

Scalarity and polarity

A study of scalar adverbs as polarity items

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1. Introduction and overview

Many languages have adverbial polarity items which serve as scalar particles, pointing at end-points of pragmatic scales. For instance, the italicized expressions in (1) are English negative polarity items serving as focus adverbials (or connectives) modifying expressions which denote scalar endpoints.

- (1) a. She cannot stand Fred, *much less* his brother.
b. Nobody understands me, *least of all* my father.
c. If you *so much as* lift a finger, I'll scream.

This may seem hardly surprising, since the literature on polarity items assigns a central role to notions of scalarity in the semantic analysis of polarity sensitivity (cf. e.g. Fauconnier 1975a, b, 1979; Ladusaw 1979; Vandeweghe 1980–81; Krifka 1990, 1991, 1995; Kadmon and Landman 1993; Lee and Horn 1994; Israel 1996, 1998; Rullmann 1996, 1998).

However, most of the literature on polarity items is devoted to indefinites, such as English *any* and *ever*, and their counterparts in other languages. Indefinites are endpoints on a *semantic* scale with universal quantifiers on the opposite end (Horn 1989) and the ranking is one of semantic implication. Indefinites are natural candidates for polarity items, and indeed many languages have polarity items among the indefinite pronouns and determiners (Haspelmath 1997).

Scalar particles, on the other hand, often exploit pragmatic scales representing real-world rankings. Consider English *even*, for instance. A

sentence such as (2) below presupposes a scale of individuals, ranking according to how likely it is that they will enjoy the food, with Peter at an extreme end of the scale:

- (2) Even Peter liked the food.

Indirectly, by means of an implicature, sentence (2) makes a universal claim: everybody who is more likely than Peter to have like the food also liked it. The ranking of individuals which (2) assumes is nonlinguistic in nature, and depends on real-world factors, such as assumptions about Peter, the food, and the occasion on which the food was served.

It is well-known that scalar particles such as *even* may be or become polarity items (König 1991). Besides the examples in (1) from English, there are Moroccan Arabic *hatta* (Benmamoun 1997), Dutch *ook maar* and *zelfs maar* (Zwarts 1981; Vandeweghe 1980–81), Finnish *edes* (König 1991), German *auch nur* (Kürschner 1983), and Spanish *siquiera*, among others.

We do not know nearly enough about these various expressions to be able to offer a unified theory of polarity sensitive scalar adverbs. However, even from a hasty inspection of the literature, considerable variation in behavior emerges. There is variation in the set of possible triggers, as well as in the syntactic configurations where the items may show up, as well as in the focus expressions they combine with.

In this paper, we will examine this variation within one language, thereby keeping fixed the general syntactic structure of the clause. We will do so by studying the differences between Dutch *ook maar*, an adverbial collocation of *ook* 'too, also' and *maar* 'just, only, merely', and Dutch *zelfs maar*, likewise an adverbial collocation, this time of *zelfs* 'even' and the aforementioned *maar*. Many of the notable differences between these two expressions are not categorical but gradual. This makes it somewhat difficult to use introspective judgments, because these do not concern a straightforward yes/no decision task, but subtle and variable preferences for one combination over another. Instead, we will rely on an extensive corpus study, in which we see these preferences reflected in actual usage. As an added bonus, the corpus investigation, which was based on texts from a 200 year period, also enabled us to establish some ongoing changes which appear to us to point towards gradual specialization among the two adverbial combinations.

The plan of this paper is as follows. In Section 2 we discuss the notion of pragmatic scales and scalar inferences. In Section 3, we discuss polarity

items denoting endpoints on pragmatic scales, so-called *minimizers* and *maximizers*. In Section 4, we discuss two types of scales that play a role in scalar inferences. In Section 5 we compare the Dutch scalar adverbials *ook maar* and *zelfs maar* and relate our findings to the distinctions made in Section 4. In Section 6 we present an empirical investigation on the basis of a corpus of more than 4000 occurrences. In Section 7, we extend our findings to German, by making a comparison with a (smaller) corpus investigation of *auch nur*, which is a close counterpart to Dutch *ook maar*. In Section 8, we take a look at English *so much as* and *even*. Section 9 contains our conclusions.

2. Scales and scalar adverbials

Pragmatic scales in the sense of Fauconnier (1975a, b) model certain kinds of "pragmatic inferences". Pragmatic implications in Fauconnier's sense are not necessarily logically valid, but play an important role in everyday understanding. One of Fauconnier's examples is:

- (3) Tommy will not eat the most delicious food.

On one of its readings, this sentence has quantificational force, and expresses that Tommy will not eat any food whatsoever. This quantificational, or universal, reading, Fauconnier argues, comes from a pragmatic implicature. The most delicious food is, under normal circumstances, most likely to be eaten. Someone who does not want it, simply wants no food at all. To be sure, this sentence can also be interpreted in a more literal fashion. Perhaps Tommy is on a diet, or he has taken religious vows that allow him to eat only the plainest food. Or he simply has a different opinion about what is delicious than the speaker. Under any of these circumstances, sentence (3) will not have a universal implicature.

The universal force of (3) depends quite clearly on the presence of negation. Remove it, and the universal force disappears:

- (4) Tommy will eat the most delicious food.

This sentence is simply a statement about what Tommy will do with the most delicious food. Nothing is said or to be inferred about any other kind of food. This has to do with the scalar nature of the inferences. From an

inclination to eat food type x we may infer an inclination to eat food type y , if y is higher on a scale of tastiness (on the plausible but defeasible pragmatic assumption that people prefer the more tasty food), but not vice versa. Put somewhat more formally, the scale is based upon a PROPOSITIONAL SCHEMA $P(x)$ such that for any x_1 and x_2 we have: $P(x_1)$ pragmatically implies $P(x_2)$ just in case x_1 is lower than or equal to x_2 on the scale. In (3), the propositional schema is based upon the open proposition *Tommy will not eat x*. Universal readings come about when an expression A in a sentence S denotes the lower endpoint of the scale associated with the open proposition which we get when the expression is replaced by a variable (using standard logical notation, we can write this as $S[A/x]$, the result of replacing A in S by x). Such lower endpoints can be expressed by superlatives, but also by other expressions which are conversationally or conventionally linked to the endpoint of a scale. Consider a sentence like (5):

- (5) Even the Pope would find this scene acceptable.

Given what we know or conventionally believe about the Pope, sentence (5) might be taken to express universal acceptance. In (5), the Pope is used as a convenient lower endpoint on a scale of permissiveness. The scalar adverb *even* plays an important role in (5). It marks its focus as lower endpoint, as the least likely candidate to satisfy the propositional schema *x would find this scene acceptable*. Note that by adding negation here, we reverse the scale, and we get the odd effect of seeing the Pope at the pinnacle of permissiveness:

- (6) Not even the Pope would find this scene acceptable.

Before ending this section, we need to address one more issue regarding pragmatic scales and *even*. Is it the case that *even* picks out an absolute endpoint on the scale (as assumed by Karttunen and Peters (1979) and Fauconnier (1975a, b)), or is it sufficient to say that it locates a point towards the end of the scale (roughly the position of Francescotti (1995) and Kay (1990))? We are inclined to favor the latter position, in light of examples such as those in (7), due to Kay (1990):

- (7) a. Not only did Mary win her first round match, she even made it to the semi-finals.
b. Ed has two children, and Fred may even have three.

In any context, presumably, the finals would be the endpoint of a scale of rounds, and not the semi-finals. Put differently, the least likely round for Mary to have made would be the finals, and not the semi-finals. Similarly, three is not the maximum number of children one can have. We will assume then that *even* and other scalar particles require a focus partner denoting some value sufficiently close to the lower endpoint on a scale, and that all points higher on the scale are pragmatically implicated.

3. Minimizers and maximizers

Besides superlatives and expressions marked with scalar adverbs like *even*, natural languages have a number of ways to mark in more or less conventional ways lower endpoints of scales. One group of expressions is known as MINIMIZERS in the literature on polarity items: expressions denoting a minimal quantity or extent or degree. For instance, the statements in (8) are all equivalent:

- (8) a. Fred did not understand anything of what I said.
b. Fred did not understand the least bit of what I said.
c. Fred did not understand even one thing of what I said.
d. Fred did not understand one iota of what I said.

In (8b–d), we are ranking amounts of information. If Fred did not understand even a minimal amount of the information provided by then presumably he did not understand anything. Hence (8b–d) are equivalent to (8a). In (8b), we have an example with a superlative, in (8c), an example with a scalar adverb, and in (8d), an example with a conventional minimizer, *one/an iota*. Sometimes, we can redundantly combine these scalar markings, and in so doing doubly mark the fact that we are dealing with scalar endpoints:

- (9) Fred did not understand even/so much as one iota of what I said.

Conventional scalar endpoints may be strict polarity items, like *one iota*. In that case they only show up in negative clauses and a few other contexts, such as conditional and interrogative clauses. Other expressions are used both as polarity items with quantificational force, and as regular indefinites. This is, for example, the case with *a thing, a word, a penny*:

- (10) a. John did not say a word.
b. John said a word.
- (11) a. John did not hear a thing.
b. John heard a thing.
- (12) a. John did not pay a penny.
b. John paid a penny.

The negative sentences have two uses or senses, whereas the corresponding positive ones are not ambiguous. Sentence (10b) may be a little bit odd, but it states that John said a word. (10a) could be the denial of (10b) (maybe John did not say one word, but two, or he managed to say only part of a word), but a more common reading is the one where it does not simply deny that John said a word, but makes the stronger claim that he did not say anything. Similarly for (10a) and (11a). In each example we have a noun which may CONVENTIONALLY serve to denote some minimal amount or extent.

It is important to stress here that the endpoint of the scale is conventional, and should not be taken literally. Thus, in order to express that we did not spend anything, we might either say that we did not spend a cent, or that we did not spend a nickle, or a dime. Surely a dime is less minimal than a cent or nickle, but for the purposes of conversation, this difference need not be important. All three coins denote lower endpoints on a money scale, but the granularity of the scale may vary. Similar remarks could be made about centimeters and millimeters, or about words, syllables and letters. They are all conventional minimizers, even if some are more minimal than others.

The conventionality of minimizers is best illustrated by the many idiomatic expressions in this class, such as *a red cent*, *a Chinaman's chance*, *a hill of beans* etc.¹ Their relation to the endpoint of a pragmatic scale is now conventional and arbitrary. We also point out that translations of minimizers are by no means always conventional minimizers in another language. Thus while *a word* and *a thing* are both commonly used as minimizers in English, only *a word* has a counterpart in Dutch which is likewise used as a minimizer, compare:

- (13) a. Niemand gelooft er een woord van.
nobody believes there a word of
'Nobody believes a word of it'
- b. ?*Niemand deed een ding.
nobody did a thing
'Nobody did a thing'

- c. ?*Ik kon geen ding zien.
I could no thing see
'I couldn't see a thing'

Minimizers are not the only kinds of polarity items with scalar characteristics. There is another, rather less well-known, class of expressions conventionally denoting a maximal (or at least, very high) degree or quantity (cf. Von Bergen and Von Bergen 1993; Van der Wouden 1994). We may call them *maximizers*. Some English examples of this type are given below:

- (14) a. I wouldn't hurt her *for the world*.
b. I cannot *for the life of me* understand his motives.
c. He would not work there *for all the tea in China*.
d. They wouldn't touch it *with a ten-foot pole*.
e. The guy couldn't spell *to save his life*.
f. *Wild horses* could not drag me to that party.

Note that these examples lose their idiomatic sense as soon as negation is removed. Note also that a good many of these expressions depend on the presence of *can*. This modal may support scalar inferences to contexts otherwise lacking them. For example, if someone can't lift the lightest weight, we may pragmatically infer that he cannot lift any weight. If on the other hand he *did* not lift the lightest weight, it does not follow in any way that he did not lift any weight. Similarly for many of the examples in (14). If wild horses cannot drag you somewhere, nothing can, on the assumption that "wild horses" denotes by convention a maximum of strength. But if wild horses *did* not drag you, why, something or someone else might have. The maximizers in (14) therefore work only in certain contexts, especially modal ones with *can* or *will/would*. The same is true for the comparable Dutch examples are listed in (15):

- (15) a. Zij konden het met de beste wil van de wereld niet
they could it with the best will of the world not
begrijpen.
understand
'They could not understand it at all'
- b. Daar krijgen ze me met geen tien paarden heen.
there get they me with no ten horses to
'They won't drag me there, not even with ten horses'

- c. Hij was voor de duvel en zijn ouwe moer niet bang.
 he was for the devil and his old mother not afraid
 'He was afraid of no-one'

Some German maximizers are *beim besten Willen* 'with the best will', a close counterpart to the Dutch *met de beste wil van de wereld, um die Welt* 'for the world', and these counterparts to *touch with a bargepole: mit der Beißzange anfassen* 'to touch with the pincers', *mit der Mistgabel anfassen* 'to touch with the pitchfork'. Perhaps one could object here that the obvious differences in size between pitchforks and pairs of pincers do not qualify the latter as maximizers. However, the relevant distinction here appears to be between touching something with the bare hands and touching it with some appliance; so not touching something with some appliance means: not even touching it indirectly. The size of the appliance is then of minor importance. Elements which combine only with minimal endpoints, such as Dutch *ook maar* or German *auch nur*, do not combine with these polarity-sensitive maximizers:

- (16) a. *Niemand kon het ook maar met de beste wil van de
 nobody could it even with the best will of the
 wereld begrijpen.
 world understand
 'Nobody could understand it, not even with the best of
 intentions'
- b. *Niemand konnte es auch nur beim besten Willen
 nobody could it even with the best will
 verstehen.
 understand
 'Nobody could understand it, not even with the best of
 intentions'

It is important to note that items which would appear to be opposites on a scale, such as *remotely* and *approximately*, may both be used as minimal endpoints for the purposes of focus adverbials. The reason behind this seemingly schizophrenic state of affairs is that different scales are conventionally associated with these expressions. *Remotely* is a minimal endpoint on a scale (closely, ..., remotely), whereas *approximately* may also be used as a minimal point on a scale (exactly, approximately). Compare:

- (17) a. Ted was not even remotely interested.
 b. Fred did not even approximately know the answer.

In Dutch, we therefore find items denoting distance, like *in de verste verte* 'in the furthest distance', as well as expressions denoting closeness, like *bij benadering* [by approximation] 'approximately', in combination with *ook maar*.

4. Two types of scales

An interesting fact regarding the scales associated with minimizers was noted by Fauconnier (1975b). While usually pragmatic scales for superlatives are associated with open propositions $P(x)$ derived by substituting x for the superlative in a sentential frame, minimizers may also give rise to a scale associated with an existential statement. Fauconnier's examples are:

- (18) a. Martha didn't hear even the loudest noise.
 b. Martha didn't hear even the faintest noise.

Strange as it may seem, both sentences have universal force, expressing something roughly equivalent to

- (19) Martha didn't hear any noise.

This is not expected if both (18a, b) are associated with the same scale. However, Fauconnier argues that they are not. In (18a), the scale is associated with the open proposition *Martha can't hear x* . If Martha cannot hear the loudest noise on some scale, she cannot hear any of the lesser noises either, we may infer pragmatically. Note, however, that (18a) presupposes the existence of noises. Sentence (18b), on the other hand, appears to give rise to another scale, of noises existing within Martha's hearing range. They could be said to be associated with the open proposition *There isn't x* (where x ranges over sounds or noises). If there isn't even a slight noise, then we infer there aren't any louder noises either. As a consequence, (18b) expresses that Martha did not hear any noises, not because she was unable to (as (18a) appears to suggest) due to deafness or distance to the source of the noise, but because there weren't any. So whereas example (18a) functions as a universal statement with an existential presupposition, (18b) lacks this presupposition. It appears, then, that we must distinguish between proposition-related

(or P-RELATED) scales and existential scales.² The different nature of the two scales is relevant for the distribution of scalar adverbs. While both (18a) and (18b) have superlatives modified by *even*, only (18b) allows for the substitution of *so much as* for *even*:

- (20) a. *Martha didn't hear so much as the loudest noise.
b. Martha didn't hear so much as the faintest noise.

This difference cannot be explained by the polarity-sensitivity of *so much as* alone: both (20a) and (20b) are negative sentences. The relevant factor is, clearly, the fact that *the faintest noise* denotes the bottom of an existential scale, whereas *the loudest noise* does not. It denotes the bottom of a p-related scale.

The examples in (21) show the effects of polarity-sensitivity:

- (21) a. Even the faintest noise bothers Martha.
b. *So much as the faintest noise bothers Martha.

Without the presence of negation, *even* is admissible, but *so much as* is not. In the next section, we look at two Dutch counterparts of *so much as*.

5. *Ook maar* and *zelfs maar*

The adverbial expression *ook maar* has been well-studied in the Dutch literature on negative polarity items (cf. Seuren 1976; Vandeweghe 1980–81, Zwarts 1981, 1986, 1998 Hoeksema 1983; Hoekstra 1991; Kas 1993; Rullmann 1994; Rullmann and Hoeksema 1997; Van der Wouden 1994, 1997). A central issue in this work is the fact that *ook maar* appears to select a smaller set of environments than, for instance, *ever* and *any* in English. Zwarts (1981) noted that n-words are good triggers for *ook maar*, but that certain other triggers are not:

- (22) a. Niemand zal ook maar iets bereiken.
nobody will even anything achieve
'Nobody will achieve anything whatsoever'
b. *Weinigen zullen ook maar iets bereiken.
few will even anything achieve
'Few will achieve anything whatsoever'

- c. *Niet iedereen zal ook maar iets bereiken.
not everyone will even anything achieve
'Not everyone will achieve anything whatsoever'

To account for these observations, Zwarts proposed that *ook maar* is sensitive to the presence of the logico-semantic property of *anti-additivity*:

- (23) *Anti-additivity*:
A function *f* is anti-additive just in case $f(a \vee b) = f(a) \wedge f(b)$

Anti-additive expressions (i.e. expressions denoting anti-additive functions) are characterized by the fact that a disjunction in their scope is equivalent to a wide-scope conjunction. In the case of negation, one of the so-called De Morgan laws which govern the logical relations between the boolean connectives in fact directly states that it is anti-additive:

- (24) $\neg(p \vee q) \Leftrightarrow (\neg p) \& (\neg q)$

For expressions such as *nobody*, anti-additivity predicts the equivalence of (25a) and (25b):

- (25) a. Nobody ate or drank.
b. Nobody ate and nobody drank.

Few and *not all*, on the other hand, are not anti-additive because there is no such equivalence among the sentences of (26) and (27):

- (26) a. Few ate or drank.
b. Few ate and few drank.
(27) a. Not all ate or drank.
b. Not all ate and not all drank.

The inference from the a-sentences to the b-sentences is valid, but the converse is not. This is clearest, perhaps, in the case of *not all*. If everybody ate or drank and nobody did both, then (27b) may be true but (27a) is false. In the case of *few*, it also helps to think of a situation where the eaters and the drinkers form disjoint sets. Even if either set is relatively small (hence supporting the claim that few ate and that few drank), their union may be too large to also count as small and the statement *few ate or drank* may be false.

All anti-additive expressions are downward-entailing in the sense of Ladusaw (1979). This notion can be defined as follows:

(28) *Downward-entailing:*

a function f is downward entailing iff $f(p \vee q)$ entails $f(p) \wedge f(q)$, for any p, q .

It is now easy to see that downward-entailingness is a necessary but not sufficient condition for anti-additivity. *Few* and *not all* are downward-entailing, but not anti-additive. In the literature, they are some-times called *weak triggers*, as opposed to anti-additive expressions, which are termed *strong triggers*. Weak triggers may licence polarity items such as *any*, according to Ladusaw's theory, but are not acceptable as triggers for *ook maar*, if Zwarts' account is correct. Now compare (22) to (29) below:

- (29) a. Nobody will achieve anything.
 b. Few will achieve anything.
 c. Not all will achieve anything.

According to our (noncontroversial) judgments, Ladusaw's theory makes correct predictions concerning the licensing of *any* by weak triggers. One of the goals of this paper is to test Zwarts' theory against a corpus of about 3300 occurrences of *ook maar*. The main goal, however, of this paper is a detailed comparison of *ook maar* and *zelfs maar*. Unlike *ook maar*, its near-equivalent *zelfs maar* has not been studied very extensively, presumably because it is less common than *ook maar* (the latter expression is about 3 times as frequent overall). To gain a first impression of the differential behavior of *ook maar* and *zelfs maar*, consider the question in (30) and its three possible answers:

- (30) Q: Kan Jan vijf meter ver springen?
 'Can Jan jump 5 meters?'

A1: Ja. Ik denk dat hij zelfs ZES meter ver kan springen.
 yes I think that he even six meters far can jump
 'Yes. I think he can even jump as far as six meters'

A2: Nee. Ik denk niet dat hij zelfs maar VIER meter ver kan
 no I think not that he even four meters far can
 springen.
 jump.

'No. I don't think he can jump even FOUR meters'

A3? Nee. Ik denk niet dat hij ook maar VIER meter ver kan
 no I think not that he even four meters far can

springen.

jump.

'No. I don't think he can jump even FOUR meters'

A4: Nee. Ik denk niet dat hij ook maar EEN meter ver kan
 no I think not that he even one meter far can
 springen.

jump.

'No. I don't think that he can jump even ONE meter.'

While answers A1, A2 and A4 are perfectly acceptable, A3 is less than perfect. A possible explanation for the contrast between A2 and A3 is suggested by the two perspectives on the presupposition of *even* sketched in Section 2 above, in particular the different opinions regarding the issue of whether *even* picks out relative or absolute endpoints. On a numerical scale, the natural numbers in their usual order, 1 is an absolute endpoint, but 4 is not. Data such as (30) might therefore suggest the following hypothesis:

(31) *Hypothesis*

Zelfs maar is associated with a relative presupposition, whereas *ook maar* is associated with an absolute presupposition (i.e. concerning an absolute minimum on a scale).

In other words: whereas *ook maar* carries the presupposition in (32), corresponding to the presupposition proposed by Rooth (1985) for negative occurrences of *even*, the adverbial *zelfs maar* has the one in (33). In these definitions, a represents the element in focus, F is the focus frame (i.e. the context of the focus element minus the triggering element, here represented as the negation sign \neg), x ranges over points on the scale and $>$ denotes the relation 'is more likely than' or, if one prefers, Fauconniers relation of pragmatic entailment, which defines the scale.

$$(32) \exists x[x \neq a \ \& \ \neg F(x)] \ \& \ \forall x[x \neq a \ \rightarrow F(a) > F(x)]$$

$$(33) \exists x[x \neq a \ \& \ \neg F(x) \ \& \ F(a) > F(x)]$$

For instance, the relevant presupposition for answer A3 in (30) would be as in (34), with $F = \text{he-can-jump-}x\text{-meters}$ and $a = 4$:

$$(34) \exists x[x \neq 4 \ \& \ \neg \text{he-can-jump-}x\text{-meters}] \ \& \ \forall x[x \neq 4 \ \rightarrow \text{he-can-jump-}4\text{-meters} > \text{he-can-jump-}x\text{-meters}]$$

This presupposition is in conflict with our general knowledge of the world: if someone cannot jump four meters, it does not follow he cannot jump any distance at all. Consequently, the perceived intuitive oddness of A3 has a pragmatic basis. Note, however, that hypothesis (31) does not always make hard predictions. The notion of a pragmatic scale is vague in many contexts. There is not always an objective criterion for deciding which elements are on the scale and what the endpoints on this scale are. Sometimes, one would like to construct a scale on an *ad hoc* basis, given what seems to be the intention of the speaker. Consider minimizers with the numeral *two*. Pre-theoretically, they should not exist, since 2 is not a minimal amount in the same way that 1 is. Yet various languages have them. Thus consider an English example like (35):

- (35) My niece doesn't care two straws about it.

Apparently, it is of no significance here that *one straw* is even less than *two straws*. We are invited to interpret *two straws* here as minimal on some scale of degrees of concern. Given this, it need not surprise us to find examples of *ook maar* + numerals other than *one*, e.g.:

- (36) En eigenlijk het ergste was dat de vrouw noch de moeder
and actually the worst was that the wife nor the mother
ook maar twee woorden Spaans sprak
even two words Spanish spoke
'And the worst thing, actually, was that neither the wife nor the
mother spoke so much as two words of Spanish'

Such examples make it fairly difficult to evaluate hypothesis (31) in a simple and straightforward way. Is it refuted by examples such as (36) or do we have to view two words of Spanish as sufficiently minimal to serve as the absolute endpoint on some scale of linguistic knowledge? In favor of the latter perspective, we note that examples such as (36) do not improve when we replace two by three or some other number higher than one. Numerals in minimizers are almost always one, sometimes, but rarely, two, or a half, and never, it seems, three, five or nine.

The vagueness inherent in the notion 'endpoint on a scale' makes it particularly useful to do a corpus study. Even if it is hard to make precise predictions about grammaticality of *ook maar* and *zelfs maar* on the basis of hypothesis (31), we expect to find different tendencies in use if this hypothesis

is anywhere near the truth. According to this hypothesis sentences with *ook maar* are characterized by the presupposition that the constituent in focus denotes the endpoint of a scale. Because presuppositions must be uncontroversial to speaker and hearer alike, the use of *ook maar* will be more easily accepted when the focus constituent denotes a conventional endpoint. Clearly conventional endpoints are idiomatic minimizers and minimizing superlatives (*a jot, a snowball's chance in hell, the least bit, the slightest inkling, give a tinker's damn, hurt a fly, say boo to a goose, lift a finger, sleep a wink*), as well as indefinite determiners and pronouns (*any, ever*) which are standardly viewed as minimal elements on a scale of quantifiers (Horn 1989).

When the focus element is not so clearly a scalar endpoint, the hearer must do some accommodation. Consider for instance the following example:

- (37) Aan niemand in Verrières heb je ook maar een kaartje
to nobody in Verrières have you even a postcard
geschreven.³
written
'You haven't written so much as a postcard to anyone in Verrières'

While postcards do not strike us as natural endpoints on some scale of writings, in the context of postal interaction, where postcards would be compared with letters, postcards would rank as minimal.

As for *zelfs maar*, our hypothesis (31) predicts that it does not seek out conventional endpoints or minimizers, even though such expressions are not incompatible with it. Instead, we expect to find more combinations with definite NPs or proper names, or verbs and other predicates. As Vandeweghe (1980-81) noted, *zelfs maar* is preferred in the final conjunct of a disjunction:

- (38) Niemand is rijk of zelfs maar/ook maar welgesteld.
'nobody is rich or even well-off'

Out of context, *well-off* would hardly count as a minimal element on a scale of financial comfort. The disjunction, however, sets up a context where only two levels are directly compared, and for the ordered set (*rich, well-off*), *well-off* qualifies as the minimal element. On a fuller scale of financial situations, *well-off* would not, of course, count as the absolute minimum: *poor, destitute* or *penniless* would be better candidates for that status, but we could still postulate a relative presupposition, given that *well-off* is ranked below *rich*.

At this point we might reconsider our hypothesis (31). According to this hypothesis, *zelfs maar* has a relative presupposition and *ook maar* an absolute presupposition. As a plausible alternative, we might consider the following hypothesis:

- (39) *Ook maar* is used primarily for conventional minimizers and *zelfs maar* for conversational (= contextual) minimizers.

In the case of disjunctions, we could view the disjuncts as the elements on an ad hoc scale, constructed for the purposes of the conversation. In addition to example (38) above, consider the following:

- (40) Een schat van een man, maar hij had nog nooit van zijn leven een pyramide, Maori, eskimo, papoea of zelfs maar de Sint Bavo kerk in Haarlem gezien.⁴

'A sweet man, but he had never in his life seen a pyramid, Maori, eskimo, papua, or even the St. Bavo church in Haarlem'

The scale is one of items someone is likely to have seen. The St. Bavo church in Haarlem might count as more likely to have been seen than the Egyptian pyramids or Maoris. The contextual nature of the ranking is obvious. Had the author of (40) been from Egypt or New Zealand, the St. Bavo-church would not have been considered minimal.

It is not clear that there is an easy choice between (31) and (39). Both hypotheses are relative simple and have some plausibility, but it is not clear that we can empirically distinguish them. In each case we rely on contextual information for *zelfs maar*: under hypothesis (31), *zelfs maar* points at some element on a scale which is less than (more minimal than) some other elements (which elements we are talking about is determined by the context), while under (39) it points at the absolute minimum of an ordered set that is given contextually. More significant is perhaps the fact that (39) isolates *conventionality as a minimizer* as a crucial feature of expressions accompanied by *ook maar*.

6. A corpus study of *ook maar* and *zelfs maar*

6.1 Description of the corpus

In order to study our hypotheses about *ook maar* and *zelfs maar*, we collected over 4300 occurrences of *ook maar* en *zelfs maar*. Our database is composed of material from two types of sources. 926 occurrences were collected from various electronic corpora made available by INL, the Institute for Dutch Lexicology in Leiden, the so-called 5 million word corpus, the 27 million word corpus and the 38 million word corpus, as well as the Dutch material on the CD-ROM produced by the European Corpus Initiative. These corpora contain mainly contemporary newspaper and magazine texts, as well as some books and TV newscast texts. The other type of source was manual collection from books, newspapers and the Internet by Hoeksema, carried out over a seven-year period. Manual collection was especially important to get material from older sources, which are not yet readily available in electronic corpora.⁵ As we will show below, usage patterns of *ook maar* and *zelfs maar* have shifted considerably in recent times. According to our data, the current division of labour between the two expressions was considerably less clearcut at the beginning of the 20th century, and has evolved gradually.

6.2 Triggers

The first question we address here is whether there are differences among the triggers responsible for the licensing of *ook maar* and *zelfs maar*. In Table 1, we present the main results of our investigation.

Some differences stand out immediately, such as the large difference in the category "scope of negation". *Zelfs maar* is far more common in the scope of negation than *ook maar*. This difference can be explained away as the result of a strong *blocking effect* that concerns direct (clause-mate) negation. As pointed out in Van der Wouden (1994), *ook maar* and *zelfs maar* are not permitted if preceded directly by negation:

- (41) a. *Jan sprak niet ook maar een woord.
Jan spoke not so much as a word

Table 1. *Triggering contexts for ook maar and zelfs maar*

context	<i>ook maar</i> N = 3313	<i>zelfs maar</i> N = 1003
conditional clause	12%	6%
scope of geen 'no'	8%	12%
scope of n-word	14%	13%
scope of negation	12%	19%
complement of negative predicate	11%	13%
restriction of universal quantifier	7%	2%
<i>before</i> -clause	3%	5%
question	5%	5%
<i>without</i> -clause	22%	12%
other	6%	13%

- b. *Jan heeft niet zelfs maar geaarzeld.
Jan has not so much as hesitated

If we replace *niet* 'not' by another trigger, e.g. *nooit* 'never', the resulting sentences are fully grammatical:

- (42) a. Jan sprak nooit ook maar een woord.
Jan spoke never so much as a word
b. Jan heeft nooit zelfs maar geaarzeld.
Jan has never so much as hesitated

Also, when negation does not directly precede *ook maar/zelfs maar*, there is no blocking effect.

- (43) a. Jan heeft niet met ook maar iemand gesproken.
Jan has not with so much as anyone spoken
b. Jan heeft niet met hem zelfs maar getelefoneerd.
Jan has never with him so much as telephoned

Van der Wouden (1994) attributes the ungrammaticality of sentences such as (41a, b) to positive polarity. Positive polarity items are ungrammatical in the scope of direct negation, but not necessarily in the scope of other negative elements such as n-words. This would then explain the difference between (41a, b) and (42a, b). However, this account does not explain why the sentences in (43a, b) are acceptable. Adjacency does not usually play a role

in the grammar of positive polarity items, and so the question remains why it should play one here. We suggest that the blocking effect is the one familiar from morphology, where we often find that one way of expressing a meaning may block another one, e.g. morphological expression may block syntactic expression. In this case, we presume that *niet + ook maar/zelfs maar* is blocked by a special form, *niet eens*, which has the same meaning 'not even'. In this use as a focus particle, *eens* is solely to be used with sentential negation, never with n-words or other triggers. Although sequences like *nooit eens* exist, they involve the use of *eens* as a temporal adverb, and can be glossed as "never once". *Niet eens* is always a unit, the elements of this expression must be adjacent, and this, in our view, accounts for the observation that only *ook maar/zelfs maar* are blocked only when adjacent to negation.

Given that *ook maar* and *zelfs maar* are equally blocked by directly preceding negation, why do we find a big difference in frequency with negation? The answer is simple: as we will see below, *zelfs maar* is particularly common in the second disjunct of a disjunction. When the trigger is negation, the result is a sequence of the form *niet X of zelfs maar Y* 'not X or even Y'. In this context, *niet* and *zelfs maar* are not adjacent, and consequently, there is no blocking effect. We can verify this claim directly by inspecting our corpus once more. If we only consider those occurrences of *zelfs maar* which are not in disjunctions, the percentage of occurrences triggered by *niet* drops from 19% to 10%, or about equal to what we found for *ook maar*.

In the same way, it appears that the considerable differences in the category of *without*-clauses (i.e. finite and infinitival clauses introduced by the preposition *zonder* 'without') can be explained by the fact that *zelfs maar* is very common in disjunctions. While about 20% of all occurrences of *ook maar* and *zelfs maar* taken together are triggered by *without*, for disjunctive contexts with either *ook maar* or *zelfs maar* the percentage is a mere 8%. Disjunctive contexts exhibit a strong preference for negation and n-words as triggers. Why this is so, we do not know, but it seems to be independent of the behavior of *ook maar* and *zelfs maar*, for we noted a similar effect with *wh*-polarity items such as *wie dan ook* 'whoever, anyone': in disjunctive contexts negation is far more common as a trigger than elsewhere.

Table 1 does not tell us much about the theoretically interesting issue of whether Zwarts' (1981, 1986, 1998) anti-additivity hypothesis is supported

by the corpus data. As it turns out, the hypothesis is not fully confirmed. Certain classes of triggers were absent according to prediction, such as negated universal quantifiers like *niet iedereen* 'not everybody' (at least as triggers of *ook maar*), but other types of triggers, such as *weinig* 'little, few', *nauwelijks* 'hardly' and *zelden* 'seldom' did show up, and even a few positive occurrences. Some examples are given in (44) for *ook maar* and (45) for *zelfs maar*:

- (44) a. Maar hij heeft weinig vertrouwen dat Shamir ook maar een duimbreed toegeeft.⁶
'But he has little faith that Shamir will give in even an inch'
- b. Het is toch nauwelijks voorstelbaar dat journalisten [...] zich daaraan ook maar iets gelegen laten liggen.⁷
'For it is hard to imagine that journalists would care anything at all about that'
- c. Wij bleven aldoor hopen dat de tsaar ook maar de geringste concessie zou doen aan het volk⁸
'We kept on hoping that the czar would make even the slightest concession to the people'
- d. Ik wou dat er op mij ook maar iemand zo verliefd was.⁹
'I would that anyone at all [lit.: even anybody] were so in love with me.'
- (45) a. Ze wemelen van de verrassende invallen, niet altijd even coherent of zelfs maar begrijpelijk, maar wel steeds barstend van het leven, van oorspronkelijkheid en inventiviteit.
'They teem with surprising ideas, not always very coherent or even intelligible, but always brimming with life, with originality and inventivity'¹⁰
- b. Natuurlijk is van het zeer omvangrijke oeuvre dat zoo moest ontstaan, lang niet alles superieur of zelfs maar goed
'Of course within the vast collection of work that had to originate in this way, not nearly everything was superior or even good'¹¹
- c. Binnenin krijgen ze echter zelden een hoofdrol of zelfs maar een rol.¹²
'Inside they rarely get a leading part or even [just] a part.'

- d. U denkt, dat ik anti-kommunist ben, of kommunist, of zelfs maar iemand die het iets kan schelen.¹³
'You think that I am an anti-communist, or a communist, or even someone who care about this'
- e. De Foxterrier is levendig, snel in bewegingen, doordringend van uitdrukking, altijd klaar om in te gaan op zelfs maar de geringste uitdaging.¹⁴
'The Fox terrier is lively, fast in his movements, expressive, always ready to respond to even the slightest challenge.'

We can interpret these findings in two ways:

- (A) There is variation among speakers, some of whom are strict while others are more relaxed in their use of the two expressions.
- (B) The restriction to anti-additive contexts is not absolute, but a strong preference.

Our corpus data do not allow us to decide the issue here. More feasible is a comparison of *ook maar* and *zelfs maar*. As we see in Table 2 below, all classes of non-anti-additive environments are more common with *zelfs maar*, in spite of the fact that *zelfs maar* is the less common variant by far.

Table 2. *Non-anti-additive contexts for ook maar and zelfs maar*

context	<i>ook maar</i>	<i>zelfs maar</i>
scope of negated universal	0	7
scope of <i>weinig</i> , <i>minder</i> , <i>niet veel</i> 'few/little, less, not much'	4	12
scope of <i>nauwelijks/amper</i> 'hardly'	8	8
scope of <i>zelden</i> 'seldom'	0	5
positive occurrences	14	19

From the summary in Table 3, we see that neither expression has a strong tendency to show up in non-anti-additive contexts. The difference between the two expressions is highly significant, however. The χ^2 value is 81.2, $p < 0.001$.

Our conclusion is that the anti-additivity requirement of Zwarts (1981) and subsequent work holds more strongly for *ook maar*, but is not absolutely obeyed by either expression in our corpus. The positive occurrences of *ook*

Table 3. Summary

	non-anti-additive	anti-additive
<i>ook maar</i>	26	3287
<i>zelfs maar</i>	51	952

maar that we noted all occur in nonveridical contexts (cf. also Zwarts 1995; Giannakidou 1997, 1998). Such contexts are defined as follows:

(46) *Nonveridicality*

A context X_Y of a sentence S is nonveridical just in case XSY does not imply S.

Hence from the truth of the embedding statement we may not conclude the truth of the embedded statement. Typical examples of sentences in nonveridical contexts, besides straightforward negative occurrences, are complements to "opaque" verbs like *hope*, *wish* etc.¹⁵ The occurrences of *ook maar* in (44c, d) are licensed within such contexts. While this kind of licensing is marginal and not always acceptable, these examples show that we cannot entirely eliminate this possibility.

6.3 *Focus constituents*

The main differences between *ook maar* and *zelfs maar* are located in the sets of expressions which they take as focus constituents. While there are no absolute differences, there is major variation in preferences. Table 4 below lists the major classes of focus constituents and for each of the two adverbials, the percentage of occurrences of that adverbial with these types of focus constituent.

The majority (64%) of occurrences of *ook maar* are combinations with indefinite noun phrases of various kinds, whereas the largest group of occurrences of *zelfs maar* are combinations with predicates. Among the group of indefinites, there are major differences between indefinite pronouns and *enig*, which almost exclusively combine with *ook maar*, and other indefinites, which are less exclusive, although they likewise prefer *ook maar*. Definites clearly prefer *zelfs maar*, but superlatives pattern with indefinites, rather. This makes sense, since the superlatives in question are of the

Table 4. *Focus constituents of ook maar and zelfs maar*

focus constituent type	<i>ook maar</i>	<i>zelfs maar</i>
adverbial	17%	7%
definite NP	1%	9%
<i>één</i> 'one' + N	17%	3%
<i>een</i> 'a' + N	22%	17%
<i>enig</i> 'any' + N	6%	0.3%
indefinite pronoun	19%	0.5%
bare noun	0.3%	5%
superlative	9%	3%
predicate	8%	50%
other	2%	5%

minimizer kind, which is indefinite also in other respects, as we can see, for instance, from the fact that they appear in existential sentences, both in English and in Dutch:

- (47) a. There wasn't the slightest disturbance all night.
 b. Er was niet het geringste gevaar.
 'There wasn't the least danger'

Note that most other superlatives are not indefinite.¹⁶

- (48) a. *There was the biggest student in my class.
 b. *There were the brightest students.
 c. *There are the darkest stars.

Unlike the triggering data, the focus constituent data show great variation over time. The preference exhibited by predicates for *zelfs maar* over *ook maar* can be shown to have emerged gradually in the course of this century, cf. Table 5.¹⁷

We take this to mean that the current division of labour between *ook maar* and *zelfs maar* has gradually developed. The two expressions were originally very similar in meaning and distribution, but have slowly drifted apart. The preference of predicates for *zelfs maar* can be explained most readily by our hypothesis (39): predicates are, on the whole, not conventional (minimal) endpoints on a scale. They can be endpoints on a conversational scale: e.g. when we pragmatically contrast doing something with trying to do

Table 5. *Emerging preference for zelfs maar with predicates*

period	% <i>zelfs maar</i>	N
1800–1930	40%	63
1930–1960	46%	83
1960–1990	65%	203
1990–1998 ¹⁸	72%	429

something, or considering to do something. In English, a common minimizing predicate is *begin to*, as in, say, *That does not even begin to make sense*. In Dutch, the counterpart of this predicate, *beginnen te*, is not often used in this way, which suggests, once more, that there is some arbitrariness in the set of minimizers.

Table 4 does not make a distinction between minimizers and other nouns. When we do this, further important differences between *ook maar* and *zelfs maar* are revealed.

Table 6. *Indefinite minimizers and nonminimizers*

		<i>ook maar</i>	<i>zelfs maar</i>
<i>een</i> 'a' + minimizer	(N=629)	91%	9%
<i>een</i> + nonminimizer	(N=203)	48%	52%

While minimizing indefinites show a strong preference for *ook maar*, other indefinite noun phrases introduced by *een* 'a' do not. There is also another effect to be noted: minimizing expressions are generally more frequently preceded by the focus adverbials *ook maar* and *zelfs maar* than other expressions. The difference between the raw frequencies 629 and 203 becomes even more striking if one bears in mind that the vast majority of noun occurrences in any corpus does not belong to the minimizing class.

Even larger effects can be noted for adverbials. Some adverbials, such as *in het minst* 'in the least', *een beetje* 'a little bit', *enigszins* 'in any way, slightly', have the character of minimizers, while others, such as *vaak* 'often', *goed* 'well', and so on, do not have this character. We see this difference reflected in the distribution of *ook maar* and *zelfs maar*:

Table 7. *Adverbial minimizers and nonminimizers*

		<i>ook maar</i>	<i>zelfs maar</i>
adverbial minimizer	(N=589)	93%	7%
adverbial nonminimizer	(N=38)	21%	79%

Among definites, a distinction can also be made between minimizers and nonminimizers. Most commonly, they are nominalizations of verbs which tend to be used as minimizing predicates, e.g. *de schijn van* 'the semblance of' from the verb *schijnen*:

- (49) We moeten proberen om zelfs maar de schijn van schuld te vermijden.
'We must try to avoid even the semblance of guilt'

On the whole, definites clearly prefer *zelfs maar*, but these minimizers also combine well with *ook maar*.

Finally, we should consider the special case of disjunctions. As we mentioned above, *zelfs maar* is preferred over *ook maar* as a focus adverb on the final disjunct of a disjunction. Disjunctions are very common hosts for polarity items. This effect has become virtually absolute in recent times, as Table 8 shows.

Table 8. *Growing preference for zelfs maar in disjunctions*

period	N	% <i>zelfs maar</i>
1800–1930	61	62
1930–1960	92	63
1960–1990	116	74
1990–1998	247	95

Just as we saw in connection with Table 5, it turns out that the current division of labour between the two expressions was less clearcut originally, and has become ever more pronounced in the course of the 20th century. Disjunctions form the strongest evidence in favor of the hypothesis in (39):

because they involve an explicit comparison of elements, we can construct an ad hoc scale based on just the compared elements. Such scales need not be conventional, such as the typical scales associated with minimizers, but may depend entirely on pragmatic considerations, and knowledge of the world.

6.4 *C-command requirements*

The famous c-command restriction on polarity items, originally proposed by Klima (1964) in terms of the equivalent notion *in construction with*, has been adopted for Dutch by Hoekstra (1991). The primary evidence for c-command restrictions comes from the distribution of *ook maar*. Other polarity items tend to have a freer distribution (cf. Hoeksema, 2000).

However, even in the case of *ook maar*, the c-command requirement is not absolute. In our corpus, we found 14 occurrences of *ook maar* in positions not c-commanded by negation, or about 4 in every 1000 occurrences. Some examples are given in (50):

- (50) a. Van een ook maar bij benadering eerlijke
of an even remotely fair
rechtspleging was geen sprake.¹⁹
administration of justice was no question
'There was no question of an even remotely fair administration of justice'
- b. Een ook maar enigszins bevredigende analyse kan men
an even slightly satisfactory analysis can one
bovenstaande moeilijk noemen.²⁰
the above hardly call
'One can hardly call the above an even remotely satisfactory analysis'

In the case of *zelfs maar*, the number of violations is significantly higher, both absolutely and relatively: 38 in a total of 1003. Examples are given in (51):

- (51) a. Een pad, of zelfs maar een spoor, is nergens te bekennen.²¹
'A path, or even a trail, is nowhere to be seen.'
- b. Spong vindt dat zelfs maar een spoortje zelfgenoegzaamheid
[...] misplaatst is²²
'Spong finds even a trace of complacency to be misguided'

The larger number of violations with *zelfs maar* can be ascribed to a single factor: out of 38 violations, 27 occur in disjunctions. Disjunctions have the unusual property of receiving narrow scope with respect to negation even in topic or subject position where they are not c-commanded by negation:

- (52) a. Appels of peren wil ik niet.
apples or pears want I not
'I want neither apples nor pears'
- b. Leeuwen of beren eten geen sla.
lions or bears eat no lettuce
'Neither lions nor bears eat lettuce'

It is this property, which is entirely independent of polarity licensing, which in our view explains the larger amount of *zelfs maar* occurrences in positions not c-commanded by negation.

An overarching factor, which includes the above-mentioned effect of disjunction, is embedding. Almost all c-command violations involve embedded occurrences of *ook maar* and *zelfs maar*. These expressions can be embedded within a topicalized clause (Hoekstra 1991), but also within topicalized PPs or NPs, as we see in (50a, b). In each case, the embedding expression has narrow scope with respect to negation. In Hoeksema and Klein (1995) it is argued that *ook maar* indefinites take wide scope, which renders sentences like (53) ungrammatical, but in embedded contexts, they have the scopal properties of the larger embedding constituent. (For a broader discussion of embedding effects and a pragmatic factor which explains these effects, we refer to De Swart (1998).)

- (53) *Ook maar iets nieuws zei hij niet.
even anything new said he not
'He didn't say anything new at all'

While it might appear that the violations of c-command are too rare to take seriously, we would rather draw a different conclusion. First of all, most triggers of polarity items do not engage in scope ambiguities and never give rise to c-command violations. This is the case with questions, conditional clauses, comparatives, restrictive relatives of universal and superlative noun phrases, complements of negative predicates, etc. In all of these cases, entire clauses are marked as hosts for polarity items, and it does not matter where these items appear, whether it be in subject position, object position,

as an adjunct, or elsewhere.²³ Only negation and negative quantifiers or adverbials give rise to *c*-command violations. If we restrict ourselves to those cases only, the percentage of violations must be tripled for *ook maar* and doubled for *zelfs maar*. If we also consider the necessity of embedding contexts for violations, we will have to conclude that the violations are not at all marginal, in spite of their infrequency. If they are rare, it is because they depend on a constellation of effects which itself is relatively uncommon, but not because they involve violations of principles of grammar.

Another point worth making here is that connectivity effects with pseudoclefts and other predicative constructions also militate against the idea that a *c*-command requirement holding at surface structure explains the distribution of polarity items like *ook maar*. As noted for instance in Heycock and Kroch (1999), the *wh*-clause of a pseudocleft may contain the trigger for a polarity item in the focus position outside of that clause:

- (54) He bought lots of textbooks; what he didn't buy was any good novels.

Here is an example illustrating this point for *zelfs maar*:

- (55) Maar wat in die 'inventaris' ontbreekt, is zelfs maar een
but what in that 'inventory' lacks, is even an
poging om de boodschappen van het station te vergelijken²⁴
attempt to the messages to compare
'But what is lacking in that 'inventory' is so much as an attempt
to compare the messages'

At a more abstract semantic level, the relevant part of (54) can be represented as a single clause, in which the polarity item is properly *c*-commanded by its trigger:

- (56) He didn't buy any good novels.

Connectivity effects in pseudoclefts are incompatible with *c*-command requirements holding at surface structure or at the fairly surfacy level of "Logical Form" invoked by May (1977), Linebarger (1981), Progovac (1994) and various other studies. They are not incompatible, however, with the idea that semantic scope, rather than *c*-command, predicts the distribution of polarity items.

To conclude this section: both *ook maar* and *zelfs maar* exhibit *c*-command violations. The fact that such violations are far more common with

zelfs maar is a direct result of an independent difference among the two expressions, which is that *zelfs maar* is strongly preferred in disjunctions. Disjunctions may have narrow scope with respect to negation even when they asymmetrically *c*-command the negative expression. From this conclusion, we draw an empirical prediction: if *ook maar* had not had competition from *zelfs maar*, it would have yielded more *c*-command violations. We can directly test this prediction by looking at German. The German counterpart to *ook maar* is *auch nur*. This expression shows a word by word correspondence: *auch* is the cognate and grammatical counterpart of *ook*, and *nur* is the counterpart of Dutch *maar*. There is no expression in German corresponding to *zelfs maar*. In the next section, we will take a look at the German data, and verify our prediction.

7. German: The case of *auch nur*

In order to study the distribution of German *auch nur*, we collected a total of 413 occurrences from the Mannheim Corpus of German, various newspapers and journals on cd-rom, the German part of the cd-rom of the European Corpus Initiative, the World Wide Web, and from a number of books and newspapers. The number of occurrences is large enough to allow comparison with the Dutch data, but not large enough for diachronic investigation of ongoing changes. When we compare the German data with the Dutch data, we find that *auch nur* has some of the characteristics of *zelfs maar*, rather than *ook maar*. For example, predicates are frequently focus constituents of *auch nur*. The percentage (28%) is lower than that of *zelfs maar* (50%), but higher than the percentage for *ook maar*. This is roughly what one would expect, in a language where the opposition between *zelfs maar* and *ook maar* is neutralized.

Another difference, which we did not expect or predict, is the virtual absence of indefinite pronouns as focus constituents with *auch nur*. If we collapse the *ook maar* and *zelfs maar* data, we find that 14% involves combinations with indefinite pronouns, in particular *iets* 'something/anything'. In German, indefinite pronouns make up about 1% of all focus constituents. In this respect, German resembles English, rather than Dutch. English indefinite pronouns, in particular *any*, resist modification by *even* or *so much as*. We will return to the point in the next section.

In Table 9 below we present our main findings for German.

Table 9. Focus constituents with *auch nur* (N = 413)

focus type	%
adverbial	22
bare noun	2
definite noun phrase	6
<i>ein</i> + noun	32
indefinite pronoun	1
predicate	28
superlative	7
other	2

In our tabulation, we did not make a distinction between occurrences of *ein* as an article and occurrences as a numeral. In Dutch, the difference between numeral and article use corresponds to a difference in vowel quality, which is often represented orthographically: *één* is the numeral, *een* or *'n* the article. In German, the difference is one of stress only, and is not represented in the spelling. Given the fact that our data are from written texts, it was not feasible to make the distinction which would have enhanced detailed comparison.

Typical occurrences of *auch nur* that would have to be translated as *zelfs maar* in Dutch are given in the next examples. In the first example, the focus constituent is a predicate, and this constituent is the second member of a disjunction. In the second example, we have a focus constituent denoting a number higher than 1, i.e. something which is not a minimizer in an absolute sense.²⁵

- (57) a. Ein rebellischer oder auch nur bemerkenswert
a rebellious or even particularly
undisziplinierter Soldat bin ich nicht gewesen²⁶
undisciplined soldier have I not been
'I wasn't a rebellious or even particularly undisciplined soldier'
- b. Ausserdem hält Neumann es für unvernünftig zu
besides considers Neumann it as unwise to
glauben, dass ein 38-Quadratmeter-Gotteshaus
believe that an 38 square meter church
ausreiche, um auch nur 100
would suffice to so much as 100

Gemeindemitglieder aufzunehmen.
members of the congregation hold.
'Besides, Neumann finds it unwise to believe that a 38
square meter church would suffice to contain even 100
congregation members.'

Example (57a) also illustrates that German *auch nur* allows for violations of the c-command requirement on polarity licensing. Among the 413 occurrences of *auch nur* that we collected, we found 15 violations of c-command, which is a little under 4%. This corresponds exactly with the 3.8% we found for *zelfs maar*. Inspection of the individual violations reveals that the same factors that we identified for Dutch (embedding in larger constituents and in particular embedding in disjunctions) are operative in German for licensing *auch nur* in non-c-commanded positions.

As regards the triggers of *auch nur*, the picture is similar to what we found for Dutch, with the same classes of triggering environments, and even about the same percentages of total usage for each environment. As in Dutch, anti-additive contexts are far more prominent than non-anti-additive contexts, but the latter do exist: we found occurrences triggered by *wenig* 'few', *kaum* 'hardly', *nur* 'only', negated universals, and even some cases of positive occurrences in nonveridical or generic contexts. An example of triggering by a negated universal is given in the next example:

- (58) Längst nicht alles, was unter DOS und Windows
by far not all what under DOS and Windows
Lorbeeren sammelt, ist unter Unix einzusetzen oder
laurels gathers, is under Unix available or
auch nur sinnvoll.²⁷
even useful
'By no means all that gathers laurels under DOS and Windows
can be used or is even useful under Unix'

We counted 11 occurrences of *auch nur* in non-anti-additive environments, or about 2.7% of all occurrences, which is, as expected, in between the 0.8% we found for *ook maar* and the 5.1% for *zelfs maar*. A more complete comparison of our Dutch and German data is given below in Table 10, where we have collapsed our data for *ook maar* and *zelfs maar*.

Table 10. *Triggering environments for auch nur and ook maar/zelfs maar*

environment/trigger	German	Dutch
<i>as soon as</i>	1	1
<i>before</i>	3	4
comparative	0.5	1
conditional	15	11
<i>few/little</i>	0.5	0.3
<i>hardly</i>	1	0.5
negated universal	1	0.1
negation	12	13
negative predicate	11	11
n-word	20	23
positive occurrences (generic or nonveridical)	0.5	1
question	6	5
<i>too</i>	3	2
universal	6	6
<i>without</i>	18	20
other	1	2

8. English: *even* and *so much as*

English has two polarity-sensitive focus adverbials meaning *even*, one of which is the negative-polarity use of *even* itself (Rooth 1985; Rullmann 1997), the other being *so much as* (Heim 1984). We will follow here the line of reasoning in Rooth (1985) that there is a special use of *even* in negative contexts, leading to ambiguities such as the one in

(59) If you do that even twice, you will be punished severely.

where 'twice' could be read as being near the low end or near the high end of a scale. Wilkinson (1996) has argued against lexical ambiguity of *even*, opting instead for scopal ambiguity. We are not convinced by Wilkinson's arguments and refer to Rullmann (1997) for a rebuttal.

When we look at trigger sets and focus constituents for *even* and *so much as*, we find some major differences. In Table 11 below, we compare focus constituents for the two expressions:

Most striking in this table is perhaps the virtual absence of indefinite

Table 11. *Focus Constituents of even and so much as*

Type of focus constituent	<i>EVEN</i> (N = 301)	<i>SO MUCH AS</i> (N = 141)
adverbial nonminimizer	2	0
adverbial minimizer	8	0
<i>a</i> + nonminimizer	9	24
<i>a</i> + minimizer	2	15
<i>a single</i>	1	4
superlative	2	0
definite noun phrase	5	4
<i>one</i>	2	2
bare noun	2	0
predicate	65	50

pronouns such as *anyone* or *ever*.²⁸ If we adopt the proposal in Lee and Horn (1995) that *any* is inherently scalar, hence in its lexical semantics encodes the meaning of *even*, we could view the conspicuous absence of *any* and *ever* as a *blocking effect*. More precisely, it would be a blocking effect of the economy kind, which rules out double marking of meaning. Many languages show instances of such blocking effects, for example languages which do not permit double negation or negative concord (where one negation could receive multiple exponents) such as classical Latin, or double marking of inflectional categories, such as plurality or the comparative. Of course, double marking is not universally ruled out, or even generally within a given language. Thus standard Dutch would be a clear case of a language permitting double marking among focus adverbials while resisting negative doubling, for instance. While the very expressions we have looked at in Dutch, *ook maar* and *zelfs maar* are themselves combinations of two focus adverbs, we can even have more, e.g. the three-decker adverbials *ook zelfs maar*, *zelfs ook maar*, in combination with expressions which themselves are already scalar in nature, such as idiomatic minimizers. This seems to stem from a more general tendency in Dutch to pile up particles. Here is a naturally-occurring example:

(60) Maar de hoge Noren in Oslo weigerden zelfs ook maar
but the high Norwegians in Oslo refused even also but
met ons te praten.²⁹
with us to talk

'But the high-ranking Norwegians in Oslo refused to even talk with us.'

If we assume blocking for English *even any* and similar combinations involving indefinites, this account should not be extended too far. In particular, we would not want to rule out *even* + minimizing superlatives, or indeed the redundant but grammatical combination of adverbials *even so much as*. The blocking principles at hand, then, while instantiations of a general tendency to bar redundancy, must be quite parochial, pertaining to particular combinations of focus adverbs and scalar indefinites.

Apart from indefinite pronouns, which as we have seen do not constitute a significant category of focus constituents for either *even* or *so much as*, there are also some notable differences among the two expressions, such as the absence of adverbial focus constituents for *so much as*. Indeed, some of the most common collocations with polarity-sensitive *even* are conspicuously absent with *so much as*:

- (61) a. Fred was not even/*so much as remotely interested.
b. Ernie was not even/*so much as mildly funny.

Note that the differences we find between *even* and *so much as* are different from the ones we found for Dutch *ook maar/zelfs maar*. While there are some differences related to the minimizer/nonminimizer distinction (*so much as* occurs significantly more often with minimizing noun phrases), this factor does not appear to be as important as it is in the Dutch case.

As regards the triggers for *even* and *so much as*, our findings are summarized in Table 12. Again we see some remarkable differences among the two expressions.

The largest difference seems to lie in the much more prominent position of *without* as a trigger for *so much as*. We do not have an explanation for this difference, but we think it may explain some of the minor asymmetries in Table 11. Given that *without* is a preposition, we may safely conclude it introduces a bias towards focus constituents of the category noun phrase. If we remove all cases triggered by *without* from the *so much as*-dataset, we see the percentage of predicates jump from 50% to 60%, which is virtually the same as the percentage we found for *even* (64%), and the percentage of nonminimizing indefinites drops from 24% to 14%, much closer to the 9% we found for *even*. Other differences did not diminish, however, when we

Table 12. *Triggering environments of even and so much as*

environment	EVEN (N=301)	SO MUCH AS (N=141)
<i>not</i>	51	26
n-word	12	21
<i>barely/hardly</i>	0	1
<i>before</i>	7	1
conditional clause	5	13
<i>few/little</i>	1	0
negative predicate	9	5
question	8	1
superlative	0	1
universal	1	3
<i>without</i>	2	26

controlled for the strong collocational effects imposed by *without*.

We note that just as in the case of *ook maar, zelfs maar* and *auch nur*, we found some occurrences in non-anti-additive contexts. Some examples are:

- (62) a. Becky hardly so much as spoke to him³⁰
b. [T]here was little that was even distantly related to familiar flavours³¹

Of some interest is also the following example, from a corpus of internet postings, of what appears to be a positive occurrence of *so much as*. Possibly, this case is related to the purpose clause contexts mentioned in Footnote 11.

- (63) One moment she is pretending to be shocked that Batman would dare hit a woman, the next striking out at him for so much as daring to hesitate.

We conclude that the set of environments of *so much as* and *even* is very similar to the trigger sets of *ook maar, zelfs maar* and *auch nur*. There is considerable variation in the extent to which each environment contributes to the overall distribution of each polarity item, but the sets of environments themselves are very similar, crosslinguistically.

9. Conclusions

Corpus data confirm the hypothesis that *ook maar*, in contradistinction to *zelfs maar*, is associated primarily with scalar endpoints. *Ook maar* occurs in our corpus material far more often than *zelfs maar* in combination with expressions denoting the lowest endpoint on a scale, such as the indefinite pronoun *iets* 'anything', noun phrases introduced by *één* 'one', *enig* 'any', superlatives of the minimalist kind (involving *het minste* 'the least' or *het geringste* 'the slightest') and indefinite noun phrases headed by a noun of the "minimizer" category. *Zelfs maar* on the other hand is used relatively often when the focus constituent is less easily interpreted as a scalar endpoint or is not conventionally used as such, as in the case of definite noun phrases and predicates. In addition to this, *zelfs maar* is preferred if the focus constituent is the final member of a disjunction. We also noted that *ook maar* and *zelfs maar* have drifted apart, and that the current clearcut division of labor between the two elements is fairly recent. We consider this a case where two originally synonymous and equivalent focus adverbials have specialized in different domains.

An hypothesis, due to Zwarts (1981), according to which *ook maar* is licit only in so-called anti-additive contexts, turned out to be not entirely correct, although the number of exceptions was quite low. We did, however, note a significantly higher percentage of non-anti-additive contexts for *zelfs maar*. We also tested another claim in the literature, viz. Hoekstra's (1991) claim that *ook maar* exhibits a strict c-command requirement on the triggering relation. Again, the claim turned out to be not entirely correct, since we found that embedded occurrences of *ook maar* can be topicalized or appear in subject position. We also noted a significantly larger percentage of c-command violations for *zelfs maar*. In a section on the German counterpart to *ook maar/zelfs maar*, we found that this expression likewise permits violations of the anti-additivity and c-command requirements. Finally, we compared our findings for Dutch and German with English, which like Dutch, but unlike German, has two focus adverbials meaning "even" in negative contexts: *even* itself, and *so much as*. Just as in Dutch, we found important differences in the sets of focus constituents which combine with these two adverbials, but these differences appear to be of a different nature and do not resemble the *ook maar-zelfs maar* dichotomy.

We want to conclude this paper by reiterating a methodological point. There are some intuitively clear differences between *ook maar* and *zelfs maar*. However, it is not feasible to study these differences in the usual way by introspection-based grammaticality judgments. While *ook maar* is clearly preferred in some contexts, and *zelfs maar* in others, these preferential differences do not in most cases amount to clearcut grammaticality differences. In such cases, corpus data provide a relatively clean way to study these differences which, although subtle, are also quite robust and significant, and show change in progress.

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Notes

1. Often, minimizers form combinations with just a few predicates. Thus, a *hill of beans* combines with the adjective *worth* or the verbal expression *amount to*, and a *Chinaman's chance* with predicates like *have* or *stand*. It is therefore possible to view the larger combinations, e.g. *worth a hill of beans* as the actual polarity items. Alternatively, one could view *a hill of beans* as a minimizing polarity item denoting the endpoint of a scale of worth. Hence only predicates denoting 'worth' may combine with this item, including e.g. *mean*: *But six months from now, it won't mean a hill of beans* (from an Internet posting).
2. The differences in type of scale must be related to the fact that maximizing superlatives such as *the loudest noise* are definites, whereas minimizing superlatives are indefinite in nature, as is evidenced by the fact that they may appear in existential sentences (cf. 44 below).
3. Hugo Claus, *Suiker*, reprinted in *Acht toneelstukken*, De Bezige Bij, Amsterdam, 1966.
4. Willem Frederik Hermans, *Onder professoren*, De Bezige Bij, Amsterdam, 1975.
5. Very recently, several CD-ROMs have become available with classical Dutch literature from the Middle Ages and the early modern period. However, these CD-ROMs do not contain material from the 20th century (for copyright reasons). Since *ook maar* and *zelfs maar* were still infrequent in the 19th century, and appeared to be virtually absent before that century, these CD-ROMs did not contribute significantly to our database.

6. From the INL 38 million word corpus.
7. INL 27 million word corpus.
8. *De Volkskrant*, 3–4–1993.
9. Mr. A. Roothaert, *Vlimmen contra Vlimmen*, reprint, Bruna, Utrecht/Antwerpen, 1971, p. 552.
10. *De Telegraaf*, 21–5–1997.
11. J. C. Bloem, *Verzamelde beschouwingen*, A. A. M. Stols, 's Gravenhage, 1950, p. 101.
12. *De Standaard*, 21–9–1995.
13. Harry Mulisch, *Het stenen bruidsbed*, 25th pr., De Bezige Bij, Amsterdam, 1976, p. 75.
14. From a webpage on dogs, www.digi.nl/honden.
15. Purpose clauses also appear to be nonveridical contexts for *ook maar/zelfs maar*. Some examples, taken from Martin Bril and Dirk van Weelden, *Arbeidsvitaminen*, De Bezige Bij, Amsterdam, 1991, 416, and from *De Volkskrant*, 26–5–1998, respectively:
 - (i) Om ook maar iets van de uitstraling van een meesterwerk te voelen was een for even anything of the appeal of a master piece to feel was a bedevaart vereist.
pilgrimage necessary
'In order to feel the least bit of the appeal of a master piece, a pilgrimage was called for'
 - (ii) In de negentiende eeuw moest je een minimum aan belasting betalen [...] om in the nineteenth century had you a minimum of tax pay in order to zelfs maar te mogen stemmen
even be allowed to vote
'In the 19th century, one had to pay a minimum of taxes in order to even be allowed to vote'
16. Besides minimizer superlatives, such as *the least*, *the slightest*, the only superlatives acting as indefinites are the idiomatic cases *the weirdest*, *the strangest* etc.:
 - (i) There were the weirdest people in my class.
These cases are special because they are not strictly speaking superlatives. They can be paraphrased as nonsuperlatives:
 - (ii) There were very weird people in my class.
17. The increase in the value of N for each period probably reflects an overall increase in frequency of the focus expressions *ook maar* and *zelfs maar*. Note however, that we have not controlled for the size of our corpus for each period. This is hard to do, since the older occurrences are not from electronic corpora, but from printed texts. The larger numbers for the 1990's are partly due to the availability of large electronic corpora, such as newspapers on cd-rom and the world wide web.
18. The change in progress is still going strong at the moment. If we divide our data for the 1990's into pre-1995 and 1995–1998, we get 68% *zelfs maar* for the earlier period and 75% *zelfs maar* for the later period. We conclude from this significant difference in such a short time-frame that the rate of change is currently at its peak.
19. Jan Greshoff, in *Het Vaderland*, 26–9–1959.
20. Gilles Dorleijn in *Nederlandse Letterkunde*, 2–4, p. 377.

21. Willem Frederik Hermans, *Nooit meer slapen*, 15th ed., p. 77.
22. *Trouw*, 2–5–1997.
23. An important exception should be made here for items which appear in what one might call islands for outside licensing. Consider for instance the difference between restrictive and appositive relatives in the following examples:
 - (i) I never imagined meeting anyone who would ever eat worms.
 - (ii) *I never imagined meeting wormeaters, who would ever eat worms.

We have nothing to say about such effects here, except to note that they do not line up with island effects known from the study of wh-movement (cf. Ross 1967). For instance, in the case of wh-movement, all relative clauses are islands, and the distinction between (i) and (ii) would not be predicted. Hence we see no reason to pursue the idea of LF-movement of polarity items to positions where they are clausemates of their triggers, as proposed in Progovac (1994).
24. *De Volkskrant*, 11–4–1997.
25. This example is rather exceptional. More common is the numeral *zwei* as a focus constituent in combinations with *auch nur*, cf. e.g.
 - (i) So sehr es mir aber im Gedächtnis lebendig war, gelang es mir doch nie, mit der Stimme auch nur zwei Töne davon richtig zu treffen.

cited from [a cd-rom edition of] Franz Grillparzer, *Der arme Spielmann*. Cf. also our discussion of example (34) in the main text.
26. Günther de Bruyn, *Zwischenbilanz — Eine Jugend in Berlin*, Fischer Verlag, 1994, 202.
27. *Computer-Zeitung 1993–1994* (cd-rom edition).
28. As a matter of fact, it is possible to find some occurrences of *so much as any* on the World Wide Web, but these were mainly from older texts, such as bible translations, suggesting that the option of adding focus adverbials to *any* existed more freely in early modern English. For example, the following are lifted from internet editions of Thomas Hobbes, *Leviathan* (1651), John Locke, *An Essay Concerning the True Original, Extent, and End of Civil Government* (1690), and Matthew Henry's bible commentaries (1706):
 - (i) In the other places which he allegeth out of the Old Testament, there is not so much as any show or colour of proof.
 - (ii) yet he has not liberty to destroy himself, or so much as any creature in his possession
 - (iii) there shall be none left, no relation, no friend, no, not so much as any parish officers to take care of their wives and children

However, here is a modern one that was posted in a newsgroup on May 1, 1997:

 - (iv) My family and I had spent the day in St. Joe Bay (FL.) fishing for Spanish Mackerel without so much as any sign of one.

As regards *even any*, the World Wide Web offers rather more occurrences, as might be expected, but the focus of *even* in the majority of cases does not appear to be *any* itself. Consider for instance the following samples:

 - (v) GOD is too big for any one religion (or even any collection of religions) to define accurately.

(vi) are there even any fish in this lake worth looking for?

In the case of (v), the focus of *even* appears to be the nominal phrase *collection of religions*, and in (vi) it is the modifier *worth looking for*. A particularly clear case is provided by the following *www*-text:

(vii) Well, OK, there probably wasn't anyone who had been waiting for a long time for my new web page. Heck, there probably wasn't even anyone who had been waiting for a short time

Here the only element that can be stressed is *for a short time*. If we force focus on *any*, combinations with *even* do not seem too good:

(viii)^{??}John didn't say even anything.

(ix) ^{??}That doesn't bother even anyone.

An exception to this form disjunctive occurrences:

Fred doesn't have many, or even any, friends.

29. Greenpeace magazine, no 3, 1993 (part of the INL 38 million word corpus).
30. William Thackeray, *Vanity Fair*, Wordsworth Classics, Ware, 1992, 720.
31. The Times, 29-6-1991.

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