# I'm Glad I Wrote Even this Paper!
# Scope matters concerning *even*

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**Table of Contents**

# 1 Introduction

## 1.1 Some relevant contrasts and the questions they raise

Consider the sentences in (1). In (1)a, *these tickets* are presupposed to be bad, while in (1)b, they are presupposed to be good. This contrast raises the question of why *even* can denote different ends of the scale in a and b.

(1) a. I'm glad I got even these tickets.
b. I'm sorry I got even these tickets.

Consider now the contrast in (2). Here, we can see that while the negative polarity item (NPI) *any* is not licensed by *glad*, the stressed version of *any* is fine in the same context.

(2) a. *I'm glad we got any tickets.
b. I'm glad we got ANY tickets!

The question that is raised here concerns the difference between stressed and unstressed *any*. Besides, the sentence in (2)b has a similar meaning to the sentence in (1)a. Another question that is raised, then, is if there is some relation between the meaning and licensing conditions of *even* and those of stressed *any*.

Finally, consider the contrast in (3). Here we can see that not all predicates license stressed *any*.

(3) a. I'm glad we got ANY tickets.
b. #I said we got ANY tickets.

The question raised, then, is what kinds of predicates license stressed *any*.

Let me then summarize the questions that have been raised so far:

(4) a. Why can *even* denote different ends of the scale in (1)a and b?
b. What is the difference between stressed and unstressed *any*?
c. What is the relation between the meaning and licensing conditions of *even* and those of stressed *any*?
d. What kinds of predicates license stressed *any*?

In this paper, I will investigate the questions in (4). I will first look at some approaches to *even* in English and other languages and show that none of them addresses all of the questions adequately. I will then use Guerzoni's (2002, 2004, 2006) analysis for the German and Italian correspondents and apply it to *even* in English in order to suggest answers to the questions in (4).

The core of my proposal is that in English, low scale *even* also has a hidden *nur*, like the low scale items in German and Italian. I will show that this proposal can also account for the similarity of stressed *any* and *even*. I will also propose a way to account for the difference between predicates that license or do not license stressed *any*, based on the kind of presuppositions these predicates have.

The paper is organized as follows. In section 2, I will briefly present the two main theories of *even*, i.e., the scope theory and the lexical ambiguity theory. In section 3, I will present some background related to the licensing of NPIs and the problem with *glad*. In section 4, I look more closely at problems involving the scope theory and the lexical ambiguity theory. In section 5 I will finally present my proposal based on Guerzoni's analysis of elements like *auch nur* in German and *anche solo* in Italian. Finally, in section 6, I show some consequences of my proposal and suggest some direction to follow to get a more thorough analysis.

# 2 Ambiguities and the two theories of even

Consider the sentence in (5), which is ambiguous.

(5) John is surprised that Peter likes [$_F$ even Mary].

The two possible meanings of  are summarized in (6) below.

(6) a. Mary is a very unpleasant person, but Peter likes everyone
b. Mary is a likeable person, but Peter doesn't like too many people

There are two main theories that try to account for this ambiguity: the scope theory and the lexical ambiguity theory, both of which I briefly describe below.

## 2.1.1 The scope theory

The main claim of the scope theory is that the ambiguity can be accounted for by the possibility of *even* having scope over the embedded clause only or over the whole sentence. For the sentence in (5) above, for example, the two possible readings are summarized in (7) below, which is unfavorable to Mary, and (8) below, which is favorable to Mary.

(7) Reading in a:
John is surprised that [[even Mary]$_1$ Peter likes t$_1$]
Presuppositions:
Existential: There is someone else other than Mary that Peter likes
Scalar: Mary is the least likely person for Peter to like

(8) Reading in b:
[even Mary]$_1$ John is surprised that [Peter likes]$_1$
Presuppositions:
Existential: There is someone else other than Mary that John is surprised that Peter likes
Scalar: Mary is the least likely person for John to be surprised that Peter likes favorable to Mary

### 2.1.2 The lexical ambiguity theory

Another way to account for the ambiguity of *even* in an embedded clause was first suggested by Rooth (1985), who proposed that this ambiguity is due to a lexical ambiguity of *even*.

Rooth noticed that the kinds of sentences in which *even* can have a second reading coincide with the kinds of sentences in which NPIs are licensed. So there is an $even_{NPI}$ that is responsible for the second reading. It has the semantics much like the usual *even*, except that its second argument is negated in the calculation of presuppositions: a proposition is less likely to be true than another proposition if and only if the negation of the former is more likely to be true than the negation of the latter.

So to get the second reading of (5) above, the scalar presupposition is that Mary is the least likely person not to be liked by Bill.

# 3 Some Background

## 3.1 Strawson-Downward Entailment

As argued by Ladusaw (1980), negative polarity items (NPIs) like any and ever need some downward entailing context to be licensed. The notion of downward entailment, however, failed to license NPIs in certain contexts where they are licensed, like adversatives (e.g. *be surprised, be amazed, be sorry*) and under only. von Fintel (1990) then argued that in fact we need a notion of entailment that in order to check the truth value of a sentence will check if the truth values of its inference are preserved under the assumption that the presuppositions of premises and conclusion are satisfied. He dubs this notion of Strawson-downward entailment (SDE). The definition is in (9), and (10) shows why we can say that *Only John ate vegetables for breakfast* Strawson-entails *Only John ate kale for breakfast*.

(9) Strawson Downward Entailingness
A function f of type $<\sigma,\gamma>$ is Strawson-DE iff for al x, y of type $\sigma$ such that $x \rightarrow y$ and *f(x)* is defined: $f(y) \rightarrow f(x)$

(10) Kale is a vegetable.
John ate kale for breakfast.
Only John ate vegetables for breakfast.
$\therefore$ Only John ate kale for breakfast.

The predicate *to be sorry* is SDE, as shown in (11). We would then expect it to license NPIs, as it in fact does, as shown in (12).

(11) An iBook is a computer.
John bought an iBook.
I'm sorry that John bought a computer.
$\therefore$ I'm sorry that John bought an iBook.

(12) I'm sorry he bought anything.

If we try to do the same thing with the predicate *to be glad*, on the other hand, we can see that it is not SDE, since the conclusion in (13) is not necessarily true. Imagine the following context: John's wife wants a computer, but she is a PC user and does not like Apple computers. Therefore, she is not glad that John bought an iBook, even though an iBook is a computer.

(13) An iBook is a computer.
John bought an iBook.
I'm glad that John bought a computer.
??? I'm glad that John bought an iBook.

### 3.2 NPIs and *Even*

Because *glad* is not SDE, the it is not predicted to license NPIs. However, consider the contrast in (14).

(14) a. *I'm glad we got any tickets.
b. I'm glad we got ANY tickets!

It seems that even though *glad* does not license the NPI in (14)a, it does license the stressed form of the same NPI in (14)b.

One way of looking at NPIs of the kind of stressed *any* is to classify it as a strong NPI, as in Zwarts (1993) and Krifka (1995). These strong NPIs have different licensing conditions from regular NPIs. (15) shows some other strong NPIs that are licensed under *glad*.

(15) I'm glad he (at least) lifted a finger.
I'm glad he (at least) gives a damn.
I'm glad he (at least) budged an inch.

We can assume, based on Heim (1984), that these strong NPIs include a silent *even*, which contributes the meaning of "at least". The meaning of (14)b, then, could be paraphrased as in (16).

(16) I'm glad we got even these tickets.

Understanding the behavior of strong NPIs, in this sense, involves understanding the behavior of *even*, and this entails a few complications of its own.

### 3.3 Glad and Sorry with Even

Since Karttunen and Peters (1979), it has been standardly accepted in the literature that *even* evokes an alternative set based on the focused element. For example, the sentence in (17) evokes the alternative set in (18).

(17) I read even [$_F$ the fine print]

(18) {I read the title, I read all the sections, I read the footnotes, I read the fine print}

*Even* does not affect the truth conditions of the sentence, but it carries two presuppositions: existence and scalar. For the sentence in (17), the presuppositions are as shown in (19).

(19) Existence: There is something else other than the fine print that I read.
Scalar: The fine print is the least likely thing in the alternative set for me to have read.

Consider the sentence in (20).

(20) I got even these tickets.

The existence presupposition of (20) is that there are other tickets that I got and the scalar presupposition is that these tickets are the least likely ones for me to get. Usually, the least likely tickets to get are good tickets.

Consider now the sentences in (21) and (22).

(21) I'm glad I got even these tickets.
(22) I'm sorry I got even these tickets.

The use of *even* in sentence (21) causes *these tickets* to be interpreted as bad tickets. The intuitive meaning is that even though the tickets are bad, I'm glad anyway. As for (22), the use of *even* makes *these tickets* be interpreted as good tickets, and the meaning of the sentence is that even though these tickets are good, I'm sorry anyway.

We have to explain, then, how it is that the same phrase *even these tickets* can have two opposite meanings in these two sentences. Going back to NPIs, another contrast is relevant. Consider (23), which shows that in the case of *glad* and *sorry*, the sentences with stressed *any* are correspondent to the ones with *even*, but with *said* and *realized*, the sentences with stressed *any* not only are not correspondent to the ones with *even*, but are also unacceptable.

(23) a. I'm glad we got ANY tickets. (=I'm glad we got even these tickets.)
b. I'm sorry we got ANY tickets. (=I'm sorry we got even these tickets.)
c. #I said we got ANY tickets. (≠ I said we got even these tickets.)
d. #I realized we got ANY tickets. (≠ I realized we got even these tickets.)

### 3.4 Linebarger and the Negative Implicature theory account

Linebarger (1980), in a section of her work, looks at adversative predicates like *to be amazed, to be surprised*, and *regret*, among others. She suggests that the NPI in

(24) is licensed by the implicature in (25), which is normally available (but cancelable) in sentences without NPIs.

(24) She was amazed that there was any food left.
(25) She had expected that there wouldn't be any food left.

Her claim is that we cannot account for adversatives using Ladusaw's (1980) logical downward entailment. One way out could be to use the notion of "psychological downward entailment" instead of logical DE: a predicate is psychological downward entailing if a subset-for-superset substitution is always possible in its scope, on the assumption that human beings are unerringly consistent in their beliefs.

Her conclusions is that not even this liberalized notion of downward entailment as psychological can account for the behavior of adversative NPI triggers like *surprised*, and this is because predicates like *glad* also appear to be DE in this sense. For her, then, the DE theory, even in a more relaxed version, cannot tell *glad* and *sorry* apart in terms of licensing NPIs.

### 3.5 Kadmon & Landman (1993) and Constant Perspective

Kadmon and Landman (1993) show that some environments that do not seem to allow for a valid DE inference are in fact DE once we do not change 'perspective' between the two conjuncts of entailments. Let us look first at (26), which should be incoherent, but is not.

(26) A: Were you surprised that he stole the watch?
B: I was and I wasn't.

What makes (26) coherent is a change of 'perspective' between the two conjuncts: from the perspective that I did not expect my watch to be stolen, I am surprised, but from the perspective that I know that he is a kleptomaniac, it is not surprising.

However, Kadmon and Landman argue, contra Linebarger, that (27) does entail (28) when both are considered from the 'car perspective', and this is what they call 'entailment on a constant perspective'.

(27) I'm surprised he bought a car. Honda --> car
(28) I'm surprised he bought a Honda.

They propose that only entailments on a constant perspective are relevant to the DE nature of *surprised* and to the licensing of NPIs in its complement: to be surprised about A is always relative to a certain perspective on A which determines what it is about A that is surprising and in virtue of what it is surprising, as we saw in (26).

This perspective is a contextually determined parameter in the interpretation of surprised, having very much the same role as a modal base has for modals. *Surprised*, then, is a three-place relation between a subject, a contextual perspective, and a proposition. If A and B are the propositions, x is the subject, and p and q are two different perspectives, we can look at *surprised* in the following way.

(29) If A $\rightarrow$ B then Surprised(x, p, B) $\rightarrow$ Surprised(x, p, A)

In (27) and (28), the apparent DE failure of 'surprised by the purchase of a car but not by the choice of car' is not relevant, since it involves two different perspectives p and q, and the result is that Surprised(x, p, B) --/$\rightarrow$ Surprised(x, q, A).

Kadmon and Landman also want to make sure the same mechanism that allows for NPIs under *sorry* will not also allow for NPIs under *glad*. According to them, we should understand the semantics of *glad* and *sorry* as being intimately linked to the semantics of *want*: *glad that p* is similar to *want that p*, and *sorry that p* is similar to *want that not p*. In this sense, if *want* is upward entailing, *glad* will also be upward entailing and *sorry* will be downward entailing. Therefore, *sorry* will license NPIs while *glad* will not.

(30) shows the definition of *want* and (31) establishes its the modal base, considering that DOX*($\alpha$,w) is the set of worlds compatible with 'everything that $\alpha$ in w believes to be the case no matter how he or she chooses to act' (always a superset of

the set of worlds compatible with everything $\alpha$ in w believes). Thus, worlds which run counter to the subject's beliefs will be irrelevant for evaluating *want*-sentences.

(30) $[[\textit{wants}_i]]^{f,g}(p)(\alpha)(w) = \text{True iff } \forall w' \in \max_{g_i(\alpha,w)}(f_i(\alpha,w)):w' \in p$

'Among the worlds $f(\alpha,w)$, the ones that maximally correspond to $\alpha$'s preferences in w are all *p*-worlds.'

(31) $[[\textit{wants}_i]]^{f,g}(p)(\alpha)(w)$ is defined only if

(i) $f_i(\alpha,w) = DOX^*(\alpha,w)$

(ii) $f_i(\alpha,w) \cap p \neq \emptyset$

(iii) $f_i(\alpha,w) - p \neq \emptyset$

If defined, $[[\textit{wants}_i]]^{f,g}(p)(\alpha)(w) = \text{True iff}$

$\forall w' \in \max_{g_i(\alpha,w)}(f_i(\alpha_i,w)): w' \in p$

However, von Fintel (1990) points out a problem: a *want*-claim is only appropriate with matters that are still open in a certain sense, or in other words, that might not have happened, while *glad* and *sorry* are factives. I will not go into details of von Fintel's proposal here. The main point to keep in mind has to do with the role of factivity in predicates like *glad* and *sorry*, which I will later explore.

# 4 A Closer Look at *Even*

## 4.1 Ambiguity

As mentioned in Section 2, some sentences with *even* are ambiguous, like (32), which can have the two interpretations in (33).

(32) John is surprised that Peter likes [$_F$ even Mary].

(33) a. Mary is a very unpleasant person, but Peter likes everyone
b. Mary is a very likeable person, but Peter doesn't like too many people

There are two main accounts for this ambiguity: the scope theory (see Karttunen and Peters 1979, Wilkinson 1996, Guerzoni 2003, among others) and the lexical theory (see Rooth 1985, Giannakidou 1999, 2005, Rullman 1997, among others). In the next section I will present some problems with both theories.

## 4.2 Problems with the Scope Theory

One problem with the scope theory has to do with the sentence in , repeated in (34).

(34) I'm glad we got even these tickets.

In the scope theory, this sentence would have the structure in (35).

(35) [even these tickets]$_1$ I am glad we got $t_1$

The of presuppositions are listed in (36).

(36) a. scalar: These tickets are the least likely for me to be glad we got
b. existence: there are tickets other than these that I am glad we got

The existence presupposition in is not appropriate, and this is a problem for the scope theory. Wilkinson (1996) proposes that the solution for this problem is to eliminate the factive presupposition of *glad*, which would result in *glad* having the meaning of *want.* The resulting presuppositions are in (37).

(37) Existence presupposition of : there is something other than these tickets that I wanted us to get

Scalar presupposition: these tickets are the least likely for me to have wanted us to get.

Even using this approach, Schwarz (2000) suggests that a problem still persists. Look at sentence (38).

(38) I am glad they even read *Syntactic Structures*.

The predicted scalar presupposition, based on Wilkinson's suggestion, is that *Syntactic Structures* is the least likely book for me to want them to read. Schwarz also points out the sentence in (39) as problematic.

(39) I am glad they even READ the paper.

He points out that the predicted scalar presupposition is that reading is the least likely thing I want them to do with the paper. I want them to read and understand the paper. But they can't understand the paper if they don't read it first. Reading will be involved in all other actions I want them to do with the paper. Therefore, the scope theory still has some unsolved problems.

Rullman (1997), following Rooth (1985) and von Stechow (1991), claims that the scope theory has problems concerning general restrictions on scope. For example, differently from other focus particles, *even* can scope over negation. Rullman illustrates this with *only*, as in (40)-(42).

(40) a. John didn't even invite [$_F$ Bill].
b. John even didn't invite [$_F$ Bill].

(41) a. John didn't only invite [$_F$ Bill].
b. John only didn't invite [$_F$ Bill].

(42) a. John didn't usually invite [$_F$ Bill].
b. John usually didn't invite [$_F$ Bill].

Whereas (40)a is equivalent to (40)b, with *even* taking scope over negation, (41)a and (42)a are not equivalent to their counterparts in (41)b and (42)b. This makes the behavior of *even* different from that of other adverbs, like *only* and *usually*.

Rullman further points out that the wide scope theory violates some general restrictions on scope assignment. For example, (43) is ambiguous: it can presuppose that *Syntactic Structures* is a book which linguists are likely to read, or the opposite, that it is unlikely that linguistics read the book.

(43) They hired no linguist who had even read [$_F$ *Syntactic Structures*].

According to the scope theory, the second reading is achieved when *even* remains in the scope of the determiner at LF. As for the first reading, the scope theory must allow *even* to scope out of the NP it is contained in, so that at LF it gets wide scope over *no*. Rullman proposes the paraphrase in (44).

(44) They even hired no linguist who had read [$_F$ *Syntactic Structures*].

In this case, *even* should be allowed to scope out of the relative clause, which is not allowed with other elements that allow for wide scope, like *each*. (45)a cannot have the meaning in (45)b.

(45) a. They hired no linguist who had read each of Chomsky's books.
b. Each of Chomsky's books is such that they hired no linguist who had read it.

Related to that is the problem that although *even* is not constrained by island conditions, it IS constrained in certain ways in which wide scope is usually not restricted. The example given by Rullman is the lack of ambiguity in the a-sentences in (46) and (47), which shows that moving even from the relative clause to the matrix should be blocked in the case of non-DE determiners like *a* and *the*.

(46) a. They hired a linguist who had even read [$_F$ *Syntactic Structures*].
b. They even hired a linguist who had read [$_F$ *Syntactic Structures*].

(47) a. They hired the linguist who had even read [$_F$ *Syntactic Structures*].
b. They even hired the linguist who had read [$_F$ *Syntactic Structures*].

The scope theory, then, would have to say that *even* can take scope over a c-commanding determiner iff that determiner is DE. This would not be enough, however, to explain the contrast in (48).

(48) a. They didn't hire any linguist who had ever talked to Chomsky.
b. *They didn't hire the linguist who had ever talked to Chomsky.

NPI is UE and we would expect the wide scope reading to be blocked like in (46)a.

Rullman argues that on the NPI theory, the nonambiguity of (46)a would have the same explanation as the ungrammaticality of (48)b. In the scope theory, we would need a restriction like "*even* can take wide scope over a c-commanding operator O iff O is DE and the path between even and O does not include any DE or nonmonotone elements." Rullman 1997). This generalization looks like the conditions on the licensing of NPIs

(Ladusaw 1980, Linebarger 1980, among others), but is different from constraints on other scope bearing elements. As Rullman (1997: 50) puts it: “Although it may be possible to come up with an adequate description of the behavior of *even* in terms of scope, such a description would group it with the wrong set of phenomena, and thereby miss important generalizations.”

In short, the main problem with the scope theory, then, is that the movement of *even* seems to be a phenomenon on its own, different from other focus related movements.

Another problem with considering that *even* has only one meaning is that it does not account for the fact that, crosslinguistically, there are usually at least two different lexical items corresponding to *even*, each with its own distribution and none of which creates the ambiguities common to *even*.

For example, both sentences in (49) use *even*, whereas (50) and (51) show that Greek (Giannakidou 2002, 2005) and Brazilian Portuguese take different lexical items for a and b.

(49) a. John read **even** *Syntactic Structures*.
b. John didn’t read **even** *Syntactic Structures*.

(50) a. O Janis dhiavase **akomi ke** tis *Sindaktikes Dhomes* Greek
the John read even the *Syntactic Structures*

b. O Janis dhen dhiavase **oute kan** tis *Sindaktikes Dhomes*
the John not read even the *Syntactic Structures*

(51) a. O João leu **até** o *Estruturas Sintáticas* Braz. Portuguese
the John read even the *Syntactic Structures*

b. O João não leu **nem** o *Estruturas Sintáticas*
the John not read even the *Syntactic Structures*

Curiously, the items *oute kan* and *nem* are strict NPIs and must appear in the scope of negation, whereas *akomi ke* and *até* are PPIs and cannot be in the scope of negation. This is illustrated by the impossibility of (52) and (53).

(52) a. #O Janis dhiavase **oute kan** tis *Sindaktikes Dhomes* Greek
the John read even the *Syntactic Structures*

b. #O Janis dhen dhiavase **akomi ke** tis *Sindaktikes Dhomes*
the John not read even the *Syntactic Structures*

(53) a. #O João leu **nem** o *Estruturas Sintáticas* Braz.Portuguese
the John read even the *Syntactic Structures*

b. #O João não leu **até** o *Estruturas Sintáticas*
the John not read even the *Syntactic Structures*

In short, in languages that have more than one lexical item for *even*, like Greek and Brazilian Portuguese, the ambiguity does not occur, since each lexical item can only be used in one context.

There are, however, other ways of looking at the phenomenon that do not contradict the scope theory. One aspect of Brazilian Portuguese and Greek is that they are negative concord languages. Therefore, the use of different lexical items can be related to agreement. I will not focus on negative concord languages in this paper, so I will leave this as an open issue.

Similar observations have also been made for Dutch *zelfs* and *zelfs/ooks maar* (Rullman 1997, Hoeksema and Rullman 2001), German *sogar* and *auch nur* (von Stechow 1991, Kurschner 1993, Heim and Lahiri 2002), Italian *addirittura* and *anche solo* (Guerzoni 2002, 2003), suggesting that these languages also have different lexical items corresponding to *even* and *even*$_{NPI}$. Once again, this does not have to be the case. Guerzoni (2002) points out in all these languages the NPI correspondents to *even* are composed of an element corresponding to *also* and one corresponding to *only*, and so their NPI behavior could be derived compositionally from the meaning of these two words. I will present Guerzoni's proposal in more detail in section 5.

Finally, Rullman (1997) points out that English also has an NPI which is similar to even$_{NPI}$, ie, *so much as* (as first suggested by Heim 1984).

(54) a. *He so much as looked at me.
b. He didn't so much as look at me.

He argues that the wide scope theory would have to ascribe to NPI forms like *so much as* properties which seem to conflict with each other: on the one hand, being NPIs, they have to appear in the scope of an NPI trigger in the surface syntactic structure; on the other hand, they must take scope over this trigger in the semantics. This conflict does not arise with other PPIs, which necessarily take scope over negation in surface structure and semantics, and do not need an NPI trigger to be grammatical. Again, Guerzoni proposes a solution for that, which I will present in detail in section 4.

### 4.3 The Lexical Ambiguity Theory

Another way to account for the ambiguity of *even* in an embedded clause was first suggested by Rooth (1985), who proposed that this ambiguity is due to a lexical ambiguity of *even*.

Rooth noticed that the kinds of sentences in which *even* can have the second reading coincide with the kinds of sentences in which NPIs are licensed. So there is an $even_{NPI}$ that is responsible for the second reading. It has the semantics much like the usual *even*, except that its second argument is negated in the calculation of presuppositions: a proposition is less likely to be true than another proposition if and only if the negation of the former is more likely to be true than the negation of the latter.

So to get the second reading of (33), the scalar presupposition is that Mary is the least likely person not to be liked by Bill.

The main problem that has been raised about the lexical ambiguity theory is that it has to postulate a new lexical item that might not be necessary at all. It is more desirable to have a theory that can account for the behavior of *even* based on other already existing properties of the language instead of having to stipulate a different lexical item.

## 2.4. Back to *Glad*

As has been pointed out by Kadmon and Landman (1993), Wilkinson (1996), and Schwarz (2000), the sentence in (55) means that the tickets we got are bad.

(55) I'm glad we got even these tickets.

This reading does not seem to arise from standard *even* scoping within the embedded clause. Both the scope theory and the lexical theory run into trouble in accounting for the meaning of *even* under *glad*.

As mentioned in section 3. the scope theory would assume the LF sketched in (56).

(56) [even these tickets]$_1$ I am glad we got $t_1$

The presuppositions that arise from this structure are:

- scalar: These tickets are the least likely for me to be glad we got
- existence: there are tickets other than these that I am glad we got

The scalar presupposition is accurate, but not the existence presupposition. There are no tickets other than these that I am glad we got.

Wilkinson (1996) defends the scope theory by suggesting that the factive presupposition triggered by *glad* is to be factored out in the calculation of the presupposition triggered by *even*. Subtracting the factive presupposition from the denotation of *glad* yields, according to her, precisely the denotation of *want*. The existence presupposition would then be that there is something other than these tickets that I wanted us to get, and the scalar presupposition is that these tickets are the least likely for me to have wanted us to get. This is the reading we want.

However, as mentioned in section 2, Schwarz (2000) argues that her analysis depends on properties that cannot account for all cases of *even* under *glad*. He uses (57) as an example.

(57) I am glad they even read *Syntactic Structures*.

Wilkinson's proposal would result in the scalar presupposition that *Syntactic Structures* is the least likely thing for me to want them to read, which is not an adequate meaning of (57).

Another example he provides is (58) in an interpretation conveying that reading the paper is the least they should have done. But obviously it would have been more desirable if they had both read and understood the paper.

(58) I am glad they even READ the paper.

In Wilkinson's account, this should be due to the scalar presupposition that reading the paper is the least likely thing for me to want them to do – I am less likely to want them to read the paper than to want them to read and understand the paper. Schwarz claims that this is logically inconsistent: a proposition cannot be less likely to be true than a proposition that entails it.

Another problem concerns Wilkinson's suggestion that *glad* corresponds to *want* plus a factive presupposition. Factivity is not the only difference between *glad* and *want*. A person could be glad with someone he or she did not want at first.

The lexical theory, in turn, predicts that the *even* in question is the NPI-*even*, so our *glad* sentence would have the structure in (59).

(59) I am glad [[even$_n$ these tickets]$_1$ [we got $t_1$]]

The existence presupposition is that there are some other tickets that we did not get, and the scalar presupposition is that, of the relevant tickets, these are the most likely for us to get. This is the interpretation we want.

Schwarz, however, questions if the LF in (59) is well-formed, since sentences embedded under *glad* do not in general host negative polarity items, as has been shown in section 3.

One possible explanation suggested by Schwarz is to rely on the difference

between strong and weak NPIs. (60), with an intonationally prominent *any*, is acceptable.

(60) I'm glad we got ANY tickets. (intonationally prominent)

Ladusaw (1980) only describes the weak ones, and maybe only these are required to be in the scope of an entailment reversing function. NPI-*even* then is a strong NPI and can be licensed under *glad*. I will exploit this difference between stressed and unstressed *any* in section 6.

Another question that Schwarz raises concerns the distribution of strong NPIs. To Krifka (1995), stressed ANY is required to appear in the scope of an implicit operator whose meaning closely resembles that of *even*. But then movement of this operator would raise locality problems similar to the ones present in the scope theory.

In short, Schwarz shows that both theories have problems: in the scope theory, it is unclear how the propositions which are compared in terms of likelihood are calculated, and the kind of movement involved is not possible in other contexts; the lexical theory in turn has trouble explaining how an NPI is possible under *glad*.

# 5 Even Only

## 5.1 Introduction

One of the claims in favor of the scope theory (Karttunen and Peters 1979, Wilkinson 1996, Lahiri 1998, Guerzoni 2002) is that it makes use of a mechanism, scope ambiguity, which is independently needed in semantic theory, instead of postulating new lexical items. However, if scope alone cannot account for the data, we need some other solution. Guerzoni's (2002) approach to deal with elements like *auch nur* in German suggests that we need, besides the scope theory, also a kind of lexical ambiguity.

In this section, I will present Guerzoni's approach and see if it can account for the data that has been presented in this paper. My conclusion will be that although this approach inherits some syntactic problems from the scope theory, it can account for at least most of the data. I will then propose an approach to *even* in English based on Guerzoni's ideas, which can also be extended to the licensing of NPI-like stressed *any*.

## 5.2 Crosslinguistic variation and the scope theory

Guerzoni (2002, 2004) shows how the existence of different lexical items for different meanings of *even* is not a good argument in favor of the lexical theory. Recall that in languages like German, Dutch, and Italian, the correspondent to the lexical theory's *even*$_{\text{NPI}}$ is composed of a word meaning *only* and another meaning *also*. According to the lexical theory, *only* and *also* should be considered a single lexical item with the meaning of *even*$_{\text{NPI}}$. Guerzoni points out that it is not a mere coincidence that in different languages these items have the same components, and proposes a way of treating these components compositionally.

For convenience, I will only refer to German *auch nur*, but its properties should be extended to Dutch *selfz maar* and Italian *anche solo*. In a nutshell, her proposal is that the *only* in these expressions, which I will refer to simply as *nur*, is what is really

ambiguous. More specifically, it is unspecified as to which part of it is the presupposition and which is the assertion. The properties of *auch nur* are then derived by the interaction of *nur* (with one of the two possible specifications) and *auch*.

The exclusivity of *nur* and the additivity of *auch* are incompatible, so a sentence containing both would in principle always results in a contradiction. However, in negative or DE contexts, this clash can be resolved under the assumption that *auch* in *auch nur* can outscope the DE expressions. This, according to Guerzoni, is what makes *auch nur* look like an NPI.

Guerzoni proposes further that the *nur* in *auch nur* has a different specification from regular *nur*, which occurs alone: exclusivity and factivity are swapped as for which one is asserted and which is presupposed. She calls this "swapped *nur*" $nur_2$. The meanings of *nur* and $nur_2$ (Guerzoni 2002, 2004, 2005, 2006) are given in (61) and (62). Note that the main difference between them is which of exclusivity and factivity is asserted and which is presupposed.

(61) $[[nur_1]]^w$ (S)(p) is defined iff
(i) p(w) = 1 Factivity
(ii) p is LOW on S Scalarity
If defined,
$[[nur_1]]^w$ (S)(p) = 1 iff $\forall q \in S\ [q >_s p \rightarrow q(w)=0]$ Exclusivity

(62) $[[nur_2]]^w$ (S)(p) is defined iff
(i) $\forall q \in S\ [q >_s p \rightarrow q(w)=0]$ Exclusivity
(ii) p is LOW on S Scalarity
If defined,
$[[nur_2]]^w$ (S)(p) = 1 iff p(w) = 1 Factivity

(63)a has two potential LFs, shown in (63)b and (63)c. However, the sentence only has one meaning. Let us see how Guerzoni accounts for that.

(63) a. Niemand hat auch [nur [die Marie]$_f$]$_f$ getroffen.
no one has also only the Mary met
b. LF1: [niemand$_1$ [auch [nur [$t_1$ hat [[die Marie]$_f$]$_f$ getroffen]]]]
c. LF2: [auch [niemand$_1$ [[nur [$t_1$ hat [[die Marie]$_f$]$_f$ getroffen]]]]

LF1, just like the affirmative sentences, will always be infelicitous no matter which *nur*, the regular one or *nur*$_2$, is used. As for LF2, *nur*$_2$ will result in compatible presuppositions and assertions.

(64) For every assignment function g:
a. Presupposition of *solo*$_2$: there is no person y different from Mary such that g(1) greeted y
b. Presupposition of *anche*: g(1) greeted someone different from Mary
c. Resulting presuppositions: g(1) didn't greet anybody different from Mary
&
g(1) greeted somebody different from Mary

Assuming Heim's (1988) theory of presupposition projection, the presupposition at the top node is that everyone didn't greet anybody other than Mary and greeted somebody different from Mary. This is contradictory, and that is why LF1 is bad.

As for LF2, the assertion and presuppositions are as in (65).

(65) a. Assertion: Nobody met Mary
b. Presupposition of *anche*: There is someone different from Mary that nobody greeted
c. Presupposition of *solo*$_2$: There is no x different from Mary such that g(1) greeted x
d. Presupposition of *solo*$_2$ at the top node: Somebody greeted no one different from Mary

The presuppositions at the top of the tree are in (66).

(66) a. There is someone different from Mary that nobody greeted and someone greeted nobody different from Mary.
b. Nobody greeted anybody different from Mary and there is someone different from Mary that nobody greeted. <--> Nobody greeted anybody different from Mary.

Guerzoni also mentions one of Rullman's (1997) objections to the scope theory. Rullman says that, in the scope theory, items like *auch nur* have to appear in the scope of an NPI trigger in the surface syntactic structure, but must take scope over it in semantics, unlike other NPIs. She replies to this objection by saying that in her analysis

*nur* scopes under negation, and the presence of *auch* requires a scale reversal operator for it to outscope, in order to resolve a conflict in presuppositions; so *auch* and *nur* must take opposite scope with respect to a DE expression because of their meanings and there is no need for specific stipulations.

### 5.3 How about English *even*?

We have seen how Guerzoni's analysis explains the behavior of *auch nur* and related expressions in Italian and Dutch. Can the same analysis be used for English *even*? First of all we have to compare *even* to *auch nur* and see how they relate. Consider (67) and (68), from Guerzoni (2006).

(67) a. If you even have one child, you can get child support.
b. Si tu as même un (seul) enfant, tu peux avoir des allocations familiales
c. Se hai anche solo UN figlio, ti danno i sussidi familiari
d. Wenn du auch nur 1 Kind hast, wird dir die Kinderbeihilfe

(68) a. If you even have ten children, you are refused child support
b. Si tu as même DIX enfants, tu ne peux pas avoir des allocations familiales
c. *Se hai anche solo DIECI figli, ti rifiutano i sussidi familiari
d.*Wenn du auch nur 10 Kinder hast, wird dir die Kinderbeihilfe verweigert

According to Guerzoni, these examples show that even though *even* can be interpreted as either low or high scalar, *auch nur* and *anche solo* have a low scalar requirement. This explains the contrast in (68). The presupposition of the *even* in (68) is spelled out in (69), and that of *nur* is spelled out in (70).

(69) *Scalar presupposition of wide scope even:*

For any contextually relevant n∈N, the likelihood of being refused child support with n children exceeds the likelihood of being refused child support with 10 children.
The more children one has the more likely it is to receive child support.

(70) *Presupposition of narrow scope solo*

Exclusivity: There is no contextually relevant n > 10 such that you have n children
Scalarity: For any contextually relevant n, the likelihood of having 10 children exceeds the likelihood of having n children (where n<10, due to the exclusive presupposition) -----> WRONG!

The low scalarity requirement of *auch nur* goes hand in hand with its NPI-like effects. It is very tempting then, to relate *auch nur* to the NPI-like *even*. Let us see how far this idea can take us.

## 5.4 English *even*

Recall that the sentence repeated in (71) was a problem for the scope and the lexical ambiguity theory.

(71) I'm glad we got even [these tickets]$_F$

In (71), *these tickets* has a low scalar meaning, i.e., these tickets are low on a scale of quality of tickets.

I suggest that the way to deal with these sentences is to use a Guerzoni-style approach to wide scope *even*. But before that, look at similar sentences in (72)-(74) (Italian) and (75)-(77)(Dutch).

(72) Sono contento di aver preso anche solo questi (brutti) biglietti.
I-am happy of have gotten also only these bad tickets
"I'm glad I got even these (bad) tickets."

(73) *Mi dispiace di aver preso anche solo questi (eccellenti) biglietti.
me displeases of have gotten also only these excellent tickets
"I'm sorry I got even these (excellent) tickets."

(74) Mi dispiace di aver preso addirittura questi (eccellenti) biglietti.
me displeases of have gotten even these excellent tickets
"I'm sorry I got even these (excellent) tickets."

(75) ik ben blij dat we die kaartjes zelfs/ook maar hebben gekregen
I am glad that we these tickets even/also only have gotten
"I'm glad we got even these tickets."

(76) *het spijt me dat we die kaartjes zelfs/ook maar hebben gekregen
it spites me that we these tickets even/also only have gotten
"I'm sorry we got even these tickets."

(77) het spijt me dat we die kaartjes zelfs hebben gekregen
it spites me that we these tickets even have gotten
"I'm sorry we got even these tickets."

What we can observe in these cases is that in the cases where the tickets are good, the *auch nur*$_2$ version of *even* is possible, whereas when the tickets are bad only the regular *even* is possible.

Extending this generalization to English, we can look at (71) in a similar way: when *even* makes the tickets good, we have some kind of *auch nur*, whereas when they are bad, we would have regular *even*. Besides, the same way Italian, Dutch, and German need *nur*$_2$, English needs *just* instead of *only*.

If English is in any way like German or Italian, such a sentence would require some kind of *nur* meaning. I propose that the low scalarity comes from a hidden nur-like element. Thus (71) has four potential LFs:

1. glad > even with nur$_1$
2. glad > even with nur$_2$
3. even > glad with nur$_1$
4. even > glad with nur$_2$

Based on Guerzoni (2006), I will use the definitions in (78) and (79).

(78) $[[\text{nur}_1]]^w$ (S)(p) is defined iff
(i) p(w) = 1 Factivity
(ii) p is LOW on S Scalarity
If defined,
$[[\text{nur}_1]]^w$ (S)(p) = 1 iff $\forall q \in S\ [q >_s p \rightarrow q(w)=0]$ Exclusivity

(79) $[[nur_2]]^w$ (S)(p) is defined iff

| | |
|---|---|
| (i) $\forall q \in S\ [q >_s p \rightarrow q(w)=0]$ | Exclusivity |
| (ii) p is LOW on S | Scalarity |
| If defined, | |
| $[[nur_2]]^w$ (S)(p) = 1 iff p(w) = 1 | Factivity |

The context C generates a ranking S along a contextually salient ordering dimension. The symbol $>_s$ in $p >_s q$ means that p entails q and q doesn't entail p. For example, in "Mary only got her degree from CALSTATE", we can think of a scale of prestige as in (80).

(80) Mary got her BA at CalState $<_{prestige}$ Pomona College $<_{prestige}$ MIT or Harvard

The definitions of *even* and *glad* that I will be assuming will be the ones in (81) and (82).

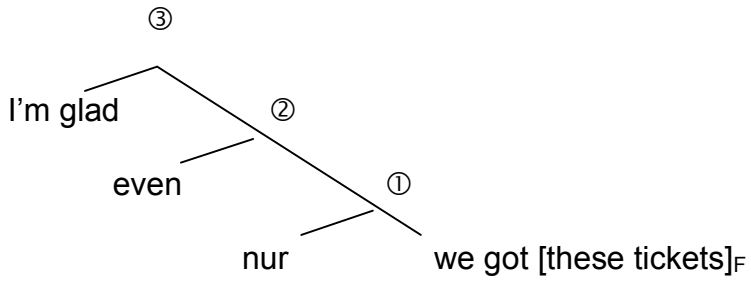
(81) [[even]](S)(p) is defined iff
(i) $\exists y \in S$ such that $y \neq x$ and p(y)
(ii) $\forall y \in S$, p(y) is more likely than p(x)
If defined, then
[[even]](S)(p) = p(x)

(82) [[glad]](p)(x) is defined iff p = 1
If defined, [[glad]](p)(x) = 1 iff x is satisfied with p

Let us now then look at the four possible LFs for (71), considering the scale in , based on the quality of the tickets.

(83) S: we got these tickets $<_{quality}$ tickets kind A $<_{quality}$ tickets kind B ...

### *LF1: glad > even with nur$_1$*




At point 1, we have:

(84) $[[nur]]^w$ (S)([[we got these tickets]]) = [$\lambda$x : we got these tickets in w and getting these tickets in w ranks low on S . $\forall q \in S$ [$q >_s$[[we got these tickets]] $\rightarrow$ q(w)=0]

In other words, the presuppositions are as in (85) and the assertion as in (86).

(85) a) We got these tickets
b) Getting these tickets ranks low on S

(86) We didn't get any tickets better than these.

At point 2, we have:

(87) [[even]](S)([[we only got these tickets]]) = [$\lambda$x : $\exists$y $\in$ S such that y$\neq$ x and we only got tickets y and $\forall$y $\in$ S, only getting tickets y is more likely than only getting these tickets . we only got these tickets]

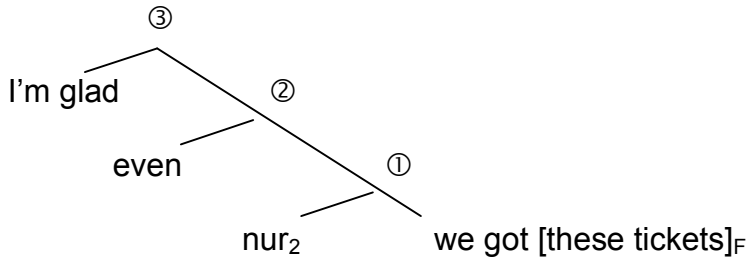
Assuming that all presuppositions survive at node 2, the resulting set of presuppositions is in (88), and the assertion in (89).

(88) Presuppositions:
a) From nur$_1$: We got these tickets
b) From nur$_1$: These tickets rank lower on the scale than every ticket y
c) From even: There are other tickets y such that we only got y
d) From even: Getting only tickets y is more likely than only getting these tickets

(89) Assertion (from $nur_1$ and even):
We didn't get any tickets y better than these tickets.

From (88) and (89), we can see that the assertion contradicts the presupposition in (88)c. Therefore, LF1 is not well formed.

## *LF2: glad > even with nur2*




At point 1, we have:

(90) $[[nur_2]]^w(S)([[\text{we got these tickets}]]) = [\lambda x : \forall q \in S\ [q >_s \text{we got these tickets} \rightarrow q(w)=0]$ and getting these tickets is low on S . we got these tickets in w]

So at point 1 the presuppositions are:

(91) a) We didn't get any tickets y better than these tickets.
b) These tickets that we got are low on the scale.

And the assertion is:

(92) We got these tickets.

At point 2, we have:

(93) [[even]](S)([[we nur$_2$ got these tickets]]) = [λx : ∃y ∈ S such that y≠ x and we nur$_2$ got y and ∀y ∈ S, nur$_2$ getting y is more likely than nur$_2$ getting these tickets]

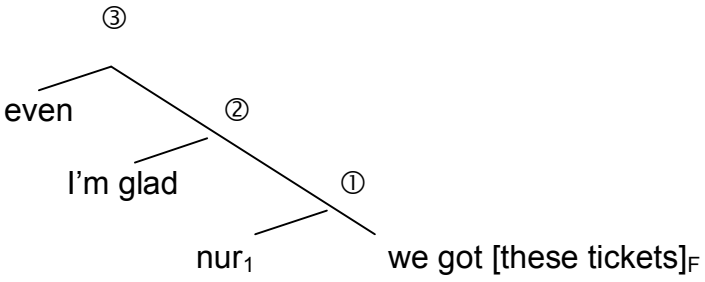
Assuming that all presuppositions survive at point 2, LF2 has the following presuppositions at this point:

(94) a) from nur$_2$: We didn't get any tickets y better than these tickets
b) from nur$_2$: These tickets that we got are lower on S than tickets y
c) from even: There are other tickets y such that we got y
d) from even: Getting tickets y is more likely than getting these tickets

As in LF1, LF2 has a contradiction, this time between presuppositions (94) a and c. Because of that, node 2 cannot be defined, and therefore *glad* cannot apply to it.

So far, we can conclude that *even* and *nur$_1$*, just like *auch* and *nur*, are not compatible with each other, at least when they are adjacent. Let us now see what happens when *even* moves above *glad*.

### *LF3: even > glad with nur$_1$*




At point 1, we have:

(95) [[nur$_1$]]$^w$(S)([[we got these tickets]]) = [λx : we got these tickets and getting these tickets is low on S . ∀q∈S [q >$_s$ getting these tickets → q(w)=0]]

We have then the presuppositions in (96) and the assertion in (97).

(96) a) We got these tickets
b) These tickets rank low on the scale of quality

(97) We didn't get any tickets y better than these.

At point 2, we have:

(98) [[glad]](we only got these tickets)(x) = [λx : we only got these tickets . x is satisfied that we only got these tickets]

Assuming that all presuppositions survive at point 2, we have the set of presuppositions in (99) and the assertion in (100).

(99) a) It is true that we got these tickets
b) It is true that these tickets rank low on the scale
c) It is true that we didn't get any tickets y better than these

(100) I am satisfied that we didn't get any tickets y better than these.

So far there have been no conflicts. Then at node 3, once again assuming that all presuppositions survive, we have:

(101) [[even]](S)([[I'm glad we only got these tickets]]) = [λx : ∃y ∈ S such that y≠ x and I'm glad we only got y and ∀y ∈ S, being glad we only got y is more likely than being glad we only got these tickets . I'm glad we only got these tickets]

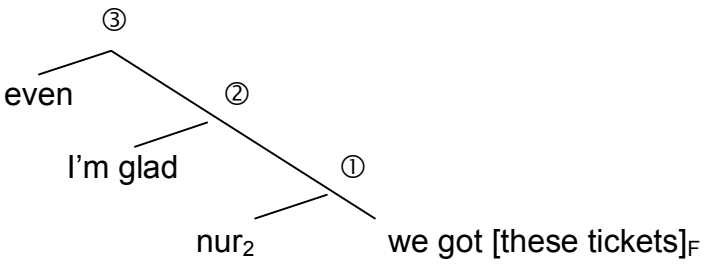
The resulting set of presuppositions then is in (102) and the assertion is in (103).

(102) a) from the presuppositions of $nur_1$: we got these tickets
b) from the presuppositions of $nur_1$: these tickets rank low on S
c) from the presuppositions of glad: a and b are true, and it is true that we didn't get any tickets y better than these tickets
d) from even: There are tickets y different from these tickets such that I'm glad we got y
e) from even: Being glad to get tickets y is more likely than being glad to get these tickets

(103) I am satisfied that we got these low-ranking tickets and that we didn't get any tickets y better than these.

Here we have a contradiction between the presupposition in (102)d and the assertion in (103).

## *LF4: even > glad with nur2*




At point 1, we have:

(104) $[[nur_2]]^w(S)([[$we got these tickets$]]) = [\lambda x : \forall q \in S\ [q >_s$ we got these tickets $\rightarrow$ q(w)=0] and getting these tickets is low on S . we got these tickets in w]

So, in other words, at point 1 the presuppositions and assertion are as in (105) and (106).

(105) a) We didn't get any tickets y better than these tickets.
b) These tickets that we got are low on the scale.

(106) We got these tickets.

At point 2, we have:

(107) [[glad]]([[we only got these tickets]])(x) = [$\lambda$x : it is true that we $nur_2$ got these tickets . I am satisfied with the fact that we only got these tickets]

Assuming that all presuppositions survive, at point 2 the set of presuppositions and assertion is as in (108) and (109).

(108) a) From $nur_2$ and glad: It is true that we didn't get any tickets y better than these tickets
b) From $nur_2$ and glad: It is true that these tickets are low on the scale
c) From $nur_2$ and glad: It is true that we got these tickets

(109) Assertion: I am satisfied that we $nur_2$ got these tickets

At point 3, we have:

(110) [[even]](S)([[I'm glad we $nur_2$ got these tickets]]) = [$\lambda x : \exists y \in S$ such that $y \neq$ these tickets and I'm glad we got these tickets . $\forall y \in S$, being glad we got tickets y is more likely than being glad we got these tickets]

Assuming once again that all presuppositions survive, the set of presuppositions and assertion at point 3 is as in (111) and (112).

(111) a) from the presuppositions of $nur_2$: We didn't get any tickets y better than these tickets
b) from the presuppositions of $nur_2$: These tickets are low on the scale
c) from the presuppositions of glad: a and b are true and it is true that we got these tickets (from the assertion of $nur_2$)
d) from even: There are tickets y different from these such that I'm glad we got y
e) from even: Getting tickets y is more likely to make me glad than getting these tickets

(112) I'm satisfied that we $nur_2$ got these tickets.

As with LF3, LF4 also has a problem: there is a contradiction between presuppositions (111)a and d.

In short, all potential LFs have some clash between presuppositions. There are two ways to proceed: one is to abandon all these LFs and look for some other explanation for the low scalarity of *even* under *glad*; the other way is to review the presuppositions that are causing the contradiction and see if we really need them. I am going to pursue the second way.

In the next section, I will present Rullman's (1997) considerations on the existence presupposition of *even* and Wilkinson's (1996) suggestion to eliminate the

factivity of *glad*. I will test both approaches and see if they can solve the presupposition clashes in LFs 1, 2, 3, and 4.

## 5.5 The Existence Presupposition of *Even*

Rullman (1997) looks at the existence presupposition of *even* and concludes that it is not an independent presupposition, but arises indirectly as a pragmatic entailment of the scalar presupposition of *even* combined with the assertion expressed by the sentence in which *even* occurs.

Sentences (113) and (114) are some of the examples that Rullman considers problematic for the assumption that *even* has an existential presupposition.

(113) I am sorry I even [$_F$ opened] the book.

(114) A: Is Claire an [$_F$ assistant] professor?
B: No, she's even an [$_F$ associate] professor.

In (113), the existence presupposition would predict that I did more with the book than just open it. However, the sentence would also be appropriate if all I did with the book was just open it, and the existence presupposition would rule this out. In (114), the existence presupposition would make the wrong predictions. It would predict that Claire has other positions than associate professor, which is not what the sentence means.

Let us look at (115) to see how Rullman gets the existence presupposition.

(115) Mary even invited [F Bill].

Suppose that the contextually salient alternative propositions are the following:

(116) {Mary invited John, Mary invited Sue, Mary invited Bill, Mary invited Jane}

In (115), the speaker asserts that Mary invited Bill and that inviting Bill is the least likely of the alternative propositions. Based on this, Rullman claims that the speaker will probably be inclined to conclude that the more likely propositions in the set of

alternatives will also be true, because of the assumption that if p is less likely than q and p is true, then q is probably also true. It is not necessarily true, since sometimes unlikely propositions are true while likely ones are not. Rullman's proposal is then that *even* can only be used if the speaker intends the hearer to draw a scalar inference. He considers it a conventional but non-truthconditional aspect of the meaning of *even*. Therefore, when the speaker uses (115), this not only presupposes that the assertion "Mary invited Bill" is the least likely of the alternative propositions, but also leads the hearer to conclude that the other more likely alternatives are also true. Thus, instead of assigning an existential presupposition to *even*, this presupposition can be derived from the combination of the assertion and the scalar presupposition.

Imagine that the sentence in (113) evokes the following alternative set:

(117) {I opened the book, I read the book, I photocopied the book, I memorized the book}.

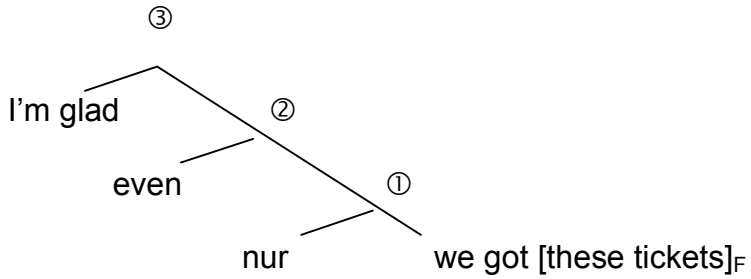
The scalar presupposition of *even* places "I opened the book" as the most likely alternative. Due to the factive nature of *to be sorry*, the sentence presupposes that "I opened the book" is true. However, from the fact that a proposition p is true we cannot conclude anything about propositions that are less likely than p. Thus, from the truth of "I opened the book" we cannot conclude anything about the truth of other propositions about things I did with the book. This is how Rullman explains the absence of the existential presupposition in (113), the fact that the proposition expressed by the complement clause is at the same time presupposed to be true (from the factivity of *sorry*) and more likely than all alternative propositions (from the scalar presupposition of *even*).

In the case of (114), the alternatives are mutually exclusive and there is no entailment relation between them, not even a pragmatic one. Neither "Claire is an associate professor" nor "Claire is a full professor" can be inferred from the assertion "Claire is an associate professor" in combination with the scalar presupposition of the sentence. Therefore, no existential presupposition arises, and we get the expected result.

## *Back to glad*

Let us look again at LFs 1-4, now assuming Rullman's proposal that the existential presupposition is not part of the meaning of *even*.

LF1




Recall that the resulting set of presuppositions at node 2 is in (118), and the assertion in (119).

(118) Presuppositions:
a) From *nur*$_1$: We got these tickets
b) From *nur*$_1$: These tickets rank lower on the scale than every ticket y
c) From *even*: There are other tickets y such that we only got y
d) From *even*: Getting only tickets y is more likely than only getting these tickets

(119) Assertion (from nur$_1$ and even):
We didn't get any tickets y better than these tickets.

The problem here was that there was a clash between the presupposition in (118)c and the assertion in (119). Let us see what happens when we do not consider the existence presupposition of *even*.

We would have then at node 2 the presuppositions in (120) and the assertion in (121).

(120) a) From *nur*$_1$: We got these tickets
b) From *nur*$_1$: These tickets rank lower on the scale than every ticket y
c) From *even*: Getting tickets y is more likely than getting these tickets

(121) We didn't get any tickets y better than these tickets.

Since there is no clash anymore, we can go on to node 3. Assuming that all presuppositions are preserved, (122) shows the presuppositions and (123), the assertion of LF1.

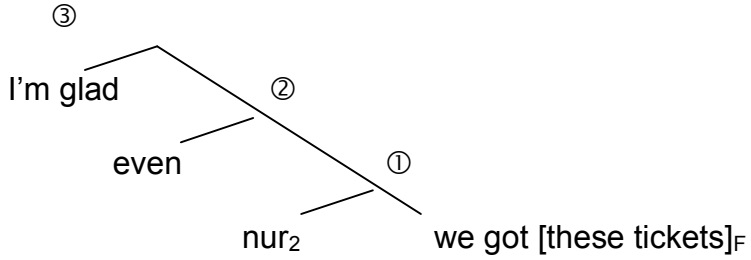
(122) a) It is true that we got these tickets
b) It is true that these tickets rank lower on the scale than every ticket y
c) It is true that getting tickets y is more likely than getting these tickets

(123) I am satisfied that we didn't get any tickets y better than these tickets.

Although there are no clashes involving the presuppositions, presupposition (122)c goes against speakers' intuitions about the meaning of the sentence. Therefore, LF1 is ruled out because it makes the wrong predictions about the meaning of the sentence.

Similarly, we can continue the derivation of LF2 because there would be no presuppositional clash at point 2 anymore.

LF2



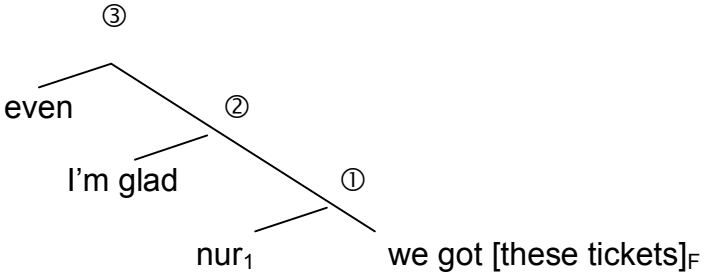

Recall that the presuppositions in node 2 were the ones in (124), and c contradicted the presuppositions of *nur*$_2$.

(124) a) from *nur*$_2$: We didn't get any tickets y better than these tickets
b) from *nur*$_2$: These tickets that we got are lower on S than tickets y
c) from *even*: There are other tickets y such that we got y
d) from *even*: Getting tickets y is more likely than getting these tickets

Eliminating (124)c, however, will not rescue this LF, since presupposition (124)d goes against speakers' intuitions about the meaning of the sentence. LF2, then, is still ruled out.

Let us now turn to LF3.

LF3



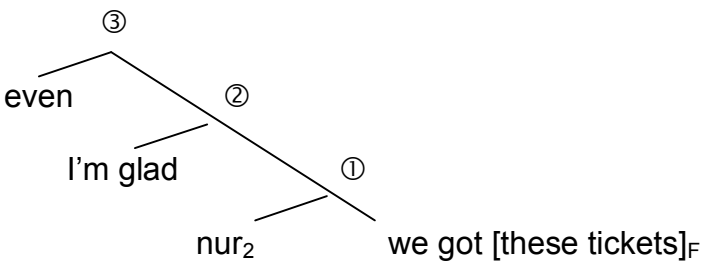

Recall that originally we had at node 3 the presuppositions in (125) and the assertion in (126).

(125) a) from the presuppositions of *nur*$_1$: we got these tickets
b) from the presuppositions of *nur*$_1$: these tickets rank low on S
c) from the presuppositions of *glad*: a and b are true, and it is true that we didn't get any tickets y better than these tickets
d) from *even*: There are tickets y different from these tickets such that I'm glad we got y
e) from *even*: Being glad to get tickets y is more likely than being glad to get these tickets

(126) I am satisfied that we got these low-ranking tickets and that we didn't get any tickets y better than these.

The problem here was that presupposition (125)d contradicts presupposition (125)c and the assertion in (126). If we eliminate this presupposition, there will be no more conflicts, and we have the desired result: tickets y are in the scale and rank higher than these tickets, but we did not get tickets y. Part of the assertion, though, remains problematic. It is not clear that not getting better tickets would satisfy me.

Finally, consider LF4.



Recall that the presuppositions were as in (127) and the assertion as in (128).

(127) a) from the presuppositions of *nur*$_2$: We didn't get any tickets y better than these tickets
b) from the presuppositions of *nur*$_2$: These tickets are low on the scale
c) from the presuppositions of *glad*: a and b are true and it is true that we got these tickets (from the assertion of *nur*$_2$)
d) from *even*: There are tickets y different from these such that I'm glad we got y
e) from *even*: Getting tickets y is more likely to make me glad than getting these tickets

(128) I'm satisfied that we nur$_2$ got these tickets.

Once again, the problem was a contradiction between presuppositions (127)a and d. If we, however, do not consider the existential presupposition of *even*, then there is no contradiction between presuppositions or between presuppositions and assertions.

## *Factivity of glad*

The other way to eliminate the problem of using *even* under *glad* is to follow Wilkinson (1996) and eliminate the factivity of *glad*. She claims that without the factivity, *glad* has the meaning of *want*. Differently from Wilkinson, though, I will have *nur* 1 or 2 responsible for the low scalarity of *even*.

In LF1, recall that at node 2, we had the presuppositions in (129) and the assertion in (130).

(129) a) From *nur*$_1$: We got these tickets
b) From *nur*$_1$: These tickets rank lower on the scale than every ticket y
c) From *even*: There are other tickets y such that we got y
d) From *even*: Getting tickets y is more likely than getting these tickets

(130) We didn't get any tickets y better than these tickets.

Eliminating the factivity of *glad* and considering it to be like *want*, we would get the following assertion for LF1:

(131) I want for us not to get any tickets y better than these tickets.

This is not, however, what the sentence asserts. Therefore, once again LF1 is ruled out.

As for LF2,recall that at node 2 we had the presuppositions in (132) in and the assertion in (133).

(132) a) from *nur*$_2$: We didn't get any tickets y better than these tickets
b) from *nur*$_2$: These tickets are lower on the scale than tickets y
c) from *even*: There are other tickets y such that we got y
d) from *even*: Getting tickets y is more likely than getting these tickets

(133) We got these low-ranking tickets.

(134) a) from *nur*$_2$: I want us not to get any tickets y better than these tickets
b) from *nur*$_2$: I want these tickets to be lower on the scale than tickets y
c) from *even*: I want there to be other tickets y such that we get y
d) from *even*: I want getting tickets y to be more likely than getting these tickets

(135) I want us to get these low-ranking tickets.

Once again, we have contradicting presuppositions that go against speakers' intuitions. So once again, LF2 is ruled out.

As for LF3, recall that we had the following presuppositions and assertion at point 2.

(136) a) It is true that we got these tickets
b) It is true that these tickets rank low on the scale
c) It is true that we didn't get any tickets y better than these

(137) I am satisfied that we didn't get any tickets y better than these.

Eliminating the factivity of *glad* would give us instead the following presuppositions and assertion:

(138) a) I want us to get these tickets
b) I want these tickets to rank low on the scale
c) I want for us not to get any tickets y better than these

(139) I want us not to get any tickets y better than these.

If we apply the meaning of *even* to this, we get:

(140) a) from *nur*$_1$: we got these tickets
b) from *nur*$_1$: these tickets rank low on S
c) from *glad*: I want a and b, and I want us not to get any tickets y better than these tickets
d) from *even*: There are tickets y different from these tickets such that I want us to get y
e) from *even*: Wanting to get tickets y is more likely than wanting to get these tickets

The presuppositions are incompatible, so we can conclude that LF3 would not be well formed.

Let us turn now to LF4. Recall that the presuppositions were originally as in (141) and the assertion as in (142).

(141) a) From *nur*$_2$ and *glad*: It is true that we didn't get any tickets y better than these tickets
b) From *nur*$_2$ and *glad*: It is true that these tickets are low on the scale
c) From *nur*$_2$ and *glad*: It is true that we got these tickets

(142) I am satisfied that we *nur*$_2$ got these tickets

Disregarding the factivity of *glad* would give us (143) and (144).

(143) a) From *nur*$_2$ and *glad*: I want us not to get any tickets y better than these tickets
b) From *nur*$_2$ and *glad*: I want these tickets to be low on the scale
c) From *nur*$_2$ and *glad*: I want us to get these tickets

(144) I want us *nur*$_2$ to get these tickets

At point 3, with *even*, we would then have

(145) a) from *nur*$_2$: We didn't get any tickets y better than these tickets
b) from *nur*$_2$: These tickets are low on the scale
c) from *glad*: I want a and b and I want us to get these tickets (from the assertion of *nur*$_2$)
d) from *even*: There are tickets y different from these such that I want us to only get y
e) from *even*: Wanting to only get tickets y is more likely than wanting to only get these tickets

(146) I want us *nur*$_2$ to get these tickets.

Once again, we get contradictory presuppositions, and LF4 is ruled out.

It seems then, that using Wilkinson's proposal of disregarding the factivity of *glad* is not compatible with a Guerzoni-style analysis of English low-scale *even*.

## 5.6 Conclusions from this section

The first conclusion we can draw from section 4 is that a structure with *glad* scoping over *even* and *nur* is never possible, since it will always result in contradictory presuppositions.

The second conclusion is related to the presupposition clashes generated by applying a Guerzoni-like analysis to English low-scale *even*. In order to avoid these clashes, we have to assume with Rullman (1997) that the existence presupposition associated with sentences containing *even* does not come from the presuppositions of *even* itself, but from pragmatic inferences.

There is one interesting consequence about keeping the factivity of *glad*. Once we assume that the complement of *glad* must be true, we have to assume that the presuppositions of the complement are satisfied. When we calculate the presuppositions at the top of *glad*, both presuppositions and assertions of its complement become presuppositions of *glad*. For convenience, I repeat below the resulting presuppositions and assertions of LF3 and LF4, with *nur*$_1$ and *nur*$_2$ respectively.

LF3:

(147) a) from the presuppositions of *nur*$_1$: we got these tickets
b) from the presuppositions of *nur*$_1$: these tickets rank low on S
c) from the presuppositions of *glad*: a and b are true, and it is true that we didn't get any tickets y better than these tickets
d) from *even*: Being glad to get tickets y is more likely than being glad to get these tickets

(148) I am satisfied that we got these low-ranking tickets and that we didn't get any tickets y better than these.

LF4:

(149) a) from the presuppositions of *nur*$_2$: We didn't get any tickets y better than these tickets
b) from the presuppositions of *nur*$_2$: These tickets are low on the scale
c) from the presuppositions of *glad*: a and b are true and it is true that we got these tickets (from the assertion of *nur*$_2$)
d) from *even*: Getting tickets y is more likely to make me glad than getting these tickets

(150) I'm satisfied that we nur$_2$ got these tickets.

Recall that the difference between *nur*$_1$ and *nur*$_2$ is which of factivity and exclusivity is presupposed or asserted. Note that once the presuppositions and assertions of *nur*$_1$ and *nur*$_2$ all become presuppositions, there is no difference between *nur*$_1$ and *nur*$_2$ anymore. This can lead us to conclude that in English, at least as far as factives like *glad* are concerned, there is no difference between *nur*$_1$ and *nur*$_2$. What is relevant is that we need *nur* to get the low scalarity and that *even* has to outscope the factive predicate.

# 6 Some possible consequences of the Guerzoni-style analysis

This section is a bit speculative in the sense that it suggests possible consequences of the theory developed in question 4, although it does not exploit them in detail, which is beyond the scope of this paper.

## 6.1 NPI-like behavior

Recall that one of the problems with the lexical ambiguity theory of *even*, was the same problem that most NPI-licensing theories face, i.e., how to explain why $even_{NPI}$ or some NPIs are licensed under *glad*. One of the biggest challenges was to come up with NPI licensing conditions that would encompass *glad*. I suggest that we look at this problem from another point of view and ask the question: What if the NPIs licensed under *glad* are not really NPIs?

Guerzoni (2006) suggests that the NPI-like behavior of *anche solo* or *auch nur* is a consequence of the fact that the *also* and the *only* parts have to be separated to avoid a presupposition clash. Let us look again at (151), whose LF is sketched in (152).

(151) Nessuno ha salutato anche $solo_2$ Maria
no one has greeted also only Maria
"No one greeted even Maria."

(152) [anche [$nessuno_1$ [ [$solo_2$ [$t_1$ ha salutato [ [Maria]$_f$ ]$_f$]]]]]

The presence of *nessuno* between *anche* and *solo* causes the presupposition of *solo* to be negated, so *anche* applied to the rest of the sentence will cause no presupposition clash. Therefore, *anche solo* or *auch nur* are not really an NPIs. It so happens that NPI licensors are appropriate to avoid the presupposition clash between the *auch* and *nur* elements in Italian and German, but it is not only NPI licensors that can do that.

One example of a non-NPI licensor that can license an *auch nur* the case of *glad*. Recall that the correspondent to (153) in Italian is (154), with *anche solo*.

(153) I'm glad we got even these tickets.

(154) Sono contento di aver preso anche solo questi (brutti) biglietti.
I-am happy of have gotten also only these bad tickets
"I'm glad I got even these (bad) tickets."

## *6.2* Stressed *any*

Consider now the contrast in (155), which shows that although *glad* does not license the NPI *any*, it does license stressed *any*.

(155) a. *I'm glad we got any tickets.
b. I'm glad we got ANY tickets.

If we consider that stressed *any* carries a low scalarity presupposition, i.e. that *any tickets* means *even these bad tickets*, we can assume that sentences containing stressed *any* also contain a hidden *nur*. Thus, stressed *any*, differently from regular *any*, is not really an NPI, but looks like one in some cases due to the presence of *nur* and some element presupposing addition.

Another interesting contrast is the one in (156), which shows that while stressed *any* is possible under *glad*, it is not possible under *said*.

(156) a. I'm glad we got ANY tickets.
b. *I said we got ANY tickets.

The chart in (157) shows a list of predicates that do or do not license stressed *any*.

(157) _____ that we got ANY tickets.

| A - √ | B - * |
|---|---|
| I'm glad | I said |
| I'm sorry | I heard |
| I resent the fact | I assure you |
| I'm sad | It's likely |
| I regret | It's true |
| It makes me laugh | I believe |
| It's amazing/I'm amazed | I think |
| It's surprising/I'm surprised | I suspect |
| | I bet |
| | I realized |

The first difference between the two columns apparently has to do with some opinion held by the speaker in relation to the embedded clause. The predicates in column B indicate different levels of belief in relation to the embedded clause, or simply report its contents. They do not, however, express any opinion.

Considering that stressed *any* contains some *even* element, the interpretation of this *even* in the predicates in column A as top or bottom of a certain scale (e.g. the case of good or bad tickets with *sorry* and *glad*) depends on the specific predicate that is used, combined with the unlikelihood contributed by *even*. For example, when used with *even*, *glad* expresses unlikely satisfaction, *sorry, resent, regret* expresses unlikely dissatisfaction, *makes me laugh* expresses unlikely despise, and so on.

When *even* is used with the predicates in column B, however, there is no flexibility as to what end of the scale is being referred to: they always pick the top of the scale only. Look at sentences in (158) involving some of these predicates and *even*. All of them have the same presupposition concerning the tickets: that it is unlikely that we got these tickets, which usually means that the tickets are desirable in some way (they might be good or have a good price), so they sell out fast.

(158) a. I said he got even these tickets.
b. I heard we got even these tickets.
c. I assure you we got even these tickets.
d. It's likely we got even these tickets.
e. It's true we got even these tickets.

At this point, I cannot offer a thorough analysis of the difference between columns A and B. My main point is to show that there is a relation between stressed *any* and *even*. I will, though, hint at a possible explanation.

Another property that is related to the difference between columns A and B has to do with the observation reported in Simons (in preparation), following Urmson (1952), that some embedding verbs allow for a parenthetical use, which means that it is the content of the embedded clause which has main point status. Simons gives (159) as an example.

(159) A: Why didn't Louise come to the meeting yesterday?
B: I heard that she's out of town.

The answer to A's question is the main point of B's utterance, and this main point is in the embedded clause, while the main verb is used parenthetically, in the semantic sense. She also notes that these semantically parenthetical uses of verbs are related to the possibility of their being used as a syntactic parenthetical, as illustrated in (160)

(160) a. Louise, I hear(d), is out of town.
b. Louise is out of town, I hear(d).

If we take this possible syntactic parenthetical use to test which verbs are semantically parenthetical, we get a sharp contrast between column A and column B verbs, as shown in (161) and (162): while column B verbs can be used parenthetically, column A ones sound odd in this use.

(161) Column A verbs
a. ??John, I'm glad, got even these tickets.
b. ??John, it's surprising, got even these tickets.
c. ??John, I regret, got even these tickets.
d. ??John, it makes me laugh, got even these tickets.
e. ??John, I'm amazed, got even these tickets.

(162) Column B verbs
a. John, I said, got even these tickets.
b. John, I heard, got even these tickets.

c. John, I assure you, got even these tickets.
d. John, it's likely, got even these tickets.
e. John, it's true, got even these tickets.

Simons further points out that even though some of the verbs which have parenthetical uses are standardly classed as presuppositional, they do not show presuppositional properties when used parenthetically.

She also reports Hooper's (1975) claim that semi-factives (a class originally identified by Karttunen 1971) are assertives, which is another way of saying that they have parenthetical uses in which their complements constitute the main point of the utterance. Hooper notes that the parenthetical use of semi-factives constitutes a problem for the assumption that these predicates are presuppositional, for what is presupposed cannot also be asserted. Simons main claim, then, is that when the main clause predicate is used parenthetically, the complement clause is not presupposed.

# 7 Final Remarks

First of all, I would like to go back to the questions I posed in section 1, repeated below.

(163) a. Why can *even* denote different ends of the scale in (1)a and b?
b. What is the difference between stressed and unstressed *any*?
c. What is the relation between the meaning and licensing conditions of *even* and those of stressed *any*?
d. What kinds of predicates license stressed *any*?

What I have proposed for question (163)a is that low scalarity *even* is associated with *nur* in the sense of Guerzoni (2002).

As for (163)b and c, I have suggested that stressed *any* has the same meaning of low scale *even*, and therefore the licensing conditions for both should be related, as they actually are.

Related to (163)b and c is question (163)d. Although, I have not exploited this matter in detail, I have suggested that the licensing of stressed *any* has to do with predicates that carry the main point of a sentence, as opposed to predicates that have parenthetical use and whose embedded sentences carry the main point.

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