

EXPLORING EXCEPTION PHRASES¹

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1. Overture.

"The exception proves the rule", according to a familiar saying. Certainly there are few rules without exceptions, special cases or implicit restrictions to certain domains. Natural languages have developed a great many ways of making allowance for such exceptions, some of which have crystallized in the form of what I will refer to here as exception-phrase constructions. To give an indication of just what I have in mind here, I have listed a number of examples of such phrases, drawn from a variety of languages, under (1).

(1) I. English.

- a. The man was anything but polite.
- b. Except for me, nobody came.
- c. The police caught all save one.
- d. Give her anything short of the car.

II. German.

- e. Außer ihm war keiner da.
except him was nobody there
"Except for him, nobody was there"
- f. Er hat nichts als Unsinn geredet²
he has nothing than nonsense talked
"He talked nothing but nonsense"

III. French.

- g. Je sorte tout le temps sauf s'il pleut
"I go out all the time except if it rains"
- h. Que lui ai-je dit que d'indifférent?³
what him have-I said but of indifferent
"What did I tell him but indifferent things?"

IV. Dutch.

- i. Behalve Frits was iedereen tevreden.
"Except for Frits everybody was content"
- j. Op Jan na zijn allen veilig teruggekeerd.
"Except for Jan, all have returned safely"
- k. Ik heb, afgezien van Zeeland, alles gezien.
"I have, except for Zeeland, seen everything."

V. Latin.

- l. De grammaticis nihil nisi bene.
of grammarians nothing but good

I will make a terminological distinction here between exception *phrases* on the one hand and exception *markers* on the other. An exception phrase is any phrase such as *except for Mussolini* or *behalve Frits* which serves to indicate an exception to a generalization. An

exception marker is a lexical item which heads an exception phrase, such as *except (for)*, *but* and *behalve*. Exception markers have various historical origins and are often highly polysemous. For instance, German *außer* does not just mean "except", it can also mean "outside of" or "without", meanings which also show up with English *but*, a descendant of Old English *butan* "outside" (cf. also Modern Dutch *buiten*), as in (2).

- (2) But for your help, I would not have made it.
= Without your help/were it not for your help, ...

Precisely how these shades of meaning hang together and how they have developed historically, is not discussed in this paper (I refer the reader to Moignet (1973) for a discussion of French exception phrases and to Mourin (1980) and König and Kortmann (1987) for a comparative perspective).

The goal of this paper is to describe in some detail the distributional properties of exception phrases and to present evidence that these properties are partly to be described in semantic terms; reference to surface structure or logical form does not suffice to handle the full range of data. I present a new semantic account of what I call free exception phrases and suggest that this account can be extended fruitfully to constructions other than those which serve to express exceptions, such as English *besides*-phrases. Some attention is also paid to the role of focus in the interpretation of exception phrases.

2. Previous analyses.

Before presenting my own thoughts on the matter, I briefly review some of the small literature on exception phrases. I focus on work directly related to the concerns of this paper, in particular proposals by Keenan and Stavi and by Reinhart. A third proposal by myself will be discussed later on (see section 3.2.) and rejected on the basis of some new evidence.

2.1. Keenan and Stavi (1986).

The analysis of exception markers given in Keenan and Stavi (1986) is no more than a thumbnail sketch, but it is a good point of departure for a more thorough investigation. Keenan and Stavi develop a theory of determiner denotations within an algebraic version of generalized quantifier theory and show that strings such as *every .. but Jim* can be viewed as complex discontinuous determiners semantically. In (3), definitions for two such determiners are given. Instead of Keenan and Stavi's algebraic notation, I am using the simpler but equivalent set-theoretic notation of Zwarts (1983) and van Benthem (1986).

- (3) *every .. but Jim* (A, B) iff $\{j\} = A - B$
no .. but Jim (A, B) iff $\{j\} = A \cap B$

where E is the domain of quantification,
A, B subsets of E and j an element of E.

According to these definitions, every A but Jim is a B just in case Jim is the only A who is not a B. Furthermore, no A but Jim is a B just in case Jim is the only A who is also a B. If we assume these definitions, then the sentences (4b-d) are entailments of (4a).

- (4) a. No student but Jim is a stamp collector.
b. No student other than Jim is a stamp collector.
c. Jim is a student.
d. Jim is a stamp collector.

We can check this by inspecting the corresponding metalinguistic clauses in (5).

- (5) a. $\{j\} = A \cap B$
b. $A - \{j\} \cap B = 0$
c. $j \in A$
d. $j \in B$

In an earlier paper (Hoeksema 1987), I raised the question whether c and d are entailments, rather than Gricean implicatures. If we take (5b), rather than (5a), as the proper representation of the truth-conditional meaning of (9a), then (5c) and (5d) no longer follow. Instead, they re-emerge as conversational implicatures, if we assume that exception phrases are not used vacuously. If either (4c) or (4d) were false, then the exception phrase could be omitted without affecting the truth of the statement. Contexts such as (5) suggest to me that the clauses in (4c) and (4d) may indeed be mere implicatures, which can be lifted.

- (5) Well, except for Dr. Samuels everybody has an alibi, inspector. Let's go see Dr. Samuels to find out if he's got one too.

Assuming that this line of reasoning is correct, we arrive at definitions as in (6). If it is not correct, not much harm is done, as the definitions which I employ here and later on can easily be adjusted.

- (6) *every .. but Jim* (A,B) iff $A - \{j\} = A \cap B$
no .. but Jim (A,B) iff $A - \{j\} \cap B = 0$

These definitions, by the way, are compatible with the conservativity condition for determiner meanings, defined in (7).

- (7) *Conservativity*.

Q is conservative iff $Q(A,B)$ implies $Q(A, A \cap B)$

- (8) *Conservativity of every .. but Jim*.

every .. but Jim (A,B) $\Leftrightarrow A - \{j\} = A \cap B$
 $\Leftrightarrow A - \{j\} = A \cap (A \cap B)$
 $\Leftrightarrow$ *every .. but Jim* (A, $A \cap B$)

- (9) *Conservativity of no .. but Jim*

no .. but Jim (A,B) $\Leftrightarrow A - \{j\} \cap B = 0$
 $\Leftrightarrow A - \{j\} \cap (A \cap B) = 0$
 $\Leftrightarrow$ *no .. but Jim* (A, $A \cap B$)

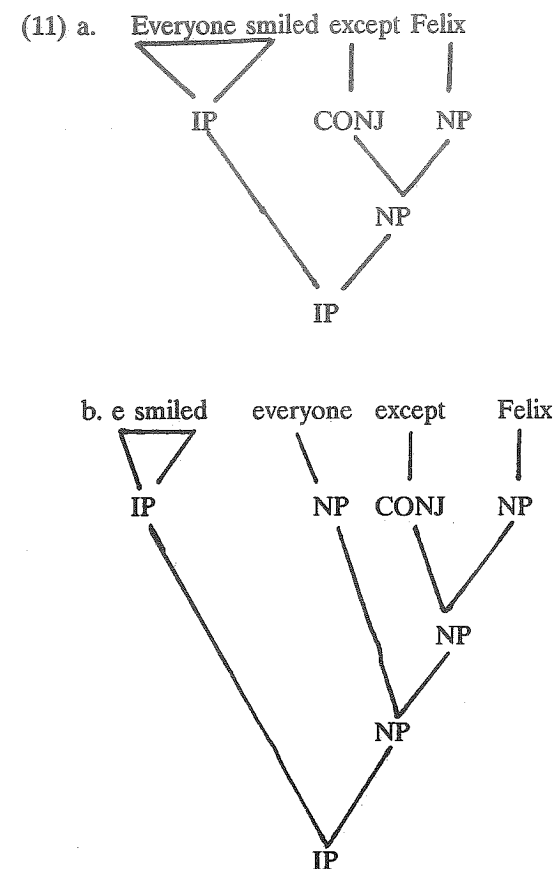
I am assuming here, for the sake of simplicity, that the NP following the exception marker is a referring term and can be represented by a variable over individuals, as in (15). As a matter of fact, the situation is not so simple, as we will see later on.

There is more to be said about the complex determiner analysis, but before I do so, I want to point out a major limitation. There is no account of 'free' exception phrases such as the English and German ones in (10).

- (10) a. Except for John, I did not see anybody.
b. Außer dem Franz kenne ich keinen Linguist.
except for Franz know I no linguist
"Except for Franz, I don't know any linguist"

2.2. Reinhart (1989).

To bring sentences such as the ones in (10) within the scope of the Keenan and Stavi theory, Reinhart (1989) proposes a rule of restructuring at the level of Logical Form, which brings together the exception phrase and the quantified term which it operates on. The trees in (11) are taken from Reinhart's paper to illustrate the transformation in question. It is perhaps helpful to point out that IP (the maximal projection of INFL, the verbal inflection node) is what used to be called S. Reinhart's syntactic framework is that of Chomsky's monograph *Barriers* (Chomsky 1986), but the details of that theory, in particular the notion of a bounding node, will not concern us here.



Reinhart treats the word *except* as a conjunction sign, not as a preposition or determiner modifier. In this respect her analysis differs from the one proposed in Keenan and Stavi, and indeed it is necessary to change the Keenan and Stavi semantics somewhat to accommodate the different syntactic structure. It is more similar to the proposal made in Harris (1982). Harris also views exception markers as conjunctions, but unlike Reinhart he takes them to be essentially sentential conjunctions. So (11a), for instance, is derived from sentence (12) by means of a reduction transformation (or "zeroing" as Harris calls it).

(12) *Everyone smiled, except Felix did not smile.*

However, this works best for languages such as English where exception markers can also be used as conjunctions. For Dutch *behalve*, on the other hand, there is no such use (cf. fn. 5), and an analysis along the lines sketched by Harris becomes problematic.

Reinhart's account crucially assumes that exception phrases are licenced by quantified noun phrases. To support her movement account, she notes the existence of island phenomena with exception phrases, such as Complex NP Condition effects, e.g.:

- (13) a. *The people who loved every composer arrived except Mozart.
b. *?He recognized the books on every shelf yesterday except the second.

The universal quantifiers in these sentences are locked up, so to speak, in syntactic islands out of which they cannot move. Since the exception phrases occur outside of the islands, they cannot be combined and the result is unacceptable. It might be noted here that an earlier proposal involving a transformational relation between a quantified NP and an exception phrase was given in Landman and Moerdijk (1980). That paper also discussed a number of island phenomena in connected with the movement analysis. Landman and Moerdijk's proposal differs from the Reinhart proposal however in that the movement rule does not promote the quantifier to the level of the exception phrase, but rather lowers the exception phrase onto the quantifier site. I will not compare the two theories in detail here.

As it stands, however, the relation between movement and licensing of exception phrases is somewhat problematic. Notice for example the possibility of linking exception phrases with quantifiers in Wh-islands in (14):

- (14) a. Except for the FBI, I don't know who to call.
b. Except for Joan, I wonder if anyone was interested.

LF-movement along the lines sketched by Reinhart would give a representation like (14') for (14a).

- (14') For which x , $x \neq$ the FBI, I don't know (whether) to call x

This representation clearly does not represent the correct interpretation of (14a). Note also that the position of *anyone* in (14b) is not one from which extraction is permitted. It appears that some violations of the wh-island constraint are grammatical with exception phrases, but not all. The examples in (15), for example, are not acceptable.

- (15) a. *Except for the FBI, I wonder why you invited every service.
b. *Except for Joan, I wonder whether I saw every student.
c. *Except for Joan, I wonder whether everyone was invited.

I conclude that some of the island evidence for a movement analysis is problematic, although more study is needed. Much more directly problematic for the movement account are cases where there is no quantifier to move around. Such cases abound in the Brown corpus of contemporary American prose. Consider in this connection the sentences in (16), all taken from that corpus.

- (16) a. Du Pont would be denied the right to acquire any additional General Motors stock except through General Motors' distributions of stock or subscription rights to its stockholders.
b. The vast, dungeon kitchens seem hardly worth using except on occasions when one is faced with a thousand unexpected guests for lunch.
c. The Indians who came aboard the ship to collect the mail also interested her greatly, even if she was suitably shocked, according to the customs of the society in which she had been reared, to find them "naked, except a piece of cotton cloth wrapped around their middle".
d. As for states' rights, they have never counted in the thinking of my liberal friends except as irritations of a minor and immoral nature which exist now only as anachronisms.

Take for example sentence (16c). Here, the exception phrase clearly attaches to the predicate *naked*. Yet that adjective is not a quantifier of the usual sort and not an element for which it is plausible to assume movement at Logical Form. It does not engage in scope ambiguities, for example. It is also not possible to view *naked except a cotton cloth* as a conjunction of any kind. Conjunctions have the special property that their parts are alike. But *naked* is used as a

predicate, while *a cotton cloth* is used as an argument term. In (16d), likewise, there is no candidate for the prepositional phrase introduced by *except as* to conjoin with.

A related problem is created by sentences such as (17).

- (17) Except for you, I don't know a living soul in New York.

Here the only candidate for adjoining to the exception phrase is the indefinite polarity item *a living soul*. Normally, however, indefinite noun phrases do not licence the use of exception phrases. Only in negative contexts is this possible, cf. the ungrammaticality of (18).

- (18) *Except for you, I know somebody in New York.

These examples provide us with a paradox for Reinhart's theory. The exception phrase in (17) requires raising of the object NP, but the polarity status of that NP forbids moving it out of the scope of negation, as (19) illustrates.

- (19) a. That guy, I don't know.
b. *A living soul, I don't know.

And even if raising were possible, it would adjoin an indefinite NP to the exception phrase, which should not yield an admissible structure. Obviously, what one would need here is a richer representation, as in predicate logic, where an existential quantifier under the scope of negation corresponds to a wide scope universal quantifier. The theory of LF movement does not permit such substitutions.

A final comment that I want to make about Reinhart's proposal is that it is too general in that it does not distinguish between various kinds of exception phrases. It is not the case that exception phrases can appear at any adjunction site c-commanding a universal quantifier. There is a major asymmetry between *but*-phrases and *except*-phrases. *But*-phrases may be adjoined to an NP or occur in extraposition, while *except*-phrases may also appear in topic or sentence-initial position. Compare (21) with (20).

- (20) a. Everybody but Jamie was invited.
b. Everybody was invited but Jamie.
c. *But Jamie, everybody was invited.

- (21) a. Everybody except for Jamie was invited.
b. Everybody was invited except for Jamie.
c. Except for Jamie, everybody was invited.

Sentence-initial uses of *but*-phrases are restricted to special cases such as (2). The Brown corpus contains only two cases of fronted *but*-phrases, listed in (22). In both cases, *but for* is used to express the reason why some hypothetical state of affairs is not an actual state of affairs.

- (22) a. Perhaps the moralities of world law are not advanced by stealing American diplomatic papers and planes, but the Kennedy administration can always file a demurrer to the effect that, but for its own incompetence in protecting American interests, these things would not happen.
b. But for my presence, they would have been at each others throat.

I consider this use to be separate from the use of *but* as a marker of exceptions.⁴ I conclude that *but*-phrases are primarily used to modify quantified noun phrases and that like so many postmodifiers of noun phrases they can occur in sentence-final position. *Except*-phrases, on the other hand, also have an important use as sentential modifiers, and thus may occur in all positions typical of sentential adverbs, viz. sentence-initial, sentence-medial and sentence-final position. Reinhart's account, which treats all exception markers as phrasal conjunctions, and

Harris' account, which treats all of them as sentential conjunctions, are both too global to deal with the differences between *except* and *but*. Nevertheless, it turns out that there is some interesting evidence, especially in Dutch and German, that some aspects of Reinhart's conjunction theory are on the right track. I review this evidence in section 4 below. This concludes my discussion of earlier studies of exception phrases.

3. Types of Exception Phrases.

I assume two distinct but related types of exception phrases, which I have termed free exception phrases and connected exception phrases in Hoeksema (1987). Connected phrases are linked to a phrase, usually a noun phrase, while free phrases are sentential operators and occur wherever sentential operators may occur. The positional possibilities of connected exception phrases are usually more limited than those of free exception phrases. I ignore here a third important use of at least the English exception markers *except* and *but*, namely their use as adversative conjunctions.

- (23) a. I would like to come but I can't.
b. I would like to come except I can't.

It is remarkable that both markers have developed very similar uses as sentential connectives. Dutch *behalve* entirely lacks this function⁵, whereas German *außer* has a different meaning when used as a connective, one that roughly corresponds to English *unless* (see Abraham 1979 for further discussion).

- (24) Du mußt deine Suppe nicht essen, außer du magst sie.
you must your soup not eat, except you like it
"you don't have to eat your soup, unless you like it"

3.1. Connected Exception Phrases.

I will first consider connected exception phrases, describe some of their syntactic properties and then give a non-extensional semantics for them. This semantics has the advantage that it can be extended in a straightforward way to sentential exception phrases.

As Keenan and Stavi noted, exception phrases can be used to form complex determiners. However, this use is by no means their most frequent or most central one and can be viewed as parasitic on the primary use as noun phrase modifiers. Some relevant examples are given in (25).

- (25) a. All but two of the students were ready.
b. All but at most 20% of the fish was spoiled.
c. None but the very best of us can compete.

The examples in (25) all involve partitive constructions. Note that not all such constructions are grammatical. In particular, (26) is ill-formed.

- (26) *None but Jim of us can compete.

This may seem remarkable in light of the fact that (27 a,b) are fine.

- (27) a. None but Jim could compete.
b. None of us but Jim could compete.

The contrast between (26) and (25c) suggests that *but* behaves like a conjunction in these partitive constructions. For a sequence *A but B of NP* to be acceptable, both A and B must

be able to head a partitive. Since both *none* and *the best* can head a partitive (cf. *none of us* and *the best of us*), the combination *none but the best* may also head a partitive. Proper names, on the other hand, do not head partitives (cf. **Jim of us*) and so they resist conjunction with *none* in partitive structures. In (27a), the syntactic context imposes fewer constraints and because both *none* and *Jim* are fine as subjects of this sentence, their conjunction is also fine. Example (27b) is acceptable for the same reason.

Some cases of conjunction-like combinations from the Brown corpus are given in (28).

- (28) a. sponsors rarely use any but white models in commercials.
 b. any but a limited use of economic pressure
 c. By 1960 there were such schools in all but 4 states.

I take it that the structure of these examples is as indicated in (28').

- (28') a. [[any but white] models]
 b. [[any but a limited] use]

rather than

- (28'') a. [any [but white models]]
 b. [any [but a limited use]]

Both structures are possible, but they correspond to different interpretations. The following two contexts may help to bring out these differences:

- (29) A: Would you like to meet some women tonight?
 B: Nah, I don't want to meet any but white models.

- (30) A: We should advertize this product on TV.
 B: If you do, don't use any but white models.

In (29) *any* is used as a pronoun and stands for *any women*. The implicit predicate 'women' is provided by the preceding question. In (30), *any* is used as a determiner and the predicate is not taken from the discourse context but is the syntactic argument of *any*.

The interpretation of *but* in these cases is, as I mentioned earlier, parasitic on the interpretation of *but* as an operator on noun phrases. More precisely, we can use a point-wise definition as in (31):

- (31) $(\text{Det}_1 \text{ but } \text{Det}_2)(\text{Noun}) = \text{Det}_1(\text{Noun}) \text{ but } \text{Det}_2(\text{Noun})$

Of course, this begs the question of how *but* is defined as a noun phrase operator, a point to which I return shortly.

There is no reason to assume that NP-final exception phrases form a complex but discontinuous constituent with the determiner, in spite of obvious cooccurrence restrictions. The same problems that beset the so-called Det-S or complex determiner analysis of relative clauses (see especially Vergnaud 1974 for discussion) also apply to the complex determiner analysis of exception phrases. In particular the possibility of conjunctions as in (32) is problematic for any simple version of the complex determiner analysis.

- (32) Every man and every woman but Adam and Eve were born in sin.⁶

Note in particular that it does not help to treat these cases as right-node raising of the exception phrase from each conjunct because the exception phrase crucially modifies the conjunction as a whole. In we treat exception phrases as operators on noun phrases, cases like (32) do not pose special problems. The same is true for phrases like *nothing but the*

truth, where a complex determiner analysis would force one to break up *nothing* into its components *no* and *thing* and to treat it as the result of applying *no .. but the truth* to *thing*, disregarding the fact that *nothing* is a lexical unit.

I now turn to the semantics of connected exception phrases. I am assuming the generalized quantifier notation of Barwise and Cooper for the following definitions. There are a number of options to be made in the semantics, depending on what one takes to be the meaning and what pragmatic implicatures associated with that meaning. In my 1987 paper I simplified matters a bit by assuming that the NPs in exception phrases are always referring terms. However, this is not actually true, to judge from examples such as (33).

- (33) a. Jones hates all foreigners except for at most a third of the criminally insane among them.
 b. Life teaches no lessons except all the expensive ones.

As van Benthem noted (p.c.), negative quantifiers are excluded:

- (34) a. *I love everybody except for no students.
 b. *We welcome everyone except for not Jack.

These examples differ minimally from the ones in (35) which are acceptable but not exception phrases.

- (35) a. I love everybody except no students.
 b. We welcome everyone except not Jack.

The latter cases exemplify the so-called Stripping construction, which arises through the possibility of using *except* as a sentential connective. As examples (35a,b) show, *except for* does not have this use. Moreover, as noted before, Dutch *behalve* is never used as a sentential connective, and hence we predict that the Dutch counterparts to (35a,b) are ungrammatical. This prediction is correct, witness (36).

- (36) a. *Ik houd van iedereen behalve geen studenten.
 b. *We heten iedereen welkom behalve niet Jack.

The difference in acceptability between (34) and (36) on the one hand and (35) on the other creates a further head-ache for Reinhart's account, which would predict all of these cases to be equally acceptable since she tries to analyze exception phrases as cases of Stripping.

Assuming that we can somehow rule out negative noun phrases as arguments of exception markers, I suggest the following definition as a first approximation of the meaning of connected exception phrases:

- (37) $||\text{NP}_1 \text{ but } \text{NP}_2|| = \{X < E: \text{for some } Y, X-Y \in ||\text{NP}_1||_{E-Y} \text{ and } Y \in ||\text{NP}_2||\}$

The main idea in this definition is that the exception phrase serves to introduce a set Y of cases that are left out of consideration. The domain of quantification is restricted by subtracting Y. To make the disregarded cases true exceptions, one might add clause (38).

- (38) $\text{not } (X \in ||\text{NP}_1||_E)$

or treat (38) as a Gricean implicature, along the lines sketched earlier.

The choice of set Y is rather unconstrained. This is necessary to deal with cases such as (33a), where every set in the quantifier may provide the set of exceptions. It is much less appropriate for referring terms. Using the standard characterization of referring terms as ultrafilters generated by an individual, we get the undesirable result that 'all except John are happy' is true if all but John and Bill are happy, since any set containing John is a member of

the ultrafilter and so the set consisting of John and Bill would also be a possible set of exceptions. For example, the entailments in (39) become valid under this interpretation.

(39) All but A, B and C are D $\Rightarrow$ All but A and B are D $\Rightarrow$ All but A are D

The fact that we usually interpret 'All but John were happy' as 'Only John was unhappy' could be interpreted as a Gricean scalar implicature, but that seems to weak an account. Compare (40a) with (40b).

- (40) a. John has three kids. In fact, he has five.
b. All but John are dead. #In fact, Jim is not dead either.

Unlike (40a), a typical example of a scalar implicature lifted by further information, (40b) strikes one as contradictory in nature. A way out of the problem might be found if we take seriously the suggestion of much recent work to treat referring terms as denoting entities rather than generalized quantifiers. In this way they would not fall under definition (37) but require a separate definition. This definition is given in (41).

(41) $||NP \text{ but } a|| = \{X < E: X - \{a\} \in ||NP||_{E - \{a\}}\}$

In addition to this definition, it is necessary to characterize the class of NPs that can be modified in this way. It turns out that the two closure properties defined in (42) below select the proper class of noun phrases. These properties could be restated in terms of properties of the determiners, in particular the properties of left downward monotonicity and anti-additivity, which are perhaps familiar from the literature on generalized quantifiers, were it not for the fact that we have chosen to treat exception phrases as NP-operators.

(42) a. Closure under Submodels.

If $E' < E$ and $X \in Q_E$, then $X \cap E' \in Q_{E'}$.

b. Closure under Model Unions.

If $X \cap E \in Q_E$ and $X \cap E' \in Q_{E'}$, then $X \cap (E \cup E') \in Q_{E \cup E'}$.

Examples of noun phrases with the first property is listed in (43), examples of noun phrases with the second property are listed in (44). The property of closure under submodels entails that the quantified sentence is true at the empty model. This rules out all kinds of existential quantifiers and referring expressions.

- | | |
|--------------------|--------------|
| (43) all men | (44) all men |
| every bat | every bat |
| at most three boys | John |
| no pets | no pets |
| few books | the students |

The property of closure under model unions is needed to rule out quantifiers such as *at most three boys*. It can be checked that noun phrases which occur in one list but not in the other do not combine with exception phrases.

- (45) all men but Harry
every bat but Dracula
*at most three boys but Fred
no pets but snakes
*few books but this one
*John but Sam
*the students but us

Somewhat problematic in this picture is the behavior of *only*. It can be checked that the noun phrase *only girls* has both required properties, yet (46) is ungrammatical.

(46) *Only girls but Rex were invited.

On the other hand, free exception phrases are fine with *only*, as (47) shows.

(47) Except for Rex, only girls were invited.

I interpret this anomaly as follows. *Only*, being an adverb and not a determiner, takes widest scope in the noun phrase, so that the proper parsing of the subject of (52) is as given in (48).

(48) [only [girls but Rex]]

Since *girls but Rex* is ungrammatical, *only girls but Rex* is also ruled out. The fact that *only* must be the outermost operator is further illustrated by the data in (49).

- (49) only Japanese from Tokio
Japanese from Tokio only
*Japanese only from Tokio

Only differs in this respect from *not*.⁷ I have argued elsewhere (Hoeksema 1986a) on independent grounds that *not* attaches to determiners, rather than noun phrases. Consequently, (50) is predicted to be bad, given that *not every* as a complex determiner lacks the required closure properties.

(50) *[[not every] student but Jim]

Under a different bracketing, as in (51), this phrase ought to be acceptable.

(51) [not [every student but Jim]]

Since (50) is never acceptable, I conclude that only the parsing in (50) is correct.

The behaviour of *neither* is easier to account for. If we follow Barwise and Cooper's (1981) suggestion that *neither* is only defined for sets with exactly two members, it follows that *neither diplomat* lacks closure under subsets. In spite of the close semantic similarity between *neither* and *no* we therefore predict that *neither* differs from *no* in not licensing connected exception phrases. This prediction is correct, as (52) shows.

(52) *Neither boy but Sam was pleased.

Truly problematic is the behaviour of *little* and *few*, which licence exception phrases, even though the noun phrases they introduce lack the closure under unions property. Thus, (53) is grammatical, but the inference in (54) is not valid.

(53) We had little choice but to comply.

(54) Little coffee was left in the can.
Little coffee was spilled on the table.

Little coffee was left in the can or spilled on the table.

If *little coffee* had the property of closure under unions, the inference in (54) ought to be valid. However, regardless of whether one interprets *little* as 'relatively little' or in a more absolute sense as 'less than some contextually specified measure', the inference is invalid. The status of sentences such as (53) is also somewhat peculiar in another respect, since exception

phrases are normally used whenever the corresponding sentence without the exception phrase would be false. However, in (53) it seems questionable that the set of options would not be small if complying is included. Here we run into the problem of vagueness, in the guise of the Paradox of the Heap. Just as adding a grain to something which is not a heap does not make it a heap suddenly, adding one option to a small set does not make the set large. Presumably this is the reason why *but* can be read as equivalent to *besides* in (53).

3.2. Free exception phrases.

Free exception phrases are by far the most interesting and complex class. In my (1987) paper, I used a straightforward extension of the treatment of connected phrases to deal with the distribution of free exception phrases. The idea was that a free exception phrase serves to restrict the models of the sentence, as in (55).

$$(55) \text{ } ||\text{Except for } A, S||_E \text{ is True iff } ||S||_{E-\{A\}} = \text{True}$$

There is a subtle distinction in acceptability between the sentences in (56), where an existential quantifier separates the exception phrase from the universal quantifier and the sentences in (57), where there is a referring term instead of an existential NP. To account for this observation, I added the requirement that the sentence modified by the exception phrase has the property of closure under model unions (but not under arbitrary extensions of the model).

- (56) a. *Except for this Cadillac, somebody damaged every car.
 b. *Except for Mark, a professor left messages for every student.
 c. *Except for Lily, I sometime detest all my siblings.
 (57) a. Except for this Cadillac, he damaged every car.
 b. Except for Mark, I left messages for every student.
 c. Except for Lily, I detest all my siblings.

Sentences in which an existential quantifier has wide scope over a universal quantifier lack the property of closure under model unions. To see this, consider a simple example. If 'Someone hates every professor' is true at your university, and the same statement is true at mine, it does not follow that the statement also holds if we extend the domain of quantification to the union of the two university populations. Sentences in which a universal has wide scope over an existential quantifier do have the required property, and they can easily be modified by free exception phrases, cp. (58). Examples d and e show that the surface order of the quantifiers is not relevant, but rather their scope behavior, since they contain universal quantifiers which for some reason have scope over the existential quantifiers which precede (and in the case of (58d) also c-command) them.

- (58) a. Except for Jones, every lawyer has a drinking problem.
 b. Except for Henry, all senior partners owned a Cadillac.
 c. Except for February, every month has at least 30 days.
 d. Except for Padua, there was a delegate from every Italian city.
 e. Except for August, I have a conference every month.

Interestingly, the examples in (56) are much better when the exception phrase occurs in sentence-final position.

- (59) a. Someone damaged every car, except for this Cadillac.
 b. Someone left messages for every student, except for Mark.
 c. I sometimes detest all my siblings, except for Lily.

This can be explained if we assume that the exception phrase occurs in or adjoined to the VP in these examples, outside the scope of the subject. Without introducing yet a different type

for exception phrases, we could treat them as sentence operators by translating them as exemplified in (60).

- (60) damage every car, except for this Cadillac == >
 λx : damage every car (x) except for this Cadillac

Here the formula that the exception phrase combines with contains a variable, rather than a quantifier. It can be checked that this formula has the required property of closure under model unions. For exception phrases in sentence-initial position, such an analysis is not available, and so we have a principled explanation for the difference between (56) and (59).

4. A New Theory of Free Exception Phrases.

4.1. Problems for the domain restrictor theory.

There are a few nagging problems with the theory that exception phrases are operators which change the domain of quantification. First, consider (61), taken from the Brown corpus.

- (61) On Thursday nobody but Charlie Coe was thinking of Charlie Coe.

This sentence is also acceptable if we put the exception phrase in sentence initial position:

- (62) Except for Charlie Coe, nobody was thinking of Charlie Coe.

To interpret the second occurrence of the proper name Charlie Coe, it seems we cannot restrict the domain of discussion to everybody who is not Charlie Coe. This problem (noted in Hoeksema 1987 and von Stechow 1989) seems solvable, if we make a distinction between the domain of discussion and the domain of quantification, or, in other words, between the way in which quantifiers are assigned an interpretation and the way in which proper names are interpreted. This seems reasonable, as quantifiers are often interpreted as implicitly restricted to some contextually understood set, which may or may not include denotations for proper names, and pronouns. Some relevant examples are given in (63):

- (63) a. I can see everybody quite well from here.
 b. Nobody is as tall as Henrietta.

Obviously, the normal interpretation of (63a) is one in which the speaker is excluded from the set over which the quantifier *everybody* ranges. Likewise, *nobody* ranges over all individuals but Henrietta in (63b). Exception phrases, then, might be said to manipulate the sets relevant to quantification, not the larger sets used to interpret proper names and pronouns. I will refrain from spelling out the details of such a theory, however, because of additional problems that we run into. As already noted in Hoeksema (1987), requiring closure under model unions incorrectly rules out sentences in the universal-existential-universal kind, sentences, that is, in which a universal quantifier has scope over an existential one which in turn has scope over an existential one. Such sentences lack the property of closure under model union, yet allow modification by exception phrases, as (64) shows.

- (64) a. Except for Jim, every pimp has a reason to hate every cop.
 b. Except for Van Pelt, every tycoon donated a book to every library.

Interestingly, these sentences have only one interpretation. The exception phrase is understood as a restriction of the first, and not of the second universal quantifier. So in (64b), Van Pelt is understood as an exceptional tycoon, rather than an exceptional library. Both the fact that the sentences in (64) are acceptable and the fact that they have this reading are not predicted.

A third problem is perhaps the most interesting one, and one which has gone largely unnoticed in the literature. Exception phrases allow, to varying degrees, pied piping. By 'pied piping' I refer to the phenomenon that an exception phrase may contain more than just the noun phrase which denotes the exception to some universal quantifier. Just as fronted wh-phrases may come along with their prepositions, the arguments of exception markers may come adorned with prepositions. Consider first the Dutch examples in (65).

- (65) a. Behalve met Jan heb ik met niemand gesproken.
except with Jan have I with nobody spoken
b. We spraken over alles, behalve over geld
we spoke about everything except about money
c. Behalve hem ken ik hier niemand.
except him know I here nobody
d. Behalve hij kent niemand mij hier.
except he knows noone me here

The prepositions in the exception phrases are copies of the prepositions introducing the quantifiers. Likewise the case marking on the pronoun following the exception marker is the same as the case that would be appropriate for the quantifier *niemand*. If exception phrases are operators on sentences, they ought to be insensitive to the internal structure of these sentences. Patterns such as in (65) are striking evidence for a conjunction analysis à la Reinhart. The prepositions and cases involved are normally assigned only once, except in conjunction structures (cf. e.g. *looking neither for money nor for power or dance with colleagues and with lovers*). However, there is considerable variation in the pied piping behavior of the various exception markers. For instance, the Dutch discontinuous marker *op .. na* does not exhibit it, nor does English *except for*.

- (66) a. *Op met Jan na sprak ik met iedereen.
on with Jan after spoke I with everyone
 **I spoke with everyone except with Jan"
b. *Op hij na kent niemand mij hier.
on he after knows noone me here

Most interesting in this connection are examples such as (67).

- (67) Except for the parents of John, we talked to the parents of every pupil.

According to my (1987) proposal, this sentence is true if it is the case that we talked to the parents of every student in a universe from which the parents of John have been removed. However, that still leaves us with John, a pupil whose parents we did not talk to, by assumption. Clearly, to get the right truth conditions, we should require that John be removed from consideration, rather than his parents. Note that the structural position of the name 'John' corresponds to the structural position of the quantifier 'every pupil'.

4.2. A substitutional theory of exception phrases.

To deal with pied piping and cases such as (67), I will introduce a new type of account, based on the idea of substitution. We can view (67) as some compound of the sentences in (68).

- (68) a. We talked to the parents of every pupil.
b. We talked to the parents of John.

(68b) is derived from (68a) by substituting the argument of the exception marker for the quantifier. Sentence (67) is true in a given model if that model falsifies (68a,b) and if a minimal change in the model to change the truth-value of (68b) also changes the truth-value of (68a). To make this idea a little bit more precise, it is useful to consider partial models and

the notion of a minimal model.

- (69) A model M is a pair $\langle E, F \rangle$ where E is some set and F a function such that

- (i) $F(A) \in E$ (for all names A)
 - (ii) $F(B, x) = 1, 0$ or undefined (for all monadic predicates B and individuals x)
 - (iii) $F(C, x, y) = 1, 0$ or undefined (for all binary predicates C and individuals x, y)
- etc.

We assume in the following definitions that the domain E is fixed for all models and that F may vary.

- (70) The intersection of two models $M = \langle E, F \rangle$ and $M' = \langle E, F' \rangle$ is defined as $M'' = \langle E, F'' \rangle$, where for all A, B, C etc.:

$$\begin{aligned} F''(A) &= F'(A) = F(A) \\ F''(B, x) &= F'(B, x) \text{ if } F'(B, x) = F(B, x), \text{ undefined otherwise} \\ F''(C, x, y) &= F'(C, x, y) \text{ if } F'(C, x, y) = F(C, x, y) \text{ and undefined otherwise} \\ &\text{etc.} \end{aligned}$$

- (71) M is a submodel of M' iff $M \cap M' = M$.

- (72) M is a minimal model of S iff $M \models S$ and all submodels M' of M such that $M' \models S$ equal M .

- (73) $\text{MinMod}(S)$ is the set of minimal models of S .

- (74) $M \sim M'$ is the model M as modified by M' . Formally:
 $M \sim M' = M''$, where $E = E' = E$ and $F(A) = F'(A) = F''(A)$ for any A and
 $F''(B, x) = F'(B, x)$ if $F'(B, x)$ is defined and $= F(B, x)$ otherwise
 $F''(C, x, y) = F'(C, x, y)$ if $F'(C, x, y)$ is defined and $= F(C, x, y)$ otherwise

- (75) $M \sim \text{MinMod}(S) = \{M' : M' = M \sim M'' \text{ for some } M'' \text{ in } \text{MinMod}(S)\}$

These definitions sketch the following picture. Models are basically lists of atomic propositions, as in Situation Semantics, which can be true, false or undefined. There is a natural subset relation on these models and the notion of minimal model. A minimal modification of a model can be thought of now as a model modified by a minimal model. This gives us the semantics for exception phrases in (76). This definition, by the way, is a simplification and will be revised shortly.

- (76) $M \models \text{Except } A, S[NP]$ iff any M' in $M \sim \text{MinMod}(S[A])$ is such that $M' \models S[NP]$ in case $\neg M \models S[A]$ and any M' in $\text{MinMod}(\neg S[A])$ is such that $M' \models S[NP]$ otherwise.

In English prose, this boils down to the following. To evaluate a sentence with an exception phrase, we consider two other sentences, viz. that sentence without the exception phrase and the sentence which comes from substituting the argument of the exception phrase, here indicated by A , for the targeted NP. The first sentence is indicated here by $S[NP]$, the second by $S[A]$. In sentences with more than one possible target NP, the intonation will help to disambiguate. I will come back to this point in a moment. The sentence indicated by $S[NP]$ is not true in the model, but a minimal change in M which makes $S[A]$ true in case it was false and which makes $S[A]$ false in case it were true produces only models M' which make true $S[NP]$. This semantic interpretation was inspired by the famous Ramsey test for conditionals. Sentences with exception phrases are like counterfactual conditionals of a special kind. Cp.:

- (77) Except for Chris, everybody wept.

This sentence can be paraphrased in a fairly faithful way by 'Had Chris (also) wept, everybody

would have wept'. The main difference between conditional and exception sentences is the greater intensionality of the former. The conditional paraphrase I gave of (77) is only partly correct. If everybody but Chris wept, it does not follow necessarily that if Chris also weeps everybody will be shedding tears. There might be some causal connection which prevents the conditional from being true, for instance, because the sight of Chris weeping is enough to cheer up everybody else. Such causal connections make it tough to express the semantics of conditional sentences in terms of simple revisions of sets of atomic propositions in as explicit a fashion as proposed here for sentences with exception phrases. To state it bluntly, if I add the antecedent of a conditional to my stock of beliefs and then make appropriate adjustments to maintain consistency, the outcome may vary greatly, depending upon the various causal connections that I am willing to allow for. It might be said that exception phrase sentences are a better application for a Ramsey-type semantics than conditional sentences because of their extensional character. Their truth can be established by considering a single state of affairs; modal connections between states of affairs (as formalized by accessibility relations or selection functions) need not be considered. There is also an obvious connection between the semantic interpretation proposed above and the notion of minimal entailment which figures in theories of nonmonotonic reasoning, such as McCarthy's theory of circumscription (cf. McCarthy 1980). The connection is perhaps not too surprising, given that nonmonotonic reasoning is about generalizations with implicit or explicit exceptions. Returning now to example (77), note that this sentence is true in the model described in (78).

(78) $M = \langle E, F \rangle$

$E = \{a, b, c\}$
 $F(\text{Chris}) = c$
 $F(\text{wept}, a) = 1$
 $F(\text{wept}, b) = 1$
 $F(\text{wept}, c) = 0$

Since 'Chris wept' is false in this model, we have to consider minimal models in which this sentence is true. There is one such model, given in (79).

(79) $M' = \langle E, F' \rangle$

$E = \{a, b, c\}$
 $F(\text{Chris}) = c$
 $F(\text{wept}, a) = \text{undefined}$
 $F(\text{wept}, b) = \text{undefined}$
 $F(\text{wept}, c) = 1$

M as modified by M' is the model M'' in (80). This model makes true the sentence "Everybody wept", as required.

(80) $M'' = \langle E, F'' \rangle$

$E = \{a, b, c\}$
 $F(\text{Chris}) = c$
 $F(\text{wept}, a) = 1$
 $F(\text{wept}, b) = 1$
 $F(\text{wept}, c) = 1$

4.3. Consequences of the substitutional theory.

Consider now how this account works for a number of ungrammatical cases. First, take a look at (81).

(81) *Except for Joan, Jim came.

There is a simple reason why this is bad. The truth of the sentence 'Jim came' is not sensitive to what we do to the truth value of 'Joan came'. Whether or not we change the model to accommodate that sentence, 'Jim came' will keep its truth value. Hence the exception phrase serves no purpose and sentences like (81) have no use.

I might add that counterparts to (81) are grammatical in German and Dutch:

- (82) a. Ausser der Karl war auch der Franz da. (German)
 except Karl was also Franz there
 "Besides Karl, Franz was also present"
 b. Behalve met Karel heb ik ook met Hans gesproken
 besides with Karel have I also with Hans spoken
 "Besides Karel, I also talked with Hans"

However, as the English translations indicate, the meaning here is crucially different: the exception markers are used here not as exception markers but with the meaning 'besides'.⁸ Example (82b) shows the pied piping effect mentioned earlier. This construction can also be given a natural interpretation using substitution. Paardekooper (1966) as well as Landman and Moerdijk (1980) pointed out a number of differences between the use of *behalve* as an exception marker and its use as an operator meaning 'besides'. One of the most striking differences is that *behalve*-phrases used as exception phrases can occur either in sentence-final or in sentence-initial position, whereas they are restricted to a position preceding the target NP in their use as 'besides' phrases:

- (83) a. Behalve met Karel heb ik ook met Hans gesproken (=82b)
 b. Ik heb behalve met Karel ook met Hans gesproken
 c. *Ik heb ook met Hans gesproken behalve met Karel

In examples like (84), two interpretations are possible:

- (84) Behalve Jan heeft Piet Klaas gezien
 besides Jan has Piet Klaas seen
 "Besides Jan, Piet has seen Klaas"

Here the interpretation is either as in (85a) or (85b).

- (85) a. Piet heeft Klaas gezien en Jan heeft Klaas gezien
 b. Piet heeft Klaas gezien en Piet heeft Jan gezien

This ambiguity does not arise in the spoken language though, because the NP for which the object of *behalve* substitutes is marked clearly by focus intonation. Focus intonation is also what tells us to substitute for which NP in exception phrase constructions.

Another type of sentence that we need to rule out is given in (86a). To see why it does not have the reading readily associated with (86b), consider what our semantics says about it.

- (86) a. *Except for this Cadillac, someone damaged every car.
 b. Someone damaged every car, except for this Cadillac.

A typical model for (86b) is given in (87). For the sake of brevity, I won't write out all atomic propositions, but use set-theoretic notation.

- (87) $M = \langle E, F \rangle$
 $E = \{a, b, c, x, y\}$
 $F(\text{this Cadillac}) = c$
 $F(\text{car}) = \{a, b, c\}$
 $F(\text{person}) = \{x, y\}$
 $F(\text{damage}) = \{\langle x, a \rangle, \langle x, b \rangle\}$

It is clear that changing this model minimally such that 'Someone damaged this Cadillac' becomes true does not guarantee that the sentence 'Someone damaged every car' becomes true. In particular, if we add the pair $\langle y, c \rangle$ to the extension of *damage*, we still haven't made (86a) true on the reading where the existential quantifier has wide scope. Only the other reading will be validated automatically. Notice that I have required in (81) that any minimal change of the appropriate kind should validate the sentence without the exception phrase. It can be checked that the models for (86a) which have this property are precisely the ones in which there is just one person. But in such cases, existential quantifiers are not used because definite descriptions are more informative and this is, perhaps, what causes the oddness of (86a).

As I just noted in passing, universal-existential sentences do not have the problem that not every minimal change of the requested kind satisfies the sentence without the exception phrase. I also note that in sentences of the universal-existential-universal kind the account given here predicts that the exception phrase may operate on the first or outermost universal quantifier but not on the last or innermost universal quantifier (unless, of course, the exception marker itself is within the scope of the existential quantifier). This is a major advance over my earlier account. In sentences of the universal-universal kind, the exception phrase is predicted to operate on either quantifier, and the examples in (88) show that this is correct.

- (88) a. Except for Ned, every prof has been to every conference.
b. Except for GLOW, every prof has been to every conference.

The intended interpretations for these sentences are given by the paraphrases in (88'a,b).

- (88') a. Every prof but Ned has been to every conference.
b. Every prof has been to every conference but GLOW.

For negative universal quantifiers, the situation is somewhat different. Consider what happens when one quantified NP is headed by *no* or when both are.

- (89) a. Except for Harry, every prof saw no student.
b. Except for Harry, no prof saw every student.
c. Except for Harry, no prof saw no student.

Sentence (89a) is interpreted as (89'a), (89b) as (89'b) and (89c) as (89'c).

- (89') a. Every prof but Harry saw no student.
b. No prof but Harry saw every student.
c. No prof but Harry saw no student.

To be excluded are the readings in (89'').

- (89'') a. Every prof saw no student but Harry.
b. No prof saw every student but Harry.
c. No prof saw no student but Harry.

How can we explain these observations? First consider (89a). I maintain that the reading (89'a) is unavailable, given the semantic account of free exception phrases presented above. Let us assume a model in which the sentence 'Every prof saw no student' is false and where the student Harry is the only exception which prevents this sentence from being true. This could be because some professors saw Harry or even because all professors saw Harry. Intuitively, it should not matter whether all or just some professors saw Harry. All models in which at least one prof saw Harry ought to make the reading we are considering here true. But this is not how the formal account works. The formal account requires models such that every minimal change which changes the truth-value of "every prof saw Harry" will also change the truth-value of "every prof saw no student". Consider first the case where some but not all

professors saw Harry. Changing the truth value of "Every prof saw Harry" by a minimal change in the model now means that we make this sentence true by giving the value 1 to every atomic proposition of the form (*saw*, *x*, *Harry*), where *x* is some professor. But that would not change the truth-value of 'Every prof saw no student': This sentence would still be false. Next consider the case where "Every prof saw Harry" is true in the initial model. Then changing it minimally so as to make this sentence false involves making one of the atomic propositions (*saw*, *x*, *Harry*) false, where *x* is a professor. However, this would not suffice to make the sentence "every prof saw no student" true, unless there is, in fact, only one professor in the model. But if it is obvious to both the hearer and the speaker that this is the only situation within which sentence (89a) can be used on the reading intended, then the universal quantifier *every* *prof* is inappropriate and a definite description would have to be preferred. And indeed, when a definite description is used, the intended reading becomes readily available, cf.:

- (90) Except for Harry, the prof saw no student.

What about sentence (89b)? To see what is the matter with this sentence, it is useful to first consider a simpler case:

- (91) *Except for Harry, somebody left.

Given our semantics, this sentence is true just in case changing the truth-value of 'Harry left' creates a model in which 'somebody left' is true. It is easy to see that the only models which qualify are the ones in which 'nobody left' is true. Clearly, it would have been simpler to express the content of (91) by that sentence. Moreover, it appears to me that (91) fails to satisfy a reasonable pragmatic requirement which one might impose on sentences with exception phrases, to wit, that the exception phrase be "especially appropriate". By this requirement I mean that reference to another exception is not possible. This requirement is met by sentences such as (88a), in which the exception phrase applies to a universal quantification. There, the choice of another exception would not have been correct. However, when the quantifier is an existential one, as is the case in (91), any individual could have been chosen for the exception phrase. That is to say, if the persons in the domain of discourse are Tom, Dick and Harry, then instead of (91), it would have been equally appropriate to use (92a) or (92b).

- (92) a. *Except for Tom, somebody left.
b. *Except for Dick, somebody left.

In light of this requirement, consider again (89b). By assumption, the sentence "no prof saw every student" is false. Hence also "no prof saw Harry" is false, if Harry is a student. Changing the model minimally so that "no prof saw Harry" is validated will clearly also validate "No prof saw every student". However, the requirement that the exception phrase is uniquely appropriate is not met in the general case. If we proceed from the assumption that there is more than one student in the model (an assumption warranted by the choice of the quantifier), then any student would have served as a proper exception. In other words, if some prof saw every student, then any minimal change which validates "no prof saw *x*", where *x* is some student, will validate "no prof saw every student". Hence there was no need to single out Harry, as in (89b). More generally, we can say that occurrences of universal quantifiers under the scope of an odd number of negative operators do not licence exception phrases, because of their equivalence to wide scope existential quantifiers. This immediately explains why (89c) does not have the reading given in (89'c).

The domain-restrictor theory makes a different, but quite interesting prediction for sentences with two universal quantifiers. It causes BOTH quantifiers to be simultaneously restricted to a smaller domain. For sentences such as "Except for Jeff, nobody trusted everybody", the predicted reading is "Nobody but Jeff trusted everybody but Jeff". Such a reading, I take it, is not actually available for this sentence. The actual reading is 'Nobody but Jeff trusted everybody'. This, then, provides us with a further argument against the domain-restrictor theory.

Finally consider example (67) again:

(67) Except for the parents of John, we talked to the parents of every pupil.

Consider a model where not every pupil's parents have been talked to by us. This model will make (67) true just in case changing it minimally so that the sentence 'We talked to the parents of John' becomes true suffices to make 'We talked to the parents of every pupil' true.

4.4. Superlatives and their ilk.

Superlatives have much in common with quantificational expressions (cf. e.g. Szabolcsi 1985 and Hoeksema 1986b for some discussion of the similarities). One such common feature is the possibility of modification by exception phrases. However, before looking at superlatives, let us first take a look at a closely related expression, *the only*⁹. An intriguing prediction that falls out from the present substitutional analysis is the difference in acceptability between the sentences in (93), noted (but not explained) in Hoeksema (1987).

- (93) a. Except for Richard, I am the only realtor.
b. *Except for Richard, I hate the only realtor.

In the first example, *the only* occurs in a predicate nominal, and in the second example it occurs in a direct object. Why should this make a difference? First consider (93a). Assume that Richard and I are realtors. So I am not the only realtor. Now if we change this situation minimally so as to make (94a), the result of substituting *Richard* for *the only realtor*, true, then we see how this might also make (94b) true.

- (94) a. I am Richard.
b. I am the only realtor.

Now consider example (93b). Assume that it is not true that I hate the only realtor, perhaps because there are several realtors, or because the one existing realtor is not someone I hate. Changing the situation minimally so that (95a) becomes true does not influence the truth of (95b), unless Richard is the only realtor. But that goes against the presupposition or entailment generally associated with exception phrases, namely that leaving them out would make the sentence false.

- (95) a. I hate Richard.
b. I hate the only realtor.

I note in passing that example (93a) also shows that the interpretation of *the* as *the only*, due to Russell (1905) and found in one form or another in more recent work such as Montague (1973) or Keenan and Stavi (1986), is incorrect. If we replace *the only* by its putative equivalent *the*, this sentence becomes ungrammatical.

Exception phrases with superlatives are rather rare in the Brown corpus. I found only two cases. Presumably, this is due to the relative infrequent use of superlatives vis à vis quantified NPs. The two cases are given below in (96).

- (96) a. It was the largest house he had ever been in, almost the largest building, except for a hotel.
b. We saw Giuseppe Berto at a party once in a while, tall, lean, nervous and handsome, and, in our opinion, the best novelist of them all except Pavese, and Pavese is dead.

Note that the superlatives in these examples are used predicatively, just as the NP *the only realtor* in the earlier example. In other uses, an exception phrase may not be permitted. Some pertinent examples of such incompatibility are given in (97).

- (97) a. *Except for Johanna, she looked at the prettiest girl.
b. *Except for these jerks, I am tired of the worst scum.

However, it would be misleading to suggest that only superlatives in predicate nominals licence exception phrases. Szabolcsi (1985) has drawn attention to a class of superlatives which she calls comparative superlatives (see also Hoeksema 1983 for additional discussion). Comparative superlatives such as (98a) have characteristic paraphrases such as (98b).

- (98) a. Fred made the fewest mistakes.
b. Fred made fewer mistakes than anyone else.

Often, sentences with superlatives are ambiguous due to the option of giving the superlative a comparative reading or not. Consider for example the case of a man whose wives committed suicide by jumping from the Empire State Building and from the Chrysler building respectively. If asked the question "Who jumped from the tallest building", the man could answer "Nobody", since none of them jumped from Sears Tower in Chicago, the tallest building. Or else, he could say "My first wife", if she was the one who jumped from the Empire State Building, since that is the taller of the two. The first answer is appropriate on an absolute interpretation of the superlative, the second on a comparative interpretation.

Interestingly, Szabolcsi (1985) relates the comparative reading of superlatives to the presence of a focussed constituent, which serves as the object of comparison. Compare for example the two sentences in (99).

- (99) a. JOHN caused Mary the fewest problems.
b. John caused MARY the fewest problems.

These examples can be paraphrased as in (99').

- (99') a. The number of problems that John caused Mary is smaller than the number of problems that anyone else caused her.
b. The number of problems that John caused Mary is smaller than the number of problems that he caused anyone else.

The relevance of Szabolcsi's observations for the semantics of exception phrases is obvious. First of all, the paraphrase she suggests contains a universal quantifier, which explains why exception phrases are possible with comparative superlatives. Second, the semantic account proposed here requires one to find a minimal model for the result of substituting the NP following the exception marker for a focussed NP. Thus we predict two different readings for the sentences in (100).

- (100) a. Except for Adam, JOHN caused Mary the fewest problems.
b. Except for Adam, John caused MARY the fewest problems.

According to the present semantic account, (100a) is true in a model with a partial order '<' representing the relation 'less troublesome to Mary than' of which Adam is the least member and John is the least member of the restriction of '<' to E-{Adam}. Only in such a model would a minimal change which falsifies "ADAM caused Mary the fewest problems" verify (99a).¹¹ Likewise, it follows that (100b) is true in a model with a partial order '<<' representing the relation 'bothered less by John than', of which Adam is the least element and Mary the least element of its restriction to E-{Adam}. Again, this is the only scenario which would allow any minimal modification falsifying "John caused ADAM the fewest problems" to verify (99b).

A point left implicit in the discussion so far is that I am assuming that substitution for a focussed NP leaves the focus structure intact. In other words, when I substitute *Adam* for *Mary* in (100b), I suppose that *Adam* bears focus just as *Mary* did before.

Finally I point out that although the exception phrases in the above examples are licenced by

superlatives, they do not substitute for these superlatives. In this respect, then, comparative superlatives are essentially different from universal quantifier constructions, where the target of substitution is always the quantifier and not some associated focus expression. The role of focus is also evident in a final observation, also due to Szabolcsi. Besides focussed NPs, WH-elements, including relative pronouns, can also create structures in which comparative readings are possible for superlatives. Since relative pronouns are never focussed, we expect to find that in such circumstances exception phrases are not permitted. The examples in (101) show that this expectation is fulfilled.

- (101) a. There is a prize for the student who states this principle in the fewest words.
 b. *Except for Mary, there is a prize for the student who states this principle in the fewest words.
 c. The student who writes the best essay will receive \$ 500.
 d. *Except for Jim, the student who writes the best essay will receive \$ 500.

5. Conclusion. Remaining problems.

In conclusion, I would like to mention a few further avenues of research and some of the remaining problems that need to be handled. First of all, I note the need for study of expressions such as 'instead of', which also might profitably be studied in terms of a substitution analysis. It seems that sentence (102a) is true just in case (102b) is true.

- (102) a. Instead of a pay raise, we need a vacation.
 b. [We need a vacation] and not [we need a pay raise]

Note that the NP *a pay raise* in (102a) is read De Dicto, just as a substitution analysis would predict. (The substitution rule is quite different from Montague's rule of quantifying-in because the latter only produces wide-scope readings.)

Problematic for the substitution analysis are first of all cases where exception phrases modify verbs or adjectives (with regard to these cases, then, the present analysis does not fare better than the one in Reinhart (1989)). The Brown corpus has several examples of *but*-phrases with the adjective *naked*. In Dutch, the discontinuous marker *op..na* would have to be used in such cases, rather than *behalve*, cp. (103a). English permits both *but* and *except*; the latter is attested in (103b), from the letter of a dean:

- (103) a. Op een lendendoek na was hij naakt.
 but a loin cloth was he naked
 "He was naked but for a loin cloth"

(cf. *Behalve een lendendoek was hij naakt.)

- b. This form is intended to indicate that, except for minor alterations, the dissertation is ready for final defense.

The class of adjectives that can occur with exception phrases is rather interesting. It appears to be the same class that permits modification by adverbs such as 'virtually', which select the same class of quantificational noun phrases as exception phrases. Some data are given in (105).

- (104) a. naked but for a loin cloth.
 b. virtually naked
 c. all but the best
 d. virtually all
 e. *sick but for a fever

- f. *virtually sick
 g. *several but the best
 h. *virtually several

In Dutch, we note a close affinity between *op .. na* and *vrijwel* 'almost, virtually'. The latter expression was studied in Zwarts (1985). Since it was shown before that *op .. na* does not show some of the crucial features that suggested the substitution account, in particular pied piping properties, a different analysis is needed for this expression anyway. The main conclusion to be drawn from this is that exception markers exhibit properties which range from typical connective properties to properties more typical of prepositions. As Paardekooper (1979) already saw, exception markers may have properties of both word classes, and attempts to treat either as pure-bred prepositions (as in Landman and Moerdijk 1980) or as connectives (as in Harris 1982, Reinhart 1989) are bound to fail.

Due to the space limits of this publication, it was not possible to treat exception phrases in questions. The following quote from the apostle Paul has two exception phrases, one with a quantification expression, the other with a wh-operator.

- (105) For who else can know a man's thoughts, except the man's own spirit that is within him? So no one else can know God's thoughts, but the spirit of God. (1. Cor. 2:11-12)

Horn and Bayer (1984) pointed out that sentences such as (106a) below are only acceptable as rhetorical questions, when the presupposed answer is "Nobody!".¹⁰ When such an interpretation is not available, and the question is used as a genuine request for information, the use of *but* is impossible (cf. 106b), although *except for* may still be used (cf. 106c).

- (106) a. Who but a total idiot would say a thing like that?
 b. *Who but John do you think is coming to the party?
 c. Who is coming to the party, except for John?

The above examples are interesting among other things because they show that the category of rhetorical questions is grammaticized in English.

Finally a word must be said about cases where there is no overt quantifier for the exception phrase to substitute for. Some such cases were mentioned before as a problem for Reinhart's theory. Obviously, they also pose a problem for my own account. In the Brown corpus such cases are quite common, in particular in negative sentences and generic or habitual sentences. More than 30% of the 151 cases of phrases with the marker *except* that I selected from the corpus were licenced solely by negation and not by some overt quantifier. It is attractive to see this as evidence for the notion 'implicit argument'. An implicit argument is usually interpreted as an existential quantifier. In the context of negation, this quantifier is equivalent to a wide scope universal one, and can be shown to licence exception phrases. A typical example from the Brown corpus is given in sentence (107).

- (107) But I once again assure all peoples and all nations that the United States, except in defense, will never turn loose this destructive power.

The adverb *never*, being a temporal quantifier, cannot be modified by the exception phrase because the exception phrase does not contain a temporal expression. Rather, the exception phrase seems to be possible through the existence of a implicit argument or, if you will, modifier, which can be made overt as "in any circumstances". By introducing such entities into the analysis, it becomes rather more abstract than the earlier domain restriction account, but this may be the price one has to pay for greater empirical coverage.

Notes.

1. I thank Johan van Benthem for sending me his own thoughts on exception phrases and Megan Moser for sending me the material she extracted from the Brown corpus.

2. The possibility of using a comparative as exception phrase also exists in Dutch and is restricted to the negative pronouns *nichts* and *niemand*. Presumably these combinations derive from the longer form *nichts anders als* and *niemand anders als* by omission of *anders* 'other, else'. That we are dealing with a real exception-phrase construction here, and not just a case of *anders* deletion between a pronominal quantifier and an *als*-phrase, is shown by the fact that *niemand als Piet* 'somebody than Piet' does not have the interpretation 'somebody else/other than Pete'. Only when the *als*-phrase can be used to indicate an exception, viz. when the preceding quantifier is universal in character, is this reading possible. See also note 10.

3. Example from Chateaubriand, *Génie du Christianisme*, I,1,2, cited in Moignet (1973: 162).

4. Dutch *behalve* does not have this particular use at all. However, English *except for* also exhibits it, witness the following example from the Brown corpus:

- (i) (...) many historians maintain that except for Northern meddling it would have ended in states like Virginia years before it.

This suggests that this use is distinct from, but related to the use of *but* and *except* as exception markers.

5. To be sure, *behalve* can be used to introduce a subordinate clause, but it cannot be used to conjoin to clauses. Cf.:

- (i) Ik weet niets, behalve dat het regent
I know nothing except that it rains
- (ii) *Iedereen is ziek, behalve Jan is niet ziek
Everyone is sick, except Jan is not sick

6. This kind of sentence also poses a problem for a third analysis, proposed in Von Fintel (1989), according to which exception phrases are common-noun modifiers.

7. As a matter of fact, *only* can also be used as an operator on determiners, for instance when it is used with a numeral (cf. Jacobs 1983 for motivation of this claim). I am assuming that this use is not involved in (46).

8. English *except for* may also exhibit the meaning 'besides', although this interpretation is quite rare. The Oxford English Dictionary mentions a few cases, such as the example in (i) from 1578, but notes that it is obsolete and rare.

- (i) Excepte fleshe, fishe and eldinge ... this Ile has a pasture .. that may feid sum wethiris.

However, the OED fails to observe that in questions this interpretation seems to be alive and well:

- (ii) Except for Dick and Sue, who do you know in Tucson?

9. For a discussion of the relationship between superlatives and (the Dutch counterpart of) *the only*, see Hoeksema (1986b). It is noted there, among other things, that in substandard Dutch *the only* is rendered as *de enigste*, with superlative morphology.

10. More precisely, we need an antisymmetric, transitive and reflexive relation, better paraphrased perhaps as "at most as bothersome to Mary as".

11. In Dutch, the comparative can be used in such rhetorical questions (e.g. *wie dan God alleen* 'who but God only'). Again, a close affinity with 'nobody' can be noted here: Not only is this the expected answer, but *niemand* 'nobody' (and *niets* 'nothing') are also the only quantifiers which take comparative PPs as exception phrases (cf. note 2).

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