

# The Semantics of Specificity

## 1. Introduction

What does it mean for an NP to be specific? Various assumptions have been made about specificity. For example, Hellan (1981) and Ioup (1977) characterize an NP as specific when the speaker has an individual in mind as its referent. Partee (1972) suggests collapsing the specific use of indefinites with the referential use of definites (in the sense of Donellan (1966)), and the nonspecific use of indefinites with the attributive use of definites. Saarinen (1981) equates specific readings with *de re* readings. The most widespread view seems to be one where an NP is considered specific if it has wide scope over an operator (for instance, Fodor and Sag (1982)). Consider (1).

- (1) Every woman talked to a child in fifth grade.

This sentence is generally assumed to be ambiguous, depending on the relative scope of the NPs *every woman* and *a child in fifth grade*. (2a) is a paraphrase of the reading where the subject has wide scope, and (2b) is a paraphrase of the reading where it has narrow scope.

- (2) a. For every woman there is some child or other in fifth grade, such that the woman talked to the child.  
b. There is a child in fifth grade such that every woman talked to him.

The NP *a child in fifth grade* is considered specific when it is interpreted as having wide scope over the subject quantifier, yielding the reading in (2b).

Similarly, an indefinite NP is taken to be specific when it has scope over operators other than quantifier NPs—for example, over operators such as negation, modals, or propositional attitude verbs, as in the following sentences.

- (3) a. Sarah didn't see a hanger lying on the floor, and she tripped and fell.  
b. Helen must beat an athlete from UCLA who is trained by the Dogar brothers.  
c. Jack wants to train with a famous weight lifter who has won many prizes.

I thank Irene Heim, Jim Higginbotham, Wes Hudson, Angelika Kratzer, David Pesetsky, Jack Street, and Hiroaki Tada for valuable comments and criticisms. This work was partially supported by grant BNS-8519578 from the National Science Foundation (Robert May, Principal Investigator). I am grateful to the members of the 1986 LSA Summer Institute workshop "Syntax and Semantics: Logical Form and Its Semantic Interpretation" for valuable discussions that have contributed to the development of the ideas presented in this article.

On this view of specificity, where it is taken to be simply the wide scope reading of an NP, the term *specific* is just a descriptive term naming a scope relation and specificity is not recognized as an independent semantic phenomenon.

Given that NPs can have wide scope with respect to some operator while having narrow scope with respect to another operator in the same sentence, the question arises as to how wide the scope of a specific NP should be. One possible view is that a specific NP has wide scope with respect to at least one operator. This view allows an NP to be specific relative to one operator while being nonspecific relative to another (see Fodor and Sag (1982)). Another possible view is that specific NPs have widest possible scope.<sup>1</sup>

In order to evaluate a particular analysis of specificity, we must first determine an independent way of identifying specific or nonspecific NPs. We must therefore ask whether specific or nonspecific NPs are marked in any way in natural languages. It is commonly assumed that in English, adjectives such as *certain*, *specific*, and *particular* form specific NPs, as in (4).

- (4) a. John wants to own a certain piano which used to belong to a famous pianist.
- b. Ned must speak to a particular congressman who has sworn to vote against this bill.

If the wide scope view of specificity is correct, and if NPs containing such adjectives are necessarily specific, then we expect such NPs to have wide scope with respect to at least one operator in the sentence. However, Hintikka (1986) provides examples such as (5), where the NP with *certain* can have the narrowest possible scope.

- (5) Each husband had forgotten a certain date—his wife's birthday.

In this sentence, the indefinite NP with *certain* can have narrow scope with respect to the universal quantifier. Hintikka concludes that such NPs have priority only over epistemic operators, not over quantifiers.

As Hintikka notes, such examples are easy to produce. One can also construct sentences such as (6) with multiple operators where the indefinite has narrow scope with respect to all of them.

- (6) For every committee, the dean must appoint a certain student to represent the students' point of view.

This sentence has a reading where a *certain student* has narrow scope with respect to both the modal *must* and the quantifier *every*.

<sup>1</sup> Fodor and Sag (1982) identify specificity with wide scope readings of NPs with respect to at least one operator, allowing intermediate scope. They recognize two other kinds of NPs that are not ordinary quantifiers. They claim that adjectives like *certain* “correlate with scope in only a very rough way” (p. 362) and that the semantics of NPs such as *a certain child* is obscure. They also claim that indefinites can have a referential, nonquantificational reading. The NPs that they characterize as referential are those that seem to take widest possible scope, even when they are in islands. I will assume such NPs to be specific.

Hornstein (1984) claims that NPs containing the adjective *certain* belong to a class of quantifiers that always take widest possible scope, though he does not identify these NPs as specific. See Hintikka (1986) and the discussion below for arguments against this view.

Contra Hintikka, the NP with *certain* in the last sentence of the following example can have narrow scope with respect to the epistemic BELIEVE operator.

- (7) John believes that there are unicorns living in his backyard. He claims that he can distinguish each unicorn from the others, and has even given them names. He believes that a certain unicorn is responsible for destroying his roses, and wants to catch him.

On the most natural reading of this bit of discourse, *a certain unicorn* has narrow scope with respect to *believe*. This suggests that there is no wide scope requirement for such NPs, not even with respect to epistemic operators.

Given these facts, there are two options. The first is to maintain the hypothesis that specific NPs have wide scope with respect to operators, but to reject the idea that indefinites with adjectives such as *certain* are specific.<sup>2</sup> If this view is adopted, one independent way of identifying specific NPs is lost. The second option is to give up the hypothesis that specific NPs need to have wide scope and to construct an analysis of specificity that is independent of scope relations. This article will pursue the second alternative.

Although the evidence provided above shows that NPs containing *certain* do not need to take wide scope with respect to any operator when the context is properly structured, it is still a fact that in most cases such NPs have only wide scope readings. If specificity is defined in terms independent of scope, this fact remains to be explained. In other words, the analysis of specificity must both allow for narrowest scope and explain the wide scope tendency.

An analysis of specificity must also provide insight into the interpretation of sentences that contain specific NPs but no operators. There is a meaning difference between the two sentences in (8).

- (8) a. John talked to a logician about this problem.  
 b. John talked to a certain logician about this problem.

It is impossible to maintain for (8b) that *certain* forces a wide scope reading of the NP, since there is no operator for this NP to take wide scope over.<sup>3</sup> It would not help to posit an empty intensional operator of some kind here, because that would introduce into the interpretation an intensionality that is not justified by the meaning of the sentence. Given these facts, an account of specificity in terms of scope becomes highly improbable.

The semantic contribution of *certain* may be subtle and obscure in (8b), but it seems undeniable that there is a difference in meaning between (8a) and (8b). The difference cannot be truth conditional, since the sentences seem to have identical truth conditions. This indicates that the semantics of specificity must be independent of truth conditions.

<sup>2</sup> This is the position adopted in Fodor and Sag (1982).

<sup>3</sup> I am assuming that the name in the subject position is not an operator. This is against the spirit of Montague (1972), where all NPs are treated as quantifiers.

As noted above, an investigation into the semantics of specificity cannot proceed until an independent way of identifying specific NPs is found. Focusing the investigation on NPs containing adjectives of specificity (*certain*, *particular*, and *specific*) does not turn out to be fruitful, since the distribution of these adjectives is limited and not uniform. For example, *certain* can occur only in indefinite NPs with the determiner *a* or the null determiner.

- (9) a. a certain man, certain trees
- b. \*one/\*two/\*some/\*that/\*the certain woman

In contrast, the adjectives *particular* and *specific* have a wider distribution and can occur in indefinites with numerals or *some* as determiners.

- (10) two specific women, one particular document, some specific documents

Furthermore, these adjectives are acceptable in definite NPs.

- (11) that specific child, this particular document, the specific person who heckled the mayor at the meeting

It is unclear at this point how this difference in distribution can be derived and how it can be reconciled with our intuition that the adjectives share a core meaning.

I believe that NPs containing such adjectives can be subsumed under specific NPs, and I will return to them later. It is quite possible that their idiosyncrasies obscure the nature of specificity. It is therefore important to find a way of identifying specific NPs independently of these adjectives.

In English, specificity is assumed to be marked only with adjectives such as *certain*. Indefinites without such adjectives (for instance, *a chair*, *one coat*, *three men*) can generally be interpreted either as specific or as nonspecific. That is to say, they are unmarked with respect to specificity. In contrast, in some languages, NPs in certain positions are always unambiguous with respect to specificity. The ambiguity is resolved through case marking: NPs with overt case morphology are specific, NPs without case morphology are nonspecific.<sup>4</sup> An example of this phenomenon can be found in Turkish, where indefinites in the object position are always unambiguously specific or nonspecific. If the NP bears the accusative case morpheme -(y)i,<sup>5</sup> it is obligatorily interpreted as specific, as in (12). If the NP does not carry case morphology, it is obligatorily interpreted as nonspecific, as in (13).

- (12) Ali bir piyano-yu kiralamak istiyor.  
Ali one piano-Acc to-rent wants  
'Ali wants to rent a certain piano.'

<sup>4</sup> See Belletti (1988) for a discussion of the correlation between case and the "definiteness effect." Belletti assumes that the relevant semantic notion is definiteness, but I will argue that it is specificity. She claims that the NPs that are characterized as specific here are assigned structural case, whereas the nonspecific NPs are assigned inherent case.

<sup>5</sup> The accusative case morpheme contains a high vowel that varies in frontness and roundness in accordance with the rules of vowel harmony.

- (13) Ali bir piyano kiralamak istiyor.  
 ‘Ali wants to rent a (nonspecific) piano.’

As in the English examples with *certain*, if (12) is uttered out of the blue, the object can only be interpreted as having wide scope with respect to the propositional attitude verb. In contrast, (13) states that Ali wants to rent some piano or other and does not entail that Ali’s wish is directed toward a particular piano. This reading is usually assumed to be derived when the object NP of the embedded clause has narrow scope with respect to the propositional attitude verb. However, if an appropriate context is structured, the NP with accusative case in (12) can also have narrow scope with respect to the matrix verb. For example, suppose that (12) is uttered in a context where it has been established that Ali has decided to take home two of the pianos in a showroom. He decides that he can afford to buy one and rent the second. He does not care which one he buys or which one he rents. In those circumstances (12) could still be true. We may then assume that (12) has a reading where the accusative NP has narrow scope with respect to the matrix verb. This indicates that the scope possibilities of accusative NPs in Turkish seem to be similar to the scope possibilities of English NPs containing *certain*. Such Turkish NPs, usually glossed with *certain* or a similar adjective, show a strong tendency to take wide scope, but narrow scope is possible if enough information about the context is supplied. Although the semantics of the Turkish accusative NPs will turn out to differ in significant ways from the semantics of English NPs with *certain*, I will assume that they share a semantic property that I will identify as specificity. I will thus take these Turkish NPs to be a proper subset of specific NPs and will explore their semantics to gain insight into the semantics of specificity in general.

## 2. Partitive Specifics

As noted above, object NPs in Turkish are never ambiguous with respect to specificity. The examples in (12) and (13) contain objects embedded under an intensional operator. But the same phenomenon can be observed in extensional contexts with no operators.

- (14) Ali bir kitab-i aldi.  
 Ali one book-Acc bought  
 ‘A book is such that Ali bought it.’
- (15) Ali bir kitap aldi.  
 ‘Ali bought some book or other.’

As in the English examples in (8), the subtle difference in meaning is not truth conditional and cannot be a matter of scope. In order to isolate the semantic contribution of specificity, it will prove more fruitful to examine extensional sentences first, where the semantic facts are not clouded by the interaction of specificity with scope.

Consider a discourse where (16) is the *first* sentence uttered and where the participants have no common ground other than the information established by the utterance of (16).

- (16) Odam-a birkaç çocuk girdi.  
 my-room-Dat several child entered  
 'Several children entered my room.'

This sentence can be followed by either (17) or (18). These two sentences differ in that the indefinite object has accusative case in (17) and no case in (18).

- (17) İki kız-i tanıyordum.  
 two girl-Acc I-knew  
 'I knew two girls.'  
 (18) İki kız tanıyordum.  
 two girl I-knew  
 'I knew two girls.'

The difference in case marking correlates with a difference in the interpretation of these sentences. (17) is about two girls who are included in the set of children, established by the utterance of (16), that entered the room. (18) is about two girls who are excluded from the original set of children. (17) is equivalent to the sentence with the partitive NP in (19), but (18) is not.

- (19) Kız-lar-dan iki-sin-i tanıyordum.  
 girl-Pl-Abl two-Agr-Acc I-knew  
 'I knew two of the girls.'

Thus, the indefinite object in (17) has a covert partitive reading, and it introduces into the domain of discourse individuals from a previously given set.<sup>6</sup> In contrast, (18) makes explicit that the speaker views the two girls as not being in the group of children entering the room. This is why an utterance of (18) following (16) seems rather incoherent.

The difference in the interpretation of objects is also observable in the following sentences.

- (20) İki çocuğu yedinci sınıf-a, bir çocuğu da sekizinci sınıf-a gönderdim.  
 two child-Acc seventh grade-Dat one child-Acc and eighth grade-Dat I-sent  
 'I sent two children to the seventh grade, and one child to the eighth grade.'  
 (21) Yedinci sınıf-a iki çocuk, sekizinci sınıf-a da bir çocuk gönderdim.  
 'I sent two children to the seventh grade, and one child to the eighth grade.'

The objects in (20) bear accusative case, and the sentence can only be interpreted as saying something about some children previously introduced into the domain of discourse. In contrast, (21) is interpreted as involving first mention of the children, a consequence of the fact that the objects in (21) bear no case. (21) can be used felicitously

<sup>6</sup> Throughout this article I will use the term *partitive* in its syntactic sense to refer to NPs such as *two of the books* with definite adjuncts, and in its semantic sense to refer to the interpretation of such NPs. Partitivity will thus be associated with specificity. This contrasts sharply with the use of the term in Belletti (1988), where it refers to nonspecifics.

in describing what I did at the time, or what happened to the two classes, but cannot be construed as stating something about children who had been previously discussed.<sup>7</sup>

These intuitions about the meaning of the sentences suggest that the difference in specificity correlates with a difference in the domains of discourse in which the sentences would be appropriate. The meaning difference lies not in the truth conditions but in the properties of NPs that structure the domain of discourse. It is clear that the approach to specificity advocated here is closely related to, but distinct from, the notion of definiteness.<sup>8</sup> I will briefly outline here the theory of definiteness as developed in Kamp (1981) and Heim (1982).

Both Heim and Kamp have proposed semantic theories where interpretive rules relate syntactic structures to structures called *files* in Heim's work, and *Discourse Representation Structures* in Kamp's work. These are cumulative discourse structures constructed from the information in each sentence. They contain *file cards* (Heim's terminology) or *reference markers* (Kamp's terminology), which are similar to the discourse referents proposed earlier in Karttunen (1968). In these theories, indefinites such as *a man* and definites such as *the book* are variables, not quantifiers. The difference between definite and indefinite NPs is captured through the Familiarity Condition and the Novelty Condition. All indefinites in a sentence must be novel, in the sense that they must introduce into the domain of discourse referents that were not previously in the discourse. All definites must be familiar, in the sense that the discourse referents they are mapped onto must have been previously introduced into the discourse. In other words, indefinites cannot have antecedents in the discourse, whereas definites must.

I have suggested that accusative objects in Turkish are specific and that semantically they are interpreted as partitives. On this view, the specificity of the NP places a constraint on the structure of the domain of discourse in addition to the constraint placed by the definiteness of the NP. I will assume that the referential indices on NPs correspond to discourse referents, as in Heim (1982). Heim's theory of definiteness is elaborated in the following way to account for specificity.<sup>9</sup> All NPs carry a pair of indices, the first of which represents the referent of the NP. The indices themselves bear a definiteness feature. The feature on the first index determines the definiteness of the NP, as usual. The definiteness feature on the second index determines the specificity of the NP by constraining the relation of the referent of the NP to other discourse referents.

- (22) Every  $[\text{NP } \alpha]_{\langle i,j \rangle}$  is interpreted as  $\alpha(x_i)$  and  
 $x_i \subseteq x_j$  if  $\text{NP}_{\langle i,j \rangle}$  is plural,  
 $\{x_i\} \subseteq x_j$  if  $\text{NP}_{\langle i,j \rangle}$  is singular.

We can now say that an NP is specific if and only if its second index is definite.<sup>10</sup>

<sup>7</sup> Nonspecific NPs are required to be adjacent to the verb, hence the difference in word order between (20) and (21).

<sup>8</sup> Pesetsky (1987) notes that *wh*-phrases of the form *which N* are appropriate only when the individuals named in the answer come from a select set in the domain of discourse. This phenomenon, which Pesetsky calls *D-linking* (discourse linking), is exactly the phenomenon characterized here as specificity.

<sup>9</sup> I thank Irene Heim for suggesting this particular treatment.

<sup>10</sup> This definition of specificity will need to be modified to allow for cases where specifics are linked to previously established discourse referents in ways other than inclusion. See section 6 on *certain*.

If the index  $j$  is definite, the Familiarity Condition requires the discourse referent  $x_j$  to be in the domain of discourse prior to the utterance of the NP. Since (22) requires the referent of the NP to be a subset of  $x_j$ , the NP will have a specific interpretation. If, on the other hand, the index  $j$  is indefinite, it obeys the Novelty Condition and the prior context cannot have a referent  $x_j$ . A new referent  $x_j$  is introduced into the domain and this referent will have  $x_i$ , the referent of the NP, as its subset.<sup>11</sup> Note that these conditions apply whether the index  $i$  is itself definite or indefinite. By this account, nonspecific indefinites are novel in a sense more absolute than specific indefinites. A specific indefinite is only required to obey the Novelty Condition, which states that its discourse referent must be distinct from previously established discourse referents. In contrast, the discourse referent of a nonspecific indefinite is further required to be *unrelated* to previously established referents.

Is covert partitivity a useful notion in the analysis of languages like English? As mentioned before, it is generally assumed that adjectives such as *certain* are the only surface manifestations of specificity. Unlike what happens in Turkish, the lack of such an adjective in English does not mean that the NP is nonspecific. Indefinite NPs such as *two books* and *a man from Peru* can be ambiguous with respect to specificity in certain contexts, with no surface correlates of the two interpretations. If specificity is to be defined independently of scope relations, we must provide arguments other than possible scope relations to show that such NPs can indeed be ambiguous. To begin with, let us note that such NPs in English can have both a covert partitive reading and a nonpartitive reading. Suppose, for example, that (23) is followed by (24) and that the domain of discourse is empty prior to the utterance of (23).

- (23) Several children entered the museum.
- (24) I saw two boys at the movies.

(24) can be true in a situation where two boys choose to go to the movies instead of the museum. Then the referent of *two boys* is not included in the referent of *several children*. Because the two boys cannot be linked to any other group mentioned prior to the utterance of (23), *two boys* is nonspecific. (24) can also be true in a situation where two boys among the children who visit the museum later go to the movies. In this context the referent of *two boys* is included in the referent of *several children*. Then the NP *two boys* is specific.

It may seem, at this point, that such English NPs are vague rather than ambiguous, since I have provided no evidence for ambiguity except for the possibility of their being true under different circumstances. Later I will discuss other criteria that can be used to distinguish specifics from nonspecifics in English, and I will simply assume here that such NPs can be ambiguous.

<sup>11</sup> Presumably, the properties of the novel superset are just those recovered from the head noun of the NP.

### 3. Definiteness and Specificity

Definiteness and specificity of NPs are clearly related phenomena. Both definites and specifics require that their discourse referents be linked to previously established discourse referents, and both indefinites and nonspecifics require that their discourse referents not be linked to previously established discourse referents. What distinguishes these notions is the nature of the linking. The linking relevant for definite NPs is the *identity* relation. For ease of discussion, I will refer to the antecedent of a definite as a *strong antecedent*, since it involves the strongest possible linking relation. For the kind of specificity discussed above, the relevant linking is the *inclusion* relation. Thus, specificity involves a weaker, looser relation to already established referents than definiteness. I will call the “antecedent” of a specific NP its *weak antecedent*.

The view of specificity assumed here captures the relation between specificity and definiteness in a straightforward way. Names, pronouns, and definite descriptions are definite NPs. (22) ensures that all definites are specific. This is because identity of referents entails inclusion. Consider (25).

- (25) Five children arrived late. They had missed their bus.

The pronoun *they* is definite and requires a strong antecedent with which it is coreferential. Assuming that the pronoun is not demonstrative, in this bit of discourse the only possible antecedent is *five children*. Therefore, the second sentence is felicitous only if the pronoun is coindexed with *five children* and the two NPs have the same reference. But since the inclusion relation holds whenever the identity or the proper inclusion relation holds, *five children* is also the weak antecedent of the pronoun; hence, the pronoun is specific. The analysis proposed here predicts that there will be no nonspecific definite NPs. As a consequence, all definites in Turkish are predicted to carry accusative case in the object position. This prediction is borne out. (26) and (27) show that if names, pronouns, definite descriptions, and demonstrative NPs are not marked accusative, the result is ungrammatical.

- (26) Zeynep Ali-*yi/on-u/adam-i/o masa-*yi**
- gördü.  
Zeynep Ali-Acc/he-Acc/the-man-Acc/that table-Acc saw  
'Zeynep saw Ali/him/the man/that table.'
- (27) Zeynep \*Ali/\**o*/\*adam/\**o* masa gördü.<sup>12</sup>

### 4. Indefiniteness and Specificity

The analysis sketched above leaves the specificity of indefinites open. That is to say, indefinites can be either specific or nonspecific. Again, this is the desired result. Spec-

<sup>12</sup> Unlike indefinites, definite descriptions in Turkish carry no overt determiners and surface as bare nouns. However, Turkish also allows the incorporation of a bare noun into the verb, yielding a nonspecific reading for that argument. Therefore, preverbal bare nouns are ambiguous. *Zeynep adam gördü* is grammatical in (27) only if *adam* is incorporated into the verb and forms the complex predicate ‘man-seeing’. It is not grammatical if *adam* has a definite reading.

ificity must be compatible with indefiniteness. An NP such as *two books* can be either specific or nonspecific, but it is always indefinite. However, the specificity of an indefinite is sometimes predictable.

#### 4.1. Partitives

Indefinite partitives such as *two of the books* refer to groups that are a subgroup of the referent of the NP contained in the partitive, in this case *the books*. This can be ensured by requiring that the second index of the partitive NP be identical to the first index of the definite NP contained in it. Therefore, partitives are necessarily specific. We predict that accusative case is obligatory for Turkish partitives in the object position. This is in fact the case. There are two kinds of partitives in Turkish. In one, the NP that yields the superset is marked genitive; in the other, it is marked ablative.

- (28) a. Ali kadın-lar-in iki-sin-i taniyordu.  
Ali woman-Pl-Gen two-Agr-Acc knew  
'Ali knew two of the women.'
- b. \*Ali kadın-lar-in iki-si taniyordu.
- (29) a. Ali kadın-lar-dan iki-sin-i taniyordu.  
Ali woman-Pl-Abl two-Agr-Acc knew  
'Ali knew two of the women.'
- b. \*Ali kadın-lar-dan iki-si taniyordu.

As (28) and (29) show, the lack of accusative case on the partitive, whether it is a genitive or an ablative partitive, leads to ungrammaticality.

#### 4.2. Universal Quantifiers

There are other indefinite NPs in Turkish that require accusative case, among them NPs that involve universal quantification.<sup>13</sup> Such NPs have the determiner *her*, and if they are not marked with accusative case when in the object position, they too result in ungrammaticality.

- (30) a. Ali her kitab-i okudu.  
Ali every book-Acc read  
'Ali read every book.'
- b. \*Ali her kitap okudu.
- (31) a. Doktor her hasta-yi muayene etti.  
doctor every patient-Acc examined  
'The doctor examined every patient.'
- b. \*Doktor her hasta muayene etti.

<sup>13</sup> Given the theory of definiteness advocated by Heim and assumed in this work, NPs such as *every book* must be indefinite. See Heim (1982) for a discussion.

Why should universally quantifying NPs be specific?<sup>14</sup> The view that specifics are covert partitives allows a satisfactory explanation here. It has often been noted that universal quantifiers in natural languages quantify over contextually given sets. For example, (32) does not entail that Sally danced with every man on earth, only that she danced with every contextually relevant man. Thus, (32) is equivalent to (33) with the overt partitive.

- (32) Sally danced with every man.
- (33) 'Sally danced with every one of the men.'

It is reasonable to assume that *contextually relevant* means ‘already in the domain of discourse’, since the contextually relevant individuals are those that have been previously established in the discourse. If universal quantification is over contextually relevant sets of individuals, it follows that NPs that quantify universally are specific.

This account also ensures that universally quantifying NPs presuppose existence. Our intuitions are that (32) should be true only in situations where there are men. The characterization of universally quantifying NPs as specific guarantees this.

I will assume at this point that the specificity requirement is not restricted to universally quantifying NPs and that (34) holds for all natural languages.<sup>15</sup>

- (34) All quantifiers are specific.

It seems that in natural languages some NPs introduce individuals into the domain, and others quantify over them. No NP introduces new referents and quantifies over them at the same time. If this strong claim can be maintained, we will have isolated yet another universal about natural language semantics. This view seems justified when we turn our attention to a large class of indefinite NPs that can be either specific or nonspecific.

## 5. Weak Determiners

Accusative case morphology is optional in Turkish for a large class of indefinite NPs, including NPs with the following determiners.

- |      |                             |                                  |
|------|-----------------------------|----------------------------------|
| (35) | bir, iki, yedi, otuz, . . . | 'one, two, seven, thirty, . . .' |
|      | bırkaç                      | 'several, a few'                 |
|      | birçok                      | 'many'                           |
|      | az                          | 'few'                            |

These NPs are specific when they carry case morphology, nonspecific when they do not (compare (12) and (13)). Thus, they contrast with the NPs that require case morphology and are always interpreted as specific—for example, NPs containing the determiners *her* ‘every’, *o* ‘that’, *bu* ‘this’ and NPs that consist of names or pronouns.

<sup>14</sup> To say that a universally quantifying NP such as *every book* is indefinite and specific is to say that at the level of representation where the quantifier determiner has moved out of the NP to give the tripartite operator structure, the NP that remains is indefinite and specific.

<sup>15</sup> Note that I am assuming that NPs such as *the child* and *a child* are variables, not quantifiers.

The two classes isolated by these criteria correspond exactly to the classes identified in Milsark (1974), which addresses issues on existential sentences. Milsark notes that NPs with numeral determiners or with determiners such as *a*, *some*, or *many* occur in existential sentences, whereas definite NPs and universally quantifying NPs cannot.

- (36) a. There is a cow in the backyard.
- b. There are many cows in the backyard.
- c. There are fifteen cows in the backyard.
- (37) a. \*There is Elsie in the backyard.
- b. \*There is her in the backyard.
- c. \*There is every cow in the backyard.

Milsark claims that the NPs that are allowed in existential sentences contain determiners that can be either quantifiers or cardinality predicates. He labels these *weak determiners*. They contrast with *strong determiners*, which he claims are always quantificational. Noun phrases containing strong determiners are not allowed in existential sentences. Milsark explains the distribution of these NPs by claiming that *there is* involves existential quantification and that it is therefore incompatible with NPs that have their own quantificational force. NPs with weak determiners are allowed in these positions precisely because they can have nonquantificational interpretations.

Milsark's insight into the duality in weak quantifiers is invaluable. However, his account of the distribution of the NPs is problematic because his characterization of the class of strong NPs as quantificational does not seem semantically justifiable. This class includes names and pronouns, which do not pattern with quantifiers.<sup>16</sup>

There are other approaches where the NP classes are semantically defined. Barwise and Cooper (1981) and Keenan (1987) offer a characterization based on certain semantic properties of the determiners. Barwise and Cooper define strong determiners in the following way. A determiner Det is positive strong if *Det N is an N* is a tautology (for instance, *Every book is a book*). A determiner Det is negative strong if *Det N is an N* is a contradiction (for instance, *Neither book is a book*). A determiner is weak if it is not strong. Barwise and Cooper further argue that when existential sentences contain NPs with strong determiners, the result is a logically trivial sentence since the sentence turns out to be either a tautology or a contradiction. They offer this infelicity as the source of the unacceptability of such NPs in existential sentences.<sup>17</sup>

Keenan (1987) objects to the analysis in Barwise and Cooper by noting that tau-

<sup>16</sup> For example, quantifiers binding pronouns can show crossover effects in certain configurations, whereas no such effect is observed when a name binds a pronoun.

<sup>17</sup> Barwise and Cooper analyze names as definite descriptions. Thus, *John* is equivalent to *the individual who is John*. Names, then, are not allowed in existential sentences because all definite determiners are strong.

Barwise and Cooper also point out that all NPs defined as strong are “sieves.” As a consequence, an NP such as *every book* generally implies the existence of books. They do not tie this property to acceptability in existential sentences and their notion of sievehood is not identical to the notion of specificity here. According to their analysis, an NP denotes a proper quantifier (is not degenerate) if it is a sieve, and it is a sieve if it denotes neither the empty set nor the power set of the domain of discourse.

tologies and contradictions do not automatically lead to ungrammaticality and that they even have pragmatically acceptable ironic or humorous uses. He suggests that the NPs that are allowed in existential sentences have existential determiners. An existential determiner is one interpreted as an existential function that is defined in the following way.

- (38) A function  $f$  from properties to sets of properties is existential iff for all properties  $p, q$

$$p \in f(q) \text{ iff } 1 \in f(q \wedge p)$$

where 1 is a property shared by all individuals, the property of existing or being an individual.

According to this definition, *some* turns out to be an existential determiner since (39) and (40) have the same truth conditions.

- (39) Some children are cranky.

- (40) Some cranky children exist.

In contrast, *every* and *most* are not existential, since the (a) sentences in (41) and (42) are not equivalent to the (b) sentences. In particular, the (b) sentences do not entail the (a) sentences.

- (41) a. Every child is cranky.  
       b. Every cranky child exists.  
 (42) a. Most children are cranky.  
       b. Most cranky children exist.

Barwise and Cooper's and Keenan's treatments both highlight several properties of the weak determiners. As Higginbotham (1987) also points out, these determiners are intersective and symmetric. Consider (43).

- (43) a. Two children are sick.  
       b. Two sick individuals are children.  
       c. The number of sick children is two.

The sentences in (43) are truth-conditionally equivalent. The weak determiner *two* is symmetric because the function that it denotes can be applied either to the set of sick individuals or to the set of children, as (43a) and (43b) indicate, with no difference in truth conditions. It is also intersective because, as (43c) indicates, the function can be applied to the intersection of the set of sick individuals and the set of children, again with no difference in truth conditions.

Analyses such as Barwise and Cooper's and Keenan's base the definition of the relevant NP classes on the semantics of the determiner and assume that the determiners have only one possible interpretation. These approaches do not automatically extend to partitive NPs. Note that the grammaticality of the sentences in (44) contrasts with the ungrammaticality of those in (45).

- (44) a. There are some cows in the backyard.
  - b. There are two cows in the backyard.
  - c. There aren't any cows in the backyard.
- (45) a. \*There are some of the cows in the backyard.
  - b. \*There are two of the cows in the backyard.
  - c. \*There aren't any of the cows in the backyard.

In both (44) and (45) NPs occur with the determiners *some*, *two*, and *any*. Therefore, the difference in acceptability cannot be accounted for by appealing to the meaning of these determiners. Keenan notices the behavior of partitives in existential sentences and claims that in such NPs the elements preceding the noun form a complex determiner. He takes the determiner of the partitive NP in (45a), for example, to be *some of the*. Crucially, the determiner is not the existential *some*, and therefore the NP is not predicted to be possible in an existential sentence. He notes that determiners are existential if they are basic existential determiners (e.g., *some*), if they are formed by Boolean combinations of existential determiners (e.g., *two or three*), or if they are formed by combining existential determiners with adjectives (e.g., *two small*), but not if they are of the form *Det<sub>1</sub> of Det<sub>2</sub>*. Although this account recognizes the impossibility of partitives in existential sentences, it does not shed light on why complex determiners such as *some of the* are not existential. Furthermore, Keenan's analysis of the determiner of partitives as a combination of two determiners with *of* is syntactically unmotivated, since strings like *some of the* do not form a constituent.

The NPs defined as nonspecific in this article are exactly those that are allowed to occur in existential sentences. The explanation for this probably runs along the lines mentioned by Keenan, who suggests that existential sentences assert existence. This simple and traditional view allows an intuitively plausible account for why specifics are generally excluded from such structures. The specifics discussed so far all presuppose existence, and we may assume that presupposition of existence is incompatible with the assertion of existence (see Stalnaker (1978)).<sup>18</sup> This view is supported by the following example from David Pesetsky (personal communication), where a definite description is acceptable in an existential sentence.

- (46) There are the following counterexamples to Streck's theory . . .

In (46) the definite description contains the word *following*, which makes it explicit that the antecedent of the NP does not precede it. Instead, the NP must be linked to the set of counterexamples to be listed after the utterance of the sentence. Consequently, this particular kind of definite NP does not presuppose existence the way other definites do (compare *\*There are the above counterexamples*) and is acceptable in existential sentences.

Turkish provides further evidence that the NPs blocked in existential sentences are

<sup>18</sup> When specific NPs occur in existential sentences, the result is not anomaly but ungrammaticality. The functional explanation suggested here is offered, not as a substitute for a grammatical explanation, but rather as a possible explanation for why grammars have evolved to restrict existential sentences in this way.

specifics that presuppose existence. Turkish has two determiners that mean ‘some’, *birkaç* and *bazi*. Their contribution to the truth conditions is the same, yet they differ in terms of specificity. *Birkaç* patterns with the English *some* in that it can be either specific or nonspecific. Therefore, in the object position accusative case is optional for NPs with this determiner. In contrast, NPs with *bazi* are always specific (that is, *bazi* always means ‘some of the’) and lack of case morphology results in ungrammaticality.

- (47) a. Ali Zeyneb-e birkaç kitap/kitab-i postaladı.  
Ali Zeyneb-Dat some book/book-Acc mailed  
'Ali mailed some/some of the books to Zeynep.'
- b. Ali Zeyneb-e bazi \*kitap-lar/kitap-lar-i postaladı.  
Ali Zeyneb-Dat some book-Pl/book-Pl-Acc mailed  
'Ali mailed some of the books to Zeynep.'

It is impossible to predict this difference with respect to specificity from the truth-conditional contribution of the two determiners. We must conclude that some of the weak determiners are marked in the lexicon as forming specific NPs. As is expected, NPs with the determiner *bazi* are not allowed in existential sentences in Turkish, whereas NPs with *birkaç* are.

- (48) \*Bahçe-de bazi çocuk-lar var.  
garden-Loc some child-Pl exist  
'There are some of the children in the garden.'
- (49) Bahçe-de birkaç çocuk var.  
garden-Loc some child exist  
'There are some children in the garden.'

Note that such NPs are perfectly grammatical in nonexistential locative sentences.

- (50) Bazi çocuklar bahçede.  
'Some of the children are in the garden.'

A similar example from Turkish involves the negative polarity determiner *hiçbir* ‘any’ (literally, ‘any one’). Unlike the English determiner *any*, this determiner always forms specific NPs. It requires accusative morphology and is not allowed in existential sentences.

- (51) a. Ali hiçbir \*kitap/kitab-i al-ma-di.  
Ali any book/book-Acc buy-Neg-Past  
'Ali didn't buy any of the books.'
- b. \*Bahçe-de hiçbir çocuk yok.  
garden-Loc any child does-not-exist  
'There aren't any of the children in the garden.'<sup>19</sup>

<sup>19</sup> Turkish has a negative polarity adverb *hiç*, best glossed as ‘at all’, which is acceptable in existential sentences.

(i) Bahçe-de hiç çocuk yok.  
garden-Loc at-all child does-not-exist  
'There aren't children in the garden at all.'

These facts indicate that the specificity of an NP cannot always be predicted from the semantics of its determiner, and therefore an explanation of the distribution of NPs in existential sentences cannot be based only on the semantics of the determiner.

The phenomenon observed in existential sentences has been called the *definiteness effect*. This term is commonplace in both syntactic (e.g., Safir (1982), Belletti (1988)) and semantic (e.g., Higginbotham (1987)) literature. However, this is incompatible with any relatively adequate theory of definiteness one might develop. Suppose definites and indefinites were identified syntactically according to their determiners, and suppose we said that all NPs with the determiners *a*, *many*, and cardinal determiners were indefinites and that all NPs with the determiners *the*, *that*, *most*, and *every* were definites, as is commonly done. This approach, which does not require a corresponding semantic characterization of the NP classes, will run into the same problems facing analyses that define the classes according to the semantics of the lexical determiners. It will not be able to capture the difference between NPs like *many books* and *many of the books* without further stipulations. One could say that NPs with weak determiners such as *many* are indefinite as long as these NPs do not contain definite NPs. But this would leave unexplained the behavior of an NP like *many books about the children*, which can readily occur in existential sentences. The evidence suggests that an explanation of the relevant NP classes in terms of what determiners they contain or in terms of the semantics of their determiners will miss significant generalizations.

Suppose that we adopt a semantic definition of definite and indefinite NPs along the lines proposed in Kamp (1981) and Heim (1982). Then clearly this classification does not help us in isolating the NPs acceptable in existential sentences, since NPs like *every* and *two of the children* are indefinite but are still not allowed in such environments. The facts indicate that indefiniteness of the NP is not the relevant notion here and that nonspecificity is. We must conclude that specificity is a phenomenon distinct from definiteness and that the definiteness of the NP can be determined from the determiner in languages like English, whereas specificity cannot be so determined. We must assume that the specificity of NPs is determined by an independent mechanism (in the treatment proposed here by the definiteness feature of the second index) and that it is partially constrained by the lexicon, by the definiteness of the NP, and by the principle that requires quantifiers to be specific, as discussed above. Then the syntactic distribution of the NPs can be stated in terms of specificity. I suggest that the term *definiteness effect* is inappropriate and misleading and that it should be replaced by the term *specificity effect*.<sup>20</sup>

---

In (i) *hiç* is not the determiner of the NP. Note the grammaticality of the following sentences. In (ii) *hiç* follows the noun, and in (iii) it occurs without a noun. Determiners cannot occur in these positions.

- (ii) Bahçede çocuk hiç yok.  
‘There aren’t children in the garden at all.’
- (iii) Ali hiç uyu-ma-di.  
Ali at-all sleep-Neg-Past  
‘Ali didn’t sleep at all.’

<sup>20</sup> *Specificity effect* is a term already in use in describing a constraint on movement from NPs (see Fiengo and Higginbotham (1981), Hudson (1989)). *Wh*-Movement is impossible in (i)–(iii) but is allowed in (iv)–(vi).

It is important to note here that Milsark's discussion of the quantifier and cardinality readings of weak determiners sheds further light on the semantics of nonspecifics. The determiner *many* requires a pragmatic determination of what counts as many, which can differ according to the context and according to the noun of the NP. We assume that like all weak determiners, *many* can form nonspecific NPs or specific NPs.<sup>21</sup> Which set *many* applies to varies according to whether the NP is specific or not.

- (52) I talked to many students.

The ambiguity of this sentence can be teased out by supplying appropriate contexts.

(53) favors a specific reading, but (54) favors a nonspecific reading.

- (53) I thought that the best way to determine whether or not this course would be boring was to ask the students who took it last semester. I talked to many students and decided that it was worth a shot.
- (54) What did I do yesterday? I cleaned my desk, wrote some memos, talked to many students, and graded about twelve papers.

The specific reading of *many students* is favored in (53), because the most plausible interpretation is one where I interviewed many of the relevant students, that is, the students who took the course last semester. Here, the head noun *students* is truly the restrictor of the quantifier, since *many* is interpreted relative to the set of students.

(54) favors the nonspecific reading of the NP, since the list of activities does not set up an appropriate superset for the specific reading. As Milsark observes, in such cases *many* is interpreted, not with respect to the set of students, but instead with respect to the set of students I talked to. In other words, (54) asserts that the students I talked to were many, not that the students were many. Milsark notes that in existential sentences we get only the second kind of reading.<sup>22</sup> It is this reading that involves the cardinality predicate reading of the determiner, whereas the reading where *many* applies just to the set denoted by the head noun involves the quantifier reading of the determiner.

Milsark's observation allows us to formulate a test for specificity that can be applied even to NPs that do not display a surface property (such as case) correlating with spec-

- (i) \*who did John read [every story about e]
- (ii) \*who did Mary steal [that picture of e]
- (iii) \*who did Mary make [most movies about e]
- (iv) who did John read [a story about e]
- (v) who did Mary steal [pictures of e]
- (vi) who did Mary make [many movies about e]

It seems that the NPs that block extraction are not definites but specifics. This view is further supported by the ungrammaticality of (vii).

- (vii) \*who did Mary make [many of the movies about e]

Therefore, the term *specificity effect* is appropriate for both the extraction cases and existential sentences.

<sup>21</sup> Milsark notes that the two readings are generally distinguished by the stress pattern. Stress on the determiner usually yields the specific reading equivalent to the partitive, whereas stress on the head noun usually yields the nonspecific reading.

<sup>22</sup> This observation by Milsark is the starting point of the analysis of existential sentences in Higginbotham (1987).

ificity. The test does not apply to cardinality determiners, which are always intersective and symmetric, but it does apply to *many* and *few*. Milsark's discussion shows that *many* and *few* are not symmetric or intersective on their quantifier reading (that is, when they form specific NPs). They are symmetric and intersective only on their cardinality predicate reading (that is, when they form nonspecific NPs). Therefore, it seems that all NPs that can occur in existential sentences have symmetric and intersective determiners, although it is false that all NPs with symmetric and intersective determiners can occur in existential sentences.

Milsark's characterization of the specific reading of the NPs containing weak determiners as quantificational lends further support to the constraint proposed in (34). Once again we see that quantifier NPs turn out to be specific and that the case requirement for the universally quantifying NPs in Turkish is not idiosyncratic.

## 6. *Certain*

I noted above that English NPs with adjectives of specificity are generally identified as specific NPs and moreover that these adjectives do not pattern uniformly. In this section I will focus on *certain* and discuss its properties relative to the analysis presented.

The following example from Hiroaki Tada (personal communication) shows that NPs with *certain* cannot be predicational.

- (55) John married a (\*certain) car mechanic, which Casey also is.

In (55) *which* requires a predicate antecedent. The NP without *certain* can serve as an antecedent and results in the reading where Casey is a car mechanic. This indicates that the NP must be predicational here, and therefore nonspecific. In contrast, the NP containing *certain* cannot serve as the antecedent, indicating that it cannot be predicational and that it must therefore be specific.

Turkish has an adjective similar to *certain*. (56) shows that NPs containing this adjective *belli* require accusative case.

- (56) Her antrenör *belli* bir atlet-i/\*atlet çalışıracak.  
           every trainer   certain one athlete-Acc will-train  
           'Every trainer will train a certain athlete.'

The obligatoriness of accusative case in (56) further supports the hypothesis that NPs with adjectives such as *certain* are specific.

These NPs can occur as covert partitives. For example, (56) can be true in a context where the athletes to be trained come from a previously established set. However, a partitive interpretation is not sufficient for licensing them. (57) and (58) do not have the same interpretation.

- (57) There were several books on the table. John picked up one of them and started reading it.  
 (58) There were several books on the table. John picked up a certain book and started reading it.

(58) seems to require that the book John picked up be somehow distinguished. This may explain why such NPs are sometimes said to correspond to objects that the speaker has in mind, though acquaintance by the speaker does not seem to be a necessary condition since sentences like (59) seem acceptable without such an implication.

- (59) The teacher gave each child a certain task to work on during the afternoon.

Although NPs with specificity adjectives are allowed partitive interpretations, they do not seem to require it. (59) is acceptable even if the set of relevant tasks has not been introduced into the domain of discourse previously.<sup>23</sup> Since a partitive reading is neither sufficient nor necessary for these NPs, the semantic analysis of specificity proposed above must be modified to extend to them.

Hintikka (1986) suggests that NPs with *certain* can be interpreted with a function that relates them to other objects and argues that a sentence like (60) can be represented as in (61).<sup>24</sup>

- (60) Every true Englishman adores a certain woman.

$$(61) (\exists f) (\forall y) (y \text{ is a true Englishman} \rightarrow y \text{ adores } f(y))$$

In this example the function *f* assigns a value to the variable *y* according to some relation that obtains between *y* and *f(y)*. Hintikka claims that this relation is pragmatically recoverable and that it plays a role in whether or not the NP *a certain woman* will get wide scope. The relation ‘mother of’, for example, leads naturally to a narrow scope reading of the NP in (60). Hintikka’s analysis with an implicit relation explains why the NP in (58) is interpreted as denoting a book that is somehow distinguished. It is distinguished because it stands in the contextually relevant relation to some other object.

Hintikka’s account is similar to proposals made by Cooper (1978; 1979) and Engdahl (1986) for some pronouns. Cooper suggests that some bound pronouns—for example, those in *donkey* sentences—can be analyzed as definite descriptions with a free property variable that is assigned a value from the context. The pronoun then denotes a unique individual who has a contextually salient property or who stands in a contextually salient relation to some other individual. Engdahl extends this analysis of pronouns to interrogative pronouns.

Hintikka’s account predicts that any contextually recoverable relation can serve to license NPs with specificity adjectives. This, however, does not seem to be the case. In (62) the relation of motherhood is mentioned by A and becomes salient. Yet it is not sufficient to license the NP in B’s utterance.

- (62) A: American men admire their mothers, but no true Englishman admires any woman.  
 B: You’re wrong. Every true Englishman admires a certain woman.

B’s sentence in (62) is not automatically interpreted as expressing the proposition that

<sup>23</sup> Presumably, the property of not being in the speaker’s mind is linked to the property of not being included in the domain of discourse.

<sup>24</sup> (60) and (61) are simplified versions of Hintikka’s (19) and (22).

every true Englishman admires his mother. This sentence contrasts sharply with the sentence in (63).

(63) Every true Englishman admires a certain woman—his mother.

(63) differs from the sentence in (62) only in that it contains extra material (*his mother*) that makes explicit the relevant relation between Englishmen and the women they admire. NPs with *certain* generally seem to require that the relevant relation be explicitly expressed in the sentence. If it is not, as in (62), the sentence sounds incomplete, as though the speaker were interrupted in midsentence. Below are examples where the relevant relation is expressed by tensed or infinitival relative clauses.

- (4) a. John wants to own a certain piano which used to belong to a famous pianist.
- b. Ned must speak to a particular congressman who has sworn to vote against this bill.
- (6) For every committee, the dean must appoint a certain student to represent the students' point of view.
- (64) Every man wanted to dance to a certain song that he loved as a teenager.

Some sentences express the source or the agent of the assignment, as in (6), (59), and (65).

- (59) The teacher gave each child a certain task to work on during the afternoon.
- (65) Each reporter was assigned to a certain politician by the editor of the paper.

These sentences contain NPs that denote individuals who intentionally assign objects to other objects in the domain. The assigner is the dean in (6), the teacher in (59), and the editor in (65). In fact, the narrow scope reading of NPs with *certain* seems most prominent in sentences that contain verbs of assignment like *give*, *appoint*, or *assign*. (65) indicates that when the assigner is made explicit, the relation according to which the assignment is made need not be made explicit. (65) plausibly involves the relation of interviewing or reporting on, but this relation is not mentioned in the sentence. The relation of being assigned, which comes from the main verb, is sufficient to license the NP containing *certain*, in contrast to the relation of admiring in (62), which does not license it. Therefore, we can say that such NPs are licensed through (a) intentional assignments by individuals for a purpose not necessarily made explicit in the sentence, or (b) by relations explicitly expressed in the sentence that provide the relevant assignment.<sup>25</sup>

There are some cases where an NP with *certain* is licensed although the sentence does not make explicit either the assigner or the relation.

- (66) Each child sat under a certain tree.

<sup>25</sup> Languages apparently vary with respect to the licensing mechanisms allowed. The Turkish *belli*, for instance, is always licensed by intentional assignment, not by a relation expressed in the sentence. It also seems that when a sentence has a propositional attitude verb such as *believe* or *want*, the bearer of the attitude is the assigner.

(66) seems to presuppose that the relevant trees were distinguished prior to the utterance of the sentence as standing in some specified relation to the children. This sentence would make sense, for example, in a context where the children are participating in the production of a play and are told by the director exactly which trees they should sit under on the stage. In other words, (66) can be felicitous if there has been an assignment of the relevant trees to the children for sitting under. This example contrasts with the sentence in (62), where *certain* is not licensed even though the relation of motherhood is mentioned previously. I suggested that since the relevant relation in (62) could not be construed as the relation of motherhood, we had to conclude that the relation had to be explicitly expressed in the sentence. We may explain the acceptability of (66) in the context sketched above by saying that NPs with *certain* are licensed if the intentional assigner is recoverable from the context, even though the recoverability of just the relation does not allow licensing.

Why should assignment by an individual or by a relation be relevant for specificity? If we see specificity as linking NP denotations to previous discourse, we can give a plausible answer to this question. The domain of the assignment function seems to be some subset of the domain of discourse. In (6), (59), (64), and (65) the domain of the function is the domain of the universal quantifier, which by (34) must be a subset of the domain of discourse. Thus, this function assigns novel objects to familiar objects, relating objects to the domain of discourse. If this view of *certain* is correct, we may conclude that specificity involves linking objects to the domain of discourse in some manner or other. One acceptable way of linking is through this assignment function, by relating objects to familiar objects. Another acceptable way of linking is the subset relation, which we have observed in covert and overt partitives.<sup>26</sup> This highlights the appropriateness of the term *D-linking* in Pesetsky (1987).

The difference in the linking of the two classes of specifics correlates with a difference in their distribution. Relational specifics such as *a certain N* do not presuppose existence, whereas partitive specifics do. As a consequence, relational specifics are allowed in existential sentences, as (67) illustrates.

- (67) There is a certain man at the door who claims to be your cousin from Albania.

Modifiers that express relations seem to differ with respect to their ability to license relational specifics. Licensing appears to be easier if the modifier establishes a link with a familiar object. This is indicated by the difference in acceptability between (68) and (69).

- (68) There is a certain man willing to take on this mission.

- (69) ?There is a certain man willing to take on any mission.

(68) relates the man to a definite mission (through the determiner *this*) and is more

<sup>26</sup> I have suggested in Enç (1987) in connection with the interpretation of time adverbials that the subset relation is the default linking relation.

acceptable than (69), which does not. Note that (69) improves if *any mission* is interpreted as ‘any of the missions under discussion’—that is, if it is interpreted as specific.

Surprisingly, (69) also improves if the modifier is a relative clause with the same content.

- (70) There is a certain man who is willing to take on any mission.

The difference between (69) and (70) does not seem to be semantic. This suggests that syntactic factors as well as semantic factors may be relevant here and that further investigation is necessary into the nature of relational licensing.

It has long been observed that “extra material” in an indefinite NP facilitates a specific interpretation (see Fodor and Sag (1982)). It is customary to argue that if an NP with, say, a relative clause can get a specific reading in a syntactic position, then any NP can get a specific reading in that position. The evidence discussed here suggests otherwise. Crucially, there is a significant difference between an NP with no modifiers and an NP with a relative clause, since in the latter case the NP can have an internal licenser. In some cases, therefore, whether or not an NP has a specific reading cannot be stated without reference to the internal structure of the NP.

## 7. The Scope of Specifics and Nonspecifics

Section 1 included examples showing that specific NPs can have both wide scope and narrow scope with respect to some operator in the same sentence. In contrast, the scope of nonspecific NPs does seem to be limited. Consider the NPs in the following examples on their nonspecific, absolutely novel readings that are customarily paraphrased as ‘some coat or other’ (in other words, their referents are not linked either by assignment or by inclusion).<sup>27</sup>

- (71) a. John wants to buy a coat.  
       b. John didn’t buy a coat.  
       c. Everybody designed a coat.  
       d. John must buy a coat.

It seems impossible to interpret these sentences with *a coat* taking wide scope over the intensional verb *want*, negation, the universal quantifier, or the modal *must*. Unlike what we observe with specific NPs, then, only one scope relation is possible for non-specific NPs, narrow scope. This fact is also noted by Milsark. Milsark’s characterization of some occurrences of weak determiners as predicates can provide an explanation for this phenomenon. Higginbotham (1987) argues that the predicate determiners form predicate NPs. In the analysis I am proposing, predicate NPs are all nonspecific. We can then say that these NPs cannot undergo quantifier movement at LF since they are not

<sup>27</sup> I use the determiner *a* in these sentences because it seems to force the nonspecific reading unless there is an internal licenser. It contrasts in this respect with other weak determiners including *one*. This may be related to the fact that it does not have a quantificational reading even when it is specific.

quantifiers. Therefore, their scope at LF cannot be wider than their scope at S-Structure.<sup>28</sup>

This limitation on the scope of nonspecifics gives rise to an implicature when specific NPs are used in their place. Following Grice (1975), we can argue that specific NPs carry a generalized implicature of wide scope when they are uttered out of the blue, since the speaker has the option of using nonspecific NPs for unambiguously narrow scope readings. This explains why specific NPs are generally assumed to have wide scope when an operator is present. Suppose, however, that the context makes it clear that the denotation of the NP is related to the domain of discourse either through the subset relation or through the assignment to a familiar object. In this case the reasons for the use of a specific NP will be clear to the addressee, who does not have to assume that the choice of the specific is based on the scope properties, and no implicature arises. An approach along these lines explains both the wide scope preference in the absence of appropriate context and the disappearance of this preference when adequate contextual information is supplied. It is not the case that all specifics have wide scope. Rather, it is the case that all NPs that can take wider scope at LF than at S-Structure are specific.

There are several important issues about the scope of specific and nonspecific NPs. Fodor and Sag (1982) show that some of the NPs that are specific can take scope out of islands—for example, out of antecedents of conditionals. A similar point is made in Hornstein (1984) for NPs with *certain*, which are claimed to take scope without moving. Pesetsky (1987) argues that *wh*-phrases of the form *which N* are discourse linked (that is, specific) and can take wide scope at LF without leading to a Subjacency violation. Pesetsky suggests that this can be explained if such NPs can take scope without moving. These facts indicate that there are a number of specifics that pattern together in that they enjoy relative freedom of scope. If some specific NPs can take wide scope without moving and can take scope out of islands, why can't all quantifying NPs? For example, why are universally quantifying NPs, presumably undergoing Quantifier Raising, clause-bounded? If it turns out that all specific NPs do raise at LF, then we are faced with a different question. Why can some of the specific NPs raise higher than others? These are some of the significant questions about the scope of specifics that need to be further investigated.

## 8. Conclusion

The evidence discussed in this article supports the view that a theory of natural language semantics contains principles that determine whether or not NP denotations are linked

<sup>28</sup> Some nonspecific NPs are raised at S-Structure in English to positions where they have scope over operators, as in (i) and (ii).

- (i) A worthless candidate may win the election.
- (ii) Some unicorns seem to be approaching.

Both subjects in these examples can be nonspecific, and when they are interpreted as nonspecific, they have narrow scope with respect to *may* and *seem*. To account for these examples, we may assume that the nonspecific NPs are forced to move down to their original positions at LF.

to previously established referents, and how this linking can be accomplished. Definiteness involves a strong link, that of identity of reference, whereas specificity involves a weak link, that of being a subset of or standing in some recoverable relation to a familiar object. The semantically defined classes of specific and nonspecific NPs turn out to be exactly the right classes for capturing certain syntactic generalizations, among them generalizations about the distribution of case morphology and about specificity effects in existential sentences.

## References

- Barwise, J. and R. Cooper (1981) "Generalized Quantifiers and Natural Language," *Linguistics and Philosophy* 4, 159–219.
- Belletti, A. (1988) "The Case of Unaccusatives," *Linguistic Inquiry* 19, 1–33.
- Cooper, R. (1978) "Variable Binding and Relative Clauses," in F. Guenthner and S. J. Schmidt, eds., *Formal Semantics and Pragmatics for Natural Languages*, Reidel, Dordrecht.
- Cooper, R. (1979) "The Interpretation of Pronouns," in F. Heny and H. Schnelle, eds., *Syntax and Semantics* 10, Academic Press, New York.
- Donellan, K. (1966) "Reference and Definite Descriptions," *The Philosophical Review* 75, 281–304.
- Enç, M. (1987) "Anchoring Conditions for Tense," *Linguistic Inquiry* 18, 633–657.
- Engdahl, E. (1986) *Constituent Questions*, Reidel, Dordrecht.
- Fiengo, R. and J. Higginbotham (1981) "Opacity in NP," *Linguistic Analysis* 7, 395–421.
- Fodor, J. D. and I. Sag (1982) "Referential and Quantificational Indefinites," *Linguistics and Philosophy* 5, 355–398.
- Grice, P. (1975) "Logic and Conversation," in P. Cole and J. Morgan, eds., *Syntax and Semantics* 3, Academic Press, New York.
- Heim, I. (1982) *The Semantics of Definite and Indefinite Noun Phrases*, Doctoral dissertation, University of Massachusetts, Amherst.
- Hellan, L. (1981) "On Semantic Scope," in F. Heny, ed., *Ambiguities in Intensional Contexts*, Reidel, Dordrecht.
- Higginbotham, J. (1987) "Indefiniteness and Predication," in E. J. Reuland and A. G. B. ter Meulen, eds., *The Representation of (In)definiteness*, MIT Press, Cambridge, Massachusetts.
- Hintikka, J. (1986) "The Semantics of *A Certain*," *Linguistic Inquiry* 17, 331–336.
- Hornstein, N. (1984) *Logic as Grammar*, MIT Press, Cambridge, Massachusetts.
- Hudson, W. (1989) "The Structure of Noun Phrases in English: Specificity Revisited," ms., University of Southern California, Los Angeles.
- Ioup, G. (1977) "Specificity and the Interpretation of Quantifiers," *Linguistics and Philosophy* 1, 233–245.
- Kamp, H. (1981) "A Theory of Truth and Semantic Representation," in J. Groenendijk, T. Janssen, and M. Stockhof, eds., *Formal Methods in the Study of Language*, Mathematisch Centrum, Amsterdam.
- Karttunen, L. (1968) "What Do Referential Indices Refer To?" RAND Corporation Report No. P3854, Santa Monica, California.
- Keenan, E. (1987) "A Semantic Definition of 'Indefinite NP,'" in E. J. Reuland and A. G. B. ter Meulen, eds., *The Representation of (In)definiteness*, MIT Press, Cambridge, Massachusetts.

- Milsark, G. (1974) *Existential Sentences in English*, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Montague, R. (1972) "The Proper Treatment of Quantification in English," in R. Thomason, ed., *Formal Philosophy*, Yale University Press, New Haven, Connecticut.
- Partee, B. H. (1972) "Opacity, Coreference, and Pronouns," in D. Davidson and G. Harman, eds., *Semantics of Natural Language*, Reidel, Dordrecht.
- Pesetsky, D. (1987) "Wh-in-Situ: Movement and Unselective Binding," in E. J. Reuland and A. G. B. ter Meulen, eds., *The Representation of (In)definiteness*, MIT Press, Cambridge, Massachusetts.
- Saarinen, E. (1981) "Quantifier Phrases Are (At Least) Five Ways Ambiguous in Intensional Contexts," in F. Heny, ed., *Ambiguities in Intensional Contexts*, Reidel, Dordrecht.
- Safir, K. (1982) *Syntactic Chains and the Definiteness Effect*, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Stalnaker, R. (1978) "Assertion," in P. Cole, ed., *Syntax and Semantics 9*, Academic Press, New York.

*Department of Linguistics  
1168 Van Hise Hall  
University of Wisconsin-Madison  
Madison, Wisconsin 53706  
menc@wiscmacc.bitnet  
menc@vms.macc.wisc.edu*