A Grammatical View of Exhaustification with Focus Movement: Evidence from NPI

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The NPI *any* can be licensed within the c-commanding domain of *only*, iff any part of the *any*P is NOT focused, as in (1). I show that both the F(ocus)-movement theory (Wagner 2006) and the G(rammatical)-view (Krifka 1995 a.o.) have difficulties in accounting for this licensing effect. I argue that those difficulties can be overcome via incorporating F-movement into the G-view.

(1) a. Mary only gave any funding to JOHN$_F$.
b. *John read only ANY$_F$ paper.
c. *John read only [any PAPER]$_F$, (he didn't read every book).
d. *John read only any PAPER$_F$, (he didn't read any book).

Wagner (2006) proposes to address the problem of NPI-licensing within *only* based on F-movement, because Rooth's (1985) theory is not obviously compatible with having a DE environment for *any*. Wagner assumes that the focused constituent moves covertly to the complement position (i.e. the syntactic restrictor) of *only*. Assuming that the scope of *only* is S(trawson) DE but the restrictor is not, he concludes that *any* isn't licensed if it is moved as (part of) the restrictor, as in (1b-d). Note that the *any*P in (1d) is an island and has to be moved as a whole.

Wagner's proposal, however, has the following problems. **P**(roblem)**1**, the SDE condition is neither necessary nor sufficient (Crnič 2011, Gajewski 2011). **P2**, Wagner doesn't explain why NPI *any* is bad in non-DE contexts. **P3**, F-movement isn't well-motivated. Wagner assumes that F-movement is used to strengthen the ∃-presupposition of *only*. This goal, however, can be achieved simply by stress. **P4**, moving focus to the complement of *only* violates the *Extension Condition* (Chomsky 1995): all movement operations extend the root of the structure that they apply to. **P5**, in (2), the *any*P should be allowed to vacate the VP, and the remnant VP subsequently associate with *only* (J. Gajewski p.c. to Wagner). **P6**, to get the correct scope readings for (3), Wagner has to assume that the focused QP is optionally reconstructed below *want*. However, reconstructing a covertly moved phrase is costly. **P7**, associating *only* into an island yields an overly strong reading. For instance in (4), due to the Left-Branch Extraction (LBE) constraint, *JOHN's advisors* is moved as a whole, and the F-movement theory predicts the overly strong reading in (4b).

(2) *John only CUT$_F$ any vegetables.

(3) She only wanted to kiss [at most 3 students]$_F$.

(4) Sue only invited ⌜ JOHN$_F$'s advisors ⌟.
a. → Sue didn't invite anyone's advisors except John's.
b. ↛ Sue didn't invite anyone except John's advisors.

The Grammatical View of Exhaustification (Krifka 1995, Lahari 1998, Chierchia 2006 a.o.) explains how *any* is licensed with *only* with assumptions compatible with Rooth's (1985) Alternative Semantics and the standard DE condition (**P1** avoided). Chierchia (2006, 2013) proposes that *any* has a [D] feature that activates D(omain)-alternatives and must agree with a c-commanding exhaustivity operator O_D. This O_D affirms the prejacent and negates all the non-entailed D-alternatives. In a non-DE context like (5a), assessing [D] with O_D negates all the subdomain alternatives, yielding a contradiction to the assertion (**P2** solved) and leaving *any* un-licensed. Chierchia a.o. extend this view to the case of *only*. They argue that (6a) has the LF in (6b), asserts (6c), and presupposes (6d). The presupposition in (6d) is irrelevant for weak NPI-licensing (Gajewski 2011). The assertion in (6c) creates a DE environment in the unfocused part and gets *any* licensed.

(5) a. *John read any paper.
b. O_D [John read any$_D$ paper]
c. Assertion: $\exists x \in D[P(x) \wedge R(j,x)]$
d. *D-ALT* $= \{\exists x \in D'[P(x) \wedge R(j,x)] \mid D' \subseteq D\}$

(6) a. Only JOHN$_F$ read any paper.
b. O_D [only [JOHN$_F$ read any$_D$ paper]]
c. $\forall y[\exists x \in D[P(x) \wedge R(y,x)] \rightarrow y = j]$
d. $\exists x \in D[P(x) \wedge R(j,x)]$

There are also problems with the G-view. **P8**, if the LFs in (7) (O_D and *only* check [D] and [F], respectively) are well-formed, (1b-c) would be predicted to be grammatical. **P9**, the G-view also

can not explain the ungrammaticality of (1d). **P10**, in (6c), the quantificational domain of *only* can't be written as a set of propositions like in (8), because the position for $\boxed{q}$ in (8) isn't DE.

(7) a. O_D only$_F$ [John read ANY$_{D,F}$ paper] b. O_D only$_F$ [John read [any$_D$ PAPER]$_F$]

(8) $\text{Only}(p) = \forall q \in ALT(p)[q \rightarrow p \subseteq \boxed{q}]$

My Proposal incorporates features of both the F-movement theory and the G-view. I assume that features that activate alternatives (e.g. [F] and [D]) are of the same type and can all be checked by the alternative-sensitive operator *only*. LFs in (7) are thus excluded because *only* checks off both [F] and [D]. My assumption has the following two consequences. **First**, associating *only* with *any* yields a contradiction and anti-licenses *any*: no matter whether *any*P is interpreted in-situ, as in (9a), or with QR, as in (9b), its [D] feature is evaluated in a UE context (**P8** solved).

(9) a. Only [John read [any$_D$ PAPER]$_F$] $\perp$

b. O_D [any$_D$ PAPER]$_i$ [only [John read $x_{i,F}$]] $\perp$

Second, the requirement of avoiding contradictions motivates F-movement. In (1a) and (6a), if the focused constituents were interpreted in-situ, as in (10a) and (11a), then due to the Relativized Minimality (Rizzi 1990) and the Focus Intervening Effects (Beck 2006), *only* would check off [D], yielding contradictions. To avoid those contradictions, I assume that the focused constituents in (1a) and (6a) are moved to the specifier of *only*, as in (10b) and (11b) (**P3&4** solved). If interpreting focus in-situ doesn't yield a contradiction, for instance in (12) where *any* can be licensed in-situ by negation, focus isn't moved. Similarly in (3), since F-movement isn't motivated, there is no need to resort a reconstruction (**P6** avoided). If a contradiction can't be salvaged by exercising F-movement, then NPI *any* isn't licensed; for instance in (1d), *any* is in the same island as focus, therefore its [D] feature is always checked by *only* no matter whether focus is moved (**P9** solved).

(10) a. O$_D$ only [Mary gave any$_D$ funding to JOHN$_F$] $\perp$

b. O$_D$ [$_{onlyP}$ JOHN$_{F,i}$ only [Mary gave any$_D$ funding to t_i]] $\surd$

(11) a. O_D [only [JOHN$_F$ read any$_D$ paper]] $\perp$

b. O$_D$ [$_{onlyP}$ JOHN$_{F,i}$ only [t_i read any$_D$ paper]] $\surd$

(12) a. Mary only didn't give any$_D$ funding to JOHN$_F$

b. Only O_D not [Mary gave any$_D$ funding to JOHN$_F$] $\surd$

As for (2), the only syntactically well-formed way to move *any*P is (13a), which is still untenable, because interpreting *any*P under the immediate scope of O_D yields a contradiction (**P5** solved). Cf. (13b), where *any* is licensed if (2) is uttered as the antecedent of a conditional.

(13) a. O_D [any$_D$ vegetable$_i$ [$_{onlyP}$ only [$_{\text{VP}}$ John CUT$_F$ t_i]]] $\perp$

b. If John only CUT any vegs (and didn't STEAM any vegs), his wife would be unhappy.

The operation of F-movement also affects **focus interpretations** especially the meaning of *only*. I assume that the quantificational domain of *only* is equal to the focus value of the c-commanding domain when focus is in-situ (à la Rooth 1985), and to the focus value of the moved phrase when focus is moved, as defined in (14) (**P7&10** solved). Take (15a) for example, the quantificational domain of *only* is the focus value of *JOHN's advisors*, as in (15d).

(14) $[\![\text{only}]\!] = \lambda f_{<\alpha,t>}.\lambda g_\alpha.\forall g' \in [\![g]\!]_f[f(g') \rightarrow g' \subseteq [\![g]\!]_0]$ ('$\subseteq$' is defined cross-categorically)

(15) a. Mary only gave funding to JOHN$_F$'s advisors.

b. O_D [$_{onlyP}$ [JOHN$_F$'s advisors] only λi [Mary gave any$_D$ funding to t_i]]

c. $[\![\text{JOHN}_F]\!]_f = D_e$

d. $[\![\text{JOHN}_F\text{'s advisors}]\!]_f = \{A(x) : x \in D_e\}$

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