Topics & Situations - Comments on Hinterwimmer

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1   Introduction

I'd like to begin these comments by highlighting what I take to be the most important achievement of Hinterwimmer's paper. Recent work by Peter Bosch and colleagues (Bosch et al., 2003; Bosch and Umbach, 2006; Bosch et al., 2007), which Hinterwimmer discusses in some detail, has clarified our understanding of the contrast involved in discourse anaphoric uses of regular German pronouns like *er* and *sie* relative to the so-called D-series pronouns *der* and *die*. The crucial notion involved is that of topichood: D-series pronouns seem to be anti-topical, i.e., they cannot be anaphoric to an antecedent that is the discourse topic. Based on various careful empirical investigations, these authors show that while topichood often correlates with being the sentential subject, subject status of the antecedent is not *per se* incompatible with the use of a D-pronoun anaphoric to the relevant noun phrase. As had been noted before, namely by Wiltschko (1998), a contrast between the two pronoun series also exists in donkey senteneces. As Hinterwimmer furthermore shows convincingly (contra to earlier claims by Wiltschko), it is also present for configurations where a pronoun is syntactically bound.

One of the central aims of Hinterwimmer's paper then is to extend the insights from Bosch and his colleagues on the nature of the contrast in the case of discourse anaphora to the different covarying occurrences of the two types of pronouns. This is a formadible challenge, as it is by no means clear how we can extend a discourse notion of topic to these quantificational environments. Hinterwimmer's proposal constitutes major progress in this direction. My commentary will consist of two main parts: first, I want to consider a possible variation of the account that aims for unification in the formulation of the anti-topicality constraint. In some initial attempts to tease the two variants apart, I discuss, among other things, the need to consider the role of contrast for the availability of D-pronouns. In the last part of the paper, I consider possible directions for extensions of the proposal that have the promise of addressing some thorny issues in the literature on donkey sentences.

2   What's in a topic?

2.1   Hinterwimmer's Account

Hinterwimmer adopts a D-type perspective on pronouns (Postal, 1969; Elbourne, 2005), according to which they are definite descriptions that come with a 'silent NP introducing

a free variable ranging over predicates that needs to be resolved to a salient predicate' (Hinterwimmer; cf. Elbourne 2008). Adapting the proposals by Bosch and colleagues (Bosch et al., 2003; Bosch and Umbach, 2006; Bosch et al., 2007), Hinterwimmer takes the central distinguishing aspect of D-series pronouns to be the fact that they 'may not be identical to the current aboutness topic', and encodes this as a disjunctive presupposition that deals with both referential and covarying interpretations:

(1) $[\![der_{s_n} NP_m]\!]^g = \iota x : \mathrm{male}(x)(g(s_n)) \wedge g(P_m)(x)(g(s_n)) \wedge \neg R^*(x, TOP)$, where

    a. $R^* = \lambda y.\lambda z.\ y = z$ iff TOP is of type e, and

    b. $R^* = \lambda y.\lambda P_{\langle e,t \rangle}.\ y \in P$ iff TOP is of type $\langle et \rangle$.

The notion of 'aboutness topic' is taken from Reinhart (1981), who in turn builds on Strawson (1964). The intended understanding of the condition stated above is that the antecedent expression of the pronoun is prohibited from being the aboutness topic of its sentence.

To illustrate the account for referential D-pronouns, let us look at Hinterwimmer's variant of an example from Bosch et al. (2003):

(2) *[Den   Patienten]$_i$ untersucht [der   Chefarzt]$_k$. Der$_k$ ist nämlich Herzspezialist.*
    The$_{Acc}$ patient   examines   the$_{Nom}$ head doctor DER$_k$ is PART   heart specialist
    'The head doctor will examine the patient. He is a heart specialist.'

Hinterwimmer's point here is that in order for the D-pronoun to be able to pick out the subject (the doctor), we have to ensure that the object (the patient) is understood to be the topic, and making it sentence initial is one way of promoting that.

As an illustration of the analysis of covarying uses of a D-pronouns, take Hinterwimmer's analysis of the following donkey sentence:

(3) *Wenn ein Bauer einen Esel   besitzt, dann tritt der ihn.*
    If   a   famer a   donkey owns   then kicks DER him
    'If a farmer owns a donkey, it kicks him.'

Despite the fact that both noun phrases have the same gender, and thus are compatible with either pronoun in this respect, DER can only be understood to pick out the respective donkeys. Hinterwimmer follows situation semantic accounts of donkey anaphora (Berman, 1987; Heim, 1990; Elbourne, 2005). He adds a twist, of sorts, however, by claiming that in addition to the conditional operator, they contain a covert generic operator. Using this setup, he then derives the following truth conditions for the donkey sentence in (3), where the universal quantification over situations in the first line is introduced by the generic operator. The restrictor of this quantifier crucially can be supplied by an indefinite in the antecedent-clause (Hinterwimmer considers two options for this, one syntactic, one pragmatic).

(4) $\lambda s.\forall s_1 \left[\left[s_1 \leq s \wedge EX\left(\lambda s'.\ \exists x \big[\mathrm{fa}(x)(s')\big]\right)(s_1) \right] \rightarrow \right.$

$$\left[\left[\exists s_2 \left[s_1 \leq s_2 \leq s \wedge \right.\right.\right.$$
$$\forall s_E'[[s_2 \leq_m s_E' \wedge \exists x \exists y\ [\mathrm{fa}(x)(s_E') \wedge \mathrm{do}(y)(s_E') \wedge \mathrm{owns}(y)(x)(s_E')]] \rightarrow$$
$$\left.\left.\left.\left[\exists s_E''[s_E' \leq s_E'' \wedge \mathrm{kick}\big(\iota y[\mathrm{do}(y)(s_E'')]\big)\big(\iota x[\mathrm{fa}(x)(s_E'')]\big)(s_E'')]]\right]\right]\right]\right]$$

For these cases, the other clause of the restriction on antecedents of D-series pronouns in (1b) applies, which says that any value of the pronoun in the covarying configuration cannot be a member of the topic set provided - in the relevant cases discussed - by the restrictor of the topical indefinite (here, *a farmer*). This prevents DER from being able to pick out any farmer. Note that some leeway is necessary in shifting back and fourth between sets of individuals and sets of situations (as Hinterwimmer makes clear as well). The generic operator requires a set of situations as its restrictor. When an indefinite inside of the conditional provides this set, we have to shift from the set of individuals introduced by the noun to a set of situations containing these individuals. While I don't see this as particularly problematic, we see that in order to apply the second disjunct of the condition on the antecedent of the D-pronoun, we have to shift this back to a set of individuals. Depending on how involved such shifting is assumed to be, this could be considered somewhat unparsimonious.

In cases where the individual argument (as opposed to the situation argument) of the D-pronoun is directly bound by a quantifier, i.e., in configurations of syntactic binding, the analysis is basically the same, given the assumption that when a quantifier is the highest DP in the LF-structure, its restrictor serves as the topic of the sentence. In this case, the second disjunct of (1) applies straightforwardly, since the topic is a set of individuals.

2.2 Which topic?

One issue that needs some clarification, in my view, is the question of what exactly is meant by TOP. As indicated above, the intended sense seems to be that the *antecedent* of the D-pronoun is not the aboutness topic of the sentence it appears in. But note that DEM_k itself can very well be the topic of its sentence. As evidence for this, consider some of the tests for topichood that have been proposed in the literature, applied to alternative continuations of the first sentence in (2):

(5)   *say about X*-test Reinhart (1981)

     ...Von dem   hat Peter gesagt, dass er sehr berühmt ist.
     of   DEM has Peter said   that he very famous   is

     'About the head doctor/him, Peter said that he is very famous.'

(6)   *As for X*-test (Gundel)

     ...Was den   betrifft,   so mache ich mir keinerlei Sorgen.
     as   DEN concerns, so make   I   me   no   worries

     'As for him / as far as he's concerned, I have no worries at all.'

(7)   *Speaking of X*-test (Gundel)

     B: Wo   du den   erwähnst, der   hat einen weltberühmten Ruf,   oder?
     Where you DEN mention   DER has a   world-famous   reputation, or?

     'Speaking of him / as you mention him, he has a world-famous reputation, doesn't he?'

So the restriction in (1a) better not apply to the topic of the sentence that the D-pronoun appears in. Intuitively, it's of course perfectly clear to understand that what's relevant is the status of its antecedent. But note that on a D-type account, where there's no formal

connection whatsoever between the pronoun and its 'antecedent' (except for resolving the silent NP in one way or another to a salient predicate), we can't formally identify the sentence whose topic is at issue in terms of the status of some NP as antecedent. Perhaps we could say that it has to be the topic of the preceding sentence, and keep track of topics in a discourse in some organized fashion, using a stack or some similar device. I'm not actually sure that's it's impossible to pick up an antecedent from an earlier sentence with a D-pronoun. But what's worse, for the covarying cases, we certainly don't want to go back to a preceding sentence. There, the topical set of individuals constitutes the topic of the sentence that DER appears in. Thus the tentative solution of requiring TOP to be the topic of the preceding sentence doesn't work here. Descriptively speaking, we'd want to stick to the generalization that the antecedent of a D-pronoun cannot be the topic of its sentence. But it's unclear how we can formulate such a generalization if there is no formally defined notion of an antecedent in the first place.[1]

2.3   Unifying the Account?

While Hinterwimmer's account - modulo the complications mentioned in the last section - makes the right predictions for the cases he considers, including the two types of covarying ones, one might find the formulation of the constraint on the antecedents of D-pronouns somewhat lacking in that it deals with the coreferential and covarying interpretations separately by means of stating a disjunctive condition. Is there any way, we might wonder, then, that both of these could be captured by one general condition? The approach I would suggest considering is to see if we can formulate a unified notion of topics in terms of situations. Since we are already operating within a situation semantic framework, there is hardly any cost in pursuing such an approach. In fact, Hinterwimmer's analysis of donkey sentences already works precisely along these lines. In this section, I pursue the beginnings of one possible implementation of this idea.

The idea of connecting some notion of topichood to situations goes back to Barwise and Etchemendy, who offer the following type of context to illustrate their notion of an Austinian topic situation.

(8)   Claire has the three of clubs.

> We might imagine, for example, that there are two card games going on, one across town from the other: Max is playing cards with Emily and Sophie, and Claire is playing cards with Dana. Suppose someone watching the former game mistakes Emily for Claire, and claims that Claire has the three of clubs. She would be wrong on the Austinian account, even if Claire had the three of clubs across town.
>
> <div align="right">(Barwise and Etchemendy, 1987, p. 122)</div>

The main point here is that in uttering sentences, speakers generally intend these utterances to be evaluated relative to some specific situation in the world. That's why the claim that Claire has the three of clubs in the above scenario strikes us as false. Building on Kratzer (2007), I assume in Schwarz (2009) that topic situations can be derived from the question under discussion (also following a suggestion by Kratzer; see Roberts, 1996, for the relevant notion of question under discussion). In particular, the suggestion is that the topic

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[1]Note that this problem doesn't arise in the same way for cases of syntactic binding, on Hinterwimmer's analysis, since it involves a formally realized link between the binding quantifier and the D-pronoun.

situation is the situation exemplifying the question extension (seen as a proposition, in an adaptation of 's (1984) analysis of questions to a situation semantics, again following Kratzer). While a proper motivation of these assumptions would require extensive argumentation, I will leave the idea at an intuitive level for present purposes.

How could we make use of this notion of a topic situation in accounting for the distribution of D-pronouns? For determining the status of a referential D-pronoun, a first attempt would presumably be to consider whether its value is an element of the topic situation. Let us consider this in context of one of the examples from above, situated in the context of a plausible explicit question:

(9) A: Who will do the surgery on the patient?

B: *Den   Patienten operiert der CHEFARZT. **Der** ist nämlich Herzspezialist*
The$_{Acc}$ patient   operates the head doctor.   DEM is PART   heart specialist

'The head doctor will operate on the patient. DEM is a heart specialist.'

Requiring the referent of DER to not be in the topic situation, i.e., the actual situation exemplifying the question extension, won't be quite right, because if it's actually true that the head doctor will do the surgery, then he will be part of the actual situation exemplifying the question extension. However, the point of the question is that we don't know what properties this actual situation has, so perhaps the requirement should be that the referent of DER cannot be a part of all the viable counterparts of the topic situation. This will certainly not hold for the head doctor, but it will for the patient, thus we get the desired contrast in the abilitiy of the noun phrases in question to serve as antecedent for DER: DER cannot pick out the patient, because the patient will be a part of any situation that exemplifies any possible answer to the question. The head doctor, on the other hand, is not an element of all such situations, and thus DER can refer to him without a problem. So it seems like we can capture the relevant constraint in situational terms along these lines for the referential case. Note that the question of which topic in which sentence matters, discussed above, doesn't arise in quite the same way here: What matters is not really where the antecedent occurs, but rather, what the current question under discussion is (more on this shortly).

For the covarying interpretations, we can basically adopt Hinterwimmer's proposal directly by saying that any value of DER being considered cannot be part of the respectives situations in the restrictor set of the generic quantifier. Consider the truth conditions for a donkey sentence from above once more.

$$(4) \quad \lambda s. \forall s_1 \left[\left[s_1 \le s \wedge EX\left(\lambda s'.\ \exists x \big[\mathrm{fa}(x)(s')\big]\right)(s_1) \right] \rightarrow \right.$$

$$\left[\left[\exists s_2 \left[s_1 \le s_2 \le s \wedge \right.\right.\right.$$
$$\forall s_E'[[s_2 \le {}_m s_E' \ \wedge\ \exists x \exists y\ [\mathrm{fa}(x)(s_E') \ \wedge\ \mathrm{do}(y)(s_E') \ \wedge\ \mathrm{owns}(y)(x)(s_E')]] \rightarrow$$
$$\left.\left.\left.\left.[\exists s_E''[s_E' \le s_E'' \ \wedge\ \mathrm{kick}\big(\iota y[\mathrm{do}(y)(s_E'')]\big)\big(\iota x[\mathrm{fa}(x)(s_E'')]\big)(s_E'')]]\right]\right]\right]\right]$$

The restriction for the quantificational case then would be that for any value under consideration for s_1 - which will be minimal situations containing a farmer -, DER cannot pick out the farmer (or any individual, for that matter) in s_1. But since no donkey is part

of any of the values of s_1 in (4), DER can pick out the respective donkeys in the relevant (counterpart-) extensions of s_1. For the case of syntactic binding, the same story can apply, if we assume that quantificational determiners quantify over both individuals and situations (as is fairly standard, and basically necessary for situation semantic analyses of donkey sentences with DPs and relative clauses).[2]

The way we deal with referential and covarying interpretations on this variant is more unified, in that in both cases the condition concerns whether the values of DER are part of the relevant situations. No shifting back and fourth between sets of individuals and sets of situations (beyond the initial shift for forming the restrictor of the generic quantifier) is necessary, and no separate statement of conditions on the felicitous use of DER for topical individuals and sets is needed.

2.4   Teasing the Variants Apart

Assuming an approach along the lines sketched in the last section works, we should consider whether the two variants - Hinterwimmer's disjunctive formulation of the constraint and the attempted unification based on topic situations - can be teased apart empirically. For this, it is useful to consider in some more detail the various discussions of topichood considered in the literature, and in particular some examples that bring out differences between them.

Various linguistic tests have been proposed to identify topics of the relevant sort, and while there is no universal agreement on how best to identify them, much progress has been made in trying to tease apart subtly different notions relating to topicality. Roberts (to appear), for example, cites examples from Vallduvi (1993) that help to distinguish aboutness topics in the sense mentioned above from the notion of themes in the sense of Halliday (1985):

(10)   What about Mary? What did she give to Harry?
       Mary gave [a shirt]$_{Rheme}$ to Harry. (Roberts, to appear), based on (Vallduvi, 1993)

While 'Mary' is the topic of the answer, the theme consists of everything but the rheme 'a shirt' here. What's interesting for our purposes, now, is that - in Roberts' words - 'The first , *what about X?* question implies a contrast betweeen [. . .] X and the other members of some implicit set [. . .] The second question is, then, about that individual [. . .] The answer [. . .] continues to be about the same individual' (Roberts, to appear). 'Mary' thus can be seen as a contrastive topic. This provides an interesting test case, then, for the relation that D-pronouns have to aboutness topicality. Consider the following German variant of Vallduvi's, with a slightly richer context.

(11)   a.   *Die meisten Leute haben Harry Geschenke mitgebracht. Anne hat ihm zum*
            The most   people have   Harry presents   brought   Anne has him for
            Beispiel ein Bild   geschenkt.
            example a   picture given
            'Most people brought Harry presents. For example, Anne gave him a picture.'

       b.   *Und was   ist mit Maria? Was hat SIE$_F$ Harry gegeben?*
            And what is   with Maria   What has she   Harry given
            'And what about Maria? What did SHE give to Harry?'

[2]In principle, it would also be possible to account for these cases in the same way as the donkey sentences altogether, i.e., as not involving any syntactic binding of individual variables at all, assuming that quantificational determiners also quantify over situations. See Kratzer (2009) for more discussion along these lines.

i. *#Dem hat sie ein Hemd gegeben.*
       DEM$_{Dat}$ has she a shirt given

   ii. ✓*Die hat ihm ein Hemd gegeben.*
       DIE$_{Nom}$ has him a shirt given

  iii. ✓*Sie hat ihm ein Hemd gegeben.*
       she$_{Nom}$ has him a shirt given

       'She gave him a shirt.'

The D-series pronoun in (b) seems perfectly fine in this context. But if we follow Roberts in saying that both the second question and the answer are about Mary, then this would seem to constitute a counter-example to the claim that the antecedent of a D-series pronoun cannot be the aboutness topic of its sentence.

Note that the contrastive accent on 'SIE' in the second question is crucial, though. If we change the context slightly, so as to allow for an accent on 'Harry', the pattern of acceptability for D-series pronouns flips (assume a context where it's known that the Muellers consist of Sabine and Harry):

(12) a. *Den meisten Gäste haben den Muellers Geschenke mitgebracht. Peter hat*
         The most guests have the Muellers presents brought Peter has
         Sabine zum Beispiel ein Bild geschenkt.
         Sabine for example a picture given

         'Most guests brought presents for the Muellers. For example, Peter gave Sabine a picture.'

      b. *Und was ist mit Maria? Was hat sie HARRY$_F$ gegeben?*
         And what is with Maria What has she Harry given

         'And what about Maria? What did she give to HARRY?'

         i. ✓*Dem hat sie ein Hemd gegeben.*
            DEM$_{Dat}$ has she a shirt given

        ii. *#Die hat ihm ein Hemd gegeben.*
            DIE$_{Nom}$ has him a shirt given

       iii. ✓*Sie hat ihm ein Hemd gegeben.*
            she has him a shirt given

            'She gave him a shirt.'

Again, the second question and the answer arguably are about Maria, just like before, but now the contrast in the second question is on the recipient. An alternative hypothesis that suggests itself then is that what matters for the availability of D-series pronouns is that there is some consideration of alternatives introduced by their antecedent. With a typical aboutness topic, that is not the case, but once we include contrastive topics in our considerations, it becomes possible for the two notions to come apart.[3] In the examples at hand, aboutness is induced by prefacing the discourse with the question 'What about Mary?', a common way of ensuring topichood. Can we detect a similar effect of contrast with other topichood-inducing contexts? Here's another attempt, using the 'say about X' test from Reinhart (1981) (assume a context where it's clear that Maria is one of our children):

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[3]Note that the role of contrast has also been discussed in recent work on Dutch weak and strong pronouns (Kaiser, 2010b), as well as Estonian long pronouns (Kaiser, 2010a).

(13) a. *Was hat der Lehrer über   unsere Kinder gesagt?*
          What has the teacher about our   children said

          'What did the teacher say about our children?'

      b. *Von MARIA$_{CT}$ hat er behauptet dass die / sie sich   nicht oft   genug*
          of   Maria   has he claimed   that DIE / she REFL not   often enough

          meldet.
          put-her-hand-up

          'About MARIA he said that she doesn't put her hand up often enough.'

(14) a. *Was hat der Lehrer über   Maria gesagt?*
          What has the teacher about Maria said

          'What did the teacher say about Maria?'

      b. *Er hat   von Maria/ihr behauptet, dass #die / sie sich   nicht oft   genug*
          of Maria has he   claimed   that DIE / she REFL not   often enough

          meldet.
          put-her-hand-up

          'About Maria he said that she doesn't put her hand up often enough.'

Again, it seems fine to have the antecedent of a D-series pronoun be an aboutness topic, as long as some notion of contrast is involved. This is, of course, very suprising on an account solely based on the issue of whether or not the antecedent is the aboutness topic of its sentence (at least if we follow Roberts in seeing Maria as the topic of the answer).

From the perspective we're currently exploring, however, there may be a way of explaining this case. The fact that SIE in this context is a contrastive topic indicates that the question is part of a strategy (Büring, 2003), which essentially breaks down a larger question into a number of sub-questions. One way of interpreting the observations about the contrastive topic examples with DER, then, is to say that DER is sensitive to its referent being part of all the situations exemplifying answers to the *main* question under discussion, i.e., local sub-questions do not matter. In the case of contrastive topics, the immediate question at hand is a sub-question. The context in (11) relates to an implicit larger QUD along the lines of 'What did WHO give to Harry?', with subquestions such as 'What did Anne give to Harry?' and 'What did Maria give Harry?' Since Maria will not be a part of all the situations exemplifying answers to the main question (e.g., she will not be part of the situation exemplifying 'Anne gave him a picture'), it is fine to use DIE to refer to her.

Depending on our perspective on cases of syntactic binding, the situation based approach may also provide a way of avoiding the problem that Hinterwimmer's account faces in light of examples such as the following (pointed out by Irene Heim):

(15) *[Jeder Student]$_i$ glaubt   von [jedem anderen Studenten]$_j$, dass der$_j$ schlauer*
      Every student   believes of   every (other)   student   that DER$_{Nom}$ smarter
      ist als   er$_i$.
      is   than he

      '[Every student]$_i$ believes of [every other student]$_t$hat he$_j$ is smarter than him$_i$.'

The problem Hinterwimmer's account faces is that the value of DER is a member of the topical restrictor set of the highest quantifier, even though it's not bound by it, thus violating the condition in (1b).[4] On the situation based account, however, we don't state

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[4]Hinterwimmer proposes an alternative solution in terms of conceptual covers (Aloni, 2001).

the restriction on values of DER in terms of set membership, but rather in terms of whether or not the value is part of the situation presently considered as a value for the variable introduced by the highest quantifier over situations. Assuming that quantificational determiners are standardly assumed to introduce quantification over situations, as well as individuals, the analysis of donkey sentences above applies straightforwardly: for any given value for the situation s quantified over by the highest quantifier, the values considered for DER cannot be a part of that situation. But for each student that is being considered as the value of the subject quantifier, all of the values considered for DER will be other students, thus the restriction is never violated.[5]

3   Related Issues and Extensions

In this section, I'd like to explore some potential connections of Hinterwimmer's account to other problems, in particular ones from the literature on donkey anaphora. I will focus mostly on conditional cases, except for some brief remarks on donkey sentences with quantificational determiners and relative clauses at the end of the section. The discussion remains inconclusive as to the ultimate merits of these extended applications of the proposal, but hopefully it becomes clear enough that the gist of the proposal might be quite valuable on independent grounds.

The first connection I'd like to point out concerns the infamous proportion problem in donkey sentences. An illustration for a conditional is the following (for earlier discussions, see Partee, 1984; Bäuerle and Egli, 1985; Berman, 1987; Kadmon, 1987, among others):

(16)   If a farmer owns a donkey, he is usually happy.   (example from von Fintel, 1994)

The problem is that on a situation semantic account (as well as on the original dynamic accounts), we are quantifying over farmer-donkey pairs, rather than just farmers. This yields intuitively incorrect truth-conditions, as witnessed by a scenario where 9 farmers that own exactly one donkey are unhappy, but the one wealthy farmer with 100 donkeys is happy.

How can Hinterwimmer's account help? My line of thought here is highly reminiscent of - and inspired by - discussions in von Fintel (1994, e.g., p. 170).[6] The idea of factoring out the 'topic' of the *if*-clause by using it to restrict the situations quantified over by the generic operator provides us with a way of quantifying over farmers, rather than pairs of farmers and donkeys. Consider the truth conditions that Hinterwimmer's account would deliver for (17):

(17) $\lambda s.\text{USUALLY} s_1 \left[\left[s_1 \leq s \wedge EX\left(\lambda s'.\ \exists x\big[\text{fa}(x)(s')\big]\right)(s_1) \right] \rightarrow \right.$

$$\left[\left[\exists s_2 \Big[s_1 \leq s_2 \leq s \wedge \right.\right.$$
$$\forall s_E'[[s_2 \leq {}_m s_E' \ \wedge \ \exists x \exists y \ [\text{fa}(x)(s_E') \ \wedge \ \text{do}(y)(s_E') \ \wedge \ \text{owns}(y)(x)(s_E')]] \rightarrow$$
$$\left.\left.\left.[\exists s_E''[s_E' \leq s_E'' \ \wedge \ \text{happy}\big(\iota x[\text{fa}(x)(s_E'')]\big)(s_E'')]]]\Big]\right]\right]$$

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[5]The account sketched here would seem to predict, however, that DER should become unavailable if the restriction to 'other students' is dropped. I'm not in a position to evaluate this prediction at this point.

[6]See also Chierchia (1995, pp. 66-69) and references therein for the relation between topichood and symmetry.

The highest quantifier, USUALLY, quantifies over minimal farmer situations. We thus avoid the proportion problem, as farmers with multiple donkeys would only get counted once. There is another interesting feature of these truth condtions: by virtue of the introduction of quantification over counterpart-extensions in the conditional (which Hinterwimmer adopts from Arregui (2009)), we are not only quantifying over farmers that actually own a donkey, but over all actual farmers. The claim made of them then is, roughly, that for any of them it holds that if they should happen to own a donkey (whether or not they actually do), chances are that they are (or would be) happy. While I'm not in a position to fully evaluate the adequacy of this, it strikes me as intuitively appealing.

Another important issue in the literature on donkey sentences concerns the fact that they can have both weak and strong readings, as illustrated by the following two examples:

(18)   a. *Strong reading*:
        If a farmer owns a donkey, he usually deducts it from his taxes.   (Heim, 1990)
     b. *Weak reading:*
        Usually, if a man has a nice hat, he wears it to church   (Chierchia, 1995)

According to the common characterization in the literature, weak and strong readings differ in whether the indefinites in question receive an existential or universal interpretation. We likely understand (18a) to convey that every single donkey owned by the respective farmer will be used to get a tax deduction. In (18b), on the other hand, only one hat is expected to be worn to church.

One of the issues that situation semantic accounts of donkey anaphora face is that the variants existent in the literature only seem capable of accounting for strong readings. But with the more elaborate quantificational structure that Hinterwimmer's account introduces, we might be able to capture at least some aspects of weak readings. As it turns out, the issue becomes directly inter-linked to the proportion problem.

Consider once more the truth conditions for donkey sentences on Hinterwimmer's account. What is claimed in (4) is that for every minimal farmer situation, there is an extension such that for all its counterpart-extensions that contain a farmer and a donkey, the unique donkey in that counterpart-extension kicks the unique farmer in that counterpart-extension. The crucial bit here is that the highest universal quantifier over situations only quantifies over minimal farmer situations, for which it is then claimed that there exists an extension in which the embedded universal conditional holds. (Note the parallel to the proportion problem discussion above.) But this means that the truth conditions predicted on this rendering will correspond to a weak reading, since a single donkey-extension of the relevant farmer situations (s_2) suffices to make the sentence true.

Deriving a weak reading in a situation semantic framework would be a remarkable feat indeed, since - as far as I'm aware - this has not yet been achieved by anyone. The question arises, of course, whether Hinterwimmer's account can also derive strong readings. It can, but only if we allow for the possibility of the generic operator quantifying over minimal situations that contain a farmer and a donkey. At least in the case where the restriction of the generic operator is derived pragmatically (as opposed to movement, the other option considered by Hinterwimmer), this should be no problem at all. It would presumably simply require that farmers and donkeys are the topic of our conversation, so that both indefinites would be topics. In that case, we obviously derive the strong reading, since then we are universally quantifying over farmer-donkey pairs (by means of quantifying over minimal situations containing a farmer and a donkey). This, of course, will also be what we need in order to derive symmetric readings.

The connection that has been emerging in this discussion between the proportion problem for asymmetric readings and the distinction between weak and strong reading is a very close one. Symmetry and strength are flipsides of one and the same coin: symmetric interpretations correspond to strong readings, and asymmetric ones to weak readings.[7] The former correspond to cases where both indefinites are part of the situations that the generic operator quantifies over, the latter are cases where only one of them is. While I can't undertake a thorough investigation of the empirical adequacy of this connection between the two phenomena in the present paper, there's one thing one should keep in mind with respect to the distinction between weak and strong reading: they stand in an entailment relationship, which means that weak readings are perfectly compatible with scenarios corresponding to strong readings. Thus, the apparent existence of asymmetric strong examples does not necessarily provide a counterexample to the connection inherent in the account presently under consideration.

So far, we have only considered how the technical aspect of Hinterwimmer's analysis might be applied to some important issues in the analysis of donkey sentences. But the connection between the original motivation of that account based on the properties of D-pronouns and these possible extensions also should lead us to evaluate the predictions of this account in terms of the availability of D-pronouns and the relevant readings. Once again, I can only hint at the direction which such an enterprise should take.

Recall that D-pronouns are predicted to be available only if their antecedent is not the topic, which in the case of donkey sentences meant that the relevant indefinite does not contribute to the situations that restrict the generic operator. This configuration of course also is linked to weak, asymmetric readings. It might seem, then, that the availability of D-pronouns is linked to such readings. However, bearing in mind the caveat just mentioned, the fact that weak readings are compatible with strong scenarios undermines the first part of this as an empirical test. Nonetheless, the connection to asymmetric readings should hold. The prediction for strong, symmetric readings, on the other hand, should be testable for both properties: D-pronouns should be incompatible with either one of them. This is because they require both indefinites to be part of the situations that the generic operator quantifies over. But since this corresponds to being topical, D-pronouns should not be available for picking up either indefinite.

Unfortunately, an initial exploration of these predictions does not necessarily yield a particularly clear picture. In order to test the prediction about symmetric readings, consider the following:

(19) *Wenn ein Bauer einen Esel   hat, dann setzt   er den   von der Steuer*
       If   a   farmer a   donkey has then deducts he DEN$_{Acc}$ from the taxes
       ab.
       PARTICLE
       'If a farmer owns a donkey, he deducts it from his taxes.

With respect to strong readings, here's a German variant of an example of a sentence that seems to be - at least pragmatically - unambiguously strong (Heim (p.c.), according to Chierchia, 1995, p. 64):[8]

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[7]This at least holds for cases involving universal quantification. For quantificational determiners like *no* the correspondence flips. The parallel between symmetric readings and strong (for *every*) and weak (for *no*) readings was already noted by Kanazawa (1994). What's added in the present picture is that the reverse correspondences hold for asymmetric readings, too.

[8]The example Chierchia provides uses a quantificational determiner with a relative clause:

(21) *Wenn einem Plantagenbesitzer ein Sklave gehörte, dann gehörten ihm auch die*
    If   a   plantaton owner   a   slave   owned   then   owned   him also   the
    Kinder von dem.
    children of   him

    'If a plantation owner owned a slave, he also owned his offspring.'

These sentences attempt to make salient a symmetric or strong reading respectively. Counter to the prediction of the present proposal, I don't think the D-pronouns are particularly bad in these examples. But whether or not this comes with a shift in the reading is of course a subtle judgment, so I would by no means see the matter as settled. It is furthermore worth noting that with the D-pronoun there comes a distinct sense of uniqueness with respect to the donkey / slave here, though I can't quite say what exactly it consists of, nor where it comes from. But there does seem to be a contrast with the regular pronouns (beyond the link to topicality explored above) that warrants further investigation.

Up to this point, we have only considered conditional donkey sentences. But, of course, just as importantly, there are donkey sentences with a quantificational determiner and a relative clause:

(22) Every farmer that owns a donkey feeds it.

How do these fit into the present picture? The most important aspect to consider is that they would seem to differ from conditional cases in that they introduce quantification over individuals in the domain provided by the head noun of the quantifier. In other words, the flexibility exhibited by condidtionals in terms of what types of situations wer are quantifying over does not seem to be present with quantificational determiners (more on this shortly). Relatedly, Hinterwimmer's account of quantificational cases, which state the topicality constraint in terms of membership in the set that constitutes the domain of quantification, would seem to predict that indefinites introduced in the relative clause generally can be picked up by a D-pronoun, at least as long as the set denoted by its noun phrase is not a subset of the quantificational domain.

The alternative account in terms of individuals being part of topic situations that I sketched above, on the other hand, may make slightly different predictions. We would, in principle, at least consider it possible that the situations being quantified over are situations that contain both a farmer and a donkey (in the standard example). But on such a construal, the D-pronoun would be predicted not to be available. Note, however, that this is not the only possible option for the situation based account. As suggested by von Fintel (1994, pp. 167-168), for example, we could allow for the possibility of evaluating the relative clause relative to a broader, contextually supplied resource situation. This would indeed be necessary, in any case, in order to capture the fact that donkey sentences with quantificational determiners and relative clauses standardly receive an asymmetric interpretation, i.e., one where we are quantifying over farmers, and not over farmer-donkey pairs. Once some option along these lines is available, then the topic situation account will also allow for cases where a D-pronoun can pick up an indefinite introduced in the relative clause.

Where the two accounts come apart, then, is in whether or not they make specific predictions about cases where D-pronouns would not be available. Hinterwimmer's account doesn't restrict their distribution for these cases.[9] The topic situation account, on the

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(20) Every man who owned a slave owned his offspring

[9]This might change if we again factor in a separate generic quantifier.

other hand, would lead us to expect that D-pronouns are unavailable in cases of symmetric interpretations. While these are not standardly considered in the literature, there certainly are plausible candidates, e.g., the one in the following example from Barbara Partee:

(23)   Almost every woman who sees a dog talks to it.   (Partee, 1991)

There is a fairly strong sense that this is understood to quantify over woman-dog pairs, i.e., a single woman that sees many dogs but doesn't talk to them would weigh a situation towards making this sentence false. What are the German facts, then? Let's try out a variant of (23):

(24)   *Fast   jede Frau, die einen Hund sieht, spricht mit ihm / ?dem.*
       Almost every woman that a   dog   sees   talks   with him / DEM

I don't find the the D-pronoun completely felicitous, here, but the judgment is admittedly subtle. Another way of trying to ensure that even in such a case, the indefinite can be part of the topic situations quantified over, is to make the set as a whole a topic of conversation. Here's an attempt:

(25)   A: Can you tell me anything about movies by John Johnson? Have you seen any of them?

       B: *Nein, aber jeder KRITIKER, der einen Film von ihm gesehen hat, hat ihn /*
           No   but every critic   that a   movie by him seen   has has it /
           ??den verrissen.
           DEN   pulled to pieces

           'No, but every critic that has seen a movie by him has pulled it to pieces.

Again, the D-pronoun does not seem quite appropriate to me, and the judgment seems slightly stronger than in the previous example. This being said, my impression is that D-pronouns are somewhat more easily available in relative clause donkey sentences than in conditional ones, though I don't currently have any further insight into why that might be. While it might be possible to reconcile these data points with Hinterwimmer's account, they certainly are consistent and expected on the situation based alternative account.

One last point I'd like to mention is that once more, there seems to be an added effect of uniqueness with D-pronouns in relative clause donkey sentences. Consider a German variant of the standard example of a donkey sentence with a weak reading (Schubert and Pelletier, 1989):

(26)   *Jeder Mann, der einen Groschen in der Tasche hatte, warf ihn / den in die*
       every man   that a   dime   in the pocket had   threw it / DEN in the
       Sammelbuechse.
       collecting box

       'Every man that had a dime in his pocket threw it in the collecting box.'

While the version with the regular pronoun seems to have exactly the same interpretation as the English version, which does not require anyone to put all of their dimes in the collecting box, but allows for people that have multiple dimes in their pocket, I would not be sure what to make of the version with DEN in a situation where there are people with multiple dimes in their pocket. Consider another, perhaps more concrete, example, to illustrate this:

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(27) *Jeder Vater, der einen Sohn in der Abschlussklasse hatte, ging mit ihm / dem*
every father that a   son   in the graduating class had   went with him / DEM
nach vorne zum   Dekan, um sein Zeugnis entgegenzunehmen.
to   front to-the dean   to his diploma receive

'Every father that had a son in the graduating class accompanied him to the front
to receive his diploma.'

Imagine a father that has twins, both of which are graduating. In such a scenario, the
version with *ihm* seems perfectly fine (receiving, in this case, a strong reading, in contrast
to the previous example), but the version with *dem* seems odd to me. None of the accounts
considered here seem to provide any insight into why this would be, as far as I can tell, and
unfortunately, I have nothing to add here at the moment, either.

4   Conclusion

The intriguing contrast between regular and D-pronouns in German becomes even more
interesting when considering the fact that it also is present in configurations where the
pronoun receives a covarying interpretation. To the extent that we base our analysis of the
contrast in terms of topicality, this calls for a generalized notion of topicality that applies
both to referential and covarying cases. Hinterwimmer's paper constitutes major progress
in this direction. In the present remarks, I have tried to highlight some of the issues that his
account faces, and also explored the possibility of an alternative, and arguably more unified,
account based on the notion of topic situations. Some of the differences in predictions were
considered, and lent at least partial support to the situational variant. In particular, the
apparent additional relevance of contrastiveness for the availability of D-pronouns, as well as
the problematic example noted by Heim (**??**), provided some evidence in its favor. Finally,
I tried to point out some connections to general issues in the literature on donkey sentences.
While the extension of the technical apparatus to these issues seemed fairly straightforward
and promising, the corollary predictions for the availability of D-pronouns in connection
with the various types of interpretations remained inconclusive or were not quite borne out.
But then again, these empirical explorations remained very preliminary. Hopefully, future
work will soon lead to more clarity with respect to the relation of these phenomena to one
another.

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