Raising *only*

Michael Rochemont   Tel Aviv University   Thursday Nov. 10, 2016

Introduction

Abstract: In the long history of the study of only in the generative literature, it has been accepted since Anderson 1972 that when only occupies an adverbial position at the beginning of VP it must have been base generated there. My primary goal in this paper is to outline and defend an analysis of only as having achieved this position through transformational raising rather than base generation. A substantial consequence of this reanalysis is that it allows a coherent account of the specific freezing effects to be found in the syntax of only and of association with only, appealing to the Criterial Freezing proposal of Rizzi 2004, 2010. The analysis is extended to include an account of the core properties of only phrases in the affective inversion construction, following Rizzi 1991 and Drubig 1992.

1.   a.   John likes only Bill$_F$.
       b.   John only likes Bill$_F$.
       c.   Only Bill$_F$ does John like.

   - discontinuous dependencies between *only* in (1a,b) and *only Bill* in (1a,c)
   - truth conditionally equivalent readings, suggesting they may all have a common source
   - the source is effectively (1a): *only* raising relates (1a,b); only phrase raising relates (1a,c)
   - possible motivation: *only* requires propositional scope, satisfied in (1b,c) but not (1a)
   - at least one of these two operations is also available at LF, for (1a)

2.   The police only arrested the man who killed Bobby$_F$ Kennedy.

   - Anderson 1972: *only* cannot raise out of an island, so it must be merged in situ
   - Rooth 1985: the associate cannot raise at LF out of an island, so the interpretive procedure must establish the *only*-associate relation without movement too. This argument has been challenged by Drubig 1994, Krifka 2006, and Wagner 2006.
   - in Rooth's analysis, [*only* XP] achieves scope in (1a) by QR, which accounts for the ambiguity of Taglicht sentences (3c/4c). (Rooth does not discuss cases like (1c).) I tentatively assume this analysis, though noting that the appeal to QR is suspect. QR is generally clause bound, but must not be if the b readings are to be derived from the c examples. I revise this assumption below.

Freezing Effects in Association with *only*

   - Taglicht (1984) sentences: e.g. (4c) can mean either that the instructors require that the only language we speak is Spanish (= (4a): we can speak no other language), or that the only requirement the instructors make is that we speak Spanish (= (4b): we can speak other languages so long as we also speak Spanish).

3.   a.   They advised us to only learn Spanish$_F$.
       b.   They only advised us to learn Spanish$_F$.
       c.   They advised us to learn only Spanish$_F$.

4.   a.   The instructors require that we only speak Spanish$_F$.
     b.   The instructors only require that we speak Spanish$_F$.
     c.   The instructors require that we speak only Spanish$_F$.

Why is *only's* scope frozen in (3/4 a,b) but not in (3/4c)?

- It is well known that *only*'s focus associate is frozen in regard to extraction out of the domain of *only* (e.g. Jackendoff 1972, Beaver & Clark 2008). In (5) for example, under no circumstances can *who/John* be interpreted as *only*'s associate.

5.   a.   *Who does Bill only like?
     b.   *John, Bill only likes.
     c.   *John was only liked by Bill.
     d.   *John is hard for Bill to only like.
     e.   *John is the person who Bill only likes.

Beaver & Clark 2008: 172 stipulate that focused phrases do note leave F-marked traces behind (and *only* must c-command its F-marked associate).

- Rizzi's Criterial Freezing proposal provides a natural account of these observations if both only and its associate undergo raising, either covertly or overtly. The essence of Rizzi's proposal is that a constituent goal that raises to a probe phrase expressing a scope-discourse property (Chomsky 2000) thereby satisfies a criterion (Rizzi 1996), and this criterial position terminates the chain created by movement of that constituent, effectively freezing it in the scope-discourse position (Rizzi 2006, Rizzi & Shlonsky 2007). In Criterial Freezing, the internally merged position marks the endpoint of a chain whose initial position is the externally merged position of the constituent, the position in which its c-/s-selectional properties are expressed. The criterial goal is frozen, though in principle further sub-extraction from it may be allowed (Rizzi 2007, 2010). The possibility for sub-extraction is irrelevant for *only* raising, but sub-extraction from *only*'s associate is indeed possible.

6.   a.   Who did you only take [pictures of t]$_F$?
     b.   Who did you take only [pictures of t]$_F$?

- *only* raising: [OPe […. [only [XP]…] → [OPe + only […. [t [XP]…]
- Associate raising: [OPe + only [… XP$_F$ …]] → [XP$_F$ [OPe +only] […t$_{XP}$…]]

only Raising and Association

- Limiting *only* vs excluding *only* (Taglicht 1984, Bayer 1996): excluding (henceforth 'exclusive') *only* takes proposition-level scope domain (7b,c), while limiting *only* often takes a smaller, non-proposition-level (DP?) scope domain (7a).

7.   a.   You must build an only slightly larger model.
     b.   You must build only a slightly larger model.
     c.   You must only build a slightly larger model.

In particular, (7a) cannot exclude relevant propositional alternatives (cf, 8a), whereas (7b,c) can (cf. 8b, c).

8. a. You must build an only slightly larger mode. You can also build a much larger model.

b. You must build only a slightly larger model. #You can also build a much larger model.

c. You must only build a slightly larger model. #You can also build a much larger model.

Three further tests support this distinction. First, VP Ellipsis (9a,b) shows that exclusive *only* does not reconstruct from its scope position (Bayer 1996). Limiting *only* does not have a VP external scope position and must reconstruct (9c).

9. a. John only built a slightly larger model after I showed him how to (build a slightly larger model).

   b. John built only a slightly larger model after I showed him how to (build a slightly larger model).

   c. John built an only slightly larger model after I showed him how to (build an only slightly larger model.)

Second, Affective Inversion is triggered by exclusive *only* but not by limiting *only* (Taglicht 1984).

10. a. Only a slightly larger model did John build / * John built.

    b. An only slightly larger model John built / *did John build.

Third, limiting *only*, unlike exclusive *only*, does not display Taglicht-type ambiguities. That is, (11a) can have neither of the readings in (11b,c).

11. a. They were advised to build an only slightly larger model.

    b. They were advised to only build a slightly larger model.

    c. They were only advised to build a slightly larger model.

Henceforth, I deal solely with exclusive *only*. That DP internal *only* has scope restricted to DP suggests that *only* raising cannot apply to it (cf. (12)). Evidently, *only* cannot transit scope domains, and *only* raising is strictly bounded.

12. a. I met the only person with blond hair.

    b. I only met the person with blond hair.

- With Bayer 1996, I take *only* to be a MFH (Minor Functional Head - Rothstein 1991). As a MFH, *only* must merge with a category that allows it to project without changing the categorial projection of its complement.

Departing from previous assumptions, I assume that *only* subcategorizes for either maximal lexical or fully extended lexical projections (DP/PP, CP, VP, NP, AP, etc.). The subcategorization restriction against merger with IP is a long recognized restriction on the distribution of *only*, generally unaccounted for but accommodated under this proposal. If the restriction is extended to vP, it will require that *only* merged with VP must raise to vP to achieve a scope interpretation. A welcome result of this latter consequence is that *only* cannot associate with a clause mate subject from the vP scope position, since it must be independently required that *only* c–command its associate from every position in its chain.

13. a. John introduced only Bill to Mary.

    b. John only [introduced Bill$_F$ to Mary$_F$].

- Concretely, *only* is externally merged with its associate as in (1a). Tthe scope position overtly occupied by *only* in (1b) is externally merged with vP as a silent (possibly

adverbial) operator equivalent of *only* that has an unvalued operator feature that attracts the MFH *only* to it by head raising. *Only* raises and re-merges with [Op *e*], satisfying the scope criterion under head adjunction (Laenzlinger 1998, Rizzi 2007, 2010). Because this is a criterial position, no further movement of *only* is possible, even at LF. Importantly, *only*'s chain has two positions, its initial Merge position and its surface scope position, as required by the Criterion analysis. This provides for the character of the Taglicht examples, in which once *only* occupies a vP edge scope position, it is frozen (3/4 a vs.c).

- How can (2) be analyzed under this proposal? Recall that raising of *only* is strictly bounded – it cannot transit potential scope domains freely. It is therefore not expected to be cross-clausal, and even if it were, it would not be expected to freely transit across islands (like those bracketed below) known to restrict LF raising. So (2) cannot have (14) as a source.

2.   The police only arrested [the man who killed Bobby$_F$ Kennedy].
14.   The police arrested [the man who killed only Bobby$_F$ Kennedy].

How does *only* achieve its scope position in (2)? In parallel with my proposal for (1a,b), I suggest that the source for (2) is actually (15).

15.   The police [OPe] arrested [only [the man who killed Bobby$_F$ Kennedy]]

- Examples like (2) have also been used to argue against a covert raising analysis of *only*'s semantic focus. The failure of such an analysis leads Anderson 1972, Rooth 1985, Kratzer 1991 among others to seek an in situ account of the interpretation of examples like (2).

On the other hand, Drubig 1994 contests the necessity to abandon the LF analysis and resurrects it, on the basis of the proposal that it is the island containing the F-marked associate that raises covertly to *only*'s SPEC in cases like (2) rather than the associate itself. He gives several arguments in defence of this proposal, but one telling observation is that, when we consider the meaning of (2), the alternatives that *only* ranges over and for which it asserts an exhaustive selection are alternatives to men who the police arrested rather than alternatives to members of the Kennedy family. That is, it is indeed the island that *only* associates with in its identification of alternatives and not the "focus" itself. Krifka 2006, while adding further support to Drubig's analysis that it is the island that LF raises, proposes to keep the in situ analysis as well, for interpreting the pivot on which the alternatives to different men arrested by the police are drawn (that is, the alternatives consist at least partly of men who have killed a member of the Kennedy family).

- There is no principled redundancy between *only*'s requirement to select an XP as complement and its requirement for a focus associate: the former is satisfied at first Merge, and the latter by a phrase in the spec of *only* at LF, a goal attracted by *only* from its scope position.
- Covert raising of the associate immediately accounts for two widely noted but underived properties of association with *only*: (i) the phrase that serves as the focus associate of *only* is always a maximal projection, and never a head for example (Bayer 1996, Wagner 2006); and (ii) *only* must c-command its associate in order to attract it (Tancredi 1990).

- Returning to the Taglicht examples, given that *only* can undergo local raising exclusively, then neither (4a) nor (4c) can be the source of (4b).

4. a. The instructors require that we only speak Spanish$_F$.
    b. The instructors only require that we speak Spanish$_F$.
    c. The instructors require that we speak only Spanish$_F$.

What is the source of (4b)? Having made a distinction between *only*'s complement at first Merge and its focus associate (which occupies its spec at LF), we can propose that (4b) takes (16) as its source.

16. The instructors require [only [$_{CP}$ that we study Spanish$_F$]]

Only raises to the matrix clause internal scope position. Its focus associate *Spanish* is raised covertly from the embedded clause. Since no island is crossed, the focus associate itself raises at LF and is used to determine the alternatives domain that *only* ranges over (its semantic restrictor).

- Wagner 2006 argues that NPI *any* may only appear in only's semantic restrictor, its focus associate, and not in its nuclear scope. (Throughout, I distinguish NPI *any* from non-NPI *any* by italicising the former.)

17. a. Only John ate *any* kale.
         *Only *any* student ate kale.
     b. John only gave *any* kale to his$_F$ friends.
         *John only gave *any* kale$_F$ to his friends.
     c. John only gave kale$_F$ to *any* of his friends.

He then uses the distribution of NPI *any* to diagnose the size of *only's* restrictor, achieving results that are consistent with Drubig's 1994 proposal that it is the focus phrase that *only* associates with and not simply the prosodic focus. Among other consequences, the data he presents show that (i) when V (or more generally the head of XP) is focused, *only*'s syntactic restrictor is the VP (XP) immediately containing V (X), and (ii) when *only*'s associate is contained in an island, it is the island that functions as the restrictor. In both cases, NPI *any* cannot appear within the phrase that serves as the restrictor (bracketed below), whether VP (18) or island (19).

18. *John only [CUT$_F$ *any* vegetables].
19. *?She only complained about [a restaurant that JOHN$_F$ had recommended to *anyone*].

Applying this diagnostic to the cases analysed thus far, we see that NPIs are distributed as Wagner's proposal predicts. When NPIs appear within the complement of *only*, they are licit when the complement does not contain an island so that the semantic focus is free to LF raise to *only*'s specifier (20a,b), but when the complement does contain an island, then NPI *any* cannot appear within the island (20c).

20. a. They only suggested that we give *any* kale to Bill$_F$.
     b. They only require that *anyone* study Spanish$_F$.
     c. *The police only arrested the friends of *any* man that tried to kill Bobby$_F$ Kennedy.

As expected, if (20b) is modified to contain an island (21), the result is an unlicensed NPI, since it appears at LF within *only*'s restrictor/specifer and not its complement/scope.

21.   *They only made [the request that *anyone* study SPANISH$_F$].

In either case, we see that *only*'s associate may be smaller than *only*'s complement (20a,b), or larger than *only*'s "semantic" focus (20c, 21), as Wagner's analysis predicts. In cases of multiple focus (22), where *only* associates with more than a single focus, *only* must be externally merged with the minimal XP (here, VP) that contains both focused elements.

22. a. She only introduced BILL$_F$ to *anyone*.
    b. She only introduced *anyone* to BILL$_F$.
    c. *She only introduced BILL to *ANYONE*.
    d. *She only introduced *ANYONE* to BILL.

only Phrase Raising

- Relating (1a,c).

1.   a.   John likes only Bill.
      c.   Only Bill does John like.

Affective Inversion (AI). Among other triggers, AI is associated with phrases containing *only*, *no*/*not*, etc., but also degree modifiers *so*, *too*, *enough*, etc. (these latter strictly when they are associated with an extraposed (23d-g) result clause, and not otherwise – see Williams 1974, Drubig 1992, a.o.).

23.   a.   Only Bill does John like. (= (1c)))
       b.   No fruit will John eat.
       c.   Rarely does John sing.
       d.   So tall is John *(that he can reach the ceiling).
       e.   Too tall is John *(to enter the cave).
       f.   Tall enough is John *(that he can reach the ceiling).
       g.   More often does John fail than you'd think.
             *More often than you'd think does John fail.

Certainly the degree cases are not "affective" in the required sense (they are not monotone decreasing, for instance (Drubig 1992)) and these instance of triggered inversion perhaps form a distinct construction. But then *only* phrases in such inversions show properties quite distinct from the negation conditioned equivalents. For instance, negation can be fairly deeply embedded in the AI trigger, a fact which has led to much theorizing about the nature of pied piping (see Drubig 1992 for extensive discussion and references). But not so for *only*, where some depth of embedding is allowed (24b), but is highly restricted (to scalar readings only so far as I can determine, cf. (24c, 25b)).

24. a. The secretary of NO professor were the students willing to approach.
    b. The secretary of only ONE professor were the students willing to approach.
    c. *The secretary of only one PROFESSOR were the students willing to approach.
25.   a.   The mother of no bride will he dance with.
       b.   *The mother of only the bride will he dance with.
       c.   Only the bride will he dance with the mother of.

26.   a.   The election of no candidate did *anyone* dispute.
         b.   *The election of only a woman did *anyone* dispute.

Note also that AI-*no* is not possible with adjuncts ((27a) cannot have a reading like (28a)), in contrast to AI-*only*.

27   a.   With no woman in the house, John would be happy.
        b.   With only a woman in the house, John would be happy.
28   a.   *With no woman in the house would John be happy.
        b.   Only with a woman in the house would John be happy.

So attempts to describe a unified criterial account of the inversion, as in Rizzi 1990, 1990a, 1991[1996], Drubig 1992, and others, are perhaps overly ambitious. In any case, I will restrict attention here to *only*-conditioned affective inversion (henceforth AI-*only*), and formulate a criterial account exclusively in these terms.

- My claim is that in (1c) *only John* overtly occupies a dedicated scope position for *only*.

In (1c) *only* c-commands its associate, but it is the *only* phrase that c-commands *only's* syntactic scope. How is *only's* scope requirement satisfied in this configuration? Again, I posit a silent operator equivalent of *only*, this one appearing in the sentential left periphery with a different feature structure than its vP peripheral counterpart. I label this head ONLY. ONLY bears unvalued D and operator features that are valued by a phrase that has been attracted to its specifier position, and an unvalued V feature that is valued by V raising to it. ONLY thus stands as proxy for the *only* phrase that values it and c-commands *only's* scope. This solution is supported by the following consideration. In general, *only* must overtly precede and c-command a potential NPI (29).

29.   a.   *John gave only KALE$_F$ to *any* of his friends.
        b.   John only gave KALE$_F$ to *any* of his friends.

In contrast, in AI-*only*, *only* appears to c-command out of its phrase for purposes of licensing NPIs.

30.   a.   *John will give *any* kale only to Bill$_F$
        b.   John will only give *any* kale to Bill$_F$.
        c.   Only to Bill$_F$ will John give *any* kale.
31.   a.   *Anyone* will talk only to Bill$_F$.
        b.   *Anyone* will only talk to Bill$_F$.
        c.   Only Bill$_F$ will *anyone* talk to.

How is such an analysis of AI-*only* embedded in the expanded left periphery and criterial freezing framework? Rizzi & Shlonsky 2007 posit that subjects generally satisfy a Subject Criterion by overtly occupying a criterial position in the specifier position of an abstract Subj head that appears at the left edge of IP/TP. This position is preceded by a Mod head that hosts clause internal modifiers in its specifier position. Notice that *only* phrases occupy a position between Mod and Subj, as seen in (32).

32.   Under those circumstances, only Bill would I consult.

I therefore posit that the order of heads in this portion of the left periphery is as below.

33.   … Fin [Mod [ONLY[Subj [T ….

I in (32) occupies Spec-Subj, *only Bill* occupies Spec-ONLY, and the PP occupies Spec-Mod. Modifying Rizzi & Shlonsky's analysis slightly, I assume that in the Subj projection, the tensed verb raises from T to adjoin to Subj and the subject is merged in Spec-Subj, satisfying the Subject Criterion. The Subj-T complex then raises to the ONLY head to value its V/T feature and the *only* phrase values ONLY's other features from Spec-ONLY. This gives the proper order of constituents in an example like (32).

- This analysis also correctly predicts that under Criterial Freezing the *only* phrase in AI-*only* is frozen in Spec-ONLY (29a), and that subextraction from this phrase should remain possible in the satisfaction of further criteria (34b).

34.   a.   *Only who (did Bill say) would he talk to?
       b.   Who did John say that only the pictures of would he destroy?
              Bill, only the parents of could I respect.

The subject itself is also frozen in Spec-Subj, and the usual escape from this position, as for example in Rizzi & Shlonsky 2007, is barred. Indeed, there can be no long subject extraction with or without the presence of an overt complementizer.

35.   a.   *Who only Bill would t talk to?
       b.   *Who did John say (that) only Bill would t talk to?

Conclusion

A raising analysis of preverbal *only* is indeed possible. In addition, this analysis leads to a natural account of two separate freezing effects in the syntax of association with focus: both *only* and its associate are frozen at a particular point in the formation of sentences which contain them. This, together with the Drubig/Krifka/Wagner proposal, can account for the core data at least as well as the in situ analysis, if not better. In particular, under the in situ account there is no role for syntactic constraints in the association between *only* and its semantic focus. Furthermore, the syntactic constraint encoded by Criterial Freezing provides a natural account of the otherwise puzzling freezing effects that arise in several instance of association with *only*, effects with no natural accommodation on the in situ analysis. The raising analysis provided here also allows deeper insight into the c-command requirement on the association relation, the need for *only*'s associate to be a maximal projection, and perhaps also for lack of association of *only* with a clausemate subject. I have further proposed an analysis of the Affective Inversion construction, particularly as it applies with *only*.

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