Some Remarks on Focus Adverbs

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Abstract

Much of what we have to say in the present paper should be thought of as an attempt to get a better understanding of the intricate complexities surrounding focus adverbs. To this end, we discuss a number of restrictions which govern the occurrence of different classes of focus adverbs in Dutch, German and English. We are aware that in doing so we limit ourselves primarily to the descriptive level—a decision which some may well disapprove of. Indeed, when Pullum (1988) speaks of the 'slow agony of empirical endeavor', he characterizes this position in the following way: 'Simply listing facts will do us no good... It is easy. It is boring. Anyone can do it. But ultimately it is useless to serious linguistic research.' It goes without saying that we, too, completely disagree with this way of presenting the matter. When one tries to characterize focus phenomena, it is immediately clear that there are numerous lexical differences which interact in subtle ways with regular syntactic and semantic patterns. In our opinion, a linguistically interesting theory of focus should be able to account for these differential patterns. The strategy followed explicitly by Altmann (1976, 1978) and Jacobs (1983), and implicitly by many others, which is to concentrate a few common focus particles (often the words for only and even), and to hope that the rest will somehow conform to the patterns exhibited by the selected items, may lead to some initial progress, but must eventually be replaced by a more comprehensive effort. It is dangerous to rely too much on the assumed homogeneity of linguistic classes, especially in the closed-class systems. It is also important to gain a comparative perspective on focus adverbs by comparing items from different languages if a theory is to be constructed with the explanatory depth and broad empirical coverage of current theories of WH-movement or anaphoric dependencies. We give a number of examples where it is useful to compare items taken from English, German and Dutch. To summarize: this paper reviews some of the major problems which a comprehensive theory of focus adverbs needs to address, describes some of the variations to be found among focus adverbs, and places this against the background of some of the available accounts of focus adverbs.

1. WHAT IS A FOCUS ADVERB?

1.1 Focus and alternatives

To set the stage for our remarks on focus adverbs, it will be useful to briefly consider our terminology. The term 'focus', while perhaps not so badly abused as its peer 'topic', has been used with quite a few intended referents. It is therefore necessary to indicate what we mean by a focus constituent. For us, a
linguistic expression is a focus expression when it has an accentual peak or stress which is used to contrast or compare this item either explicitly or implicitly with a set of alternatives. So, for instance, both Amos and Hilary are focus expressions in (1).

(1) Jedediah chastised AMOS, and not HILARY.

In (1), there is an explicit comparison and contrasting of Amos and Hilary. Sentences such as (2) show that the contrast in question does not have to be explicit.

(2) Jedediah only chastised AMOS.

In (2), Amos is implicitly contrasted with other individuals under consideration who were not chastised by Jedediah. If no other individuals are in fact under consideration, (2) cannot be uttered felicitously. So, for example, (2) is not a proper answer to question (3), because (3) does not concern itself with what happened to those other than Amos.

(3) Did Jedediah chastise Amos?

The adverb only, used in (2), is called a focus adverb, because it requires a focus constituent in its environment. The reader can check this quickly by noticing what happens when the focus expression Amos is replaced by an unstressed pronoun. In that case the sentence becomes ungrammatical, unless heavy accent is placed on the verb chastised. If the latter happens, the verb will serve as the focus associated with only, and the interpretation of the sentence changes accordingly. Now, the relation ‘chastise’ is compared with other relevant relations that might obtain between Jedediah and Amos, and it is asserted that only ‘chastise’ actually holds. For an explicit theory of focus along the lines sketched informally here, we refer to Rooth (1985). Our understanding of the term ‘focus’ is that of Rooth, and has nothing whatsoever to do with discourse notions such as ‘new information’ or the very different use of the term found in AI approaches to automated understanding of discourse such as Grosz (1977) and Sidner (1979).

1.2 Focus and scales

A distinction is sometimes made between focus particles and scalar particles. We think that scalar particles form a subclass of the focus particles. In particular, it seems to us that scalar particles are distinguished by the ordering which they impose on the set of alternatives. Consider, for instance, sentence (4).

(4) We are only linguists.
Under the scalar interpretation, one thinks of an ordered set of alternatives for the interpretation of *linguists*, say a set of predicates indicating professional status, such that the property of being a linguist is towards the bottom end of the list and the claim is made that no higher predicate applies to the speaker. Under the non-scalar interpretation, no such ranking is understood, and it is asserted that none of the alternatives applies to the speaker. In Dutch, the two readings are expressed by different adverbs, namely *maar*, ‘but only’, for the scalar reading and *alleen*, ‘only, alone’, for the non-scalar interpretation. Similarly, the difference between *even* and *also* appears to be simply that *even* posits its associated focus toward the low end of some probability ranking, whereas *also* assumes no such ordering. Further properties of *even*, such as its quasi-universal character, can be derived from its scalar behaviour by straightforward pragmatic inferences (cf. Fauconnier 1975).

2. SYNTACTIC PROPERTIES OF FOCUS ADVERBS

2.1 Two types of uses: phrasal and sentential

In this section, we review some evidence for making a two-way distinction between focus adverbs with sentential scope and focus adverbs with phrasal scope. The evidence consists of a number of differences in behaviour, such as

- order constraints;
- c-command constraints;
- stress;
- scope ambiguity.

2.1.1 Order

The syntactic relation between a focus adverb and its associated focus constituent or constituents is subject to considerable variation. It is clear, for example, that some focus adverbs must precede their targets, that some must follow them and that yet others may occur in either position. Examples illustrating this claim are given in (5a–f). Similar data could be given for Dutch or German.

(5) Obligatory Precedence.
   a. *Even then, Nixon lied.*
   b. *Then, even, Nixon lied.*
Illegal Precedence.
d. Nixon too lied.

Optional Precedence.
e. She lied only for Nixon.
f. She lied for Nixon only.

In these sentences, the focus adverb is directly adjacent to the focus expression. The data seem to suggest a fairly unsurprising binary distinction between forward-looking and backward-looking functors, with some items belonging to both classes. However, when sentences are considered in which the focus adverb is separated from its target, the situation becomes more complex. Notice, for example, the difference between (6a) and (6b).

(6) a. The POPE has even permitted this practice
    b. *The POPE has only permitted this practice.

The intended readings of these sentences are those of (7a) and (7b), respectively.

(7) a. Even the Pope has permitted this practice.
    b. Only the Pope has permitted this practice.

Whereas the examples in (5) purported to show that even must precede its target, while only may precede it, the examples in (6) show the converse pattern. Here, even may follow the focused expression, while only may not. It seems to us that these examples make it necessary to distinguish between cases where the focus adverb forms a syntactic constituent with the focused expression, as in (5), and cases where it is not, as in (6). We further note that the difference between even and only in (6) does not, perhaps, reflect accidental lexical idiosyncrasies of these two items (as Rooth 1985 supposed), since it can be replicated in Dutch and German with their semantic counterparts (which, by the way, are not cognates).

(8) a. De PAUS heeft zelfs dit gebruik toegestaan.
    b. *De PAUS heeft alleen dit gebruik toegestaan.

(9) a. Der PAPST hat sogar diesen Brauch erlaubt.
    b. *Der PAPST hat nur diesen Brauch erlaubt.

2.1.2 c-command

Next, observe that in the preceding examples even does not c-command its associated target, assuming a non-controversial view of Dutch and German phrase structure. Given the ubiquity of the notion of scope defined by the c-command relation, this is a remarkable finding. Paradoxically, the next set of
examples shows that nevertheless the c-command relation is relevant to the way even is associated with focus. (The contrast between sentences such as (10a) and (10b–c) was first noted in Jackendoff 1972).

(10) English
   a. Even JOHN likes Bill.
   b. *Even John LIKES Bill.
   c. *Even John likes BILL.3

   Dutch
   d. Zelfs JAAP vind ik leuk.

   Even Jaap find I nice
   ‘I find even Jaap nice.’
   e. *Zelfs Jaap vind IK leuk.
   f. *Zelfs Jaap vind ik LEUK.

   German
   g. Selbst über HANS wurde geredet.
   h. *Selbst über Hans wurde GEREDET.

These sentences exemplify the use of even and its counterparts as phrasal operators. Their scope is restricted to the phrase they attach to. Elements outside that phrase are not c-commanded by the focus adverb and cannot serve as the focus expression associated with it. So again we see that it is necessary to distinguish a phrasal use from another, sentential, use. There is a parallel here with negation, for which traditionally a distinction is made between sentential and phrasal negation. We propose that this distinction is not a peculiarity of negation, but a more general characteristic of a subclass of the focus adverbs. Sentential scope of even and negation is restricted to clausal domains. Thus, sentence (11) may be interpreted as equivalent with (12), but (13) does not have the interpretation corresponding to (14).

(11) EVERYBODY does not want to leave East Germany. ⇔
(12) Not everybody wants to leave East Germany.

(13) EVERYBODY thinks I do not want to leave. ⇔
(14) Not everybody thinks I want to leave.

Similarly for even:

(15) DIETER has even left East Germany. ⇔
(16) Even Dieter has left East Germany.

(17) DIETER thought I’d even leave. ⇔
(18) Even Dieter thought I’d leave.
(Similar examples could be given here for Dutch and German.) In making a
distinction between sentential and phrasal use, we diverge from the proposals in
We also note that in the semantic analysis of focus adverbs given in Rooth
(1985), it is critically assumed that the focus adverb always c-commands the
expression in focus. To account for sentences such as (11), Rooth assumes
adjunction of the focus adverb to S at the level of Logical Form. It is not entirely
clear to us how such a movement account could prevent iterated adjunction,
leading to a wide-scope reading of the adverb in (17) which is equivalent to (18).
Rooth’s proposal is the mirror-image, in a way, of the quantifying-in solution
to the same problem proposed by Jacobs (1983). Jacobs suggests that a focus
adverb may combine with its scope domain by means of infixation, such that an
adverb which has scope over a sentence may end up between the constituents of
that sentence. He also points out that wide-scope negation, as in (11) above,
provides independent evidence for such a mechanism. We are not satisfied
either with Rooth’s raising account or with Jacobs’s infixation account. They
fail crucially to take into consideration the sensitivity of wide-scope readings to
semantic properties of the item taking wide scope and the operator over which
it takes wide scope. It is well known from the literature on scope ambiguities
(e.g. Kroch 1974) that wide-scope readings as exemplified by (11) are not
available when the subject expression is changed into, say, an existential
quantifier. Negative polarity items in subject position are never licensed by
wide-scope negation, in spite of what the infixation and quantifier raising
mechanisms would predict (cf. Ladusaw 1980; Hoekstra, de Hoop and Zwarts
(1984)).

We conclude that the most popular mechanisms for dealing with scope
ambiguities, Quantifying-In and Quantifier Raising, are not well suited for the
treatment of focus adverbs, including negation. We emphasize that the
variation in scopal behaviour is not random, but rather stable across the three
languages English, German and Dutch, and presumably many more. This
suggests a more semantically driven account, which takes into consideration
the meaning of the scope-taking elements. Unfortunately, not much has
happened since Kroch (1974) towards the articulation of such a theory.

2.1.3 Stress

Quite similar to the behaviour of even is that of Dutch ook, ‘also,’ and its
German counterpart auch. Again, we observe the possibility of phrasal and
sentential scope.

(19) a. Ook HEIN heeft gezondigd.
    Also Hein has sinned
b. HEIN heeft OOK gezondigd.
   *Hein has also sinned

In the sentential, but not in the phrasal use, this adverb can bear stress, unlike zelfs, ‘even’. In this respect, ook is more similar to niet, the negation adverb and wel, the adverb of emphatic affirmation:

(20) a. HEIN heb ik NIET gezien.
   *Hein have I not seen
   ‘Hein I did NOT see.’
   b. FRED heb ik WEL gezien.
   *Fred have I aff seen
   ‘Fred I DID see.’

The possibility of bearing stress also makes it possible to use these adverbs as remnants of the gapping construction. Zelfs, being unstressed, does not occur in this function.

(21) a. HEIN komt, en FRED OOK.
   *Hein comes, and Fred too
   ‘Hein is coming, and so is Fred.’
   b. FRED komt NIET, maar HEIN WEL.
   *Fred comes not, but Hein aff
   ‘Fred is not coming, but Hein is.’
   c. *HEIN komt, en FRED ZELFS.
   *Hein comes, and Fred even
   ‘Hein is coming, and even Fred is.’

We have not been able to ascertain why the stress properties of zelfs and ook differ so significantly, in spite of their otherwise striking similarities (as discussed in e.g. Plank 1979). However, they do not appear to be random idiosyncracies, since their German and English counterparts exhibit similar differences in behaviour.

2.1.4 Scope ambiguities

As Rooth (1985) points out, phrases with focus adverbs exhibit scope interactions with quantifiers elsewhere in the sentence, whereas focused expressions linked to a sentential focus adverb do not engage in such interactions. We illustrate this claim with some of Rooth’s examples in (22).

(22) a. We are required to study only physics.
   b. We are required to only study physics.

Sentence (22a) has two readings. One reading states that the only required subject is physics. The other, perhaps more accessible, reading states that we are
required to study nothing but physics. Hence if we study both physics and maths, we meet the requirement of the first reading, but not the stronger one associated with the second reading. Sentence (22b), on the other hand, is unambiguous, since it lacks the first reading.

Rooth’s findings are to be expected, given that quantifier expressions such as only physics may generally take wide scope, even when embedded in a subordinate clause, whereas sentential focus adverbs, as we noted before, do not take scope outside their clause.5

2.2. Arguments against a transformational link between phrasal and sentential uses

As noted in Anderson (1972) and Rooth (1985), a focus adverb such as even can be associated with more than one focused expression. Anderson illustrates his observation with the following example:

(23) John claims that he can sell refrigerators to Eskimos, but in fact he couldn’t even sell WHISKEY to the INDIANS.

There is a question here concerning the scale relative to which these focus constructions are to be interpreted. For another kind of multiple focus construction, to wit, gapping in conjunctions with let alone, Fillmore, Kay & O’Connor (1988) proposed multidimensional scales, of the kind familiar in sociolinguistics as implicational or Guttman scales. Consider for example sentence (24).

(24) John couldn’t sell whiskey to the Indians, let alone refrigerators to the Eskimos.

In Fillmore et al.’s opinion, such a sentence implies not only that selling refrigerators to Eskimos is more difficult than selling whiskey to the Indians, but also that selling refrigerators is more difficult than selling whiskey and that selling to the Eskimos is more difficult than selling to the Indians. Hence we are justified in positing a two-dimensional scale as the one in (25), such that any slot in the scale is ranked at least as high as any slot below or to the right of it.

(25) Two-dimensional Scale of Sales Difficulty

<table>
<thead>
<tr>
<th>Indians</th>
<th>Eskimos</th>
</tr>
</thead>
<tbody>
<tr>
<td>whiskey</td>
<td>1</td>
</tr>
<tr>
<td>refrigerators</td>
<td>3</td>
</tr>
</tbody>
</table>

However, while two-dimensional scales might be applicable to the paired contrasts of the gapping construction, we feel they are not appropriate for all multiple-focus constructions. A sentence such as (23) merely implies, in our
opinion, that the pair (whiskey, Indians) is ranked lower on some onedimensional scale of salesmanship prowess than the pair (refrigerators, Eskimos). In other words, (23) might still be used felicitously when the difficulties of selling are as indicated in (26), which is not a perfect Guttman scale.

(26)          Indians   Eskimos
             whiskey   1  2
               refrigerators  4  3

The possibility of multiple foci is also interesting for another reason. It is possible to develop a transformational account of association with focus along the following lines. Consider the phrasal use of focus adverbs basic and derive the sentential use from the phrasal use by moving the focus adverb away from the focus. This would immediately explain, for instance, why focus adverbs usually c-command their associated focus. However, it would not explain the exceptions to the c-command requirement that we have seen, nor is it compatible with the possibility of multiple foci. Finally, such a movement account would predict island conditions on the relation between adverb and focus, and such conditions do not appear to exist, as Anderson (1972) has already pointed out. For instance, the complex NP condition of Ross (1967) can be violated without any problem. One of Anderson's examples is given in (27).

(27) John even has the idea that HE is tall for a Watusi.

In this respect, focus adverbs show a different behavior than other focus constructions, such as gapping and exception phrase constructions, which do exhibit the effects of island constraints.

(28) Tom arrested the guy who raped Suzy and Bill, Sally.
(29) Except for him, I've met nobody who likes everybody.

Sentence (28) does not have the interpretation according to which Bill arrested the guy who raped Sally, and sentence (24) does not have the reading 'I've met nobody who likes everybody but him'.

3. CONSTRAINTS ON PHRASAL FOCUS ADVERBS

Phrasal focus adverbs do not attach themselves to appropriate phrases under all circumstances. For instance, *even Jim is possible as a subject or direct object, but not usually as an object of a preposition.

(30) a. Even Jim left the ship.
    b. This bothered even Jim.
    c. *I sat next to even Jim.
Both Jacobs (1983, 1986) and Rooth (1985) consider this to be a possible argument against assigning constituent status to the string *even* Jim. The main difference is that Jacobs takes the argument seriously, while Rooth (1985) considers the arguments in favour of constituenthood (some of which were reviewed above; cf. also Hoeksema 1989) to be sufficiently compelling to ignore the problem raised by (30c). Jacobs's position is clearly untenable, if only because it cannot explain the marginal possibility of focus adverbs inside phrases in at least some cases in English, such as the occurrence of *even* in (31), taken from C. S. Lewis's *The Allegory of Love* (p. 17).

(31) ... the ardent lover even of his own wife is in mortal sin

A rather different perspective on the matter is offered in a series of papers by Josef Bayer, e.g. Bayer (1988a,b, 1989). Bayer wants to know why it is that an English sentence such as (32a) below is grammatical, while its German counterpart (32b) is not.

(32) a. John will talk to only Mary.
    b. *John möchte mit nur Mary reden.

John would with only Mary talk

Bayer proposes to link this clear distinction between English and German prepositional phrases to another familiar difference between these two languages. English prepositions can be stranded, whereas German prepositions cannot. The deeper explanation for this difference lies, according to Bayer, in the fact that English prepositions govern in the same direction as English verbs, whereas German prepositions and German verbs are disharmonious in this respect. According to ideas advanced by Kayne (1984) and Koster (1987), this makes it possible to extract out of English PPs, while German PPs are islands. The details of the Kayne/Koster account of preposition stranding do not concern us here. What is important for our purposes is the fact that this theory predicts the difference in acceptability between (32a) and (32b), provided we assume that expressions with focus adverbs are quantifiers, which have to undergo Quantifier Raising at Logical Form. If they have to undergo movement, and if movement out of prepositional phrases is possible in English but not in German, then we predict that the English sentence is grammatical, while the German one is not. However, before we put too much stock in this explanation, recall that Rooth had observed that in English, too, occurrences of focus adverbs between a preposition and its object are often bad. In this respect we find a rather marked difference with preposition stranding under WH-movement. The latter is entirely natural in English, quite unlike strings such as *plead with even the Führer*. Perhaps even more problematic is the fact that regular quantifiers following prepositions are fine in German, in spite of the fact that they, too, would be expected to move out of the PP as the result of Quantifier
Raising. After all, they engage in scope ambiguities just like NPs adorned with focus adverbs. Rooth (1985) already mentioned this as a problem for a movement account, and in our view it is still a valid objection to the proposals of Bayer. Finally, it seems to us that Bayer’s theory makes wrong predictions in a number of cases for reasons which we do not quite understand ourselves. Thus, for instance, while focus adverbs directly following prepositions are as bad in Dutch as they are in German, there are isolated cases where such sequences are possible. An illustration is given in (33).

(33) Met alleen goede bedoelingen kom je er niet.
   *With only good intentions come you there not
   ‘You won’t get there with good intentions only.’

An English example which does not fit Bayer’s theory is given in (34). It is taken from the Brown corpus of American English and clearly bespeaks its age.

(34) The closing off of East Berlin without interference from the West and with the use only of East German, as distinct from Russian, troops was a major Communist victory, which dealt West Berlin a deadly, possibly a fatal, blow.

The position in which we find only here is not one from which extraction may proceed; witness the following example.

(35) *Of which troops did they close off East Berlin with the use?

Finally we note that a movement account of focus adverbs predicts all kinds of island effects which we do not find in the data. Consider e.g. the example in (36), which ought to violate the Conjoined Structure Constraint of Ross (1967), since extraction of the second conjunct could never be across-the-board.

(36) He deals with thieves and even with killers.

The sentence in question is no doubt correct. The prediction, therefore, is not.

What conclusions can we then draw concerning the placement of focus adverbs? The two major theoretical accounts we are aware of, those of Jacobs (1983, 1986) and Bayer (1988a,b, 1989), are not satisfactory. Besides the empirical shortcomings reviewed above, they fail to bring out individual differences between focus particles, such as observable distinctions between sogar and nur, or to address the rather different distribution of negative-polarity focus adverbs, such as auch nur in German and ook maar in Dutch (cf. note 6). In this respect, a recent proposal by Krifka (1989a,b) seems to us more promising. He suggests that negative-polarity items such as auch nur irgendein Junge in German or ook maar één jongen in Dutch are similar to expressions in focus in so far as they come with a set of alternatives. In fact, this explains why such constituents are typically accented in much the same way that focus expressions
are. As Krifka notes, however, there exist two important differences between negative-polarity items and constituents in focus. Whereas the alternative set of focused expressions is typically given by the context, the alternative set of negative polarity items is typically given by the lexical knowledge of the language user. For instance, the set of alternatives for the polarity expression *eine müde Mark* ("a red dime") consists of amounts of money, and the set of alternatives for *einen Fingerrühen* ("lift a finger") of acts of labour. Secondly, whereas the alternative set of focus constituents may be unordered, the alternative set of negative polarity items is ordered. Thus, the alternatives of *eine müde Mark* are ordered by their monetary value, and the alternatives of *einen Fingerrühren* by the physical effort they involve. The negative polarity item itself represents of course the bottom element in this order. Obviously, as Krifka points out, these ordered alternative sets are closely related to Fauconnier's notion of a scale. Contrary to what Fauconnier suggests, however, we need not assume that the alternatives are ordered linearly; it is sufficient to require that they exhibit a pre-order. Insightful as Krifka's remarks may be, we feel that our observations have just scratched the surface of the complex distribution of focus adverbs. Clearly, there is much more work to be done.

### 4. CONSTRAINTS ON THE ARGUMENTS OF PHRASAL FOCUS ADVERBS

It has frequently been observed that focus adverbs do not attach themselves to all phrases. Expressions such as *only someone* and *only everyone*, for instance, do normally not give rise to an acceptable sentence.

(37) a. *Only someone objected to the proposal.*
    b. *Only everyone was present at the meeting.*

On the other hand, if we add a restricting phrase to *someone* and *everyone*, as in (38), or replace both by the composite expressions *some woman* and *every woman*, then the resulting sentence is perfectly acceptable.

(38) a. *Only someone from Middletown objected to the proposal.*
    b. *Only everyone from Middletown was present at the meeting.*

(39) a. *Only some woman objected to the proposal.*
    b. *Only every woman was present at the meeting.*

These patterns are by no means restricted to the adverb *only*. If we select *even* instead, we find that the judgements are essentially the same. The following two sentences, for example, are both unacceptable.
(40) a. *Even someone disagreed with the speaker.
   b. *Even everyone appeared at the convention.

However, when we add the restricting prepositional phrase from Middletown to someone and everyone or replace both by the composite noun phrases some senator and every senator, the result is again perfectly good.

(41) a. Even someone from Middletown disagreed with the speaker.
   b. Even everyone from Middletown appeared at the convention.

(42) a. Even some senator disagreed with the speaker.
   b. Even every senator appeared at the convention.

Indeed, the Dutch counterpart of the focus adverb too displays a similar behaviour, even though the next two sentences may seem to point in the opposite direction.

(43) a. De slager heeft ook iemand gehoord.
   The butcher has too someone heard
   'The butcher heard someone too.'
   b. De minister heeft ook iedereen voorgesteld.
   The secretary has too everyone introduced
   'The secretary introduced everyone too.'

Superficially, the expressions iemand and iedereen seem to act as the arguments of the focus adverb ook. Yet when we take the interpretation into account, it becomes immediately clear that the associated focus constituents of ook are not iemand or iedereen, but rather de slager and de minister. This is corroborated by the fact that the occurrence of ook iemand or ook iedereen in subject position invariably produces an ungrammatical sentence.

(44) a. *Ook iemand heeft de slager gehoord.8
   Too someone has the butcher heard
   'Someone too heard the butcher.'
   b. *Ook iedereen heeft de minister voorgesteld.
   Too everyone has the secretary introduced
   'Everyone too introduced the secretary.'

On the other hand, if we add a restricting phrase to iemand and iedereen, as in (40), then the resulting sentences are acceptable.

(45) a. Ook iemand uit Groningen heeft de slager gehoord.
   'Someone from Groningen too heard the butcher.'
   b. Ook iedereen uit Groningen heeft de minister voorgesteld.
   'Everyone from Groningen too introduced the secretary.'

What these examples suggest is that a focus adverb only leads to an acceptable result if the semantic interpretation of the constituent in focus is such that
it allows for a set of proper alternatives. Thus, for instance, *only someone and *only
everyone are ill formed because someone and everyone cannot be contrasted with
quantifiers of a similar type and therefore have no proper alternative. But when
we take an expression such as someone from MiddleTown, it is immediately clear
that the range of alternative quantifiers includes someone from New York, someone
from Berlin, someone from Amsterdam, etc. For that reason, the phrase *only someone
from MiddleTown produces an acceptable result. It seems to us that an account
along these lines may ultimately also explain why focus adverbs do not in
general attach to monotone decreasing noun phrases, such as nobody or nothing.

5. CONSTRAINTS ON COMBINATIONS OF FOCUS
ADVERBS

One of the least-studied aspects of focus adverbs is their compatibility with
other focus adverbs. Yet it is clear that there are important questions here
waiting to be investigated. One may observe, for instance, that focus adverbs,
just like modal adverbs, can be stacked up and sometimes appear to form
idiomatic clusters. On the other hand, one finds that certain combinations of
focus adverbs are ungrammatical or semantically anomalous. An example of an
idiomatic cluster is German auch nur (lit. ‘also even’ = ‘even, so much as’; cf. also
note 6), which consists of two focus adverbs that would be incompatible in a
non-idiomatic interpretation, since auch presupposes that there are alternatives
for the element in focus which could be substituted for its salva veritate, whereas
nur asserts that there are no such alternatives. Thus the unacceptability of the
combinations in (46) (where both also and only are interpreted as applying to
the direct object) is not at all surprising.

(46) a. #Margaret also denounced only CATHOLICISM.
    b. #Margaret also only denounced CATHOLICISM.
    c. #Margaret denounced also only CATHOLICISM.

It is therefore interesting from a historical–semantic point of view how the
German cluster auch nur and its Dutch counterpart ook maar received their
idiomatic properties and negative-polarity behaviour.

Of some interest also is the difference between English on the one hand and
Dutch and German on the other via à vis the possibility of stacking up negation
with the word for ‘even’. Compare the examples in (47).

(47) a. Not even MOSES was without weak moments.
    b. *Nicht sogar MOSES war ohne schwache Momente. (German)
    c. *Niet zelfs MOZES was zonder zwakke momenten. (Dutch)
In German and Dutch, focus adverb sequences corresponding to *not even* are not acceptable. Instead, one uses idiomatic strings such as German *nicht einmal* (lit. ‘not once’) and Dutch *niet eens* (id.), or a combination of ‘even’ on the subject with ‘not’ on the predicate, as in (48 a,b). The latter possibility also exists in English (48c).

(48) a. Sogar Moses war nicht ohne schwache Momente.
   b. Zelfs Mozes was niet zonder zwakke momenten.
   c. Even Moses was not without weak moments.

It is clear that in (47a) *even* has scope over *not*, in spite of the fact that normally the leftmost operator has scope over any operators to its right in English. It can be argued that the proper analysis of *not even Moses* is [[*not even*] Moses] rather than [*not [even Moses]*]. The reason is that *not* does not attach to subject-NPs which denote ultrafilters, i.e. the set of properties generated by a single individual (cf. Barwise & Cooper 1981). Thus, for instance, *not John left* is ill formed. Barwise & Cooper note that the ultrafilters are the self-dual quantifiers, that is, they are the class of NPs for which sentences of the form in (49a) are equivalent with sentences of the form in (49b). If we make the plausible assumption that predicate negation is preferred over phrasal negation, provided that the meaning is not affected, we can explain why it is that the class of ultrafilters resists phrasal negation.

(49) a. (Not NP) VP
      b. NP (not VP)

Given that *even Moses* likewise denotes an ultrafilter, we expect [not [even Moses]] to be ill formed in subject position. Hence the sequence *not even* is presumably a complex focus adverb. Additional evidence for this analysis comes from the possibility, in Dutch (but not in German), of the sequence corresponding to *even not* in adphrasal position:

(50) a. Zelfs neit de slager was op de hoogte.
      *Even not the butcher was in the know*
      ‘Not even the butcher knew about it.’

Here a complex adverb analysis is all but unavoidable, since *niet de slager* is not itself a possible NP. The fact that English has fixed the order negation < *even*, whereas Dutch has fixed the opposite order, may be due to the existence in English, but not in Dutch, of a negative-polarity variant of *even* which syntactically takes narrow scope with regard to negation and semantically takes wide scope (cf. Rooth 1985 for a motivation of this claim).

It is attractive to make a leap now and to propose the following generalization:

(51) Multiple Adverb Constraint
If more than one focus adverb is associated with a focus expression, then we are dealing with a complex focus adverb, not a free syntactic combination.

If we take a variable-binding approach to focus adverbs, then the constraint in (51) could be reduced to a more general constraint against multiple binding of a single variable. In the framework of Rooth (1985), this constraint does not seem to follow immediately. It may be too early to tell if the Multiple Adverb Constraint is correct, but it seems worthwhile to pursue it further. In addition, we emphasize the need for detailed studies of focus adverb clusters. What are the mechanisms involved in producing such clusters? What kinds of meaning do they develop?

6. SUMMARY AND CONCLUSIONS

In the preceding pages, we have reviewed a number of issues in the study of focus adverbs. We have found that there is considerable variation among focus adverbs along several dimensions, including the syntactic relation between the focus adverb and its associated focus, the placement of focus adverbs in various positions, and the interaction between several focus adverbs. The literature on focus adverbs contains a number of valuable theoretical approaches, but at this point they must be considered as no more than avenues along which we may slowly and rather cautiously proceed towards, one hopes, that ultimate destiny, the truth. We have found Rooth's (1985) semantics for focus adverbs to be particularly useful. Less satisfactory, in our view, are current approaches to the syntax of focus adverbs, which fail to address the many individual differences among focus adverbs in sufficient detail and do not cover the cross-linguistic variation that must be accounted for. Finally, we want to point out the need for an integrated theory of focus which takes into account its prosodic, syntactic, semantic and pragmatic aspects and relates focus adverbs with properties of other focus constructions, such as Gapping, Stripping and exception-phrase constructions.

Acknowledgements

This research was supported by the Netherlands Organization for Research, NWO (Grant B 30-311). We would like to thank Manfred Krifaka for valuable comments on an earlier version of this paper.

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NOTES

1 As a matter of fact, this view, which is clearly the ‘received view’ on focus adverbs, has been challenged by Vallduvi (1989). For example, he notes that a focus adverb, together with its associated constituent, may be deleted in the gapping construction.

(i) Mary (only scratched) the Mercedes, and John the Bentley.

The intended reading here, which is somewhat difficult to get for us, is what Mary does to the Mercedes as merely scratching it and similarly for John and the Bentley. Taking the usual point of view that the remnants of Gapping are focus expressions, whereas the deleted part belongs to the non-focus or presupposition part, Valluvi suggests that the phrase associated with only is not itself a focus expression. However, it seems possible to us that the requirement on Gapping is merely that the remnants be focused, but not that the leftover material be non-focused. In this way we might explain the possibility of (i). In addition, we might explore the possibility that a gapped string may contain a relatively weakly stressed focus expression. Note that if the intonational expression of focus is mediated by ametrical tree representation such as that of Jacobs (this volume), it is automatically predicted that not all focus expressions will be equally prominent prosodically. See also note 3 for some related discussion.

2 By ‘quasi-universal’, we mean that inferences can be drawn about all elements in the set of alternatives higher on the scale. We disagree with Rooth (1985), who argues for a weaker characterization of even, according to which even John left merely implicates that someone other than John left. Rooth’s characterization, taken from Karttunen and Peters (1979), fails to provide a basis for distinguishing also from even, and does not correspond to our intuitions.

3 Vallduvi (1989) denies that such sentences are ungrammatical. He points out cases such as (i), which appear to be acceptable.

(i) John and Mary know the Amazon quite well, but only John has been to the CITIES in Brazil.

We agree that this sentence, with CITIES, not John, as the intonationally most prominent item, is fine. However, we take this example to show only that the notion ‘intonational prominence’ is gradient, but not that John is not in focus in (i). In fact, it appears to us that John must be stressed, even if this stress is weaker than the stress in CITIES. In the absence of phonetic measurements, this can be shown perhaps most clearly by considering similar data from Dutch, in which there is a lexical distinction between ‘weak’, or unstressable, pronouns and ‘strong’, or stressable, ones. In Dutch examples comparable to (i), in which the constituent in construction with the focus adverb does not bear the main intonational peak, it is nevertheless a fact that this constituent cannot be a weak pronoun. For example, in (ii) below, the pronoun mij ‘me’ is grammatical, but not its weak variant me.

(ii) Ze toonden Piet en mij de Amazone, maar alleen mij (*me) roonden ze ook de STEDEN.

‘They showed Piet and me the Amazon, but only me they also showed the CITIES.’

The possibility of more than one focus in a sentence, and the fact that one focus may be much more prominent, intonationally, than the other, of course may create somewhat confusing data, but we would not want to alleviate the confusion by simply denying focus status to expressions that are less than maximally prominent.

4 Thus, sentence (i) is impossible, in spite of the possibility of wide-scope negation in the corresponding sentence (ii).

(i) *Anybody didn’t leave.
(ii) Everybody didn’t leave.
(i) also shows that negative-polarity any patterns with the existential quantifiers and not with the universal quantifiers.

5 If it is assumed that infinitival complements are not clauses but VPs, then the restriction on scope has to be modified somewhat. In any case, it should be noted that focus adverbs inside an infinitival complement do not take scope over elements outside it, e.g. example (i) is not interpreted as saying that even Plato tried to argue this point.

(i) PLATO tried to even argue this point.

6 While focus adverbs between prepositions and their objects are sometimes possible but usually disfavoured in English, we note that they are also sometimes possible in German, though perhaps more marginally than in English. Bayer mentions a number of cases, and we mention here the case of the polarity item auch appearing inside PPs, cf:

(i) Ich glaube nicht, daß er mit auch nur einer Person geredet hat.

One might object that auch nur is a scalar adverb (cf. Krifka 1989a,b for some discussion of this point and its relevance for a general understanding of a sizeable class of polarity items), and that scalar adverbs in general may freely occur inside PPs, presumably because they are not quantificational in nature. This is true enough. However, we point out that auch nur phrases may take wide scope over other quantifiers and so have to undergo the rule of Quantifier Raising at LF according to the assumptions of the framework adopted by Bayer. An example illustrating wide scope is (ii).

(ii) Niemand kennt alle Freundinnen auch nur eines dieser Herren.

‘Nobody knows all girlfriemds of even one of these gentlemen.’

Here the phrase auch nur eines dieser Herren has scope over alle Freundinnen.

7 Bayer (1988a) cites a similar example from German, attributed to Ad Foonle:

(i) Das schafft ein Normalbegabter mit nur Studieren nie.

That achieves a normally gifted with only studying never

‘A normally gifted person will never achieve this with studying alone.’

According to Bayer, the presence of an additional adverb, nie, makes this sentence acceptable. Since both the quantified expression nur Studieren and the quantificational adverb nie must find their scope by raising at LF, a configuration arises in which the operator-trace path for nie properly contains the path relating nur Studieren with its trace. Given Pesetsky’s (1982) Path Containment Condition, an extension and modification of Kayne’s (1984) Connectedness Condition, this containment is what makes the otherwise impossible extraction acceptable. In our opinion, this explanation is convoluted, and it seems to us that equally acceptable sentences can be given without the presence of an additional adverb. For instance, we find the following sentence acceptable:

(ii) Würde ein Normalbegabter so etwas mit nur Studieren schaffen können?

‘Would a normally gifted person be able to achieve such a thing with studying alone.’

However, when we replace nur by sogar, ‘even’, we get a much less acceptable sentence:

(iii) *Würde ein Normalbegabter so etwas mit sogar Studieren schaffen können?

Here, the only acceptable order is the one in which the focus adverb precedes the preposition:

(iv) Würde ein Normalbegabter so etwas sogar mit Studieren schaffen können?

8 We are here considering the case where iemand has regular focus intonation. There is another possibility, which is still marginal but better, where not iemand but the focus adverb ook itself is the intonationally more prominent item. This phenomenon deserves further study.
REFERENCES


Bayer, Josef (1988b), 'Rightward movement and the syntax of quantificational particles in German', unpublished paper, Max Planck Institut, Nijmegen.


Jacobs, Joachim (1990), 'Focus ambiguities', this volume.


Pesetsky, David (1982), 'Paths and categories', doctoral dissertation, MIT.


Rooth, Mats (1985), 'Association with focus',
doctoral dissertation, University of Massachusetts, Amherst.
Ross, John Robert (1967), 'Constraints on variables in syntax', doctoral dissertation, MIT.
Sidner, Candance (1979), 'Towards a computational theory of definite anaphora comprehension in English discourse', doctoral dissertation, MIT.
Vallduvi, Enric (1989), 'Only and focus', paper given at the 1989 Annual LSA meeting.