

A Lahiri-like analysis of NPIs meaning *even*: *auch nur* and *anche solo*

Two theories of *even*: The English focus particle *even* can occur in both affirmative AND negative sentences, but it appears to introduce different presuppositions in the two environments:

- (1) a. John even greeted [Mary]f.
 Presupposition 1: Mary was the least likely person to be greeted (by John) & somebody else was greeted (by John).
 b. Nobody even greeted [Mary]f.
 Presupposition 2: Mary was the MOST likely person to be greeted & somebody else was NOT greeted

There are two views on why this is so: Rooth '85 proposes that *even* is ambiguous between a lexical entry as in (2) (relevant for 1a) and an NPI (negative polarity item) entry as in (3), that derives the presupposition in 1b. (C, below is the set of relevant alternatives to p)

(2) $\llbracket \textit{even} \rrbracket^w(p)$ defined iff $\forall q \in C [q? \ p \rightarrow q \text{ >likely } p] \ \& \ \exists q [q? \ \& \ q(w)=1]$, if so $\llbracket \textit{even} \rrbracket^w(p) = p(w)$

(3) $\llbracket \textit{even}_{\text{npi}} \rrbracket^w(p)$ defined iff $\forall q \in C [q? \ p \rightarrow q \text{ <likely } p] \ \& \ \exists q [q? \ p \ \& \ q(w)=0] = p(w)$, if so $=p(w)$
 Karttunen & Peters '79 and Wilkinson '96, on the other hand, suggest that (1b) can be accounted for if *even* has just one meaning (i.e. (2)) and *even* scopes over negation.

The Puzzle. This paper focuses on two empirical arguments in the literature, one supporting Rooth's ambiguity hypothesis and one in favor of the scope theory, and proposes a way to reconcile the apparent inconsistency.

The first argument comes from cross linguistics considerations. To convey presupposition 1 and presupposition 2 in (1), German (G) and Italian (I) exploit different expressions: *sogar/addirittura* and the NPIs *auch nur/anche solo* (lit. 'also only') respectively. Natural translations of (1) a and b in G and I are given in (4)a and b.

(4) a. Der Georg hat **sogar** [die Maria]f begrüesst/ Giovanni ha **addirittura** salutato [Maria]f.

b. Niemand hat **auch nur** [die Maria]f begrüesst./ Nessuno ha salutato **anche solo** [Maria]f.

The existence, in languages other than English, of an NPI introducing the same presupposition Rooth's *even_{npi}* has been taken as evidence for his analysis (see Rullmann '97).

The second argument comes from the behavior of *even* in questions. *Even* can affect the interpretation of a question in ways that differ depending on which of the above presuppositions is true in the context (Wilkinson '96, Guerzoni '02): if presupposition 1 is true, question (5a) is neutral, if presupposition 2 is true the question is perceived as biased.

- (5) a. Did John even greet [Mary]f?
 b. Presupposition 1 is true in c \rightarrow (5a) can be a neutral question
 c. Presupposition 2 is true in c \rightarrow (5a) is necessarily biased towards the negative answer

As argued in Guerzoni '02, a scope theory of *even* can account for this, while an ambiguity theory cannot. Her argument goes roughly as follows: if we assume just one lexical entry for *even* (i.e.2), the bias of (5a) in a context like (5c) results from the fact that only a negative answer (where *even* has wide scope over negation) is felicitous. If an NPI entry for *even* like (3) was available, both answers would be in principle felicitous and the bias would remain unexplained.

The Claim: This paper argues that, after closer scrutiny, also the G and I facts are not only compatible with a scope theory of *even*, but actually provide additional support for it.

We start by observing that Guerzoni's argument can be strengthened by the observation, absent in Guerzoni '02, that the very same effect of bias she observed in (5) is triggered by *auch nur* and *anche solo* (compare 6a and c with 6b and d).

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| (6) a. Hat der Georg sogar [die Maria]f begrüesst? | NEUTRAL |
| b. Hat der Georg auch nur [die Maria]f begrüesst? | NEGATIVE BIAS |
| c. Giovanni ha addirittura salutato [Maria]f? | NEUTRAL |
| d. Giovanni ha anche solo salutato [Maria]f? | NEGATIVE BIAS |

Notice that complex expressions like *auch nur* provide evidence for an NPI *even* only insofar as they are taken to be semantically unanalyzable units, with the meaning given in (7) (i.e. (2)).

- (7) $\llbracket \textit{auch nur /anche solo /even}_{\text{npi}} \rrbracket^w(p)$ is defined iff p is the MOST likely among the alternatives in C & some q in C that is distinct from p is FALSE. If defined $\llbracket \textit{auch nur /anche solo /even}_{\text{npi}} \rrbracket^w(p) = p$.

However, if this is assumed, also the facts in (6), just like those in (2), cannot be accounted for, as both answers to (6)a and c would be felicitous. Notice, in addition, that, under this view the choice of the very same particles (*also* and *only*) in both I and G to express *even* in negative contexts would fall out as a mere coincidence.

The Proposal: This paper proposes a novel account of *auch nur* and *anche solo* which covers the facts in (6). This analysis is argued to be superior to the above mentioned view (i.e. 7) in that (A) It derives, the restricted distribution for these items, along the lines of Lahiri'98 account, from their lexical properties and (B) It analyzes these complex expressions in a fully compositional way.

We suggest that if we trade in an ambiguity of *even* for one of *nur* (and *solo*) the above puzzle can be resolved. An ambiguity of *nur* is justified by the following observation: while generally *nur*, like *only*, contributes exclusivity to the truth-conditions (TCs) (i.e.8a), in the contexts under consideration this TCal component is absent. (9) illustrates this point.

(8) [[*nur/only/solo*]]w (C) (p) = $\forall q [p \not\subseteq q \rightarrow q(w) = 0]$ if defined and it is defined iff $p(w)=1$
 b. Maria ha solo visto [Giovanni]f/ Die Marie hat nur [dem Johan]f getroffen
 c. TCs : Mary didn't meet anybody different from John

(9) a. Niemand hat auch nur [der Marie]f begruesst.
 b. Everybody greeted somebody other than Mary (*niemand* > *nur*)
 c. Everybody other than Mary is such that somebody greeted him (*nur* > *niemand*)
 d. Nobody greeted Mary.

No matter what scope is assigned to *nur* relative to negation, and given that *auch* (= *also*) does not contribute to the TCs, the lexical entry in (8) would generate the wrong TCs for (9a), i.e. (9)b or c. In fact, modulo presuppositions (9a) is equivalent to (9d).

Once we have granted that *nur* in *auch nur* means something different from what it usually means, we propose the following: On the one hand *auch*, in *auch nur*, makes its typical contribution (i.e.(10)); on the other hand there is a second lexical entry for *nur* besides (8a)(i.e. (11)).

(10) [[*auch/also/anche*]]w (C) (p) = p (w) if defined
 and it is defined iff $\exists q [q \in C \ \& \ q \not\subseteq p] \ \& \ q(w)=1$

(11) [[*nur₂ / solo₂*]]w (C)(p) = p(w) if defined and it is defined iff

(i) $\sim \exists q \in C [q \not\subseteq p \ \& \ q(w)=1]$

and (ii) $\forall q \in C [q \not\subseteq p \rightarrow p \text{ >likely/insignificant...} q]$ (p the lowest point on the relevant scale)

Like *auch*, also *nur₂* merely introduces presuppositions: An exclusivity presupposition in (11-i) and a scalar one in (11-ii). Thus if *nur₂* is the *nur* in *auch nur*, we understand why (9a) and (9d) make the same assertion. Moreover, in support of the idea that words meaning *only* can sometimes lack a TCal import conveying exclusivity, notice that also English *only* and *just* have uses where exclusivity seem to play no role in the TCs:

(13) a. It is easy for you because you live in a big city, I only live in Munich!
 b. I have no time tomorrow. I will only meet less than 3 students.
 c. Will you have just 5 minutes for me tomorrow?

Notice, moreover, that in these cases *only* appears to introduce a scalar presupposition like (11ii). (Further arguments in favor of a scalar presupposition like (11ii) can be found in Koenig '91).

The advantages of this analysis: The above analysis accounts for a number of important aspects of *auch nur*. First, we can derive the NPI-like behaviour: *Auch* and *nur* introduce incompatible presuppositions, but this systematic incompatibility is resolved if *auch* can scope over a negation (or DE expressions). Second, we can explain the bias effect in (6)a and c, for only a negative answer (where *auch* scopes over negation) is one where the presuppositions of *auch* and *nur* become compatible. Finally, we can make sense of Schwarz '02 observation that there is a contrast in (13). (13a) is awkward because the scalar presupposition of *nur₂* cannot be true (1 is the best grade in Germany!); (13b) only carries an odd presupposition, but it is fine because the scalar import of *nur₂* is absent in *sogar* and *even*.

(13) a. #Wir haben jeden zugelassen, der auch nur eine [1]f hatte.
 b. % Wir haben sogar jeden zugelassen, der eine [1]f hatte.