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*.


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 vP-internal subject hypothesis.

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

The contrast in (5) 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]₁ {✓ 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 (4) is interpreted in its pronounced position and associates with the F-marking in the lower (vP-internal) copy of the subject at LF, within its scope.

(4) A [professor]₁ will *even* come to the party. (=1)
   b. LF: [A [professor]₁] λx future even [ [the [professor]₁ x] come to the party ]
   c. even ⇝ GENERIC(x)((the professor x comes...) <likely (the student x comes...))
   d. ⇒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 (1–4) 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]₁ didn’t *even* come to the party.
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 is a genius] seems to him to be true.  (based on Chomsky, 1993)

(7) * [The claim that [Trump] is a genius] seems to him 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 [VP failed to [VP lift [DP the box that Mary did △]]].

a. △ = “lift”: Bill failed to [[antecedent lift ] [the box [late that Mary did △]] ]

b. △ = “fail to lift”: Bill PAST [[antecedent fail to lift ] [the box [late that Mary did △]] ]

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] that Mary has △]. △ = “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] has △]. Int.: △ = “failed to (even) lift”
(13)  He has **even failed** to lift [the box that [Mary] has △].  △ = “(even) failed to lift”

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∽ 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).
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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 △* 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.  ▼ Aspects is *most* likely to be read

(15)  **No** [student]F {**ok**seems / *wants} to **even** be at the party.  (cf [3]

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Expected Scope Theory LF: **EVEN** [student]F {seems / wants} to be at the party
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**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** ~≈ I met someone besides Obama
    b.  * **EVEN** ~≈ 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]: ~≈ it is less likely to meet a president than to meet people
in other categories
    b.  * [which president]F: ~≈ 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).
References