Singleton Indefinites

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Abstract

I investigate the possibility that the apparent unique scope-taking abilities of indefinites can be explained in terms of *quantifier domain restriction*, without departing from the classical view of indefinites as existential quantifiers over individuals whose scope is syntactically constrained in the same way as other quantifiers. The key idea is that when the domain of a quantifier is reduced to a singleton set, it becomes effectively scopeless. Indefinites, on this view, are freer than other quantifiers to make use of this option. I argue that alternative accounts which put the action in the semantics or the syntax of indefinites still need a pragmatic mechanism of quantifier domain restriction, so that to demonstrate the necessity for such approaches, one needs to explain why domain restriction down to singletons is **not** possible.

There is an intuition that indefinites have specific readings in which they are referential and where the speaker can identify the referent, but the hearer cannot. In the final section of the paper, I try to make sense of that intuition in the context of a theory in which indefinites are apt to have singleton domains. I arrive at the conclusion that it is a symptom of a more general phenomenon whereby contextual parameters can be relativized to bearers of propositional attitudes.

1   INTRODUCTORY SKETCH

Certain syntactic configurations are known to limit the scopes of quantifiers. Two such configurations rule out the readings in b. for the sentences in a. in (1) and (2) below:

(1)   a.   If each of the six candidates submits a paper, then John will make a fuss.
      b. $\neq$ For each of the six candidates: if she submits a paper, then John will make a fuss.

(2)   a.   John read the paper that each of the six candidates had submitted.
      b. $\neq$ For each of the six candidates: John read the paper that she submitted.

One might have thought that these configurations limit the scopes of all quantifiers, not just universals, but at least since Fodor & Sag (1982), it has been claimed that indefinites do not respect these boundaries. Fodor and Sag's (3) appears to have a reading where the indefinite has scope over the conditional.

(3)   If a friend of mine from Texas had died in the fire, I would have inherited a fortune.

Let us say that an indefinite has **exceptional-scope** if it is read as an existential with scope outside the limits normally set by configurations like those in (1) and (2).[1] Fodor and Sag argued that indefinites are ambiguous and that those appearing to have exceptional-scope are really just referential expressions. On this view, *a friend of mine from Texas* is used in (3) to refer to a particular friend of the speaker's. Farkas (1981) and King (1988) subsequently provided persuasive evidence against the view that referential indefinites were responsible, or solely responsible, for exceptional-scope. One of King's examples is given in (4) below with King's paraphrase of the intended reading given in (5).

(4)   Each author in this room despises every publisher who would not publish a book that was deemed pornographic.

(5)   For each author in this room there is a book that was deemed pornographic—possibly different books for different authors—such that the author despises every publisher who would not publish the book.

Throughout the 1990s, linguists continued to discover more evidence of this sort on the basis of which several different accounts were given for how exceptional-scope comes about.[2]

Let us call the null hypothesis one that says that indefinites are existential quantifiers which like other quantifiers have their scopes limited by configurations like those in (1) and (2) and which have implicit domain restrictions. It is fair to call this the null hypothesis since it is the limiting case of all accounts of interest here.[3] The first issue I would like to address is as follows.

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[1] Those particular configurations are the antecedent of a conditional in (1) and a relative clause in (2). These configurations are two of a number of so-called 'scope islands' that have been identified. These representatives are adequate for our purposes. Reinhart (1997) and Szabolcsi (2001) give historical overviews of the investigation of scope islands. Abusch (1993–4) looks at the behaviour of indefinites in a wide range of scope islands.

[2] These include the works listed in the references by Abusch (1993–4); Cormack & Kempson (1991); Cresti (1995); Kratzer (1998); Liu (1997); Ludlow & Neale (1991); Matthewson (1999); Reinhart (1995, 1997); Ruys (1992); van Geenhoven (1998) and Winter (1997, 2002). See also various contributions to Szabolcsi (1997). The earliest references I have seen to indefinite specific scope rules are Karttunen and Seuren (for further background see von Heusinger (2002)). For a brief summary of some of the issues, see Szabolcsi (2001: 3.2).

[3] Here and throughout, I will not be concerned with the special abilities that indefinites appear to have in binding pronouns, receiving generic interpretations or forming the restrictor of an adverb of quantification. Existing accounts of these properties do not by themselves lead to a rejection of the null hypothesis, nor, as far as I know, do they force one to accept it.

To what extent do the **intuitions** motivating claims about exceptional-scope indefinites really fall outside what is predicted by the null hypothesis?

The concern stems from the fact that if the domain of a quantifier is correctly constructed its scope relative to higher quantifiers is neutralized[4] possibly giving the false impression of wide scope. This claim will be justified in more detail below, but a bit of reflection on King's example (4) will give a sense of where I am going. In hearing King's example, I imagined a room full of authors each of which had written one book that was deemed pornographic which had caused him to despise the publishers who refused to publish on that account. This situation could be described as follows:

(6)   Each author$_1$ in this room despises every publisher who would not publish a book he$_1$ had written that was deemed pornographic.

If we suppose that for any author only one of his or her books was not published on account of pornography, then the scope of the indefinite in (6) turns out to be neutralized relative to the quantifier 'every publisher'. Aside from the one author-one book assumption, all that is needed to make the same claim about King's original example is to imagine that the explicit *he had written* in (6) is implicit in (4). Once we've done that, King's intuitions concerning (4) are accounted for, within the bounds of the null hypothesis.

Sections 2 and 3 of this paper contain a more gradual introduction to the idea that intuitions of exceptional-scope can be accommodated within the null hypothesis. In section 4, I try to show that even if we grant that indefinites take scope in a way that other quantifiers do not, we still do not succeed in accounting for the relevant intuitions. Something like the story told in sections 2 and 3 is necessary in any case. In section 5, I address the question of what is special about indefinites that allows them to appear to have exceptional-scope more readily than other quantifiers.

In the course of section 2, I will be arguing that Fodor and Sag's *a friend of mine* is a **singleton indefinite,** that is, an existential whose domain has a singleton extension. As in the King example, I will see in this example contextual delimitation of the domain of a quantifier. This analysis follows closely the appeals of Russellians to contextual

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[4] $\exists x$ takes scope over $\exists y$ in the formula $\exists x\ [\ Fx\ \&\ \exists y\ Gy]]$, but if their relative scope were reversed, truth conditions would not be affected. So in this case, I will say that the scope of $\exists x$ is **neutralized** or more properly **neutralized relative to** $\exists y$. The same can be said for the two quantificational phrases in *some mouse ate some pretzel.*

delimitation in their treatment of incomplete definite descriptions such as *the table*. These appeals have led to the discovery of general properties of contextual delimitation, such as the fact that they must be allowed to contain indexicals 'the table *over here*' (see Salmon 1982 for example). Indefinite descriptions will permit us to discover further properties of contextual delimitation, properties which are masked in the definite case. There are familiarity conditions on the use of definites which do not apply to indefinites. It would be odd for me to assert out of the blue that <u>the aluminum toothbrush</u> is in a museum in New Hampshire, despite the fact that that there is a unique aluminum toothbrush. However, I could, out of the blue, speak of there being <u>an aluminum toothbrush</u> in New Hampshire and I would, in this case, be using a singleton indefinite, a complete one in fact. Fodor and Sag's *a friend of mine* is also singleton, albeit incomplete, and since it is likewise indefinite there is no requirement that the 'referent' be familiar to all discourse participants. This freedom appears to allow the content of the contextual supplementation to be less transparent to the hearer in a way that would be impossible with a definite. What we have in effect is an incomplete indefinite description, where the completion is asymmetrically available to the speaker but not to the hearer. Once this possibility is allowed for, we find a similar circumstance in examples like King's, where in addition there is no intended referent, making it impossible to dodge this conclusion by appeal to the kinds of arguments found in discussions of the referential/attributive distinction. It will be the burden of section 6 to discover the nature of asymmetric contextual delimitation and to show that it is evident in the behavior of incomplete quantifiers in general and of other contextually completable expressions.

I suspect that previous accounts of the behavior of indefinites have been given in terms of scope or ambiguity precisely to avoid the kinds of issues that are engendered by the speaker-hearer asymmetry discussed in the final section.

2   ABSOLUTE SCOPE NEUTRALIZATION

There was a party at Todd's house last week at which various movies were discussed. When dinner was over, the guests considered several ways to entertain themselves. In the end

(7)   everyone at the party voted to watch a movie that Phil said was his favourite.

Let us assume that somehow or other indefinites receive an existential interpretation. In that case, the phrase *a movie that Phil said was his favourite* indicates existential quantification over movies that Phil said were his favourite. Let us also assume that Phil has only one favourite movie and that that is the one he told us about. In that case, the restrictor of this existential quantifier has a singleton extension. Let's call an indefinite of this kind a 'singleton indefinite'.

Although singleton indefinites are existentially quantified, their scope is neutralized. Under the circumstances described above, (7) is truth conditionally equivalent to (8):

(8) A movie that Phil said was his favourite was such that everyone at the party voted to watch it.

Similarly, under those circumstances, (9) is truth conditionally equivalent to (10):

(9) No one had read most of the reviews that were written about a movie that Phil said was his favourite.

(10) There was a movie that Phil said was his favourite but no one had read most of the reviews that were written about it.

When it comes to scope possibilities, singleton indefinites are just like singular definites. The general thesis to be explored here is as follows: the special properties of singleton indefinites have led to the mistaken belief that indefinites have readings in addition to or instead of run of the mill existential readings.[5] The particular thesis in this section is that some so-called 'referential indefinites' are just singleton indefinites.

Fodor & Sag (1982) defend the idea that indefinites are ambiguous between a quantificational interpretation on the one hand and an indexical, referential interpretation on the other. In their discussion of examples similar to (7) (see their examples 66–69) they in effect raise the very point made above, namely that the scopes of singleton indefinites are by nature neutralized and that examples of this type would be no cause for positing an ambiguity. What they claim, however, is that there are other cases where an indefinite is used and where its restrictor

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[5] This thesis has been proposed in some form or another by a number of authors. It was suggested in Cooper (1979: 141–2). Barker (1998: 692–693) introduces it in connection with specific indefinites and the Partitive Constraint. Portner & Yabushita (to appear) give an account very similar to sections 2 and 3 of this paper, see also Portner's contribution to this volume. I probably first heard of this idea in a talk by Kai von Fintel at a conference entitled 'Mapping the Semantics-Pragmatics Boundary: Context-Dependence,' held at Cornell University (see von Fintel 1999: section 4.5). He credits Uli Sauerland.

does not have a singleton extension but where referential readings are nevertheless possible. (11) below would likely count as an example of this type:

(11) Everyone at the party voted to watch a movie that Phil liked.

Knowing Phil as I do, it is safe to assume that he likes more than one movie. Given this assumption, the object of *watch* appears not to be a singleton indefinite. Nevertheless, it does seem possible even under this assumption to understand (11) as being about a particular movie, which would mean it contains a 'referential' indefinite that is not a singleton. This description of (11) is almost accurate. What is missing is the possibility that being a quantifier, the existential is implicitly restricted. Compare this example to the following:

(12) Every movie that Phil liked had violence in it.

A natural interpretation of this example allows it to be true even if Phil has a fondness for violent and for non-violent films. This would be the case, for example, if we understand the universal to be quantifying over movies that were discussed at the party. If we likewise understand the indefinite in (11) to be restricted to those movies that were relevant at the time or to those that the guests commented on when the issue of what to watch came up, it becomes more reasonable to entertain the possibility that we in fact are looking at another singleton indefinite.

The main thesis of this section can be summarized as follows. It is generally agreed that indefinites have an existential quantifier interpretation. It is also acknowledged that quantifiers have implicit restrictors. Putting these two together, it follows that, given the right context, any indefinite could in principle be a singleton indefinite. This accounts for the air of referentiality that attaches to some uses of indefinites.[6]

I want to fix some terminology before continuing. The term **singleton** is applicable to any occurrence of a quantifier when its restrictor has a singleton extension. The **restrictor** includes overt material along with any **implicit** contextual restriction. Thinking of quantifiers as two-place relations, the restrictor is the whole of the first argument. So, I could say that a given occurrence of *most mice* is a singleton, if there is exactly one mouse under consideration at the time of utterance in the world of evaluation.

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[6] This account is to be distinguished from one in which the actual meaning involves a narrow-scope, non-singleton indefinite, but where by some pragmatic process the hearer comes to understand a singular proposition. I take the quantifier domain restriction to be included in the content of the utterance, not something that gets communicated without actually having been said (see Stanley & Gendler-Szabó 2000, for discussion).

3   RELATIVE SCOPE NEUTRALIZATION

An astute guest at the party happened to notice that:

(13) every boy voted for a movie that his mother said was her favourite.

Let us again assume that, like Phil, each of these mothers has only one favourite movie and that that was the one she mentioned. What that means is that for each value of the bound pronoun *his,* the indefinite *a movie that his mother said was her favourite* has a restrictor whose extension is a singleton: it includes just the one movie that that boy's mother likes best. Let us now redefine the term 'singleton indefinite' to include this case. A 'singleton indefinite' is an indefinite whose restrictor has a singleton extension, relative to each relevant assignment of values to any bound variables in the restrictor. The indefinites discussed in the previous section are still singleton indefinites but now there are more cases to consider.

Under this revised definition neutralization of the scope of a singleton indefinite extends at least up to the quantifier that binds variables in the restrictor. In (13), there are no other quantifiers besides the indefinite and the quantifier binding variables inside it, so there is nothing relative to which its scope could be neutralized. In order to see this effect we need an example like (14) below, which has the intervening quantifier, *every adult.* Note its truth conditional equivalence with (15), under the assumptions made concerning (13):

(14) Every boy_2 smiled at every adult who voted for a movie that his_2 $mother_1$ said was her_1 favourite.

(15) Every boy was such that there was a movie that his mother said was her favourite and he smiled at every adult who voted for it.

Similarly, under the assumption that everyone has one and only one favourite movie, (16) is truth conditionally equivalent to (17), and (18) is truth conditionally equivalent to (19):

(16) Everyone had read most of the reviews that were written about a movie that happened to be his favourite.

(17) For each person, there was a movie that was his favourite and he had read most of the reviews that were written about it.

(18) No boy was happy if he saw a movie that was his mother's favourite.

(19) There was no boy, such that there was a movie that was his mother's favourite and he was happy if he saw that movie.

To say that these pairs are truth conditionally equivalent is, of course, just to say that the truth conditions are unaffected by whether or not the indefinite takes scope above the intermediate quantifier or out of the antecedent of the conditional. It is not to say that the indefinites in (16) and (18) have been subjected to a scope-assigning mechanism, syntactic or otherwise, that fixes their scope above the preceding quantifier. The thesis then is that apparent unexpected scope-taking by indefinites is just due to their being singleton and hence having their scope neutralized.

Again, as in the previous section, life is not as simple as I have presented it so far. The really compelling cases, the ones that actually appear in the literature, involve indefinites that do not on the face of it appear to be singleton indefinites. Reinhart (1997: 346)'s example (21), based on Ruys (1992), is one such case:

(20) Most linguists have looked at every analysis that solves some problem.

As Reinhart claims, (20) has a reading in which *some problem* takes scope above *every analysis* but below *most linguists*. In other words, for most linguists **l**, there is some problem **p**, presumably **l**'s pet problem, and **l** knows every analysis that solves that problem. For this indefinite to take intermediate scope, it would have to have scope out of a relative clause, which is generally forbidden. But this indefinite does not at first sight seem to fall neatly under the generalization that if an indefinite seems to take exceptional intermediate scope, it is just a singleton indefinite containing a bound variable.

In a recent paper devoted to quantifier domain restriction, Stanley and Gendler-Szabó remind us that the implicit restriction on a quantifier may contain a bound variable.[7] The following examples illustrate this phenomenon:

(21) In most of John's classes, he fails exactly three Frenchmen. (Stanley & Gendler-Szabó 2000: (24)).

(22) Every farmer remembers at least one year when every crop failed.

(23) Many an overzealous linguist has at one time or another mistakenly believed that every outstanding problem could be solved by the correct application of the latest technical innovation.

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[7] See Heim (1991: section 1.4.2). Stanley and Gendler-Szabó cite Cooper (1993), von Fintel (1994: section 2.2.2) and Cresswell (1996: 81–87). See also Cooper (1996).

(21) has a reading in which the set of Frenchmen quantified over varies with the choice of class. In (22), the set of crops all of which are said to fail, can be understood to depend on the choice of farmer. In (23), the particular problems thought to be solvable will depend on the linguist. An innovation in phonology is believed to solve all outstanding phonology problems while a new technique for doing syntax is taken to be the cure-all for problems in syntax.

Following the logic of the previous section, it is entirely possible that the indefinite in (20) has an implicit quantified restriction. Were we to spell out the implicit restriction, we might get something like the following:

(24) Most linguists have looked at every analysis that solves some problem *that they have worked on most extensively*.

What we have now done is to make apparent the bound variable in the restrictor of the indefinite. In so doing, we have revealed another singleton indefinite.

Here are the main points of the argument. Indefinites express existential quantification. The restrictor of a natural language quantifier consists of overt and sometimes implicit material. In some cases, either the overt or the covert part contains bound variables.[8] The extension of this restrictor could be arbitrarily small relative to values of the bound variables. The limiting case is the singleton indefinite.[9] It follows then that in principle any indefinite could be a singleton indefinite, hence we should expect to find apparent unexpected scope-taking by indefinites. If no bound variable is involved, the indefinite will be appear to take widest scope, if a bound variable is involved, it's scope will appear to reach up to and possibly beyond the quantifier binding the variable in question. The indefinite's scope will appear to reach beyond the quantifier binding into it when the indefinite not only has a singleton extension relative to all relevant values for the bound variable, but where that extension is the same in every case. Cresti (1995: 66, 198) demonstrated this with the following examples:

(25) If every Italian in this room (could manage to) watch *a certain program about <u>his</u> country* (*that will be aired tonight on PBS*), we might have an interesting discussion tomorrow.

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[8] The phrase 'contain bound variables' should be taken loosely. It is quite possible that there are actual variables there, as in the Stanley and Gendler-Szabó account, or it might be that there are just meanings that could be spelled out with bound variables.

[9] I am ignoring the possibility that the restrictor could have a null extension (see Cresti 1995, and references therein).

(26) No doctor believed the claim that *a (certain) member of his profession* had been arrested.

4   WIDE SCOPE DOES NOT REPLACE DOMAIN RESTRICTION

What I have offered in the preceding two sections is a positive account of why indefinites would appear in certain contexts to have unusually wide-scope. The account was pragmatic in its appeal to implicit domain restrictions in crucial cases. It might seem then that this is one of the dividing lines between this account and those that maintain that indefinites exhibit actual scope constellations not available to other quantifiers. What I would like to show is that merely supposing that indefinites are exceptional scope takers is not enough. Some appeal to implicit domain restrictions is still necessary.

Many of the recent papers devoted to this issue take as their starting point the discussion in Heim (1982). Within the context of a theory in which the contribution of an indefinite to logical form is a variable and a predicate with the quantificational force coming from elsewhere, Heim considers something like (28) as a logical form for (27) on a reading where the indefinite has sentence level scope:

(27) If a cat likes a friend of mine, I always give it to him.

(28) $\exists_2$ [always$_1$ [if a cat$_1$ likes a f.o.m$_2$] [I give it$_1$ to him$_2$]]

(29) $\exists x$ [$\forall_\gamma$ [cat(γ) & f.o.m(x) & like(x, γ)] $\rightarrow$ [give(I, γ, x)]]

Heim rejects this analysis because the truth conditions it captures are too weak. Like (29), (28) is made true by the existence of anything which is not a friend of mine. In place of (28), Heim proposes (30), which differs from (28) in the leftward movement of the indefinite to the 'topmost text' level, yielding truth conditions like those of (31):

(30) $\exists_2$ a f.o.m$_2$ [always$_1$ [if a cat$_1$ likes x_2] [I give it$_1$ to him$_2$]]

(31) $\exists x$ f.om.(x) & $\forall \gamma$ ((cat(γ) & like(x, γ)) $\rightarrow$ give(I, γ, x))

While Heim does not see in the 'wide-scope reading' of (27) an existential quantifier quantifying over a singleton domain, she does perceive the domain of her existential in (28) to be too inclusive and she rejects it on that basis. In (30), the problem is ameliorated, but it is not solved. If we take the domain of the quantifier in (30) to include all of my friends, then it is still too inclusive, though the results are admittedly

less dramatic than in (28). With no further restrictions, (30) like (31) would be made true by any friend of mine who happens not to arouse interest in cats, perhaps because he simply never encounters them. But this does not capture the intuition that (27) on the intended reading is about that special friend who gets from me whatever cat likes her. The point is not as potent as it might be, given certain properties of this example. To overcome this, we will look at a number of examples from the literature that followed Heim where the facts are a little clearer. In doing so, it will be important to keep in mind the claim that is being made about Heim's example. If the domain of quantification for the existential over friends in (27) includes all of my friends, then the truth conditions come out wrong. At least some contextual narrowing of the domain of the existential must be admitted.

Reinhart and Winter discuss the following example from Ruys (1992).

(32) If three relatives of mine die, I will inherit a house.

(32) 'can be construed as talking about three specific relatives of mine' (Reinhart 1997: 367). As Winter (1997: 415–16) suggests, it may be used to talk about three uncles who jointly own a house and who all must die for the house to be passed on. I take it that similar statements could be made about the following variant of (32):

(33) If three relatives of mine died this year, I will inherit a house.

The specific-relatives construals of (32) and (33) are not, I claim, the work of a wide-scope existential indiscriminately quantifying over my relatives. (33) on the specific reading could very well be false (if the uncles' will is invalid, for example), but it would be nearly impossible for the wide-scope paraphrase to be false:

(34) I have three relatives such that if they all died this year, I will inherit a house.

Remember we are assuming that the indefinite quantifies indiscriminately over groups of three relatives of mine. Unless I have very recently inadvertently ticked off a fast-working genocidal maniac, I think I am safe in assuming that I have three relatives who did not die this year. Their existence makes (34) true.

The same reasoning applies to another type of paraphrase entertained by Winter:

(35) I have three relatives such that for each of them, if he died this year, I will inherit a house.

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Winter rejects this kind of paraphrase because, he says, unlike (33), (35) would be false if two of the uncles died and the court failed to award the house. But of course (35) would not be false in this situation for the same reason that (34) would not be,[10] just consider three living relatives.

Reinhart and Winter assume a material conditional interpretation in order to make their argument and so I have followed them in that assumption. My purpose is not to decide the truth conditions for conditionals or any of the other constructions discussed here, but rather to show that in general, wide-scope paraphrases may sound better at first, but they, all alone, will not do the trick.

Having said that, it might still be interesting to know how things stand if one assumes a closest worlds semantics for conditionals. In fact, the territory looks much the same. One still might be tempted to argue that indefinites can take scope outside the antecedent of a conditional. Consider the following case. Ricky has a prize cat, who he vows never to part with, despite the daily requests from his neighbour Peschi. One day Ricky falls in love with Rona. At that point I conclude:

(i) If a certain person asked for Ricky's prize cat, he would give it to her.

If the indefinite is interpreted as a narrow scope existential, so one might argue, we get the wrong truth conditions. For the closest world to ours where someone asks for Ricky's cat, is a world where Peschi asks (Rona is a dog-person), and we know Ricky would never give it to Peschi. So (i) is false on this interpretation, even though we judge it intuitively true. The solution, the widescopalist maintains, is to give the indefinite scope outside the conditional, as in the following paraphrase:

(ii) There is a person such that if she asked for Ricky's prize cat, he would give it to her.

Given Ricky's love for Rona, the sentence comes out true. But now think for a moment about the domain of quantification for 'a person'. If the domain is totally unrestricted, it will include all kinds of irrelevant characters such as Madonna or the most vicious criminal in the Western Hemisphere. Surely, these individuals would make (ii) true, no matter how Ricky felt about Rona. So by moving the indefinite out and leaving its domain unrestricted we have moved from truth conditions

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[10] Winter was aware of the problem of 'vacuous readings' but he takes it as obvious that 'this problem is independent of the problem of the scope of indefinites' (footnote 2, p. 402). See also Szabolcsi (2001: footnote 8).

that were too strong (Peschi made them false when he should not have) to truth conditions that are too weak (the vicious criminal makes them true when he should not). On the other hand, if we just assume to begin with that 'a certain person' quantifies over the singleton set including Rona we get what we intended, with narrow scope with respect to the conditional.

Moving away from conditionals, we turn to an example from Farkas (1981):

(36) John gave an A to every student who recited a difficult poem by Pindar.

(36) has a reading in which there is a particular poem whose recital yields a perfect score. But this reading is not captured by simply scoping the indefinite outside of the relative clause:

(37) $\exists x[$ diff-Pindar-poem(x) & $\forall \gamma[($student(γ) & γ read $x) \rightarrow$ John gave γ an $A]$

(37) would be true in the likely circumstance that there is some difficult Pindar poem that no student recited, regardless of what grades John assigned. But that would not be enough to make (36) true on the intended reading.

Cresti (1995: 130–32(96)) considers the example in (38) below and assigns it the interpretation in (39), consonant with her method for achieving wide-scope without movement:[11]

(38) Nobody believes that I have seen a certain Buñuel movie. [96, p. 130]

(39) There is an entity x_3 such that: it is presupposed that x_3 is a Buñuel movie in the utterance world, and it is asserted that nobody believes that I have seen x_3 [and x_3 is a Buñuel movie in the utterance world].

This analysis correctly captures the fact that (38) does not report general disbelief in my having seen any Buñuel movie. But surely there is some obscure Buñuel movie that no one has seen and that nobody believes that anyone else has seen (if not, change the example). This movie will verify the truth conditions in (39), but intuitively has nothing to do with the intended reading of (38).

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[11] Cresti's idea is that the indefinites in question have existence presuppositions which get projected as (39) illustrates.

Cresti chose this example because it has no conditional and no universal quantifier. This helps to alleviate the suspicion aroused by earlier examples that what is at stake is vacuous truth, which one might be tempted to rule out by other means (but see Abusch 1993–4: section 12.1 and Cresti 1995: 75ff before succumbing to this temptation).

Next we turn to examples in which indefinites were supposed to have unusually wide, but yet not widest scope. Recall that such examples were essential for motivating a scopal theory as opposed to one in which indefinites were said to have referential interpretations.

According to Abusch (1993–4: 94), on the most plausible reading of

(40) Every gambler will be surprised if one horse wins.

'there might be a specific horse for each gambler that he has bet on, and the gambler would be surprised if his horse wins'. To arrive at this reading, Abusch first considers a logical form as in (41), again under the assumption that indefinites contribute a variable and a predicate to logical form:

(41) Every gambler$_x \exists_2$ will [if one horse$_2$ wins] [x be surprised.]

The truth conditions for (41) are described and rejected as follows:

> for every gambler x, there is a y such that for every accessible future world w such that [y is a horse in w and y wins in w], [x is surprised in w]. The first bracketed clause is the restrictor for the world quantifier and the second is the nuclear scope. The first conjunct in the restrictor can be made false, and the formula as a whole made vacuously true, by choosing a y which is not a horse in w. For instance, if George Bush is not a horse in any of the worlds w that the quantification expressed by *will* ranges over, the implication is vacuously true. (p. 100).

Following the Heim paradigm, the proposed alternative looks something like this:

(42) Every gambler$_x \exists y$ horse(y) & will [if y wins] [x be surprised.]

But surely there must be some horse which is not a winner in any of the worlds w that the quantification expressed by *will* ranges over. Candidate horses would include those that have not entered the race, dead horses and maimed horses. Any one of these will make the implication vacuously true for any and all values of x.

Much the same can be said for an example like the one discussed in section 3 above:

(43) Most linguists have looked at every analysis that has been proposed for some problem.

The idea here is that most linguists have a pet problem and they have looked at every analysis proposed for that problem. To try to analyse this reading as the result of purely scopal mechanisms would be to quantify freely over all problems and assume an analysis captured by the following paraphrase:

(44) For most linguists **l,** there is some problem **p, l** has looked at every analysis that has been proposed for **p**.

It is hard to imagine that there is not some problem that no one has yet discovered. Call one of these undiscovered problems α. Since α has not yet been discovered, no analyses have been proposed for it, hence for any linguist **l,** it is vacuously true that:

(45) **l** has looked at every analysis that has been proposed for α.

And so (44) is true just in case there are undiscovered problems, but the same cannot be said for (43) on the intended reading.

The moral of all of these examples is the same: merely assigning wide-scope does not get us all the way to the intended reading. In each case, we need to further assume that the existential in question quantifies over a domain that is contextually restricted. In the case of (43) for example, it is this contextual restriction which allows us to ignore undiscovered problems.

Consider now how an argument that indefinites are exceptional-scope takers must go. In sections 2 and 3, we saw examples where the overt restrictor to an indefinite, all by itself, had a singleton extension. So singleton indefinites are in principle possible. In this section we have seen that regardless of one's theory of exceptional-scope, the existential quantification associated with indefinites must be contextually restrictable. Therefore, to argue that indefinites can take exceptional-scope on the basis of examples like those in (27)–(43), one needs a theory that allows for contextual domain restriction, but which **stops short** somewhere before singleton status is achieved. Does such a theory exist?

This last point is reminiscent of one made in section V of 'Demonstratives'. Kaplan uses example (46) to illustrate 'how rigidly the indexicals cling to the referent determined in the context of use:

(46) It is possible that in Pakistan, in five years, only those who are
       actually here now are envied.

The point of (46) is that the circumstances, place and time referred to
by the indexicals *actually, here*, and *now* are the circumstances, place and
time of the **context**, not a circumstance, place and time determined by
the modal, locational, and temporal operators within whose scope the
indexicals lie.'

   Kaplan continues by entertaining the possibility that 'this only shows
that indexicals always take primary scope'. In other words, we are to
understand (46) as (47):

(47) $\exists w \; \exists p \; \exists t \; [w = $ actual circumstance $\& \; p = $ here $\& \; t = $ now $\&$
       $\Diamond$(In Pakistan In five years $\forall x (x$ is envied $\rightarrow \; x$ is located at p
       during t in w.)]

Kaplan's reply to this objection is that it does not provide an
alternative to the idea that indexicals are directly referential, 'since
we may still ask of an utterance of (47) in context c, when evaluating
it with respect to an arbitrary circumstance to what do the indexicals
actual, here and *now* refer. The answer, as always, is: the relevant features
of the context c.'

5   OTHER QUANTIFIERS. WHAT IS SPECIAL ABOUT INDEFINITES?

Regardless of what one says about indefinites, the remarks in
sections 2 and 3 lead us to wonder about the availability of apparently
exceptionally scoped quantifiers in general. Various quantifiers will
achieve the same degree of scope neutralization as the corresponding
existential, when they are singleton in the sense defined above.
This may sometimes go unnoticed because a use of a non-indefinite
implicates that it is not singleton. Consider what happens when we
replace the indefinite with a universal in one of the examples discussed
earlier:

(48) Someone at the party voted to watch every movie that Phil said
       was his favourite.

   Unlike in the original example, an utterance of (48) seems to
implicate that there were several movies that Phil said was his favourite.
If in fact there was just one such movie, then the scope of the quantifier
object of 'watch' would be as neutralized relative to *someone at the party*
as the scope of its indefinite counterpart was.

I have called the inference of non-singletonness that *every* gives rise to in (48) an implicature, for several reasons. To begin with, such an inference is cancellable, as in the following case:

(49) Everyone in the Italian department is happy with Cipriano's proposal since there is just one person in the Italian department and that is Cipriano.

The non-singletoness implicature can be flouted for dramatic effect, as in *I do not know about you, but everyone I voted for in the last Presidential election was white*. One can also see that the non-singletonness implicature arises, like all conversational implicatures, through a calculation which makes reference to information available to the speaker. Suppose I say, pointing to a boat on the water, that *everyone on that boat has gone below the deck*. If you have reason to believe that I am acquainted with the inhabitants of the boat, you are likely to infer that there is not just one. On the other hand, if I do not possess any information about those persons or person who are on the boat and it turns out that there is just one, then I have not misspoken. Finally, implicatures are usually calculated in terms of speaker information while considering a space of roughly comparable alternative utterances available to the speaker. The following example illustrates this for the non-singletonness implicature:

(50) Every instructor noticed that every student of his who had a disability had taken the exam anyway.

Observe first that (50) would be an odd thing to say if one happened to know that the instructors had just one student each with a disability. In this case, it would be preferable to replace *every student* with *a student* or *the student*. However, (50) is not odd in situation where most instructors have a number of disabled students, even if some of them have just one. In this case, there is no obvious alternative of comparable simplicity. An account in which non-singletonness was a pragmatic presupposition or part of the truth conditions would likely make different predictions here.

The non-singletonness implicature arises not only with universals. As a general rule, a use of 'at least *n*' (*at least 9 planets*) implies that the speaker does not know the cardinality of the restrictor to be *n*. Roughly the same applies to other numeral NPs.[12]

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[12] And not surprisingly such noun phrases have been claimed to resist exceptional wide scope (Liu 1997; see also Beghelli 1993; Kratzer 1998 and Szabolcsi 1995, 1997).

What I have claimed so far is that the non-singletonness implicature is triggered with many quantifiers but not with indefinites. Does this difference provide us with an argument in favour of the view that indefinites really do in the end take exceptional scope? I do not think so. I have given evidence that there is a calculation that leads to the non-singletonness implicature, but I have not said exactly how that calculation goes. I have not said which alternative utterances are considered and what maxims are employed. In the absence of these details, it is hard to see how an argument could be made. At the moment, either side has a story to tell about the difference between indefinites and other quantifiers. Those favouring a scopal account maintain that indefinites are endowed with the ability to take exceptional-scope. Other quantifiers are not so endowed and since they are not singleton in most discourse situations, they will not even appear to take exceptional-scope. According to the view laid out in sections II and III above, indefinites appear to take wide-scope, because they can be singleton. Other quantifiers are not singleton in most discourse situations, so they will not appear to take exceptional-scope.

6   SPECIFIC INDEFINITES

The term 'specific indefinite' is used in various and often conflicting ways (see Farkas 2002, von Heusinger 2002). The phenomenon I am interested in is one in which an indefinite is understood to concern a specific individual even if the hearer may not know who or what that is (compare section 3.5 of Farkas 2002, von Heusinger 2002). There are various devices available to a speaker to indicate that an indefinite is specific in this sense. In English these devices include the expressions *certain, specific* and *particular* as well as deaccented relatives clauses that suggest acquaintance: *a student I know, a movie I saw.*

While markers of specificity in this sense are widely used to elicit so-called wide-scope readings, I see no way of explaining these intuitions in terms of scope. On the other hand, I hope to show that viewing specific indefinites as a kind of singleton indefinite does hold out the possibility of explaining these intuitions in terms of properties of contextual parameterization in general and quantifier domain restriction in particular.

The following is our original example from Fodor & Sag (1982):

(51) If a friend of mine from Texas had died in the fire, I would have inherited a fortune.

It is easy to hear (51) as being about a particular friend, even if you do not know who that friend is, except that it is *the friend that was just talked about* or *the friend from Texas who if he had died in the fire, the speaker would have inherited a fortune.*

Assuming the speaker to have several Texan friends and given the discussion in sections 2 and 3, *a friend of mine from Texas* comes to be a singleton because it is implicitly restricted in such a way that it holds of just one friend. In that case, the intuition that the listener is somehow less than fully informed translates into the following roughly hewn principle:

(52) Privacy Principle
    It is possible for a felicitous utterance to contain an implicitly restricted quantifier even though members of the audience are incapable of delimiting the extension of the implicit restriction without somehow making reference to the utterance itself.

This principle is general. It is not restricted to singleton indefinites or even to indefinites per se. The phrase 'delimiting the extension' could probably be improved (see Kasher & Gabbay 1976; Yeom 1997). The principle is meant to be neutral with respect to what we take an implicit restriction to consist of (sets, properties, predicates, etc.), though I am persuaded by Stanley & Gendler-Szabó (2000) to favour the property view, as will become clearer below. In any case, what is important for now is the speaker–listener asymmetry, not the details of what each must know.

In order to appreciate better the claim that (52) makes, we might consider a view of implicit domain restriction that is incompatible with it. Suppose implicit domain restrictions worked like deictic pronouns or indexical *now*. In a given context, some general rule would determine a set of individuals and that would serve as the implicit restriction when suitably combined with the meaning of the overt restrictor. If we now factor in (52), the analogy with deictic *he* or with *now* breaks down. It would be infelicitous to use deictic *he* in a situation where the audience could not tell who it referred to. Similarly, anyone who knows the definition of the word *now* could not hear it being uttered without knowing what time it refers to. There are certainly degrees of 'knowing what the time is' but I do not believe they include the kind of ignorance that is behind the principle in (52).

I would now like to argue this point more forcefully and persuade you that the indexical/deictic view is wrong and that implicit restrictors have properties from which the Privacy Principle could be seen to follow.

In the course of discussing the contextual determination of the comparison class of a positive adjective, Klein (1980: section 3.1) argued that comparison classes and implicit restrictors on quantifiers depend on context in a way that is different from indexicals. On the advice of Ivan Sag, Klein adduced evidence for his claim from ellipsis contexts. Klein begins his argument with a sentence where an indexical *that* occurs in the antecedent of an elided VP:

(53) Jude drank some of that, and Leo did too.

(53) only allows interpretations in which the second elided *that* has the same interpretation as the first. Leo drank some of the same stuff Jude drank. Compare this to a sentence where an adjective is elided:

(54) This is comfortable and that is too.

Supposing *this* is uttered while pointing to a chair and *that* is uttered while pointing to a sofa, (54) can be used to mean that the chair is comfortable **for a chair** and the sofa is comfortable **for a sofa**. The implicit comparison class of the antecedent does not get carried over into the elided VP.

Klein continues by showing that implicit restrictors on quantifiers pattern like comparison classes and not like indexicals. This is illustrated in (55) below:

(55) Leo gave a bridge party at home yesterday and Jude took the kids swimming. Leo thought everyone had a good time, and so did Jude.

(55) seems to have the same interpretation as (56) below, where I have undone the ellipsis and I have made the implicit restrictions explicit:

(56) Leo gave a bridge party at home yesterday and Jude took the kids swimming. Leo thought everyone **at the bridge party** had a good time, and Jude thought everyone **who went swimming** had a good time.

From (54), Klein concludes 'comparison classes can switch across VP deletion, while the reference of indexicals cannot'. Here's an alternative view, inspired by the discussion in Reimer (1998). Indexicals are directly referential. The meaning *that* contributes to the first conjunct in (53) is just its referent and it's that referent that is carried over into the second half. Implicit parameters on the other hand contribute much richer information. In (54), the comparison class may be given by a

parameter that is the same in both conjuncts, but it may be something like the meaning of the phrase 'things of its kind'.[13] Likewise, in (55), the common restrictor may be something like the meaning of 'at their event'. In section 3, we noted that implicit restrictors sometime behave like expressions containing bound variables. So in any case, we cannot be satisfied with sets or even simple properties as giving the contribution of implicit restrictors. And the same goes for comparison classes. As Stanley (2000) observes, the sentence:

(57) Most species have members that are small.

has a reading paraphrased as:

(58) Most species S have members that are small <u>relative to other members of S</u>.

When we speak of an implicit parameter we speak of a rich content that is determined by context and that can itself be dependent on other elements of the context. Henceforth we should be careful to distinguish between a 'comparison parameter' which is fixed by context and a 'comparison class' which is the extension of that parameter. Likewise, we distinguish a 'quantifier domain parameter' fixed by context and a 'quantifier domain restriction' which is the extension of that parameter suitably determined.

As I have just said, implicit parameters are meanings that in some cases are relativized to other elements of the context. What I would like to show now is that a specific case of that is when the parameter is relativized to the bearer of an attitude.

Suppose I inform you that:

(59) The American Cancer Society predicted that in the next decade fewer women would have colon cancer than men.

You might ask me how I know this is true and I would tell you that I got my information from the *New York Times*. But if you ask me whether (59) is a statement about women in general or just American women, I could not tell you. All I know about the implicit part of the restriction for the quantifier *fewer* is that it includes what the American Cancer Society intended when they made their prediction.

Similarly, we find comparison classes specified in terms of the thoughts of others. Consider any of the following roughly synonymous examples:

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[13] This resembles Ludlow (1989)'s account in some respects. Schwarzschild (1992) takes a similar position in connection with the pragmatics of plural predication.

(60) Bill Gates thinks that this book is <u>not</u> expensive, but I think that it is expensive.

(61) I consider this book expensive. Bill Gates would not.

(62) This book is expensive, though Bill Gates would not think it is.

(60) is true even though Bill Gates and I do not disagree on the price of the book. What we disagree on is the comparison class. In other words, in deciding what the extension is for the comparison parameter we need to consider Bill Gates' state of mind in the first half, and mine in the second. Quantified examples offer additional evidence that relativization to other thinkers is part of the content of the comparison parameter:

(63) Only three of the seven people I asked thought this car was expensive.

Again, the relative position of the car within the comparison class is not at issue, what is at issue is the choice of comparison class. The comparison parameter is bound by the main subject quantifier.

Implicit parameters, at least the two we have looked at, can have their extension determined relative to the thoughts of others. This can have rather dramatic effects when combined with the use of a singleton indefinite. Consider the following variation on the Fodor and Sag example:

(64) Nobody believed Ivan's claim that if a friend of his from Texas had died in the fire, he would have inherited a fortune.

Here neither the speaker nor the hearer can say who is being referred to with *a friend of his from Texas*. The quantifier domain parameter is relativized to a third party.

We are now only a step away from the Privacy Principle in (52) that we set out to justify. In fact, for the adjectival case, we already encountered the principle. Consider example (62) again, focusing particularly on the main clause:

(65) This book is expensive.

This could very well be uttered in conversation where the price of the book is already established. All that (65) establishes is that the book is significantly higher priced than others in the comparison class. What comparison class? Presumably the one intended by the speaker. The

comparison parameter in (62) above is relativized to believers as well. In the main clause it is bound by the speaker, and in the concessive clause it bound by the subject. For related facts about quantifier domain parameters, we turn to the following tale.

> Me and my partner Fleisch went into debt; serious debt and to some not very nice people. I got an idea that I could sell that old fish farm I have back home and maybe raise a few bucks. I call a lawyer and she tells me: 'You can only sell the farm, if all of your relatives die.' Since I have not heard about any genocidal maniacs recently, I give up on that idea. Meanwhile, I relate the story to Fleisch who is more desperate than I am. He asks who's included in 'all of your relatives'? I say I do not know exactly, but the devilish look in his eyes tells me I better go back to the lawyer to find out.

The lawyer's use of *all* is implicitly restricted. I know that. Fleisch knows that. But exactly what the restriction consists of, only the lawyer can tell us. So when I hear the lawyer's remark and when Fleisch hears mine, we both come under the Privacy Principle in (52). The only way we can say exactly what is being quantified over is to make reference to the lawyer's utterance: it is the people she had in mind.

It is this kind of circumstance, played out in the context of a singleton indefinite, that leads Fodor and Sag to declare that 'in the typical case the hearer will not know exactly what the speaker is asserting'. Of course, that is no more true, than in a situation where I say to you *the song I was thinking about is from the early 1970s.*

7   SUMMARY AND CONCLUSION

One way to think about what I have done here is in terms of the distinction between semantics and pragmatics. Quantifier scope is generally thought of as a matter of content and logical form, in other words, semantics proper. Contextual delimitation of the domain of a quantifier falls, for most people, under the rubric of pragmatics. Now, there is an agreed upon body of data showing that indefinites cannot be analyzed as existential quantifiers that (a) are unrestricted and at the same time (b) take scope within the syntactic boundaries observed by other quantifiers. I have argued for a pragmatic explanation which rejects the first assumption. This route is preferable because:

1. It makes for the more general statement of the constraints syntax imposes on quantifier scope. They apply to indefinites the same as to other quantifiers (sections 2 and 3).

2. It makes for the more general statement of contextual delimitation of the domain of a quantifier. It is in principle indifferent to the cardinality of the extension of the resulting restriction (section 4).

3. It sheds light on the intriguing 'specificity' intuitions that have been associated with the data in question (section 6).

This last issue stands on its own. Regardless of what we eventually say about the scope of indefinites, I hope to have demonstrated how they help us to see more clearly the power of implicit parameters. Although this power is felt more acutely with indefinites than in other cases, it is present elsewhere and its consequences should not be underestimated.

Acknowledgements

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REFERENCES

Abusch, D. (1993–4) 'The scope of indefinites'. *Natural Language Semantics* **2**:83–135.

Barker, C. (1998) 'Partitives, double genitives and anti-uniqueness'. *Natural Language & Linguistic Theory* **16**(4):679–717.

Beghelli, F. (1993) 'A minimalist approach to quantifier scope'. In *Proceedings of NELS 23*. GLSA. University of Massachusetts. Amherst.

Cooper, R. (1979) 'Variable binding and relative clauses'. In F. Guenthner & S. J. Schmidt (eds), *Formal Semantics and Pragmatics for Natural Languages*. Reidel. Dordrecht, 131–169.

Cooper, R. (1993) 'Generalized quantifiers and resource situations'. In P. Aczel, D. Israel, Y. Katagiri & S. Peters (eds), *Situation Theory and its Applications*. Stanford University Press. Stanford, 191–211.

Cooper, R. (1996) 'The role of situations in generalized quantifiers'. In S. Lappin (ed.), *The Handbook of Contemporary Semantic Theory*. Blackwell. Oxford, 65–86.

Cormack, A. & Kempson, R. (1991) 'On specificity'. In J. L. Garfield & Murray Kiteley (eds), *Meaning and Truth: Essential Readings in Modern Semantics*. Paragon House. New York, 546–581.

Cresswell, M. (1996) *Semantic Indexicality*. Kluwer. Dordrecht.

Cresti, D. (1995) *Indefinite Topics*. Unpublished Ph.D. thesis, Department of Linguistics and Philosophy. MIT. Cambridge, MA.

Farkas, D. F. (1981) 'Quantifier scope and syntactic islands'. *CLS 17* 59–66.

Farkas, D. F. (1995) 'Specificity and scope'. In L. Nash & G. Tsoulas (eds), *Langues et Grammaires 1*. Paris, 119–137.

Farkas, D. F. (2002) 'Specificity distinctions'. *Journal of Semantics* **19**:213–243.

von Fintel, K. (1994) *Restrictions on Quantifier Domains*. Unpublished Ph.D. thesis, Linguistics Department. University of Massachusetts. Amherst.

von Fintel, K. (1999) Quantifier Domain Selection and Pseudo-Scope. Handout of a talk given at a conference entitled 'Mapping the Semantics-Pragmatics Boundary: Context-Dependence' Cornell University, March 26-28, 1999.

Fodor, J. D. & Sag, I. (1982) 'Referential and quantificational indefinites'. *Linguistics and Philosophy* **5**:355–398 (reprinted in Ludlow 1997, 475–519).

van Geenhoven, V. (1998) *Semantic Incorporation and Indefinite Descriptions: Semantic and Syntactic Aspects of Noun Incorporation in West Greenlandic*. Dissertations in Linguistics. CSLI Publications. Stanford.

Heim, I. (1982) *The Semantics of Definite and Indefinite Noun Phrases*. Ph.D. thesis, Department of Linguistics. University of Massachusetts. Amherst.

Heim, I. (1991) 'Artikel und Definitheit'. In A. von Stechow & D. Wunderlich (eds), *Semantics. An International Handbook of Contemporary Research*. De Gruyter. Berlin, 487–535.

von Heusinger, K. (2002) 'Specificity and definiteness in sentence and discourse Structure'. *Journal of Semantics* **19**:245–274.

Kaplan, D. (1989) 'Demonstratives'. In J. Almog, J. Perry & H. Wettstein (eds), *Themes from Kaplan*. Oxford University Press. Oxford, 481–564.

Karttunen, L. (1969) *Problems of reference in syntax*. Unpublished Ph.D. thesis, Department of Linguistics. Indiana University. Bloomington.

Kasher, A. & Gabbay, D. M. (1976) 'On the semantics and pragmatics of specific and non-specific indefinite expressions'. *Theoretical Linguistics* **3**:145–190.

King, J. (1988) 'Are indefinite descriptions ambiguous?'. *Philosophical Studies* **53**:417–440.

Klein, E. (1980) 'A semantics for positive and comparative adjectives'. *Linguistics and Philosophy* **4**:1–45.

Kratzer, A. (1998) 'Scope or pseudo-scope? Are there wide-scope indefinites'. In S. Rothstein (ed.), *Events and Grammar*. Kluwer. Dordrecht, 163–196.

Kripke, S. (1977) 'Speaker's reference and semantic reference'. In P.A. French, T.E. Uehling Jr. & H.K. Wettstein (eds), *Contemporary Perspectives in the Philosophy of Language*. University of Minnesota Press. Minneapolis.

Liu, F. H. (1997) *Scope and Specificity*. John Benjamins. Amsterdam.

Ludlow, P. (1989) 'Implicit comparison classes'. *Linguistics and Philosophy* **12**(4):519–533.

Ludlow, P. & Neale, S. (1991) 'Indefinite descriptions'. In *defense of Russell*. Linguistics and Philosophy. **14**(2):171–202

(reprinted in Ludlow 1997: 523–555).

Ludlow, P. (1997) *Readings in the Philosophy of Language*. MIT. Cambridge, MA.

Neale, S. (1990) Context and Communication'. Chapter 3 of *Descriptions*, MIT. Cambridge, MA, 62–117. (reprinted in Ludlow 1997: 414–474 and in Ostertag 1998: 309–368).

Ostertag, G. (1998) *Definite Descriptions: A Reader*. MIT. Cambridge, MA.

Matthewson, L. (1999) 'On the interpretation of wide-scope indefinites'. *Natural Language Semantics* **7**(1):79–134.

Portner, P. & Yabushita, K. (to appear) 'Specific indefinites and the information structure theory of topics'. *Journal of Semantics*.

Portner, P. (2002) 'Topicality and nonspecificity in mandarin'. *Journal of Semantics* **19**:275–287.

Reimer, M. (1998) 'Quantification and context'. *Linguistics and Philosophy* **21**(1):95–115.

Reinhart, T. (1995) *Interface Strategies*. OTS, University of Utrecht.

Reinhart, T. (1997) 'Quantifier scope: How labor is divided between QR and choice functions'. *Linguistics & Philosophy* **20**(4):335–397.

Ruys, E. G. (1992) *The Scope of Indefinites*. Ph.D. thesis, OTS Dissertation Series. Utrecht.

Salmon, N. (1982) 'Assertion and incomplete definite descriptions'. *Philsophical Studies* **42**:37–45.

Schwarzschild, R. (1992) 'Types of plural individuals'. *Linguistics and Philosophy* **15**(6):641–675.

Seuren, P. A. M. (1969) *Operator and Nucleus*. Cambridge University Press. Cambridge, England.

Stanley, J. (2000) 'Context and logical form'. *Linguistics and Philosophy* **23**(4):391–434.

Stanley, J. & Gendler-Szabó, Z. (2000) 'On quantifier domain restriction'. *Mind and Language* **15**(2&3):219–261.

Szabolcsi, A. (1995) 'On modes of operation'. In P. Dekker & M. Stokhof (eds), *Proceedings of the 10th Amsterdam Colloquium*. University of Amsterdam. Amsterdam.

Szabolcsi, A. (1997) *Ways of Scope Taking*. Kluwer. Dordrecht.

Szabolcsi, A. (2001) 'The syntax of scope'. In M. Baltin & C. Collins (eds), *The Handbook of Contemporary Syntactic Theory*. Blackwell. Oxford, 607–634.

Winter, Y. (1997) 'Choice functions and the scopal semantics of indefinites'. *Linguistics & Philosophy* **20**(4):399–467.

Winter, Y. (2002) *Flexibility Principles in Boolean Semantics. The Interpretation of Coordination, Plurality, and Scope in Natural Language*. MIT. Cambridge, MA.

Yeom, J.-I. (1997) *A Presuppositional Analysis of Specific Indefinites*. Unpublished Ph.D. thesis, Linguistics Department, University of Texas. Austin.