

Focus structure and NPI-licensing

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It is well-known that the NPI *any* must stay in downward-entailing (DE) contexts. However, *any* can also be licensed within the c-commanding domain of *only*, as in (1a). In particular, any part of the *any*-phrase can not be focused (Wagner 2006), as in (1b-d). Previous studies (von Stechow 1999, Wagner 2006, Hsieh 2012) attribute the licensing effect in (1a) to the S(trawson)-DE condition. However, this condition is neither necessary nor sufficient (Crnič 2011, Gajewski 2011). In this paper, I extend the exhaustification theory from Krifka (1995) a.o. to capture the anti-licensing effects in (1b-c), and propose a deletion theory on *only* to explain the ungrammaticality in (1d).

- (1) a. Only JOHN_F read any paper.
 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).

The core of the exhaustification theory is a covert operator O , which affirms the prejacent and negates all the alternatives that are not entailed by the prejacent. To explain the licensing condition of *any*, Chierchia (2006, 2013) proposes that the weak NPI *any* has domain (D) alternatives that are obligatorily activated by a feature [+D]. The [+D] feature must agree with a c-commanding O . Accordingly, the reason why an NPI has to be licensed in a DE context is because negating all the D-alternatives in a non-DE context leads to a semantic contradiction to the assertion.

$$(2) \quad O(p) = p \wedge \forall q \in \mathcal{Alt}(p) [p \not\subseteq q \rightarrow \neg q]$$

$$(3) \quad a. \quad O [\text{John read any}_{[+D]} \text{ paper}]$$

$$b. \quad \text{Assertion: } \exists x \in D [P(x) \wedge R(j, x)] \quad c. \quad \text{D-ALT} = \{ \exists x \in D' [P(x) \wedge R(j, x)] \mid D' \subseteq D \}$$

In response to the licensing effect in (1a), Krifka (1995), Lahiri (1998) and Chierchia (2013) argue that (1a) asserts the exhaustification inference (4a) and presupposes the prejacent inference (4b). The assertion creates a DE context in the unfocused part, and the presupposition is irrelevant for weak NPI-licensing (Gajewski 2011). Thus, by assuming the LF (4c), they conclude that *any* is licensed in the unfocused part of *only*, as it would be in any DE contexts.

$$(4) \quad a. \quad \text{Assertion (exhaustification inference): } \forall y \exists x \in D [\text{paper}_w(x) \wedge \text{read}_w(y, x)] \rightarrow y = j]$$

$$b. \quad \text{Presupposition (prejacent inference): } \exists x \in D [\text{paper}_w(x) \wedge \text{read}_w(j, x)]$$

$$c. \quad O_D [\text{only} [\text{John}_{[+F]} \text{ read any}_{[+D]} \text{ paper}]]$$

Following the exhaustification theory, I show that (1b-c) are bad because *any* is evaluated in an upward-entailing (UE) context. For instance, in both the following LFs for (1c), *any* is computed in a UE context (within the scope of *only* and above *only*, respectively), yielding a contradiction.

$$(5) \quad a. \quad \text{only} [\text{Restriction } \lambda x. \text{John read } x] [\text{Scope any}_{[+D]} \text{ paper}]$$

$$b. \quad O_D [[\text{any}_{[+D]} \text{ paper}]_i [\text{only} [\text{Restriction } \lambda x. \text{John read } x] [\text{Scope } x_i]]]$$

However, the current exhaustification theory has two remaining problems. First, it can not explain the ungrammaticality of (1d), where *any* is not focused. Second, according to the *relativized minimality principle* (Rizzi 1990, 2001), the feature-checking relation is not held in the LF (6b): to avoid G-triviality, *only* has to check off the [+F] feature across the NPI *any_D*.

$$(6) \quad a. \quad \text{Mary only gave any}_D \text{ funding to JOHN}_F.$$

$$b. \quad O_D \text{ only} [\text{Mary gave any}_{[+D]} \text{ funding to JOHN}_{[+F]}]$$

The focus-movement theory proposed by Wagner (2006) is quite attractive. Wagner assumes that, in the case of VP-*only*, focus association involves covert movement of the focus constituent to the complement position of *only*. By virtue of this movement, in (6b), *only* checks off only the

[+F] feature on *JOHN*; it doesn't c-command *any*, leaving it to be checked by O_D . Besides, this approach also predicts the ungrammaticality of (1d): D^0 is a phrase head, thus it is not allowed to move its complement *paper* alone (Abels 2003). As a consequence, either the focus is interpreted in-situ, as in (7a), or the focus projects over the whole DP, as in (7b-c). All the LFs evaluate [+D] in a UE context, yielding a contradiction and making the sentence G-trivial.

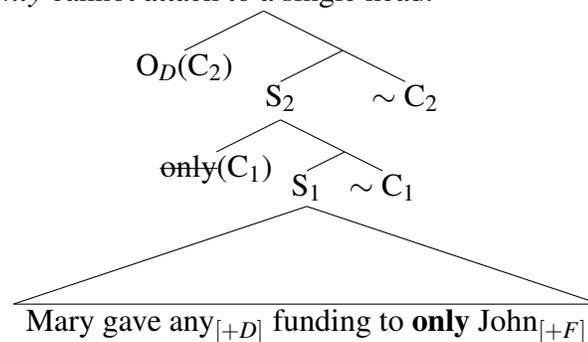
- (7) a. Only [John read any_[+D] paper_[+F]] No movement
 b. Only [_{restriction} λx . John read x] [_{scope} any_[+D] paper] Move DP
 c. O_D [[any_[+D] paper]_{*i*} [only [_{Restriction} λx . John read x] [_{Scope} x_i]]] Move DP

However, Wagner's (2006) proposal has the following problems. First, moving focus into the complement position of *only* violates the *Extension Condition* (Chomsky 1995): all movement operations extend the root of the structure that they apply to. Second, In (8), the direct object should be allowed to evacuate the VP, and the remnant VP subsequently associate with *only* (fn. in Wagner 2006). Third, (9a) has no island, and should be predicated as grammatical (cf. (9b)).

(8) *John only CUT any vegetables.

(9) a. *John only saw any pictures of MARY. b. Who did you see pictures of?

Alternatively, I propose that the LF of (6a) has two copies of *only*, one as an adjunct of VP, and one as an adjunct of DP. In (6a), since interpreting the VP-*only* yields G-triviality (for the same reason as in (7a)), it is forced to delete the VP-copy and use the DP-copy to check off the [+F] feature. The argument of the VP-*only* (i.e. C_1 , notation from Rooth 1996) decides the quantification domain, and creates a DE environment that licenses *any*. The present theory explains the ungrammaticality of (1d) without facing the problems in Wagner (2006). First, (1d) and (9a) are bad because their LFs have no position for *only* that c-commands focus without c-commanding *any*, as illustrated by (10a) and (10b), respectively (cf. (11a) is good because (11b) is acceptable). Second, (8) is bad because *only* cannot attach to a single head.



(10) a. John read a (*only) PAPER. b. John saw a picture (*only) of (*only) MARY.

(11) a. John only saw any pictures from MARY. b. John saw any pictures only from MARY.

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