]In other words, I take the CP in a clausal subject to be a predicate of propositions (or at any rate of things like claims and beliefs); the null head is a predicate that is interpreted as conjoined with this predicate.

(50) a. It is widely believed on Wall Street that the shares are overvalued.
b. It is widely believed on Wall Street that the shares are overvalued and that a decline is in order.

V. Some Remaining Issues

A. Agreement and the null head

It would be wrong to conclude without mentioning a problem that the previous discussion in particular brings into sharp relief. Simply put, the problem is that the *it* in extraposition constructions triggers singular agreement.[24]

Consider expletive-associate constructions in which the associate contains two incompatible propositions:

(51) a. It has been claimed (both) that I am right and that I am wrong.
b. It seems equally likely at this point that the president will be re-elected and that he will be impeached. (= (15), McCloskey 1991)

On the approach that I just outlined, because expletive-associate constructions are created by extraposition of a CP, the conjunction in the associate must be a CP conjunction. Because the conjunction in the associate involves two incompatible propositions, the null head in the clausal subject must be plural. But if the null head is plural, why is there singular agreement in (51) ?

Exactly the same problem arises with clefts. Consider a sentence like (52).

(52) It is [John and MAry]$_F$ who are the guilty ones.

On the approach here, the CP *[$_{CP}$ who$_i$ [$_{IP}$ t_i are the guilty ones]]* restricts a null head that presumably (like overt nouns in such constructions) must be marked as plural. But if the null head is plural, why is there singular agreement?

There are different routes that one could take to explain how it comes about that the *it* in extraposition constructions has agreement properties. I will leave the problem open. It is worth noting, however, that the existence of the null head has been only of expository use in the account I have presented. It is not necessary and adds nothing to the interpretation of the DP in which it appears. At the same time, it is the null head that determines the agreement properties of the DP. So one might well wonder whether there is a null head there after all.

B. The nature of the spell-out rule

Finally, although I have formulated the spell-out rule ((42)) as referring explicitly to the trace of a CP, it could well be that its actual character is more general. It might be a spell-out rule for definite DPs (or Ds) that applies at an appropriately late point in the spell-out process.

It is convenient to close with a spell-out rule that looks at a DP and decides that that's *it*.

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[24]McCloskey 1991 discusses the agreement facts in expletive-associate constructions; Akmajian 1970a,b discusses the agreement facts in cleft constructions and concludes from them that clefts are derived from pseudo-clefts.

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