Non-local extraposition: a modification of Williams's Generalization[*]

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1 Introduction

In this squib I would like to discuss a case of extraposition that appears to violate the Complex NP Constraint, CNPC. I will propose that the apparent violation follows from the possibility of combining local QR with deeply embedded Late Merge (LM).

2 Apparent non-locality

It is well known that movement out of CNPs leads to unacceptability, (1). But parallel extraposition is — relatively speaking — acceptable, (2).

(1)   a. I bought a car owned by Fred.
       b. *By whom did you buy a car owned?

(2)   ?We [[[looked at [a house owned by someone]] yesterday] who teaches at UCLA].

If extraposition involved movement of the extraposed relative clause, this contrast would be mysterious. Under the proposal advocated by Fox and Nissenbaum (QR + LM), it also seems surprising, since the relevant environment seems to be a scope island:

(3)   #We [[[looked at [a house owned by every faculty member]]]]
       compare: *We looked at a house **jointly** owned by every faculty member.*

The sentence in (3) entails the existence of a single house that is owned by every faculty member, and, thus, conflicts with world knowledge (common assumptions about ownership, as opposed to joint ownership). If the universal quantifier could

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[*] Much of this work was written as a reaction to Johnson 2012, 2016. But my intellectual and personal debt goes way beyond. I met Kyle when I was a first year graduate student, and a question he asked me at the time was crucial for the core of my PhD thesis. I realized then that it would be wise to latch on, which, from many different perspectives, turned out to be an important realization. Thank you Kyle and happy birthday.

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take matrix scope, an alternative interpretation would be available for the sentence, one that would be natural. It is thus reasonable to conclude that QR is subject to the CNPC (as is standardly assumed; see Ruys & Winter 2010, Lechner 2015, among others).

3 Proposed analysis

I would like to propose that the apparent violations of the CNPC we've seen are derived if LM can apply in deeply embedded positions. Specifically, the sentence in (2) can be derived by QR of the complex NP *a house owned by someone*[1] followed by LM of the RC to the deeply embedded QP, someone. The derivation is given below:

(2′)   We looked at a house owned by someone yesterday who teaches at UCLA.

   a.
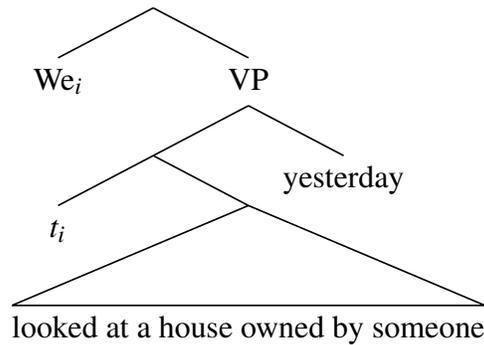
   b.   *QR* ('overt')

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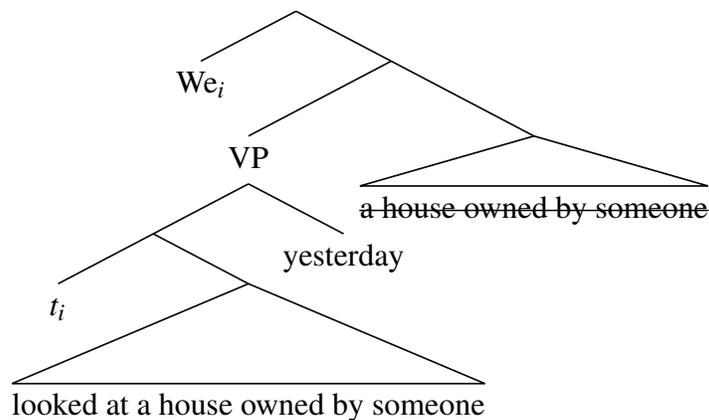
1 Whether this form of embedded LM is possible can also be tested by looking at overt movement if we have ways of investigating the properties of the trace (e.g. Condition C of the Binding Theory, see section 4). Judgments, however, are not as straightforward as one would hope for. For conflicting reports, see Tada 1993, Sauerland 1998, Sportiche 2016.

c. *Late Merge* ('overt')
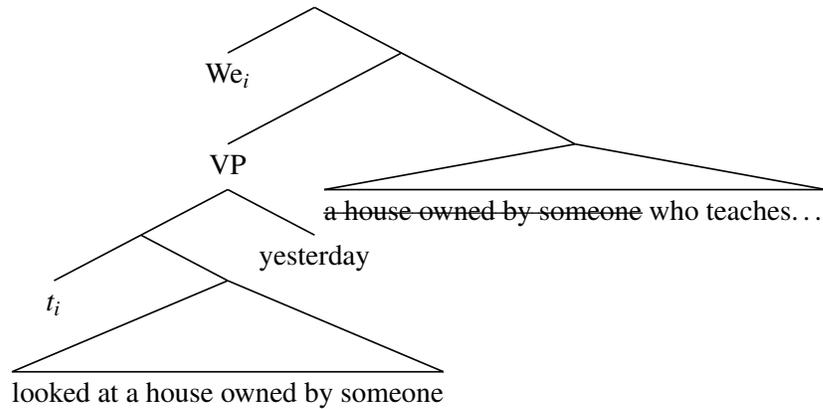
What I propose is that a complex QP can undergo QR, with LM applying to an NP that is deeply embedded within this complex QP. In the next section I would like to investigate a prediction that this proposal makes for the scope of the DPs involved in such non-local extraposition.
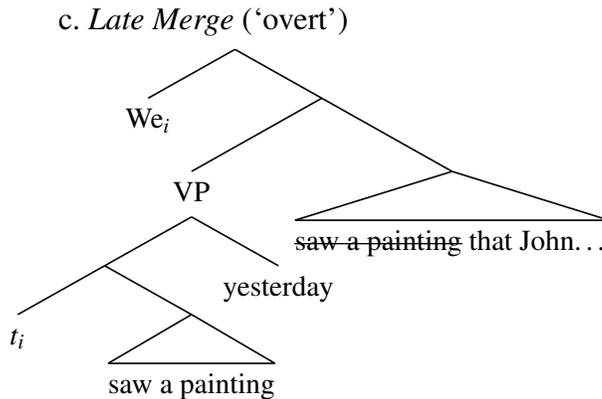
4 Scope

Fox & Nissenbaum (1999), following an earlier proposal by Guéron & May (1984) and a related proposal in Reinhart 1991, argue that extraposition of NP modifiers involves Quantifier Raising (QR) in its derivation. Specifically, they propose that the derivation involves QR followed by LM of an adjunct (proposed by David Lebeaux for *wh*-movement).[2]

(4)   We saw a painting yesterday that John talked about.

a.

b. *QR* ('overt')

_____
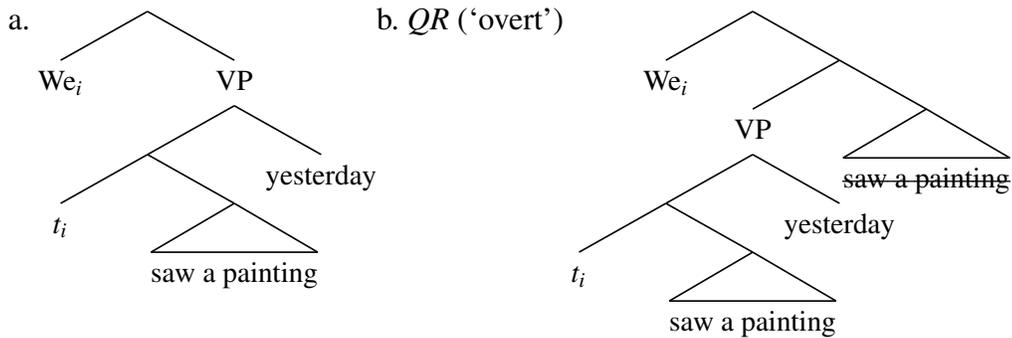
2 Nothing in this paper relies on specific claims about the nature of the derivation. What is important, in the context of this paper, is the final LF representation. For different views about the nature of the derivation which agree with Fox & Nissenbaum (1999) about the relevant properties of the LF representations, see Johnson 2012 and Sportiche 2016. See also below.

c. *Late Merge* ('overt')

This proposal leads to the prediction that the scope of the relevant QP in an extraposition construction should be at least as high as the extraposition site, (5), a prediction that has been corroborated by contrasts such as that in (6). (See Fox 2002, 2003, Fox & Nissenbaum 1999, 2000 for discussion and additional examples.)

(5)   *Williams's generalization (WG)*
        When an adjunct β is "extraposed" from a "source QP" α, the scope of α is at least as high as the attachment site of β (the extraposition site).[3]

(6)   a.   I read a book before you did.
               ($\exists > before$) (*before* $> \exists$)
        b.   I read a book that John had recommended before you did.
               ($\exists > before$) (*before* $> \exists$)
        c.   I read a book before you did that John had recommended.
               ($\exists > before$) *(*before* $> \exists$)

WG states that extraposition has consequences for the scope of the source QP. But if embedded LM is possible, this is no longer predicted. Extraposition need not affect the scope of the source QP because the relevant sequence of words can sometimes result from QR of a properly containing QP as in (2′). Still extraposition should always have consequences for the scope of some QP that dominates (or is identical to) the source QP. We thus predict a weaker generalization than (5):

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3 By the source QP, we mean the minimal QP that dominates the item that β modifies. By 'the scope of α is at least as high as the attachment site of β' we mean that every node dominating the base position of α which does not dominate β is in the scope of α. (5) is a slight modification (due to Fox & Nissenbaum 1999) of the original statement of the generalization (Williams 1974: chapter 4. Williams (in contrast to Fox and Nissenabum) did not restrict himself to adjuncts, perhaps because he did not look at extraposition from NP (see Fox & Nissenbaum 1999) but comparative- and result-extraposition, where, as Bhatt & Pancheva (2004) argue, complements pattern with NP adjuncts (for reasons having to do with the nature of Trace Conversion).

(7)   *Modified Williams's generalization (MWG)*
       When an adjunct β is "extraposed" from a "source QP" α, there must be a QP α' which is either identical to or dominates α (α' reflexively dominates α) and the scope of α' must be at least as high as the attachment site of β (the extraposition site).

Counterexamples to WG, which motivate the weaker formulation, are provided in (8) and (9). In these examples an NPI would not be in a downward entailing environment if WG were correct. From the derivational perspective, if extraposition of the RC in these cases involved QR of the NPI headed by *any*, we would expect the requirements of the NPI (that it be in a downward entailing environment) not to be satisfied, contrary to fact.[4]

(8)   a.   I'll [[read [every paper that was recommended by any linguist] next year] who teaches at UCLA].

(9)   a.   I'll [[talk to you about [every paper that was recommended by any linguist] when we meet] who teaches at UCLA].
       b.   I'll [[do [nothing that was prohibited by anyone] when I am a student] who would have any authority over me].

The acceptability of these sentences is expected with embedded LM, since the source QP need not QR to the position where the extraposed material is linearized; instead the higher QP (the one that dominates the source QP) can QR. But the argument for embedded LM would be stronger if it were based on non-trivial consequences of MWG for cases in which MG is counter-exemplified. To test such consequences, we would have to look at the scope of the non-local QP.

Stated somewhat differently, Fox & Nissenbaum 1999 and subsequent work focused on cases in which only one QP dominates the source QP. For such cases, whether or not embedded LM is possible has no consequences, and, in particular, WG and MWG are equivalent. When two distinct QPs dominate the source QP, embedded LM allows the non-local QP to QR, and thus predicts counter-examples

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4 This argument would not go through if the relative clause could license the polarity item independently of its external argument (what Dayal 1998 has called sub-trigging). But if this were possible, we would expect the following to be acceptable.

(i)   *I read anything yesterday that John had recommended.

One, of course, still needs to understand why sub-trigging is incompatible with extraposition. If sub-trigging requires reconstruction of the head-noun to its base position, things would follow from the observation of Hulsey & Sauerland 2006 that LM is incompatible with head-raising diagnostics. See Sportiche 2016 for further discussion.

to WG. That the local QP need not have wide scope has been verified, but now we would like to examine the scope of the non-local QP.

4.1   Setting the stage

To set the stage, I would like to introduce an environment in which the relevant scopal relationships, which are normally quite difficult to detect by introspection, can be controlled for by plausibility considerations. Consider the two sentences in (10), which differ minimally in the boldfaced material, a difference that has clear consequences for scope assignment. The natural interpretation of (10a) involves wide scope for the negative QP (*nothing prohibited*) over the *without*-phrase. Under this interpretation, the sentence states that there is nothing prohibited that John did without (as a consequence) being reprimanded for doing it (i.e., that he was reprimanded for everything prohibited that he had done). The sentence can also be interpreted with narrow scope for the negative QP (below *without*). Under this less natural interpretation, the sentence states that John did nothing prohibited and that he was not reprimanded (as a consequence of doing nothing prohibited). This interpretation is probably less natural because no one would expect anyone to be reprimanded for avoiding what is prohibited. In any event, the status of this second interpretation of (10a) is not going to be important for our purposes.

(10)   *Plausibility Considerations Determine Scope*

   a.   John did nothing **prohibited** without being reprimanded.
   (preferred reading: *nothing > without*)

   b.   John did nothing **required** without being reprimanded.
   (*without > nothing*; #*nothing > without*)

What is important is that this second scopal relationship (narrow scope for the negative QP) is the only plausible option in (10b). For (10b), in contrast to (10a), wide scope for negative QP is entirely implausible. The sentence states that John did nothing required and (nevertheless) was not reprimanded. In other words, it states that the school was not particularly harsh in enforcing its requirements. Had the negative QP received wide scope, the sentence would have stated that there is nothing which is required that John did without (as a consequence) being reprimanded for it, i.e., that the school penalized John every time he did something which was required, and that, of course, is not particularly plausible. The same contrast can be seen in (11), which differs from (10) just in the presence of a complex *by*-phrase, a difference that will turn out to be useful in distinguishing WG from its modification in (9).

(11)   *Plausibility Considerations Determine Scope*

    a.   John did nothing **prohibited** by anyone who teaches in this school without being reprimanded.
        (preferred reading: *nothing > can*)

    b.   John did nothing **required** by anyone who teaches in this school without being reprimanded.
        (*can*, *without > nothing*; #*nothing > can*, *without*)

4.2 Where WG and MWG are equivalent

Before we get to our crucial test case, consider the contrasts in (12) and (13), which instantiates both WG and MWG. In both the (a) and the (b) cases, extraposition of the relative clause rules out a parse in which the source QP receives narrowest scope (below the *without*-phrase). In the (a) cases, this scopal requirement is consistent with a natural interpretation, whereas in the (b) cases it conflicts with the plausibility considerations outlined above. More specifically, in the (b) cases extraposition leads, by WG, to an implausible interpretation (suggesting that students are penalized when meeting the school's requirements).

(12)   a.   John did nothing, without being reprimanded, that is prohibited.
        b.   #John did nothing, without being reprimanded, that is required.

(13)   a.   John can do nothing, without being reprimanded, that is prohibited.
        b.   #John can do nothing, without being reprimanded, that is required.

Since no distinct QP dominates the source QP, the contrast follows under MWG as well and cannot serve to distinguish the two generalizations. The same holds, of course, for (14) and (15).

(14)   a.   John did nothing, without being reprimanded, prohibited by anyone who teaches in this school.
        b.   #John did nothing, without being reprimanded, required by anyone who teaches in this school.

(15)   a.   John can do nothing, without being reprimanded, prohibited by anyone who teaches in this school.
        b.   #John can do nothing, without being reprimanded, required by anyone who teaches in this school.

4.3 Distinguishing WG from MWG

Consider now the facts in (16) and (17). The (a) sentences, although difficult to parse, provide counter-examples to WG of the sort we've seen in (8) and (9), and

likewise argue that MWG is a better generalization. More specifically, here, just like in (8) and (9), we see that the source QP (the NPI) need not take scope at the extraposition site, since this would place it outside the scope of its licensing operator. However, in these sentences, in contrast to (8) and (9), we can test the consequences of extraposition for the scope of the non-local QP (the one that properly dominates the source QP).

(16)   a.   John did nothing prohibited by anyone, without being reprimanded, who teaches in this school.

           b.   #John did nothing required by anyone, without being reprimanded, who teaches in this school.

(17)   a.   You can do nothing prohibited by anyone, without being expelled, who teaches in this school.

           b.   #You can do nothing required by anyone, without being expelled, who teaches in this school.

For the NPI to be licensed (and for the CNPC to be satisfied) the derivation must involve QR of the negative QP *nothing required/prohibited. . .* followed by embedded LM of the relative clause to the source NP. The consequences of QR for scope (MWG) are corroborated: we see that the negative QP must take scope over the *without*-Phrase and that subsequently there is a contrast between the (a) and the (b) sentences which parallels what we've seen in (12) and (14).

5   Consequences

Assume that the LF structures suggested by the scope judgments are correct. The question we should ask (following Bachrach & Katzir 2009, Johnson 2012, 2016, Sportiche 2016) is whether LM is literally needed or whether there is, instead, a way to derive the required LF representation that is (a) not counter-cyclic and (b) consistent with a multi-dominance view of movement. This is a question that will have to be discussed on a different occasion.

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