

Specifics

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1 Introduction

1.1 Indefinites and scope

The principal characteristic of specific indefinites is that they have a predilection for taking wide scope (I will argue eventually that specificity has nothing to do with scope, in the grammarians' sense, but for the time being I will use the notion as an expository device for distinguishing between readings):

- (1) a. After all that effort and time they now don't know where 40 per cent of it is. (*New Scientist*, 24 April 1999; the neuter pronoun refers to 182 kilograms of plutonium dumped into the Irish Sea by the Sellafield nuclear plant.)
b. All critics who were invited to comment on some poems written by a 2-year-old bonobo hailed them as mature masterpieces.

The indefinite NP '40 per cent of it' in (1a) occurs within the syntactic scope of a negation sign and an attitude verb, but it is interpreted as if these weren't there; for what the sentence means is something like: '40 per cent of the plutonium is such that they don't know where it is.' The same holds, *mutatis mutandis*, for the indefinite 'a 2-year-old bonobo' in (1b). Observations like these have been taken to show that specific indefinites always take widest scope, or even that they are referential expressions (e.g. Fodor and Sag 1982), but as examples given already by Kasher and Gabbay (1976) and Farkas (1981) demonstrate, neither claim is correct:

- (2) a. Now, after all that effort and time, they say they don't know where 40 per cent of it is. (*New Scientist*, 24 April 1999)
b. Each student has to come up with three arguments which show that some condition proposed by Chomsky is wrong. (Farkas 1981)
c. The police report might indicate that Mary wants to marry a Swede. (Kasher and Gabbay 1976)

((1a) occurred in a caption, and (2a) in the text, of the same article.) The intended interpretation of (2a) presumably is that ‘they say that 40 per cent of the dumped plutonium is such that they don’t know where it is,’ and the same holds, *mutatis mutandis*, for the prepositional object in (2b) and *a Swede* in (2c). That is, in each case the specific indefinite is interpreted as if it occurred midway between its actual surface position and the outermost scope-bearing expression.

In all these examples there appears to be mismatch between the position at which an indefinite appears and its preferred interpretation. Following many of the more recent contributions to the literature, I will assume that this is the hallmark of specificity (e.g. Abusch 1994, Reinhart 1997, Winter 1997, van Geenhoven 1998). This mismatch is not the norm: indefinites are often interpreted *in situ*, and there is some reason for taking this to be the default option. The reason is that comparatively ‘neutral’, i.e. semantically attenuate, indefinites have a preference for *in situ* readings, as the following pairs illustrate:

- (3) a. Several students reported that they had been harassed by a professor.
b. Several students reported that they had been harassed by a professor emeritus from the law faculty.
- (4) a. Several students reported that they had been harassed by professors.
b. Several students reported that they had been harassed by professors wearing false beards and pink gowns.

Both (3a) and (4a) are more likely to be understood with the sentence-final indefinite interpreted *in situ*. It is only when these expressions become ‘heavier’ that a specific reading is enforced, as (3b) and (4b) illustrate. Note, incidentally, that (4b) belies the popular view that bare plural indefinites are always construed *in situ*. It may be the case that they prefer such readings more strongly than most other indefinites do, but they allow for specific construals, too.

On the strength of these observations it may be assumed that *in situ* interpretations are the rule, and specific interpretations the exception. Van Geenhoven (1998) suggests, furthermore, that wide-scope construals of specific indefinites are preferred, *ceteris paribus*, to intermediate-scope construals. I believe that she is right about this, though it must be conceded that intuitions are rather subtle. At any rate, the argument must be along the same lines as previously:

- (5) a. Every city was represented by twelve athletes sponsored by a brewery.
b. Every city was represented by twelve athletes sponsored by a local brewery.
- (6) a. Every newspaper featured multiple reviews of a gothic novel.
b. Every newspaper featured multiple reviews of a gothic novel written by its editor-in-chief.

Setting *in situ* readings aside, it seems to me that in the (a) sentences there is a preference for construing the sentence-final indefinites as having wide, rather than intermediate, scope. The balance tips, however, when the indefinites are enhanced with material enabling a link with the universally quantified subject, as the (b) examples demonstrate. These observations support van Geenhoven’s claim that, all else being

equal, wide-scope readings are more easily obtainable than intermediate-scope ones. It bears emphasizing that these preferences hold *ceteris paribus* only, and are easily overridden by considerations of plausibility, as indeed the examples in (3) through (6) demonstrate.

We thus arrive at the following preference order on the range of possible interpretations of indefinite NPs:

in situ < wide scope < intermediate scope

Needless to say, this is a puzzling pattern, to put it mildly, but we will see later on how it can be accounted for in a principled manner.

1.2 *Speakers' intentions*

There is a widespread belief that in order for an indefinite NP to be used with a specific interpretation, the speaker must have a particular individual in mind (e.g. Kasher and Gabbay 1976, Fodor and Sag 1982, Manga 1996, Kratzer 1998, Yeom 1998, van Rooy 1999). It might be thought that this explains the unmistakable family resemblance between specific indefinite NPs, on the one hand, and definite NPs, on the other (which will be documented at some length in the next section). Just as a speaker employs the definite article to signal that an individual is given as part of the common ground between him and the hearer, he employs a specific indefinite if he wants to indicate that an individual is known to him, though not to his audience. In short: while definiteness implies givenness to speaker and hearer, specificity implies accessibility to the speaker alone. (For obvious reasons, there are no linguistic devices for signalling that an individual is accessible to the hearer alone.)

This view on specificity is untenable. To begin with, it is utterly obscure what it means for a speaker to have a particular individual in mind, and here the parallel between this notion and that of givenness already breaks down. It may well be difficult to pin down precisely what it means for something to be part of the common ground between speaker and hearer, but that is nothing compared to the difficulties attending a definition of 'having something in mind'. And while we at least have some diagnostics for determining if something is part of the common ground or not (such as the availability for anaphoric take-up, for example), it is completely unclear how we could determine what the speaker has 'in mind', on a given occasion, other than by asking him. (But what should we say when he asked *us*, in return, what we meant by 'having something in mind'?)

Even if we had a passable definition of what it means to have a particular individual in mind, there would be good reasons for doubting that this has anything to do with specificity. First, there is an *a priori* worry: What could ever be the communicative purpose of systematically discriminating between what is and what is not present in the speaker's mind? Suppose Fred informs Barney that:

(7) Wilma bought a blue dress.

What would Barney gain if he learned that Fred had a particular dress in mind when he used the indefinite? Nothing, as far as I can tell (cf. Winter 1997). In this respect, too, there is a stark contrast with givenness: whereas Barney will be none the wiser when he

learns that Fred had a particular dress in mind, it would have made a considerable difference if, by using *the* instead of *a*, Fred had indicated that Wilma's dress was already part of the common ground.

Another way of bringing out this problem is the following. Suppose that Fred utters (7) with a particular dress in mind. Suppose furthermore that afterwards Barney uses the selfsame sentence to tell the news to his wife. By hypothesis, Fred used (7) to communicate not only that Wilma bought a blue dress, but also that the dress in question was 'given' to him though not to Barney. But if that is so, then there is no way Barney could convey the same message to his wife — which is absurd.

A further problem with the idea that specificity requires having a particular individual in mind is that there are many cases in which this simply doesn't seem to be true, intuitively speaking. This is especially problematic when specific indefinites take intermediate scope, but these are not the only cases. Consider (1a), for example. It would be patently wrong to say that the author of this sentence must have had a particular portion of plutonium in mind; yet there can hardly be any doubt that the indefinite '40 per cent of it' is being employed in a specific sense. Whatever it may be, having something in mind is not a prerequisite for specificity.

Having arrived at this conclusion, we should ask ourselves how we can recognize specificity in the absence of telltale scope-bearing expressions. The answer to this question, I submit, is that by and large we can't. That is to say, the chief problem for a theory of specificity is to account for the interaction between specific indefinites and further scope-bearing expressions occurring in the same sentence. (I am still using the notion of scope in a theory-neutral sense, and these remarks will not prevent me from claiming, later on, that indefinites, be they specific or non-specific, don't have scope.) Apart from that, I know of only one phenomenon which might fall under the purview of a theory of specificity:

(8) At the party, Fred danced with an Irish woman, and so did Barney.

This sentence may or may not be construed as implying that Fred and Barney danced with the same woman, and if this is to do with the fact that the indefinite 'an Irish woman' is either specific or non-specific, as suggested by Kasher and Gabbay (1976), then this is a case in which specificity manifests itself even in the absence of other scope-bearing expressions.

1.3 Similarities between specific indefinites and definites

It was hinted already that, in certain respects, there is a resemblance between specific indefinites and definite expressions. In fact, the similarities are quite striking, as the following observations will demonstrate, and if these facts may be taken at face value, any theory of specificity worth its salt should be able to explain why definites and specific indefinites are so much alike.

1.3.1 Scope

The hallmark of specific indefinites is that they tend to take scope over anything else in the sentence, which is a characteristic definites, too, of course. One example will suffice to illustrate this well-worn observation:

- (9) All critics who were invited to comment on some poems written by Barney's 4-year-old son hailed them as mature masterpieces. (cf. (1b))

This is most likely to be read as implying that Barney has a 4-year-old son who wrote all the poems presented to the various critics. Of course, definites can take 'intermediate scope', too, as (67a) demonstrates:

- (10) a. All critics who were invited to comment on some poems written by their spouses hailed them as mature masterpieces.
b. $\forall x[\text{critic}(x) \rightarrow \exists y[y \text{ is } x\text{'s spouse} \wedge \exists z[\text{poem}(z) \wedge x \text{ praised } z]]]$

If the possessive pronoun is bound by the subject NP, it is of course impossible to obtain a wide-scope reading for the definite expression *their spouses*; but an intermediate reading along the lines of (10b) remains feasible — indeed, it is the most natural reading in this case.

One respect in which definites differ from indefinites at large is that it is quite difficult to obtain something akin to *in situ* readings for the former, whereas we have seen that the latter prefer such readings. Narrow-scope readings for definite NPs do occur, though:

- (11) That wasn't Fred's wife, you blockhead: Fred isn't even married!

But such examples are clearly marked. Hence, although definites and indefinites are quite similar in the way they interact with scope-bearing expressions, their preferences in this regard are different. To summarize:

definites:	wide scope < intermediate scope < <i>in situ</i>
indefinites:	<i>in situ</i> < wide scope < intermediate scope

1.3.2 Partitives

As Ladusaw (1982) was the first to point out, the nominal constituent of a partitive PP must be definite or specific; non-specific indefinites and quantified NPs are not allowed in this position:

- (12) Fred is one of {the / several / *most / *all / *sm / *∅} employees who will be fired.

Here *sm* represents unstressed *some*, which has a distinct preference for a non-specific reading, like the bare plural, indicated by '∅'.

1.3.3 Indefinite *this*

Although formally *this* is a definite article, it sometimes appears to function as if it were indefinite (see Prince 1981 for discussion):

(13) There is this giant spider in the cupboard.

When used in this manner, *this*-NPs function as indefinites because, intuitively, they introduce discourse entities that are new, an intuition which is confirmed by the following example:

(14) *Yesterday, our little daughter brought [a giant spider]_i into the house, and now there is [this giant spider]_i in the cupboard.

In addition, indefinite *this*-NPs behave more like specific than non-specific indefinites, because they typically take wide scope:

- (15) a. If this giant spider is still in the cupboard, Betty will go berserk.
b. There is a giant spider, and if it is still in the cupboard, Betty will go berserk.
c. If there is (still) a giant spider in the cupboard, Betty will go berserk.

(15a) is more or less synonymous with (15b), rather than (15c), which is precisely what one should expect if ‘this giant spider’ were specific.

These observations indicate that indefinite *this*-NPs are expressions that are *marked* for definiteness but *function* as specific indefinites. It is hard to see how this mixing up of form and function could occur unless specificity and definiteness are kindred phenomena.

1.3.4 Cross-linguistic evidence

Perhaps the most telling piece (or, rather, cluster) of evidence is that in language after language definiteness and specificity are lumped together into the same morpho-syntactic rubric. I will give a handful of more or less arbitrarily chosen examples.

- Bemba:

In Bemba, a Bantu language, there is a class of nominal prefixes of the form consonant-vowel, and another class of the form vowel-consonant-vowel. The former are used to mark non-specific indefinites, while the latter alternatively convey definiteness or specificity. The following examples are from Givón (1978); here and in the following glosses are as in the original source:

- (16) a. Umu-ana a-a-fwaaya ci-tabo.
vcv-child he-past-want cv-book
‘The child wanted a book (be it any).’
b. Umu-ana t-a-à-somene ci-tabo.
vcv-child neg-he-past-read cv-book
‘The child didn’t read a/any book.’
c. Umu-ana a-a-fwaaya ici-tabo.
vcv-child he-past-want vcv-book
‘The child wanted the book’ or ‘The child wanted a specific book.’

- Samoan:

Samoan is similar to Bemba in that it has two articles, one of which signals non-specific indefiniteness, while the other combines specificity and definiteness (examples from Lyons 1999):

- (17) a. Sa i ai le ulugāli‘i‘o Papa le tane a ‘o Eleele le fafine.
 Past exist Art couple Pres P. Art husband but Pres E. Art woman
 ‘There was a couple, Papa, the husband, and Eleele, the wife.’
 b. ‘Au-mai se niu.
 take-Dir Art coconut
 ‘Bring me a coconut.’

• West Greenlandic Inuit:

In West-Greenlandic Inuit, an ergative language, transitive verbs may become intransitive by incorporating their objects. This shows itself, among other things, in the case marking on the subject, which is absolutive for intransitive, and ergative for transitive subjects. Moreover, it is only in transitive constructions that verbs bear object-agreement markers. The object of a transitive construction receives absolutive case, and may be either specific or definite, while incorporated objects are non-specific. According to Manga (1996), this is typical of ergative languages. The following sample of West-Greenlandic Inuit is from van Geenhoven (1998):

- (18) a. Angunguaq tikip-p-u-q.
 A.Abs arrive-Ind-Intr-3sg
 ‘Angunguaq arrived.’
 b. Angunguaq aalisakka-mik neri-v-u-q.
 A.Abs fish-Inst.sg eat-Ind-Intr-3sg
 ‘Angunguaq ate fish.’
 c. Arnajaraq aalisaga-si.nngi-l-a-q.
 A.Abs fish-buy-Neg-Ind-Intr-3sg
 ‘It is not the case that Arnajaraq bought {a / more than one} fish.’
 d. Angunguu aalisagaq neri-v-a-a.
 A.Erg fish-Abs eat-Ind-Tr-3sg.3sg
 ‘Angunguaq ate the/a particular fish.’

• St’át’imcets:

St’át’imcets (Lillooet Salish) features an indefinite article which can only occur within the scope of a negative expression, a question, a modal, and so on. In the absence of such operators another article must be used, which has a specific-definite function. The following examples are from Matthewson (1999):

- (19) a. Cw7aoz kw-s áts’x-en-as ku sqaycw.
 Neg Det-Nom see-Tr-3Erg Det man
 ‘S/he didn’t see any men.’
 b. *Áts’x-en-as ku sqaycw.
 see-Tr-3Erg Det man
 ‘S/he saw a man.’

- (20) a. Húy-lhkan ptakwlh, ptákwlh-min lts7a t̃i smém'lhats-a ...
 going.to-1sg.Subj tell.story tell.story-Appl here Det woman.Dimin-Det
 'I am going to tell a legend, a legend about a girl ...'
- b. Wa7 ku7 ílal láti7 t̃i smém'lhats-a
 Prog Quot cry Deic Det woman.Dimin-Det
 'The girli was crying there.'

This sample will suffice to show that many languages treat definiteness and specificity as related notions, which together stand in opposition to non-specific indefiniteness. In conjunction with the evidence of the preceding sections, this raises the question what it is that definites and specific indefinites have in common. In my opinion, one of the main criteria for assessing theories of specificity should be how good their answers to this question are.

1.4 Specificity and distributivity

It has been argued by Reinhart (1997) and Winter (1997) that specific indefinites which have escaped from a scope island don't allow for a distributive interpretation. Reinhart credits Ruys with this insight; Winter attributes it (collectively) to Ruys and himself. Reinhart cites example (67a) from a manuscript by Ruys:

- (21) a. If three relatives of mine die, I will inherit a house.
 b. There are three relatives of mine such that, if they all die, I will inherit a house.
 c. There are three relatives of mine such that, if any of them dies, I will inherit a house.

On the most likely reading of (21a) the indefinite 'three relatives of mine' is construed with narrow scope, but if it gets a specific reading and outscopes the *if*-clause, then according to Reinhart, Ruys, and Winter, it can only be understood collectively. That is to say, if the indefinite is specific, (21a) is synonymous with (21b), not (21c).

This observation is not quite correct, however; what Reinhart *et al.* have found is not a lawful correlation but merely a trend. First, as noted by Matthewson (1999), there are native speakers of English who manage to obtain a distributive reading for (21a), and the same holds for parallel sentences of other languages. Secondly, van Geenhoven (1998) points out that intuitions shift markedly when we vary the example. Thus it appears to be easier to get a distributive reading for the following sentence:

- (22) If some relatives of mine invite me for dinner, I will panic.

In short, although in environments like (21a) or (22) specific indefinites seem to prefer collective construals, specificity does not entail collectivity. This is bad news for two rather different theories of specificity. On the one hand, theories that seek to deal with specificity with the help of quantifier raising will be embarrassed by the fact that specific indefinites disprefer non-distributive readings. On the other hand, theories that rely on choice-functions (more about which shortly) instead of quantifier raising will

find it quite difficult to explain the distributive readings — a point which Winter (1997) emphasizes, because he is confident, apparently, that such readings don't occur.

There is one family of theories that can account for distributive as well non-distributive readings: these are theories which, on the one hand, resemble the quantifier-raising approach in that their account of specificity is based on movement, while, on the other hand, they agree with the choice-function approach that indefinites aren't quantifier expressions. Two such theories are discussed in the second half of this paper.

2 Choice functions

The idea of analysing indefinites with the help of choice functions isn't new; it even has a venerable tradition in mathematical logic (see von Heusinger 1997 for details). What is new is the claim that, with the help of choice functions, specific indefinites can be interpreted without being moved about. That is, choice functions make it possible to construe specific indefinites *in situ* — or so it is claimed by Reinhart (1997), Winter (1997), Kratzer (1998), and Matthewson (1999), among others (there are various differences between these proposals, most of which I will ignore). In the following I hope to show that such claims are precipitate.

A choice function is any function that takes a set X as its argument and returns an element of X as its value. The idea is that it is choice functions that carry the existential force typically associated with indefinite expressions. Therefore, it isn't the indefinite itself that has existential force. Indefinites merely denote properties that can apply to an object delivered by a choice function, which is provided by extraneous sources, the precise nature of which need not concern us here. Following Reinhart (1997) and Winter (1997), I will assume that a choice function is introduced somewhere between the sentence root and the position at which the indefinite occurs. For example, if *a German* in (67a) is construed specifically, we obtain a reading whose representation in standard predicate logic would be as in (67b). This reading (or, at any rate, something approximating it — see below) may be rendered with the help of quantification over choice functions as shown in (67c):

- (23) a. All bicycles were stolen by a German.
 b. $\exists y[\text{German}(y) \wedge \forall x[\text{bicycle}(x) \rightarrow y \text{ stole } x]]$
 c. $\exists f[\text{CF}(f) \wedge \forall x[\text{bicycle}(x) \rightarrow f(\text{German}) \text{ stole } x]]$

(23c) says that there is a choice function f such that all bicycles were stolen by $f(\text{German})$, which is equivalent to (23b) provided the predicate *German* denotes a non-empty set. Which raises the question what happens if there are no Germans. Another question that comes to mind is what exactly f 's argument is. Is it just the set of individuals that *German* happens to denote, or is it a richer object, such as the intension of *German*, for example? These questions will be addressed below.

The main points that I hope to establish in the following are: that there is no good reason for believing that choice functions allow us to construe specific indefinites *in situ*, and that some sort of movement is indispensable if we are to have an adequate account of specificity. It is immaterial to my argument what exactly a movement analysis should look like, and although I will make a proposal of my own in the second

half of this paper, to begin with I just want to argue that some sort of movement is required.

2.1 What is a choice function?

For the time being, I will adopt the extensional stance, and suppose that a choice function only gets to see the set of individuals satisfying the descriptive content of an indefinite NP. Now let us first ask what exactly a choice function is. This is a rather obvious question, and therefore it may come as a surprise that the answer is not nearly as obvious. Here is a first stab:

$$(24) \text{ CF}(f) \text{ iff } \forall X[X \neq \emptyset \rightarrow f(X) \in X]$$

This says that a choice function picks an element from X provided X is not empty. The definition imposes no restrictions on f in case X is empty, and this is what renders it is inadequate, since it will generally yield truth conditions that are too weak. For example, (23a) comes out not as (23b) but as:

$$(25) (23b) \vee [\neg \exists y \text{ German}(y) \wedge \exists z[\forall x[\text{bicycle}(x) \rightarrow z \text{ stole } x]]]$$

It has been suggested by Reinhart (1997) and Winter (1997) that this problem can be solved by revising (24) along the following lines:

$$(26) \text{ CF}(f) \text{ iff } \forall X[[X \neq \emptyset \rightarrow f(X) \in X] \wedge [X = \emptyset \rightarrow f(X) = *]], \text{ where } * \text{ is a special object that, by definition, prevents the satisfaction of any predicate it associates with (i.e., for any } n\text{-place predicate } P, \text{ if } a_i = *, 1 \leq i \leq n, \text{ then } \langle a_1 \dots a_n \rangle \text{ is not in } P\text{'s extension)}$$

This takes care of empty arguments by stipulating that $f(X)$ yields $*$ whenever X is empty, where $*$ is the universal falsifier. This is an improvement, but it still won't do. Intuitively, one would like to say that when 'a Polish friend of mine' is construed specifically, (67a) entails that the speaker has a Polish friend. Our revamped notion of choice function still doesn't account for this, however; it only allows us to infer from (67a) that there is a Polish friend whom the speaker failed to introduce Betty to *provided* it is known beforehand that the speaker has at least one Polish friend — which, clearly, isn't good enough.

$$(27) \text{ a. I didn't introduce Betty to a Polish friend of mine.}$$

$$\text{ b. } \exists f[\text{CF}(f) \wedge \neg [\text{I introduced Betty to } f(\text{Polish-friend})]]$$

Is there any way of defining and deploying choice functions that will deliver the right truth conditions for specific indefinites? Not as long as it is insisted that specific indefinites be interpreted *in situ*. When we consider why a representation like (27b) is inadequate, the answer must be, evidently, that it should state that the speaker has a Polish friend at the point at which the choice function is introduced. But that requires movement, which is precisely what choice-function theorists are determined to do without. I concede that this diagnosis is still a bit impressionistic, but it will solidify as we proceed.

These problems are serious enough, but there are others that, in my opinion, are more serious, and while discussing the latter I will assume, for argument's sake, that the former can somehow be solved. So I propose to ignore the problems discussed in the foregoing, and simply suppose that, say, (27b) is an adequate representation of the intended reading of (27a). What I want to show is that, even then, various other, and deeper, problems arise, each of which indicates that a non-movement treatment of specificity is too tall an order.

2.2 *When variables fail to become free*

Winter (1997) notes that the choice-function analysis runs into trouble over examples like the following, in which an indefinite NP contains a pronoun that is bound by a higher quantifier:

(28) Every girl gave a flower to a boy she fancied.

The problem with this type of construction is that, without further provisions, there is nothing in the choice-function account to block the following reading:

(29) $\exists f[CF(f) \wedge \forall x[\text{girl}(x) \rightarrow x \text{ gave a flower to } f(\lambda y[\text{boy}(y) \wedge x \text{ fancied } y])]]$

That this is an undesirable consequence may be seen as follows. Suppose there are two girls, Betty and Wilma, who happened to fancy the same boys. Therefore, $\lambda y[\text{boy}(y) \wedge x \text{ fancied } y]$ is the same set regardless whether x stands for Betty or Wilma, and since f is a function, $f(\lambda y[\text{boy}(y) \wedge x \text{ fancied } y])$ is the same boy for either girl. Hence, (29) entails that any pair of girls who happened to fancy the same boys gave their flowers to the same boy, which is clearly wrong.

Winter proposes to solve this problem by construing the choice function's argument intensionally, i.e. instead of applying f to sets of boys, it is applied to (intensional) properties of the form 'being a boy fancied by x ', and since there are possible worlds, presumably, in which Betty and Wilma don't fancy the same boys, we can now differentiate between 'being a boy fancied by x ' with x standing for Betty, vs. 'being a boy fancied by x ' with x standing for Wilma, even if in the actual world Betty and Wilma fancied the same boys. I have two objections to this proposal. First, it strikes me as *ad hoc*, because I fail to understand why intensional concepts should be required for deriving the interpretation of an obviously extensional construction. Secondly, even with intensional arguments for choice functions we get the wrong reading for sentences like the following:

(30) a. Every odd number is followed by an even number that is not equal to it.
 b. $\exists f[CF(f) \wedge \forall x[\text{odd-nr}(x) \rightarrow f(\lambda y[\text{even-nr}(y) \wedge x \neq y]) \text{ follows } x]]$

The statement in (30a), though perhaps a bit redundant, is surely true. But the property of being an even number different from x is the same for any odd number x , and therefore the predicted interpretation of (30a) is that there is an even number which follows every odd number, which is plainly wrong.

Another possible way of trying to get around this problem is by equipping choice functions with extra arguments, to be bound by quantifiers occurring between the

indefinite and the position where the choice function is introduced. This means, in other words, that we create a hybrid from choice functions and Skolem functions, which allows for (28) to be represented as follows:

(31) $\exists f[CF(f) \wedge \forall x[\text{girl}(x) \rightarrow x \text{ gave a flower to } f(x, \lambda y[\text{boy}(y) \wedge x \text{ fancied } y])]]]$

Although (31) may be an adequate rendering of (28), this approach doesn't alleviate the trouble in any way. To begin with, it is not enough that we have a formalism in which sentences like (28) can be represented with the choice-function variable being bound externally. Such representations must be derived in a principled way, and it is by no means obvious how that could be done. Secondly, even if choice functions are allowed to take further arguments, we don't want to force them to do so, because that would frustrate the proposed treatment of specific indefinites. For example, if (23a) were assigned the following representation, the indefinite NP *a German* would be construed, in effect, as having narrow scope:

(32) $\exists f[CF(f) \wedge \forall x[\text{bicycle}(x) \rightarrow f(x, \text{German}) \text{ stole } x]]]$

But now we are back to square one; for even if (31) is a possible representation of (28), we still haven't found a way of excluding (29).

The reason why sentences like (28) can cause trouble in the first place is the premise that indefinites must be interpreted *in situ*. If specificity is treated by means of movement the problem doesn't even arise: moving (the semantic correlate of) the indefinite 'a boy she fancied' to the left periphery will render it impossible for the universal quantifier to bind the pronoun — and that is all there is to it. Not only is this an adequate explanation obtained without *ad hoc* stipulations: it is also the most natural and obvious way of explaining how bound pronouns can obstruct a specific interpretation.

2.3 Polarity

If *some* occurs within the syntactic scope of a negative expression, the sentence may either be construed as a denial, or the indefinite headed by *some* may receive a specific construal. With the negative-polarity counterpart of *some*, in contrast, neither option is available:

(33) a. Wilma didn't see some gnus in her front garden.
 b. Wilma didn't see any gnus in her front garden.
 c. $\exists x[\text{gnu}(x) \wedge \neg[\text{Mary saw } x \text{ in her front garden}]]]$

While (33a) can be understood as shown in (33c), with a specific reading of the indefinite object, (33b) only affords a narrow-scope interpretation. And if *some gnus* in (33a) is interpreted *in situ*, the sentence can only have a marked denial reading, which isn't available with *any*, as (67) illustrates (for extensive discussion of denials, see Geurts 1998).

(34) Wilma didn't see {SOME /*ANY} gnus in her front garden: she saw a whole herd!

A movement analysis readily accounts for these observations. Since *some* is a positive-polarity item, a *some*-NP that remains within the scope of a negative expression will have to have a marked interpretation, and if that is to be avoided, the indefinite must be moved out of the negative environment, and thus receive a specific interpretation. *Any*, on the other hand, *requires* a negative environment, and therefore cannot get a specific interpretation.

It is crucial to this explanation that indefinites be moveable objects, and therefore it cannot be incorporated in a theory which postulates that indefinites must always be interpreted *in situ*. But then it becomes utterly mysterious how a choice-function theory could ever account for the peculiarities of *some* and *any*.

2.4 Intensional contexts

The statement in (67) has at least three distinct readings, which, in terms of scope, can be represented as in (67a–c):

(35) Bob believes that all cows were blighted by a witch.

- (36) a. $\exists y[\text{witch}(y) \wedge \text{Bob believes: } \forall x[\text{cow}(x) \rightarrow y \text{ blighted } x]]$
 b. Bob believes: $\exists y[\text{witch}(y) \wedge \forall x[\text{cow}(x) \rightarrow y \text{ blighted } x]]$
 c. Bob believes: $\forall x[\text{cow}(x) \rightarrow \exists y[\text{witch}(y) \wedge y \text{ blighted } x]]$

(36a) and (36b) both require a specific reading of the indefinite *a witch*. Some people (not I) would say that, on the former reading, the speaker must have a particular witch in mind, while on the latter reading, it is Bob who must have a particular witch in mind. In contrast to these two interpretations, the third reading, represented by (36c), allows for the possibility that, according to Bob, more than one witch was implicated in the blighting of the cows. Let us focus on the first two readings, and consider how they could be rendered in a choice-function framework.

- (37) a. $\exists f[\text{CF}(f) \wedge \text{Bob believes: } \forall x[\text{cow}(x) \rightarrow f(\text{witch}) \text{ blighted } x]]$
 b. Bob believes: $\exists f[\text{CF}(f) \wedge \forall x[\text{cow}(x) \rightarrow f(\text{witch}) \text{ blighted } x]]$

Apart from the fact that (37a) and (37b) commit the speaker and Bob, respectively, to a belief in choice functions, which doesn't seem to be right, these representations cannot be both correct: if (37a) captures (36a), then (37b) does not capture (36b), and vice versa: if (37b) captures (36b), then (37a) does not capture (36a). For suppose that (37b) is correct. If this formula is true, on its intended interpretation, then it is Bob who believes that there is a witch; someone who utters (35) with this interpretation in mind does not commit himself to this claim. But if this holds for (37b), then the same holds for (37a), for if the predicate *witch* is construed relative to Bob's doxastic state in one case, it will have the same construal in the other. This is not right however: whereas (37b) should entail that Bob believes that there is at least one witch, (37a) should commit the speaker to this belief. Of course, if we start from the assumption that (37a) is correct, we obtain the mirror image of the preceding argument, so the upshot is that at least one of (37a, b) is inadequate.

This problem arises because the intended distinction between (37a) and (37b) demands that the indefinite *a witch* be interpreted relative to different contexts. The most natural way of achieving this is by moving the indefinite to the context it belongs to, but this option is anathema to the choice-function theorist. That being so, I can think of only one solution, which is admittedly clumsier than the movement analysis, but at least allows us to leave specific indefinites in place: we introduce a new inventory of indices for keeping track of contexts and key the interpretation of an indefinite to the appropriate context, for instance, by means of Peacocke’s (1978) indexed actuality operator (which has been reinvented several times in the linguistic literature, e.g. by Kuroda 1981 and, more recently, by Farkas 1997). Formally, this means that we trade in our standard intensional logic for a multi-dimensional intensional logic (note that two indices won’t suffice because attitude reports can be embedded in each other), and (37a, b) give way to:

- (38) a. $[_0 \exists f[CF(f) \wedge \text{Bob believes: } [_1 \forall x[\text{cow}(x) \rightarrow f(@_0(\text{witch})) \text{ blighted } x]]]]]$
 b. $[_0 \text{Bob believes: } [_1 \exists f[CF(f) \wedge \forall x[\text{cow}(x) \rightarrow f(@_1(\text{witch})) \text{ blighted } x]]]]]$

In (38a) the predicate *witch* is evaluated in the main context, and the choice function selects someone who, according to the speaker, is a witch. In (38b), on the other hand, the predicate is evaluated to Bob’s doxastic context, and the choice function selects someone who is a witch in Bob’s belief worlds.

This solution has an obvious drawback, however: it is inconsistent, if not with the letter then certainly with the spirit of the desideratum that indefinites be interpreted *in situ*. Granted, a choice-function theorist who adopts this approach may rightly claim to have a theory of specificity that doesn’t involve movement, but he cannot pretend to have shown how to *interpret* specific indefinites *in situ*: although the predicate *witch* in (38a) may not have been moved, it is interpreted upstairs. Hence, apart from the fact that this approach entails considerable complications of a technical nature, it merely serves to keep up appearances.

2.5 *Summing up*

The choice-function theory is faced with a number of non-trivial problems which do not even arise when we adopt a movement theory, of one kind or another. So the least we can conclude is that, as matters currently stand, theories using choice functions aren’t a serious alternative to movement theories. But, furthermore, all the various objections raised in the foregoing point in the same direction, which is that the simplest and most natural way of dealing with specificity is by means of movement.

3 The binding theory of presupposition

In the next sections I will compare two proposals for giving a unified account of specificity and presupposition (one by van Geenhoven and one by myself), both of which adopt the binding theory of presupposition for dealing with presupposition projection. So before we move on I want to quickly recapitulate the main tenets of that

theory; for more discussion, see van der Sandt (1992), Geurts (1999), and Geurts and van der Sandt (1999).

The binding theory is an extension of discourse representation theory (Kamp 1981), and consists of three principal claims. The first of these is that anaphora is a species of presupposition, and that the standard presupposition-inducing expressions (such as definite NPs, factives, transition verbs, and so on) differ from pronominal anaphors mainly in that they possess a richer semantic content. This difference explains why in general presupposition inducers, unlike anaphoric pronouns, may be interpreted by way of accommodation, which is the second key notion in the theory. Finally, it is assumed that the process of presupposition projection is subject to certain constraints. It is the status of these constraints that will be especially important in the following.

Formulated in procedural terms, the binding theory predicts that if an utterance contains a presupposition-inducing element, the hearer will initially attempt to bind the presupposition to a suitable antecedent, just as he would try to bind an ordinary anaphor. If the presupposition cannot be so bound, it will be accommodated, i.e. it will be inserted in some accessible DRS. In general the number of positions at which a presupposition may be accommodated is greater than one, and if it is the choice is restricted by various constraints. Before I turn to these constraints, let me first illustrate the workings of the theory:

(39) If Fred is gay, then his son is gay, too.

This sentence contains (at least) two presupposition-inducing expressions: the definite NP *his son*, which triggers the presupposition that Fred has a son, and the focus particle *too*, which triggers the presupposition that someone different from Fred's son is gay. Note that the first presupposition is 'inherited' by the sentence as a whole, while the second one is not: normally speaking, an utterance of (39) would license the inference that (according to the speaker) Fred has a son, but not that someone else besides Fred's son is gay. The binding theory accounts for these observations as follows. Suppose that the grammar assigns (39) the intermediate semantic representation in (67a). I assume for convenience that most interpretative problems have been cleared out of the way already, and that the only thing that remains to be done is resolve the presuppositions triggered by *his son* and *too*, which are marked out by single and double underscores, respectively.

- (40) a. $[x: \text{Fred}(x), [: \text{gay}(x)] \Rightarrow [\underline{u}, \underline{v}: \underline{x}'\text{s-son}(u), \underline{\text{gay}}(\underline{v}), \underline{v} \neq \underline{u}, \text{gay}(u)]]$
 b. $[x, u: \text{Fred}(x), x'\text{s-son}(u), [: \text{gay}(x)] \Rightarrow [\underline{v}: \underline{\text{gay}}(\underline{v}), \underline{v} \neq \underline{u}, \text{gay}(u)]]$
 c. $[x, u: \text{Fred}(x), x'\text{s-son}(u), [v: v = x, \text{gay}(x), \text{gay}(v), v \neq u] \Rightarrow [: \text{gay}(u)]]$
 d. $[x, u: \text{Fred}(x), x'\text{s-son}(u), [: \text{gay}(x)] \Rightarrow [: \text{gay}(u)]]$

(40a) is the initial semantic representation correlated with (39), in which two presuppositions remain to be resolved. One of these, that Fred has a son, cannot be bound, and therefore must be interpreted by way of accommodation. Now there is a general constraint on presupposition projection to the effect that any presupposition prefers to be projected to as high a position as possible, and accordingly our first presupposition is accommodated in the principal DRS, which yields (40b). The remaining presupposition, triggered by the focus particle, can be bound in the

antecedent of the conditional; this results in (40c) which, assuming that Fred and his son are different persons, is equivalent to (40d).

The binding theory may be summed up in the following three principles:

- (A) Presuppositions must be projected (i.e., bound or accommodated).
- (B) Binding is preferred to accommodation.
- (C) A presupposition must be projected to the highest possible DRS.

It will be evident that none of these principles is absolute, although the first two may be more absolute than the third one. They are all subject to general constraints on interpretation, which require that an interpretation be consistent, coherent, and so on. Before these principles come into play, presuppositions are merely representational structures, and are therefore completely inert. Principle A drives away the inertia by insisting that presuppositions be either bound or accommodated. Principle B captures the insight that accommodation is a repair strategy: in principle, a presupposition wants to be bound, but if it cannot be bound it will be accommodated. Principle C may be viewed as a generalization of a constraint first proposed by Heim (1983). Heim distinguishes between two types of accommodation: global and local. In terms of the present framework, a presupposition is accommodated globally if it goes to the principal DRS, and locally if it is accommodated in the DRS where it was triggered. Heim's proposal is that, in general, global accommodation is preferred to local accommodation, and principle C generalizes this in two ways. First, this principle applies not only to accommodation but to projection in general. This makes some difference from an observational point of view (though not much), and it is surely more attractive conceptually speaking. Secondly, although it is possible to capture Heim's distinction between global and local accommodation in our framework, the distinction as such doesn't play a role in the theory. In general, there is a line of accessible DRSs in which a presupposition can be accommodated, the two ends of this chain being the main DRS and the DRS where the presupposition arises. Global and local accommodation are just convenient labels for referring to accommodation in these DRSs, but they do not denote special processes.

4 Accommodating indefinites

Recently, it has been suggested by several independent sources that specificity should be handled in terms of, or at least in conjunction with, presupposition projection (Cresti 1995, Yeom 1998, van Geenhoven 1998). This is an attractive idea, as I will try to show, but it requires a dramatic change of perspective, too, because it implies that specificity is an essentially *pragmatic* phenomenon. Following these developments, I will present my own unified theory of presupposition and specificity in the next section. In many respects, my account is related as well indebted to van Geenhoven's, which I will therefore discuss first.

4.1 *Incorporation vs. accommodation*

The majority position in the literature on specificity is that indefinites are ambiguous between specific and non-specific readings. Van Geenhoven (1998) doesn't take exception to this view, but she develops it in an entirely new way. According to van Geenhoven, non-specific indefinites are ordinary predicates, which neither possess quantificational force nor introduce reference markers or anything of the sort. If the indefinite in (67a), for example, is interpreted non-specifically, it doesn't have narrow scope; indeed, it doesn't have scope at all because it is semantically incorporated by the verb, as suggested by the paraphrase in (67b):

- (41) a. Every man loves a woman.
b. Every man is a-woman-lover.

If, on the other hand, an indefinite gets a specific reading, its semantic representation is rather different. Specific indefinites are analysed in accordance with the standard DRT doctrine on indefinites, save for the fact that it is stipulated that they must be accommodated. Or in other words, if *a woman* in (41a) is specific, it is treated as if it were a presupposition-inducing expression whose presupposition has the peculiarity that it doesn't want to be bound. Hence, the indefinite is dealt with in two steps. First, the grammar produces the initial discourse representation in (67a), in which the semantic correlate of *a woman* is marked as specific, and then this representation is fed into the projection mechanism of the binding theory, which treats the indefinite description as it would treat any (other) presuppositional expression, except that it cannot be bound. Consequently, it must be accommodated, and since there is a general preference for accommodating things at the highest level of representation, it is predicted that the resulting interpretation will be (67b).

- (42) a. $[: [x: \text{man}(x)] \langle \text{every } x \rangle [u: \underline{\text{woman}}(u), x \text{ loves } u]]$
b. $[u: \text{woman}(u), [x: \text{man}(x)] \langle \text{every } x \rangle [x \text{ loves } u]]$

I find this analysis appealing for a number of reasons. To begin with, it comes essentially for free, because all the machinery it employs is already in place, as it is required anyway for dealing with presupposition projection. Secondly, van Geenhoven's proposal explains the parallels as well as the differences between definites and specific indefinites. The reason why definites and specific indefinites are so similar is that they are interpreted by the same projection mechanism; the main difference is that definites want, and specific indefinites don't want, to be bound. Thirdly, the theory accounts in a principled way for the puzzling pattern of interpretations discussed in § 1.1, which I repeat here for ease of reference:

in situ < wide scope < intermediate scope

According to van Geenhoven, indefinites are ambiguous between a specific and a non-specific reading, and if it may be assumed that the latter prevails by default, then an *in situ* construal is preferred to a reading that involves movement, and if an indefinite gets a specific reading, principle C of the binding theory entails a preference for a wide-scope as opposed to an intermediate-scope reading.

Although van Geenhoven's theory hinges on the premise that specific indefinites are construed by way of movement, it should be stressed that this account has nothing to do with quantifier raising (or, for that matter, any other of the standard techniques for dealing with quantifier scope). Presupposition projection is a pragmatic affair, and therefore van Geenhoven's proposal can only be seen as an attempt at dealing with specificity in pragmatic terms. Quantifier raising, in contrast, takes place at or near the syntax-semantics boundary, so a theory based on raising implies that specificity is a grammatical phenomenon, and this view has never been challenged even by authors who rejected the raising analysis. Thus considered, van Geenhoven's proposal is little short of iconoclastic.

4.2 *Objections*

Although I applaud van Geenhoven's pragmatic turn, and agree with the fundamental intuition underlying her theory, I have two objections, one of which I consider to be particularly serious. To begin with the major problem, I maintain that van Geenhoven's analysis is conceptually incoherent. To my mind, the very idea of a class of expressions that insist on being interpreted by way of accommodation is a contradiction in terms. Accommodation is a repair strategy by definition. A speaker who presupposes that φ presents φ as given, and if it is not given it is at the hearer's discretion whether or not he wants to play along by accommodating φ . Therefore, accommodation isn't anything like an ordinary rule of interpretation; it is a fall-back option, and if one wants to postulate a linguistic category that *selects* this option, there is a fair amount of explaining to do.

But can't we simply broaden the concept of accommodation by ruling that it applies not only to presuppositions but to certain other types of information, as well? We can, of course, but there is a price to pay. A broadening of the notion of accommodation entails that we forfeit a powerful explanatory lever in our theory of presupposition projection. For we then will have to come up with new answers to such questions as: What justifies accommodation?, Why is binding preferred to accommodation?, and so on. And as long as I don't see how these questions might be answered, I am not willing to pay this price.

My slightly less urgent complaint concerns van Geenhoven's assumption that indefinites are systematically ambiguous between specific and non-specific readings. Notwithstanding the fact that this assumption is commonplace in the literature, I don't believe there is much independent evidence to support it, but that is as it may be, because nobody would deny that ambiguities are ugly and should be avoided at practically any cost. And, come to think of it, one should expect that a specific/non-specific ambiguity can be avoided in a framework based on the insight that specificity is a pragmatic affair.

5 **Specificity and backgrounding**

My proposal is to relate specificity and presupposition to each other, not by reducing the former to the latter, as van Geenhoven has tried, but by subsuming them under a more comprehensive rubric, which I call 'backgrounding'. I will argue that this view doesn't

suffer from the shortcomings discussed in the foregoing, and, furthermore, that it throws a new and perhaps better light on presupposition as well as on a number of phenomena that thus far lacked a systematic account.

5.1 *Foreground and background*

Following Foley and van Valin (1985) and Foley (1994), among others, I understand the opposition between foreground and background distinction purely in terms of informational prominence, where prominence is a relational rather than an absolute notion. By uttering a sentence a speaker typically conveys a considerable amount of information, only a small portion of which is central to his concerns. The remainder is backgrounded information: auxiliary matter that merely serves to anchor the foregrounded information to the context, or information which is brought in *en passant*, if not downright furtively. Backgrounded information is not necessarily unimportant, but it is of secondary interest in relation to foregrounded information. Thus the notion of background is primarily a negative one: backgrounded information is what remains when foregrounded information is taken away. It may well be, therefore, that it is impossible to provide a single positive description covering all sorts of background information. But no matter how many reasons for, or ways of, backgrounding there may be, I will suggest that at least some interpretative mechanisms do not discriminate between them.

A further, and crucial, negative characteristic of my notion of background is that it doesn't entail givenness; only the converse is true. Backgrounded information may be given, or presented as given, but new information is not necessarily foregrounded. For example, enclosing new information in (intonational or orthographic) parentheses often serves to indicate that it is of secondary importance, which is to say that it is backgrounded, not that it is presented as given.

Although the distinction between foreground and background may be signalled by intonational means, as we have just seen, I don't want to make any substantial claims about the relationship between intonation and foreground/background. However, I should like to note that the correlation between intonational prominence and foregrounding is imperfect, at best. This observation is not new, but I feel it bears emphasizing nonetheless. Consider the following example:

(43) The course on postmodern theology will be given by [the dean]_F.

Suppose, for enhanced clarity, that this is an answer to the question 'Who is teaching the course on postmodern theology this year?', so we can be sure that the non-focused part of (43) is given, and therefore backgrounded. Now of course the focused part is (presented as) given, too, simply by virtue of the fact that it is a definite NP. But surely not everything in this statement is given? The solution to this puzzle is not so hard to find: the focus on *the dean* doesn't highlight the dean, but rather the fact that it is he who will be teaching the course on postmodern theology. The dean is given; that he will play a certain role is foregrounded.

If backgrounded information need not be given, there is no reason why it couldn't be marked as new. I want to suggest that this is not just an abstract possibility: it does

happen that backgrounded information is marked as new; this is precisely what specificity comes down to.

5.2 *Accessibility and the Buoyancy Principle*

An utterance is always interpreted within a context, and broadly speaking utterances and contexts interact with each other in two ways: the context affects the interpretation of an utterance, which in its turn changes the context in which it occurs. In DRT the context of utterance is pictured as a line of accessible DRSs, and therefore the notion of accessibility is of central importance to DRT (as it is, *mutatis mutandis*, to all dynamic theories of meaning). What, exactly, is accessibility? From a technical point of view this question is not so hard to answer, but when we interpret the question as being about the theoretical status of the accessibility relation, many different answers are possible. In Kamp's (1981) original version of DRT, accessibility was associated with anaphoricity in the sense that it was only used for constraining the interpretation of anaphoric pronouns. In later versions of the theory, the notion of accessibility gradually assumed a much broader significance. Thus, as we have seen in § 3, in the binding theory of presupposition accessibility demarcates what is given at the point where an expression occurs. I believe that an even broader view is called for, and that the accessible domain must be seen as the background against which an utterance is interpreted, where 'background' is to be understood as explained above.

When we thus broaden our perspective on the significance of accessibility, it is only to be expected that some of the principles of interpretation hitherto cast in terms of accessibility will have to be generalized. This applies, in particular, to principle C of the binding theory, which I propose to supplant with the following:

The Buoyancy Principle

Backgrounded material tends to float up towards the main DRS.

Strictly speaking, the Buoyancy Principle isn't part of our theory of presupposition projection, because it is not specifically about presuppositions, so all that remains of the original binding theory is two 'axioms', one saying that presuppositions want to be bound, the other, that presuppositions that cannot be bound may be accommodated. The theory's predictions aren't affected by this change, although they are now seen in a somewhat different light. In particular, I am no longer committed to the claim that presuppositions tend to take 'wide scope' *because* they are presuppositions; it is rather because they are backgrounded, and therefore subject to the Buoyancy Principle, that they gravitate towards the principal DRS. But as far as the theory of presupposition is concerned, the proposed modification isn't exactly a volte-face. Still, these relatively minor amendment may turn out to be more consequential than one should think, because it invites a rethinking of the binding theory's treatment of at least some presupposition triggers, as I will argue in § 6.

5.3 *Explaining specificity*

In keeping with DRT orthodoxy, I regard indefinites as property-denoting expressions that receive existential import when they occur in argument positions. The main

advantage of this division of labour is that it makes for a uniform analysis of indefinites occurring in argument positions and indefinite non-arguments, such as predicate nominals, for example. To illustrate, it allows us to maintain that *a ventriloquist* has the same meaning in both of the following sentences:

- (44) a. Barney is a ventriloquist.
b. Betty is married to a ventriloquist.

In (44a) as well as in (44b), *a ventriloquist* merely denotes a property, but only in the latter case is this property applied to a reference marker introduced by the verb. I will assume that, if this happens, the reference marker in question is labeled as new. There are various ways of accounting for this feature (if it is one), but that is a topic I don't want to go into here.

Unlike Reinhart, van Geenhoven, and many others, I deny that indefinites are ambiguous between a specific and a non-specific reading: indefinites always denote properties. If an indefinite occurs as an argument it may be construed as specific or non-specific depending on whether it is backgrounded or not, which is to say that the choice is a pragmatic one. Of course, to say that a given aspect of interpretation is a pragmatic one is not to deny the possibility that it is conventionally marked in some languages. In this respect, specificity is in the same boat as definiteness, which is a pragmatic notion, too, and is conventionally marked in some, though by no means all, languages.

Following the general consensus, I take it that by default indefinites are construed non-specifically, and the most natural way of accounting for this is by assuming that, all things being equal, an indefinite will tend to be construed as part of the foreground because it carries new information. I still deny, of course, that new information is always foregrounded, but it is only natural that the former status tends to be escorted by the latter. It is only under special circumstances that new information is backgrounded, and if this happens, the expression in question is specific.

We are now all set to explain the main facts about specificity, beginning with the interaction between indefinites and (other) scope-bearing expressions. We have just seen why indefinites prefer to be construed non-specifically; this is, I suggested, because they tend to be part of the foreground. But if they are backgrounded, the Buoyancy Principle applies, which is to say that, other things being equal, they will take wide scope, and only if all things aren't equal will they take intermediate scope. This is precisely the order of preferences that we wanted to account for. Secondly, the similarities between definites and specific indefinites are explained because both types of expressions convey backgrounded information. Thirdly, and by the same token, it is only to be expected that there will be languages which lump together specificity with definiteness, assigning the two functions a single article or case marker, say. On the present account, such conventional devices receive a straightforward interpretation: they signal that something is part of the background. Thus a *v*cv-prefix in Bemba, for example, isn't ambiguous in any way; it just serves to indicate that the expression it attaches to is backgrounded.

The partitive constraint is explained along the same lines. It is reasonable to suppose that, in an expression of the form 'Det α of β ', the main duty of β is to help identify the intended α , and is therefore backgrounded (cf. e.g. Kuno 1987). So, properly

understood, the partitive constraint is not that β must be either definite or specific, but rather that it must be backgrounded. This explains why definites and specific indefinites can occur in partitive constructions, while quantifiers and non-specific indefinites can't.

5.4 *Summing up*

It will be evident that this analysis of specificity owes a great deal to van Geenhoven's proposal. But my account improves upon van Geenhoven's by giving a coherent picture of the relation between specificity, on the one hand, and presupposition and definiteness, on the other, while forgoing the premise that indefinites are ambiguous between specific and non-specific readings. Apart from providing a principled way of dealing with specificity, the present theory offers another attraction as well, in that it may shed new light on matters not directly related to specificity. It is to these matters that we now turn.

6 **Second thoughts about presuppositions (and other matters)**

Being an extension of standard DRT, the binding theory regards presuppositions as elements that would like to be bound an antecedent. This is a view that agrees with pre-theoretical intuitions about the definite article, for example, but it doesn't seem right for some other expressions and constructions that are standardly categorized as presupposition inducers. I want to propose that at least some of these are better viewed as instances of backgrounding.

6.1 *Lexical 'presuppositions'*

Intuitively speaking, the notion that presuppositions are anaphoroid elements does not seem to be quite appropriate for dealing with lexical inferences like the following, which have often been said to be presuppositional in nature (here '>>' is to be read as 'implies, intuitively speaking'):

- (45) a. Leslie is a bachelor.
>> b. Leslie is a man.
- (46) a. Wilma managed to fry an egg.
>> b. It was difficult for Wilma to fry an egg.
- (47) a. Fred accused Barney of nepotism.
>> b. Nepotism is a bad thing.

It is commonly held that (45a) presupposes (45b), and this claim seems justified by the observation that this inference tends to go through even when (45a) is embedded in non-entailing environments, such as:

- (48) Perhaps Leslie is a bachelor.

A naive account of facts like this would be to suppose that the lexical content of *bachelor* falls into two parts: an assertional part which specifies that *bachelor* is

truthfully predicated only of unmarried individuals, and a presuppositional part which says, among other things, that a bachelor is a man; of course, it is the second half of the content of *bachelor* that triggers the presupposition in (45a) and (48). There are several problems with this naive account. First, as it stands, this analysis implies that *every* occurrence of *bachelor* gives rise to the presupposition that the individual it is being applied to is a man, and therefore it predicts, for instance, that

(49) Betty is allergic to bachelors.

means something like, ‘Betty is allergic to unmarried individuals who are presupposed (by someone?) to be men’ — which is not what we want. The solution to this problem is fairly obvious: the word *bachelor* should only be allowed to trigger its presupposition when it is being used predicatively. But this seems to entail that *bachelor* is ambiguous between a presupposing and a non-presupposing reading, which is not exactly an appealing consequence.

The second problem, which is related to the first, is the following. Suppose that it is encoded in the lexicon that predicating *bachelor* of some individual *a* carries with it the presupposition that *a* is man. Consider now how the words *bachelor* and *man* are related to each other: the former is a hyponym of the latter, and the only distinctive feature of the word *bachelor* is that it applies to unmarried individuals. But at the same time that is all we are saying, as opposed to presupposing, when we call somebody a bachelor. Could this be an coincidence? I think it is pretty clear that it is not. For one thing, other hyponyms behave alike: *spinster* presupposes ‘female’, *woodpecker* presupposes ‘bird’, and so on. For another, an intuitively plausible story about this phenomenon is readily available: if a speaker wants to announce that Leslie is unmarried and has even the slightest doubt about Leslie’s sex he would say that Leslie is unmarried rather than risking (45a). I do not want to suggest that spelling out an explanation along these lines is going to be trivial, but it is obvious that if such an account could be made to work it would be much more attractive than the one we started out with, which says, in effect, that it is a lexical accident that (45a) presupposes (45b).

There is yet another, and more severe, problem with the suggestion that (predicative) *bachelor* presupposes ‘adult male’. It is that this presupposition, if it is one, is evidently not the kind of thing that seeks to be bound in anything like the way anaphoric elements seek to be bound. This becomes quite apparent when one considers how the binding theory would deal with (48), for example:

- (50) a. [x: Leslie(x), perhaps: [: male(x), adult(x), unmarried(x)]]
 b. [x: Leslie(x), male(x), adult(x), perhaps: [: unmarried(x)]]

Assuming that (50a) is the semantic representation associated with (48) by the grammar, the binding theory predicts that the presupposition triggered by *bachelor* is accommodated in the principal DRS, because it cannot be bound and there is no reason (let us suppose) why it should be accommodated locally. This yields the right interpretation (and as a matter of fact I don’t know of any counterexamples to this analysis of *bachelor*), but within the framework of the binding theory this analysis causes something of an embarrassment. The presupposition supposedly triggered by *bachelor* can never be bound, as there is nothing to bind, so this presupposition would

be one that, by its very nature, must always be accommodated, and as I have argued in my discussion of van Geenhoven's account of specificity, that is practically a contradiction in terms.

The presuppositions allegedly triggered by verbs such as *manage* and *accuse* (cf. examples (46) and (47)) are dubious, too, and partly for the same reasons. Most importantly, it just doesn't seem to be plausible, from a pre-theoretical vantage point, that the inferences licensed by these verbs should be of an anaphoric nature, and this suspicion is strengthened by the observation that it is next to impossible to come up with examples in which these purported presuppositions must be interpreted by way of binding.

My proposal is to deal with the lexical inferences in (45) through (47) in terms of backgrounding instead of presupposition. According to the theory developed in the last section, backgrounded material may be given (i.e. presupposed) but backgrounding isn't wedded to givenness, and therefore new information may be backgrounded, too. This, it seems to me, is precisely what we witness in the cases under discussion. For example, if a speaker utters (45a), it is likely that the essential bit of information he intends to convey is that Leslie is married, not that Leslie is an adult male. Therefore, the information that Leslie is a man is backgrounded, which means, I have argued, that it will gravitate towards the principal DRS, by virtue of the Buoyancy Principle. Similarly, if someone utters (46a), he conveys (46b), but he doesn't present this information as given (not necessarily, anyway). However, by using this particular expression, the speaker does indicate that the truth of (46b) is of less concern to him than the fact that Wilma fried an egg. Hence, even if (46b) isn't given, we may assume that is backgrounded. The same, *mutatis mutandis*, for (47a).

I have proposed that the lexical inferences in (45) through (47) be explained in terms of backgrounding. This is not to suggest, however, that these inferences are alike in all respects, because they aren't. Speakers' intuitions make a fairly clear distinction between (45), on the one hand, and (46) and (47), on the other. Most speakers would say that if Leslie is a woman, (45a) is false. Whereas, if it turns out to be easy for Wilma to fry an egg, then it is not so evident what we should say about (46a). This statement would be misleading, to be sure, but many speakers would hesitate to simply reject it as false; similarly for (47a). One might say that, in contradistinction to the lexical entailment in (45), the inferences in (46) and (47) are conventional implicatures, but in view of the notorious ill-definedness of the concept of conventional implicature, that would do little more than rephrase the problem. I don't have particularly strong opinions on how the differences between (45) and (46)-(47) can be accounted for, nor am I convinced that this issue is extremely urgent. This, however, is as it may be, because what I proposed in the foregoing doesn't entail that such differences couldn't exist. But these observations reinforce the suspicion expressed in § 5.1, that there may be various ways of backgrounding, which may not all be equivalent.

6.2 *Presupposition vs. background*

Over the past few decades, but especially during the presupposition craze of the seventies, the label 'presuppositional' has been applied to such a bewildering variety of

phenomena that the very notion of presupposition has become suspect, as the following passage from Neale (1990: 54) illustrates:

A great range of disparate and unrelated phenomena has been dubbed ‘presuppositional’ over the years, but [...] it seems highly implausible that any theoretically important notion will do justice to the full range of data that semanticists professing an interest in ‘presupposition’ seek to explain.

Needless to say, I am not entirely convinced that the second half of this claim is justified, but the first half certainly is. All too often, the concept of presupposition has been used, or rather abused, without even the shadow of justification. I have argued elsewhere that this abuse was caused at least in part because the diagnostic tests for presuppositionhood were (and still are) applied too carelessly, if they were applied at all (see Geurts 1999). But in the light of the foregoing discussion I want to suggest that there may have been another factor as well, which is that the standard tests don’t allow us to make a clear distinction between presuppositional and backgrounding effects, and that at least some of the phenomena that have been categorized, to greater or lesser acclaim, as ‘presuppositional’ are better seen in terms of backgrounding. The lexical inferences discussed previously are relatively clear instances of this category, and further possible candidates for relocation will be discussed below. But first I want to raise the question how we are going to distinguish between genuine presuppositions and instances of backgrounding.

This is not a trivial question because, as I hinted already, the standard litmus tests for presuppositionhood fail to distinguish between presupposition and backgrounding, as the following observations illustrate (where ‘ $\not>>$ ’ symbolizes the negation of ‘ $>>$ ’):

- (51) a. If Germany becomes a monarchy again, the king of France will get nervous
>> There is a king of France.
b. If there is a king of France, the king of France will get nervous $\not>>$ There is a king of France.
- (52) a. If Leslie is rich, he is a bachelor >> Leslie is a man.
b. If Leslie is a man, he is a bachelor $\not>>$ Leslie is a man.
- (53) a. If the king of France gets nervous, his ministers get nervous, too. >> There is a king of France.
b. If the king of France gets nervous, then France must be a monarchy $\not>>$ There is a king of France.
- (54) a. If Leslie is a bachelor, he is rich >> Leslie is a man.
b. If Leslie is a bachelor, he is a man $\not>>$ Leslie is a man.

These observations suggest that there are no differences between the presupposition triggered by the definite NP ‘the king of France’, as in (51) and (53), and the lexical inference licensed by the noun *bachelor*, as in (52) and (54), and the parallels extend to all sorts of embedding contexts. Nevertheless, I have argued, there are good reasons for believing that lexical inferences aren’t of a presuppositional nature. But none of these

reasons provides us with a general criterion for discriminating between presupposition and backgrounding.

According to the binding theory, presupposed information is presented as given, in the same sense that the antecedent of an anaphoric expression is given, and the theory's treatment of presupposition is a generalization of DRT's treatment of anaphora, which is based on the widely held view that an anaphoric expression serves to retrieve an element from the common ground. That is to say, the speaker employs an anaphor not merely to signal that a discourse entity x is given, but also as an instruction to the hearer that he should identify and recover the intended x , so that new information will have the right connections. In other words, the hearer is expected to ask himself *which* entity the speaker has in mind. I want to suggest that we can turn this observation into a useful test for distinguishing between real presuppositions and merely backgrounded information. The test goes as follows: If φ is a genuine presupposition, then it should make sense to ask 'Which φ do you mean?' when the speaker has just uttered a sentence containing φ . This admittedly informal criterion indicates that, for example, the following are genuine presupposition inducers:

- Pronouns:

(55) A: He is insane.
B: Who is insane?

- Definite NP's:

(56) A: The banana has been stolen.
B: Which banana has been stolen?

- Quantifier domains:

(57) A: Every girl has sent me a postcard.
B: Which girls have sent you a postcard?

- Focus particles:

(58) A: Professor Babel has read my paper, too.
B: Who else read your paper?

On the other hand, there are various alleged presupposition inducers that fail the wh-test. The lexical inferences discussed in the previous section are a case in point, as are factive verbs and transition verbs, for example, which are standardly listed among the presupposition-inducing expressions:

- Factives:

(59) a. Barney is proud that his daughter is an anarcho-syndicalist.
>> b. Barney's daughter is an anarcho-syndicalist.

- Transition verbs:

(60) a. Betty has started taking saxophone lessons [at time t].
>> b. Betty wasn't taking saxophone lessons [before t].

The inferences in (59) and (60) originate with the factive *be proud* and the transition verb *start*, respectively, and they both exhibit the projection behaviour that is characteristic of presuppositions. But they also fail the *wh*-test. In the first case it would make no sense to ask which state or fact (or whatever) involving his daughter Barney is proud of, and in the second case no hearer would ever wonder which instance of Betty-not-taking-saxophone-lessons ended at time *t*. Hence, if the *wh*-test is to be trusted, the inferences exemplified by (59) and (60) aren't genuine presuppositions, and therefore they must be explained in terms of backgrounding.

Zeevat (1992) has proposed a classification of presupposition-inducing expressions which resembles my somewhat tentative distinction between genuine presupposition inducers and expressions licensing inferences that are best understood in terms of backgrounding. Zeevat's 'resolution triggers' correspond to what I call 'presuppositions' *simpliciter*; his 'lexical triggers', to what I prefer to treat as backgrounding expressions (the correspondences are not quite perfect). It would take me too far afield to discuss the theory Zeevat erects on his classification, but I would like to briefly comment on one of his empirical claims, which, if correct, might be put to use for discriminating between presupposition inducers and backgrounding expressions. Zeevat views lexical triggers as 'applicability conditions' which must be satisfied locally, i.e. *in situ*; and this constraint does not hold, according to Zeevat, for resolution triggers. It follows from this that resolution triggers can, and lexical triggers cannot, get *de re* construals. The following example illustrates both predictions:

(61) Betty believes that the superintendent is a bachelor.

If this statement is true, Betty can hardly fail to believe that the superintendent is a man (which is the lexical inference triggered by *bachelor*), but it may well be that she is not aware that the person in question is a superintendent (which is part of the presupposition triggered by the definite NP). Unfortunately however, for Zeevat as well as for us, this distinction is not as neat as it initially appears to be. Suppose that *all* Betty knows about the superintendent is that he or she is not married (exercise: conjure up a story explaining why that should be the case). Would (61) be true or false, under these circumstances? Speaking for myself, I believe I might accept the statement as true, but even if other speakers should disagree, they would still have to concede, I think, that the matter is not as clear-cut as it seemed to be at first.

When we turn away from the standard *bachelor*-type cases, it becomes even clearer that Zeevat's observation is hard to maintain. Suppose Fred tells his friend Barney: 'Wilma fried an egg this morning.' Whereupon Barney reports to his wife:

(62) Fred believes that Wilma managed to fry an egg.

Tendentious though it may be, this statement is clearly correct, and it need not imply that Fred believes that it is (or was) difficult for Wilma to fry an egg. Therefore, this inference could not be a lexical presupposition (in Zeevat's terminology) or backgrounded information (in ours), as I have argued in § 6.1. I don't know how Zeevat would want to deal with this inference, but since I want to treat it as an instance of backgrounding, I cannot employ attitude contexts for distinguishing between presuppositions and backgrounded information.

6.3 *Factives*

Factive verbs are standardly regarded as presupposition-inducing expressions, although there is a well-known problem with this view. It is that some factive verbs, at least, do not always seem to trigger the presupposition that their complement is true:

- (63) a. If Barney should discover that Miss Chambley is rich, he'll propose to her.
b. If I should discover that Miss Chambley is rich, I'll propose to her.

Both (63a) and (63b) can be consistently uttered by a speaker who doesn't want to commit himself as to whether Miss Chambley is rich, but unlike (63b), (63a) appears to have a further reading, as well, implying that Miss Chambley is rich. In view of observations such as these it has been suggested that *discover* belongs to a special class of 'semi-factive' verbs, which are ambiguous between a presupposing and a non-presupposing reading. This unappealing assumption can be avoided if we approach the matter in somewhat different terms. If the complement of a factive verb can be either backgrounded or not, the Buoyancy Principle predicts that something very much like presupposition projection will occur in the former case but in the latter. This view is an attractive one, I believe, because it seems to correlate with our intuitions about foreground vs. background in factive constructions. For example, a speaker who utters (67a) may be interested primarily in the fact that Barney knew (67b), or in the fact that (67b) is true. In the former case, the information in (67b) is backgrounded; in the latter, it is foregrounded.

- (64) a. Barney knows that his daughter is an anarcho-syndicalist.
>> b. Barney's daughter is an anarcho-syndicalist.

Now if the same options are available for the antecedent of (63a), we predict that backgrounding the proposition that Miss Chambley is rich will imply that Miss Chambley is rich, whereas this inference will not go through if the factive complement is foregrounded. These predictions appear to be correct.

6.4 *Concluding remarks*

In the preceding pages I have argued that a number of expressions that are standardly categorized as presupposition inducers should be viewed as backgrounding devices instead. I suspect, however, that this viewpoint may be of more general use, and that it may help to account for phenomena which have not as yet received a satisfactory treatment. Let me mention just two, rather disparate, examples:

- Non-restrictive relative clauses:

- (65) a. Fred suspected that Betty, who had been avoiding him of late, had discovered about his collection of Neil Sedaka albums.
>> b. Betty had been avoiding Fred of late.

- Felicity conditions on speech acts:

- (66) a. Where is my bicycle?

>> b. The speaker doesn't know where his bicycle is.

Although it has occasionally been suggested that these inferences are of a presuppositional nature, this position has not gained much support in the literature (exceptions are Fillmore 1969 and Keenan 1971). Still, both types of inference seem to exhibit the 'wide scope' tendency that is the hallmark of presuppositions. This is harder to demonstrate for felicity conditions on speech acts than for non-restrictive relatives, because non-declaratives dislike being embedded under operators of any kind. But at least we have conditional speech acts :

(67) a. If my pogo stick is in the attic, where is my bicycle?

>> b. The speaker doesn't know where his bicycle is.

That non-restrictive relative clauses behave similarly is easier to show, for instance, by embedding (65a) under a weak modal operator, such as *perhaps*.

Nevertheless, it seems to me that the majority view is correct, and that the inferences exemplified by (65) and (66) shouldn't be granted the status of presuppositions. In particular, the preferred interpretation of non-restrictive relatives is plausibly explained in terms of backgrounding: non-restrictive relatives are parenthetical remarks, which are backgrounded if anything is. So the Buoyancy Principle surely applies to non-restrictive relatives, and I conjecture that it applies to felicity conditions on speech acts, too.

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