THE SEMANTICS OF EXCEPTION PHRASES[1]

Jacob Hoeksema
Rijksuniversiteit Groningen

1. Overture.

The human desire to speak in generalities can only be satisfied if language somehow finds ways to deal with the many exceptions, special cases and implicit restrictions to particular domains which cling to most universal statements. Natural languages have developed a great many ways of making allowance for exceptions, some of which have crystallized in the form of what I will refer to here as exception-phrase constructions. To give a preliminary indication of just what I have in mind, I have listed a number of examples of such phrases in (1):

(1) 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.

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 English *except for Mussolini* or Dutch *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* "outside (of)"), as in (2).

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

Dutch *behalve* can express the meanings of both *except (for)* and *besides, in addition to* (precisely this ambiguity is also found with Latin *praeter* in its nonspatial uses). In what way these shades of meaning hang together and along which path 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 offer 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. Some 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

[1] I thank Johan van Benthem and Kai von Fintel for sending me their own thoughts on exception phrases and Megan Moser for sending me the material she extracted from the Brown corpus. A precursor to this paper appeared as Hoeksema 1990.

by Keenan and Stavi and by Reinhart. I will argue that these fail to make an important distinction between what I call free and bound exception phrases. Some proposals which do make this distinction (the ones in Hoeksema 1987 and 1990) are discussed later on (see section 3.2.) and rejected on the basis of some new evidence. Other works which treat exception phrases in a formal framework are von Fintel (1989) and Mayer (1982).

2.1. Keenan and Stavi (1986).

The analysis of exception markers given in Keenan and Stavi (1986) is no more than a thumb-nail sketch, but it is a good point of departure for our 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 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 ∩ B
(where E is the universe, A and 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 ∩ B
b. A-{j} ∩ B = ∅
c. j ∈ A
d. j ∈ 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 (6) suggest to me that the clauses in (4c) and (4d) may indeed be mere implicatures, which can be lifted.

(6) 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 (7). If it is not correct, not much harm is done, as the definitions which I employ here and later on can easily be adjusted.

(7) *every .. but Jim* (A,B) iff A-{j} = A ∩ B
no .. but Jim (A,B) iff A-{j} ∩ B = ∅

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

(8) *Conservativity.*

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

(9) 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)

Conservativity of *no .. but Jim*

no .. but Jim (A,B) $\Leftrightarrow$ A-{j} $\cap$ B = $\emptyset$
$\Leftrightarrow$ A-{j} $\cap$ (A $\cap$ B) =
$\Leftrightarrow$ *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 a matter of fact, the situation is not always 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 its 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. Auβer dem Franz kenne ich keinen Linguist.
except for Franz know I no linguist

2.2. Reinhart (1990).

To bring sentences such as the ones in (10) within the scope of Keenan and Stavi's theory, Reinhart (1990) introduces a rule of restructuring at the level of Logical Form, which brings together the exception phrase and the quantified term on which it operates. The bracketings in (11) are taken from Reinharts paper to illustrate the transformation in question. In (11a) we see the input or surface structure, and in (11b), the output structure or logical form.

(11) a. [[Everyone smiled] [except Felix]]
b. [[e smiled] [everyone except Felix]]

Reinhart treats *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 in order to accomodate 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 (12a) by means of a series of reduction transformations ("zeroing" as Harris calls it), the stages of which are given in (12). A similar analysis is proposed for *but*.

(12) a. Everyone smiled, except Felix did not smile.
b. Everyone smiled, except Felix did not.
c. Everyone smiled, except not Felix.

d. Everyone smiled, except Felix.

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. 3), and an analysis along the lines sketched by Harris becomes problematic, if not impossible.

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, like 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 licencing 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 represent (14a) as (14').

(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, so let me just cite one case in point:

(16) Bees will not work except in darkness; Thought will not work except in Silence: neither will Virtue work except in Secrecy.[2]:

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

[2] Page 216 of *Sartor Resartus. The Life & Opinions of Herr Teufelsdröckh*, by Thomas Carlyle, published by Harrap & Co., London, Calcutta and Sydney (no date).

(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 LF-raising of the object NP, but the negative-polarity status of that NP prohibits moving it out of the scope of negation, as (19) illustrates (the star in (19b) is of course reserved for the idiomatic, negative-polarity reading of *a living soul*).

(19) a. A nicer guy I never met.
b. *A living soul I never met.

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 as it is currently understood in GB-theory does not permit such substitutions.

Conjoined sentences with a universal quantifier in each conjunct may also admit of exception phrases. The exception phrase is then interpreted as if distributed over both sentences. An example of this kind is given in (20).

(20) Except for Fred, everybody was happy and nobody wanted to return early.

Movement of (any or all of) the quantifiers out of the conjuncts is impossible, given the Coördinate Structure Constraint on movement rules (Ross 1967), while so-called across-the-board extraction is blocked by the fact that the quantifiers are not the same in (20). Again, this poses a problem for Reinhart's account.

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. 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 (22).

(21) a. Everybody but Jamie was invited.
b. Everybody was invited but Jamie.
c.*But Jamie, everybody was invited.
(22) 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 (23). In both cases, *but for* is used to express the reason why some hypothetical state of affairs is not an actual state of affairs.

(23) 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.[3] 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. In addition, the island effect which Reinhart discusses, though somewhat problematic given the observations presented above, are suggestive enough to warrant further investigation. This concludes my discussion of earlier studies of exception phrases.

3. Typology 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 whereever 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 (cf. the remarks above regarding Harris' (1982) account).

(24) 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 function[5], whereas German *auβer* has a different meaning when used as a connective, one that roughly corresponds to English *unless* (see Abraham 1979 for further discussion).

(25) Du muβt deine Suppe nicht essen, auβer 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.

[3] Dutch *behalve* does not have this particular use. However, English *except for* also exhibits it, as is shown by the following example from the Brown corpus:

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

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

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 (26).

(26) 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 (26) all involve partitive constructions. Note that not all such constructions are grammatical. In particular, (27) is ill-formed.

(27) *None but Jim of us can compete.

This may seem remarkable in light of the fact that (28 a,b) are fine.

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

The contrast between (27) and (26c) 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 (28a), 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 (28b) is acceptable for the same reason.
Some conjunction-like combinations from the Brown corpus are given in (29).

(29) 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 *any but white models* in (29a) is *[[any but white] models]* rather than *[any [but white models]]*. Both structures are possible, but they correspond to different interpretations. The following two contexts may help to bring out these differences:

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

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

In (30) *any* is used as a pronoun and stands for *any women*. The implicit predicate 'women' is provided by the preceding question. In (31), *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. To make this claim more precise, we can use a point-wise definition as in (32):

(32) $(\text{Det}_1\ \textit{but}\ \text{Det}_2)(\text{Noun}) = \text{Det}_1(\text{Noun})\ \textit{but}\ \text{Det}_2(\text{Noun})$

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 (33) is problematic for any simple version of the complex determiner analysis.

(33) Every man and every woman but Adam and Eve were born in sin.[4]

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 (33) 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 (34).

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

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

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

These example differ minimally from the ones in (36) which are acceptable but not exception phrases.

(36) 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 equivalent to the connective *but*. As examples (36a,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 (36a,b) are ungrammatical. This prediction is correct, witness (37).

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

The difference in acceptability between (35) and (37) on the one hand and (36) on the other creates a further headache for Reinhart's account, which would predict all of these cases to be equally acceptable since she analyzes exception phrases as cases of Stripping.

[4]This kind of sentence also poses a problem to the kind of analysis proposed in Von Fintel (1989), according to which exception phrases are common noun modifiers, which limit the application domain of the predicate.

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:

(38) $||\text{NP}_1 \text{ but } \text{NP}_2|| = \{\text{X} \subseteq \text{ E: } \exists \text{ Y: X-Y} \in ||\text{NP}_1||_{E-Y} \ \& \ \text{Y} \in ||\text{NP}_2||\}$

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 (39).

(39) $\neg$ (X $\in ||\text{NP}_1||_E$)

or treat (39) 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 (34a), 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 ultra-filters 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 (40) become valid under this interpretation.

(40) 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 too weak an account. Compare (41a) with (41b).

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

Unlike (41a), a typical example of a scalar implicature lifted by further information, (41b) 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 (38) but require a separate definition. This definition is given in (42).

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

In addition to this definition, it is necessary to characterize the class of NPs that can be modified by a *but*-phrase. 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.

(43) a. *Closure under Submodels:* If E' $\subseteq$ E and X $\in \text{Q}_E$, then X $\cap$ E'$\in \text{Q}_{E'}$
b. *Closure under Model Unions:*
1.27cm0.00cm If X $\cap$ E $\in \text{Q}_E$ and X $\cap$ E'$\in \text{Q}_{E'}$, then X $\cap$ (E $\cup$ E') $\in \text{Q}_E \cup_{E'}$

Examples of noun phrases with the first property is listed in (44), examples of noun phrases with the second property are listed in (45). 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.

(44) all men, every bat, at most three boys, no pets, few books
(45) all men, every bat, John, no pets, 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.

(46) 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 (47) is ungrammatical.

(47) *Only girls but Rex were invited.

On the other hand, free exception phrases are fine with *only*, as (48) shows.

(48) 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 (47) is as given in (49).

(49) (only (girls but Rex))

Since *girls but Rex* is ungrammatical, *only girls but Rex* is also ruled out.[5] The fact that *only* must be the outermost operator is further illustrated by the data in (50).

(50) only Japanese from Tokio
Japanese from Tokio only
*Japanese only from Tokio

Only differs in this respect from *not*.[6] I have argued elsewhere (Hoeksema 1986a) on independent grounds that *not* attaches to determiners, rather than noun phrases. Consequently, (51) is predicted to be bad, given that *not every* as a complex determiner lacks the required closure properties.

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

Under a different bracketing, as in (52), this phrase ought to be acceptable.

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

Since (51) is never acceptable, I conclude that only the parsing in (51) is correct.

[5]Note that this creates another problem for the analysis of exception markers in Von Fintel (1989), mentioned in the previous note.

[6]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). I am assuming that this use is involved in example (46).

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 licencing connected exception phrases. This prediction is correct, as (53) shows.

(53) *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, (54) is grammatical, but the inference in (55) is not valid.

(54) We had little choice but to comply.

(55) 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 (55) 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', this inference is invalid. The status of sentences such as (54) 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 (54) 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 interpreted as the equivalent to *besides* in (54).

3.2. Free exception phrases.

Free exception phrases are by far the most interesting and complex class. They can occur in all the major positions in which sentential adverbials appear, such as (in English) sentence-initial, sentence medial (before the main verb) and sentence-final position, cf.:

(56) a. Except for you, I would not trust any dentist.
b. I would not, except for you, trust any dentist.
c. I would not trust any dentist, except for you.

In Hoeksema (1987), 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 follows:

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

There is a subtle distinction in acceptability between the sentences in (58), where an existential quantifier separates the exception phrase from the universal quantifier and the sentences in (59), where there is a referring term instead of an existential NP.

(58) 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.

(59) 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.

To account for this observation, I added the requirement that the sentence modified by the exception phrase have the property of closure under model unions (but not under arbitrary extensions of the model). This is a purely semantic condition with some desirable properties. 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. (60). Examples d and e show that the surface order of the quantifiers is not relevant, but only 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 (59d) also c-command) them.

(60) 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 (58) are much better when the exception phrase occurs in sentence-final position.

(61) a. Someone damaged every car, except for this Cadillac.
b. Someone left messages for every student, except 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, with the subject being outside their scope. Without introducing yet a different type for exception phrases, we could treat them as sentence operators by translating them in quasi-logical notation as follows:

(62) damage every car, except for this Cadillac ⇒
λx[x damage every car except for this Cadillac]

Here the formula that the exception phrase operates on 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 (58) and (61).

The requirement that the sentences to which free exception phrases apply are not closed under arbitrary extensions of the model is fairly obvious. Arbitrary extensions have the potential to introduce new exceptions. So if some universal P holds in a model M provided that the distinguished exceptions a,b and c are disregarded, we cannot be sure it still holds in an extension of M. Hence purely existential sentences, for instance (which have the property that if M and M' are models, then so is M M') do not

lend themselves for modification by exception phrases. Therefore it makes no pragmatic sense to utter say:

(63) a. *Except for Bill, somebody was happy.
b. *Except for everybody else, somebody did a good job.

One can argue that the ungrammaticality of the sentences in (63) stems from the global properties of these sentences, and not from the fact that the exception can find no universal NP to latch on to, since negation (plus the usual change from *some* to *any*) makes such sentences grammatical:

(64) a.Except for Bill, there wasn't anybody happy.
b. Except for Fred, not a single person was there.

The same constraint against sentences which have the property of closure under arbitrary model extensions also takes care of negated universals. (This is obvious from the equivalence of $\neg\forall$ and $\exists\neg$.) Note that the sentences in (65) are no good. They may seem O.K. at first blush, but some reflection tells one they have no meaning.

(65) a. *Except for Fred, not everybody was there.
b. *Except for you, I did not meet everybody.

Again one might note that this is evidence for a global account of free exception phrases, in which the meaning of the entire sentence rather than that of a quantifier subpart is taken into consideration.

4. A Semantic Account of Free Exception Phrases.

4.1. Problems with Earlier Accounts of Free Exception Phrases.

In this section, I discuss some problems with earlier accounts of free exception phrases, in particular the theory in Hoeksema (1987) that free exception phrases serve to delimit the domain of discussion to a proper subdomain, and the theory in Hoeksema (1990) which claims that free exception phrases induce a minimal change in the model (what one might call the dynamic revision theory).

4.1.1. Exception Phrases as Domain Restrictors.

There are a few nagging problems with the theory that exception phrases are operators which change the domain of quantification by limiting it to a subdomain. First, consider sentence (66), from the Brown corpus.

(66) 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:

(67) 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 Fintel 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 quanti-

fiers 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 (68):

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

Obviously, the normal interpretation of (68a) 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 (68b). 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-existentialuniversal kind, sentences 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 (69) shows.

(69) 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 (69b), Van Pelt is understood as an exceptional tycoon, rather than an exceptional library. Both the fact that the sentences in (69) 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 (70).

(70) 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 (70) 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*.

(71) 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
"Nobody knows me here except for him"

Most interesting in this connection are examples such as (72).

(72) 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'.

There is another set of cases where the domain-restrictor theory makes a wrong prediction, viz. sentences with two (or more) universal quantifiers. It causes ALL quantifiers to be simultaneously restricted to a smaller domain. For sentences such as (73a) the predicted reading is (73b). Such a reading is not actually available for this sentence. The actual reading is (73c). This, then, provides us with a further argument against the domain-restrictor theory.

(73) a. Except for Jeff, nobody trusted everybody.
b. Nobody but Jeff trusted everybody but Jeff.
c. Nobody but Jeff trusted everybody.

4.1.2. Free Exception Phrases as Minimal Updating Operators.

To deal with pied piping and cases such as (72), Hoeksema (1990) introduced a new type of account, based on the idea of substitution. We can view (72) as some compound of the sentences in (74). Sentences (74b) is derived from (74a) by substituting the argument of the exception marker for the quantifier which licences that marker.

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

The idea of interpreting (72) in terms of the two sentences in (74) is also the main intuition behind Harris (1982) account, which we briefly referred to above, before rejecting it. The main problem with Harris account is that is a strictly syntactic one, and it does not seem possible (much less necessary) to maintain it for Dutch or German, because, as mentioned, the exception markers in these languages are not sentential coördinators. However, there is no reason why the meanings of these sentences could not play a role in the definition of the truth-conditions for sentences with exception markers. The proposal in Hoeksema (1990) was to treat such sentences as hidden counterfactuals (of a kind): after all, if we talked to the parents of every pupil, with the exception of the parents of John, then we could also say this in the form of the counterfactual statement (75):

(75) Had we talked to the parents of John, we would've talked to the parents of every pupil.

The way this was worked out in Hoeksema (1990) made use of the notion of a minimal model and the (dynamic) notion of a model updated by a minimal model (for the technical details, see the aforemen-

tioned paper). This semantic interpretation was inspired by the famous Ramsey test for conditionals (cf. Ramsey 1931), where conditionals are interpreted with respect to a stock of beliefs that is updated by the antecedent of the conditional. Sentences with exception phrases are like counterfactual conditionals of a special kind. The main difference between conditional and exception sentences is the greater intensionality of the former. The conditional paraphrase I gave of (75) is only partly correct. If in actual fact we had talked to the parents of John, it might have happened that everybody else would have refused to talk to us. In which case we did not talk to everybody. In other words, there might be some causal connection which prevents the conditional from being true, for instance. 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 one would like to propose for sentences with exception phrases. The truth of the latter can be established by considering a single state of affairs; modal connections between states of affairs (as formalized in conditional logic by accessibility relations or selection functions) need not be considered. Models are viewed as sets of atomic propositions which are marked as True, False, or Undefined. For example, sentence (76) below has as one of its models the one in (77).

(76) Except for Chris, everybody wept.
(77) M = <E,F>
E= {a,b,c}
F(Chris) = c
F(wept, a) = 1
F(wept, b) = 1
F(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 (78). (In Hoeksema 1990, the convention was adopted to keep the universe E constant for all models. This feature is not crucial.)

(78) M' = <E,F'>
E={a,b,c}, F(Chris) = c, F(wept, c) = 1

Model (77) as modified by (78) yields the model in (79). (Note that we replace elements of (77) by elements of (78) whenever there is a conflict between the two.) This model validates the sentence *Everybody wept*, as desired.

(79) M" = <E,F">
E={a,b,c}
F(Chris) = c
F(wept, a) = 1
F(wept, b) = 1
F(wept, c) = 1

Given this semantics, consider what happens with ungrammatical sentences (at least under one scope interpretation) like (80a).

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

A sample model for (80a) is given in (81). For the sake of brevity, I won't write out all atomic propositions, but use set-theoretic notation.

(81) M = <E,F>

E = {a,b,c,x,y}
F(this Cadillac) = c
F(car) = {a,b,c}
F(person) = {x,y}
F(damage) = {<x,a>, <x,b>}

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 <y,c> to the extension of *damage*, we still haven't made (80a) true on the reading where the existential quantifier has wide scope. Only the other reading will be validated automatically. If we require that any minimal change of the appropriate kind should validate the sentence without the exception phrase, then the ungrammaticality of (80a) could be derived. It can be checked that the models for (80a) which have this property are precisely the ones in which there is just one person. But in such cases, existential quantifiers (such as *somebody*) are not used. We do not say that somebody left if the domain of discussion contains a single item. Instead, a definite description (being more informative) would be appropriate.

Having thus far sketched in broad outline the main features of the proposal in Hoeksema (1990), let me now discuss a problem inherent in this approach. The problem arose in the course of thinking about sentences which do not have a minimal model (e.g. Peano arithmetic does not have a minimal model). One such sentence is the following:

(82) Every node dominates and is dominated by some node; domination is transitive and irreflexive.

Consider for this sentence the following graph as a model, where A dominates all other nodes, B dominates all nodes except for A and B, etc.).

(83) A → B → C → ...

It is clear that this model does not quite satisfy the requirements of (82) because the root node A is not dominated by any other node. Then how about it as a model for (84)?:

(84) Except for the root node, every node dominates and is dominated by some node, where domination is transitive and irreflexive.

Intuitively, (84) is true of graph (83). Yet the minimal change account does not predict this. To see this, consider a minimal model in which (85), the result of substituting *A* for *every node*, holds. Such a model is graphically represented in (86).

(85) A dominates and is dominated by some node, where domination is transitive and irreflexive.

(86) X → A → B

In updating (82), we must consider two cases: (1) X is a node in (83); (2) X is not in (83). In the former case, updating (83) with reference to (86) (this is done by taking the union of the two graphs) will lead to a violation of the acyclicity requirement ("dominance is transitive and irreflexive") since any node distinct from A in (82) is dominated by A and since X dominates A in (86). The consequence is a loop X -> A -> X. On the other hand, if X is not in (83), then it will become the root node of the new graph and just as A before, it will violate the requirement that every node has a predecessor. It is clear, on reflection, that no minimal change will turn (83) into a graph which validates (82). The domain-restrictor theory does not fare any better. Removing A from the set of nodes in (83) does not validate the universal statement (82). Now B will be the exception.

4.2. The Semantics of Free Exception Phrases.

There is every reason, then, to set out on a new course. The new semantics for free exception phrases which I now propose turns out to be fairly simple, in comparison to the one given in my earlier paper from 1990. It borrows from the earlier account the notion that substitution must play a role. In other respects it is quite different. The main definition which we need is an elaboration of the following one:

(87) Let A be a proper name with denotation a, and S be a sentence with a distinguished position B, such that $\|S\| = \Phi(\|B\|)$, then whenever $\|S\| = \bigcap_{x \in X} \Phi(\Psi(x))\}$, where X is some subset of E, the domain of (first-order) quantification:

Except for A, S is true just in case $\bigcap(\{\Phi(\Psi(x))\|x \in X\}$ - $\{\Phi(\Psi(a))\}) = 1$

This definition stipulates that exception phrases only have a defined interpretation with universal statements. (Hence sentences in which an existential quantifier has wide scope, such as the ones in (58) above, are excluded.) Universals are here characterized as meets over some set of statements $\Phi(\Psi(x))$ about individuals. From that set the proposition $\Phi(\Psi(a))$ is subtracted. That a must be in X will be assumed as a Gricean implicature. Consider how this definition works in the case of example (88):

(88) Except for Eve, every woman has a mother.

If we let X = *every woman* and A = *Eve*, then (88) is true in case the meet of the set of propositions {‖has a mother‖(x): x *in* ‖woman‖} - {Eve has a mother} has the value 1. Next consider sentence (89):

(89) Except for Fred, nobody was late.

The sentence *nobody was late* is interpreted as the meet of {‖was not late‖(x) ‖ x *in* E}, hence it is a universal statement. We then check to see if {x was not late ‖*x*in *E*} − {‖was not late‖(f)} has a meet which is 1. Next, consider (90).

(90) Except for Fred, everybody was happy and nobody was sick.

This sentence will be true just in case the meet of the set {‖was happy‖(x) and ‖was not sick‖(x): x *in* E} - {‖a was happy and a was not sick‖} is 1. Note that here we make use of the fact that *everybody was happy and nobody was sick* is equivalent to the statement *everybody was happy and was not sick*. If we extend the definition now to all referring terms (NPs of type e), we also have no difficulties in dealing with example (72), repeated below (where the parents of John are now treated as a (collective or grouplevel individual):

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

Here we let X = *the parents of every pupil* and a = ‖the parents of John‖, then we get the correct interpretation that the meet of {‖we talked to the parents of‖(x) ‖ x ‖pupil‖} - {we talked to the parents of John} must be 1. Given the above semantics, the meaning of this sentence might just as well have been expressed by the sentence in (91):

(91) Except for John, we talked to the parents of every pup

where X = *every pupil* this time. I think that this is correct and that (91) has the same reading as the one we focussed on for (72). It also has a reading in which John is an exceptional parent (see section 4.4.

below for discussion of cases where X is a definite description). Likewise, it is predicted that (72) could also have the interpretation that the parents of John are the only pupils whose parents have not been talked to by us. This reading is clearly a bit far-fetched, both pragmatically (parents are not typically pupils) and formally (the structural correspondence between *the parents of John* and *the parents of every pupil* suggests that we treat them as the two elements to be compared in our semantics, A and X). Slightly more complex are pied-piping cases like the following from Dutch.

(92) Behalve met Henk heb ik met iedereen gesproken.
Except with Henk have I with everyone talked
"Except for Henk, I have talked with everyone"

Using an extension of the definition for the English marker *except for*, we can characterize the truth-conditions for (92) as: (92) is true (that is, $\|(92)\| = 1$) just in case the meet of {‖I have talked with‖(x) : x E} - {‖I have talked with Henk‖} is 1. A minor revision of (87) will do the trick here:

(93) Let Y be some constituent containing A such that $\|Y\| =$ (a), and let A, S, x, a, Φ and Ψ be as in (87), then: *Behalve Y, S* is true just in case $\bigcap(\{\Phi(\Psi(x)) \text{ — } x \in X\} - \{\Phi(\Psi(a))\}) = 1$

It is here that the use of substitution shows its full potential. The items pied-piped along with the NP expressing the exception are interpreted within the same sentential frame as the distinguished part X. The properties of pied-piping are difficult to pinpoint exactly. They vary from language to language and from one exception marker to another. Nevertheless it is clear that focus structure is a crucial part of any story that will eludicate this pied-piping phenomenon. I have suggested above that the distinguished element X is in fact a focussed expression. From the literature (e.g. Jackendoff 1972, Rooth 1985) it is clear that a focussed expression is any expression containing a (contrastively) stressed element. In addition to this, it is also frequently found that focussed elements are sometimes larger than they need to be, that is to say, they exhibit pied-piping effects in various constructions which refer to focus structure. Thus gapping remnants are usually "major constituents" (Neijt 1979) - sisters to a verb or verb phrase, even if the constrasted elements are more deeply embedded. Compare e.g. (94a) with (94b).

(94) a. FRED married the sister of HARRY and ED the sister of LARRY.
b. FRED married the sister of HARRY and ED LARRY.

Sentence (94b) cannot have the interpretation of (94a) because *Larry* is not a major constituent. Hence the repetition of redundant material in (94a) is grammatically necessary. Similarly we note that in many languages focus adverbs, which operate on a focussed expression, sometimes must combine with expressions larger than the element with contrastive stress (see Hoeksema and Zwarts, to appear for references and discussion).

4.3. 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*[7] An intriguing prediction that falls out from the present substitutional analysis is the difference in acceptability between the sentences in (95), noted (but not explained) in Hoeksema (1987).

[7]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.

(95) 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, in the second example, it occurs in a direct object. Why should this difference be relevant? The reason seems to be that (95a) is a universal (it is logically equivalent to the statement that every realtor equals me), whereas (95b) is not. The second sentence does imply a universal (if I hate the only realtor then I hate every realtor) but it is not equivalent to one (if I hate every realtor is does not follow that I hate the only realtor). I note in passing that example (95a) also shows that the interpretation of *the* as a logical equivalent of *the only*, as in Russell (1905) and 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 (96-7).

(96) It was the largest house he had ever been in, almost the largest building, except for a hotel.
(97) 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 (98).

(98) 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 (99a) have characteristic paraphrases such as (99b).

(99) 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 New York widower 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.

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 (100).

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

These examples can be paraphrased as in (101).

(101) 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 he 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.

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

Second, it shows clearly that the semantic interpretation of the sentence, and not its form, is what counts in licencing exception phrases. Sentence (102a) is interpreted by taking the meet of the set of all propositions *John cause Mary fewer problems than x caused Mary* minus the singleton of the proposition *John caused Mary fewer problems than Adam caused Mary*.

4.4. Definites and Distributivity.

As we saw in the discussion of connected exception phrases, definite noun phrases such as *the boys* or *my stooges* resist modification by such operators. The reason for this resistance is obvious: The expressions in question are referring terms, not universal generalized quantifiers. However, free exception phrases have a slightly different behavior, as the contrast between (103a) and (103b) makes clear.

(103) a. *The boys but Jim were ready for action.
b. Except for Jim, the boys were restless.

The acceptability of the exception phrase in the b example appears to be related to the distributivity of the predicate. When a predicate such as *lift the stone* is used, which is ambiguous between a collective reading and a distributive reading, the presence of an exception phrase forces the distributive interpretation.

(104) Except for Harry, these boys lifted the ston

Sentence (104) has a reading according to which every boy but Harry lifted the stone. It lacks the reading in which a group of boys, which does not include Harry, has lifted the stone. As my paraphrase of (104) already indicates, the distributivity of the predicate gives universal force to the definite description. More precisely, the definitive description is used to refer to a group of entities, all of whom are claimed to have the property denoted by the distributive predicate. In my 1987 paper, I claimed that this also explains why singular definite descriptions do not licence exception phrases. Since they do not refer to groups but to basic individuals, the predicate cannot induce universal quantification of their members, for they have none. However, as I could have known, this observation is factually incorrect, because (as the literature on partitives and mass nouns makes very clear) even individuals may have a semantically relevant part-whole structure over which one can quantify. Some relevant examples from the Brown corpus are given in (105).

(105) a. Except for sophomore center Mike Kelsey and fullback Mike Rice, Meek expects the squad to be physically sound for Rice.
b. Now unsolder and disassemble the frame except for the two 12" and the first two 3-3" bars which are soldered together.

Example (105a) is a case of a singular collective noun, which has a group structure like plurals, albeit of a more intensional kind. In example (105b), we see quantification over the parts of the frame. The predicates 'unsolder' and 'disassemble' distribute over all parts given by the physical structure of the frame. To indicate universal quantification, sometimes certain adjectives are put to use, such as 'whole' or 'entire'. The addition of such adjectives may serve to render exception phrases more readily acceptable.

4.5. Questions.

As we saw earlier on, questions, in particular wh-questions, generally permit exception phrases. Why is this so? It would make sense only if wh-questions have important characteristics in common with universally quantified statements. As a matter of fact, it turns out that they have. In some languages, such as Japanese, universal quantifiers are used as question words. In others, such as Indonesian and Latin, a clear formal relation is found (cf. Latin *quisquis* "everybody, whoever", which is derived from *quis* "who?" by reduplication). These lexical resemblances are not accidental according to the semantic theory of questions developed by Groenendijk and Stokhof (see Groenendijk and Stokhof 1984). They propose a notion of entailment for questions based on true and complete answers. Put informally, a question A entails a question B just in case any proposition which gives a complete and true answer to A also gives a complete and true answer to B. This means, among other things, that a wh-question such as (106a) entails a yes-no question such as (106b) for every name A:

(106) a.Who is afraid of Virginia Woolf?
b. Is A afraid of Virginia Woolf?

This is of course entirely parallel to the entailment relation between universally quantified sentences and atomic propositions: Sentence (107a) entails a sentence of the form (107b) for every proper name A:

(107) a.Everybody fears Virginia Woolf.
b. A fears Virginia Woolf.

Finally, it must be noted that universal quantifiers and wh-expressions are alike in being strongly sensitive to the discourse setting in establishing their domain of quantification. Just as *everybody* may quantify over any salient set of persons in the discourse setting, the corresponding wh-word who may pertain to any such set. For example, imagine two linguists talking about various job opportunities. One mentions that he applied for a position at the University of Central Alaska. The other might ask:

(108) Who's at Central Alaska?

An appropriate answer to (one understanding of) this question would list the linguists at Alaska, even though the question does not overtly restrict itself to linguists. In this respect, wh-questions are similar to universal statements such as *Everybody's back*, where *everybody* might range over just the members of one's household. This observation is relevant for the domain-restrictor theory of exception phrases, as noted in Hoeksema (1987). That theory requires sensitivity to the domain of discourse and whexpressions have it. What about the present theory? Can that theory also provide an account of exception phrases in wh-questions? At first, it seemed to me that it cannot, given some plausible assumptions about multiple question cases such as the following:

(109) Who is dating who, except for Brad and Janet?

Here, there seems to be a reading where the couple <Janet, Brad> is excluded from the question which

requests a list of ordered pairs. This is immediately accounted for on a domain-restrictor analysis[8], whereas a substitutional account runs into the immediate problem that the exception phrase operates on two wh-phrases which do not form a single constituent. One could propose multi-component substitution, but the ramifications of such a proposal are too large to investigate here. Some evidence for a substitutional account might come from pied-piping behavior. Consider for example the sentences in (110).

(110) a. Whose mother did you see except John's mother?
b. *Whose mother did you see except John?

This pied-piping behavior is similar to what we see in question-answer pairs:

(111) a. A: Whose mother did you see? B: John's.
b. A: Whose mother did you see? B: *John.

However, as noted in Fiengo, Huang, Lasnik and Reinhart (1988: 85), pied-piping in question-answer pairs does not have to stretch as far as it does in the question itself. That is to say, when a constituent such as *Whose mother* is itself embedded in another NP, the whole thing must be fronted to form a wellformed question; however, the answer may in this case correspond to just the genitive NP, cf.:

(112) A: Whose mother's friend did you see? B: John's.

This observation is also valid for exception-phrases:

(113) Whose mother's friend did you see except John's?

The mechanism at work here seems to be case-matching. The wh-word *whose* has to match in case with the answer or exception phrase NP. Hence all cases where the answer has a genitive form (*John's, John's mother's*) are OK, as well as cases where the answer matches the entire fronted wh-phrase (*John's mother's friend*). Here, then, we find a remarkable similarity with the case-matching effects found earlier for Dutch *behalve*. It remains somewhat mysterious, however, why these effects are not found in English with the nominative/accusative opposition. On the whole, the pied-piping effects favor the substitutional account over the domain-restrictor account.

The behavior of *but* in wh-questions deserves some special attention. Horn and Bayer (1984) pointed out that sentences such as (114a) below are only acceptable as rhetorical questions, when the presupposed answer is "Nobody!".[9] 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. 114b), although *except for* may still be used (cf. 114c).

(114) a. Who but a total idiot would say a thing like that?
b. *Who but John do you think is coming to the party?

[8] Well, almost immediate. Let us assume that the domain of quantification contains a set of individuals I, a set of groups G (derived from I by recursive group formation) and for quantification over pairs and n-tuples (necessary for multiple questions) additional sets defined over I and G, such as ExE (where E is the union of I and G), ExExE etc. Now we can think of the conjunction Janet and Brad as a phrase denoting the ordered pair <Janet, Brad>, as proposed e.g. by Link (1984), or we can think of this expression as denoting the unordered group Janet, Brad. In the former case the domain restrictor except for Janet and Brad has the effect of shrinking ExE to ExE -<Janet, Brad>, whereas in the latter case we must view Janet, Brad as a shorthand for the equivalence class of ordered pairs with the same members as this couple. This class is then removed from ExE. In other words, we now have ExE - <Janet, Brad>, <Brad, Janet>. While the latter solution appears to be more cumbersome, it has the advantage of keeping the semantics of and relatively simple by not burdening it with a special ordered-pair forming interpretation.

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

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 (as it is in many other languages, cf. Schmidt-Radefeldt (1977)).

To conclude: Wh-questions show semantic similarities with universal statements. This suggests that the possibility of modifying such questions by means of exception phrases is not a mysterious phenomenon. I have refrained, however, from giving an explicit semantic treatment of exception phrases in wh-questions, pending further study.

5. Conclusion and Prospects.

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 (115a) is true just in case (115b) is true.

(115) 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 (115a) is read De Dicto, as a substitution analysis would predict. Substitution, then, though reminiscent of Montague's rule of quantifying-in, is actually a quite different operation, since it does not produce wide-scope readings. Montague's quantifying-in is only a substitution operation on the syntactic level. It seems to me that Stripping and Gapping constructions can also be analyzed in this manner (cf. Sag, Gazdar, Wasow and Weisler 1985 for a sketch), although we cannot simply claim that exception phrases are subcases of Stripping, given that they may appear in sentence-initial position, unlike Stripping or Gapping remnants. In this respect, exception phrases resemble prepositional groups more than conjunction constructions. On the other hand, the pied-piping of prepositions is a shared feature of exception phrases and Stripping constructions (cf. e.g. *I am talking with your mother, sonny, and not with you/?and not you*).

Problematic for the substitution analysis are first of all cases where exception phrases modify verbs or adjectives. 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. (116a). English permits both *but* and *except*; the latter is attested in (116b) where it operates on the adjective *ready*.

(116) a. Op een lendendoek na was hij naakt.
but for a loin cloth was he naked

*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 (117) and (118).

(117) a. naked but for a loin cloth.
b. virtually naked

c. all but the best
d. virtually all

(118) a. *sick but for a fever
b. *virtually sick
c. *several but the best
d. *virtually several

It is attractive to treat these adjectives as expressing, in some sense, universal quantification, just as we assumed to be the case in comparative superlatives. Note for instance that if somebody is naked, every part of him is naked. If two texts are the same, then the corresponding parts of the texts are also the same. We can express this by means of a meaning postulate:[10]

(119) $N(f) \Leftrightarrow \forall x: x \leq f \Leftrightarrow N(x)$ (where N is a predicate such as *naked* and '$\leq$' a mereological part-whole ordering)

Finally, a word must be said about implicit quantifiers. In the Brown corpus sentences in which there is no overt universal quantifier for the exception phrase are quite common, especially in negative sentences and generic or habitual sentences. Almost 25% of the cases of phrases with the marker *except* that I selected from the corpus were licenced solely by negation and not by some overt quantifier. One can analyse this fact in several ways. For example, it can be viewed as evidence for polysemy or multifunctionality in the system of exception markers. Such markers would then have a separate use in which they do not serve to identify exceptions to universal quantifiers but as negative polarity items. This suggestion, vague as it is, would miss the point that even here, exception markers seem to mark exceptions in some way. It is more attractive to see the frequent use of exception markers in negative environments as evidence for the notion 'implicit argument'. An implicit argument is usually interpreted as an existential quantifier. E.g. in the sentence *We were eating when the police kicked in the door*, the implicit direct object can be paraphrased by the existential quantifier *something*. This can be introduced into the semantics by means of a meaning postulate (cf. Dowty 1978). In the context of negation, this quantifier is equivalent to a wide scope universal one. We have seen before that overt existential phrases in the scope of negation can licence an exception phrase. Consider the following typical example from the Brown corpus:

(120) 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 situation". The present semantic account makes it possible to accomodate such cases without having to revert to an introduction of implicit quantifiers in the syntactic representation.

[10] For adjectives like *same* we need a more complex formula to indicate the fact that if *same*(f,g) does not imply that for all parts x and y of f and g respectively we have that *same*(x,y), but rather that *same*(x,y) only holds for corresponding parts. I will leave this to the interested reader.