

Focus association into copies and the scope of *even*

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I present an analysis of the syntax/semantics of English adverb *even* which accounts for the conditions under which it can associate with material outside of its surface scope. When *even* associates with a constituent outside of its surface scope, it is actually associating with a lower copy of the focused constituent, within the scope of *even*. The Copy Theory of movement—as opposed to allowing for focused traces (Rullmann, 1997)—is necessary to distinguish between the patterns of association of *even* and *also*.

This approach allows for a fresh perspective on the interaction of *even* and Antecedent-Contained Deletion (ACD). Nakanishi (2012) presents ACD evidence in support of the Scope Theory, but upon closer inspection, I show that the ACD data forms an argument against the Scope Theory and for the view that *even* is always interpreted in its pronounced position (Rooth, 1985).

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I present an analysis of the syntax/semantics of the English adverb *even* which accounts for the conditions under which it can associate with material outside of its surface scope. Below I highlight three crucial components of my proposal, then expand on each one in turn:

1. When *even* associates with a constituent outside of its surface scope, it is actually associating with a lower copy of the focused constituent, within the scope of *even*.
2. *Even* is interpreted in its pronounced position (Rooth, 1985). Nakanishi (2012) presents Antecedent-Contained Deletion (ACD) evidence *for* the Scope Theory, but upon closer inspection, ACD data forms an argument *against* the Scope Theory.
3. The Copy Theory of movement (Chomsky, 1993; Sauerland, 1998; Fox, 2000, a.o.) is necessary to distinguish between the patterns of association of *even* and *also*.

Part 1: Explaining backwards association Jackendoff (1972) famously observed that *even* can associate “backwards” with a subject as in (1). I argue instead that *even* is generally able to associate with material which has moved out of its scope, cf (2). (1) is therefore subsumed under this more general description, given the ν P-internal subject hypothesis.

- (1) A [professor]_F will **even** come to the party. (based on Jackendoff, 1972)
 (2) [John]_F, they **even** consider ___ intelligent. (Kayne, 1998, fn. 75)

The contrast in (3) provides further support for the view that *even* requires its associate to originate within its surface scope. The subject originates lower in raising (*seem*) but not in control (*want*):

- (3) A [professor]_F {[✓]seems / *wants} to **even** be at the party.

Proposal: I adopt the Copy Theory of movement (Chomsky, 1993, a.o.), with F-marking also being subject to copying. I propose that *even* in (1/4) is interpreted in its pronounced position and associates with the F-marking in the lower (ν P-internal) copy of the subject at LF, *within its scope*.

- (4) A [professor]_F will **even** come to the party. (=1)
 a. Narrow syntax: [A [professor]_F] FUTURE EVEN [[a [professor]_F] come to the party]
 b. LF: [A [professor]_F] λx FUTURE EVEN [[THE [professor]_F x] come to the party]
 c. EVEN \rightsquigarrow GENERIC(x)((the professor x comes...) <_{likely} (the student x comes...))
 d. \Rightarrow_{LA} for generic x , (x professor and comes) <_{likely} (x student and comes)

The lower copy will become a definite description variable (4b) following Trace Conversion (Rullmann and Beck, 1998; Fox, 2002). At LF (4b), the scope of *even* contains a variable. The scalar presupposition of *even* projects *generically* over individuals in the domain (4c)—independent motivation with rich contexts omitted here for reasons of space. Local Accommodation (LA) is applied to the lower copy definite descriptions to yield the desired inference (4d).

Against a reconstruction approach: One alternative to the proposal above is to imagine that the focused constituents in examples such as (1–3) undergo obligatory syntactic reconstruction in order to associate with *even*. However, the availability of surface *every* > NEG scope in (5) shows that backwards association with *even* does not force reconstruction. (Full contexts will be presented.)

- (5) Every [student]_F didn't *even* come to the party. ^{ok}*every* > NEG, ^{ok}NEG > *every*

Evidence from binding reconstruction: Condition C also shows that *even*'s focus must originate within its scope. Takahashi and Hulsey (2009) propose that complements of A-movement have the *option* of being late-merged, explaining the ability of A-movement to bleed Condition C (6). However in (7), backwards association with *even* requires the F-marked material *Trump* to be base-generated within the scope of *even*. This leads to a Condition C violation which otherwise could have been avoided by late-merging the *claim* and its content, as in (6).

- (6) [The claim that Trump_i is a genius] seems to him_i to be true. (based on Chomsky, 1993)
 (7) * [The claim that [Trump_i]_F is a genius] seems to him_i to **even** be true.

Part 2: Against the Scope Theory of *even* The scalar inference of *even* is reversed in downward-entailing (DE) contexts. Two approaches to this problem have been developed (8).

- (8) a. The Scope Theory: *Even* takes scope outside of the DE operator at LF (Karttunen and Peters, 1979; Wilkinson, 1996; Nakanishi, 2012, a.o.)
 b. Lexical ambiguity theory: There are PPI and NPI *evens* which introduce reverse scalar inferences (Rooth, 1985), and are different words in some languages (König, 1991; von Stechow, 1991; Rullmann, 1997; Giannakidou, 2007; Lahiri, 2008, a.o.).

Revisiting Nakanishi's (2012) ACD data: Nakanishi (2012) presents an argument for the Scope Theory from Antecedent-Contained Deletion (ACD). The ACD in baseline (9) has two possible resolutions, each requiring QR of the *box* DP to different heights (Sag, 1976). Specifically, Fox (2002) argues that the relative clause must be late-merged high to derive the correct antecedent.

- (9) Bill [_{VP1} failed to [_{VP2} lift [_{DP} the box that Mary did Δ]]].
 a. Δ = "lift": Bill failed to [[_{antecedent} lift ___] [_{late} the box that Mary did Δ]]]
 b. Δ = "fail to lift": Bill PAST [[_{antecedent} fail to lift ___] [_{late} the box that Mary did Δ]]]

One of Nakanishi's crucial examples is (10)—the supporting context is elided for space reasons.

- (10) ^{ok} Bill has **failed** to **even** lift [the [box]_F that Mary has Δ]. Δ = "failed to (even) lift"
 ~→ the box is the *most* likely to be lifted (vs piano, desk)

Nakanishi claims that such examples are fatal for the lexical ambiguity theory: the perfect auxiliary *has* enforces a corresponding antecedent (*fail to lift*), necessitating movement of the DP (containing F-marking) above the higher VP *fail to*, as in (9b), but this leaves the F-marked *box* outside the scope of *even*. Under the Scope Theory, *even* takes wider scope to derive the correct inference and this problem does not arise. However, my proposal allows for *even* to associate with a lower copy of *box* while simultaneously allowing the DP to QR out of the scope of *even* for ACD resolution.

Moreover, a simple modification to Nakanishi's example shows that her Scope Theory approach will overgenerate. Consider (12) and (13) in context (11):

- (11) Context: At the box-lifting competition, Sue first lifted the 25kg box and then failed to lift the 30kg box. John lifted the 20kg box but failed to lift the 25kg box. Mary was disqualified immediately, failing to lift the 15kg box. And now it's Bill's turn. He normally does quite well, but somehow he did terribly. Today...
 (12) * He has **failed** to **even** lift [the box that [Mary]_F has Δ]. Int.: Δ = "failed to (even) lift"

- (13) ^{ok} He has **even failed** to lift [the box that [Mary]_F has Δ]. Δ = “(even) failed to lift”
 \rightsquigarrow the box that Mary failed to lift (15kg) is the {*most* likely to be lifted, *least* likely for someone to fail to lift}, as compared to the boxes that others failed to lift (30kg + 25kg).

The Scope Theory predicts *even* in (12) to be interpreted above the DE *fail to* at LF, similarly to (10) and to (13). The contrast in (12–13) is unexplained by Nakanishi’s Scope Theory approach.

This contrast is explained by my account. The intended ellipsis resolution in (12–13) requires the *box* DP to move above *fail to*, with the relative clause *that Mary has Δ* then late-merged high. Therefore, in (12), but not in (13), there is never an instance of *Mary* inside *even*’s surface scope. In contrast, in example (10) above, ACD was possible while maintaining focus association with *box* because a copy of the focused *box* exists in the surface scope of *even*.

Backwards association is not a result of the Scope Theory: The Scope Theory potentially offers an explanation for backwards association, but it overgenerates. Under the Scope Theory, to produce the correct scalar inference in (14), *even* must scope over *no one*, out of the control embedding. Given this analysis of (14), the Scope Theory fails to explain the contrast in (15), based on (3)—the F-marked *student* should be able to be interpreted within the scope of *even* at LF in both cases.

- (14) **No one** {seems / wants} to **even** read [*Aspects*]_F. \rightsquigarrow *Aspects* is *most* likely to be read
 (15) **No** [student]_F {^{ok}seems / *wants} to **even** be at the party. (cf 3)
Expected Scope Theory LF: EVEN [**no** [student]_F {seems / wants} to be at the party]

Part 3: The importance of copies Rullmann (1997) proposes that additive particles such as *also* can associate with traces of movement, in a non-Copy-Theory framework, as in (16).

- (16) a. [Mary]_F, John **also** met ____.
 b. Rullmann LF: John ALSO met [*t*]_F, [*t*] = Mary

Association with F-marked traces (without copies) works for some cases with *also*, but it does not extend to *even*. Unlike *also*, *even* never associates with the referent denoted by the trace itself.

- (17) Guess [[who]_F I {^{ok}**also** / ***even**} met ____]. (Answer: I met Obama)
 a. ^{ok}ALSO \rightsquigarrow I met someone besides Obama
 b. *EVEN \rightsquigarrow it is less likely for me to meet Obama than to meet any other individual

Instead, backwards association with *even* is always with (part of) the *restrictor* of the moved DP. This is verified by the availability of the parse in (18a) but not (18b):

- (18) “Guess [which PRESIDENT I **even** met ____].” (Answer: I met Obama)
 a. ^{ok}[which [president]_F]: \rightsquigarrow it is less likely to meet a president than to meet people in other categories
 b. * [which president]_F: \rightsquigarrow it is less likely for me to meet O than any other individual

(Backwards association with names as in (16) is also possible with *even*. I analyze proper names as definite descriptions, following Geurts (1997); Elbourne (2002); Matushansky (2006).)

The ability of *even* to associate with (part of) the *restrictor* in a trace position but not the entire trace—as well as the sensitivity to the timing of (late) merger in (6–7) above—cannot be modeled if traces are simply variables. These facts from focus association thus form a new argument in favor of the Copy Theory of movement. I will also present a proof deriving the ability of *also* but not *even* to associate with the entire trace position of type *e*, explaining the contrast in (17,18).

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