

## 1. Introduction<sup>1</sup>

This paper proposes a way of rethinking the notions of uniqueness and familiarity associated with definiteness which leads to a typology that allows a better understanding of the definiteness scale discussed in the functional literature, and more recently in Aissen (2000). The definiteness scale is introduced in Section 2, and the challenges it poses to traditional notions of definiteness are discussed in Section 3. Section 4 lays out the proposal and discusses the typology of definites that it leads to; Section 5 is a brief discussion of partitives and indefinite noun phrases, and Section 6 concludes the paper by pointing out open questions and directions for further research.

## 2. The definiteness scale

The starting point of the discussion is the observation, first made in the functional literature, that noun phrase types form a hierarchy with respect to definiteness. The relevance of such a hierarchy has been most clearly shown in work on Differential Object Marking (DOM), a term due to Bossong 1985. DOM is the cross-linguistically widespread phenomenon that consists in morphologically marking a subclass of DOs in a special way, either by marking the direct object itself or by the use of special verb morphology. The most recent and most far-reaching work on this topic is Aissen 2000, which I rely upon crucially. Below, examples of DOM will be given from Romanian, where a subclass of DOs is marked with the preposition *pe*.<sup>2</sup>

Drawing on previous work on DOM, Aissen demonstrates that the class of objects that are specially marked is not randomly chosen neither within a language nor cross-linguistically. She shows that the intricate patterns we find follow from the generalization in [1]:

- [1] The higher in prominence a DO, the more likely it is to be overtly case marked.

The relevant notion of prominence is defined in terms of the interaction of the two scales in [2] and [3].

- [2] *Animacy hierarchy*  
Human > Animate > Inanimate

- [3] *Definiteness hierarchy*  
Personal Pronoun > Proper Name > Definite > Specific > Non-specific

Evidence for the relevance of [3] and [2] to DOM is discussed in detail in Aissen 2000 and works cited therein. Here I assume the relevance of [3] to linguistic phenomena and attempt to answer the question it raises, namely, what semantic parameter of definiteness underlies it. But before turning to this question, a few comments on the stations in [3] are in order.

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<sup>1</sup>An earlier version of this paper was given at the *Syntax and pragmasemantics of the noun phrase* conference, Antwerp, 2000. I wish to thank Barbara Abbott for generous and useful comment.

<sup>2</sup>The complex facts of DOM in Romanian have not yet been given a principled treatment. The facts were first described in Farkas 1978, where it is shown that DOM in Romanian involves both *pe*-marking and clitic doubling.

The notion of specificity is too non-specific to be left without comment. In Farkas 1994 it is argued that there are at least three distinct types of specificity: (i) partitive, (ii) epistemic, and (iii) scopal.<sup>3</sup> The first type of specificity involves the partitive/non-partitive distinction; epistemic specificity involves cases where the Speaker has a particular referent in mind but the context and the information supplied by the descriptive content of the noun phrase are not sufficient to narrow down the choice of referent for the Addressee; scopal specificity concerns the question of whether the interpretation of a noun phrase is crucially affected by some operator which has scope over it. Scopally non-specific noun phrases co-vary with the variable bound by the operator in question. Although scopal specificity interacts with DOM in some languages (see, for instance, Dobrovie-Sorin 1994 for Romanian) the interaction of this dimension with the definiteness hierarchy will not be discussed below.

With respect to DOM, Enc 1991, has shown that in Turkish, partitives and epistemically specific indefinites pattern with definites. The same two brands of specific indefinites have been shown to pattern with definites in Persian by Bossong 1985. The station labelled *Specific* above will be taken to include partitives and epistemically specific noun phrases. I have nothing to say, however, about the relative ordering of these two types of specificity on the definiteness scale.

The station labelled *Definite* includes definite and demonstrative descriptions. The issue of distinguishing these two brands of definiteness is also beyond the scope of this paper. For insightful work on this question see Corblin 1987 and 1995. Finally, the parameter of determinacy of reference that will be introduced below does not distinguish between the relative ranking of personal pronouns and proper names. Thus, instead of the hierarchy in [3], I will be working with the partial order in [4]:

- [4] [Personal pronoun, Proper name] > [Definite, Demonstrative description] > [Partitive, Specific indefinite] > Non-specific indefinite

The rest of this paper attempts to characterize each station on this scale and shed some light on the relative ordering of the stations.

In work on the semantics of definiteness the leftmost three stations on [4] have often been grouped together. Taking this into consideration [4] can be broken down into the three regions in [5].

- [5] (i) *semantically definite DPs*: pronouns, proper names, definite descriptions<sup>4</sup>  
(ii) *definite-like indefinites*: partitives, epistemic specific indefinites  
(iii) *indefinites*

Obviously, the scale in [4] and its regions in [5] do not exhaust the rich world of noun phrase types, even given the caveats already mentioned. On the definite side, particularly conspicuous is the absence of possessive DPs, while on the indefinite side, one has to minimally distinguish bare nouns from indefinites with determiners, and within the class of bare nouns, bare plurals have to be distinguished from bare singulars.<sup>5</sup> Finally, there is the complex question of the relation of the

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<sup>3</sup>For further discussion of varieties of non-specificity, see Farkas 2000.

<sup>4</sup>Below I consider only the case of definite pronouns. Indefinites such as *someone*, *one* behave differently from definites with respect to DOM, and the issue of the inclusion of these DPs on the definiteness scale is left open here.

<sup>5</sup>Intuitively speaking, indefinites with determiners would outrank bare nouns on the scale of definiteness, and bare plurals would outrank bare singulars. A further factor that needs to be taken into account is the issue of incorporation. For a further distinction within the realm of bare plurals, see Condoravdi 1994.

various types of quantificational DPs to the definiteness scale. These issues are outside the scope of the present paper, which focuses on the left hand side of the scale, and more specifically, on the questions in [6].

- [6]
- a. What makes semantically definite DPs a natural class?
  - b. Why are proper names and pronouns higher on the scale than their semantically definite sisters?
  - c. What makes partitives and epistemic specific indefinites more 'definite' than ordinary indefinites?

In the next section we briefly examine these questions from the point of view of the two parameters most commonly and successfully associated with semantic definiteness, familiarity and uniqueness.

### 3. Familiarity and Uniqueness

#### 3.1 Familiarity

Familiarity theories of definiteness connect the definite/indefinite divide to the question of whether the referent of the DP is familiar or not. In dynamic theories of meaning stemming from Kamp 1981 and Heim 1982 the question involves the novelty/familiarity status of the discourse referent associated with the relevant DP. Intuitively, the referent of a definite DP is an entity already introduced in the discourse (by previous mention, or because it is 'on the scene' of the discourse, or by accommodation).

An immediate problem with using this approach to understand the scale in [4] is that a bluntly binary distinction is not helpful in explaining a hierarchy. Work on the semantics and pragmatics of (in)definiteness, however, has shown, on independent grounds, that one needs to distinguish between several types of familiarity/novelty, and these can naturally be seen as forming a scale. Thus, within the realm of novel/indefinite DPs, Condoravdi 1994 distinguishes between weak and strong novelty by separating existence presupposition from previous introduction. More relevantly for a typology of definites, Prince 1981, 1992 argue that the familiarity parameter should be broken down into two distinct dimensions, Discourse and Hearer familiarity/novelty. The distinctions thus obtained can naturally be seen as forming the scale in [7],

- [7] *Familiarity scale* (based on Prince 1992)  
 [H-O, D-O] > [D-N, H-O] > [D-O, H-N] > [D-N, H-N]

where H and D stand for 'Hearer' and 'Discourse', and O and N, for 'old' and 'new' respectively.<sup>6</sup> (See Birner 1994, Birner 1996, Birner and Ward 1996 for the relevance of familiarity hierarchies to constructions affecting word order in English.)

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<sup>6</sup>An additional category Prince defines, which is not included in [7], is that of 'inferreds', exemplified by the referent of the definite DP *the door* in (i):

(i) I passed by your office today but the door was closed.

Inferreds are technically Hearer-New and Discourse-New but they are close to Hear-Old DPs because the existence of their referent is inferred from information the Hearer has; inferreds are close to Discourse-Old DPs because the inference in question is crucially connected to a Discourse-Old DP (in this case *your office*.) I assume here that inferreds are accommodated, and therefore they are a special brand of Discourse-Old DPs. See Chierchia 1992 for a treatment of this type of definites involving functional variables. Note also that the [D-O, H-N] category exists only under the assumption that not all discourse-old entities are equally familiar to the Hearer. For discussion, see Prince 1992.

With respect to the questions in [6], the familiarity perspective is most promising when it comes to partitives. The referent of a partitive indefinite, such as *one of the students in my class*, is a novel entity, which is what accounts for the 'indefinite' status of partitives. Crucially, however, this entity is connected to another, namely the referent of *the students in my class*, which, if the partitive constraint is adopted, must be definite (and therefore familiar). This latter property makes partitives akin to (accommodated) definites. A question that remains open under this approach is why the partitive relation in particular is singled out for special treatment. Note that the special status of partitive indefinites is apparent not only in their patterning with definites with respect to DOM but also in the fact that there are languages which use dedicated morphology for partitives. In Romanian for instance, the partitive article is *un-ul/un-a*, formed by the masculine indefinite article *un* suffixed by the definite article *-ul* for masculine and *-a* for feminine nouns.

The familiarity approach will not be pursued here principally because of arguments in the literature which have shown, convincingly in my opinion, that familiarity cannot be the common denominator of formally definite noun phrases. In present terms this means that familiarity by itself cannot be the basis for providing an answer to [6a]. (See Kadmon 1990, Hawkins 1991, Prince 1992, Abbott 1999b among many others). An immediate challenge that arises for familiarity views of definiteness is posed by DPs such as *the moon*, or *the last person to leave this room*, which, although definite, do not easily lend themselves to a familiarity analysis.

Below I provide evidence that familiarity is not a factor in deciding DOM in Romanian. The bare essentials of *pe*-marking in Romanian can be summarized as follows: in post-verbal position, direct objects whose referent is animate are obligatorily marked with *pe* if they are proper names or pronouns, and optionally marked if they are definite descriptions. (For details, see Farkas 1978.) The data in [8]-[10] show that the presence of *pe* with definite descriptions is not affected by the familiarity status of the referent of the description. Thus, the DO in [8] may be *pe*-marked even though it is Discourse- and Hearer- New:

- [8] *Invită-l pe primul student cu care te vei intilni.*  
*invite-him PE first.the student with whom you will meet*  
 Invite the first student you will meet.

In [9] on the other hand, we see that *pe*-marking is still optional with a Discourse- and Hearer- Old DO.

- [9] *M-am intilnit cu un băiat si o fată, dar nu am invitat decit fata.*  
*me-have met with a boy and a girl but not have invited only the girl*  
 I met a boy and a girl but I only invited the girl.

As shown in [10], *pe*-marking is possible:

- [10] *M-am intilnit cu un băiat si o fată, dar nu am invitat-o decit pe fată.*  
*me-have met with a boy and a girl but not have invited-her only PE girl*  
 I met a boy and a girl but I only invited the girl.

There is no detectable difference in naturalness or acceptability between the [9] and [10]. Definite noun phrases referring to humans then are optionally *pe*-marked, and the status of the referent with respect to discourse familiarity does not influence *pe*-marking.

### 3.2 Uniqueness

Uniqueness-based approaches appear to be more promising than their familiarity-based competitors when it comes to characterizing the class of semantically definite noun phrases. Note however, that just like with familiarity, in order for such an approach to be helpful in characterizing a hierarchy, a single binary distinction will not suffice, independently of what stance one takes on the question of whether the uniqueness condition is asserted or presupposed.

A review of the long and venerable tradition behind the uniqueness theory of definiteness goes beyond the scope of this paper. Below I consider briefly only one particularly detailed and explicit account, namely Hawkins 1991, which proposes a uniqueness-based analysis of the definite article in English, and suggests ways of extending it to demonstratives, proper names, and pronouns.

Based on earlier work, Hawkins 1991 argues for a uniqueness theory of definites, enriched by a well-articulated pragmatic view of what the referent of a definite description must be unique relative to. The proposal involves the notion of a structured universe of discourse, along the lines of McCawley 1979, according to which the set of entities in the universe of discourse is structured into what Hawkins calls P-sets. The uniqueness claim associated with the definite article holds relative to a particular P-set.<sup>7</sup> More concretely, the claim is that the definite article *the* has the conventional implicature in [11] (Hawkins' (8), p. 414):

[11] The conventional implicature of *the*:

*The* conventionally implicates that there is some subset of entities, P, in the universe of discourse which is mutually manifest to S(peaker) and H(earer) on-line, and within which definite referents exist and are unique.

Under this view, familiarity is pertinent to how the relevant P-sets are established. For Hawkins, definite noun phrases whose referents are Discourse- and Hearer-New must be elements of a familiar P-set or must be "explicitly related, or 'anchored', to a mutually known individual." Demonstrative noun phrases and pronouns, Hawkins notes, involve "a form of uniqueness relative to entities that are physically identifiable or textually introduced, without regard to these P-sets". Exactly what sort of uniqueness these latter types of noun phrases involve is not spelled out in much detail.<sup>8</sup> For a detailed discussion of relevant issues, see Corblin 1987 and 1995. With respect to the definite/demonstrative distinction, for instance, Corblin 1987 shows that the referent of definites involves uniqueness established in virtue of the referent satisfying the description given by the descriptive content, while demonstratives involve uniqueness relative to contextual factors, and involve a contrast between their referent and other entities that satisfy the description. As far as indefinites are concerned, Hawkins proposes that at the level of conventional meaning they involve only an existence claim. Because, however, they form a Horn-scale with the definite article, they conversationally implicate non-uniqueness.

Note that an approach along these lines can be made non-binary by distinguishing two types of uniqueness: (i) relative uniqueness, which is dependent on P-sets, and (ii) absolute uniqueness, which is independent of them.

Note, however, that while this approach is promising in answering the first question in [6], it does not help with the other two. It does not explain, for instance, why partitives are closer to

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<sup>7</sup>To account for plural definites, Hawkins suggests, one has to introduce the notion of a unique maximal set of entities within a P-set, which serves as referent to the definite noun phrase.

<sup>8</sup>Hawkins is careful to note that the uniqueness condition on definite noun phrases is distinct from the requirement that either the Speaker or the Hearer possess identifying knowledge of the referent, i.e., knowledge that distinguishes the referent uniquely from its fellow P-set elements.

definites than non-partitives. Thus, a partitive noun phrase such as *one of the students in the class* does not differ from a non-partitive *a student* with respect to uniqueness of the referent relative to a P-set: the referent of neither noun phrase is unique in either absolute or relative terms. This particular distinction then cannot be relied on to account for the special status of partitives on the definiteness scale.

There is an additional point of contention in the literature on definites that has not been explicitly mentioned so far, namely the Russell/Strawson controversy concerning the distinction between what is asserted and what is presupposed (if anything) by definite descriptions (or more generally, definite noun phrases). The Russellian view is one where uniqueness is treated on a par with existence, and both are seen as part of what is asserted when a definite description is used; the Strawsonian view treats (at least) the uniqueness condition as part of what definite descriptions presuppose. Familiarity approaches to definiteness are presuppositional (at least if presupposition is viewed as a constraint on a broadly construed notion of context) since familiarity conditions are conditions on pre-existing context. Uniqueness-based approaches on the other hand are not necessarily Russellian in this respect, since uniqueness conditions are compatible with both presuppositional and non-presuppositional treatments. Kadmon 1990, for instance, proposes a non-assertive uniqueness theory of definites since for her the satisfaction of uniqueness is a felicity condition on the use of a definite noun phrase. The approach advocated below is non-assertive in the same sense.

#### 4. Determined reference

##### 4.1 Preliminary assumptions

The business of this section is to recast the role of uniqueness in definite reference in such a way as to better understand why partitives are on the fence between definites and indefinites, without, however, losing the possibility of characterizing the class of semantically definite DPs. Before embarking on it, two assumptions will be spelled out, which provide a minimal necessary theoretical background.

First, I assume that the syntactic category of DPs may have two semantic functions, predicative and argumental, illustrated in [12]:

- [12] a. John is *a doctor*.  
 b. *A doctor* left.

Predicative noun phrases contribute a predicate, while argumental noun phrases contribute information concerning one of the argument of the predicate. I am concerned here with a subset of argumental DPs, namely proper names, pronouns, DPs with an overt definite or indefinite article and partitives.<sup>9</sup> The question of article choice arises, of course, for predicative noun phrases as well, and the correct solution for argumental DPs should help us find the right account for predicative DPs, but the two problems are different.<sup>10</sup>

<sup>9</sup>See Longobardi 1994 for the proposal that only DPs (and not NPs) may be argumental.

<sup>10</sup>The issue of the use of the definite article in predicative nominals is complicated by the question of differentiating between predicative and equative copulas. The use of the definite article in univocally predicative nominals is rather limited. One such use, brought to my attention by Danièle Godard (p.c) is in sentences like (i):

(i) Je suis la fille de M. Jourdain.

I am the daughter of M. Jourdain.

Such sentences are felicitous even if M. Jourdain has several daughters. This is even more evident in examples such as (ii):

Second, I assume that all argumental noun phrases are associated at the level of logical form with a variable. Furthermore, in line with the type of restricted variable approach advocated by McCawley 1981, the content of argumental DPs is assumed to restrict the way the variable in question is to be assigned values.

I will illustrate in simplest D(iscourse) R(epresentation) T(heory) terms, by considering [13], the DRS induced by [12b], where the condition contributed by the D(escriptive) C(ontent) of the noun phrase is italicized:

[13]	<div style="text-align: center;">x</div> <i>doctor(x)</i> leave (x)
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'Standard' DRT, as developed in Kamp and Reyle 1993, for instance, uses unrestricted variables in the sense that no distinction is made between the two conditions *doctor(x)* and *leave(x)* in [13]. Thus, the unrestricted variable version of the embeddability conditions of [13] are along the lines of [14]:

- [14] The DRS in [13] is embeddable in M iff there is an embedding function f such that f(x) is in the extension of *doctor* in M and f(x) is in the extension of *leave* in M.

The conditions contributed by the DC of the noun phrase is treated on a par with the condition contributed by the main predicative part of the sentence, the verb *leave*.

Here I assume a 'restricted variable' approach where a distinction is made between expressions that *restrict* the range of a variable and expressions that form the *scope* of a predication. Conditions fulfilling the former role will be called *restrictive* and those fulfilling the latter will be called *scopal*. Conditions contributed by the content of DPs are always restrictive. In DRT terms, the role of restrictive conditions is to constrain the embedding functions relevant to the verification of a particular DRS to those functions that assign to the variable in question values that meet the restrictive condition. Scopal conditions, on the other hand, express requirements that must be met by the relevant embedding functions in order for the DRS to be embeddable in a model.<sup>11</sup> Under this view, a DRS is evaluated not with respect to all possible embedding functions but only with respect to those that meet the restrictive conditions in the DRS. In [13] for instance, the italicized condition is restrictive; it restricts the relevant embedding functions to those that assign to *x* values from the set of doctors. The scopal condition, as before, requires there to be a way of embedding

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(ii) Je suis l'élève de Jim McCawley.

I am the student of Jim McCawley.

in contexts where it is well-known that McCawley had several students. There is a subtle but clear contrast between these sentences and their versions used with an indefinite article particularly evident with the examples in (ii):

(iii) Je suis une élève de Jim McCawley.

I am a student of Jim McCawley('s).

Intuitively, (i) and (ii) answer the (implicit) question: *Whose daughter/student are you?* and therefore (ii) is appropriate only in an academic context, where individuals are paired with unique advisors. The speaker of (ii) would (proudly) characterize herself by (ii); (iii) has no such restrictions and would be appropriate were one to speak to one of Jim McCawley's neighbors or relatives. The presence of a possessive is probably not accidental here.

<sup>11</sup>We are considering here only the simplest possible cases where neither restrictive nor scopal conditions are complex. Restrictive relative clauses for instance contribute a complex restrictive condition that contains a scopal condition.

the DRS so as to meet it, which now amounts to requiring that there be a function  $f$  in the set of relevant embedding functions that assigns to  $x$  a value in the set of people who left. Consequently, the embeddability conditions of [13], given in [15], involve two parts: (i) the restriction of relevant assignment functions to those that meet the restrictive condition, and (ii) the requirement that the scopal condition be met relative to these functions.

- [15] (i) functions relevant to the satisfaction of [13]:  $\mathcal{F} = \{f: f(x) \text{ is in the extension of } \textit{doctor} \text{ in } M\}$   
(ii) [13] is embeddable in  $M$  iff there is a function  $g \in \mathcal{F}$  such that  $g(x)$  is in the extension of *leave* in  $M$ .

The restricted variable approach allows one to capture the difference between the informational weight of restrictive conditions relative to scopal ones manifested in the relative immunity of the former, but not the latter, to negation and questioning. Scopal conditions are always affected by questioning and negation, while even the use of weak DPs, as in [16], favors an interpretation where the restrictive condition is not affected.

- [16] a. Have you ridden a unicorn?  
b. I have not ridden a unicorn.

Under neutral intonation and circumstances, what these examples call into question is not whether there are unicorns but rather whether the addressee/speaker has ridden one or not. Treating the two conditions on a par does not capture this difference. The simplest way to capture it under present terms would be to claim that the set of relevant embedding functions is assumed to be non-empty. This amounts to the claim that all determiners are presuppositional. An immediate problem that arises is that while convincing arguments have been given for the presuppositional nature of strong determiners, maintaining the presuppositional nature of weak ones is much more problematic. (see Heim and Kratzer 1998, Ch.6 and references cited therein). Following observations in McCawley 1972, I only conclude that the issue concerns the fact that negating or questioning a restrictive condition involves the marked situation of having to deal with an empty set of embedding functions. The difference between strong and weak noun phrases with respect to the strength of the assumption that the set of embedding functions that verify the restrictive condition contributed by their NPs is not empty has to be accounted for independently.

The main difference between [15] and the standard version in [14] is that embedding functions that do not meet the restrictive conditions in a DRS are not relevant to DRS verification, just as in predicate logic with restricted variables, where assignments which falsify the restrictive formulas in a formula  $\phi$  are not relevant to establishing the truth value of  $\phi$ .

The italicised restrictive condition *doctor*( $x$ ) then constrains the way the variable introduced by the noun phrase is to be assigned values. I assume in what follows that the role of the content of all types of argumental noun phrases is to determine how the variable they contribute is to be assigned values by the functions relevant to the verification of the DRS.

Note that the conditions in [14] and [15] are true under the same circumstances. They differ, however, in that [15] distinguishes between predicating, which is the job of the scopal condition, and restricting the way a variable is to be evaluated, which is the job of the restrictive condition.

#### 4.2 The parameter of determinacy of reference

The approach to the contribution of the linguistic content of argumental DPs sketched above allows a typology of these noun phrases in terms of how drastically their content restricts the values

that can be given to the variable they introduce. The proposal advanced here is that a classification along this parameter is useful in understanding (in)definiteness in general, and the definiteness scale in particular.

The parameter of determinacy of reference concerns the question of the latitude the DP content allows in assigning values to the variable associated with it. One extreme is the case of *no-choice* noun phrases, DPs that necessarily narrow down the choice of value for the variable they introduce to a single entity (whether atomic or group-level). Variables introduced by such DPs will be said to have determined reference because the restrictive condition contributed by the linguistic content of the DP they are associated with determines unequivocally the value the variable is to be given.

Formally, I assume that DRSs are evaluated relative to a set  $\mathcal{M}$  of possible models  $M$ , each involving a set of worlds  $W_M$ , and that embedding (or assignment) functions are partial functions from variable, world pairs to entities in the domain of the world in question. To keep things simple the world argument will be ignored below. Here I take construction rules of the type in Kamp and Reyle 1993 to be functions from input DRSs  $K$  to output DRSs  $K'$ . Let  $G_M(K)$  and  $G_M(K')$  be the set of assignments that embed  $K$  and  $K'$  in  $M$  respectively, such that every  $g' \in G_M(K')$  is an update of some  $g \in G_M(K)$ , and let  $\text{Dom}(K)$  and  $\text{Dom}(K')$  be the set of variables in the universe of  $K$  and  $K'$  respectively.<sup>12</sup> The notion of *determined reference* is defined as follows:

[17] Let  $x$  be in  $\text{Dom}(K')$  but not in  $\text{Dom}(K)$ .

The variable  $x$  has determined reference iff for every  $g', g''$  such that  $g' \in G_M(K')$  and  $g'' \in G_M(K')$  and  $g'$  and  $g''$  update the same  $g \in G_M(K)$ ,  $g'(x) = g''(x)$ .

Note that if  $x$  is a variable that has determined reference, for every  $g$  that verifies  $K$ , there is only one way of updating it relative to  $x$  so as to verify  $K'$ . Note also that whether a variable has determined reference or not depends partly on the restriction it is associated with and partly on the properties of the model. As we will see below in some detail, a variable has determined reference if its restrictive expression requires its value to agree with the value assigned to a variable present in the input DRS, which is the case of 'familiar' variables. But it also has determined reference if its restrictive expression specifies a property true of a singleton set in the model (as in the case of DPs such as *the moon* or superlatives or if the restriction requires them to be given constant values, as in the case of proper names. These latter two cases would not normally fall under familiarity views of definiteness. Determined reference is a version of uniqueness, but one where uniqueness has to do with the issue of licensed value choice for a variable, and therefore it subsumes anaphoric reference.

We can now define no-choice DPs as in [18]:

[18] No-choice DPs are DPs which are felicitously used only if the variable they introduce has determined reference as a result of the restrictive condition they contribute.

A DP is no-choice iff its contribution to the DRS requires all embeddings of the output DRS to agree on the value of the variable they introduce. This means that for any  $g$  that verifies the input DRS, the condition contributed by a no-choice DP must narrow down the choice of possible value to a single entity for every  $w$  in  $W_M$  for which  $K'$  is defined. These DPs are called 'no-choice' because, in going from  $K$  to  $K'$ , they leave no choice relative to the value that is to be assigned to the variable they introduce.

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<sup>12</sup>A function  $g'$  updates a function  $g$  iff  $g'$  agrees with  $g$  on all assignment of values for the variables that are in the domain of  $g$ .

The definition in [17] differs from the uniqueness view in Kadmon 1990, which requires all embedding functions to agree on the values they assign to variables introduced by definite DPs in that uniqueness here is relativized to the input function. This allows an anaphoric DP to be a no-choice DP even if its antecedent is not. Such DPs require the value assigned to the variable they introduce to be whatever value the input function assigns to their antecedent.

There are several ways in which determined reference can be achieved, some of which will be discussed in the next section. The inclusive characterization based on the notion of determined reference is useful because it allows us to capture what is common to the class of semantically definite DPs. Thus, the answer I suggest to [6a] is [19]:

[19] *Semantically definite DPs*

The property that distinguishes proper names, pronouns and definite descriptions from the other DP types in [4] is that they are no-choice DPs.

Note that since this is a variant of the uniqueness theory of definites it inherits the latter's advantages as well as its disadvantages relative to the familiarity view. The score may be improved, however, if familiarity is taken as one of the ways in which uniqueness can be achieved, which the present proposal attempts to do.

As will be discussed in more detail in the next subsection, proper names are no-choice DPs because the variable they contribute is constrained so as to be given the same value by all assignment functions at all worlds in  $M$ . Definite pronouns are no-choice DPs because they contribute a constraint requiring the value of the variable they introduce to be whatever value has been assigned to some variable in  $\text{Dom}(K)$ . Descriptions on the other hand, i.e., DPs whose restrictive condition is based on the common noun that is the head of the NP (further restricted by modifiers within the NP) introduce a variable with determined reference only if the descriptive condition they contribute is true of a singleton set. Definite descriptions are felicitously used only if this condition is met, and therefore if felicitously used, a definite description is a no-choice DP. I assume that plural DPs introduced a group level variable which has determined reference iff the restriction narrows down the possible value choice to a single group-level entity.

### 4.3 Types of no-choice DPs

A fundamental distinction between DPs concerns the presence or absence of descriptive content. No-choice DPs then fall into two categories depending on whether determined reference is achieved directly or by description. The former category includes proper names and definite pronouns, the latter, definite descriptions. We will discuss each type briefly below.

#### 4.3.1 Direct reference: proper names and definite pronouns

The term 'direct reference' goes back at least since Kaplan's paper 'Demonstratives'. In present terms, proper names and definite pronouns are taken to contribute an *identifying restrictive condition*, a condition that identifies directly the entity that is to serve as value to the variable they introduce. These DPs then are no-choice DPs by virtue of the type of condition they contribute.

##### (i) *Definite Pronouns*

There are a host of issues concerning pronouns that cannot be addressed here (and not only because of space restrictions). I will limit the discussion to a few general considerations about anaphoric pronouns and deictic pronouns.

Anaphoric pronouns, i.e., pronouns with a linguistic antecedent, require the value assigned to the variable they contribute to be whatever value the verifying function assigns to the variable introduced by their antecedent. I assume that at the level of DRS, the construction rule for a

definite pronoun adds a variable  $x$  to  $\text{Dom}(K')$  as well as an equative restrictive condition of the form  $x = y$ , where  $y$  is an element of  $\text{Dom}(K)$ . This condition requires all functions  $g'$  that verify  $K'$  to be such that  $g'(x) = g(y)$ , where  $g$  is the function that verifies  $K$  and which  $g'$  updates. All variables restricted by such a condition have determined reference, and therefore definite pronouns have determined reference by virtue of the type of condition they introduce.

Abstracting away from details, the construction rule associated with definite pronouns requires one to find a variable  $y$  in  $\text{Dom}(K)$  to equate the variable introduced by the pronoun with. Definite pronouns will be infelicitously used if no such variable can be found. Whenever a definite pronoun is felicitously used the variable it introduces has determined reference and therefore such pronouns are no-choice DPs.

Note that, as mentioned above, there may be choice relative to the value assigned to the antecedent, but once a value is chosen for the antecedent, there is no choice concerning the value assigned to the pronoun. To exemplify, assume that [20c] is processed relative to the input DRS  $K$  in [20b], triggered by [20a]:

[20] a. A girl came in.

b. 

$x$
$girl(x)$
came in ( $x$ )

c. She sat down.

d. 

$y$
$y = x$
sat down ( $y$ )

The contribution of [20c] is [20d], where the contribution of the pronoun is the variable  $y$  and its condition,  $y = x$ .<sup>13</sup> This condition requires that every  $g$  that verifies [20b] relative to  $M$  have an update  $g'$  such that  $g'$  verifies [20d] relative to  $M$ , where  $g'(y) = g(x)$ . Note that  $y$  has determined reference although there may be several embedding functions  $g$  that verify  $K$  relative to  $M$ , which differ on what they assign to  $x$ . This is so because for any  $g'$  that updates one of these functions, the choice of value for  $y$  is uniquely determined to be whatever value  $g$  assigns to  $x$ .

Definite pronouns will be said to be internally anchored to the value the verifying function assigns to their antecedent. They are 'anchored' because their restrictive condition mentions the value directly; they are 'internally anchored' because the value in question depends on the verifying function.

Deictic pronouns, i.e., definite pronouns with no linguistic antecedent, introduce a variable externally anchored to an entity present in the discourse. The anchoring is external because the value of the variable introduced by the pronoun is fixed by contextual factors, and therefore it is

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<sup>13</sup>I am assuming here that the featural content of pronouns is different in nature from the descriptive content of descriptions. The question of how to treat it, and of how to further subcategorize pronouns depending on the richness of their featural content are issues that I leave open. Note also that bound pronouns differ from ordinary anaphoric pronouns in that their antecedent is bound by a quantifier. Such pronouns then have determined reference relative to every value assigned to the antecedent.

constant across verifying functions.<sup>14</sup> To maximize the similarity between anaphoric and deictic pronouns one could assume that the main DRS contains variables externally anchored to all discourse salient individuals. Further structure imposed on the domain of a DRS is needed to make possible distinctions between various degrees of salience. Under this assumption, the restrictive condition contributed by both anaphoric and deictic pronouns fixes the value of the variable associated to them to a salient discourse referent. I assume then that definite pronouns (whether deictic or anaphoric) are associated with the felicity condition in [21]:

[21] Definite pronouns are felicitous only when an appropriate salient variable is present in the domain of the input DRS which can serve as the right hand side argument of =.

This condition follows naturally from the fact that pronouns contribute an equative condition.

(ii) *Proper names*

I follow Kripke 1972, and Kamp and Reyle 1993 in assuming that proper names function as labels of entities. The variable they introduce is directly connected to the entity the name is a label of, in the sense that all embedding functions have to agree in assigning the variable associated with the proper name the entity the proper name names. I assume that the use of a proper name such as *Sarah* triggers the introduction of an identifying condition of the form  $x = Sarah$  which restricts the class of relevant embedding functions to those which assign to  $x$  the individual *Sarah* is a label of. The equative sign here is the same as the one used in the restrictive condition introduced by pronouns if we assume that proper names are like discourse referents in the sense that they are within the domain of embedding functions. If  $e$  is a proper name, for all embedding functions  $f$ , at all worlds  $w$ ,  $f(e,w)$  is the entity  $e$  is a label of. Conditions involving the equative sign require the value assigned by the embedding function to the two expressions that flank it to be the same. Under these assumptions, the variable introduced by proper names is externally anchored to the entity that the name is a label of. Proper names are then no-choice DPs because the variable introduced by them is restricted by a condition that ensures that it will have determined reference. Proper names differ from definite pronouns in that the reference of the former is fixed relative to a model, and stays constant across assignments and worlds, whereas the reference of the latter is strictly locally determined, by the input assignment.

An important point for present purposes is that proper names and definite pronouns contribute an identifying restrictive condition, which associates the variable they introduce with the entity that is to serve as its value directly. A variable restricted by this type of condition cannot fail to have determined reference. Proper names and definite pronouns will be called inherently no-choice DP because the variable they introduce has determined reference in virtue of the type of restrictive condition they contribute, a condition that achieves a direct association between the variable and the entity that must serve as its value. The question in [6b] can now be answered as in [22]:

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<sup>14</sup>The term 'deictic' has to be understood loosely enough to cover cases of pronouns referring to a salient individual who has not been mentioned in previous discourse and is not actually present in the physical setting of the discourse either. Such pronouns are exemplified in the 'parental' use, in (i), said by a parent to another, where the pronoun refers to the child of the speaker or the addressee, or in (ii), said by a child to a classmate, where the pronoun refers to the teacher.

(i) He slept through the night.

(ii) She gave us no homework through the weekend.

This type of pronoun could (and probably should) be collapsed with deictic (free) uses by assuming that there are extra-salient individuals in the model who don't have to be introduced or physically present in order to be in the discourse.

[22] The property that distinguishes proper names and pronouns from other no-choice DPs is that they have direct reference, and therefore they are inherently no-choice DPs.

Because of the nature of the restrictive condition they contribute, proper names and definite pronouns cannot fail to be no-choice DPs. We see below that this is not so in the case of descriptions.

#### 4.3.2 Descriptions

Descriptions, whether definite or indefinite, contribute a restrictive condition based on the noun that functions as the semantic head of the DP. Such conditions will be called *descriptive*. They identify a set (the set of entities of which they are true) and restrict the relevant assignment functions to those that assign to the variable introduced by the DP values chosen from this set.

As mentioned above, a descriptive DP is a no-choice DP only in the special case in which the set identified by the descriptive content is a singleton. This may happen in a variety of ways. Thus, in the relevant world(s) there may be a single entity that the description is true of, such as in the case of the DP *the moon*; the semantics of the description may be such that it entails uniqueness, as in the case of superlative DPs such as *the highest mountain*, and finally, in the case of run-of-the-mill definite DPs, such as *the man in the red shirt* or 'anaphoric' definites, I follow Hawkins in assuming that the relevant domain is restricted to (some subset of) the values that have been assigned to the variables in  $\text{Dom}(K)$ , and the description is true of a unique element in this domain. Here the domain relative to which the descriptive content is evaluated is narrowed down relative to  $\text{Dom}(K)$  (or a subset thereof) and it is because of this narrowing that the description is true of a single entity, and therefore that the variable introduced by the DP has determined reference. Note, however, that no matter how the relevant domain is narrowed, definite descriptions, just like proper names and pronouns, are no-choice DPs in the sense defined above; in going from the input DRS to the output DRS, there is no choice relative to what value one should assign to the variable they introduce.

With respect to the definite article, I suggest that its function is to mark that the DP it appears in is a no-choice DP. In most inclusive terms, its use is subject to the condition in [23]:

[23] In order for the definite article to be felicitous, the DP it determines must be a no-choice DP.

The condition is phrased inclusively so as to allow the use of the definite article not only with descriptions but also with proper names. This issue is taken up in subsection 4.4. Note, however, that according to [23], when the definite article is used with descriptions, it will be felicitous only if the descriptive content is true of a singleton entity in the relevant domain.

Under the approach outlined here semantically definite noun phrases presuppose the existence and uniqueness of their referent in the sense that their use will not be felicitous unless these conditions are met. Proper names require all assignments to be defined for them and pick out a unique individual; pronouns are felicitous only if an appropriate variable is present in the input DRS which can figure in the equative condition they contribute, and definite descriptions are felicitously used only if their description identifies a singleton set.

#### 4.3.3 Dependency

The question of dependency (or scopal non-specificity) is independent of the question of determined reference though it interacts with it. A variable  $y$  is said to be dependent on another 'boss' variable  $x$  iff the values assigned to  $y$  co-vary with the values assigned to  $x$ . In order for co-variation to occur the evaluation of  $x$  must involve several assignments, i.e.,  $x$  must be bound by an operator that requires multiplicity of such assignments, and  $y$  must be in the scope of this operator. Now

if  $y$  is a variable dependent on another variable  $x$ , and if  $y$  is introduced by a no-choice DP, the restrictive condition on  $x$  must determine a unique value for it relative to every legitimate choice of value for  $y$ .

Given what was said above, externally anchored variables such as those introduced by proper names are immune to co-variation, but variables introduced by no-choice descriptions are not. Dependent no-choice DPs will be felicitously used only in contexts where the description identifies a singleton set relative to every value assigned to the boss variable. This is what happens in cases of dependent definites exemplified in [24]:

[24] Every child was given a sandwich and a cookie and was asked to eat *the cookie* first.

#### 4.3.4 Ranking

So far, we have characterized the class of semantically definite DPs and, within this class, we have distinguished proper names and pronouns from definite descriptions. These are necessary steps for understanding the left hand side of the scale in [4]. With respect to ranking, I suggest that proper names and definite pronouns outrank descriptions because they are inherently no-choice DPs. The sort of direct association with a value involved with identifying restrictive conditions outranks 'choice by description' with respect to determinacy because direct choice is determined by its nature: identifying conditions associate directly a variable with the expression that gives its value. Descriptive conditions on the other hand involve the circuitous route of first identifying a subset of a domain, and then choosing an element of that subset as value of the variable.<sup>15</sup> Even in the case when the subset in question is a singleton set, and therefore the variable restricted by the description has determined reference, the reference is established by first identifying this singleton subset relative to a larger domain. The domain in question is the set of individuals in the world in the case of absolutely unique DPs, or the set of entities the input assignment associates to  $\text{Dom}(K)$  (or an appropriately restricted subset thereof), in case of other definite descriptions.

Given what was said above, definite pronouns and proper names are not distinguished in terms of degree of determinacy of reference. The fact that pronouns outrank proper names on the scale in [3] needs an independent explanation. One possibility would be to appeal to the fact that pronominal reference presupposes a salient variable in  $\text{Dom}(K)$ , and assume that this saliency requirement interacts with the prominence  $\text{DOM}$  is sensitive to.

#### 4.4 The definite article

I turn now to some consequences of this approach to issues concerning the cross-linguistic distribution of the definite article. Recall that the proposal put forward here is that the role of the definite article is to mark determined reference, i.e. it signals that the DP in question is a no-choice DP. More generally, I suggest that Determiners encode information on valuation properties of the variable introduced by the DP. The conventional meaning of the definite article is to mark determined reference. This means that the restrictive condition contributed by the DP narrows down the legitimate choice of value to a single entity.

I turn now to some of the consequences of this approach concerning the cross-linguistic distribution of definite articles. The relevant generalizations are listed in [25]. (See Longobardi 1994 and references cited therein. My remarks here are consistent with Longobardi's syntactic analysis.)

[25] (i) If a language has a definite article, it uses it with descriptions, i.e., with noun phrases that have descriptive content contributed by a (projection of) N.

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<sup>15</sup>This insight is captured in work on descriptions that treats them as choice functions, pioneered by U. Egli and K. von Stechow (see Egli and von Stechow 1995 and references cited therein).

- (ii) There is wide variation with respect to the use of articles with proper names across languages. If a non-specialized article is used with proper names, it is the definite article.
- (iii) Pronouns are never used with articles.

Note that given (i) and (ii), a language where the definite article is used obligatorily with proper names and optionally with descriptions is ruled out. To exemplify (ii), note that there are languages, such as Greek, where the use of the definite article with proper names is required. In English and Romanian, on the other hand, the use of the definite article with proper names is impossible. Finally, in Italian and Hungarian there is free as well as dialectal variation in this respect. In the Budapest variety of spoken Hungarian, for instance, the use of the definite article with personal proper names is quite frequent, while in written Hungarian as well as in the more conservative Transylvanian variety of spoken Hungarian the use of the definite article with proper names is not possible.

Let us see now how the generalizations in [25] could be captured. Note that (iii) follows straightforwardly from Postal's 1969 proposal according to which pronouns are generated in the Determiner position.<sup>16</sup> With respect to (ii), recall that [23] does not rule out the possibility of using the definite article with proper names. Making reference to no-choice DPs when characterizing the distribution of the definite article allows us to bring together proper names and descriptions without having to treat proper names as disguised descriptions. In our terms, the crucial difference between descriptions and proper names is that determined reference marking is redundant in the case of the latter and distinctive in the case of the former. Borrowing now from the functional literature the assumption that distinctive properties are more readily marked than non-distinctive ones we predict that there will be no language where the definite article is used obligatorily with proper names and optionally with descriptions. On the other hand, languages such as Greek, where the definite article is consistently used with proper names, opt for redundant marking of determined reference possibly for the sake of consistent syntax for argumental DPs; languages like English or Romanian, on the other hand, where the use of the definite article is restricted to descriptions, opt for distinctive marking at the cost of non-uniform syntax. The type of variation found in Hungarian is also unproblematic since it concerns variation in the way a redundant characteristic is marked. A point in favor of this account is that the variation we find in Hungarian boils down to the question of whether a redundant property is overtly marked or not. For registers or dialects to differ along this dimension is not surprising. The situation where the use of the article with proper names is truly optional can be accounted for in terms of a tie between avoiding redundant marking and avoiding non-uniform syntax. Thus, treating the definite article as a marker of determined reference allows an understanding of its occurrence with proper names without having to treat the latter as descriptions or having to invoke expletive definite articles.

## 5. DPs with non-determined reference

We now leave the realm of semantically definite DPs and reach the indefinite region of the scale in [4]. In present terms, what distinguishes these DP types from semantically definite DPs is the absence of the determined reference requirement: the variables they introduce do not have to have determined reference.

I turn now to the task of attempting to answer the third question in [6] concerning the intermediary position of partitives between semantically definite and indefinite DPs.

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<sup>16</sup>Of course we would eventually want an explanation for why this is so, but I am in no position to offer one here.

As mentioned above, ordinary indefinites, such as *a student*, involve the restriction of value choice to those entities in  $E$ , the domain of entities in  $M$ , that satisfy the description. (The question of what the structure of  $E$  is is immaterial for present purposes and therefore will be ignored here.) The value that assignment functions are to give to the variable introduced by ordinary indefinites ranges over the elements of a subset of  $E$ , namely the subset that satisfies the description.

In present terms, an overtly marked partitive such as *one of the students in my class*, contrasts with a simple indefinite such as *a student* with respect to how restricted the choice of value for the variable is. An overtly marked partitive then involves a domain DP, *the students*, whose role is to introduce a group-level variable  $Y$ . The value of the variable introduced by the partitive DP is freely chosen from the elements of this group. The crucial property of partitives then is that the choice of value for the variable they introduce is necessarily limited to the members of the group assigned as value to the domain DP. (The partitive constraint requires the domain DP to be definite, but see Abbott 1992 for an argument for treating the partitive constraint as a pragmatic effect.) The restrictive constraint on the variable introduced by the partitive DP,  $x$ , is of the form  $x \in Y$ . It requires the values of  $x$  to be chosen from the members of  $Y$ , the group-level variable introduced and restricted by the domain DP. For simple indefinites such as *a student*, on the other hand, the choice of value is limited only by the description, whether complex or simple. Overtly marked partitive DPs then contribute a partitive restrictive constraint of the form  $x \in Y$ , where  $Y$  is the group level variable introduced by the domain DP. Taking the universe of a DRS  $K$  relative to some verifying assignment  $g$ ,  $U_K(g)$ , to be the set of entities in  $E$  that  $g$  assigns to  $\text{Dom}(K)$ , a partitive restrictive constraint necessarily limits the choice of value for the variable introduced by the partitive to the members of a group-level element of  $U_K(g)$ . Overtly marked partitives then are unlike semantically definite DPs (and like ordinary indefinites) in that the variable they introduce does not have determined reference: any member of  $Y$  is a legitimate value for it. On the other hand, these DPs involve a partitive restrictive condition which by its nature involves a more drastic limitation on value choice than that imposed by descriptive conditions: the limitation in question concerns the members of a group-level entity in the universe of discourse, whereas descriptive conditions constrain possible values relative to some subset of  $E$ . What matters here is not possible size of the set from which the values are chosen but the nature of the restriction. A partitive restriction is more drastic than a restriction via property ascription because the former necessarily involves an already restricted domain, whereas the latter does not have to. The set from which values for the variable introduced by the partitive can be chosen is arrived at by first fixing the value of the domain DP and narrowing down the choice to elements of this entity. Partitive restriction, unlike restriction by description, must involve restriction to a subset of  $\text{Dom}(K')$ .

Overtly marked partitives then are outranked on the determinacy scale by semantically definite DPs because they do not have determined reference; the choice of value for the variable they introduce is not narrowed down to a single element of the group determined by the domain DP. These DPs rank higher than non-partitives on the determinacy scale because they contribute a partitive restrictive condition, which, by its nature, limits the choice relative to an element of the universe of discourse.<sup>17</sup> In this account, the partitive relation is special precisely because it involves limiting the range from which the value of a variable must be chosen. To conclude then, overtly marked partitives are like ordinary indefinites in that they determine a set the members of which

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<sup>17</sup>Possessed indefinites, such as *a friend of John's* are similar to partitives in the sense that the value for the variable they introduce is necessarily restricted to elements of a restricted set, namely the set of entities related to the possessor.

may serve as values to the variable introduced by the DP. They are unlike ordinary indefinites in that this set is established relative to a drastically reduced domain, namely  $\text{Dom}(K')$ , by being restricted to the elements of the value assigned to a group-level variable.

There are two ways in which ordinary indefinites may end up with evaluations that are partitive in nature: (i) the domain relative to which the description is interpreted may be implicitly restricted to the set formed by the members of a previously introduced group-level element of  $U_d(K)$ , such as in implicit partitives, or (ii) the particular description may involve a restriction to the elements of such a group, as in *a student among the students in my class*. Overtly marked partitives would outrank these 'accidental' partitives on our determinacy scale because they are inherently partitive, while accidental partitives would outrank non-partitive indefinites.<sup>18</sup>

Turning now to epistemic specific indefinites, the last DP type before garden-variety indefinites, note that in their case the Speaker has a particular choice of value in mind for the variable associated with the DP, but the context and the descriptive content are not sufficient to narrow down the choice as far as the Addressee is concerned. In present terms such DPs have determined reference relative to the Speaker and non-determined reference relative to the Addressee, and therefore one expects them to be treated as being less determined than semantically definite DPs and more determined than non-specific indefinites. If there is a particular value that the speaker has in mind, it would in principle be possible to use a DP with determined reference to single it out. No such possibility exists in case of 'free choice' indefinites.

The least determined DP type on our scale are garden-variety indefinites, which impose no further restriction on the choice of value for the variable they introduce beyond its having to satisfy the description. Under this view, just as in Hawkins's analysis, the non-uniqueness implication associated with the use of indefinites is a pragmatic effect due to the definite and the indefinite forming a Horn-scale. The existence requirement associated with indefinites, however, is the result of introducing a variable, and its informational status hinges on how one deals with cases when the set of embedding functions relevant to DRS verification is empty.

Before concluding, I will discuss two further notions that determinacy of reference can easily be confused with, and therefore should be carefully distinguished from, namely (i) identifying reference and (ii) fixed reference. By *identifying reference* I mean the property certain DPs have of enabling the Addressee to uniquely identify the referent of the DP (i.e., the value the variable introduced by the DP is to be assigned) based on the information provided by the noun phrase in question. Many noun phrases with determined reference have this property, but not all. None of us are able to identify as yet the referent of the noun phrase *the last person to read this paper* and yet the reference of this noun phrase is just as determined in our sense as that of an "identifying" noun phrase such as *the author of this paper*.<sup>19</sup> As noted in the vast philosophical literature on proper

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<sup>18</sup>I am assuming here that there are at least three types of restrictive conditions, identifying, partitive and descriptive, and in terms of inherent restrictiveness they form the hierarchy in (i):

(i) identifying > partitive > descriptive

Other things being equal, DP types marked for introducing a particular type of restrictive condition are higher on the hierarchy of determinacy of reference than DPs marked for introducing less restrictive conditions. This is why, within the class of no-choice DPs, proper names and pronouns outrank definite descriptions, while within the class of 'indefinite' DPs, i.e., DPs with non-determined reference, overtly marked partitives outrank 'accidental' partitives. The scale in [3] then falls into two regions, no-choice DPs and indefinites. The rankings of positions within these two regions depends on the type of restrictive condition a DP is marked as introducing.

<sup>19</sup>The point that definite noun phrases may be non-identifying is made, somewhat indirectly, in a short story by Borges discussed in Farkas 1985, in which the author closes his eyes and sees a flock of birds. He then reopens them and says: *The number of birds I saw was large*. The definite description here is felicitously used although nobody,

names, their felicitous use is also independent of identifying knowledge.

The notion of *reference variation* involves the question of whether the values assigned to a variable have to vary in the interpretation of a particular utterance. Variables that are dependent on a boss variable bound by a universal quantifier for instance have variable reference, as does the boss variable itself, while 'widest scope' variables are non-variable in this sense, even if they have non-determined reference. This issue is different from the question of variation across utterances. In this latter respect Kripke notes that proper names are special in that they are *rigid designators*: their reference is fixed relative to a model, and therefore their value is fixed across occasions of use and discourses. In our terms, this means that the values of variables introduced by proper names are fixed for all embedding functions and at all contextual and modal indices. No other type of noun phrase has this sort of fixity of reference. As a result, proper names are immune to variation and co-variation of any sort. 'Participant' pronouns (pronouns referring to the Speaker or the Addressee) have reference that necessarily varies depending on who the speaker is, while 'non-participant' pronouns have reference that may be constant across utterances.<sup>20</sup>

As has been noted repeatedly in the literature, definite noun phrases are not immune to co-variation. A case in point that has received a lot of attention is Donnellan's referential/attributional distinction. Attributional noun phrases can be treated, as suggested in Farkas 1985, as a case of co-variation with a world-level variable bound by an implicit necessity operator ranging over worlds that differ principally with respect to the value to be assigned to the variable associated with the definite noun phrase.<sup>21</sup> Thus, determined reference is independent of non-variable reference. As mentioned above, we may have definite co-varying DPs that have determined reference relative to every value assigned to the variable they depend on, and we may have indefinite noun phrases whose reference is not determined but which do not happen to co-vary with the interpretation of any other expression.

## 6. Conclusion

The main aim of this paper is to suggest that the definiteness scale in [4] should be seen as a scale of determinacy of reference, and therefore that it is useful to classify DPs in terms of how severely their content restricts the range of legitimate referents.

Reverting to the venerable tradition of using restricted variables and treating the content of a DP as restricting the legitimate values of the variable introduced by it provides a framework in which a typology in terms of this parameter is quite natural. The classification proposed here enables us to separate semantically definite DPs from semantically indefinite ones in the spirit of uniqueness theories, while at the same time it allows us to capture what is special with partitives. It also helps in accounting for cross-linguistic generalizations concerning the distribution of the definite article. The parameter of determinacy of reference discussed here allows a way of combining familiarity and uniqueness approaches to (in)definites that may help overcoming the difficulties proper to each.

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except, Borges argues, God, is able to identify its referent.

<sup>20</sup>In Hungarian, non-reflexive 'participant' pronouns are treated as if they were indefinite wrt DOM. I see no way in which this particular fact could be explained in terms of the parameter of determined reference discussed here.

<sup>21</sup>Farkas 1985, calls the referential, non-varying interpretation of definite descriptions *rigid*, and the varying one, *non-rigid* without thereby assimilating the former to Kripke's rigid designators, as apparently assumed in Giannakidou 1998.

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