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Accommodating Topics

research report

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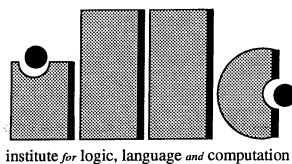
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Abstract

This paper concerns the relevance of notions of sentence topic and discourse topic to the analysis of sentences containing presuppositions. Firstly I consider sentences where quantificational determiners *quantify-in* to presuppositions. By considering texts containing such sentences, I show that *intermediate accommodation* cannot be triggered by presuppositions, contrary to the predictions of van der Sandt's recent model. However, a process I refer to as *topical accommodation* could justify the existence of the readings predicted by van der Sandt's model in some cases. I then show that similar problems occur in the treatment of presuppositions occurring in the consequents of conditionals, and once again conclude that current models err by not taking into account topic-focus articulation and issues of discourse coherency.

1   The Naive Informant

How is a naive informant to guess what the relevant topic of conversation is when presented with a decontextualised single sentence example? The mysteriousness of the way in which people "make up a context" for such examples is generally recognised to be problematic for standard linguistic methodology. When we come to studying aspects of meaning which specifically concern the previous context — I would call all such aspects of meaning presuppositional — the problem becomes acute. The question of what a sentence presupposes becomes a question of what propositions hold in normal contexts of utterance of the sentence. But what does *normal* mean? The standard tests for presupposition are doubly problematic in this respect. Although the informant is asked about *implications* and not *presuppositions*, two sentences rather than one are involved (eg. a sentence and its negation). That the informant is asked about *implications* cannot disguise the fact that they are presuppositionally derived, that what we are really after is propositions that may be presumed to hold in normal contexts of utterance. Only now we are concerned with normal contexts of utterance of two sentences, and not one. Again, what is a normal context of utterance? Exactly what *ceteris* have to be *paribus* across the contexts of utterance for the two example sentences? I will suggest that it is vitally important to consider explicitly the discourse contexts in which presuppositional example sentences occur.

2   Presupposition and Quantification

I now want to draw attention to one particular aspect of the elegant theory of presupposition presented in [van der Sandt 92], namely the way in which presuppositions can trigger quantificational domain restriction, or something like it. I will argue that this aspect of the theory is not sustainable once the relevance of discourse context to the interpretation of example sentences is taken into account. Consider the following example:

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*To appear in van der Sandt (ed.), Procs. of JoS/IBM Focus Conference
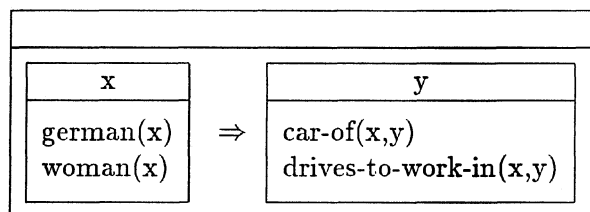
E1 Every German woman drives to work in her car.

According to conventional wisdom, the NP her car carries a presupposition of car own-ership. Exactly what happens to this presupposition in a case like E1, when, on the reading I am interested in, it is bound by a quantifier, is a moot point. Van der Sandt proposes that in order for the sentence to be understood, the presupposition must be *accommodated*, in something like the sense of [Lewis 79]. People's tastes in accommodation vary. Since van der Sandt houses presuppositions in boxes designed by Kamp, the well known Dutch repre-sentationalist, the process of accommodating a presupposed proposition becomes a matter of moving the representations of presuppositions from **box to box**. A suitable box must be found somewhere along the accessibility path leading up to the presuppositional expression. The notion of *accessibility* is just that of [Kamp 81], whilst the details of exactly what is a *suitable* box for a presupposition has been discussed by van der Sandt at length, mostly in terms of his *correctness* conditions on DRS's. I will not comment on these correctness conditions, but merely note one requirement van der Sandt places on accommodation: a proposition free in some discourse marker can only be accommodated in a location from where the marker is already accessible. Rather than considering accommodation in the ab-stract, let us look at a concrete example: the boxes that can be built to represent E1. After resolution of the possessive pronoun *her*, something like the following DRS is built, where a presupposed DRS is distinguished by its extra thick walls:
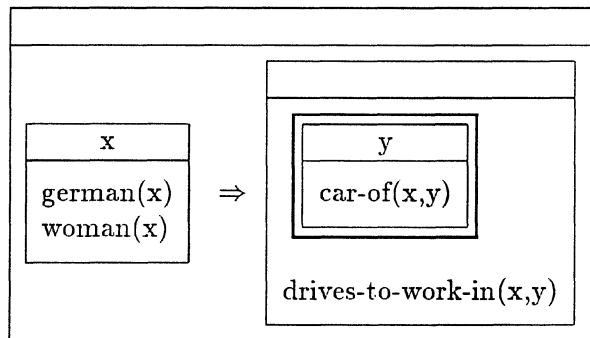
The presupposition must be accommodated. But where? There are three sites accessible from the site of the trigger: the global DRS, the antecedent DRS and finally the box where the trigger itself was placed. Accommodation in the global box, ie. *global accommodation*, is blocked in this case, since the marker x in the presupposition would be free. The remain-ing two possibilities are what may be called *intermediate* accommodation (ie intermediate between the global box and the trigger site):

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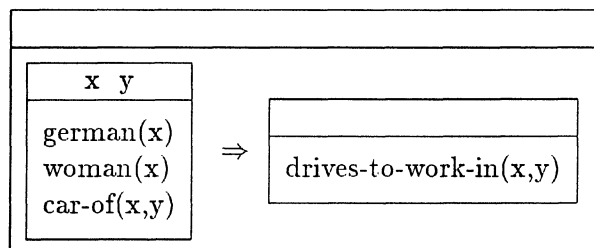
and local accommodation (ie. local to the trigger):

	x		y
	german(x)	$\Rightarrow$	car-of(x,y)
	woman(x)		drives-to-work-in(x,y)

The latter of these two types of accommodation **yields a DRS** which is only true in models where every German woman owns a car and drives to work in it. But the former, intermediate accommodation, yields a DRS where there is no universal constraint on car ownership: the DRS is satisfied in any model where every German woman who does own a car drives it to work, and the possible existence of German women who do not own cars is irrelevant. Some time ago, I had managed to convince myself that, in agreement with van der Sandt, reading (b) was indeed possible, but perhaps a little marginal. But asking naive informants about other sentences of this type caused me to doubt this view: the informants could not seem to get the reading at all. However, I am slowly starting to get good at convincing the odd informant that the non-universal car ownership reading really is there. But it takes some doing, and I will explain why shortly. Firstly, some data showing that the reading is not there. The following examples from [Beaver 94] are clearly infelicitous. A small group of correspondents were asked to rate eighteen discourses on a five point scale from 'weird' to 'bloody marvelous'. All informants judged both of these examples weird (with various extra comments, like "I think I'm missing something."):

E2   How many team members and cheerleaders will drive to the match?

⋆ Few of the 15 team members and none of the 5 cheerleaders can drive, but **every team member will come to the match in her car.** So expect about 4 cars.

E3   How many of your employees with company cars had problems with their car radiators last year?

Although few of the sales staff had any problems with their cars last year, **all of the management discovered that their car radiators had sprung a leak.** ⋆ However, most of the management didn't have a single problem with their car radiator the whole year: they are generally quite conscientious about car maintenance.

What is wrong with these discourses? It seems that the only reading available for the bold sentences is the one corresponding to local accommodation. Thus in the first case, every team member must have a car, and in the second case every member of the management must have had problems with their car radiators (the presupposition being triggered by the factive verb "discover"). In each case, this contradicts information elsewhere in the discourse. Van der Sandt's prediction that a presupposition in the scope of a quantifier can trigger domain restriction is falsified by the oddity of the above examples, since on the domain restriction (or rather, intermediate accommodation) reading there would be no contradiction. Furthermore, it is not open for the defender of van der Sandt's model to

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claim that some extraneous fact about the discourse would mean that intermediate accommodation would result in an incoherent discourse, as is shown by the following two variant examples:

E4　How many team members and cheerleaders will drive to the match?

　　Few of the 15 team members and none of the 5 cheerleaders can drive, but **every team member who owns a car will come to the match in her car.** So expect about 4 cars.

E5　How many of your employees had problems with their car radiators last year?

　　Although few of the sales staff had any problems with their cars last year, **all of the management whose car radiators sprang a leak discovered that their car radiators had sprung a leak.** However, most of the management didn't have a single problem with their car radiator the whole year: they are generally quite conscientious about car maintenance.

In these examples, the crucial sentences from the earlier examples are replaced by new sentences which have exactly the meanings that the earlier sentences would have been predicted to have on van der Sandt's intermediate accommodation reading. Thus "every team member will come to the match in her car" is replaced by "every team member who owns a car will come to the match in her car". Both discourses are clearly felicitous (although only the first was included in the survey). For variety, I also tried versions with an extraposed relative clause as a domain restrictor, like the following:

E6　How many team members and cheerleaders will drive to the match?

　　Few of the 15 team members and none of the 5 cheerleaders can drive, but **every team member will come to the match in her car, if she owns one.** So expect about 4 cars.

Although informants uniformly rated this example better than E2, some still though it was "a bit odd", which was only one point above "weird" on the scale that the informants were given. I had more success on the few informants I tested verbally: stress and rhythm appear to be critical. It might be that this extraposed relative construction is just more typical of spoken than written discourse, the sort of after-thought that is quite common in everyday speech, but not normal in the world of white-out fluid or delete keys. But the point remains that the sentence "every team member will come to the match in her car" does not have van der Sandt's intermediate accommodation reading in the context set up in E2, and that the felicity of sentences with precisely that meaning shows there to be no independent reason for the reading to be blocked.

I should make clear that although I am arguing against van der Sandt's position here, in fact I have considerable sympathy for it. The conclusion he has drawn concerning the possibility of presupposition-triggered domain restriction is a reasonable one. For if examples of this sort, with a presupposition in the scope of a quantifier, are considered in the abstract, it is clear that there are only two sensible ways in which they can be interpreted. Either the quantification only concerns a domain of individuals satisfying the presupposition, or the domain of individuals is larger, but the presupposition serves to constrain the set of individuals in the scope set of the quantifier. (If the quantifier in question obeys standard properties, then other possibilities, such as the presupposition constraining the restrictor, or the presupposition constraining both the restrictor and the scope, will collapse onto the case

where the presupposition constrains the domain of quantification. However, note that for a non-conservative quantifier, such as only, there could be more possibilities.) These are just the two possibilities which arise in van der Sandt's model, and just the two interpretations which people (linguists, at least) will tend to give to decontextualised examples like "every German woman drives her car to work".

Now we come to the main point I want to make. What is going on when people interpret such isolated sentences involves a complex procedure of second-guessing what the *topic* of a hypothetical discourse containing the sentence would have to be. In a sense, people do not accommodate presupposed material so much as accommodate a topic, or, more precisely, accommodate that a certain set of individuals is topical, and that the sentence is about that set. Thus, what is wrong with van der Sandt's theory is **not** the set of logical possibilities it offers for interpretation of sentences of this type, but his claim that the domain restrictive interpretation of a sentence is caused by the presence of a presupposition. I claim that domain restriction must result from the structure of the surrounding text and the topic-focus articulation of the sentence. That the two theories will on most examples make the same predictions is to be expected on the model I am proposing, for in naturally occurring texts one should expect many cases where domain restriction occurs in the presence both of a relevant presupposition and of a clear sentence-external clues as to what the domain of quantification is. Where our accounts differ is that on van der Sandt's account one might also expect naturally occurring examples to be found in texts where it is clear that a domain restrictive interpretation is intended, but where there are no sentence external factors independently justifying such an interpretation.

To back up my claims, consider the following pair of discourses which I have tried verbally on a few people, with fairly uniform reactions: the first is judged odd, but the second is just about OK:

E7   Whatever other options are available, it is by PUBlic TRANsport that most BRItish go to work. In contrast, all iTALians use their CARS to go to work. ⋆ However, MOST Italians don't OWN cars, and so go to work by public transport.

E8   Whereas BRItish tend to use their cars at WEEKends, all iTALians use their cars to go to WORK. However, MOST Italians don't OWN cars, and so go to work by public transport.

Both of these discourses contain versions of the sentence "all Italians use their cars to go to work", and neither discourse contains an explicit mention of the set of car owners or Italian car owners. The explanation for the infelicity of the first example is similar to the earlier explanation for the infelicity of E2. If "all iTALians use their CARS to go to work" then all Italians have cars (though possibly as groups rather than individually) and go to work in them, which is incompatible with the claim that most Italians do not own cars and go to work by public transport.

Why, then, is the second example felicitous? I would suggest that the explanation must run along the following lines. Stress on "*iTALians*" and "WORK" allows the unstressed (or perhaps *destressed*) NP "their cars" to be sentence-topical, and similarly for the previous sentence. The hearer identifies a parallelism between the two sentences, and explains the sentential topicality of the NP "their cars" in terms of car-ownership being a discourse topic. In other words, car-ownership is accommodated as a topic. On the other hand, the rather different topic-focus articulation in the first discourse, and the consequently different parallelism means that the only topic that is accommodated is something like methods-of-going-to-work.

This explanation is woolly. No definitions of *sentence topic* or *discourse topic* have been given, and neither will they be given in this paper. It would be natural, I think,

to identify sentence topics with certain constituents in a sentence, and to relate discourse topics to salient issues in the discourse. Perhaps these salient issues should be thought of as implicit or explicit questions, in the sense of [van Kuppelvelt 91], eg. the question "How do the peoples of various nations go to work?" in the case of E7. But I am not even committed to there being separate notions of sentence and discourse topic (for earlier question-based notions notions of topic see [Strawson 64] and [Belnap 69]: both of these make presupposition related suggestions at times strikingly in line with the current work). The point remains: quantificational domain restriction is not triggered by presuppositions, but by something like *topicality*. Any apparent link between what is presupposed and how the domain is restricted should be explained by a tendency for presuppositions to be topical.

Crucial evidence in support of this type of argument comes from an observation that I understand was originally made in Partee [Partee 90] (but see also Eckert's contribution in this volume). The topicality of a constituent in the scope of a quantificational adverb can have the effect that the quantification is interpreted semantically as if the constituent was in the restrictor. Partee's observation was that in some cases the same effects appear with quantificational determiners. To give an example, consider the first two sentences of E7 above, which (without the final sentence) form a coherent discourse segment. There does not appear to be any claim in these sentences that most British have a job or that all Italians do. In fact, it is natural to interpret the first sentence as meaning that most British who go to work do so by public transport, and the second as meaning that all Italians who go to work do so by car. In effect "go to work" is interpreted in the restrictor of the relevant quantifier, although, I happen to prefer a slightly more involved explanation. I would say not that the sentence-topicality of the VP "go to work" allows it to be interpreted in the restrictor, but that its sentence-topicality leads to accommodation that going-to-work is a topic of the discourse, and this in turn licenses domain restriction with the set of work-goers. Importantly, however, this VP is not presupposed, but only topical. So if ever a presupposition in the scope of a quantificational determiner appears to trigger domain restriction, ask yourself the following question: could the presupposing phrase be analysed as sentence-topical? If so, then there may be a way of analysing the domain restriction effect which does not make reference to the notion of presupposition.

3 Conditionals

3.1 A Puzzle of Conditional Presuppositions

I suspect that topicality is is relevant to the solution of a puzzle posed in [Geurts (ms.)], though I cannot claim to have the whole answer, and I will merely offer some suggestive clues. Consider the following pair of examples:

E9   If the problem was difficult, it wasn't Morton who solved it.

E10   Walter knows that if the problem was difficult then somebody has solved it.

On Karttunen's account of presupposition, E9 might be expected to yield a conditional presupposition, that if the problem was difficult, then somebody solved it. However, some have contended that E9 should presuppose that the problem was solved *simpliciter*. Whilst I do not have strong intuitions about exactly what the sentence presupposes, I would accept that it would be quite natural for a hearer of the sentence to conclude that the problem was solved.

In [Beaver 92, Beaver 93, Beaver (to appear)] I have suggested that the weak conditional presuppositions produced in Karttunen's theory can be strengthened within an appropri-

ately pragmatic account of accommodation. To cut a long and technical story short, the basis of the idea is that when something is presupposed, there will in general be a number of different things that the speaker might be assuming. The hearer expands his partial model of the speaker with the most plausible explanatory theory which contains the presupposition. (A theory is a logically closed set of propositions. For the purposes of argument we may take an explanatory theory to be a theory in which the propositions determine a causal link between a number of events or states.) In the case of a presupposed conditional, that theory might happen to include the consequent of the conditional as well as the conditional itself. In these cases we get the effect of strengthening. But in other cases the most plausible theory will contain the conditional but not the consequent. In these cases we are left with a conditional presupposition.

The problem Geurts sees with this analysis is as follows. In a Karttunen-type theory both E9 and E10 will presuppose a conditional "if the problem was difficult then somebody solved it." However, Geurts' intuition is that whilst the hearer of E9 will conclude that somebody has solved the problem, the hearer of E10 will not. Yet the strengthening analysis does not predict that there should be any difference. Why?

One can imagine a number of possible answers to this question. For instance, the problem relies on "if-then" expressing a dynamic version of material implication. So one line of escape for a Karttunist like myself would be analysing "if-then" differently, say as being a non-truth-conditional inference rule which happened to have the same presuppositional properties. Then, whilst E9 would still presumably presuppose a material conditional, E10 would presuppose that an inference rule was accepted. If the truth of the rule's consequent was not taken as justifying the rule, then there would be no tendency to deduce that the problem had been solved, in accordance with our intuitions. I will not pursue this line of attack any further, but instead concentrate on another aspect of the puzzle, namely the role of topicality.

The special syntactic topic-marking associated with the cleft in E9 results in E9 and E10 being far from minimal pairs, since, because of he clefting in E9 they have completely different topic-focus structures. Something closer to a minimal pair is obtained through replacement of E9 by E11:

E11 If the problem was difficult, Walter knows that somebody solved it.

There is less of a tendency to conclude from E11 that the problem was solved than from E9. This fact reduces the severity of Geurts' problem, but does not remove it, for a difference remains between E11 and E10: the first could be naturally uttered by somebody who knew that the problem had been solved, whereas the second not. I do not believe this has anything to do with accommodation, however. Consider the following pair of (three-way) discourses created by preposing "somebody solved the problem" to (versions of) E11 and E10:

E12 ? Somebody solved the problem and Walter knows(/is glad/regrets) that if the problem was difficult then somebody has solved it.

E13 Somebody solved the problem, and if the problem was difficult, Walter knows(/is glad/regrets) that somebody solved it.

In the light of the slight oddity of E12, it seems hardly surprising that E10 does not lead to accommodation of somebody having solved the problem. We might informally state a constraint that any model of accommodation must stick to: *when processing a discourse, no proposition should be accommodated if preposing a sentence with that meaning at the*

beginning of the discourse would result in the discourse being incoherent. A constraint of this type was first discussed in (the earlier Dutch version of) [van der Sandt 88], and is also invoked in [Seuren 85]. Now consider the following version of E12:

E14 Somebody solved the problem but Walter only realises that IF the problem was difficult then somebody has solved it.

Since this discourse appears to have the same presuppositional structure as E12, and yet is markedly more felicitous, it seems reasonable to conclude that the infelicity of E12 does not arise from presuppositional considerations, but from some other aspect of discourse coherency. If that is so, then Guerts' puzzle is not a problem of presupposition *per se*, although, to be sure, it does show that the satisfaction model of presupposition construed as a theory of discourse is inadequate. But then, nobody has ever taken presupposition satisfaction to be the only condition needed for discourse coherency.

I think Geurts' puzzle shows that further work on presupposition will necessarily involve a sophisticated model of discourse. To a great extent, this places me in agreement with van der Sandt, who has been advocating for over a decade the introduction into presupposition theory of constraints on discourse coherency. However, I am not convinced that the satisfaction model should simply be abandoned, as Geurts suggests, in favour of van der Sandt's anaphoricity based account. In the first place, the theoretical distance between satisfaction and anaphora based accounts is not great, as is shown most clearly in [Zeevat 92], so that it is largely a matter of taste whether we utilise the one or the other as the basis of further theoretical development. Note, as an example of the proximity of the two types of theory, that (given a natural notion of local satisfaction within DRS's) all of the analyses in [van der Sandt 92] ensure that presuppositions are satisfied in the local context of the trigger. Secondly, whilst I support the general philosophical outlook in [van der Sandt 92], I find myself at variance with respect to some of the details of van der Sandt's analyses. This paper is concerned with just one of those details, namely intermediate accommodation, which van der Sandt takes to be triggered by presupposition, and which I take to be triggered by sentence external properties of discourse structure. As will now be shown, intermediate accommodation causes problems not only for quantificational sentences, as seen above, but also for conditional sentences. We will see that similar examples to those which Geurts has presented as evidence against satisfaction approaches and in favour of van der Sandt's approach, seem to mitigate in just the opposite direction.

3.2 Intermediate Accommodation and Conditionals

Consider the following two examples:

E15 If the problem was difficult, I know that somebody solved it.

E16 Unless the problem was easy, it's probably still unsolved. * But if it wasn't easy, then it was Morton who solved it.

Regarding E15, an implicature is triggered that the speaker does not know whether the problem was solved, and this prevents global accommodation. Van der Sandt's theory would then allow for an intermediate accommodation reading whereby the sentence means the same as "If the problem was difficult and it was solved then I know that it was solved.". However, the only possible reading of E15 seems to correspond to local accommodation: "If the problem was difficult then it was solved and I know that it was solved". Similarly, with regard to E16, the second sentence should have a reading where the presupposition that somebody solved the problem, which is triggered in the consequent, is accommodated in the

antecedent. It clearly does not have this reading, for such accommodation would produce the same DRS as the following perfectly felicitous (although complicated) discourse:

E17 Unless the problem was easy, it's probably still unsolved. But if it was solved, and wasn't easy, then it was Morton who solved it.

It is arguable that, once again, topicality must be relevant. In particular, if extra material is added to make sure that the proposition that somebody solved the problem is topical, the second sentence of E16 is somewhat ameliorated:

E18 Unless the problem was easy, it's probably still unsolved. But perhaps somebody did solve it, and (I suspect that) if it wasn't easy, then it was Julius who solved it.

In such a case of modal subordination (cf.[Roberts 87]) a certain topical hypothesis (that somebody solved the problem) can be accommodated into a hypothetical context (here the antecedent of a conditional). Note that the "I suspect that" version of the example would defeat an analysis where the second conjunct of the second sentence was inserted under the scope of the "perhaps", for the speaker definitely has suspicions that if the problem wasn't easy but was solved then Julius solved it, and is not announcing that he merely might have suspicions. (Cf. the arguments about accommodation vs. insertion in [Roberts 87].) What E16 and E18 together seem to show is that accommodation in a site intermediate between a presupposition trigger and the global context does occur, but that presupposition is not itself enough to trigger the accommodation.

Thus we have reached precisely the same conclusion with respect to conditional sentences as was reached earlier with respect to quantificational examples. Indeed, this is hardly surprising, for quantifiers and conditionals are commonly regarded (especially in DRT) as being semantically related. Consider the following pair of examples:

E19 If Mary buys a car, she'll sell her cadillac.

E20 If a woman buys a car, she'll sell her cadillac.

Whilst in E19 we readily globally accommodate that Mary has a car, global accommodation of "x owns a car" for some x introduced by the NP "a woman" is blocked in E20, at risk of x becoming unbound. Significantly, E20 seems to imply that any woman who buys a car has (or will have) a cadillac to sell, despite this being *a priori* implausible. Clearly there is no intermediate accommodation reading (at least not in texts where the set of female cadillac owners is not already topical) since under such a reading ("If a woman who owns a cadillac buys a car, she'll sell her cadillac") the implausible consequence would vanish. Once again, a presupposition trigger in the consequent of a conditional is not able to produce accommodation into the antecedent. And this is precisely what we would expect on the basis of consideration of the quantificational analogue of E20, which also lacks an intermediate accommodation reading:

E21 Every woman who buys a car will sell her cadillac.

4 Conclusion

I have concentrated on quantificational determiners and conditionals, but these are the tip of the iceberg in terms of the relevance of topicality to presupposition theory. Consider the two greatest bugbears of presupposition theory, negation and disjunction. It is well known that cancellation of presuppositions occurring under negation most commonly occurs

in cases of denial. But such cases have very marked intonation contours, so an analysis which ignores topic-focus articulation would seem to be missing an important aspect of the problem. Similarly, it is clear that the most problematic cases of disjunction (for instance those where the disjuncts have conflicting presuppositions) will only occur in rather special circumstances. But which? That is to say, we should not be asking what (presupposition related) inferences people draw from single sentences containing disjunctions, but asking in which texts the problematic disjunctions can felicitously occur. Note in this connection that [Landman 86] suggests an analysis of disjunction cases where the previous context triggers a special sort of modal subordination, what he calls *modal splitting*.

Analysing presuppositional phenomena without considering topic-focus effects is a risky business, and in order to do justice to these effects we need to modify the prevalent methodology somewhat and start looking more at texts and less at single sentence examples. I have tried to show that once multi-sentence texts are considered, van der Sandt's suggestion that intermediate accommodation can be triggered by a presupposition appears to break down. Both for quantificational determiners and for conditionals, the only texts where readings like those which van der Sandt derives by intermediate accommodation are available, are those where the accommodated material is topical in the discourse. In these cases, the accommodation is just a special case of modal or quantificational domain restriction and motivated independently of presuppositional factors. The reason why some linguists have managed to convince themselves that "Every German woman drives to work in her car" can have the meaning "Every German woman who owns a car drives to work in it", whereas naive informants cannot be easily persuaded that such a reading is present, is because the linguists are unusually good at *accommodating topics*, that is, making up a potential context of utterance. That is one reason why they are linguists.

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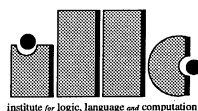
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