Indefinite Subjects in Dutch

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0. Introduction

In this paper I will discuss some aspects of the interpretation of indefinite subjects in Dutch. In contrast to English, indefinite subjects in Dutch cannot get an existential interpretation if they appear in the ordinary subject position (although there are some important exceptions). This observation can get a natural explanation in a framework that treats indefinites not as quantifiers, but as variables that receive their "quantificational force" from some other element in the sentence. Theories of this kind have been proposed in work by Kamp (1984) and Heim (1982). My analysis in this paper draws heavily from certain extensions and modifications of the original Kamp-Heim framework which have recently been put forward by Diesing (1988) and Kratzer (1989).

The topic of this paper is intimately connected to the phenomenon of there-insertion. There-insertion has been studied extensively from both syntactic and semantic points of view since the work by Milsark (1974; 1977). (For a recent overview see Reuland and ter Meulen (1987)). Much of this work has focused on the explanation of the so-called Definiteness Restriction (DR) which prohibits definite NPs from occuring as the subject in a there-sentence. The phenomenon discussed in this paper can be regarded as the opposite of the DR: it is a restriction on the occurence of indefinite subjects in non-there-sentences in Dutch. This restriction, which I will refer to as the Indefiniteness Restriction (IR), has received relatively little attention in the literature. The only reference I am aware of is Reuland (1988), who tries to give an account in syntactic terms within the Government-Binding framework. In this paper, I will have very little to say about syntax. Instead, I will concentrate on the various semantic interpretations that indefinite subjects in Dutch

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can have.

The paper is organized as follows: Section 1 gives an overview of some of the main facts concerning er("there")-insertion in Dutch and outlines my basic assumptions about the syntactic position of the subject in er-sentences and non-er-sentences. In section 2 I introduce the Indefiniteness Restriction, which prohibits indefinite NPs from being the subject of a non-er-sentence. Four exceptions to this restriction are noticed in section 3. They are: generic sentences, conditional sentences, "concealed partitives" and specific indefinites. Section 4 contains a summary of some of the conclusions of the Diesing/Kratzer theory, which in the following sections are used to give an analysis of the IR. In section 5, two of the four exceptions to the IR, generics and conditionals, are discussed. Section 6 deals with the case of concealed and overt partitives. In section 7 finally I try to analyze the fourth exception, specific indefinites, in terms of the theory of referential indefinites put forward by Fodor and Sag (1982).

1. Some facts concerning er-sentences

This section gives an overview of some syntactic characteristics of er("there")-sentences in Dutch. In Dutch er-sentences can be formed with a much wider range of verbs than are allowed in English there-sentences. Some examples are given in (1) - (10):

Jan zegt dat....
'John says that....'

(1)   er   mensen dronken waren
         there people drunk   were
         'there were people drunk'
(2)   er op Massachusetts Avenue een rel   uitbrak
            on Mass. Ave.   a   riot broke out
         'there broke out a riot on Mass. Ave.'
(3)   er gisteren een student gearresteerd is
            yesterday a student arrested   is
         'a student was arrested yesterday'
(4)   er zojuist iemand in Amsterdam aangekomen is
            just   somebody in Amst.   arrived   is
         'somebody has just arrived in Amsterdam'
(5)   er iemand   gebeld heeft
            somebody called has
         'somebody has called'
(6)   er iemand . bloemen gekocht heeft
            somebody flowers bought has
         'somebody bought flowers'

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(7)   ? er iemand   het huis bekeken heeft
              somebody the house inspected has
              'somebody inspected the house'

(8)   ?* er iemand   Piet geholpen heeft
              somebody Pete helped   has
              'somebody helped Pete'

(9)   * er Piet / deze jongen / hij dronken was
              Piet / this boy   / he   drunk   was
              'Pete / this boy / he was drunk'

(10)   * er elke jongen / de meeste jongens dronken waren
              each boy   the most boys   drunk   were
              'each boy / most boys were drunk'

In English, there-insertion is possible in sentences with copular be and with certain verbs that describe a state of "being or coming into being" (Milsark 1974). In (1) and (2) we see that such sentences are also grammatical in Dutch. However, in Dutch er is also allowed with passives (see (3)), unaccusatives (4), unergatives (5) and even transitives (6). Er-insertion in transitive sentences is always possible if the object is indefinite. (7) which has a definite object is marginally acceptable, but (8) where the object is also definite, is ungrammatical. It is unclear to me why (7) is somewhat better than (8). Finally just like English, Dutch does not allow definite NPs (see (9)) or NPs with a strong determiner[2] (10) in the subject position of er-sentences.

    It is not very clear what the position and syntactic status of the expletive er in sentences like (1) - (10) is. For the purposes of this paper we can just assume that it occupies the ordinary subject position (i.e. the Spec of IP in current syntactic terms). More crucial is the question what the position of the indefinite subject in er-sentences is. Various authors take the position that the subject is contained in the VP or adjoined to it. For this assumption we have two kinds of evidence. First, whereas subjects in non-er-sentences always precede sentence adverbs, subjects in er-sentences preferably follow them.[3] If we assume that these adverbs invariably occupy a position immediately to the left of the VP (for instance if they are always sisters to the VP), then this observation is accounted for. The second type of evidence

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[2]   In the sense of Barwise and Cooper (1981).

[3]   In my judgement sentences like (i) are very marginal and only acceptable with an exceptional intonation:

(i) ?*   dat er studenten / iemand   gisteren gearresteerd
           that   students / somebody yesterday arrested
           is / zijn
           is / are
           'that students / somebody were / was arrested
           yesterday'

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comes from the so-called <u>wat voor</u>-split phenomenon. As den Besten (1983) shows, <u>wat voor</u>-split is only possible with VP-internal NPs. Now crucially, <u>wat voor</u>-split is possible with subjects of <u>er</u>-sentences, but not with subjects of non-<u>er</u>-sentences.

Summing up then, in this paper I make the following two assumptions:

i. In non-<u>er</u>-sentences the subject is in a position outside the VP (following current proposals in the GB-literature we may say that this position is the Spec of IP);

ii. In <u>er</u>-sentences the subject is inside the VP (probably in the Spec of VP).

2. The Indefiniteness Restriction

In general, Dutch does not allow **indefinite subjects in** intransitive sentences without <u>er</u>:

(11)   * dat mensen dronken waren
          'that people were drunk'
(12)   * dat een rel uitgebroken is
          'that a riot has broken out'
(13)   * dat studenten gisteren gearresteerd zijn
          'that students were arrested yesterday'
(14)   * dat mensen hebben gebeld
          'that people called'

I will call this effect the Indefiniteness Restriction (IR). As we will see there are certain circumstances that make it possible for an indefinite subject to get a non-existential reading, in which case the IR does not apply. The main goal of this paper is to give an analysis of such cases and to provide an answer to the question why they are different from (11) through (14). Before I go on to discuss these exceptions to the IR, however, I will point out some factors that seem to diminish the strength of the IR even if the indefinite subject does have an existential interpretation.

The IR seems to be weakened or even absent if the sentence has a (definite) object. (15) for instance is quite acceptable:

(15)   dat studenten gisteren de bibliotheek bezet hebben
          that students yesterday the library   occupied have
          'that students occupied the library yesterday'

I have no idea why this sentences should be so much better than (11) – (14). In what follows I will restrict myself to sentences with intransitive verbs, to which the IR applies in its full force. Another important factor that can weaken the IR is stress. If we stress the subject in (16) the sentence is grammatical:

(16)   dat zeelieden vannacht   hebben ingebroken
          that sailors   last night have   broken in

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'that sailors have broken in last night'

However, the sentence gets one of two special readings, depending on the stress pattern. If only <u>zeelieden</u> is stressed the sentence will be interpreted as meaning: "the ones who broke in tonight were sailors". If on the other hand we stress both <u>zeelieden</u> and the verb <u>ingebroken</u>, the sentence has a special flavor in that it expresses surprise on the part of the speaker. Facts like these are obviously very relevant for any theory of the IR but I will leave them aside for the purposes of this paper.

Another important fact that has to be kept in mind is that a locative PP or other adverbial element, if appearing to the left of the subject, can sometimes take over the function of <u>er</u>:

(1')   dat (er) op het feest mensen dronken waren
         that there at the party people drunk   were
         'that there were people drunk at the party'

(1') is acceptable without <u>er</u>, although many speakers prefer the version with <u>er</u>. (This may be subject to dialectal variation.)

I would like to conclude this section by comparing the IR in Dutch with a very similar constraint in English, discussed in the literature at least as early as Milsark (1974). In English (17a) and (18a) are very odd, but their <u>there</u>-insertion counterparts (17b) and (18b) are fine:

(17) a. # A hole is in my pocket
     b.   There is a hole in my pocket

(18) a. # Trees are in the garden
     b.   There are trees in the garden

Intuitively the oddity of (16) and (17) lies in the fact that holes do not exist independently of the objects in which they occur and that trees do not move around from one place to another.

This restriction on indefinite subjects in English is much more limited than the one we see in Dutch. (19a) and (b) are fully acceptable unlike their Dutch counterparts:

(19) a.   A cow was in the yard
     b.   A hole was discovered in the wall of the library

What distinguishes (19a) from (17a) and (18a) is that we regard cows as entities that, unlike holes, have a certain degree of independent existence, and that, unlike trees, easily move from one place to another. In this respect, English differs from Dutch which has a restriction on all indefinite subjects irrespective of their metaphysical or physical independence. Concerning (19b) we might conjecture that the grammaticality of this sentence is related to the fact that it has no grammatical <u>there</u>-insertion counterpart. I will not try to account for the similarities and

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differences between the restrictions on indefinite subjects in Dutch and English. In the remainder of this paper only the Dutch facts will be discussed.

3. Exceptions to the Indefiniteness Restriction

The main focus of this paper is on four interesting exceptions to the IR which all have in common that the indefinite subject does not get a (purely) existential interpretation. The first class of exceptions are generic sentences of which (20) and (21) are examples:

(20)   dat brandweermannen lui zijn
         'that firemen are lazy'
(21)   dat een student altijd aan het studeren is
         'that a student is always studying'

(20) does not mean that there are some firemen who are lazy, but rather that all (typical) firemen are lazy. The second type of examples similar to the first is that where the indefinite is the subject of a conditional as in (22):

(22)   Als een student de ingang blokkeert, wordt hij
         gearresteerd
         'If a student blocks the entrance, he will be arrested'

Again (22) is a universal rather than an existential statement about students.
    There are two other kinds of indefinite subjects that escape the IR. For these it is perhaps less obvious that they are not interpreted existentially. The first is the case of what I will call "concealed partitives". Consider the piece of discourse in (23):

(23)   Toen ik de bibliotheek in wilde gaan werd de ingang
         geblokkeerd door een groep studenten.
         'When I wanted to enter the library, the entrance was
         blocked by a group of students.'
         Ik hoorde later dat twee studenten gearresteerd waren.
         I heard later that two students arrested   were
         'Later I heard that two students had been arrested.'

The second sentence of (23) is only grammatical under the reading that two of the students who were blocking the entrance got arrested. Thus in a situation in which two students got arrested, one of who does not belong to the group of students referred to in the first sentence, the second sentence would be false (unlike its English counterpart). A suitable paraphrase of the subject twee studenten would be the overt partitive two of the students. Like concealed partitives, overt partitives can appear in non-er-sentences:

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(23')   Ik hoorde later dat twee van de studenten gearresteerd
          waren
          'Later I heard that two of the students had been
          arrested'

A fourth case in which an indefinite subject is allowed in a
non-er-sentence is when it refers to a specific individual:

(24)   Ik hoorde dat een jongen uit mijn klas gisteren
          I heard that a boy   from my class yesterday
          gearresteerd was
          arrested   was
          'I heard that a boy in my class had been arrested
          yesterday'

Unlike its English counterpart, (24) can only mean that there is
a specific boy in my class about whom I heard that he got arrested.

4. Towards an Explanation of the IR

     As I said earlier the four exceptions to the IR noted in the
previous section all have in common that the indefinite subject
does not get a (purely) existential interpretation. Apparently,
the quantificational force of indefinite subjects in Dutch is
dependent on the context. In an er-sentence, the indefinite is
interpreted existentially, whereas in other sentences the
quantificational force of the indefinite is supplied in some other
way. In a theory in which indefinite NPs themselves contain an
existential quantifier (at some level of representation) as they
do in Montague grammar for instance, this kind of context
dependency would be hard to explain. The only way to deal with
phenomena of this kind in such a theory would probably be to treat
indefinites as ambiguous between existential and non-existential
readings. In the theories of Kamp (1984) and Heim (1982)
indefinites are treated as non-quantificational elements which can
get bound by an external quantifier. Such an approach seems to be
more promising to deal with the kind of phenomena discussed in this
paper.
     In Heim's theory a sentence is typically translated into a
logical representation that has the general form of the tripartite
structure given in (25):

(25)   Q [$_{RC}$ ....] [$_{NS}$ ....]

In such structures Q is a quantifier, RC is the so-called
Restrictive Clause and NS is the Nuclear Scope. Q can be the
translation of a determiner, such as every, of a quantifying adverb
such as always, or of other elements like modal verbs. Q is an
unselective binder (Lewis 1975): it can bind all the variables that

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are free in the Restrictive Clause. (As a convention I will subscript Q with the variables that it binds.) Variables which are free in the Nuclear Scope but which are not bound by Q, will automatically be bound by an existential quantifier adjoined to the Nuclear Scope. This phenomenon is known as "existential closure".

For illustration, I give two sentences in (26) and (27) which both have the logical representation given in (28):

(26)   Every farmer who has a donkey beats it with a stick
(27)   If a farmer has a donkey he always beats it with a stick
(28) $A_{x,y}$ [farmer(x) & donkey(y)] E_z[x beats y with z]

Diesing (1988) and Kratzer (1989) have argued for an interesting extension and modification of Heim's original theory. I won't try to summarize their proposals here, but instead I will outline some of their conclusions that are relevant for the phenomena at hand.

Diesing and Kratzer try to give an empirically motivated answer to the question how the mapping between surface structure and logical forms proceeds. Their basic proposal can be summarized as 'Diesing's Slogan':

(29)   Diesing's Slogan

         Material in the VP is mapped into the nuclear scope, material outside the VP is mapped into the restrictive clause.

Below we will see in more detail how this works.

In addition to this, Kratzer proposes that nuclear scopes and only nuclear scopes undergo existential closure:

(30)   Existential Closure (Kratzer):

         Nuclear scopes and only nuclear scopes undergo existential closure.

From these two principles it follows that the only way in which an indefinite NP can get an existential interpretation is by appearing inside the VP. Kratzer supports her conclusion with data concerning the syntactic behavior and interpretation of indefinite objects in German. For indefinite objects in Dutch the facts are identical. Let us adopt Diesing's Slogan and Kratzer's proposal about existential closure and pursue the consequences of their analysis for indefinite subjects in Dutch.

If we assume that subjects in er-sentences are VP-internal, then the fact that these subjects receive an existential interpretation follows from Kratzer's analysis. The reason is that such subjects get mapped into the nuclear scope of the sentence, where they get bound by the existential quantifier as a result of existential closure. Moreover, the fact that VP- external subjects

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(i.e. subjects in non-_er_-sentences) cannot get an existential interpretation also is an immediate consequence of the Diesing/Kratzer analysis. Indefinite VP external subjects have to derive their quantificational force from some other element in the sentence, because they do not get caught by existential closure. In the rest of the paper I will discuss four ways in which this can be done: the indefinite can be interpreted generically, it can be the subject of a conditional clause, it can be a concealed partitive or it can be specific.

5. Generics and Conditionals

Consider a generic sentence like (31a). This sentence does not mean that there are some firemen who are lazy, but rather that firemen in general are lazy. In dealing with such sentences I will just follow Gerstner and Krifka (1987), Wilkinson (1988) and Diesing (1988) who argue that a generic sentence like (31a) has a representation at logical form that looks like (31b):

(31) a.   dat brandweermannen lui zijn
          that firemen   lazy are
          'that firemen are lazy'

     b. G_x [fireman(x)] [lazy(x)]

The G represents a generic quantifier whose precise semantics is rather unclear. For our purpose it will suffice to say that (31b) is true iff every "typical" fireman is lazy. Crucial is that the subject NP brandweermannen ("firemen") cannot end up in the nuclear scope of the sentence because it is external to the VP. As a result it gets mapped into the restrictive clause, as is stipulated in Diesing's slogan. The variable x, that is a representation of the subject in the logical structure, will now be bound by G, and as a result the sentence receives a generic interpretation. As is well known from Milsark (1974), such a generic interpretation is only available with "individual level" predicates. The reader is referred to Kratzer (1989) for an explanation of this phenomenon.

Now let us turn to the case where the indefinite NP is the subject of a conditional clause. Consider (32a):

(32) a.   Als iemand   te laat komt,   wordt hij meestal niet
          If somebody too late comes, is   he usually not
          binnengelaten
          let in
          'If somebody is late we usually don't let him in'

     b.   [person(x)] & [late(x)]

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    c.   Usually$_x$ [[person(x)] & [late(x)]] [not-let-in(x)]

    In (32a) the indefinite subject is not interpreted existentially; it acts like a variable bound by the adverb of quantification <u>usually</u>.

    Let us consider step by step how this sentence gets mapped onto its logical form. First consider the if-clause. The logical form of the if-clause is given in (32b). The subject <u>iemand</u> ("somebody") is VP-external. As a result, the variable x representing it gets mapped into the restrictive clause following Diesing's Slogan. Since the if-clause does not contain a quantifier, x remains free. Following Kratzer, I will assume that in such a case the restrictive clause and the nuclear scope are joined together by the connective <u>&</u>. (32b) in its turn is the restrictive clause of the sentence as a whole, as we see in (32c). Because x is still free it will get bound by the quantifier of the main sentence, <u>usually</u>. As a result, we get the correct reading of the sentence. Moreover we can explain why the IR does not rule out (32a). Although the indefinite NP <u>iemand</u> is mapped into the restrictive clause of its sentence, it can still get an interpretation, namely by being bound by the adverb of quantification <u>usually</u>.

    Now consider a conditional statement like (33a), which is just like (32a), except that the if-clause is an <u>er</u>-sentence:

(33) a.   Als er   iemand   te laat komt, wordt hij meestal niet
            If   there somebody too late comes, is he usually not
            binnengelaten
            let in
            'If somebody is late we usually don't let him in'

    (32a) and (33a) have slightly different truth conditions. This difference can intuitively be described as follows: In (32a) we quantify over individuals, saying in effect that most individuals who are late will not be let in. In (33a) on the other hand we quantify over events. What (33a) means is that in most events in which somebody is late, we don't let the person who is late in. In a case in which say fifty people are late, forty of whom are not let in, (32a) will always be true. (33a) can be false in a situation like that if for instance the forty persons who are not let in all come at the same time, whereas the ten others arrive seperately. The 'big' arrival of the forty would then count as one event, but the ten other arrivals would all be individual events, which would make the sentence false. (Truthconditional differences of this kind are discussed in Heim (1982), Berman (1987), Kadmon (1987) and Heim (1988).)

    To see how we can explain this difference in terms of the analysis of <u>er</u>-sentences given in this paper, let us go through the construction of the logical form of (33a) step by step. The

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indefinite subject of the embedded er-sentence, iemand, is contained in the VP and therefore gets mapped into the nuclear scope, where it gets bound by existential closure. The logical form of the embedded clause is therefore as given in (33b). (33b) as a whole becomes the restrictive clause of the main sentence (see (33c)):

(33) b. E_x [person(x) & late(x)]
     c.   Usually [E_x [person(x) & late(x)]] [not-let-in(him)]

Because the variable x is already bound by the existential quantifier, the adverb of quantification usually is unable to bind it. This crucial difference between the logical forms (32c) and (33c) goes a long way towards explaining the intuitive difference between the two sentences. The problem with (33c) as it stands, however, is that the quantifier usually has no variable to bind. To solve this problem, I will introduce a variable l into the logical representations which ranges over events or spatiotemporal locations. Kratzer (1989) discusses the role played by such variables at length, and gives empirical evidence for their existence from a wide range of data. Following Kratzer, I will further assume that there is a sortal property loc meaning "is a spatiotemporal location", and that loc(l) gets mapped into the restrictive clause of the conditional. As a result l is not caught by existential closure. The logical representation of the embedded clause of (33a) thus becomes (33b'):

(33) b'. loc(l) & E_x [person(x) & late(x,l)]

Because l is not bound by the existential quantifier, it will get bound by usually. The logical form of (33a) will now be as given in (33c'):

(33) c'. Usually$_1$ [loc(l) & E_x [person(x) & late(x,l)]]
                                        [not-let-in(him,l)]

Of course, the spatiotemporal location variable has to be represented in the logical form of (32a) as well. We therefore replace (32c) by (32c'):

(32) c'. Usually$_{x,1}$ [loc(l) & person(x) & late(x,l)]
                                        [not-let-in(x,l)]

We can now see how the subtle intuitive difference between (32a) and (33a) is represented in the logical forms of the two sentences. In (32c') the quantification is over pairs <x,l> of individuals and spatiotemporal locations. The sentence says that for most pairs <x,l>, if x is late at l, then x is not let in at l. In (33c'), however, the main quantification is only over spatiotemporal locations l. The meaning of this sentence is: for most spatiotemporal locations l such that somebody is late at l, the person who is late at l is not let in.

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This brings us to another difference between (32a) and (33a) having to do with the translation of the donkey-pronoun hem. In (32a) we can represent this pronoun as the variable x, since both occurences of this variable are then in the scope of·the adverbial quantifier. This is the classical Kamp/Heim analysis of donkey pronouns. In (33a) this is not possible, however, because here the first x is bound by the existential quantifier that "closes off" the nuclear scope. As a result the two x's in the logical form would in effect not count as occurences of one and the same variable. I will assume that in this case the donkey pronoun is translated as an E-type pronoun as has originally been proposed by Cooper (1979). The pronoun can thus be paraphrased as "the person who is late". E-type donkey pronouns have the property of presupposing uniqueness. This corresponds to the intuitive judgement that in a situation in which two or more persons come too late at the same time, the truthconditions of (33a) are unclear. Does the sentence require that all latecomers are not let in, or merely that some of them are? The question whether all donkey pronouns should be treated as E-type pronouns is outside the scope of this paper. For an extensive discussion of this question and its consequences for uniqueness presuppositions and the related "proportion problem" the reader is referred to Heim (1982), Berman (1987), Kadmon (1987), Heim (1988) and Kratzer (1989) and references cited there.

We may conclude that the Diesing/Kratzer analysis of how NPs get mapped into the logical representation gives us a satisfactory way to handle the subtle but important truthconditional differences between conditionals with er like (33a) and conditionals without er like (32a). Moreover it explains why the IR does not hold for subjects of conditional sentences.

In the remainder of this paper I will again follow my earlier habit of suppressing the spatiotemporal variables argued for by Kratzer, since they do not play a crucial role in the relevant examples.

6. Concealed and Overt Partitives

As we have seen in (23), repeated here as (33), indefinites can escape the IR if they are concealed partitives:

(33)   Toen ik de bibliotheek in wilde gaan werd de ingang
          geblokkeerd door een groep studenten.
          'When I wanted to enter the library, the entrance was
          blocked by a group of students.'
          Ik hoorde later dat twee studenten gearresteerd waren.
          I heard later that two students arrested   were
          'Later I heard that two students had been arrested.'

In (33) the subject can be paraphrased as the partitive NP "two of

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the students". A case that is a little bit different is given in (34):

(34)   Toen ik de bibliotheek in wilde gaan werd de ingang
         geblokkeerd door een groep studenten.
         'When I wanted to enter the library the entrance was
         blocked by a group of students.'
         Ik hoorde later dat twee meisjes gearresteerd waren.
         'Later I heard that two girls had been arrested.'

(34) can only be true if two girls were arrested who belonged to the group of students blocking the entrance. A proper paraphrase of the subject would be "two of the students who were girls" rather than the simple partitive "two of the girls".
    In (35a) and (b) I give what I think might be the proper way to represent the logical form of (33) and (34), respectively:

(35) a.   [X = "the students"] & E_Y [Y$\leq$X & TWO(Y) & arrested(Y)]
     b.   [X = "the students"] & E_Y [Y$\leq$X & TWO(Y) & girls (Y)
                                                      & arrested(Y)]

In these representations X and Y are variables standing for 'groups' of individuals. TWO is a predicate that is true of a certain group iff that group consists of at least two individuals. $\leq$ denotes the relation of group-inclusion. If A and B are groups then A$\leq$B is true iff all the individuals in A are also in B. The variable X stands for the group of students who block the entrance. I will assume that X is assigned a value by some mechanism of deixis and hence that X is not existentially quantified over. Y however is contained in the nuclear scope of the DRS and will therefore be existentially quantified. The reading we get for (30b) will be something like: "there are two girls belonging to that group of students and those two girls were arrested".
    Several questions can be raised concerning the representations in (35) that I will not be able to answer. One question is why the interpretation of anaphoric indefinites involves two variables rather than one. Another question is why anaphoric indefinites can escape the IR. The Y variable apparently does end up in the nuclear scope of the sentence, even though the subject is VP external. I will leave these and other problems open for further research. We can formulate a tentative conclusion, though. Anaphoric indefinites can escape the IR because they involve some kind of deixis and so do not have a purely existential interpretation. Whether the representations in (35) are the right way to capture this insight remains an open question.

7. Specific Indefinites

    In this final section I want to consider the problem of specific indefinites. The hypothesis I would like to investigate

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is that specific indefinite subjects in Dutch are what Fodor and
Sag (1982) call referential indefinites. Before we go on to discuss
potential evidence for or against this claim, I will give a summary
of some of the main arguments Fodor and Sag give in support of
their theory of referential indefinites.

7.1 Referential Indefinites

Fodor and Sag (1982) propose that indefinites are ambiguous
between a quantificational and a referential interpretation.
Consider sentences like (36) - (38):

(36)   Every professor met a student in the syntax class
(37)   Sandy didn't see a squirrel that was chasing its tail
         around the oak tree
(38)   Everyone hates a particularly obnoxious student in the
         syntax class who shouts at the instructor and hogs the
         discussion

In a theory that says that indefinites can only be interpreted
quantificationally, (36) has two readings: one in which a student
has wide scope with respect to every professor and one in which it
has small scope. Fodor and Sag claim that the sentence has a third
reading, namely one in which a student is interpreted as a
referential expression. As far as truth conditions are concerned,
this reading is (almost) equivalent[4] to the wide scope
quantificational reading. According to Fodor and Sag, the
referential reading is particularly favored if the indefinite has
a lot of descriptive content. Thus in (37) and (38) it is difficult
to give the indefinite small scope.
Because of the (near) truth conditional equivalence between
the referential and the wide scope quantificational reading,
arguments in favor of the proposed ambiguity will have to be fairly
subtle. One such argument is that indefinites can easily get what
looks like a wide scope reading in contexts where this is very
difficult for ordinary quantificational NPs. An example of this is
the contrast between (39) and (40):

(39)   This producer believes that every actor in our company
         is too fat to appear in public

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[4]   Angelika Kratzer points out to me that the referential
and the wide scope reading are not equivalent if we distinguish
the world in which a sentence is uttered from the world with
respect to which the truth value of the sentence is evaluated. On
the wide scope reading, (36), if uttered in a world w_0, is true in
a world w iff there is a student s in w such that s is met by every
professor in w. On the referential reading, however, (36) is true
in w iff there is a student s in w_0 such that s is met by every
professor in w.

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(40)   This producer believes that an actor in our company is too fat too appear in public

As Fodor and Sag show, indefinites can even get a wide scope reading in constructions that are scope islands for quantificational NPs . <u>Each of my students</u> in (41) for instance cannot get scope outside the complex NP <u>the rumor ...</u>, but in (42) the indefinite NP <u>a student of mine</u> can. A similar contrast holds between (43) and (44) where the scope island is the <u>if</u>-clause:

(41)   John overheard the rumor that each of my students had been called before the dean
(42)   John overheard the rumor that a student of mine had been called before the dean
(43)   If each friend of mine from Texas had died in the fire, I would have inherited a fortune
(44)   If a friend of mine from Texas had died in the fire, I would have inherited a fortune

In principle, cases like these could be accounted for in a theory that claims that indefinites only have a quantificational reading. But the price one would have to pay would be rather high, because one would be forced to say that the principles of scope assignment are radically different for indefinites than they are for other quantified NPs. Fodor and Sag then go on to show that there are also cases for which the 'quantificational only' theory could impossibly give an explanation. Consider (45) and (46):

(45)   Each teacher overheard the rumor that a student of mine had been called before the dean

  a. $(Ex)(student(x)$ & $(Ay)(teacher(y)$ --> y overheard the rumor that x had been called before the dean))
  b. * $(Ay)(teacher(y)$ --> $(Ex)(student(x)$ & y overheard the rumor that x had been called before the dean))
  c. $(Ay)(teacher(y)$ --> y overheard the rumor that $(Ex)(student(x)$ & x had been called before the dean))

(46)   If a student in the syntax class cheats on the exam, every professor will be fired

  a. $(Ex)(student(x)$ & $(Ay)(professor(y)$ --> y will be fired if x cheats on the exam))
  b. * $(Ay)(professor(y)$ --> $(Ex)(student(x)$ & y will be fired if x cheats on the exam))
  c. $(Ay)(professor(y)$ --> y will be fired if $(Ex)(student(x)$ & x cheats on the exam))

In both (45) and (46) the indefinite is contained in a scope-island. Furthermore there is a third quantificational element in the sentence that is not contained in the scope-island. In (45)

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this is <u>each teacher</u> and in (46) it is <u>every professor</u>. As we have seen above, the theory that indefinites only have a quantificational reading is forced to say that indefinites are insensitive to scope-islands. Hence we would predict that three readings are possible: the small scope reading (c), the wide scope reading (a) and the reading in which the indefinite has intermediate scope, i.e. wide scope with respect to the scope-island but small scope with respect to the third quantificational element (b). Now crucially, this intermediate scope reading is impossible according to Fodor and Sag. In their theory this can be easily accounted for. Under its quantificational reading the indefinite can only get small scope, because it is contained in a scope-island. What looks like the wide scope reading, is really the referential reading. The possiblity of a third, intermediate scope reading does simply not arise at all.

7.2 Specificity and Referentiality

The hypothesis I am going to pursue in this section is that specific indefinite subjects in Dutch are referential in the sense of Fodor and Sag. This hypothesis has at least some initial plausibility if we consider a sentence like (47):

(47)   Ik hoop dat een oude vriend van mij morgen op bezoek
         I hope that an old   friend of mine tomorrow will
         komt
         visit
         'I hoped that an old friend of mine will visit tomorrow'

This sentence means intuitively that I entertain a hope about a specific friend of mine, namely that he will visit me tomorrow. But this paraphrase of the sentence is virtually indistinguishable in meaning from the following paraphrase of the referential reading of the sentence: a friend of mine is such that I hope that he will visit me tomorrow. If both readings are so similar to each other then the null hypothesis is that they really are the same reading. So until we find convincing counterevidence, the principle of parsimony tells us that referentiality and specifity must be the same thing. I will call this hypothesis the "referential theory of specificity".

The referential theory of specificity could explain the fact that specific indefinites escape the IR. Fodor and Sag propose that referential indefinites are deictic. We can translate this into the Kamp/Heim theory by saying that referential indefinites are represented as variables that receive their value by means of some (pragmatic) mechanism of deixis, rather than by being bound by a quantifier. This means that in order to get a proper interpretation such variables do not have to appear in the nuclear scope where they would be existentially quantified. By Diesing's Proposal this implies that referential indefinites do not have to appear inside

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the VP.[5] Thus it follows from the referential theory of specificity that the IR does not apply to specific indefinites.

There is further empirical evidence for the referential theory of specificity. First, specific indefinite subjects can be modified by a non-restrictive relative clause, whereas VP internal subjects cannot:

(48)   Ik hoopte dat (*er) een student, wiens moeder ik
        I hoped that   a   student whose mother I
        trouwens   nog   van vroeger kende, op bezoek zou komen
        by the way still from earlier knew would visit
        'I hoped that a student, whose mother by the way I used
        to know, would visit'

The ability to have a non-restrictive relative clause is a property typical of referential elements such as names and definite descriptions. Quantificational NPs can never have a non-restrictive relative clause:

(49)   John / This boy / *Every boy, whose mother by the way I
        used to know, will visit us tomorrow.

Second, like names and definite descriptions, specific indefinites allow weak-crossover. Subjects in there-sentences are like quantified NPs in that they do not allow weak-crossover:

(50)   Een uur nadat hij uit zijn huis vertrokken was, stond
        An hour after he from his house left   had, stood
        (*er) een oude studiegenoot bij mij voor de deur
              an old fellow student with me for the door
        'An hour after he had left his house, an old fellow
        student was at my door'

These data show that specific indefinite subjects at least can be referential, but they do not prove that specific indefinites must always be referential.[6]

Perhaps more convincing is the following evidence. As Fodor

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[5]   It is not clear to me if it also follows from the Diesing/Kratzer analysis that referential indefinites cannot appear inside the VP. This would follow if every variable inside the nuclear scope were existentially quantified over, but at least in Heim's original theory existential closure only applies to those variables that are not already bound by some other quantifier outside the nuclear scope. Empirical data, however, seem to indicate that subjects of there-sentences never get a specific interpretation (see below).

[6]   These data do show that subjects of there-sentences can never be referential. Compare the previous footnote.

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and Sag notice the referential reading of an indefinite gets more
salient if the NP has more descriptive content. The same mechanism
seems to be at work for subjects in non-_there_-sentences. The
acceptability of the following sentences increases as more
descriptive content is added:

(51)   ?? Ze zeiden dat een student was gearresteerd
           'They said that a student had been arrested'
(52)   ? Ze zeiden dat een student uit mijn klas was gearresteerd
           'They said that a student in my class had been arrested'
(53)   Ze zeiden dat een bijzonder vervelende student uit mijn
           klas was gearresteerd
           'They said that a particularly obnoxious student in my
           class had been arrested'

Similarly, Fodor and Sag point out that NPs of the form a certain
N very easily get a referential reading. Interestingly, such NPs
are also very good as specific indefinite subjects:

(54)   Ze zeiden dat een zekere student was gearresteerd
           'They said that a certain student was arrested'

Finally, bare plurals have the property that they cannot escape
scope islands (see for instance (55)). In Fodor and Sag's approach
this would mean that bare plurals cannot be referential. Again we
find exactly the same thing for specific indefinites: bare plurals
can never be specific and thus can never be VP external subjects:

(55)   If students in the syntax class cheat on the exam every
           professor will be fired
(56)   * Ze zeiden dat studenten gisteren gearresteerd waren
           'They said that students were arrested yesterday'

     This evidence all very strongly suggests that referentiality
and specificity are indeed one and the same thing. There is one
problem, however, that I have not been able to solve so far and
that definitely merits further research. If specific indefinites
are referential then we expect them to behave as if they always
have maximal scope. Now consider the following sentence:

(57)   Jan dacht   dat ik hoopte dat een oude vriend van mij
           Jan thought that I hoped that an old friend of mine
           op bezoek zou komen
           would visit
           'John thought that I hoped that an old friend of mine
           would visit'

I can easily get a reading for this sentence in which the NP een
oude vriend van mij seems to have intermediate scope. In this
reading John has the thought that I hope something about a specific
friend of mine, but John's thought itself is not about any specific
person. In other words John has a thought with the following

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content: "there is an old friend of his such that he hopes that this friend will visit him tomorrow". At least at first sight, this seems to be very strong evidence against the referential theory of specificity.

I think there are basically two ways to deal with this problem. One is to give up the referential theory of specificity, perhaps in favor of a theory that analyzes specificity in terms of scope. This is the less interesting response. Another strategy, suggested to me by Angelika Kratzer, is to try to exploit the well known fact, originally pointed out by Quine, that even proper names, the paradigm cases of referential expressions, appear to have scope-like ambiguities in contexts involving propositional attitude verbs. The following sentences do not have the same truth conditions for instance:

(58) a. John believes that Cicero was a great orator
     b. John believes that Tully was a great orator

If this approach is on the right track, we would expect that an intermediate scope reading is impossible in the following sentence, because quantifiers like <u>every teacher</u> do not interact with names in the way that propositional attitude verbs do:

(59)   Iedere leraar dacht dat een oude vriend van mij op bezoek
         zou komen
         'Every teacher thought that an old friend of mine would
         visit'

I think, however, that this prediction is not borne out and that in (59) the indefinite NP indeed can have an intermediate scope reading. This is much clearer if the sentence contains a pronoun bound by the quantifier:

(60)   Iedere leraar dacht dat een oude vriend van hem op bezoek
         zou komen
         'Every teacher thought that an old friend of his would
         visit'

The only reading available for (60) is the following: every teacher expects that a specific friend of his will visit him, but this may be a different friend for each teacher. (For similar observations about the scope of NPs of the form <u>a certain</u> N see Hintikka (1986).) We are facing a dilemma, then. On the one hand we have reasons to believe that indefinite NPs like referential expressions, but on the other hand they seem to exhibit certain scope interactions. Further research will have to determine

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whether we can find an acceptable solution to this problem.[7]

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[7]   Angelika Kratzer pointed out to me that Fodor and Sag's
theory faces similar problems. Although according to them (45)
doesn't have an intermediate scope reading, the following example
does:

(i)   Each writer overheard the rumor that she didn't write a
        book she wrote

Since there are no self-contradicting rumors, presumably, the NP
a book she wrote must have scope outside the NP the rumor ..., but
it also must be inside the scope of each writer, because it
contains a pronoun bound by that quantifier.

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