

Even if *and* even: *The case for an inferential scalar account**

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Abstract

This paper considers two central questions: (a) what is the general nature of the meaning encoded by *even*? and (b) what exactly is the meaning *even* encodes? A wide variety of answers to these two questions, proposed in the linguistics and philosophy of language literature, are considered and it is argued that none of them are entirely satisfactory. As an alternative, an analysis is proposed according to which *even* encodes a procedural constraint on the context in which the utterance is to be processed.

1 Introduction

Adding the focus particle *even* to an utterance makes a clear difference to its interpretation; exactly how to capture that difference (that is, what the meaning of *even* is) has been much debated in the linguistics and philosophy of language literature. (1) and (2) illustrate just how much *even* affects the interpretation of its host utterances.

- (1) Neville passed the exam.
- (2) Even **Neville** passed the exam.¹

An utterance of (1) may convey nothing much more than the neutral piece of information that Neville passed the exam. In the same scenario, an utterance of (2), however, clearly suggests something extra: roughly, (i) other people apart from Neville passed the exam,

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¹ Throughout this paper, the constituent in the focus of *even* is put in bold, where a particular focus interpretation is envisaged. Obviously, just how hearers work out where the focus of *even* lies is an interesting and important question. However, it is one that lies outside the scope of the present paper.

(ii) Neville wasn't as likely as these other people to pass, and maybe (iii) Neville's passing the exam was contrary to expectation. In more general terms, if the sentence containing *even* is S and the proposition expressed by this sentence minus *even* S^{*2} , then one could say that an utterance of S implies that at least one other proposition, S_j , different from S^* only in the element in the focus of *even* in S , is true and less surprising than S^* . It's also possible that there is an implication that *not- S^** was expected in the circumstances.

The effect adding *even* has on utterance interpretation is even more noticeable if the utterance in question is of the form *if P then Q* .

- (3) If Neville passed the exam, he won't get the job.
- (4) Even if Neville passed the exam, he won't get the job.

Thus, the difference between (3) (at least as read with 'neutral' stress and intonation patterns) and (4) seems to be that the former implies that Neville will fail to get the job in case he passed the exam, while the latter implies that Neville will fail to get the job whatever happens. However, just to complicate matters, it is by far not in every case that adding *even* to an *if* conditional will lead to an implication of the consequent. Neither (5) nor (6) come with a suggestion that Neville won't get the job (if he turns up on time and his appearance is immaculate, he might well get the job).

- (5) Even if Neville turns up **a little** late, he won't get the job.
- (6) Even if **Neville's hair is untidy**, he won't get the job.

At least the differences between (4) and (5) seem to stem from a difference in the focus of *even*: in (4) the focus is on the whole antecedent, while in (5) it is only on the constituent *just a little*. This seems to indicate that, whatever analysis one gives of *even*, *even if* should be treated as the compositional result of an interaction between the meanings of *even* and *if*, rather than as an "idiomatic lump", as Bennett (1982: 414) terms it.

Beyond accounting for the above intuitions concerning the interpretation of *even* and *even if* utterances in various contexts, there are a number of questions any analysis of the linguistic meaning of *even* should answer. For instance, it isn't immediately clear that *even* encodes the type of meaning most other linguistic expressions, such as *exam* and *pass*, seem to encode. This is reflected in the fact that many existing analyses of *even*

² This terminology is adapted from Bennett (1982: 405) and is used in similar ways in much of the literature discussed in this paper.

even

treat it as carrying conventional implicatures or presuppositions rather than having truth-conditional meaning. Furthermore, there is some considerable disagreement in the literature on which of the implications the use of *even* seems to result in are, in fact, a matter of the linguistic meaning of *even* and which are derived purely pragmatically. A question that is of particular interest here is whether the implication that *Q* is true conveyed by many utterances of the form *even if P, Q* is merely a pragmatic implication (i.e. an implicature) or whether it is an entailment of such utterances. All of these issues should be addressed in answering the following two central questions: (a) In what way does *even* affect the interpretation of utterances in which it occurs, i.e. what general kind of meaning (if any) does it encode? and (b) What exactly is the meaning of *even*? The answer to this last question should capture intuitions concerning the effects of *even* on utterance interpretation in a variety of examples, including conditional cases.

This paper sets out to answer each of the above questions in turn. In doing this, a number of existing analyses will be considered. However, ultimately, it will be argued that none of the analyses considered is entirely satisfactory. Instead, a new analysis of *even* (whether or not it occurs in *if*-clauses), based on a particular, cognitive, view of human communication, will be proposed. It will be argued that this puts it at an advantage when it comes to accounting for specific examples involving *even*.

Let me start by considering the question of the manner in which *even* affects the interpretation of utterances containing it.

2 The type of meaning encoded by *even*

2.1 Three different views of *even*

Introducing his discussion of the meaning of *even*, Lycan (1991: 115-117; 2001: 93-96) considers three different possible views of *even*: the Minimal View, the Conventional View and the Semantic View. On the Minimal View, *even* is seen as making no contribution to, as Lycan (1991: 116; 2001: 94) puts it, “anything that one might call locutionary meaning”. I assume that by “locutionary meaning” Lycan means something like ‘linguistically encoded meaning’³. As he says, no-one actually seems to subscribe to the Minimal View. In fact, this is not particularly surprising, since it seems easy enough

³ In fact, Lycan’s use of the term “locutionary meaning” is not particularly helpful because there is no consensus on what exactly Austin (1962) intended to be included in this. For a detailed discussion of this problem see Iten (2000b: 61-67; forthcoming).

to refute the idea that *even* doesn't affect the interpretation of utterances containing it in a systematic way, by virtue of its linguistic meaning. A simple comparison between (2) and (7) shows that *even* has linguistic meaning beyond its focus properties.

- (2) Even **Neville** passed the exam.
 (7) **Neville** passed the exam.

An utterance of (7) seems to suggest that the speaker is correcting the hearer's utterance (or belief) to the effect that someone other than Neville passed the exam or, alternatively, that someone else should have passed the exam given that Neville did. However, it is unlikely that it will be interpreted completely parallel to (2) on all occasions, i.e. as implying that someone other, more likely, than Neville passed the exam. Furthermore, as (8) shows, (2) can never receive a 'correction' interpretation.

- (8) A: Susan passed the exam.
 B: No, **Neville** passed the exam.
 B': *No, even **Neville** passed the exam.

The Conventional View is probably the most widespread of the three views Lycan considers. According to this, *even* has linguistic meaning but not the kind that affects the truth conditions of the utterances in which it occurs. In a Gricean framework, *even* would be seen as carrying a conventional implicature (see e.g. Francescotti 1995). However, there are a range of analyses that adhere to the Conventional View without adopting this Gricean terminology, e.g. by saying that *even* carries a (pragmatic) presupposition or simply by stating how it affects felicity conditions rather than truth conditions (cf. e.g. Bennett 1982; Barker 1991, 1994; Fauconnier 1975; König 1991). Clearly, this view has to be taken seriously and it will be discussed in some detail below.

Finally, the Semantic View not only holds that *even* encodes linguistic meaning but that this linguistic meaning is truth-conditional. As far as I'm aware, Lycan (1991, 2001) and Berckmans (1993) are the only two proponents of this view⁴. Both of these analyses treat *even* in quantificational terms.

Before moving on to consider which of the two remaining views should be preferred, it seems important to note that Lycan's way of discussing the three views relies on his

⁴ König (1991) treats any S_s as semantic presuppositions, which seems to suggest that he sees at least part of the meaning of *even* as affecting truth-conditional content. The assumption that S^* is more extreme than S_s , however, is treated as a conventional implicature.

even

particular way of drawing the semantics/pragmatics distinction. That is, he is clearly following the philosophical tradition of construing semantics in terms of the relationship between language and the world. In other words, Lycan uses ‘semantic’ to mean ‘real-world semantic’ or ‘truth-conditional’. This means that there is a range of linguistic meaning that he would not classify as ‘semantic’ but rather as ‘pragmatic’. In the context of a paper that aims to account for the linguistic meaning of *even*, it isn’t clear that this kind of semantics/pragmatics distinction is helpful. After all, it suggests that there would be something less than standard, or unusual, about the kind of meaning encoded by *even* if it were assumed that it wasn’t truth-conditional.

The approach that will ultimately be adopted in this paper builds on a different semantics/pragmatics distinction. This alternative distinction is linguistic rather than real-world, or extensional. In other words, the notion of semantics favoured here, is one on which all linguistically encoded meaning counts as semantic (whether or not it affects truth conditions) and all meaning that is conveyed without being encoded is seen as pragmatic (again, whether or not it is part of the truth-conditional content of the utterance). While both ways of construing the semantics/pragmatics distinction have their place, a linguistic distinction seems to be more helpful in the current context.⁵

2.2 Is *even* a quantifier?

Given that the Minimal View, as argued above, is untenable, there are two options left: Either *even* encodes non-truth-conditional linguistic meaning (however exactly one wishes to construe that) or it encodes truth-conditional linguistic meaning. As Lycan notes, most existing accounts of the meaning of *even* take the former view. However, he himself argues in favour of the latter. Apart from the contention that none of the other accounts Lycan considers are quite adequate (i.e. manage to account for the full range of examples), his reasons for seeing *even* in truth-conditional, and more specifically quantificational, terms are the following.

Lycan’s (2001: 109-110) first argument in favour of a truth-conditional semantic analysis of *even* is that, as he puts it, “semantically empty words are rare in natural languages”. Those that are, he argues, can either only be used to form one-word utterances, such as *ouch*, *hello* and *damn*, or they are not properly syntactically integrated, e.g. *oh* and *say* in (9) and (10).

⁵ For a full discussion of different ways of drawing the semantics/pragmatics distinction see Carston (1999).

- (9) Oh, shut up.
 (10) Let's do that, say, five or six times Lycan (2001: 110)

Unlike these “semantically empty” words, *even* does not form one-word utterances and it is not ‘comma-ed off’ or otherwise syntactically separated from its host utterance.

The validity of this argument depends very much on one’s view of a great number of linguistic expressions. While the examples of “semantically empty” words Lycan gives are undoubtedly non-truth-conditional, it’s not so clear that they are the only non-truth-conditional linguistic expressions there are. For one thing, the ‘discourse markers’ Lycan lists (*say* and *oh*) seem to be much more marginally linguistic than many others he could have listed, such as *nevertheless*, *moreover*, *after all*, *however*, and many more. Clearly, a complete theory of linguistic meaning has to give an account of all of these discourse markers and, once one admits that there is such a thing as non-truth-conditional (or ‘non-semantic’, on Lycan’s semantics/pragmatics distinction) linguistic meaning, there seems to be no *a priori* reason for assuming that whatever exactly *even* linguistically encodes must affect the truth conditions of the utterances in which it occurs. That non-truth-conditional linguistic meaning is a reality is further supported by the existence of such connectives as *but* and *although* that might be treated as having some truth-conditional meaning (i.e. the same as *and*) but for which it is clear that their truth-conditional (and, indeed, truth-functional) content does not by any means exhaust their linguistically encoded content.⁶

Furthermore, there is good evidence that not all non-truth-conditional expressions are either syntactically isolated from their host utterances or only occur on their own. Lycan himself (2001: 110, fn. 17) admits that some expletives, such as *goddam* can occur perfectly syntactically integrated in their host utterances. For instance in *That goddam cat has thrown up right in our stereo headphones* (Lycan’s example). However, it is not just such arguably marked (or, as Lycan puts it, “more obviously and ritualistically emotive”) non-truth-conditional expressions that occur in syntactically integrated positions, but also the more mundane *also*, *yet* and *already* as used in (11)-(13).

- (11) Neville also passed the exam.
 (12) Neville has not yet passed the exam.
 (13) Neville has already passed the exam.

⁶ For analyses of *but* see Blakemore (1987, 1989, 2000, forthcoming) and Iten (2000b, forthcoming). An analysis of *although* is proposed by Iten (2000a).

even

All in all, it seems that Lycan's first argument in favour of the Semantic View of *even* is anything but compelling. In fact, on its basis alone it would be hard to dispel the suspicion that Lycan opts for the Semantic View primarily because his way of drawing the semantics/pragmatics distinction leads him to regard all linguistic meaning that is not truth-conditional as marked and marginal. It will be argued in section 3.2 that, far from being marginal, a second, non-representational, type of linguistic meaning is to be expected, given a plausible view of human communication and cognition.

The second piece of evidence Lycan (2001: 110) cites in favour of his truth-conditional view of *even* is that there are, as he believes, good reasons to assume that *even if* involves a universal quantifier. One of these is that *even if* may paraphrase a range of overtly (universally) quantificational expressions. Thus, for instance, the second clause of (14) is well paraphrased by (15), according to Lycan.

- (14) You can give me your letter; I have to go to the Post Office $\left. \begin{array}{l} \text{ anyway.} \\ \text{ in any case.} \\ \text{ in any event.} \end{array} \right\}$
- (15) I have to go to the Post Office even if you don't give me your letter.

This, too, is not a particularly compelling argument. If paraphrases were the deciding factor in linguistic semantic analyses, all manner of expressions could be analysed in terms of universal quantification. For instance, (17) is about as good a paraphrase of (16) as (15) is of (14).

- (16) It was raining; Peter went out $\left. \begin{array}{l} \text{ anyway.} \\ \text{ in any case.} \\ \text{ in any event.} \end{array} \right\}$
- (17) It was raining but Peter went out.

However, it is doubtful that (even) Lycan would want to analyse *but* in terms of universal quantification.

Finally, the argument to which Lycan gives the greatest prominence and which does, at least initially, seem stronger than the other two, builds on a perceived parallelism between *even* and *only*. According to Lycan (2001: 114), these two focus particles are not only "syntactic soulmates" in that they can, to a large extent, occur in the same syntactic environments, but they also share some important semantic features.

The syntactic properties *even* shares with *only* are the following: Firstly, both expressions can occur in almost any syntactic position, as (18)-(22) illustrate.

(18) $\left\{ \begin{array}{l} \text{Even} \\ \text{Only} \end{array} \right\}$ Neville enjoyed the party after midnight.

(19) Neville $\left\{ \begin{array}{l} \text{even} \\ \text{only} \end{array} \right\}$ enjoyed the party after midnight.

(20) Neville enjoyed $\left\{ \begin{array}{l} \text{even} \\ \text{only} \end{array} \right\}$ the party after midnight.

(21) Neville enjoyed the party $\left\{ \begin{array}{l} \text{even} \\ \text{only} \end{array} \right\}$ yesterday.

(22) Neville enjoyed the party after midnight $\left\{ \begin{array}{l} \text{even.} \\ \text{only.} \end{array} \right\}$

Secondly, *even* and *only* show the same distribution of focus ambiguity. For instance, (23) and (24) are both unambiguous as regards focus, while (25) and (26) are both ambiguous, i.e. the focus could (at least) be on *Neville*, *passed*, *the exam*, or *passed the exam*.

(23) Even Neville passed the exam.

(24) Only Neville passed the exam.

(25) Neville even passed the exam.

(26) Neville only passed the exam.

As far as semantics is concerned, Lycan (2001: 112-113) points out that both *only* and *even* can be analysed as (universally) quantifying over classes that are contextually determined on the basis of focus. Thus, he maintains that *only* can be paraphrased as ‘none except’ and *even* as ‘everything including’. For instance, while he would

even

paraphrase (2) ‘Everyone including Neville passed the exam’, (27) would be paraphrased as ‘No-one except Neville passed the exam’.⁷

- (2) Even **Neville** passed the exam.
 (27) Only **Neville** passed the exam.

From these syntactic and semantic observations, Lycan concludes that *even*, just like *only*, must be a quantifier. Summing up, Lycan’s argument goes as follows: *Even* and *only* share a great number of syntactic and semantic properties. *Only* is undisputedly a universal quantifier. Therefore, *even* must be a universal quantifier too.

Despite the fact that this argument (or cluster of arguments) is, on the face of it, more convincing than the preceding two, it is by no means watertight. Although *even* and *only* do share a great number of syntactic properties, there are other linguistic expressions that share them, too. For instance, (28)-(32) show that the syntactic distribution of *especially* matches that of *only* and *even*.

- (28) Especially Neville enjoyed the party after midnight.
 (29) Neville especially enjoyed the party after midnight.
 (30) Neville enjoyed especially the party after midnight.
 (31) Neville enjoyed the party especially after midnight.
 (32) Neville enjoyed the party after midnight especially.

Furthermore, there are at least some syntactic environments in which *even* and *only* can’t both occur. For instance, in (33), *only* can occur perfectly happily, while *even* leads to an unacceptable result.

- (33) Neville enjoyed the party $\left. \begin{array}{l} \text{only} \\ \text{*even} \end{array} \right\}$ because Julie was there

This is particularly striking since ‘Neville enjoyed the party for no other reason than that Julie was there’ and ‘Neville enjoyed the party for every reason including that Julie was there’ are both acceptable (though it must be admitted that the latter is slightly harder to process).

⁷ For a fuller discussion of Lycan’s analysis of *even* see section 4.3.

Perhaps the most notable point concerning Lycan's arguments in favour of the Semantic View is the lack of any direct positive evidence that *even* affects the truth conditions of the sentences/utterances in which it occurs. In fact, intuitions seem to support the view that it doesn't. I, for one, agree with Bennett (1982: 412) that an utterance of (2), for instance, would not be false, but, at most, infelicitous in circumstances in which no-one other than Neville passed the exam.

(2) Even **Neville** passed the exam.

A final point to consider is whether *even* really does behave like a quantifier and, more precisely, like *everything including*. One particularly salient property of quantifiers is that they give rise to scope ambiguities when combined with other scope operators. For instance, (34) can be interpreted either as (35) or as (36).

(34) Everyone didn't pass the exam.

(35) No-one passed the exam.

(36) Not everyone passed the exam.

Similarly, (37) has the two interpretations in (38) and (39).

(37) Everyone including Neville didn't pass the exam.

(38) No-one passed the exam.

(39) It is not the case that everyone including Neville passed the exam (i.e. Neville may or may not have passed the exam).

However, (40) only seems to have one interpretation, i.e. that in (41).

(40) Even **Neville** didn't pass the exam.

(41) Neville didn't pass the exam (no-one did).

Overall, then, it seems that there is not an overwhelming amount of evidence in favour of the claim that *even* encodes truth-conditional meaning, or the Semantic View. This leaves only the Conventional View. As mentioned above, there are a variety of ways in which this view can be cashed out. In the next sub-section, some of these will be considered and it will be argued that what is needed is a notion of non-truth-conditional linguistic meaning that sits comfortably in a general theory of language and communication.

even

2.3 Conventional implicature, pragmatic presupposition or something else?

Possibly the most widely recognised theoretical approach to non-truth-conditional linguistic meaning is Grice's notion of conventional implicature. He (1989: 25-6) introduced this notion to deal with the meaning encoded by such expressions as *but*, *therefore*, *moreover* and *on the other hand*. The most noticeable thing about the notion is how uneasy its position is within Grice's overall picture of communication. Grice (e.g. 1989: 359-368) seemed to place a great deal of emphasis on the intuition that some aspects of speaker meaning (i.e. what is communicated by a particular utterance) are more central than others and, at least in part, he saw this centrality as something that was linked to the conventional (or linguistically encoded) meaning of the utterance. At the same time, his intuitions seem to have tended towards distinguishing the truth-conditional content of an utterance (i.e. that which makes the utterance true or false) from everything else that may be communicated by it. He also wanted to ascribe this truth-conditional content of the utterance, or 'what is said', particular centrality. It was the existence of expressions with conventional (linguistically encoded) meaning that doesn't affect truth conditions, such as those mentioned above, and, to a lesser extent, the existence of unencoded aspects of what is said that finally led him to the idea that there is no single criterion for the centrality of what is communicated. Instead, he ended up distinguishing 'formality' and 'dictiveness' as the two properties that ensured centrality. Dictiveness he saw as the property of being linked to what is said and formality as the property of being linked to conventional (linguistically encoded) meaning. Given these distinctions, what is conveyed by non-truth-conditional linguistic expressions is both central (because it is formal) and non-central (because it is non-dictive).

The notion of conventional implicature, on Grice's account, is explicated in terms of non-central speech acts. While the linguistically encoded meaning of most natural language expressions is seen as contributing to central (also basic or 'ground-floor') speech acts, or what is said, non-truth-conditional linguistic devices are seen as encoding information about higher-order speech acts of commenting on the basic speech acts performed. For instance, it is the function of *on the other hand* in (42) to comment on the performance of the two ground-floor assertions, given in (43).

(42) Neville passed the exam. Sebastian, on the other hand, failed.

- (43) a. Neville passed the exam.
 b. Sebastian failed the exam.

More precisely, what is signalled by *on the other hand*, according to Grice (1989: 362), is that the speaker is contrasting the assertion that Neville passed the exam and the assertion that Sebastian failed the exam.

Given this Gricean notion of conventional implicature, it is quite difficult to see how *even* could be analysed in these terms. It's not at all clear the performance of which non-central speech-act *even* could signal. The only possible candidate to occur to me is that *even* might be seen as indicating that the speech act of asserting, for instance, that Neville passed the exam is surprising. This, however, is far too crude and singularly fails to account for the different interpretations a change of the focus of *even* gives rise to. In fact, as far as I'm aware, no-one has attempted to use Grice's own, speech-act oriented, notion of conventional implicature in an analysis of the meaning of *even*.

Those theorists who do use the idea of conventional implicature in their analyses of *even* operate with a notion that is far closer to that of (linguistically encoded) pragmatic presupposition (cf. Stalnaker 1974). For instance, Bennett's (1982) classical account of *even* makes use of the idea that certain linguistic expressions affect the felicity conditions of the utterances in which they occur, rather than their truth conditions. Thus, Bennett (1982: 405-5) claims that utterances containing *even* are felicitous just in case S^* is true and there is a neighbour S_j that fulfils the following conditions:

- (i) S_j is true, and mutually believed by speaker and hearer, and salient for them (e.g. it has just been authoritatively asserted);
- (ii) the truth of S^* and that of S_j can naturally be seen as parts of a single more general truth;
- (iii) it is more surprising that S^* is true than that S_j is true.⁸

In other words, according to him an utterance of (2) will be felicitous just in case Neville passed the exam and it is mutually known to speaker and hearer that at least one other person, say Sebastian, passed the exam and if it is more surprising that Neville passed than that Sebastian passed. It will be seen in 4.2 that, although this seems to do justice to intuitions concerning the effect of *even* on utterance interpretation, it falls prey to a number of counterexamples. However, the current issue at hand is whether felicity conditions are an appropriate way of dealing with the kind of meaning encoded by *even*.

While this kind of account might succeed in detailing the conditions in which utterances containing *even* will be judged felicitous, or the kinds of circumstances in which one could employ *even* with acceptable results, it isn't clear how the fact that *even* comes

⁸ As will be seen in section 4.2, Francescotti (1995) proposes an account along similar lines.

even

with particular felicity conditions can explain how speakers understand what hearers intend to communicate with their uses of *even*. Let me start with an example which I think is fairly straightforward. In the simplest case, on Bennett's kind of picture, the speaker will be using *even* in circumstances in which the felicity conditions of *even* utterances are met. For instance, the speaker will be uttering (2) in circumstances in which *Neville passed the exam* is true, *Sebastian passed the exam* is mutually known to be true and the truth of the former is more surprising than the truth of the latter. How, in these circumstances, does the hearer work out that the speaker (as she presumably does) intends to communicate that Neville passed the exam, Sebastian passed the exam and Neville's passing is more surprising than Sebastian's passing? Presumably, the hearer knows the felicity conditions of the utterance by virtue of his knowledge of the meaning of *even*. Is he, then, expected to reason along the following lines? The speaker has uttered something that can only be felicitously uttered in circumstances in which it is true that Neville passed the exam, someone else passed the exam (a fact that is mutually known to both of us) and Neville's passing is more surprising than that other person's passing. I presume that the speaker is being co-operative. It is mutually known to me and the speaker that her utterance will only be acceptable if the felicity conditions are fulfilled. Therefore, the speaker must think that the felicity conditions are met and she intends me to think this. In other words, the speaker is communicating that Neville passed the exam, someone else passed the exam (as is mutually known to both of us) and Neville's passing is more surprising than the other person's passing.

It seems rather doubtful that hearers (a) really reason so consciously in interpreting *even* (or, indeed, any other) utterances and (b) they know exactly what the felicity conditions of *even* utterances are. After all, if hearers, by virtue of the fact that they speak English, just knew the felicity conditions of *even* there would hardly have been so much debate about the precise meaning of *even*.

Unlike Bennett, Karttunen & Peters (1979: 11-13) propose an account of conventional implicature that doesn't rely on the notion of felicity conditions. According to them, an utterance of (2) conventionally implicates that other people besides Neville passed the exam and that Neville is the least likely to have passed of the people under consideration. In other words, someone uttering (2) communicates these assumptions by their use of *even* and the speaker of (2) is committed to their truth as much as she is to the truth of *Neville passed the exam*. The difference, however, is that they are not part of the truth-conditional content of (2), which is exhausted by *Neville passed the exam*. Karttunen & Peters (1979: 14) explain the fact that what is conventionally implicated by an utterance is often felt to be part of common ground (or pragmatically presupposed) as follows. Co-

operative speakers should, as a rule, not use utterances that conventionally implicate assumptions that are controversial at that point in the conversation. This is supposed to be the case because

conventional implicatures are not set apart so they can be challenged in a direct way. Challenging them necessitates a digression away from what was actually said. It brings about a disruption in the flow of the discourse, which all parties in a cooperative conversation have an interest in avoiding.

Karttunen & Peters (1979: 14)

However, they fail to specify just why it should be the case that it isn't possible to challenge the truth of a conventional implicature directly. Furthermore, presumably the hearer has to work out the precise content of the conventional implicature pragmatically, but it is quite mysterious, on this picture, how this is done.

All in all, it seems, that the notions of conventional implicature and pragmatic presupposition are not entirely satisfactory tools with which to account for the meaning of *even*. I believe that the key to a more successful account lies with a theory of how human communication and cognition work more generally. In the next section, I will outline one particular such theory, namely Sperber & Wilson's (1986, 1995, forthcoming) Relevance Theory.

3 A cognitive theory of language and communication

3.1 Relevance and ostensive –inferential communication

Whether explicitly or implicitly, most of the analyses of *even* hinted at so far rely on a Gricean view of communication. According to this view, communication is a co-operative enterprise entered into by rational interlocutors. The most important aspect of this view of communication is that communication isn't seen in terms of pure coding and decoding. In other words, on the Gricean picture, it isn't assumed that the speaker has a message in mind, encodes it into a signal which is then sent to the hearer, who, in turn, decodes the signal and, just as long as he is using the same code as the speaker and the signal was clear, will end up with an exact replica of the message the speaker had in mind. Instead, Grice saw communication in inferential terms. More precisely, he believed that hearers don't work out what speakers mean just because they share a code, but because hearers can infer what a speaker must have meant on the assumption that the speaker was being rational and co-operative.

even

The relevance-theoretic view of communication is similar to the Gricean view in that it, too, does not take a code-based approach to communication. However, it differs from Grice's theory in some important aspects. Firstly, it doesn't assume that communication is co-operative quite to the extent to which Grice believed it was. There is also a considerable difference in how extensive a role the two theories envisage for inferential processes. Grice primarily investigated the processes involved in deriving the implicitly conveyed content of utterances. Relevance Theory, by contrast, takes inferential processes as a crucial factor in determining explicitly communicated content, as well. Finally, the relevance-theoretic approach to communication is based on a particular view of human cognition in general that is not shared by Grice's approach.

According to Sperber & Wilson's (1986/1995) cognitive principle of relevance, human cognitive processes are geared towards the maximisation of relevance. Relevance is a property of stimuli that are available for processing. A stimulus is seen as relevant just in case it achieves a cognitive effect. The notion of cognitive effect is explained in terms of an interaction of the information carried by a stimulus and information the cognitive system already possesses. In particular, new information may interact with existing information in one of the following ways: It may strengthen a piece of existing information, it may contradict and eliminate existing information or it may combine with existing information to yield a contextual implication. The more such cognitive effects a particular stimulus achieves, the more relevant it will be. However, cognitive effects come at a cost. That is, processing a stimulus for cognitive effects requires effort and the less effort the processing of a stimulus demands, the more relevant the stimulus will be. In other words, the cognitive principle of relevance means that humans pay attention to that stimulus which, on a particular occasion, yields the most cognitive effects for the least processing effort.

Now, communication is a special case. Communicative (or ostensive) stimuli are different from other types of stimuli because they are deliberately produced by speakers who want to get across a particular piece of information. Because it is in the speaker's interest that the hearer should pay attention to her communicative stimulus (henceforth 'utterance') and hearers' cognitive systems are geared towards relevant stimuli, it is in the speaker's interest to make her utterance relevant. In other words, it is in the speaker's interest to produce utterances that achieve cognitive effects for as little processing effort as possible. This means that every ostensive (overtly communicative) stimulus comes with a guarantee of relevance. This is captured in Sperber & Wilson's (1986: 158) communicative principle of relevance, according to which each ostensive stimulus communicates a presumption of its own optimal relevance. A stimulus is optimally

relevant just in case it is (a) relevant enough to be worth the hearer's attention (i.e. at least more relevant than any other stimulus the hearer could be paying attention to at the time the ostensive stimulus is produced), and (b) the most relevant stimulus the speaker could have produced given her abilities and preferences (Sperber & Wilson 1995: 270). This principle means that the hearer is licensed to look for optimal relevance in interpreting utterances. It is, therefore, in the speaker's interest to produce stimuli that demand as little processing effort to achieve their effects as possible.

3.2 Linguistic meaning and cognition

The view of the human mind that lies behind the relevance-theoretic approach to communication and cognition is the kind of representational-computational view defended by Fodor (e.g. 1985/1990). This view sets out to capture the aboutness, or intentionality, of mental states, as well as their systematicity and productivity. It takes seriously intuitions about mental processing. All mental processes are seen as mental representations linked by computations. For instance (and rather simplistically), Neville might reach the conclusion that he should water his cactus in the following way: Visual perception leads to the representation 'the cactus looks limp', his sensory perception might, furthermore, give him the representation 'the compost in the cactus pot is dry'. He might well also have stored in his memory a representation along the lines of 'If a plant looks limp and the compost in which it is growing is dry, the plant needs watering or it will die'. Inferentially combining these representations will yield the further representation that the plant needs watering or it will die. Computing this together with his desire to ensure the survival of his cactus, Neville will, no doubt, come up with the representation 'I need to water the cactus'.

However, it is not just conscious reasoning processes that are seen in these computational representational terms but all cognitive processes, including such input systems as visual and auditory perception, for instance. As the example of conscious reasoning shows, our cognitive systems are able to integrate information from a variety of sources, e.g. different senses or the memory. This is only possible if the ultimate outputs of all cognitive processes are in the same, 'neutral', medium. The medium Fodor argues for is that of a language of thought or 'Mentalese'. On this view, the language of thought is systematic, representational and compositional. The 'words' in this language are concepts, i.e. atomic mental representations that are appropriately linked with entities in the world. This means that the ultimate output of all cognitive processes are conceptual representations.

On this view, language perception is seen very much in the same terms as any other

even

input system. That is, after a variety of phonetic, phonological, syntactic and finally semantic computations (with intermediate stages of phonetic, phonological and syntactic representations) the output of the language faculty is a conceptual representation. It is the task of the semantic part of the language module to map syntactic representations onto conceptual representations.

If communication were purely code-based, this would be the end of the story. More precisely, the output of the language module would always correspond exactly to what the speaker intended to communicate. However, this is clearly not the case. For instance, it seems plausible that a speaker uttering (44) in the scenario described would intend to communicate (at least) the assumptions in (45) and (46).

Scenario: On 11 November 2001 Sebastian asks Julie whether Neville will be allowed to drive them to Manchester for Christmas. Julie utters (44):

- (44) He passed the test yesterday.
- (45) Neville passed the practical driving test on 10 November 2001.
- (46) Neville will be allowed to drive Sebastian and Julie to Manchester for Christmas 2001.

However, what is linguistically encoded by (44) falls short not only of (46), which would rightly be felt to be communicated indirectly (i.e. conversationally implicated, on Grice's view) but also of (45), which would, surely, be felt to be communicated more directly (i.e. 'what is said' on the Gricean picture). All that seems to be truly linguistically encoded (i.e. yielded by the language faculty) is something like the rather incomplete conceptual representation in (47).

- (47) X PASS TEST AT TIME T.

It is inferential processes that take the hearer from this representation to the completely propositional representations in (45) and (46). On the relevance-theoretic view, these inferential processes are constrained by the communicative principle of relevance and the comprehension strategy this licenses. Because the hearer can expect the speaker's utterance to be optimally relevant, i.e. to achieve enough cognitive effects to be worth his attention without putting him to any unnecessary processing effort, he can follow a path of least effort in considering interpretive hypotheses and stop as soon as his expectation of relevance has been met. In other words, the first acceptable interpretation

(i.e. the first interpretation to meet the hearer's expectation of relevance) will be the interpretation he is licensed to assume the speaker intended. Because the hearer follows a path of least effort in interpreting utterances, it's in the speaker's interest to produce utterances that demand as little processing effort as possible for the hearer to arrive at the intended cognitive effects.

The picture of human communication and cognition outlined so far has specific implications for the way in which linguistic meaning is viewed. Since the output of linguistic processing is a (sub-propositional) conceptual representation, it seems plausible to assume that the meaning of most natural language expressions can be captured by the concepts they map onto. For instance, it makes sense to assume that what is linguistically encoded by the word *pass* is the concept PASS and what is encoded by *test* is TEST. However, it is equally plausible on this picture that not all linguistic expressions map onto particular concepts in such a direct way. For instance, *he* and *yesterday* clearly don't directly map onto specific concepts. Rather, it seems that what these expressions do is constrain the hearer's choice in deriving what the speaker intended to communicate from the logical form of her utterance. Given that, on the picture here outlined, arriving at the speaker's intended meaning always involves inference and that choosing one among a multitude of possible interpretations involves processing effort, the existence of such expressions should not come as a surprise. By using an expression that directly affects the computational processes employed in utterance interpretation, the speaker saves the hearer processing effort and thus ensures that her utterance achieves optimal relevance.

The distinction between conceptual linguistic meaning, i.e. the meaning encoded by expressions that map directly onto particular concepts, and procedural linguistic meaning, i.e. the meaning encoded by expressions, such as *he* and *yesterday*, which constrain the inferential processes involved in utterance interpretation, was first motivated by Blakemore (1987). However, she did not consider the case of indexicals. Rather, she was analysing the meaning of so-called discourse markers, such as *but*, *after all* and *moreover*. Unlike the indexicals discussed above, these discourse markers don't seem to constrain the processes that lead from the logical form encoded to the proposition expressed but the processes that lead from the proposition expressed to the implicatures of the utterance. Thus, Blakemore (1987, 1989, 2000) analysed *but*, for instance, as encoding information concerning the type of cognitive effect the speaker intended the *but*-clause to achieve, claiming that *but* indicates that the clause it introduces achieves relevance as a denial of an existing assumption. For instance, in (17) *but* would be seen as indicating that *Peter went out* denies an assumption that could be derived on the basis of *it was raining*. In this case, it seems plausible that *it was raining* might lead one to conclude that Peter stayed indoors. This assumption is then denied by *Peter went out*.

even

(17) It was raining but Peter went out.

Analyses of other linguistic expressions have postulated procedural meaning that constrains the contextual assumptions the hearer is expected to bring to bear on the interpretation of an utterance. In other words, just as there are a variety of ways in which inferential processes may lead from the logical form(s) encoded to the utterance's explicatures and implicatures, there are a variety of types of procedural meaning. However, all expressions that encode procedural rather than conceptual information share a number of properties. In the next section, I will discuss these properties and the tests for procedural meaning they motivate, ultimately arguing that *even* shows all the hallmarks of an expression with procedural linguistic meaning.

3.3 For a procedural account of *even*

Although procedural meaning can take a variety of 'shapes', there are some properties all types of procedural meaning share simply by virtue of the fact that linguistic expressions with procedural meaning don't directly map onto concepts or any other type of representation. It is one of the most crucial properties of concepts (or atomic mental representations) that they combine systematically with other concepts to form complex conceptual representations. For instance, the meaning of the phrase *difficult exam* can be given by the complex conceptual representation that results from combining the concepts DIFFICULT and EXAM⁹. Since procedural expressions encode constraints (i.e. directly affect computations) rather than representational entities, it shouldn't be possible for the meaning encoded by such expressions to combine in the regular way with that encoded by conceptual expressions to form larger representations. This is reflected in the fact that standard modifying expressions, such as adjectives and adverbials, can't modify expressions with purely procedural meaning. Thus, while *shy male* is a perfectly acceptable and comprehensible phrase, *shy he* isn't.

Quite generally, there seems to be a difference between potentially procedural expressions and expressions that are more likely to encode concepts. In order to make sure that any difference in acceptability really is down to a difference in the type of

⁹ Exactly how these two concepts are combined to form the complex concept DIFFICULT EXAM may well not be entirely straightforward. However, the fact that the concepts encoded by the constituents of the phrase *difficult exam* are combined to give the meaning of this phrase seems uncontroversial.

meaning that is encoded, it's important to compare expressions with the same or similar syntactic properties and, if possible, with similar effects on utterance interpretation. This seems to be given in the example in the preceding paragraph. In the case of *even*, it is difficult to come up with a comparable expression. However, as seen above, *especially* does appear to share some of the syntactic properties of *even* and its contribution to utterance interpretation also doesn't seem to be too far removed from that of *even*. Interestingly, when it comes to the ability to combine with other expressions, *even* and *especially* differ quite significantly: (48) is perfectly acceptable, while (49) clearly isn't.

(48) Most especially **Neville** was made welcome.

(49) *Most even **Neville** was made welcome.

It seems worth noting that, in this, *even* is also different from *only*, its alleged "syntactic soulmate". For instance, while *truly* in (50) can be understood as just applying to *only*, in (51) it must be interpreted as a sentence adverbial (modifying the speech act performed, presumably).

(50) Truly only **Neville** was there.

(51) Truly even **Neville** was there.

The difference between *even* and *only* becomes even more striking when it comes to the interaction with negation. *Only* may take scope over the negation, as in (52), or the negation may take scope over *only*, as in (53).

(52) Only **Neville** didn't pass the exam.

(53) Not only **Neville** passed the exam.

However, (54) and (55) illustrate that *even* always takes wide scope – even in (55), which is syntactically parallel to (53).

(54) Even **Neville** didn't pass the exam.

(55) Not even **Neville** passed the exam.

What this shows is that *even* cannot be combined with a modifier to form a larger semantic representation and this is very much in keeping with the assumption that *even* constrains computations, rather than mapping onto a representation. This is, however, not to say that the meaning of *even* can't interact with the meaning of other expressions. It clearly does interact in very interesting ways with the meaning of *if*. All the claim that

even

even encodes procedural meaning entails is that the meaning of *even* doesn't interact with the meaning of other expressions to form larger (representational) units of meaning.

A second property of procedural entities that is sometimes referred to in the literature is the fact that their meaning is not truth-evaluable. Indeed, given that these expressions don't map onto anything representational, this must be the case. However, it's rather difficult to test for this, because procedural meaning itself is generally not accessible to consciousness (this, indeed, is the third property such expressions have in common). What is accessible to consciousness, however, is the result of the interpretation process constrained by the procedure, and, as seen above, this result is representational and thus truth-evaluable. In other words, when testing for truth-evaluability, it's very difficult to tell the difference between intuitions about the (truth-evaluable) result of the interpretation process and intuitions about linguistic meaning (which may or may not be truth-evaluable). The test that is standardly employed (see e.g. Rouchota 1998) is the following.

As (56) demonstrates, the content of a conceptual expression that forms part of the proposition expressed by an utterance, such as the verb *pass* in (56), can clearly be objected to by the use of the phrase *that's not true*.

- (56) A: Neville passed the exam.
B: That's not true; he failed.

(57) shows that this is, at least marginally, also possible for the content of conceptual expressions that have been argued not to form part of **the** proposition expressed by the utterance, such as the attitudinal sentence adverbial *sadly*.

- (57) A: Sadly, Neville failed the exam.
B: ?That's not true; you're not at all sad.

As (58) illustrates, the same can't (even marginally) be done for the meaning of *even*. A speaker objecting to what is conveyed by the use of *even* has to resort to other means of voicing her opinion, such as B'.

- (58) A: Even **Neville** passed the exam.
B: *That's not true; no one else passed/Neville was always going to pass.
B': Oh come on! He was by far not the least likely student to pass.

However, intuitions about the applicability of the natural language term *true* are notoriously unreliable and this second argument is at best powerful enough to give an indication that the conclusion reached on the basis of the preceding argument is not wrong.

The final diagnostic used is less theoretically powerful still, but it, too, lends support to the conclusion reached on the basis of the strongest argument. This diagnostic is based on the idea that, while it seems that at least some conceptual representations are accessible to consciousness (how else would we ever become aware of the contents of our beliefs, etc.?), it's far from clear that any of the computations we go through in reaching these beliefs, for instance, are. And, if the computations themselves are not accessible to us, how much less likely is it that constraints on these computations could be? In other words, it seems highly plausible that we might be able to gain conscious access to the meanings of conceptual expressions, but it seems nigh on impossible that the meanings of procedural expressions could be consciously accessible to us. Indeed, this speculation seems to be borne out by the fact that it is precisely expressions like *even* that have spawned a huge literature because their meanings are so very difficult to analyse. Furthermore, it also seems that learners of foreign languages find it much harder to learn the meanings of potentially procedural expressions than they find acquiring the meanings of clearly conceptual terms. In this, I believe, *even* is no exception.

All in all, then, there is a reasonably strong case in favour of the assumption that *even* does, indeed, encode procedural meaning. The question now is, of course, exactly what this procedure is. What stage of the inferential phase of utterance interpretation does it constrain and how? These are the questions I will attempt to answer in the next section.

4 What is the encoded meaning of *even*?

4.1 Exploring the possibilities

It is worth saying that practically any existing account could probably be adapted to the relevance-theoretic framework outlined above. For instance, felicity conditions could be re-cast as constraints on the context along procedural lines. For this reason, it makes sense to consider a selection of analyses in the literature.

Existing analyses can, broadly, be put into three categories: 'existential', 'universal' and 'scalar'. These three types of analyses are represented by Bennett (1982) and Francescotti (1995), Lycan (1991, 2001) and Barker (1991, 1994), and Fauconnier (1975) and Kay (1990), respectively. I have termed the first type 'existential' because these analyses require no more than the existence of at least one neighbour proposition

even

(S_j). ‘Universal’ accounts, such as Lycan’s, by contrast, place great importance on universal quantification. That is, for them, the mere existence of a neighbour sentence is not enough for the felicitous utterance of an *even* sentence. Finally, ‘scalar’ accounts have been given this name because they see a vital role for the notion of scales. In what follows, each type of account will be introduced briefly and then tested against a range of examples.

4.2 Existential accounts

In many ways, existential accounts hold the position of minimal agreement. That is, most theorists agree that at least one neighbour sentence has to be true for an *even* utterance to be acceptable. As mentioned above, Bennett’s (1982: 405-6) version of this position is that utterances containing *even* are felicitous just in case S^* is true and there is at least one true neighbour S_j that forms part of a single more general truth with S^* and that is less surprising than S^* . For ordinary *even* utterances, such as (2), this seems to capture intuitions well.

(2) Even **Neville** passed the exam.

Still, the notion of “single more general truth” is rather vague and could do with some further explication. For current purposes, however, not too much hangs by this.

Bennett’s account of *even if* conditionals is somewhat more complicated and I’ll only reproduce it here in the barest outline. If one applies the felicity conditions set out above to *even if* conditionals, such as (4), (5) and (6), the result depends very much on what the neighbour sentences are taken to be.

(4) Even if Neville passed the exam, he won’t get the job.

(5) Even if Neville turns up **a little** late, he won’t get the job.

(6) Even if **Neville’s hair is untidy**, he won’t get the job.

For instance, in (5) S_j is likely to be something like *If Neville turns up very late, he won’t get the job*. This explains why (5) isn’t felt to imply that Neville won’t get the job – all it takes for the utterance to be felicitous is the truth of S^* and the truth of S_j – there is no reason to assume that Neville won’t get the job. Similarly, for (6) S_j is likely to be something along the lines of *If Neville wears dirty old jeans to the interview, he won’t get the job*. Again, this explains why the utterance doesn’t seem to imply that Neville

won't get the job. However, explaining why (4) does seem to imply that Neville won't get the job is somewhat less straightforward. On the face of it, it looks as though S_j here, too, should be conditional (maybe *If Neville doesn't impress them in the interview, he won't get the job*). This would not explain why the consequent is felt to be implied in this example. Therefore, Bennett proposes a different solution. According to him (1982: 411), S_j in cases like these is not conditional at all. This, he claims, is because the focus of *even* in such examples is not just on the antecedent minus *if*, but on the antecedent including *if*. Thus, any S_j will have to differ more radically from S^* , i.e. they mustn't share *if*. Now, instead of opting for an S_j that contains something other than the conditional antecedent in its place, Bennett opts for an S_j that is just the consequent. As Lycan (1991: 120) points out, this means that we're no longer comparing like with like. That is, we're now comparing the surprisingness of *Neville won't get the job* with that of *If he passed the exam, Neville won't get the job*. It's not clear that that is an admissible move (it's also somewhat worrying that, at least to my mind, Neville's not getting the job at all could well be more surprising than his not getting it if he passed the exam). At the very least, Bennett's explanation of examples like (4) is rather *ad hoc*.

In fact, Bennett's account runs into further difficulties that don't involve conditionals. Let's assume that we are dealing with a group of students all of whom have sat the same exam. Starting with the most able student (most likely to pass an exam) they are: April, Maynard, June, Julie, Augusta, Sebastian and Neville. In other words, Neville is the student in this group least likely to pass an exam. Now, given this background, which will be kept constant throughout the rest of the paper, consider the following example:

- (A) Scenario: Everyone failed the exam. Sebastian and Neville are both more likely to fail than the others and Neville is more likely to fail than Sebastian.
Susan: ?Even **Sebastian** failed the exam.

It seems clear that Susan's utterance in this scenario is not particularly acceptable. However, Bennett's felicity conditions are met: there is at least one true neighbour sentence S_j (*Neville failed the exam*) the truth of which is less surprising than the truth of S^* (*Sebastian failed the exam*).

Francescotti's (1995) account improves slightly on Bennett's (at least with respect to (A)), from which it only differs minimally. The reason for this is that Francescotti (1995: 162 & 167) believes that in order for S to be felicitous S^* must not only be more surprising than one S_j , but more surprising than most S_j s. As seen above, in the scenario in (A), S^* is more surprising than one S_j , but there are five further S_j s (i.e. *Augusta failed*

even

the exam, Julie failed the exam, ...), all of which are more surprising than S^* . In other words, in this scenario, S^* is not more surprising than most S_j s – it's only more surprising than one out of six S_j s and Francescotti correctly predicts that Susan's utterance in (A) is unacceptable.

When it comes to *even if* utterances, again, things become less straightforward. In fact, Francescotti doesn't actually attempt to explain these at all. However, if *even if* sentences really are entirely compositional, it would seem to be a major disadvantage if an account of the semantics of *even* doesn't allow one to explain how the focus particle interacts with *if*. One way I can see in which Francescotti could explain the differences between (4) and (6)¹⁰ is by saying that the single more general truth S_j and S^* are part of is something like *Neville won't get the job under any circumstances* in the case of (4) and something like *Neville won't get the job under circumstances in which his personal appearance isn't immaculate* in (6). Another way of explaining these differences would be to say that S_j in the case of (4) is *if Neville didn't pass the exam, he won't get the job*, while in (6) it's something like *if Neville turns up to the interview wearing a pair of old jeans, he won't get the job*. However, deciding which general truth S^* and S_j form part of, and, indeed, which S_j s are involved, is clearly a pragmatic matter and, thus, an account along these lines is only as good as the pragmatic framework in which it is embedded. Because Francescotti does not provide such a framework explicitly, it's impossible to assess the success of his analysis in the face of conditional examples. It will be seen shortly that there are further examples for which Francescotti's analysis can't account either.

To complete the picture, a particular sub-species of existential accounts should be mentioned at this point. These are accounts, such as the one proposed by Fraser (1969)¹¹, according to which utterances of sentences containing *even* are only felicitous in contexts where there is at least one S_j and the truth of S^* is unexpected (or the truth of *not- S^** is expected). However, apart from encountering the same problems as Bennett's and, as will be seen, Francescotti's analyses, accounts that rely on the idea of absolute unexpectedness of S^* also have difficulty explaining the acceptability of examples like (59), which is modelled on an example used by Kay (1991: 84).

(59) As everyone expected, even **Neville** passed the exam.

¹⁰ Just like Bennett's account, I believe that Francescotti's analysis would have no problems explaining why (5) doesn't imply its consequent. Here, S_j would be most likely to be something like *If Neville turns up very late for the interview, he won't get the job*.

¹¹ Delgado (1999) and Declerck & Reed (2001) propose analyses along similar lines.

4.3 Universal accounts

As already mentioned, both Lycan's (1991, 2001) and Barker's (1991, 1994) accounts of *even*, though devised independently of each other, make use of universal quantification. The crucial difference between them is that Lycan sees *even* as having truth-conditional meaning, while Barker does not. However, apart from that, there is very little difference between Lycan's "beautiful but false theory" and Barker's analysis. The former (1991: 130; 2001: 105-6) analyses *even* as follows:

- (60) Where S is a sentence containing *even*, C is the constituent of S and of its corresponding S^* that is the focus of *even* in S , unsaturated dashes "--- ---" indicate the result of subtracting *even* and C from S , and G is a contextually determined class containing at least one member $\neq C$: S is true iff every member x of G including the referent of C is such that --- x ---

The idea that the truth of S^* is less expected than the alternatives, on this theory of *even*, is captured in a separate conventional implicature, or lexical presumption (Lycan 1991: 130; 2001: 106). Applied to (2), this means that the utterance will be true just in case everyone in a contextually determined group passed the exam, including Neville and there is a conventional implicature to the effect that Neville was less expected to pass the exam than the other group members.

This account can be applied to *even if* examples in the following way. As the focus of *even* in (4) is on the antecedent, it can be paraphrased as *Neville won't get the job in any circumstances, including circumstances in which he passed the exam*. This predicts correctly that the consequent is implied (in fact, it predicts that it's entailed). However, (6) is paraphrased as *Neville won't get the job in any circumstances, including circumstances in which his hair is untidy*. This, too, seems to make the prediction that the consequent is entailed, but, as a matter of fact, there is a strong intuition that it isn't. (5), on the other hand, presents no problems for Lycan: it is paraphrased as *Neville won't get the job in any circumstances in which he is late to any degree, including just a little*.

Barker's (1991: 10) analysis is in terms of felicity conditions, which are given below (S_u is a contextually determined universally quantified proposition):

- (i) S^* and S_j are asserted as universal instantiation cases of an implied or stated S_u .
- (ii) S^* is an extreme instance of S_u .

even

In the case of (2), one assumes that S_u would be something like *Everyone in the group passed the exam* of which S^* would, presumably, be an extreme instance if Neville was the least expected member of the group to pass the exam.

Applied to conditionals, this means that whether or not the consequent is felt to be implied depends on what S_j and S_u are. For (4), S_j could be *If Neville failed the exam, he won't get the job* and S_u *Neville won't get the job in any circumstances*. For (5) and (6), on the other hand, S_j could be *If Neville turns up very late for the interview, he won't get the job* and *If Neville wears dirty old jeans, he won't get the job*, respectively, and S_u *Neville won't get the job in any circumstances in which he turns up late* and *Neville won't get the job in any circumstances in which his personal appearance isn't immaculate*. As with Francescotti's account, pragmatics must determine which S_j and S_u a speaker intends on a particular occasion. However, Barker does not give an explicit pragmatic account of how this is done.

The above shows that Lycan's truth conditions plus conventional implicature and Barker's felicity conditions often make the same (or very similar) predictions. For instance, they can both deal with (A) without any problems: In the scenario given, Sebastian isn't the person least expected to fail the exam (April is) and so neither Lycan's conventional implicature, nor Barker's felicity condition (ii) are met. In other words, Barker and Lycan, as well as Francescotti, fare better with (A) than does Bennett.

In fact, the universal accounts are more promising than Francescotti's, too, as (B), which is modelled on examples given by Barker (1991: 4-5), illustrates.

- (B) Scenario: Only April, Maynard and Neville pass the exam. The others fail.
 Susan: ?Even **Neville** passed the exam.

Here, there are two S_j s (*April passed the exam*, *Maynard passed the exam*), both of which are less surprising than S^* and yet Susan's utterance isn't felt to be felicitous. So, not only is S^* more surprising than one S_j , but it's more surprising than both (and thus definitely more surprising than most). The universal accounts discussed so far can explain the unacceptability of Susan's utterance: The problem with her utterance is that it's not the case that the whole group passed the exam (four of them didn't) and it's not clear that any other (non-trivial) universal quantification holds in the scenario¹². Thus far, then, it

¹² The difference between Lycan's and Barker's accounts is, of course, that the former would predict Susan's utterance to be false, while the latter would just predict it to be infelicitous.

looks as though both universal accounts do a better job than the existential accounts mentioned.

However, as the label would lead one to assume, Lycan changes his “beautiful but false” theory and replaces it with what he terms an “unbeautiful” one. He does this because his beautiful theory stumbles on counterexamples. In particular, examples along the lines of (C).

- (C) Scenario: Everyone except Neville passed the exam.
Susan: Even **Sebastian** passed the exam.

In a nutshell, the problem with this is that Susan’s utterance is perfectly acceptable even though it isn’t true that everyone in the group passed the exam and it seems that there is no other plausible universal quantification that is true and could explain the acceptability of this utterance.

In the light of examples like this, Lycan (1991: 147) revised his account to the following “unbeautiful” theory of *even*:

- (61) Where S is a sentence containing *even*, C is the constituent of S and of its corresponding S^* that is the focus of *even* in S , unsaturated dashes “--- ---” indicate the result of subtracting *even* and C from S , and G is a contextually determined class of expected, real and relevant possibilities containing at least one member: S is true iff every member x of G plus the referent of C is such that ---x--
-.

On this new account, (2) would be paraphrased as something like *everyone you’d expect to plus Neville passed the exam*, rather than *everyone including Neville passed the exam*, as predicted by the “beautiful but false” theory. This may just be able to account for the acceptability of Susan’s utterance in (C) if one assumes that neither Neville nor Sebastian were expected to pass the exam. However, it’s less clear that this account still makes the right predictions for (A) and (B). If one assumes that only Neville was expected to fail the exam in (A), then it’s perfectly true that everyone who was expected to fail (i.e. Neville) plus Sebastian failed – Susan’s utterance should be acceptable under those circumstances but I, for one, do not think it would be. Similarly, with (B): If one adds the assumption that only April and Maynard were expected to pass the exam, it’s perfectly true that everyone expected to pass (i.e. April and Maynard) plus Neville passed. Again, I don’t think that Susan’s utterance would be acceptable if one added this assumption. It seems, then, that Lycan’s revised account can deal with a type of

even

counterexample which Barker's account can't explain, but only at the cost of losing the ability to deal with examples that are problematic for existential accounts.

It's a further disadvantage of the "unbeautiful" theory that it no longer straightforwardly explains why the consequents of (at least some) *even if* utterances are felt to be implied. This is because (4) on Lycan's new account is paraphrased as *Neville won't get the job under any expected circumstances, plus the circumstances in which he passed the exam*¹³. This will only explain that the consequent is felt to be implied if it's augmented with a pragmatic explanation. For instance, one might want to say that the circumstances in which one would expect Neville not to get the job together with circumstances in which Neville passes the exam exhausts the full range of possibilities and, thus, that there are no circumstances left in which Neville could get the job. It seems, however, more likely that an explanation would have to refer to the idea that the circumstances in which Neville passed the exam are so extreme that one feels that Neville won't get the job in any circumstances, if he won't get it if he passed the exam. In my view, this indicates that an appropriate notion of scales will play an important part in an adequate account of the meaning of *even*. In sum, then, neither existential nor universal accounts seem able to explain the full range of examples. In the next section, scalar analyses will be considered.

4.4 'Scalar' analyses

In light of the discussion above, in particular the fact that none of the analyses discussed can account for the full range of examples, I believe a notion of scales is needed to give a satisfactory analysis of *even* and *even if*. In fact, there are a number of theorists who have made use of a notion of scales in their accounts of *even*. For instance, Fauconnier (1975: 364) analyses *even* as marking the existence of a pragmatic probability scale on which the element in the focus of *even* is the lowest point. Assuming that subtracting the element in the focus of *even* from the proposition expressed by the utterance leads to the propositional schema R and a stands for the focused element, the scale is such that $R(a)$ pragmatically entails $R(x)$, where x is any element on the scale above a . Applied to example (2), this means that *even* is seen as indicating that Neville is the least likely of a group of people to pass the exam and that his passing pragmatically entails that everyone else on the scale passed, too.

¹³ At least, Lycan's new theory has the advantage that, unlike his "beautiful but false theory", it doesn't predict that (6) implies its consequent.

(2) Even **Neville** passed the exam.

Thus, Fauconnier's analysis is, in effect, a scalar version of a universal account. This means that it has no problems in accounting for the examples universal accounts can deal with. By the same token, however, Fauconnier's analysis runs into similar difficulties as universal accounts, too.

On the positive side, Fauconnier's analysis explains straightforwardly why Susan's utterance in (A) is unacceptable:

- (A) Scenario: Everyone failed the exam. Sebastian and Neville are both more likely to fail than the others and Neville is more likely to fail than Sebastian.
Susan: ?Even **Sebastian** failed the exam.

According to Fauconnier's account *even* indicates that Sebastian is the least likely member of the group to fail the exam. However, this goes counter to our background knowledge in this example. Fauconnier's analysis also does a good job of explaining the unacceptability of Susan's utterance in (B):

- (B) Scenario: Only April, Maynard and Neville pass the exam. The others fail.
Susan: ?Even **Neville** passed the exam.

Again, *even* indicates that Neville is the lowest element on a likelihood scale, such that his passing pragmatically entails that everyone else passed, too. However, this clashes with our background knowledge (we know that not everyone else passed) and, thus, we feel Susan's utterance to be infelicitous.

Furthermore, Fauconnier can also explain with ease why an utterance of (4) is felt to imply that Neville won't get the job under any circumstances:

(4) Even if Neville passed the exam, he won't get the job.

The focus of *even* here is on the antecedent, so that, presumably, the scale it invokes is one on which *Neville passed the exam* is the least likely circumstance in which Neville will not get the job and *If Neville passed the exam, he won't get the job* will pragmatically entail that Neville will not get the job under any of the other circumstances on the scale.

even

The problems start, however, when it comes to accounting for the intuition that Susan's utterance in (C) is perfectly acceptable.

- (C) Scenario: Everyone except Neville passed the exam.
 Susan: Even **Sebastian** passed the exam.

It seems that Fauconnier's analysis would predict her utterance to be unacceptable because Sebastian is not the least likely member of the group to pass the exam – Neville is. Of course, Sebastian is the least likely member of the group who actually passed the exam, so maybe there's a way Fauconnier's analysis could be saved.

However, there seems to be no such way out when it comes to explaining why (6) does not imply that Neville won't get the job.

- (6) Even if **Neville's hair is untidy**, he won't get the job.

Here, as in (4), the focus of *even* is on the whole antecedent and, thus, Fauconnier would, presumably, analyse an utterance of this as conveying that *Neville's hair is untidy* is the least likely circumstance in which Neville will not get the job. However, this is plainly not the case – it seems far less likely that Neville wouldn't get the job if his appearance was immaculate, if he answered the interview panel's questions confidently and competently, if he was the most impressive candidate, etc. This seems to suggest that Fauconnier would have to predict that an utterance of (6) is unacceptable, which it clearly isn't.

Because it seems clear that *even* doesn't always mark the element in its focus as the least likely among a set of alternatives, Kay (1991) suggests a different analysis¹⁴ that differs from Fauconnier's in two crucial points: (a) Kay does not assume that the scale in question is necessarily one of likelihood, and (b) he doesn't see *even* as marking the focused element as the lowest on the scale. Instead, he (1991: 66) proposes that *even* indicates that the sentence or clause in which it occurs expresses a proposition that is stronger (or more informative) than some particular distinct proposition assumed to be already part of the context. The notion of informativeness Kay operates with is defined with respect to what he terms a "scalar model".

In a nutshell, a scalar model in this picture consists of at least two ordered sets *X* and *Y*, for instance a set of students ordered according to their academic ability, starting with the most

¹⁴ König (1991: 69-87) largely adopts Kay's analysis, adding to it only his own construals of presupposition and conventional implicature, which seems immaterial to the present discussion.

able (such as the group referred to above) and a set of exams ordered according to difficulty starting with the easiest, and a propositional function that maps pairs of one member of X and one of Y onto propositions. For instance, it may map a student/exam pair onto the proposition *Student x passed exam y* . The idea is then that a proposition P entails a proposition Q just in case the student/exam pair in Q is closer to the pair that is most likely to lead to a true proposition (the “origin” – in this case this would be most able student/easiest exam, because if any proposition of the form *Student x passed exam y* is going to be true, it surely must be *The most able student passed the easiest exam*) than that in P . Q is closer to the origin, just in case at least one value (either for student or exam) is lower than that of P and neither is higher. In other words, *The least able student passed the most difficult exam* entails *The most able student passed the easiest exam*. Similarly, *The least able student passed the most difficult exam* also entails *The most able student passed the most difficult exam*, and so on.

Applying this to example (2), uttered in a context in which it is known to both, the speaker and the hearer, that everyone in the group passed the exam, presumably the presupposed scalar model would be as just described and S^* (*Neville passed the exam*) entails all S_j s in this model.

As this account seems to demand that S^* be more informative than just one S_j , it seems very much like a scalar version of an existential account. One would, therefore, expect it to struggle with the same kinds of examples as the existential accounts discussed above. Indeed, it does seem to make the wrong prediction for Susan’s utterance in scenario (A). Assuming, as I think is reasonable, that the scalar model presupposed in this case is just the same as before, this utterance, it seems, should be felicitous given Kay’s analysis of *even*: S^* (*Sebastian failed the exam*, which is equivalent to *The second least able student failed the exam*) is more informative than some other proposition already in the context (i.e. *Neville failed the exam*, equivalent to *The least able student failed the exam*). It seems, then, that Kay encounters exactly the same problem as Bennett. Unlike Bennett, however, Kay might be able to explain why Susan’s utterance in (B) is not felicitous: it seems reasonable to assume that the scalar model involved here would have to be the same as above. However, this would mean that *Neville passed the exam* entails that all the others passed the exam. Clearly, this isn’t the case here. In other words, it seems that there is no scalar model to be presupposed in this case and, therefore, Susan’s utterance is unacceptable. (C), too, doesn’t present any problems for Kay: Still assuming the same scalar model, *Sebastian passed the exam* is more informative than several other propositions in the context (e.g. *Augusta passed the exam*, *Julie passed the exam*, etc.) and so Kay would predict Susan’s utterance here to be felicitous.

even

When it comes to dealing with the conditional examples (4) and (6), too, Kay's analysis seems to meet with mixed fortunes¹⁵. For instance, Kay's analysis will predict correctly that (4) implies that Neville won't get the job only if one assumes that the presupposed scalar model is such that S^* (i.e. *If Neville passed the exam he won't get the job*) is the **most** informative proposition on a scale and thus entails all other propositions of the form *if x, Neville won't get the job*. However, there is nothing about Kay's analysis that forces such an interpretation (*even* emphatically isn't seen as marking the extreme end of the scale). An alternative explanation of this example would be that the only other proposition in the scalar model (i.e. the contextually available proposition which is less informative than the proposition expressed) would be *If Neville didn't pass the exam, he won't get the job*. This would explain why *Neville won't get the job* is implied here.

It seems that Kay might find it easier to explain why (6) doesn't imply its consequent. This will be the case if S^* (i.e. *If Neville's hair is untidy, he won't get the job*) is not the most informative proposition in the presupposed scalar model, but merely more informative than some contextually available proposition or other (for instance, *If Neville doesn't turn up for the interview, he won't get the job*). However, the explanation of both (4) and (6) crucially depends on just what is taken to be part of the scalar model and, in particular which context proposition(s) one is dealing with. Kay (1991: 63) assumes that the scalar model contains a set of propositions that are part of the shared background of the hearer and the speaker and that the context proposition is "taken to be already present in the context" (1991: 66). However, he has little to say about just how the hearer works out which propositions the speaker assumes are part of the shared background.

In sum, then, it seems that the scalar analyses of Fauconnier (1975) and Kay (1979) have a better chance of accounting for the full range of examples than any purely existential or purely universal analysis. However, neither of them is capable of dealing with every type of example. I believe that the main reason Fauconnier and Kay (and, indeed, any of the other theorists whose analyses have been discussed) struggle is that they are trying to analyse the meaning of *even* in such a way that pragmatics does not play too great a role in working out the interpretation of an *even* sentence on a particular occasion. It has been seen that it is still not possible to excise pragmatic factors altogether: Bennett and Francescotti rely on pragmatically determined neighbour sentences and single more general truths, Lycan's domains of quantification (what is expected in particular

¹⁵ Kay himself does not actually consider *even if* utterances and, thus, the following discussion is largely speculative. However, it does seem important to engage in this kind of speculation because any account of *even* is only as good as its way of dealing with *even* as it interacts with *if*.

circumstances) surely have to be determined pragmatically, the same goes for Barker's universally quantified proposition S_u and both Fauconnier's and Kay's scales must be determined by pragmatics at least in part. Given these observations, it seems remarkable that not a single one of these theorists explicitly acknowledges, much less attempts to give a theoretically sound analysis of, the role pragmatics plays in the interpretation of *even* utterances.

In what follows, I will propose an analysis of the meaning of *even* that owes as much to the pragmatic framework of Sperber & Wilson's (1986/1995) Relevance Theory as it does to the work of Fauconnier and Kay.

5 A new, inferential, scalar account

As argued in section 3.3, *even* encodes procedural information. I'd like to suggest that *even* constrains the context in which its host utterance is processed by indicating (62).

- (62) Process S^* in a context in which it is at the extreme end of a scale containing at least one assumption (i.e. fully propositional mental representation) different from S^* in the element in the focus of *even* (S_j), such that the truth of S^* makes manifest or more manifest all assumptions on the scale.

Following Sperber & Wilson (1986: 39), an assumption is taken to be manifest to an individual at a particular time just in case the individual is capable of representing the assumption and accepting it as true or probably true at that time.

It's important to point out that the envisaged scale is not one of likelihood – in fact, it's unimportant what it's a scale of, other than that it's a scale of pragmatic implication: it is simply such that the truth of S^* implies the likely truth of any S_j , but not vice versa. Depending on the context, there may be a number of reasons why S^* implies S_j : It could be that S^* is so unlikely that its truth makes it seem possible that anything else could be true too, or it could be much more specific than that (e.g. *Neville passed the exam* could imply that Sebastian passed the exam because we know that Sebastian always studies an hour longer than Neville). The number and exact nature of assumptions on the scale is entirely determined pragmatically. The hearer accesses or constructs a scale of the appropriate sort using the relevance-theoretic comprehension strategy, i.e. following a path of least effort. This means that the number and nature of assumptions on the scale, as well as the reason S^* implies S_j , may vary widely, depending on what's most accessible in the context. For instance, if the hearer knows nothing about Neville or

even

anyone else who's sat the exam, it's highly likely that all he'll access in the course of processing an utterance of (2) is something along the lines of *Someone other than Neville passed the exam* and that person was more likely to pass (maybe because Neville is really bad at passing exams or because the other person studied harder).

(2) Even **Neville** passed the exam.

However, a hearer who is familiar with the group of students introduced above, is highly likely to access a scale that contains assumptions ranging from *Sebastian passed the exam* to *April passed the exam*, in which *Neville passed the exam* implies all other assumptions because Neville is the least talented student.

The importance that this account grants pragmatic factors means that it is more flexible than either Fauconnier's or Kay's analyses and it can, therefore, deal with the full range of examples. For instance, Susan's utterance in (A) is unacceptable because the most accessible scale is surely one on which *April failed the exam* occupies the extreme position. Similarly, her utterance in (B) is unacceptable because the most accessible scale is one that not only contains *Neville passed the exam*, *Maynard passed the exam* and *April passed the exam*, but also the intervening assumptions ranging from *Sebastian passed the exam* to *June passed the exam*. Thus, the truth of *Neville passed the exam* will be understood to imply that everyone else passed the exam, too, but we know that this is not the case. Finally, this account can explain why Susan's utterance in (C) is acceptable as follows: Any hearer familiar with our group of students would assume that *Neville passed the exam* would be the best candidate for the assumption at the extreme end of a scale of the appropriate sort. However, in this case, the speaker has chosen to mark *Sebastian passed the exam* as occupying the extreme position. This is only possible if the scale the speaker envisages does not contain the assumption that Neville passed the exam. One reason for this would be that that assumption isn't true, i.e. that Neville didn't pass the exam. Thus, I would argue that Susan's utterance here is felicitous, but it implies that Neville didn't pass the exam. This means that the proposed analysis can account for all problematic examples involving *even* alone.

Now, let me demonstrate that it fares well with examples that involve the combination of *even* and *if*, too. In the case of (4), the scale that has to be accessed must contain at least one assumption of the form *if x, Neville won't get the job* which is such that it's made manifest or more manifest by the truth of *If Neville passed the exam, he won't get the job*. S^* in this case is so extreme that it is highly likely that its truth implies the truth of any realistic assumption of the form *if x, Neville won't get the job*. In other words,

it seems impossible to imagine an assumption of this form that is such that it would not be implied by S^* . This is why (4) is felt to imply that Neville won't get the job.

In (6), too, the scale will contain at least one assumption of the form *if x, Neville won't get the job* and the speaker's use of *even*, again, indicates that *if Neville's hair is untidy, he won't get the job* is the extreme assumption on the scale she's envisaging. However, this S^* is not so extreme that one couldn't imagine an assumption of the form *if x, Neville won't get the job*, that isn't made manifest or more manifest by the truth of *if Neville's hair is untidy, he won't get the job*. One such possible assumption would, for instance, be *if Neville impresses them in the interview, he won't get the job*. Because the speaker hasn't marked this as the most extreme assumption on the scale, the hearer has to assume that the speaker doesn't take it to be true and, thus, that the speaker thinks there are circumstances in which Neville will get the job.

This kind of explanation, however, means that I would predict (4) to cease implying its consequent in any circumstances in which there is an accessible assumption of the form *if x, Neville won't get the job* that would not be implied by the truth of *if Neville passed the exam, he won't get the job*. In fact, this prediction seems to be correct. There is nothing contradictory or unacceptable about an utterance of (63), except possibly on moral grounds:

(63) Even if Neville passed the exam, he won't get the job. However, if he sleeps with the boss, he'll get it.

Thus, the proposed new account not only seems able to deal with the full range of examples involving *even* and *even if* but it also makes the right predictions about how the examples can be manipulated to change intuitions concerning their interpretations. What remains to be shown clearly is that the inferential scalar analysis adequately captures the intuitions concerning the interpretation of (2) that were mentioned right at the beginning of this paper. That is, does it explain why one feels that (2) implies the following: (i) other people apart from Neville passed the exam, (ii) Neville wasn't as likely as these other people to pass and, maybe also, (iii) Neville's passing was contrary to expectation? In fact, this might be the place to question whether every utterance containing *even* really comes with all three implications. It was shown at the end of section 4.2 that (iii) is not always the case. However, I believe that my account can explain why the truth of S^* is often felt to be unexpected: as before, *even* indicates that the truth of S^* makes manifest or more manifest at least one S_j . One very good reason why this could be the case would be that S_j is unexpected – after all, there does seem to be a human tendency to conclude from the fact that something unexpected happened that other, more expected, things are

even

also the case.

It has also been shown above (in section 4.4) that S^* does not necessarily have to be less likely than the alternatives under consideration. However, as with (iii), being less likely to occur is a fairly good reason why S^* could be felt to imply the alternatives.

Finally, the only assumption that hasn't been questioned so far is (i) – everyone seems agreed that at least one S_j must be true. However, the acceptability of Susan's utterance in (64) casts doubt on that assumption, too.¹⁶

- (64) Scenario: No-one except Neville has passed the exam.
 Susan: Even **Neville** passed the exam, so I can't understand why no-one else did.

If this kind of example is really acceptable, it poses a problem not just to accounts that assume that the truth of at least one S_j is a background assumption, shared by speaker and hearer at the time of utterance, but it also seems problematic for my own analysis. After all, I would predict that the truth of *Neville passed the exam* makes manifest or more manifest at least one S_j . However, it has to be noted that this is a far less strong requirement than that the truth of an S_j be presupposed. In fact, one might argue that, when making her utterance in (64), Susan does, indeed, believe that the truth of *Neville passed the exam* makes manifest or more manifest the assumption that the others passed too. It's just that, in this particular scenario, she knows that the inference doesn't go through. Indeed, the very fact that she says that she can't understand why the others didn't pass indicates that she would expect them to have passed, given that Neville did. On the whole, then, it seems that the proposed analysis does a good job of accounting for the intuitions mentioned in the introduction.

6 Conclusion

It was the aim of this paper to answer two central questions: (a) In what way does *even* affect the interpretation of the utterances in which it occurs, i.e. what general kind of meaning does it encode? and (b) What exactly is the meaning of *even*? Both of these questions have been answered: (a) *even* encodes a procedural constraint on the context in which its host utterance is to be processed, and (b) the constraint encoded is that the

¹⁶ I'm indebted to George Powell for drawing examples of this sort to my attention.

proposition expressed by the utterance minus *even* (i.e. S^*) is at the extreme end of a scale containing at least one proposition different from it only in the element in the focus of *even* (i.e. S_j), such that the truth of S^* makes manifest or more manifest all other assumptions on the scale. It has been shown that this analysis can account for the full range of data and succeeds where other analyses fall down. One of the most important reasons for this, I would argue, is that the proposed account takes seriously the role of pragmatics in the interpretation of all utterances, including those containing *even*.

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even

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