On the Subclausal Locality of Extraposition from NP

Jason Overfelt

1. Introduction

This paper focuses on Extraposition from NP (EXNP) configurations of the type in (1) where a relative clause (RC) is displaced rightward from its host DP in direct object position.

(1) Sam met [$_{DP}$ a linguist] yesterday [$_{CP}$ who is from East Africa].

I argue contra Strunk & Snider (2008/2013) that EXNP is a rightward displacement operation that is subject to a grammatically defined subclausal locality condition. Furthermore, I amend the analysis of EXNP in Fox & Nissenbaum 1999 arguing that the EXNP operation can feed applications of Quantifier Raising (QR), which I take to be an independent operation that can widen the scope of both the host and the extraposed RC. Distinguishing between the EXNP operation and QR in this way allows us to preserve what appears to be an inviolable subclausal locality constraint that limits EXNP and to account for a number of interesting interpretive observations.

In Section 2 we will see evidence for and against a subclausal locality constraint on EXNP. Section 3 introduces some puzzling data which initially suggest that the locality constraint on EXNP is violable. Closer investigation of such cases will actually produce contradictory conclusions about the syntactic and semantic scope of an extraposed RC. In section 4 I adapt the analysis of EXNP in Fox & Nissenbaum 1999 to resolve the puzzle and maintain the subclausal locality of EXNP. Section 5 looks at the implications of some observations about Antecedent-Contained Deletion and section 6 concludes.

2. Background on the Locality of Extraposition from NP

Observing data such as (2), Ross (1967:307) concludes that EXNP, and in fact all rightward movement, targets a position no further than the edge of its first containing CP.

(2) a. Sam says [$_{CP}$ he hates [$_{DP}$ the coffee that they make in the library]] to everyone.

b. * Sam says [$_{CP}$ he hates [$_{DP}$ the coffee]] to everyone [$_{PP}$ that they make in the library].

Akmajian (1975) proposes to strengthen the locality conditions on EXNP given examples like (3). These examples suggest that it is possible to extrapose PP_1 (3b), but it is not possible to extrapose the embedded PP_2 (3c). Akmajian notes that this contrast is expected given a theory of Subjacency that also counts DP as a cyclic node (Chomsky, 1973).

(3) a. [$_{DP}$ A photograph [$_{PP_1}$ of [$_{DP}$ a book [$_{PP_1}$ about French cooking]]]]
was published last year.

b. [$_{DP}$ A photograph] was published last year
[$_{PP_1}$ of [$_{DP}$ a book [$_{PP_2}$ about French cooking]]].

c. * [$_{DP}$ A photograph [$_{PP_1}$ of [$_{DP}$ a book]]] was published last year
[$_{PP_2}$ about French cooking].

(adapted from Akmajian 1975:fn.3)

* University of Massachusetts Amherst. For their helpful comments on various aspects of this research, I would like to thank Kyle Johnson, Rajesh Bhatt, Brian Dillon, Vincent Homer, Veneeta Dayal, the participants of the UMass Syntax/Semantics Reading Group, and especially to the organizers, reviewers, and participants of WCCFL 32. The responsibility for any errors or misrepresentations of the thoughts or comments of others belongs to me.

 Proceedings of the 32nd West Coast Conference on Formal Linguistics, ed. Ulrike Steindl et al., 159-170. Somerville, MA: Cascadilla Proceedings Project.

In a series of experimental and corpus studies on English and German Strunk & Snider (2008/2013) show that, contra Akmajian (1975), EXNP can in fact span multiple DP nodes. Strunk & Snider hypothesize that Subjacency is not a relevant factor determining the acceptability of EXNP structures. Examining pairs of sentences like those in (4) one predicts that an RC extraposed from DP_1 as in (4a) should be perceived as significantly more acceptable than an RC extraposed from the embedded DP_2 in (4b) if EXNP configurations were subject to Subjacency. Interestingly, Strunk & Snider (2008/2013) failed to observe any difference between these sentences.

(4) I consulted $[_{DP_1}$ the diplomatic representative of
$[_{DP}$ a small country with $[_{DP_2}$ border disputes $]]]$ early today ...

a. $[_{CP}$ who threatens to cause a hugely disastrous war $]_1$.

b. $[_{CP}$ which threaten to cause a hugely disastrous war $]_2$.

They interpret this lack of an effect to indicate that this instance of EXNP is not constrained by something resembling Subjacency. They conclude further, based on the additional results from other judgement studies and corpus investigations, that there is no such hard subclausal locality constraint on EXNP. Instead, in as far as such a constraint manifests itself, Strunk & Snider propose that it is a soft (violable) constraint and one that might actually represent constraints on sentence processing.

However, a number of diagnostics have been identified which seemingly indicate that there is a subclausal upper-bound on where an RC extraposed from a direct object can be spoken and interpreted. Baltin (1981), for example, presents VP-ellipsis as a constituency diagnostic to argue that an RC extraposed from an direct object, which cannot escape the VP-ellipsis operation, must not be able to adjoin to a position outside the constituent targeted by VP-ellipsis (5).

(5) a. Sam didn't $[_{VP}$ $[_{VP}$ invite $[_{DP}$ the people $]]$ to the party $[_{CP}$ who work in his office $]]_1$
but Kim did Δ_1.

b. * Sam didn't $[_{VP}$ $[_{VP}$ invite $[_{DP}$ the people $]]$ to the party $[_{CP}$ who work in his office $]]_1$
but Kim did Δ_1 $[_{CP}$ who work in her office $]$.

Baltin concludes specifically that an RC extraposed from a direct object cannot be adjoined to a position higher than Spec,VP.

Rochemont & Culicover (1990) argue that Condition C effects corroborate this picture of EXNP. Taraldsen (1981) observed that EXNP from a direct object ameliorates the disjoint reference effect between an R-expression in the extraposed RC and a pronominal indirect object.

(6) a. * I showed her$_1$ $[_{DP}$ a picture $[_{CP}$ that Kim$_1$ thought I lost $]]$ this morning.

b. ? I showed her$_1$ $[_{DP}$ a picture $]$ this morning $[_{CP}$ that Kim$_1$ thought I lost $]$.

This contrast suggests that the extraposed material is adjoined to, and interpreted in, a position that is higher than the indirect object. Rochemont & Culicover (1990) found that the disjoint reference effect persists, however, when the R-expression in the extraposed RC is co-indexed with a pronominal subject (7). Observing that EXNP is otherwise acceptable in this configuration (8), the examples in (7) suggest that EXNP cannot target a position above the subject.

(7) a. * She$_1$ was shown $[_{DP}$ the picture $[_{CP}$ that Kim$_1$ thought I lost $]]$ this morning.

b. * She$_1$ was shown $[_{DP}$ the picture $]$ this morning $[_{CP}$ that Kim$_1$ thought I lost $]$.

(8) Pam was shown $[_{DP}$ the picture $]$ this morning $[_{CP}$ that Kim thought I lost $]$.

These facts from ellipsis and Condition C are consistent with the claim that EXNP from a direct object position is subject to a subclausal locality constraint that restricts EXNP to VP. In following with the tradition initiated by Grosu (1973) I will refer to this constraint as the Right Roof Constraint and formulate it as in (9) with the understanding that we are limiting ourselves to direct object hosts.

(9) *Right Roof Constraint*
EXNP targets a position no higher than the edge of the first VP that dominates the host.

The question that arises in light of the research by Strunk & Snider (2008/2013) is whether this is a violable constraint. The following section turns us to this issue.

3. Potential Right Roof Constraint Violations

In this section we will see some initial evidence that the Right Roof Constraint is violable. In particular, we will be led to the conclusion that the host and the extraposed RC can be interpreted outside their containing VP. However, we will also make the contradictory discovery that even in such cases the extraposed RC does not otherwise behave as if it were in a position outside the VP.

3.1. The Scope of the Host

To understand the nature of the problem we must start with the observation by Williams (1974) that an extraposed result-clause or comparative-clause marks the semantic scope of its host. Fox & Nissenbaum (1999) and Fox (2002) argue that the same holds for EXNP configurations (10).

(10) *Williams's Generalization* (Fox, 2002:72)
When an adjunct β is extraposed from a "source DP" α, the scope of α is at least as high as the attachment site of β (the extraposition site)

To illustrate, Fox (2002) makes use of the ambiguity discussed by Sag (1976) and Williams (1977) that exists in the example in (11). This sentence has either the LF in (11a) or (11b). In (11a), *every book* has undergone short QR to a position below the *before*-clause. In this position it remains part of the antecedent VP_A for the elided VP_E in the *before*-clause. The interpretation this LF yields is one in which there is a set of books and Kim read the entire set before you read the entire set. The other LF in (11b) is the result of *every book* undergoing QR to a position above the *before*-clause where it is outside VP_A and binds a variable in VP_E. The interpretation here is one in which it is the case for each book that Sam read it before you read it.

(11) Sam read every book before you did Δ.

a. Sam $[_{VP}\ [_{VP_A}$ every book $\lambda 1\ [_{VP}$ read $x_1\ ]]$
before you did $[_{VP_E}$ every book $\lambda 1\ [_{VP}$ read $x_1\ ]]\ ]$

b. Sam $[_{VP}$ every book $\lambda 1\ [_{VP}\ [_{VP_A}$ read $x_1\ ]$ before you did $[_{VP_E}$ read $x_1\ ]\ ]]$

The following examples are adapted from Fox (2002:72) to illustrate the effect of EXNP on the above ambiguity. As expected, the ambiguity persists with an in-situ RC (12). Of interest to us here is the observation consistent with (10) that the ambiguity is resolved for the high scope reading of the universal quantifier given EXNP in (13).

(12) Sam read $[_{DP}$ every book $[_{CP}$ that Kim had recommended $]]$ before you did Δ.

a. *before* $>\ \forall$: Sam read the entire set before you read the entire set.

b. $\forall\ >$ *before* : Sam read each book before you read it.

(13) Sam read $[_{DP}$ every book $]$ before you did $\Delta\ [_{CP}$ that Kim had recommended $]$.

a. * *before* $>\ \forall$: Sam read the entire set before you read the entire set.

b. $\forall\ >$ *before* : Sam read each book before you read it.

3.2. The Scope of the Extraposed RC

Let us now consider the examples in (14) and (15) which respectively show an EXNP configuration in which the host is the negative polarity item (NPI) *any* and the positive polarity item (PPI) *some*.

(14) Tim didn't invite [$_{DP}$ any people] to his party [who work in his office].

(15) Tim didn't invite [$_{DP}$ some people] to his party [who work in his office].

These data are perfectly consistent with both the Right Roof Constraint (9) and Williams's Generalization (10). Supposing that the extraposed RC is adjoined under negation at the edge of VP, the NPI host in (14) is expected to be licensed. However, assuming that the PPI *some* must be interpreted above sentential negation, the acceptability of (15) is interesting for revealing that the host in an EXNP configuration can be interpreted in a position higher than VP. A vague quantifier like *many* reveals the same thing.[1] The scope ambiguity that *many* shows with respect to negation in (16) persists in conjunction with EXNP (17). Again, we find a case in which the EXNP host can be interpreted in a position outside the VP.

(16) Sam didn't invite many people to the party.

a. $\neg > many$: Sam invited only a few people.

b. $many > \neg$: There are many people that Sam did not invite.

(17) Sam didn't invite [$_{DP}$ many people] to the party [$_{DP}$ who had an interest in coming].

a. $\neg > many$: Sam invited only a few people with an interest in coming.

b. $many > \neg$: There are many people with an interest in coming that Sam did not invite.

The puzzle begins now with the examples in (18) and (19) below. These examples are modified from (14) and (15) respectively by placing the NPI *ever* inside the extraposed RC. Based on similar discussions by Linebarger (1987) and Uribe-Etxevarria (1994), if the NPI *ever* is to be licensed by sentential negation, the extraposed RC will need to be interpreted in a position below sentential negation. Given this, the contrast between (18) and (19) seems to be revealing that it is not always the case that an extraposed RC is interpreted below sentential negation. In (18) where the host is an NPI, and is therefore interpreted below negation, *ever* is licensed in the extraposed RC. On the other hand, when the host is a PPI and interpreted above negation as in (19), we find that it is no longer possible to license an NPI in the extraposed RC. Given the acceptability of (14) and (15), this suggests that when the host is interpreted above negation, so too is the extraposed RC.

(18) Sam didn't invite [$_{DP}$ any people] to his party [$_{CP}$ who have *ever* teased him].

(19) * Sam didn't invite [$_{DP}$ some people] to his party [$_{CP}$ who have *ever* teased him].

A similar result is obtained again with the vague quantifier *many* in (20). An NPI in the extraposed RC is licensed only on the reading in which *many* is interpreted below negation (20a). Again, this suggests that when the host is interpreted above negation as in (17b) above, the extraposed RC is also interpreted above negation. The effect is that an NPI cannot be licensed in the extraposed RC (20b).

(20) Sam didn't invite [$_{DP}$ many people] to his party [$_{CP}$ who have *ever* teased him].

a. $\neg > many$: Sam invited only a few people who have teased him.

b. * $many > \neg$: There are many people who have teased him that Sam did not invite.

The conclusion I draw from these observations is consistent with the research on comparative clause extraposition by Bhatt & Pancheva (2004) that Williams's Generalization is too weak. The host of an EXNP configuration and the extraposed RC in fact must be interpreted at exactly the same height. Generalizing the proposal by Bhatt & Pancheva (2004:21) gives us (21).

(21) *Extraposition-Scope Generalization*
When a phrase β is extraposed from a host α, the scope of α is exactly as high as the attachment site of β.

[1] All of the facts discussed in this section concerning *many* also hold for numeral quantifiers. In the interest of space I do not include these examples here.

With this in hand, the examples (15) and (17) in which the host and extraposed RC are interpreted outside the VP are potential counter-examples to the Right Roof Constraint. It may be that the Right Roof Constraint can be violated precisely when the host and extraposed RC are interpreted in a position outside VP. If this were the case, we would expect the extraposed RC to no longer behave as part of the VP. For instance, if the extraposed RC were adjoined outside VP in these instances, we would expect to find that they are able to escape VP-ellipsis precisely when the host is interpreted above negation.

Turning to the examples in (22) and (23) we see that this prediction is not borne out. The example in (22) contains the PPI *some*, which we know is interpreted above negation, but the extraposed RC is still unable to escape VP-ellipsis (22b). Similarly, the sentence in (23b) with the vague quantifier *many* is ungrammatical even in a context where a lot of people were invited to the party, but there are many people who work in Sam's office and Kim's office who were not invited.

(22) a. Sam didn't $[_{VP}$ invite $[_{DP}$ some people $]$ to the party $]_1$ $[_{CP}$ who work in his office $]$ and Kim didn't Δ_1 either.

b. * Sam didn't $[_{VP}$ invite $[_{DP}$ some people $]$ to the party $]_1$ $[_{CP}$ who work in his office $]$ and Kim didn't Δ_1 $[_{CP}$ who work in her office $]$.

(23) a. Sam didn't $[_{VP}$ invite $[_{DP}$ many people $]$ to the party $]_1$ $[_{CP}$ who work in his office $]$ and Kim didn't Δ_2 either.

b. * Sam didn't $[_{VP}$ invite $[_{DP}$ many people $]$ to the party $]_1$ $[_{CP}$ who work in his office $]$ and Kim didn't Δ_2 $[_{CP}$ who work in her office $]$.

To summarize briefly, the observations discussed here leave us with paradoxical conclusions regarding the syntactic and semantic scope of the extraposed RC. One one hand, we observe that an extraposed RC and its host are interpreted together in the extraposed position and this can be outside VP. However, with respect to where the extraposed RC can be spoken, we find that the extraposed RC must be spoken in a position inside the VP regardless of where it is interpreted. The next section discusses how best to handle these seemingly contradictory results.

4. Extraposition from NP Feeds Quantifier Raising

In this section I will present the proposal for resolving the puzzle from the previous section. In light of some additional facts presented here, I will suggest that the apparently conflicting results are best understood by preserving the Right Roof Constraint and adapting with minor a adjustment the analysis of EXNP proposed in Fox & Nissenbaum (1999) and employed in Fox (2002). We will see that by separating the EXNP operation from the operation of QR we will be able to separately control where an extraposed RC is spoken and where it is interpreted.

4.1. On Modelling Extraposition from NP

The various analyses for EXNP that have appeared in the literature can be distinguished at a very high level by where the extraposed material is asserted to be base-generated. What I will refer to as *Host-Internal* theories suggest that extraposed material is base-generated inside its host and that an additional mechanism results in the discontinuous constituency (e.g. Ross, 1967; Chomsky & Lasnik, 1977; Fox & Nissenbaum, 1999; de Vries, 2002). Other analyses suggest that the extraposed material is base-generated outside the host in a position adjoined to the verbal spine (e.g. Guéron & May, 1984; Rochemont & Culicover, 1990; Koster, 2000). The evidence we will examine below suggests a Host-Internal strategy is available for deriving EXNP configurations.[2]

Let us start with the observation by Ladusaw (1979) that *every*, but not *some*, is able to license an NPI in its restrictor. The contrast between *every* and *some* in (24) suggests that *every* licenses an NPI even in an RC that has undergone extraposition.

[2] See Webelhuth et al. (2013) for a recent survey of analyses of EXNP and an argument that EXNP is best handled by Host-External analyses.

(24) a. We met [$_{DP}$ every biker] yesterday [$_{CP}$ who had *ever* ridden these trails].
b. * We met [$_{DP}$ some bikers] yesterday [$_{CP}$ who had *ever* ridden these trails].

The examples in (25) demonstrates further that it is crucial for the NPI to be in a phrase that is interpreted in the restrictor argument of the universal quantifier. The licensing pattern observed here suggests that NPIs that are in a phrase that is simply adjoined to the matrix clause cannot be licensed by *every*.[3]

(25) a. We met every biker [$_{CP}$ while riding on these trails].
b. * We met every biker [$_{CP}$ while *ever* riding on these trails].

The fact that an NPI is not licensed in a phrase that is simply adjoined to the verbal spine suggests that the extraposed RC in (24a) is licensed by virtue of being interpreted in the restrictor of its host. The ability to interpret the extraposed material in the restrictor argument of its host is something that we get for free from the Host-Internal theories of EXNP.[4]

Additionally, we can observe that *every* licenses an NPI even in the context Antecedent-Contained Deletion (ACD) (26).

(26) a. I [$_{VP}$ bought [$_{DP}$ every book]]$_1$ yesterday [$_{CP}$ that I had *ever* been told to Δ_1].
b. * I [$_{VP}$ bought [$_{DP}$ some books]]$_1$ yesterday [$_{CP}$ that I had *ever* been told to Δ_1].

This observation is interesting for the fact that there are conflicting requirements on where the RC should be interpreted in (26a). Based on the observations in Sag (1976) and Williams (1977) and following May (1985), the RC containing the ellipsis site must be interpreted outside the antecedent VP. It is in this way that the identity relationship that is required for deletion can be established. The need to license the NPI, however, would require the RC to be interpreted inside the VP in the restrictor argument of its host. These conflicting requirements on where to interpret the extraposed material should be expected to result in ungrammaticality, contrary to fact.

An analysis of EXNP suited to handle the grammaticality of (26a) is found in the so-called QR-Theory of EXNP proposed by Fox & Nissenbaum (1999) which Fox (2002) employs in his analysis of ACD configurations.[5] This analysis capitalizes on the Copy-Theory of movement (Chomsky, 1993) and a single-output model of grammar (Bobaljik, 1995; Brody, 1995; Groat & O'Neil, 1996). For Fox & Nissenbaum (1999), the host DP first undergoes an application of QR to the edge of VP as shown in (27a) below. The extraposed material is subsequently late-merged into the higher copy of the host (as in Lebeaux, 1988), which will be the copy of movement that is deleted at PF, as indicated by ~~strikethrough~~ in (27b).

(27) a. [$_{VP}$ [$_{VP}$ I [$_{VP}$ bought [$_{DP}$ every book]] yesterday] [$_{DP}$ every book]]
b. [$_{VP}$ [$_{VP}$ I [$_{VP}$ bought [$_{DP}$ every book]]$_1$ yesterday]
[$_{DP}$ ~~every book~~ [$_{CP}$ that I had *ever* been told to Δ_1]]]

From the representation in (27b) we see that the requirements of both the NPI *ever* and the ellipsis site can be satisfied in this configuration. The NPI is interpreted in the restrictor of its host, which licenses the NPI, and the ellipsis site is interpreted outside its antecedent, which licenses deletion.

[3] Note that it is an inherent property of certain elements including *without*, *instead of*, and *before*, that they license NPIs inside the adjunct clauses they introduce.

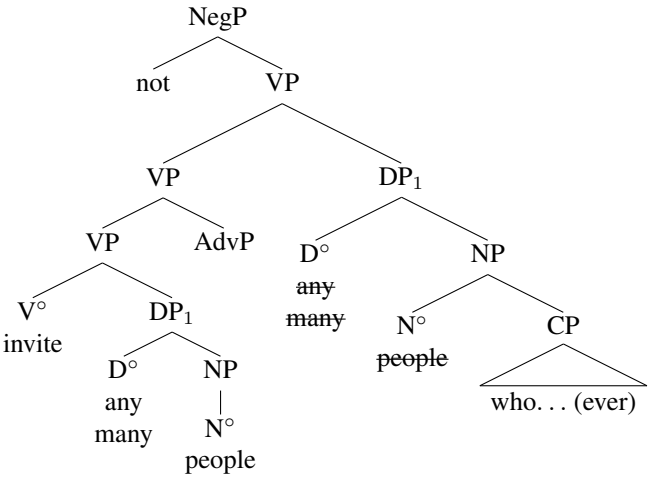
[4] See Overfelt (in prep.) for a more in depth discussion of these observations and an acceptability judgement study designed to test the intuitions reported here.

[5] An alternative Host-External that is able to handle the range of facts presented here is the asyndetic coordination analysis proposed by de Vries (2002), which is based on an earlier analysis by Koster (2000). I refer the reader to Overfelt (in prep.) and Webelhuth et al. (2013) for arguments against this analysis.

4.2. Local Extraposition

In addition to providing an account of the facts from the previous subsection, the analysis provided by Fox & Nissenbaum (1999) comes with the basic machinery required to account for the puzzle from section 3. Recall that the host and RC in an EXNP configuration are necessarily interpreted together but sometimes in a position higher than where the extraposed RC can be spoken. The EXNP operation is capable of producing structures like the one shown in (28). The host DP moves to the edge of the first dominating VP as per the Right Roof Constraint in (9). The extraposed RC is introduced at this point and the higher copy of the host is ultimately deleted at PF.

(28)



These types of structures are responsible for examples from section 3 in which the host and the extraposed RC are interpreted together below negation. The structure in (28) then is a partial representation for the examples in (14), (17a), (18), and (20a), which are repeated below.

(14) Tim didn't invite [$_{DP}$ any people] to his party [who work in his office].

(17a) Sam didn't invite [$_{DP}$ many people] to the party [$_{DP}$ who had an interest in coming].
$\neg > many$: Sam invited only a few people with an interest in coming.

(18) Sam didn't invite [$_{DP}$ any people] to his party [$_{CP}$ who have ever teased him].

(20a) Sam didn't invite [$_{DP}$ many people] to his party [$_{CP}$ who have ever teased him].
$\neg > many$: Sam invited only a few people to his party who have ever teased him.

An NPI in the extraposed RC is licensed in this configuration because the RC is interpreted below negation. As suggested by Fox & Nissenbaum (1999:fn.5), the host must be interpreted at least as high as the extraposed RC seeing as this is the only position in which the host and the RC can be interpreted together. As stated in the Extraposition-Scope Generalization, though, the host must be interpreted exactly as high as the extraposed RC.[6] This means that the host is interpreted below negation and the NPI host *any* in (14) and (18) is licensed and the quantifier *many* is necessarily interpreted below negation in (17a) and (20a).

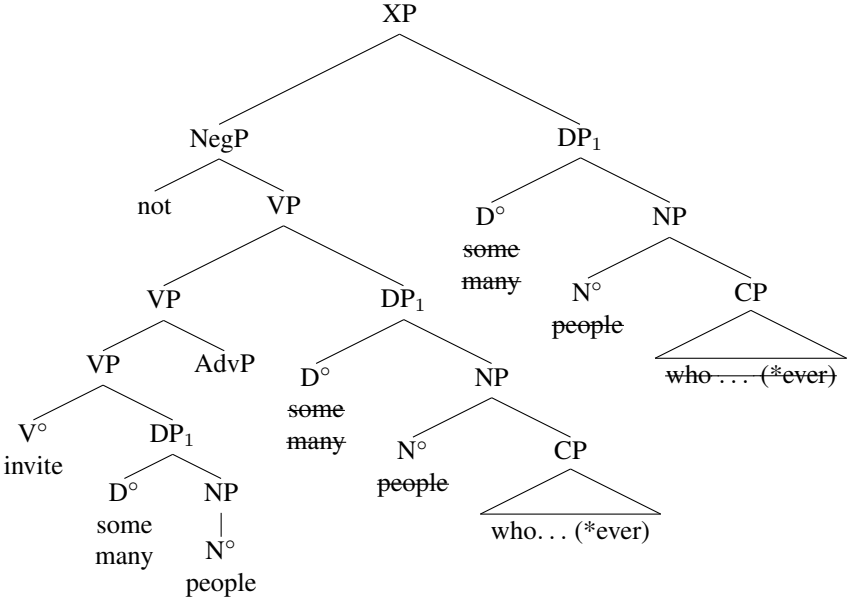
[6] It is worth pointing out that Fox & Nissenbaum's (1999) analysis of EXNP effectively derives the Extraposition-Scope Generalization by limiting the position in which the host can be interpreted to the position in which the RC is interpreted and vice versa.

4.3. Subsequent QR

What the EXNP operation alone cannot account for, however, are those examples in which the host and extraposed RC are interpreted in a position higher than where the RC is spoken. If EXNP were derived directly by an application of QR as argued for by Fox & Nissenbaum (1999), there would be no reason to expect the Right Roof Constraint to hold. That is, it should be possible to QR the host to the VP-external position in which it will be interpreted and then late-merge and speak the RC in this position. For this reason I suggest amending the proposal in Fox & Nissenbaum 1999 by divorcing the EXNP operation from QR. Instead, there is an operation of rightward movement that takes a direct object and displaces it rightward as in (28). The output of this operation may then subsequently be targeted by QR which will widen the scope of both the host and the RC.

Exercising this option of covertly raising the entire complex will give us structures like in (29) below. The EXNP operation will move the direct object to the edge of VP where the RC is late-merged and spoken just as we have seen above. The host and RC can then be targeted by QR which will place them in a position where they are interpreted together above negation. What is still missing from the analysis as it being presented here is something that forces the lower copy of the RC to be spoken. In the interest of space let us suppose simply that the EXNP operation is licensed by virtue permitting the RC to be spoken in its new position. Thus, the EXNP operation being licensed depends on speaking the RC in this position and this cannot be undone at later stages in the derivation.

(29)



This is the structure that underlies the examples from (15), (17b), (19), and (20b), which are repeated below.

(15) Tim didn't invite [$_{DP}$ some people] to his party [who work in his office].

(17b) Sam didn't invite [$_{DP}$ many people] to the party [$_{DP}$ who had an interest in coming].
$many > \neg$: There are many people with an interest in coming that Sam did not invite.

(19) * Sam didn't invite [$_{DP}$ some people] to his party [$_{CP}$ who have *ever* teased him].

(20b) Sam didn't invite [$_{DP}$ many people] to his party [$_{CP}$ who have (**ever*) teased him].
$many > \neg$: There are many people who have teased him that Sam did not invite to his party.

At LF the higher copy of the host and RC will be interpreted. This means that the host will be interpreted above negation and, therefore, can be the PPI *some* as in (15). This is also the configuration that gives a wide-scope interpretation to the vague quantifier *many* as in (17b) and the grammatical variant of (20b).

Because the host and RC are targeted together for QR, then it will also be the case that the RC, although spoken in its lower position, will be interpreted above negation as well. Therefore, just as we have seen, sentential negation cannot license an NPI in an RC extraposed from a PPI as in (19) or in the grammatical variant of (20b).

To briefly summarize, I have argued that EXNP configurations are derived via a rightward displacement operation distinct from QR. EXNP is a very local operation that displaces an RC to the edge of the VP in accordance with the Right Roof Constraint defined in (9). The resulting structure may then be targeted for QR which can move the host and RC to a position where they can be interpreted higher than where the extraposed RC must be spoken. The following section will turn us to some additional evidence for this picture of EXNP as well as a potential issue for it, both of which come from instances of ACD.

5. Reconsidering Antecedent-Contained Deletion

5.1. Bare Plural Hosts and Antecedent-Contained Deletion

A question that may have arisen by this point is why EXNP needs to be distinguished from QR. That is, why can multiple applications of QR not produce the same results? Evidence for the admittedly more complex picture of EXNP being drawn here is found in cases of EXNP with a bare plural host.

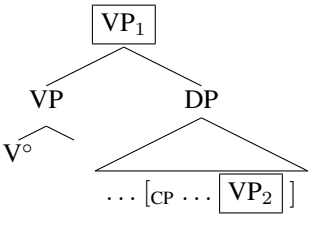
(30) Sam is $[_{VP}$ seeking $[_{DP}$ evidence $]]$ today $[_{CP}$ that Kim wasn't seeking $]$.

(31) * Sam is $[_{VP}$ seeking $[_{DP}$ evidence $]]_1$ today that Kim wasn't Δ_1

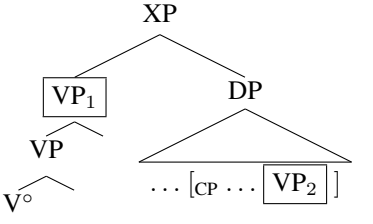
In (30) we see a case of EXNP in which an RC has been extraposed form a bare plural host. This presents a problem for the QR-theory of EXNP from Fox & Nissenbaum (1999). Since Carlson (1977) it has typically been claimed that bare plurals are unable to undergo QR. Thus, examples like this will require an alternative mechanism. This is something offered by the analysis being proposed here wherein there is an operation distinct from QR that is responsible for producing EXNP configurations.

The second example involving bare plurals in (31) shows that ACD is not licensed with a bare plural host. Again, the analysis being proposed here provides a way of dealing with the contrast between (30) and (31). We have seen continuously in the preceding discussion that an RC extraposed from a direct object cannot be spoken in a position external to an elided VP. This raises questions for the resolution of ACD configurations. Consider (32a) wherein the matrix VP_1 that is evaluated for VP-ellipsis contains the position where the extraposed RC is spoken. When the matrix VP_1 serves as the antecedent for ellipsis of VP_2 in ACD constructions, the ellipsis site VP_2 in the RC would apparently still be antecedent-contained. If, however, we assume that ACD structures also involve an additional application of QR beyond just EXNP, we derive an LF structure like (32b) in which VP_2 is interpreted in a position outside VP_1.

(32) a. *EXNP*



b. *EXNP+QR*



We can say now that it is because ACD, but not EXNP, relies on an instance of QR that a bare plural can host an extraposed RC, but a bare plural cannot host an ACD configuration.

5.2. Embedded Antecedent-Contained Deletion

The contrast in (33) presents a problem for this claim that it is possible to interpret an RC in a position higher than where it is spoken and that ACD employs this strategy. These examples, which were observed by Tiedeman (1995), are based on examples from Larson & May 1990 and are discussed

also in Fox (2002). Johnson (2012) argues that this contrast shows precisely that it is not possible to interpret an RC in a position higher than where it is spoken.

(33) a. * Tim [$_{VP}$ said [$_{DP}$ every person that you did Δ_1] arrived early]$_1$.

b. Tim [$_{VP}$ said [$_{DP}$ every person] arrived early]$_1$ [$_{CP}$ that you did Δ_1].

Given the claims made here one might expect it to be possible to speak the string in (33a) but interpret the RC as if it had undergone QR to the position in the matrix clause in which it is interpreted in (33b). The ungrammaticality of (33a) suggests that this is not possible and that we must block a representation such as the one in (34), which represents exactly this scenario. What must be forced instead is a representation like the one shown in (35). In this example late-merger of the RC has been delayed until *every person* has undergone QR to a position outside the matrix VP.

(34) * Tim [$_{VP}$ [$_{VP}$ said [$_{CP}$ [$_{DP}$ every person that you did Δ_1] arrived early]]$_1$]
[$_{DP}$ ~~every person that you did Δ_T~~]]

(35) Tim [$_{VP}$ [$_{VP}$ said [$_{CP}$ [$_{DP}$ every person] arrived early]]$_1$] [$_{DP}$ ~~every person~~ that you did Δ_1]]

To force the derivation in (35) and block the one in (34) I will propose a constraint on ellipsis licensing which, like the analyses of ACD in Baltin 1987 and Fox 2002, will preclude the possibility of antecedent-containment. I will formalize this constraint as shown in (36).

(36) *Cyclic Antecedence Condition*
A constituent marked for ellipsis must find an antecedent at every instance of spell-out.

Let us assume first that derivations proceed cyclically via multiple spell-outs of the syntactic object under construction (Bresnan, 1971; Uriagereka, 1999; Chomsky, 2000; Epstein & Seely, 2002). Second, we will assume that spell-out is triggered once a VP or CP has been completely built. The Cyclic Antecedence Condition says that, if at any instance of spell-out a constituent marked for ellipsis is unable to find an antecedent (i.e., a constituent that satisfies the identity conditions on ellipsis), then that constituent is unlicensed in the derivation. This means that, for the derivation of (34), Δ_1 will be unlicensed at the spell-out of the embedded CP because at this point in the derivation its antecedent *said every person arrived early* does not exist yet. The Cyclic Antecedence Condition therefore effectively forces the late-merger of the RC to be delayed until after the antecedent has been constructed and the host has been moved to a position outside the antecedent, just a shown in (33).

6. Conclusion

While I agree with Strunk & Snider (2008/2013) that EXNP is not constrained by Subjacency, I have argued that EXNP is a rightward displacement operation that is subject to a subclausal locality constraint that forces an extraposed RC to be spoken within the first dominating VP. We have also seen that it is possible to interpret the host of an EXNP configuration and an extraposed RC in positions higher than the first dominating VP, but they are necessarily interpreted together. I modeled these facts with the system for EXNP proposed by Fox & Nissenbaum (1999) along with the claim that EXNP is an operation distinct from QR. Under this analysis EXNP is a rightward displacement operation responsible for producing EXNP configurations. QR is then able to widen the scope of both the host and the extraposed material. This system permits the observed disconnect between how EXNP is spoken and interpreted and we have seen that this system accounts for a number of interpretive facts related to polarity items, vague quantifiers, and ACD.

The emerging picture is consistent with much of the previous literature on another rightward displacement operation in English: Heavy-NP Shift (HNPS). Research by Bresnan (1976), Stowell (1981), and Johnson (1985) concludes that HNPS is also restricted to the first dominating VP. A possibility, which was also entertained in Fox 2002, is that a general rightward displacement operation targets direct objects and permits either all or part of the rightward displaced material to be pronounced in the targeted position. The choice determines respectively whether we see HNPS or EXNP.

This provides a different way now of understanding the examples in (4) from Strunk & Snider (2008/2013). Notice that HNPS is capable of producing (37), which is adapted from the EXNP structure in (4). The current analysis predicts the grammaticality of both (4) and (37) without reference to violable locality constraints. Both movements involve the same basic displacement operation and adhere to our Right Roof Constraint.[7] They differ only in how the resulting structure is pronounced.

(37) I consulted e_3 early today $[_{\text{DP}_1}$ the diplomatic representative of $[_{\text{DP}}$ a small country with $[_{\text{DP}_2}$ border disputes $]]$ ...

a. $[_{\text{CP}}$ who threatens to cause a hugely disastrous war $]_1]_3$.

b. $[_{\text{CP}}$ which threaten to cause a hugely disastrous war $]_2]_3$.

The true success of this or any account of these examples, however, will ultimately rely on an explanation of precisely why it is that they differ from Akmajian's (1975) examples in (3). As far as I am aware, no such explanation exists and it remains an interesting question for future research.

References

Akmajian, Adrian (1975). More evidence for an NP cycle. *Linguistic Inquiry* 6, 115–129.

Baltin, Mark (1987). Do antecedent-contained deletions really exist? *Linguistic Inquiry* 18, 579–595.

Baltin, Mark R. (1981). Strict bounding. Baker, C. L. & J. McCarthy (eds.), *The Logical Problem of Language Acquisition*, MIT Press, Cambridge, Massachusetts.

Bhatt, Rajesh & Rumi Pancheva (2004). Late merge of degree clauses. *Linguistic Inquiry* 35, 1–45.

Bobaljik, Jonathan (1995). *Morphosyntax: The syntax of verbal inflection*. Ph.D. thesis, MIT, Cambridge, MA.

Bresnan, Joan (1971). On sentence stress and syntactic transformations. *Language* 47, 257–281.

Bresnan, Joan (1976). On the form and functioning of transformations. *Linguistic Inquiry* 7, 3–40.

Brody, Michael (1995). *Lexico-Logical Form: A Radically Minimalist Theory*. Massachusetts Institute of Technology, Cambridge, MA.

Carlson, Greg N. (1977). *Reference to Kinds in English*. Ph.D. thesis, University of Massachusetts, Amherst, MA.

Chomsky, Noam (1973). Conditions on transformations. Anderson, Stephen & Paul Kiparsky (eds.), *A festshcrift for Morris Halle*, Holt, Rinehard, and Winston, New York.

Chomsky, Noam (1993). A Minimalist Program for Linguistic Theory. Hale, Ken & Samuel J. Keyser (eds.), *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, MIT Press, Cambridge, MA, 1–52.

Chomsky, Noam (2000). Minimalist inquiries: The framework. Martin, Roger, David Michaels & Juan Uriagereka (eds.), *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, MIT Press, 89–156.

Chomsky, Noam & Howard Lasnik (1977). On filters and control. *Linguistic Inquiry* 8, 425–504.

Epstein, Samuel & T. Daniel Seely (2002). Rule application as cycles in a level-free syntax. Epstein, Samuel & T. Daniel Seely (eds.), *Derivation and Explanation in the Minimalist Program*, Blackwell, Malden, MA, 65–84.

Fox, Danny. (2002). Antecedent-contained deletion and the copy theory of movement. *Linguistic Inquiry* 33:1, 63–96.

Fox, Danny & Jon Nissenbaum (1999). Extraposition and Scope: A case for overt QR. Bird, Sonya, Andrew Carnie, Jason D. Haugen & Peter Norquest (eds.), *The Proceedings of WCCFL 18*, Cascadilla Press, Sommerville, MA, 132–144.

Groat, Erich & John O'Neil (1996). Spell-Out at the LF interface. Abraham, Werner, Samuel David Epstein, Hóskuldur Thráinsson & C. Jan-Wouter Zwart (eds.), *Minimal Ideas*, John Benjamins Publishing Company, Amsterdam, 113–139.

Grosu, Alexander (1973). On the status of the so-called Right Roof Constraint. *Language* 49, 294–311.

Guéron, Jaqueline & Robert May (1984). Extraposition and Logical Form. *Linguistic Inquiry* 15, 1–32.

Johnson, Kyle (1985). *A case for movement*. Ph.D. thesis, MIT, Cambridge, MA.

Johnson, Kyle (2012). Towards deriving differences in how *Wh* Movement and QR are pronounced. *Lingua* 122, 529–553.

Koster, Jan (2000). *Extraposition as parallel construal*. Ms., University of Groningen.

Ladusaw, William (1979). *Polarity Sensitivity as Inherent Scope Relations*. Ph.D. thesis, University of Texas, Austin, TX.

Larson, Richard & Robert May (1990). Antecedent containment or vacuous movement: Reply to Baltin. *Linguistic Inqruiry* 21, 103–122.

[7] It is necessary to make the supplemental assumption for (4b) at least that it is possible to late-merge an RC into an embedded position. See Rochemont & Culicover 1990:63 for potential evidence that this is not possible.

Lebeaux, David (1988). *Language acquisition and the form of the grammar*. Ph.D. thesis, University of Massachusetts, Amherst, MA.
Linebarger, Marcia (1987). Negative polarity and grammatical representation. *Linguistics and Philosophy* 10, 325–387.
May, Robert (1985). *Logical Form*. The MIT Press, Cambridge, MA.
Overfelt, Jason (in prep.). *Extraposition of NPIs from NP*. University of Massachusetts, Amherst, MA.
Rochemont, Michael & Peter Culicover (1990). *English focus constructions and the theory of grammar*. Cambridge University Press, Cambridge, UK.
Ross, John R. (1967). *Constraints on variables in syntax*. Ph.D. thesis, MIT, Cambridge, MA.
Sag, Ivan (1976). *Deletion and logical form*. Ph.D. thesis, Massachusetts Institute of Technology.
Stowell, Tim (1981). *Origins of Phrase Structure*. Ph.D. thesis, MIT, Cambridge, MA.
Strunk, Jan & Neal Snider (2008/2013). Subclausal locality consttraints on relative clause extraposition. Webelhuth, Gert, Manfred Sailer & Heike Walker (eds.), *Rightward Movement in a Comparative Perspective*, John Benjamins, Amsterdam.
Taraldsen, Tarald (1981). The theoretical interpretation of a class of marked extractions. Belleti, Adriana, Lucieta Brandi & Luigi Rizzi (eds.), *Theory of Markedness in Generative Grammar*, Scuola Normale Superiore, Pisa.
Tiedeman, Robyne (1995). Some remarks on antecedent contained deletion. Haraguchi, Shosuke & Michio Funaki (eds.), *Minimalism and Linguistic Theory*, Hituzi Linguistics Workshop Series 4, Hituzi Syobo, Japan, 67–103.
Uriagereka, Juan (1999). Multiple spell-out. Epstein, Samuel & Norbert Hornstein (eds.), *Working minimalism*, MIT Press, Cambridge, Massachusetts, 251–282.
Uribe-Etxevarria, Maria (1994). *Interface Licensing Conditions on Negative Polarity Items: A Theory of Polarity and Tense Interactions*. Ph.D. thesis, University of Connecticut, Storrs, CT.
de Vries, Mark (2002). *The Syntax of Relativization*. Ph.D. thesis, Universiteit van Amsterdam.
Webelhuth, Gert, Manfred Sailer & Heike Walker (eds.) (2013). *Rightward Movement in a Comparative Perspective*. John Benjamins, Amsterdam.
Williams, Edwin (1977). Discourse and logical form. *Linguistic Inquiry* 8, 101–139.

Proceedings of the 32nd West Coast Conference on Formal Linguistics

edited by Ulrike Steindl, Thomas Borer, Huilin Fang, Alfredo García Pardo, Peter Guekguezian, Brian Hsu, Charlie O'Hara, and Iris Chuoying Ouyang

Cascadilla Proceedings Project Somerville, MA 2015

Copyright information

ISBN 978-1-57473-466-9 library binding

Ordering information

Orders for the library binding edition are handled by Cascadilla Press.
To place an order, go to www.lingref.com or contact:

Cascadilla Press, P.O. Box 440355, Somerville, MA 02144, USA
phone: 1-617-776-2370, fax: 1-617-776-2271, sales@cascadilla.com

Web access and citation information

This entire proceedings can also be viewed on the web at www.lingref.com. Each paper has a unique document # which can be added to citations to facilitate access. The document # should not replace the full citation.

This paper can be cited as:

Overfelt, Jason. 2015. On the Subclausal Locality of Extraposition from NP. In *Proceedings of the 32nd West Coast Conference on Formal Linguistics*, ed. Ulrike Steindl et al., 159-170. Somerville, MA: Cascadilla Proceedings Project. www.lingref.com, document #3167.