(De)accenting Definite Descriptions*

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1. Introduction

It has been argued by various authors that there is no general correspondence between focus and new information, and background and old information, respectively (cf. e.g. Rochemont 1986, Schwarzschild 1999). On the other hand, with respect to noun phrases there are results indicating that (de)accenting does have an influence on the NP's reference. Bosch (1988), for example, points out the role of markedness in noun phrase interpretation. Van Deemter (1994) discusses the role of accenting to indicate a subsectional anaphor. Jäger (1998) shows that weak quantifiers are interpreted existentially or as partitives depending on the type and the position of the accent. Krifka (1999) argues for a class of "non-novel" indefinites, which presuppose their discourse referents and have to be deaccented.

Consider the definite *the shed* in (1). Depending on whether it is accented, the interpretation of the noun phrase is radically different. With an accent on *shed* we will conclude that there is exactly one shed belonging to John's cottage. Without the accent, on the other hand, we have to interpret *the shed* as referring to the cottage itself, the speaker obviously making a disapproving comment. With the accent on the descriptive content the definite refers to an object distinct from John's cottage thus introducing a novel discourse referent. Without an accent, the definite is identified with a previously given discourse referent.

(1) (John has an old cottage.)
   a. Last summer he reconstructed the SHED.
   b. Last summer he RECONSTRUCTED the shed.

This paper focuses on definite descriptions. It will be shown that a definite description refers to a given discourse referent if the descriptive content is completely deaccented. But if there is a focussed element within the descriptive content it introduces a novel referent. This amounts to allowing two readings for definite descriptions without, however, allowing two readings for the definite article.

This approach is, of course, based on a uniqueness view on definiteness. In particular, I will employ the account in Farkas (2000) and (2001, in this volume). Farkas presents a notion of uniqueness subsuming familiarity: Definites have to be "no-choice" either by being identical to a given referent or by means of their description. According to Farkas proper names and pronouns contribute an identifying condition whereas definite descriptions have to be determined by their descriptive content. Farkas argues that this difference in interpretation accounts for the different positions of proper names

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and pronouns, on the one hand, and (full) definite descriptions, on the other, in the definiteness hierarchy discussed in the functional literature:

Definiteness hierarchy:[1]
personal pronoun/proper name > definite description > specific indefinite > non-specific indefinite

I will follow Farkas with respect to interpreting definites as being "no-choice" NPs either via identity to another referent or via description. I will, however, argue that her account of definite descriptions is too coarse grained. Taking the difference induced by accenting into account a shift in the division between identifying definites and description based definites into the region of definites descriptions suggests itself: Deaccented definite descriptions referring to a given referent achieve uniqueness via an identity condition, but if there is an accent on the descriptive content, the definite achieves uniqueness by making use of its description, thus establishing a novel discourse referent.

pronoun/proper name	>	**given DD** (identifying, deaccented)	> **non-given DD** (description based, accented)	> specific indefinit > non-specific indefinit

This paper is organized as follows: In the next section I will briefly discuss the uniqueness view of definites comparing Hawkins and Löbner, then present Farkas' notion of "no choice" NPs and discuss why Farkas' story can't be all there is. In the third section the correspondence between (de)accenting and (non)givenness will be shown, and the different uses will be spelled out within the DRT framework. Moreover, the non-given/given distinction will be related to the well-known attributive/referential distinction. Subsequently, in section four, I will sketch the semantics of focus in complex definite noun phrases pointing out the role of the bridging antecedent in establishing the set of alternatives. Finally, we will come back to the scale of noun phrases in the definiteness hierarchy and have a brief look at pronouns and indefinites. Throughout this paper only singular definite descriptions *(the shed, the old shed, the shed of John's cottage)* in argument position will be considered.

2. The uniqueness view of definiteness

Definiteness is semantically associated either with familiarity or with uniqueness. According to familiarity theories of definites, e.g. Heim (1982), the referent of a definite noun phrase is an entity which is given because it has been mentioned previously in the discourse (or because it is prominent in the utterance situation). Uniqueness theories, on the other hand, regard definiteness as indicating that the noun phrase's referent is unique with respect to some pragmatically given domain. A review of the pros and cons of the two perspectives goes beyond the scope of this paper (cf. e.g. Hauenschild 1989). Distinguishing between given and non-given definite descriptions I will, of course, employ a uniqueness account of definiteness.

[1] cf. Farkas (2000)

2.1. Hawkins (1978), (1991)

A particular prominent account of the uniqueness perspective is Hawkins (1978) and (1991). Hawkins takes the anaphoric and deictic uses of definites as his starting point. The basic idea is that the use of a definite is felicitous if, within a pragmatically determined domain, there is exactly one entity satisfying the description (for plurals: there is unique maximal set within the domain). Pragmatic domains, called P-sets, are sets of entities structuring the universe of discourse, and are provided by either the previous discourse, the utterance situation, or general knowledge about relations between entities. The meaning of the definite article is defined relative to a P-set: "The conventionally implicates that there is some subset of entities, {P}, in the universe of discourse which is mutually manifest to Speaker and Hearer on-line, and within which definite referents exist and are unique." (Hawkins, 1991, p.414). Indefinites, as opposed to definites, conversationally implicate non-uniqueness.

For example, the noun phrase *the professor* may be felicitously uttered if there is a unique professor within the P-set established by the previous discourse. But it may as well be felicitously used if the situation or general world knowledge provide an appropriate P-set. E.g. if students arrive for a new class, they may ask *Who is the professor?* because there is a unique professor given by the situation. Or, if a university class has been mentioned in the previous discourse class, the use of *the professor* is felicitous because we know that classes at a university usually have a unique professor. Moreover, the appropriate P-set may be inferred from information within the definite NP itself, e.g. *the professor of my linguistics class.* Information within the definite NP may even re-establish a previous discourse set: *the professor we have just been talking about.*

Unlike definite descriptions, demonstrative expressions and pronouns, according to Hawkins, do not achieve uniqueness by making use of a P-set. They "will require a form of uniqueness relative to entities that are physically identifiable or textually introduced, without regard to P-sets" (Hawkins 1991 p. 416). The latter form of uniqueness, however, is not spelled out in the paper.

2.2. Löbner (1985)

Löbner (1985) presents a uniqueness theory of definites taking the opposite starting point, the paradigmatic cases being those where the definite article is required by the semantics of the neon. Nouns are classified into sortal nouns, which denote sets (e.g. *table*) and relational nouns, which involve an internal argument (e.g. *daughter* of somebody). Within the class of relational nouns there are special cases of functional nouns which have a unique value, e.g. *mother.*[2]

According to Löbner the definite article in all its uses indicates that the descriptive content has to be interpreted as a functional concept yielding a unique value.[3] He distinguishes between "semantic definites" and "pragmatic definites". Semantic definites are given by functional nouns, whose internal argument is mainly provided by the utterance situation. Being a functional noun *a mother* e.g. is not acceptable (unless

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[2] Sortal nouns may also be used in a functional way, e.g. *table* is used functionally if someone points to an orange box and says: *The table is laid.* Moreover, functional nouns may be used in a sortal way, e.g. if a caretaker in a kindergarten informs her colleague: *A mother has complained about the food.*

[3] Löbner uses the term "functional concept" instead of "function" to stress the procedural aspect and indicate effective computability.

mother is used in a sortal way). For pragmatic definites the functional concept has to be established by the context, either by a modifying expression or by an implicit link to a node representing another discourse referent (Löbner assumes a semantic network representation). For example, in *"Bill went out with a woman last night. The woman was nasty to him."* the definite the woman has to be linked to the node representing the woman Bill went out with last night which renders a functional concept paraphrased by *the woman Bill went out with last night.*

2.3. Farkas (2000), (2001)

Farkas (2000)/(2001 in this volume) starts from the so-called definiteness hierarchy which stems from cross-linguistic observations on the markedness of direct objects.[4] Different types of nouns phrases form a scale with respect to whether they tend to be case-marked if in direct object position: Personal pronouns are on top of the scale, being most likely to be marked as a direct object, followed by proper names, definite noun phrases, specific indefinite and non-specific indefinites. Farkas rearranges the linear scale into a partial order, including demonstratives and partitives:

> [personal pronouns, proper names] > [definite descriptions, demonstrative descriptions] > [partitives, specific indefinites] > non-specifics

Given that hierarchy, Farkas asks why noun phrases rank as they do. With respect to definites, i.e. pronouns, proper names and definite descriptions, she poses the questions (a) what makes them a natural class, and (b) what distinguishes pronouns and proper names on the one hand from definite descriptions on the other.

Farkas follows Hawkins in viewing definiteness as indicating uniqueness, subsuming familiarity as a special case of uniqueness. Her central notion is the notion of "determined reference" of a variable. This is explicated on the basis of DRT (Kamp, Reyle 1993): A variable introduced by a noun phrase has determined reference if for every update of an assignment function embedding the previous (input) DRS the value assigned to this variable is the same. Noun phrases introducing a determined reference variable are "no-choice". The notion of determined reference implements uniqueness without referring to a particular domain within which the referent has to be unique. The only requirement is that there is no other choice for assigning a value to the variable. But the reason why a variable has a determined reference is deliberately left open because this is where pronouns and proper names depart from definite descriptions.

Pronouns are handled in the usual DRT manner, i.e. they introduce a variable x in the domain of the respective DRS and add an identifying condition x=y where the newly introduced variable is equated with a variable y previously given. Proper names are also assumed to induce an identifying condition, e.g. x=Sarah, where the referent of the name stays constant across assignments and worlds. Thus both pronouns and proper names contribute an identifying condition directly associating the variable they introduce with the entity serving as its value. Therefore, proper names and pronouns are said to achieve determined reference directly.

Descriptions, on the other hand, have to achieve determined reference by means of the description. This may be the case if the descriptive content denotes a singleton set, as e.g. *the moon or the strongest man in the world.* For descriptions other than

[4] Farkas (2000) discusses a typology of definites which is recapitulated in section 2 of Farkas (2001) in this volume. I will mainly refer to the (2000) paper.

singletons Farkas assumes that the domain is restricted to (a subset of) variables that have been introduced before, the description being unique within the restricted domain. Thus a noun phrase like *the girl* is interpreted as "the unique element among the previously mentioned discourse referents which is a girl". According to the (2001) paper uniqueness may be restricted to a salient subdomain of the input DRS.

Answering the questions above, (a) the class of semantically definite noun phrases is characterized as being no choice NPs, and (b) the difference between pronouns and proper names on the one side and definite descriptions on the other stems from their different ways of achieving determined reference, either directly by introducing an identifying condition or by a description eventually relating to a restricted domain. Pronouns and proper names outrank definite descriptions on the definiteness scale because they achieve determined reference directly.

In this paper, I will follow Farkas in taking a uniqueness perspective on definites and regarding anaphoricity as one way of achieving uniqueness. Furthermore, I will follow her in distinguishing between definites that achieve determined reference directly by introducing an identifying condition, and those that achieve determined reference based on their description. But there are some problems: First, the reason she gives for why identifying conditions achieve determined reference is not really convincing. She argues that the antecedent has determined reference because for any assignment function the value is uniquely determined. But this is trivially true for any variable simply because assignments are functions. In fact, an identifying condition does not per se render determined reference – in principle the variable can be identified with any of the variables previously given. To determine the referent we have to take a resolution procedure into account which is based on the order of accessibility of discourse referents and will (normally) give a unique result Second, Farkas' view of definite descriptions implies that definite descriptions which don't involve singleton descriptions must refer to given referents. I will argue below that this assumption cannot be maintained.

3. Given vs. non-given definite descriptions

This paper focuses on definite descriptions. The central claim is that even definite descriptions can come both ways, either being identical to an antecedent or exploiting their descriptive content, depending on whether or not the descriptive content is accented. If deaccented, the definite represents an identity anaphor. Let us call these uses "given definites". If there is an accent on (part of) the descriptive content, the definite is not an identity anaphor (which does not imply that there is no anaphoricity at all). Since these definites do not refer to a given referent, they are called "non-given definites".[5] (Given and non-given definites are, of course, uses of definite descriptions – throughout this paper we are talking about occurrences of definite descriptions in utterances, not about definite descriptions in isolation.)

We will first turn to the non-given definites in this section, demonstrating how they achieve uniqueness, and show that they need an accented part in their description to do so. Next we will come to the given definites, showing that they have to be deaccented, and discuss the accessibility order of antecedents which is basic to resolve the

[5] They are called "non-given" instead of "novel" because they may involve a bridging anaphoric relation, see below.

identification condition. A DRT-like representation for both given and non-given definites will be given. Finally the two uses are related to the referential/attributive distinction which is well known in the literature.

3.1. Non-given definites

Let us first consider non-given definite descriptions. Since a non-given definite is not identical to a given discourse referent, it has to make use of its description to single out a unique referent. There are two possibilities: Either the description is such that it determines a unique referent by itself, or it needs the support of a "bridging" antecedent. Prototypical examples for self-sufficient descriptions are nouns that denote a singleton due to their semantics *(the pope)* or superlative constructions *(the biggest crook).* Complex descriptions involving adjectival modification, attributive genitives or restrictive relative clauses may also be able to determine a unique referent *(the Italian president, the president of Italy, the man who is elected for president in Italy).*[6]

According to our assumptions the description has to be accented. Compare (5)(a) and (b). In (5)(a) *pope* is accented. Since it is an out-of-the-blue utterance, the definite description obviously introduces a novel referent.[7] In (5)(b) *the pope* is deaccented, rendering the utterance unacceptable in the beginning of a discourse. (6)(a)-(c) present examples for complex noun phrases. To be acceptable as an out-of-the-blue utterance, the entire description has to be accented, cf. (6)(a). Still, if at least part of the description is accented, the definite is acceptable as introducing a novel referent, (6)(b)/(c).

(5) (What's new?)
  a. Last week I met the POPE.
  b. #Last week I MET the pope.

(6) a. Last week I met the ITALIAN PRESIDENT/ the PRESIDENT of ITALY
  b. Last week I met the Italian PRESIDENT/ ITALIAN president.
  c. Last week I met the president of ITALY / the PRESIDENT of Italy.

If the description of a definite is not suited to determine a unique referent by itself, it needs the support of a "bridging" antecedent (we are still talking about non-given cases, i.e. excluding identity anaphors). Consider *the roof, the dean* and *the girl* in the examples in (7). In each of them the description relates to a given referent to achieve uniqueness: The roof is part of the previously introduced cottage, the dean is supposed to be the dean of the faculty, and the girl is obviously a member of John's children.

(7) a. John has an old cottage. Last summer, he repaired the ROOF.
  b. The faculty has a meeting. It is chaired by the DEAN.
  c. John has two children. The GIRL is called Sue.

Familiarity theories of definites usually regard these cases as being (implicitly) given because there is a relation to a given referent. If we regard these definites as being given, however, we would have to believe that whenever a discourse referent is

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[6] The last two examples may be regarded as involving an explicit bridging antecedent.

[7] Since it is an out-of-the-blue utterance the accent has to be a default sentence accent. But we will for the moment ignore the difference between sentence accent and contrastive accent, and we will also ignore the focus domain.

introduced, all entities related to that referent are introduced simultaneously. Introducing the cottage referent in (7a), for example, would simultaneously trigger the introduction of the roof, the door, the kitchen, the mortgage, the previous owner, the landscape etc. This is improbable. But if we don't accept that all these entities are introduced together with the cottage referent, then we have to admit that *the roof* in (7a), although involving an anaphoric relation, does introduce a novel referent. The same argument applies to *the dean* in (7b): If the you reject the idea that introducing a faculty referent simultaneously triggers the introduction of a dean referent then the dean referent has to be novel. In (7c) the situation is slightly different because there is a plural referent which the girl is a member of. So it might be argued that the girl has in fact been introduced by introducing the children. But note that there is no chance for a pronoun to pick up the girl, we don't even know that there is a girl among the children. This is strong evidence that *the girl* introduces a novel referent, too.

Let us call the antecedents employed by the definites in (7) to achieve uniqueness "bridging antecedents", and the relation between the referent of the definite description and the antecedent a "bridging relation".[8] The nature of the bridging relation may be rather unspecific. Note, that it need not be a function (cf. membership, part-of etc.). It is only the combination of the bridging relation and the description of the definite which yields uniqueness. For example, in (7a) being a part of John's cottage is by no means unique – the cottage will presumably comprise more than one part. But being a part which is a roof has to be unique for the definite to be felicitous.

In (8) the example from the introduction is repeated. This example shows that it is the accent alone which tells us how to interpret the definite: With an accent on the descriptive part the definite has to be interpreted as introducing a novel discourse referent and since *shed* doesn't denote a singleton it needs a bridging antecedent to achieve uniqueness. Thus in (8)(a) *the shed* is interpreted as the shed belonging to John's cottage and is newly introduced. But if the description is deaccented, as in (8)(b), the definite has to be identified with a previously given discourse referent. Thus we infer that *the shed* refers to John's cottage the speaker making a disparaging remark.

(8) (John has an old cottage.)
  a. Last summer he reconstructed the SHED.
  b. Last summer he RECONSTRUCTED the shed.

A similar example is the one in (9) from van Deemter (1994). According to van Deemter, if the noun phrase *the women* is accented, it has to be interpreted as a subsectional anaphor referring to a proper part of the antecedent. From our point of view, being a proper part is just one of various possible bridging relations. As opposed to the example in (8), the definite description in (9) is in the topic part of the sentence. Thus in (9)(a) the accent renders the definite a contrastive topic. Nevertheless, it triggers the introduction of a new discourse referent.

(9) (The crowd was approaching the castle.)
  a. The WOMEN were very EXITED.
  b. The women were very EXITED.

Jäger (1998) also shows that accenting has an influence on noun phrase interpretation.

[8] The notion of an inferential "bridge" goes back to Haviland, Clark (1974). Our "bridging antecedent" is called an indirect antecedent there, e.g. *We checked the picnic supplies. The beer was warm.*

He discusses weak quantifiers in topic position and compares cases like (10)(a)/(b). Both (a) and (b) trigger a partitive reading interpretation of *three unicorns* (provided, according to Jäger, that the accent is a rising one). But depending on the position of the accent, the noun either denotes a property of the actual referent, cf. (a), or it denotes a property of the antecedent, cf. (b). In this respect, the examples in (10) are similar to the ones in (8) and (9).

(10) a. There is a whole herd of unusual animals all around. Three UNICORNS are in the GARDEN.
b. There is a whole herd of unicorns all around. THREE unicorns are in the GARDEN.

That there is a correspondence between accenting and the reference of a definite has already been discussed in Bosch (1988). Bosch uses the notions of explicit and implicit focus, the former representing entities mentioned in the preceding discourse, i.e. given referents, and the latter representing entities from the scenario, e.g. the bridged cases above which we would classify as being non-given. According to Bosch, deaccented definite referential expressions, full NPs and personal pronouns alike, take their referents from explicit focus, whereas intonationally marked definite referential expressions draw upon implicit focus. His example in (11) is similar to the example in (8) showing that accenting prevents the definite from taking up a given referent. Moreover, Bosch gives an explanation which comes close to the idea presented in Farkas (2000)/(2001) and in this paper, distinguishing between access via classification (i.e. description) and access via linguistic properties such as gender and number (i.e. non-semantic properties of antecedents).

(11) When Jones returned
a. ... they ignored {him, the idiot, the bastard, the old goat, the pig}.
b. ... they ignored {HIM, the IDIOT, the BASTARD, the old GOAT, the PIG}.

Let us now briefly consider functional nouns, which in Löbner (1985) are the paradigmatic cases of definites descriptions. Consider *roof* and *dean* in (7) above. They are clearly functional in the sense of Löbner because (usually) a house has exactly one roof, and a faculty has exactly one dean. In (7) the definites achieve uniqueness exactly as Löbner predicts, since the bridging antecedents correspond to the internal argument given by the semantics of the nouns. So, instead of assuming a bridging relation, one might regard the noun as denoting a function taking the faculty referent as its argument and yielding the dean-referent as its value. However, the bridging antecedent need not coincide with the internal argument, cf. (12). Although the internal argument is clearly preferred as a bridging antecedent, Löbner's functional concept doesn't cover the full range of bridging cases.

(12) I met a couple at the party yesterday. The wife was beautiful.

Moreover, a functional noun may, of course, occur in a given definite. Suppose, e.g., that (7)(a) is continued by *He had tried to evade that job, but finally the roof was leaking*. This time, *the roof* is clearly an identity anaphor. Thus, whether it's a

functional noun or a sortal or relational noun doesn't make any difference for the way in which the definite achieves uniqueness (except for the preference for a bridging antecedent to correspond to the internal argument). Viewing definiteness as indicating a function is intuitively appealing because the mathematical concept of a function gives us existence and uniqueness for free. But functional nouns are no first class definites.

3.2. Given definites

As discussed above, givenness is used here in a strict sense, for identity anaphors only. Non-given definites make use of their descriptive content to achieve uniqueness. But how do given definites achieve uniqueness? Identification with another referent, as such, does not give a unique result. Of course, the descriptive content of the definite will exclude unsuited candidates. Still there may be more than one referent satisfying the description. Consider *the man* in (13). There are four possible referents: the man, the bar, the suitcase, the barkeeper. The description *man* rules out the bar and the suitcase. But the barkeeper will probably be a man, too (cf. Heusinger 2000 for more examples of this type). The reason why we will not identify the man with the barkeeper is a structural one, given by binding constraints.

(13) (A man came into the bar. He was carrying a black suitcase.)
The barkeeper stared at the man with sudden alarm.

For given definites as well as for pronouns, to determine the referent appropriate for identification we have to take the accessibility of discourse referents into account. In the field of natural language processing there is a broad discussion on anaphora resolution. It is well-known that there are various factors contributing to the accessibility of a referent (cf. e.g. Preuss et al. 1994, Grosz et al. 1995). Such factors relate to structural properties of the respective noun phrases, e.g. distance and syntactic position, and define an order of accessible antecedents. Semantic conditions enter the game if there are equally accessible antecedents, thus reducing ambiguity. So the question of which referent has to be identified with a given definite is primarily determined by the accessibility of referents. Its descriptive content has only an auxiliary function. This is the reason why (a) given definites may be substituted for by pronouns (thus stripping their descriptive content), and (b) given definites, in spite of their descriptive content, have to obey the same accessibility rules as pronouns.

There is a consequence which is often neglected in semantics: The idea that a discourse referent once introduced is forever accessible turns out to be a fiction. After a certain (rather small) number of ensuing sentences a referent is definitely not accessible any more. But if a referent is no longer accessible, it can't be regarded as being given anymore. So it may be introduced again. Introducing a discourse referent, after all, is just like putting someone on the stage. It will be pushed in the background step by step by its followers. The notion of givenness employed here is not only restricted to identity anaphors but the referent to be identified with the anaphor has to be accessible as well.

To conclude: Farkas skips an important step when saying a pronoun introduces a referent x together with an equation x=y where y is a given discourse referent. In fact, a pronoun introduces half of an equation, x=?, and there is, first and foremost, a request to find the appropriate antecedent. To achieve this accessibility has to be taken into account. This applies to pronouns as well as given definite descriptions.

3.3. Two uses of definite descriptions

Accounting for the different ways of achieving a unique referent, we will assume that given definites, i.e. identity anaphors, are presupposed. This is in accordance with the main stream view on definites in the literature (e.g. Heim 1982). Non-given definites, as opposed to this, will be regarded as being asserted, in a line with indefinites introducing a novel discourse referent. It may be argued that the existence and the uniqueness requirements are presupposed because they can hardly be affected by a denial. But at least the fact that the novel referent has the property denoted by its descriptive content is part of the assertion and can be denied *(Last summer, John reconstructed the SHED. – No, he reconstructed the HEN HOUSE.)*. That such a denial is impossible if the definite is in topic position may well be due to the characteristics of topics.

Spelling this out in a DRT framework, given definites will be represented like pronouns whereas non-given definites are treated like indefinites plus uniqueness condition. For example, in (15a) pope carries an accent indicating novelty. So the definite triggers the introduction of a novel variable y and induces the conditions that y satisfies the description and is unique, as shown in (15)(b).

(15) a. John met the POPE.
b. [x, y: x=John, pope(y), ⟦z: pope(z)] -->[: z=y⟧, met(x,y)]

In (16) the first sentence is represented by the DRS in (16)(b). In the second sentence girl is deaccented. So the definite induces an identifying condition plus the condition that the referent satisfies the girl-predicate. Both conditions are presupposed (indicated by underlining). Following the presupposition-as-anaphors theory (cf. van der Sandt 1992), presuppositions have to be bound or accommodated. Updating of K1 and K2 results in the DRS in (16e), where the girl-referent from K2 has been identified with the girl-referent in K1 (assuming that the girl-referent in K1 is the most accessible referent which is a girl). The second girl-condition is supposed to be bound by the first one. (16)(e) then is equivalent to (16)(f).

(16) a. John met a girl.
b. K1: [x, y: x=John, girl(y), met(x,y)]
c. The girl was BEAUTIFUL.
d. K2: [z: z=?, girl(z), beautiful(z)]
e. K1 + K2: [x, y, z: x=John, girl(y), met(x,y), z=y, girl(z), beautiful(z)]
f. K1 + K2: [x, y: x=John, girl(y), met(x,y), girl(y), beautiful(y)]

In (17) and (18) the different readings of the shed-example are demonstrated. In (17)(c) *shed* is accented thus introducing a novel referent. Since *shed* doesn't denote a singleton (due to lexical and/or world knowledge) the definite requires a bridging antecedent (w) together with bridging relation R, and it introduces a uniqueness condition. The identifying conditions for the pronoun and those for the bridging antecedent are presupposed. Moreover the bridging relation is presupposed, cf. (17)(d). Updating K1 with K2 results in (17)(e) where the identification conditions are resolved. (Note, that the shed cannot be identified with the cottage because the bridging relation is not allowed to be reflexive, cf. the element-of relation or the part-of relation.) The fact that

the bridging relation holds between the cottage-referent and the shed- referent has been accommodated.[9] (17)(e) is equivalent to (17)(f).

(17) a. John has an old cottage.
b. K1: [x, y: x=John, old_cottage(y), owns(x,y)]
c. He reconstructed the SHED.
d. K2: [u,v, w: u=?, w=?, shed(v), R(w,v), [[z: R(w,z), shed(z)] -->[: z=v]], reconstructed(u,v)]
e. K1+K2: [x, y, u, v, w: x=John, old_cottage(y), owns(x,y), u=x, w=y, shed(v), R(w,v), [[z: R(w,z), shed(z)] --> [: z=v]], reconstructed(u,v)]
f. K1+K2: [x, y, v: x=John, old_cottage(y), owns(x,y), shed(v), R(y,v), [[z: R(y,z), shed(z)] --> [: z=v]], reconstructed(x,v)]

In (18)(b) *shed* is deaccented thus indicating that it has to be identified with a given referent. Both identifying condition and the descriptive condition are presupposed. Updating renders the DRS in (18)(d) identifying the shed-referent with the cottage referent. The descriptive condition has to be accommodated.

(18) a. John has an old cottage.
b. Last summer he RECONSTRUCTED the shed.
c. K2': [u,v: u=?, v=?, shed(v), reconstructed(u,v)]
d. K1+K2': [x, y, u, v: x=John, old_cottage(y), owns(x,y), u=x, v=y, shed(v), reconstructed(u,v)]
e. K1+K2': [x, y: x=John, old_cottage(y), owns(x,y), shed(y), reconstructed(x,y)]

Comparing this analysis with the account of definites proposed by Farkas, given definites go with pronouns achieving determined reference directly. It's only the non-given ones that have to make use of their descriptive content to achieve determined reference. Moreover, the latter do not require uniqueness with respect to the referents introduced before, but uniqueness with respect to the world, in most cases being supported by a bridging antecedent. The analysis of definite descriptions given here doesn't agree with Farkas' analysis of definite descriptions. But it does agree with her analysis of definites in general, making a clear distinction between definites which are directly no-choice and definites which are no-choice by description.

This analysis of definite descriptions admits two uses of definite descriptions. But it does not admit two readings of the definite article. The definite article *the* uniformly indicates the uniqueness requirement. The two uses are due to accenting and deaccenting, respectively, which is a feature given on the surface of the linguistic expressions. Thus the two uses must not be regarded as an ambiguity which has to be resolved by the hearer depending on the respective context. Instead, the speaker indicates the intended use by intonation. If the intended use doesn't match with the context, the utterance is not felicitous.

[9] Let us assume that R is an underspecified relation that may be made more specific by world knowledge inferences.

3.4. Referential vs. attributive use

Naturally, the idea that there are two uses of definite descriptions is not a novel one. It was first proposed by Donnellan (1966) who distinguished between a referential and an attributive use of definite descriptions. The attributive use is similar to Russel's view of definite descriptions assuming that the description is part of the assertion. The referential use comes close to Frege's or Strawson's view where the existence of an appropriate referent is regarded as a presupposition. But there is a subtle difference that will be discussed below.

Donnellan's famous example is *"Who is the man with the martini?"*. Suppose the chairman of a teetotalers meeting is informed that someone in the room is secretly drinking a martini. Then he may ask this question without having a particular person in mind. But if the same question is asked by a guest at a party seeing an interesting-looking person holding a martini glass, then the question is about that particular person. In the former case the definite description is used attributively, asking something about whoever or whatever fits the description. In the latter case it is used referentially, to enable the hearer to pick out whom or what the question is about. In the attributive use the referent has to be determined solely by means of the description whereas in the referential use the description is only accompanying a demonstration act. This is why Kaplan paraphrases the referential use by a demonstrative: *"Who is that man with the martini?"* or *"Who is that?"* followed by an appositive, parenthetical, whispered *"the man with the martini"* (Kaplan 1989, Afterthoughts, p. 583)

Donnellan does not argue in terms givenness or novelty of discourse referents and, of course, he is far from taking accenting into account. Nevertheless the referential/attributive distinction seems to correspond to the given/non-given distinction made in this paper: The correspondence between non-given and attributively used definites is evident, both requiring that the referent is determined solely by means of the descriptive content. To realize the correspondence between given and referentially used definites we have to regard the accessibility of discourse referents as the anaphoric counterpart to a demonstration act. Thus the context may be either the previous discourse or the utterance situation. Given definites as well as referentially used definites involve direct reference. Either accessibility of an antecedent or a demonstration act will provide a unique solution for identification, the descriptive content being mere auxiliary information.

To see that in the referential use the description in fact has to be deaccented whereas in the attributive use there has to be an accent, consider (19) and (20) below. In (19) the referential use is demonstrated. Assume a situation like this: Sherlock Holmes and Watson are chasing a drug dealer gang. They are sitting in a bar watching a clandestine meeting. One of the suspects makes a call on a mobile phone and then starts to leave the bar. Homes advises Watson:

(19) FOLLOW the man with the mobile.

As against that, to demonstrate the attributive use, assume that Holmes and Watson are on their way to the bar where the gangsters will meet, and Holmes tells Watson what to do: ... One of the men will have a mobile. They will wait for a phone call and then leave separately. ...

(20) Follow the man with the MOBILE.

There is an additional property of the referential use which makes Donnellan's account notoriously difficult: According to Donnellan, in the referential use the description may not apply to the referent without rendering the use of the definite infelicitous (and the sentence without a truth-value). For example, the man with the martini may actually be drinking water, but the definite will still refer to the interesting-looking person the speaker was curious about. On the other hand, Donnellan explicitly claims that by using the expression referentially the speaker presupposes that this very man is drinking martini, which from the point of view of semantics, is simply contradictory.

One may shift this problem into the area of pragmatics allowing for accommodation as long as there is sufficient similarity (martini being similar to water or white wine, but not to tomato juice). However, there is an observation discussed in Bosch (1988) indicating that the discrepancy in the referential use between the presupposed description and the actual properties of the referent is a systematic one: For a definite description, if the description is accented it cannot be used metaphorically, but has apply literally. Bosch notes that the accented NP in (21)(b) as opposed to the deaccented variant, cannot be interpreted as being co-referential with Jones, but that a "literal" interpretation where *the pig* indeed refers to a pig is possible.

(21) a. When Jones returned they ignored the pig.
b. When Jones returned they ignored the PIG.

Now suppose that Holmes is very upset because his own daughter is addicted to drugs. Then in the first situation he can give Watson the order in (22) instead of (19). But in the second situation, if Holmes would utter (23) instead of (20) Watson would be completely lost because presumably there is no such animal in the bar.

(22) FOLLOW the pig.
(23) Follow the PIG.

In the referential case, but not in the attributive one, *pig* can be used as a derogatory designation for the drug dealer. This, firstly, confirms Donnellan's claim that in the referential use the referent need not exactly fit the description. Secondly, occurring systematically with metaphoric descriptions we can no longer attribute this effect to some sort of accidental similarity, as in the case of martini looking like water. We may explain the discrepancy effect of the referential use along the following lines: In the attributive use, the description is the only information available to determine the referent. In the referential use, on the other hand, the description has a mere auxiliary function, the demonstration being decisive to determine the referent. Hence the descriptive information need not perfectly match with the referent's properties. Still, there are two awkward questions left: (a) How much deviation is possible? – *the man with the martini* will not work for a man with tomato juice, and (b) what are we to make out of a presupposition which contradicts contextual information? – according to lexical/world knowledge the intersection between man and pigs is empty, and this is essential in the attributive/accented use.

4. Focus in definites descriptions

We have seen in the previous section that accenting does have a decisive influence on the interpretation of a definite description making it introduce a novel discourse referent. How does this combine with the focus semantic interpretation of definite descriptions? The general idea of focus semantics is that a focus triggers a set of alternatives providing, e.g. the quantificational domain of adverbs like *only*. This idea is widely accepted. Nevertheless the nature and the range of the alternatives is by no means clear. Assuming that the set of alternatives comprises the entire domain of entities of the appropriate type renders the idea of alternatives trivial. But constraining it by employing a specific function, ALT, is also problematic. In this section, I will show that for definite descriptions the bridging antecedent plays a central role in determining the appropriate set of alternatives.

Let us start with the example in (24) taken from Heusinger (1998). The context is supposed to be an international faculty party. There are some students and some professors from various countries including exactly one Dutch professor:

(24) Sam only introduced the DUTCH professor to John.

In Heusinger (1998) the Alternative Semantics of Rooth (1992) is extended to apply to complex definite NPs. Alternative Semantics is a two-dimensional theory of focus, computing simultaneously the ordinary meaning of an expression α(denoted by $[\alpha]_0$) and its alternative meaning, i.e. the set of alternatives for this expression (denoted by $[\alpha]_A$). For example, in *"John only talked to SUE."* the focus on Sue triggers a set of alternatives comprising individuals, {Sue, Bill, Mary, ...}. The alternative meaning of the VP *talked to SUE* inherits these alternatives rendering a set of predicates, {talk-to-Sue, talk-to-Bill, talk-to-Mary, ...}. The meaning of *only* then consists in asserting that none of the alternatives except the ordinary meaning applies to the John.

Following this schema, the definite description *the DUTCH professor* in (24) should be computed by combining the alternatives of *DUTCH* with the meaning of *professor*, and combining the result with the meaning of the definite article. Heusinger assumes the alternatives of *DUTCH* to be given as in (25)(a). They are combined with the noun denotation by intersection, cf. (25)(b). Then there is a problem with the definite article which we will skip here. The interesting point with respect to our question is that, according to Heusinger, the alternative meaning of the definite description should comprise the union of the intersections, i.e. (25)(c):

(25) a. $[\text{DUTCH}_F]_A = \text{ALT}(\text{dutch}') = \{\text{dutch}', \text{english}', \text{french}', ...\}$

b. $[\text{DUTCH}_F \text{ professor}]_A = \{\text{dutch}' \cap \text{prof}', \text{english}' \cap \text{prof}', \text{french}' \cap \text{prof}', ...\}$

c. $[\text{the DUTCH}_F \text{ professor}]_A = \cup \{\text{dutch}' \cap \text{prof}', \text{english}' \cap \text{prof}', \text{french}' \cap \text{prof}', ...\}$

Suppose, however, that there is a stateless professor at the party. If Sam introduced the stateless professor to John, the proposition in (24) is clearly false. But if we assume the ALT-function to enumerate nationalities, the stateless professor will not be an element of the alternative meaning of *"the DUTCH professor"* as given in (25)(c). Hence *"introduce the stateless professor to John"* will not be excluded by the meaning of *only*.

You will, of course, argue that being stateless is a relevant alternative to being Dutch, English, French etc. and the ALT-function has to include this property. But consider (26) and imagine a situation like this: Sue and Ben, and no other children live in a house with a large garden. Each of the children has a favorite tree in the garden, but there are many other trees. In this situation the contextually relevant alternatives to Sue are clearly Sue and Ben, and nobody else. The proposition in (26) is intuitively false if Sam watered any tree in the garden except for Sue's tree. However, computing the alternative meaning of *SUE'S tree* in the manner of (25)(c) will give us just Sue's and Ben's tree. As in the case of the stateless professor, the other trees will not be included, and hence, not be taken into account by the meaning of *only*. But in this case it does not seem appropriate for the ALT-function to include a property like "childless".

(26) Sam only watered SUE'S tree.

The problem of the stateless professor and the "childless" trees stems from the implicit assumption that the alternatives given by a focussed modifier cover the entire background of the definite, i.e. the entire set of professors and trees. But that can only be guaranteed if the alternatives of a focussed expression comprise the entire domain of the respective type, e.g. $[\text{DUTCH}_F]_A = D_{<e,t>}$. The reason for using the ALT-function was to bring in contextual restrictions. But, obviously, this is the wrong place. To give the correct results, the set of alternatives related to the definite description in (24) has to comprise all professors present at the party, regardless of their nationality (or whether they are stateless or have dual nationality). The relevant restriction is, rather, a different one: The set of alternatives of *the DUTCH professor* in (24) should not include professors who stayed away from the party.

To see that this is the correct restriction, let us first consider the example in (27). Suppose, Sam is the one who has to take care of the guests visiting the institute, and show them around.

(27) (Yesterday Sam met with a Dutch group.)
Sam/he only introduced the PROFESSOR to John.

The definite *the PROFESSOR* in (27) obviously refers to the Dutch group. Due to the accent it introduces a novel discourse referent, but as professors are by no means unique in the world the definite has to make use of a bridging antecedent to achieve uniqueness. The Dutch group is a suitable antecedent inducing a membership relation. Thus *the PROFESSOR* in (27) is interpreted as the unique member of the Dutch group who is a professor. From (27) we can infer that Sam did not introduce any other member of the Dutch group to John. But we can not infer that Sam did not introduce somebody else to John. If, for example, Sam introduced some nice girls from a Finnish group to John, (27) would still be true. Hence, the relevant set of alternatives for *the PROFESSOR* in (27) is mediated by the same bridging antecedent which also mediates the uniqueness of the referent itself, i.e. the Dutch group. Moreover, the alternatives have to stand in the same relation to the bridging antecedent as the referent of the definite description does, i.e. membership.

The definite in (24), i.e. *the DUTCH professor* is no more unique than *the PROFESSOR* in (27). Similar to the latter it needs a bridging antecedent to satisfy the uniqueness condition imposed by the article. Suppose the context is like this:

(28) (The international faculty party last week was a great success. Many students and even some professors appeared.)
Sam only introduced the DUTCH professor to John.

Then *the DUTCH professor* has to be interpreted as relating to the professors which appeared at the party. Compared to the simple description in (27) in the complex description there is a deaccented part, i.e. *professors*. According to the deaccented part the bridging antecedent has to comprise professors, and there has to be a unique member of the professors-antecedent who is a Dutchman. Analogous to (27), the statement in (28) is true even if Sam introduced some professor to John who did not go to the party. So, as in the case of (27), the bridging antecedent gives us the relevant set of alternatives.

There are two implications: First, for bridged definites, in determining the relevant set of alternatives the focussed element doesn't play a role. Constraining the set of alternatives of the complex definite description by constraining the alternatives of the focussed element, i.e. using an ALT-function, may give too few elements, cf. the stateless professor and the "childless" trees. Instead, the set of alternatives is provided by the bridging antecedent, including only elements that stand in the same relation to the bridging antecedent as the definite's referent does. Second, being provided by the bridging antecedent the set of alternatives (minus the definite's referent) is an genuine anaphor.[10] It may in fact be picked up explicitly by *the others*, as in (29).[11] Thus the focus-semantic analysis of a definite description has to match with the semantics of *the others* (cf. Kamp 2000).

The definite, but not the indefinite others, is adequate to refer to the elements excluded by only. The referent of *the others* has to be bound to the alternatives-anaphor triggered by *the DUTCH professor*.

(29) (Sam only introduced the DUTCH professor to John.)
The others were dancing all the time.

5. Conclusions

Let us finally come back to the scale of noun phrases in the definiteness hierarchy. The analysis of definite descriptions given here is perfectly compatible with Farkas' distinction between definites making use of identification and definites making use of their descriptive content. It departs from Farkas' analysis only with respect to definite descriptions showing that the division line between inherently no-choice definites and description based no-choice definites lies within the area of definite descriptions: If the description is deaccented the definite has to be identified with a given discourse referent, but if there is an accented part it introduces a novel discourse referent. This analysis confirms the idea that there are two uses of definite descriptions (given/referential vs. non-given/attributive) without, however, stipulating an ambiguity

[10] This is in a line with the account in Rooth (1992) where at least one of the alternatives has to be bound (or accommodated).

[11] Note that the indefinite others would not be adequate:
Sam only introduced the DUTCH professor to John. # Others were dancing all the time.

of the definite article. Instead, the intended use is indicated on the surface of the linguistic expression by intonational features.

Taking the full scale of noun phrases into account the question arises how accenting affects the end points of the scale, i.e. pronouns and proper names, on the one hand, and indefinite noun phrases, on the other. Pronouns and proper names may be accented too. So we might assume that they also introduce a novel referent when accented. There are cases that seem to support this idea. In (30), for example, the pronouns obviously do introduce novel referents, and in fact they have to be accented.[12] So we could argue that in (30) the minimal descriptive content of the pronoun, i.e. being male or female, is exploited to establish a novel referent via bridging to the couple referent.

(30) (Last week I met a remarkable couple.)
HE looks after the children and SHE makes a lot of money.

However, the majority of accented pronouns does not support this view. Pronouns as well as proper names can clearly be accented without introducing a novel discourse referent. Actually, accented pronouns and proper names are prototypical counterexamples to the focus-novelty correspondence, cf. the examples in (31) and (32) from Schwarzschild (1999).

(31) (Who did John's mother vote for?)
She voted for JOHN.

(32) (Who did John's mother praise?)
She praised HIM.

Schwarzschild concludes from these examples that although lack of intonational prominence indicates givenness, the converse doesn't hold: It is not the case that prominence indicates novelty. In this paper we have seen that within certain limits, i.e. related to the descriptive part of definite descriptions, the converse does hold. But we deliberately excluded cases where the accent is on the definite article itself, or a demonstrative, as in (33):

(33) a. He would be THE man for the job.
b. (witness pointing to one of the defendants:)
I saw THIS man coming out of the bank.

In (33) accenting clearly does not trigger the introduction of a novel referent. It just indicates that there are alternatives, e.g. in (33)(b) there are other demonstration acts the witness could have made. Maybe accenting pronouns is ambiguous, either concerning their descriptive content, or concerning the referential capacity similar to (33)(b).

Considering indefinite noun phrases at the other end of the scale, Krifka (1999) argues for a special class of "non-novel indefinites" that presuppose their discourse referents and have to be deaccented. Evidence for this class stems e.g. from adverbial

[12] Such examples require animated referents. Analogous German examples with unanimated referents are not acceptable (in German, pronouns are marked for gender or sex). This is an examples from Bosch (1988):

**Wenn du die Mutter von dem Bolzen lösen willst, musst du ihn/IHN festhalten und sie/SIE nach rechts drehen.*

quantification as in (34)(a)/(b).[13]The domain of quantification is given by the deaccented indefinite, which forces us to assume that deaccented indefinites may pick up existing referents and "requantify" over them.

(34) a. A freshman usually wears a BASEBALL cap.
('most freshmen wear a baseball cap')
b. A FRESHMAN usually wears a baseball cap.
('most wearers of baseball caps are freshmen')

Krifka's non-novel indefinites suggests that deaccenting goes with specificity. However, the indefinite in (35)(a), though deaccented, is clearly non-specific introducing a novel referent.[14] Deaccenting in (35)(a) appears to be due to the presupposition induced by *only*, i.e. that Sue owns a motor cycle. But if the indefinite is substituted for by a non-given definite, the accent is still there although the definite is also part of the presupposition of *only*, cf. (35)(b).

(35) a. Only SUE owns a motor cycle.
b. (... Yesterday, the Dutch group visited the faculty)
But only SUE met the DEAN.

Apparently, the accent-novelty correspondence observed for definite descriptions doesn't carry over to pronouns and indefinites, thus confirming their position at either end of the definiteness scale.

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[13] (1)(a)/(b) in Krifka (1999). Note that "non-novel" indefinites are not "given" in the sense used here because they do not involve anaphoricity.

[14] Adapting an example from Eckardt (1996): *Sogar ARNIM besitzt einen Mercedes*, which shows that existential (as opposed to generic) indefinites need not be accented. Eckardt concludes that an accent due to a focus-sensitive particle overwrites a default sentence accent. In (35)(b), however, the accent on *dean* is not overwritten by the accent on *Sue*.

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