

# ADVERBIAL *doch* AND THE NOTION OF CONTRAST

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## ABSTRACT

The paper provides a first analysis of one use of the German discourse marker *doch*, namely *doch* as conjunct adverb (CA). As CA, *doch* has two properties, concessivity and anaphoricity, that distinguish it from the conjunction *doch*, which is the other clause connecting use of the word. As conjunction, *doch* is not anaphoric and it may mark a greater variety of (contrastive) discourse relations besides concession. I argue that CA *doch* acquires anaphoricity and concessivity due to a combination of factors related to the fact that it is accented. More specifically, I claim that (i) accent on CA *doch* leads to an asymmetric focus-background structure of the *doch*-conjunct which in turn leads to the concessive interpretation of the discourse relation marked by *doch*; (ii) accent on CA *doch* evokes as a focus alternative the negation of the conjunct to which *doch* is attached and (iii) focus on CA *doch* is contrastive, which means that the alternative CA *doch* evokes is anaphorically linked to an antecedent in the preceding discourse. I also sketch a formal account of the concessivity and anaphoricity of CA *doch*.

## [1] INTRODUCTION

The goal of this paper is to provide an analysis of one use of the German discourse marker *doch*, namely of *doch* as conjunct adverb (CA). An example of CA *doch* is (1):<sup>1</sup>

- (1) Draußen vor dem Zelt stand Artax, sein Pferd. Es war gefleckt und klein wie ein Wildpferd, [seine Beine waren stämmig und kurz]<sub>C1</sub>, und DOCH [war es

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[1] This and the remaining examples in this section, including their English translations, are from the Oslo Multilingual Corpus (<http://www.hf.uio.no/ilos/OMC>), a parallel multilingual (Norwegian, English, German, French and Russian) corpus of mainly fictional original texts and their translations, developed at the University of Oslo within the project SPRIK (<http://www.hf.uio.no/forskningsprosjekter/sprik/>). The indices are mine. The small capital letters denote (nuclear) accent and are also mine.

der schnellste und ausdauerndste Renner weit und breit]<sub>C<sub>2</sub></sub>.  
 ‘His horse, Artax, was standing outside the tent. He was small and spotted like a wild horse. His legs were short and stocky, but he was the fastest, most tireless runner far and wide.’

As it becomes obvious from the example, this use of *doch* has the following properties:

- (i) First, *doch* occupies the initial field (Vorfeld) of the German sentence, which is the typical position of conjunct adverbs.
- (ii) Second, it functions as a sentence connector linking the two conjuncts *C<sub>1</sub>* and *C<sub>2</sub>* to each other.
- (iii) Third, it has a concessive meaning synonymous with *trotzdem* (‘despite that’). This means roughly that *doch* specifies the relation between *C<sub>1</sub>* and *C<sub>2</sub>* as being such that normally one would not expect *C<sub>2</sub>* given that *C<sub>1</sub>* is the case, i.e. if a horse has short legs, then we do not expect it to be the fastest runner far and wide.
- (iv) Fourth, *doch* establishes an anaphoric link to the preceding clause *C<sub>1</sub>*, which is a general property of conjunct adverbs (Duden 2005).
- (v) And finally, it is accented.

The above properties, taken together, distinguish CA *doch* clearly from the other grammatical uses of the word: the conjunction *doch* (as in (2)), the unaccented modal particle *doch* (3), the response particle *doch* (4) and the accented adverbial *doch* (5):

- (2) Abstraktes und Abstraktionen lagen ihr zwar nicht gänzlich fern, doch die “Hackschrift”, wie sie Stenografie nannte, mochte sie nicht lernen.  
 ‘It was not that abstract thinking and abstractions were entirely without interest for her, but “chopped-up writing,” her name for shorthand, was something she had no wish to learn.’
- (3) Ich sage: “Der Mensch ist doch kein Flußbett.”  
 ‘“A person isn’t just a riverbed, is he?” I say.’
- (4) Ich sagte schnell: “Doch, doch, ich weiß.”  
 ‘I quickly said: “Oh, of course I do.”’
- (5) Ich weiß nicht, warum ich schließlich doch geheiratet habe.  
 ‘I don’t know why I did marry in the end.’

Note that CA *doch* is always accompanied by *und* ('and'), thus being part of a bipartite connector *und doch*, in which we can observe the following division of labour: The coordinating conjunction *und* provides for the syntactic link between  $C_1$  and the clause  $C_2$  in which CA *doch* is syntactically integrated, whereas CA *doch* contributes a semantically richer relation between  $C_1$  and  $C_2$ . This division of labor is necessary because adverbial connectors are syntactically (one-place) modifiers, but take semantically two arguments, cf. Pasch et al. (2003).

The main question that the paper addresses is why *doch* as conjunct adverb has the properties under (iii) and (iv). This question is motivated by a comparison between *doch* as conjunct adverb and *doch* as ordinary conjunction, which shows that the conjunction *doch* is not anaphoric and it may mark a greater variety of (contrastive) discourse relations besides concession. More specifically, the question that I attempt to answer is: Given that the discourse marker *doch* is not always anaphoric, nor always concessive, what is it that makes this particular use of *doch* capable of, and at the same time restricts it to, rendering the same interpretation as anaphoric concessive CAs like *trotzdem*?

In spite of recent revived interest in the semantics and pragmatics of connectors in general and adversative connectors in particular, CA *doch* has to my knowledge not been given any closer attention before. It has even been completely ignored in a comprehensive work such as Pasch et al. (2003). The analysis I propose is in this sense a first attempt to understand the properties of CA *doch* that distinguish it from other uses of the word.

In a nutshell, I will argue that CA *doch* acquires anaphoricity and concessivity due to a combination of factors related to the fact that it is accented. More specifically, I claim that

- accent on CA *doch* leads to an asymmetric focus-background structure of the *doch*-conjunct which in turn leads to the concessive interpretation of the discourse relation marked by *doch*.
- accent on CA *doch* evokes as a focus alternative the negation of the conjunct to which *doch* is attached.
- focus on CA *doch* is contrastive, which means that the alternative CA *doch* evokes is anaphorically linked to an antecedent in the preceding discourse.

The paper is structured as follows: First I will elaborate on the differences between the conjunct adverb and the conjunction *doch* with respect to the discourse relation they mark (section 2). Then, I will provide my explanation of the concessivity and anaphoricity of CA *doch* (sections 3 and 4). In section 5 I sketch a formal account of the concessivity and anaphoricity of CA *doch*. Finally, section 6 provides summary and conclusions.

## [2] DISCOURSE RELATIONS OF CONTRAST

There are basically three kinds of contrastive relations assumed in the literature. Here I will use the term “concession” for what is also called “denial of expectation”, e.g., König (1991), Lagerwerf (1998). Following Kruijff-Korbayová and Weber (2005), I reserve Spooren’s (1989) “concessive opposition” for the argumentative interpretation of contrast observed in Anscombe and Ducrot (1977) and Dascal and Katriel (1977). The latter is induced by a context in which a claim is given for which the *aber/doch/etc.*-construction provides both arguments pro and contra.

It seems that CA *doch* marks a contrastive discourse relation that can only be interpreted in terms of concession, unlike the conjunction *doch* that can also mark semantic opposition and concessive opposition. Let’s turn to some examples which illustrate this point.

SEMANTIC OPPOSITION. An example of semantic opposition is (6), where two subjects with two different properties are contrasted:

- (6) Hans ist reich, doch Peter ist arm.  
 ‘Hans is rich but Peter is poor.’

Replacing the conjunction *doch* with CA *doch* renders the sentence rather awkward, since CA *doch* forces a concessive reading that is a bit counterintuitive, or at least requires a very specific context, i.e. one in which Hans is the father of Peter:

- (7) ??Hans ist reich, und DOCH ist Peter arm.  
 ‘Hans is rich, and yet Peter is poor.’

CONCESSIVE OPPOSITION. An example for this contrastive relation is (8) where the first conjunct provides an argument for and the second an argument against taking the room in question:

- (8) (Wollen wir das Zimmer nehmen?)  
 (‘Shall we take this room?’)  
 Es hat einen tollen Ausblick, doch der Preis ist zu hoch.  
 ‘It has a beautiful view, but it is very expensive.’

Here as well, the CA *doch* is not an appropriate connector, cf. (9):

- (9) (Wollen wir das Zimmer nehmen?)  
 ??Man hat einen tollen Ausblick, und DOCH ist der Preis zu hoch.  
 ‘It has a beautiful view, and yet it is very expensive.’

The reason for that is the same as in (7): the hearer is forced to reconstruct a

relation between the first and the second conjunct which is such that if the first conjunct is true, then normally the second conjunct is not true. The utterance is awkward, since the suggested connection between the two states of affairs is not plausible, i.e. rooms with a nice view are rather expected to be expensive.

In order to confirm the intuition that CA *doch* is specialised in marking concession, I carried out a small scale corpus study involving an analysis of all occurrences of CA *doch* in the *Oslo Multilingual Corpus*. From 21 tokens of CA *doch* in a clause connecting function<sup>2</sup> out of 375 *doch* corpus matches, all had a concessive interpretation.

My diagnostics for determining the discourse relation that CA *doch* marks in the corpus examples is based on Umbach's (2001a) distinction between four structural cases of *but*-conjunctions:

- (i) two different predicates are being contrasted with respect to the same subject,
- (ii) two different subjects are being contrasted with respect to the same predicate,
- (iii) different but comparable subjects and predicates are being contrasted, and
- (iv) the subjects and predicates are not comparable, i.e. the entire propositions are contrasted.

Cases (i)-(iii) cover the cases known as semantic opposition. Case (iv) covers concession and concessive opposition, where the latter is dependent on a contextually given tertium comparationis.

I also looked at the English and Norwegian translations of the 21 CA *doch* corpus matches. In the English translations, the majority (17 of 21) of the occurrences of CA *doch* were translated with concessive markers (16 with *yet*, one with *still*), cf. table 1.<sup>3</sup>

In the Norwegian translations, the majority (16 of 21) of the instances of CA *doch* were also translated with concessive markers. Of them, 15 were translated with (al)likevel ('yet', 'nevertheless', 'although'), with or without other co-occurring connectors, and one with *selv om* ('even if'), cf. table 2.<sup>4</sup>

[2] CA *doch* can also connect phrases.

[3] The term *adversative* used in tables 1 and 2 is used as a general, cover term for all three relations of contrast discussed above.

[4] The translation with *forresten* ('by the way') is a bit strange and could be explained by the fact that the first conjunct of the relation is somewhat obscure in the original. In the English translation, however, the concessive *and yet* is used. One sentence has no Norwegian translation in the corpus.

TABLE. 1: English translations of conjunct adverb *doch*

	nr.
<i>Concessive:</i>	
YET	8
and YET	8
STILL	1
<i>Total:</i>	17
<i>Adversative:</i>	
but	4
<i>Total:</i>	21

TABLE. 2: Norwegian translations of conjunct adverb *doch*

	nr.
<i>Adversative:</i>	
men	3
<i>Concessive:</i>	
LIKEVEL	1
og ALLIKEVEL	4
og LIKEVEL	7
SELV OM	1
<i>Adversative+concessive:</i>	
men LIKEVEL	2
men ... LIKEVEL	1
<i>Total:</i>	16
<i>Other:</i>	
forresten	1
Ø	1
<i>Total:</i>	21

[3] *doch* AND CONCESSION

My first claim is that the accent on CA *doch* plays a role in specifying the interpretation of the relation between the conjuncts as concession.

It has been argued (Umbach 2001a, 2004; Lang 2004; Lang and Adamíková 2005) that concession can be seen as contrast between two propositions that leads to specifying the conjuncts linked by adversative connectors like *aber* and *but* as focus alternatives with respect to each other.

Moreover, Lang and Adamíková (2005) argue that the focus-background structure of the sentence (FBS) specifies which entities are contrasted, which in turn determines the interpretation of the contrast relation as one of either concession or semantic opposition. They observe the following correlation between the FBS of the conjuncts and the interpretation of the relation between the conjuncts: if the FBS is parallel, then the relation is interpreted as semantic opposition, if it is asymmetric, then the relation is concessive.

Consider (10), where the FBS is parallel and involves two topics and two foci:<sup>5</sup>

- (10) [Mein Vater]<sub>T</sub> [ist ernsthaft krank]<sub>F</sub>, doch [meine Mutter]<sub>T</sub> [geht arbeiten]<sub>F</sub>.  
‘My father is seriously ill, but my mother goes out to work.’

Such a parallel FBS renders a semantic opposition interpretation of contrast. In (11), we have two foci comprising the entire conjuncts:

- (11) [Mein Vater ist ernsthaft krank]<sub>F</sub>, doch [meine Mutter geht arbeiten]<sub>F</sub>.

Here, the FBS is asymmetric which renders a concessive interpretation of the contrast relation.

A similar correlation is observed by Umbach (2001a): “in a *but*-conjunction, there are two corresponding foci (in the first and in the second conjunct, respectively) which establish alternatives with respect to each other”. The corresponding foci may encompass the entire conjuncts, i.e. the entire propositions are alternatives to each other (cf. case (iv) of Umbach’s structural cases of *but*-conjunctions on page 135).

Returning to CA *doch*, the fact that it is accented seems to have consequences for the FBS of the entire construction. Thus, it does not seem to allow a parallel FBS, cf. (12-a), contrary to the unaccented conjunction *doch* in (12-b), which allows for both kinds of FBS (as illustrated by (10) and (11):

- (12) a. #[HANS]<sub>T</sub> [ist REICH]<sub>F</sub>, und DOCH [ist PETER]<sub>T</sub> [ARM]<sub>F</sub>.  
b. [HANS]<sub>T</sub> [ist REICH]<sub>F</sub>, doch [PETER]<sub>T</sub> [ist ARM]<sub>F</sub>.

This suggests that given that the asymmetric FBS of the sentence determines a

[5] The example is taken from Lang (2004) where the synonymous connector *aber* is used instead of *doch*.

concessive reading, the accent on *doch* is crucial for this interpretation, since it determines the asymmetry of the FBS in the first place.

[4] *doch* AND ANAPHORICITY

According to standard theories of focus, an accented constituent is a focussed constituent evoking focus alternatives. In the alternative semantics of Rooth (1992), a focused expression is accounted for by assuming that it adds an additional semantic value  $\llbracket \cdot \rrbracket^f$  of the sentence next to its ordinary semantic value  $\llbracket \cdot \rrbracket^o$ . The focus semantic value represents a set of alternatives, i.e. a set of propositions which contrast with the ordinary semantic value. The ordinary semantic value is always an element of the focus semantic value. The set of alternatives is salient but not necessarily explicitly mentioned and contains only alternatives which are type-identical with the focussed expression.

Since CA *doch* is accented and hence focussed, the obvious question to ask is what alternatives it evokes. Now, the ordinary semantic value of a sentence of the form ‘DOCH  $C_2$ ’ is  $\llbracket p \rrbracket^o$ , where  $p$  is the proposition expressed by  $C_2$ , since discourse markers like *doch* do not influence the truth conditions of the sentence. Intuitively, the alternative that accented *doch* evokes is the sentence negation *nicht*. E.g., the alternative evoked in (13-a) is (13-b).

- (13) a. Es war gefleckt und klein wie ein Wildpferd, [seine Beine waren stämmig und kurz]  $C_1$ , und [DOCH war es der schnellste und ausdauerndste Renner weit und breit]  $C_2$ .  
 b. it is not the case that he was the fastest, most tireless runner far and wide.

In other words, the focus alternative evoked by a sentence of the form ‘DOCH  $C_2$ ’ seems to be the logical complement of the proposition  $p$  expressed of the *doch*-conjunct. The focus semantic value of such a sentence is then the set containing its ordinary semantic value  $\llbracket p \rrbracket^o$  and its sole focus alternative  $\neg p$ :

$$(14) \quad \llbracket [\text{doch}]_F p \rrbracket^f = \{p, \neg p\}$$

I suggest that the anaphoricity of CA *doch* can be accounted for by treating the focus it carries as contrastive focus. According to Rooth (1992), in the case of contrastive focus, accent signals that the focussed expression contrasts with a previously uttered member of the focus set of alternatives, i.e. a phrase  $\alpha$  is contrasting with a phrase  $\beta$ , if  $\llbracket \beta \rrbracket^o \in \llbracket \alpha \rrbracket^f$ . In other words, contrastive focus signals that the focus alternative evoked by a focussed expression is anaphorically linked to the preceding context.

The classical Roothian example of contrastive focus is (15), where “Canadian farmer” evokes a set of focus alternatives containing farmers of different nation-



alities and where one member of this set, namely “American farmer” is provided by the preceding context:

- (15) An American<sub>F</sub> farmer was talking to a Canadian<sub>F</sub> farmer.

In the case of CA *doch*, the relevant member of the focus set of alternatives is the negation  $\neg C_2$  of the *doch*-conjunct  $C_2$ . Contrastive focus signals that the evoked alternative  $\neg C_2$  should be linked to the preceding context, i.e. that a matching antecedent should be available. The alternative  $\neg C_2$  is not explicitly provided by the preceding context, but is suggested as a default consequence of the state of affairs expressed by the first conjunct (due to the concessive interpretation of the contrast relation). In other words, the anaphoric antecedent to which the focus alternative  $\neg C_2$  is linked is implicit.

Rooth (1992) notes a similar case of contrastive focus involving an implicit anaphoric antecedent. He observes that in (16), the entailment relationship can mediate contrastive focus:

- (16) he<sub>1</sub> called her<sub>2</sub> a Republican and then she<sub>2,F</sub> insulted him<sub>1,F</sub>.

In (16), contrastive focus on the pronouns *she* and *him* in the sentence *she insulted him* leads to evoking as a focus alternative the sentence *he insulted her*, i.e.

- (17)  $[[\text{she insulted him}]^f] = \{\text{she insulted him, he insulted her}\}.$

However, the contrasting expression *he insulted her* is not explicitly mentioned but must be derived from *he called her a Republican*, i.e. a presupposed axiom has to be assumed that to call someone a Republican is to insult him, such as  $\forall x \forall y [\text{call-a-Republican}(x, y) \rightarrow \text{insult}(x, y)]$ . Rooth suggests therefore that the definition of contrastive focus must be modified to the following: a phrase  $\alpha$  is contrasting with a phrase  $\beta$ , if  $[[\beta]]^o$  entails some element of  $[[\alpha]]^f$ , i.e.  $[[\beta]]^o \models [[\gamma]]^o$  such that  $[[\gamma]]^o \in [[\alpha]]^f$ . Then the contrast between *she insulted him* and *he called her a Republican* is indirect and consists in a contrast between the contrastively focussed *she insulted him* and its focus alternative *he insulted her*, where the focus alternative is an entailment of *he called her a Republican*.

Applying the modified definition of contrastive focus to CA *doch*, we need a similar presupposed axiom for the derivation of  $\neg C_2$  from  $C_1$ . This axiom is provided by the concessive interpretation of the contrast relation, i.e.  $C_1 > \neg C_2$ . Here, the relation is however not material implication but rather a defeasible implication (>’ (Asher and Morreau 1991)), as is usually assumed in the literature on concession, cf. e.g. (Lagerwerf 1998). Then,  $\text{DOCH}C_2$  is contrasting with  $C_1$  since  $\neg C_2 \in [[\text{doch}]_F C_2]^f$  and  $C_1 > \neg C_2$ .

[5] TOWARDS A FORMAL ACCOUNT OF CA *doch*

So far I argued that accent on CA *doch* is responsible for rendering the concessive interpretation of the contrast relation that *doch* marks. I also argued that focus on *doch* is contrastive and that the anaphoricity of contrastive focus can be made responsible for the anaphoric properties of CA *doch*.

In other words, I claim that concessivity and anaphoricity are not some inherent properties of the lexical item *doch*, as also the comparison to the conjunction *doch* in section 3 showed.

I also argued that in the case of CA *doch*, the contrast between the *doch*-conjunct and the first conjunct consists in linking the focus alternative that *doch* evokes to a defeasible implication of the first conjunct, i.e. to an implicit anaphoric antecedent.

Consequently, a formal account of CA *doch* must address the following questions:

- How can the meaning of *doch* be specified?
- How can the anaphoric resolution to an implicit antecedent be modelled?

[5.1] *The meaning of adversative conjunctions*

Lang (Lang 2004; Lang and Adamíková 2005) provides a framework for the interpretation of adversative constructions with *aber* that accounts both for the meaning of the conjuncts, including their FBS, and the meaning of the connectors.

I will adopt this framework to account for the lexical meaning of the adversative connector *doch*.

Lang formalizes the (non truth-conditional) meaning of adversative connectors in terms of a presupposition variable  $q$  these connectors introduce which is such that it is a member of the (focus) set of alternatives of the conjunct they are attached to and meets a preference condition (where ‘ $\gg$ ’ is a preference relation “is preferred to” and  $p_1$  and  $p_2$  are the propositions expressed by the first and the second conjunct respectively):

$$(18) \quad \exists q[q \in ALT(p_2) : [[p_1 \ \& \ q] \gg [p_1 \ \& \ p_2]]]$$

The preference condition is formulated such that it covers all possible interpretations of contrast, esp. semantic opposition and concession (Lang does not mention concessive opposition). The variable  $q$  is to be instantiated by means of contextual information: (i) structural, (ii) discourse or (iii) world knowledge (where  $q \neq p_1$  and  $q \neq p_2$ ). The search for a suitable instance proceeds from (i) to (ii) to (iii).

In the case of concession, the asymmetric FBS indicates that some proposition  $p$  has to be inferred from outside the construction. More closely, the asymmetric

FBS triggers a world knowledge based inference process. This inference process leads to inferral of some proposition  $p$  which instantiates the variable  $q$  introduced by the adversative connector.<sup>6</sup> The inference process is restricted by a selection principle, a structural specification for restricting  $q$  to the most obvious element  $\neg p$  of  $ALT(p2)$  for a given  $p$ .

Lang does not mention *doch* but his formalisation is intended to cover adversative connectors and constructions in general. Applying his system to our example with *doch* as a conjunction, the concessive interpretation is derived as in (19-h). In the derivation below, the propositional variables  $p1$  and  $p2$  denote the meaning of the conjuncts and variables of type  $/p_n/$  denote inferred propositions. I use the defeasible implication sign ' $>$ ' instead of the original relation ' $\Rightarrow$ ' (where ' $p \Rightarrow q$ ' denotes "given our everyday experience,  $p$  is expected to have the consequence  $q$ "). Step b. represents the meaning of *doch*, step c. the selection principle, d. is the result of the application of the selection principle on the meaning of *doch*, and steps e.-h. represent the inference process based on world knowledge as a result of which the variable  $q$  becomes instantiated.

- (19) a. [Seine Beine waren kurz]<sub>F</sub>, [doch es war der schnellste Renner weit und breit]<sub>F</sub>  
 b.  $\exists q[q \in ALT(p2) : [[p1 \ \& \ q] \gg [p1 \ \& \ p2]]$  (non truth-functional meaning of *doch*)  
 c.  $\forall q \forall p[q \in ALT(p) \equiv q \rightarrow \neg p]$  (selection principle)  
 d.  $\exists q[q \rightarrow \neg p2 : [p1 \ \& \ q] \gg [p1 \ \& \ p2]]$  (selection principle applied)  
 e.  $/p1/ = \forall x \in \{\text{creatures}'\}[\text{short-legged}'(x) > \text{slow}'(x)]$   
 f.  $/p2/ = \forall x \in \{\text{creatures}'\}[\text{slow}'(x) > \neg \text{fast}'(x)]$   
 g.  $/p3/ = \forall x \in \{\text{creatures}'\}[\text{short-legged}'(x) > \neg \text{fast}'(x)]$   
 h.  $/p4/ = \neg \text{he was the fastest runner } (=q), \text{ i.e. } /p1 > q/ \text{ from e.-g., controlled by } q \rightarrow \neg p2$

There are however strong arguments against basing the concessive interpretation on a world-knowledge inference: there are cases in which we do not know that a default rule exists, but we learn it from the speaker, as pointed out in [Umbach and Stede \(1999\)](#) who give the following example:

- (20) Es war Juli, aber wir haben keine Safranschirmlinge gefunden.  
 'It was July, but we did not find any shaggy parasols.'

Even if the hearer has not the faintest idea of what a "Safranschirmling" is (it is a kind of mushroom), he understands that normally one can find them in July.

Therefore, a different explanation for the concessive interpretation is needed

[6] [Lang and Adamíková \(2005\)](#) claim that contrastive focus accents in the absence of adversative connectors may also introduce a variable  $q$  like the one introduced by adversative connectors.

that we cannot provide here. One possibility is already hinted at by Lang when he claims that prosody is the decisive factor in determining the FBS of the construction and hence the reading of the connector. If this is so, then we do not need to access world knowledge at all. We would know from prosody that  $q$  has to be instantiated by some  $p$  which is such that  $q \in ALT(p) \wedge q \rightarrow \neg p$ .

In the case of CA *doch*, access to world knowledge is clearly gratuitous, as is the derivation of some inference  $p$  constrained by a selection principle. With CA *doch*, the variable  $q$  is directly instantiated by the focus alternative evoked by accented *doch*, namely  $\neg p_2$ . According to Lang's specification of the meaning of adversative connectors,  $q$  must be a proposition which is a member of the set of alternatives evoked by the focussed element, i.e.  $\exists q[q \in ALT(doch(p_2))]$ . Since  $q$  cannot be instantiated by  $p_1$  according to the definition ( $q \neq p_1$ ), a second (and only) possibility is that  $q$  is instantiated by the other element of the focus set of alternatives of the construction 'DOCH  $C_2$ ', namely  $\neg p_2$ . The preference relation, which is part of the meaning of *doch*, tells us that  $p_1 \& \neg p_2$  should come closer to what the speaker expects, rather than what obtains, namely  $p_1 \& p_2$ . This can be translated as  $p_1 > \neg p_2$ .

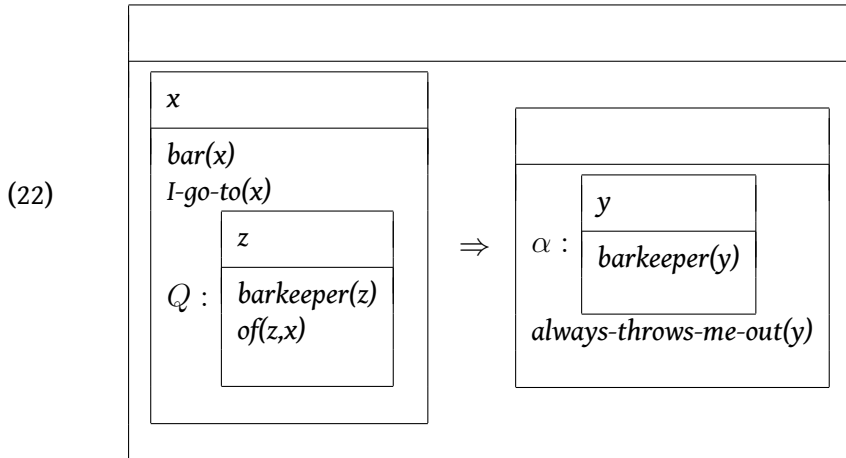
### [5.2] *Anaphoric resolution with implicit antecedents*

In this section I adopt a solution to the question of how the anaphoric resolution to an implicit antecedent that seems to take place in the case of CA *doch* can be modelled. My proposal is based on Bos et al. (1995) who extend van der Sandt's theory of presupposition with the notion of bridging anaphora. An example of a bridging anaphor is (21):

(21) When I go to a bar, the barkeeper always throws me out.

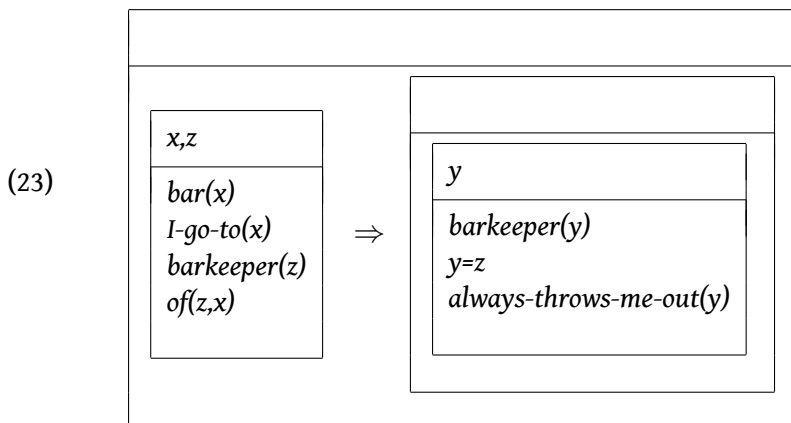
Here, the NP *the barkeeper* triggers an existential presupposition. The preceding sentence however does not provide an overt antecedent, i.e. a barkeeper, to which the presupposed material can be linked. But the anaphor goes through because of our world knowledge telling us that a bar has a barkeeper. This knowledge is modelled in Bos et al. (1995) as lexical information in terms of Pustejovsky's (1991) qualia structure, which is a set of lexical entailments modelling the partial meanings (polysemy) of lexical items. The qualia structure is made available by means of accommodation when necessary, like in the case of bridging anaphora where it plays the role of antecedent. Here is how a DRS for (21) looks like:

When I go to a bar, the barkeeper always throws me out.



The representation captures the information that there is a bar the speaker goes to; the Q-box contains the qualia information that a bar has a barkeeper, and the definite NP *the barkeeper* is a presupposition trigger that introduces the anaphoric information  $\alpha$ . The qualia information is accommodated, i.e. it enters the main DRS, and the presupposed barkeeper is linked to the barkeeper that is part of the qualia, i.e. bridging yields the resolved DRS where the presupposed barkeeper  $y$  is linked to the qualia-barkeeper  $z$ :

When I go to a bar, the barkeeper always throws me out.

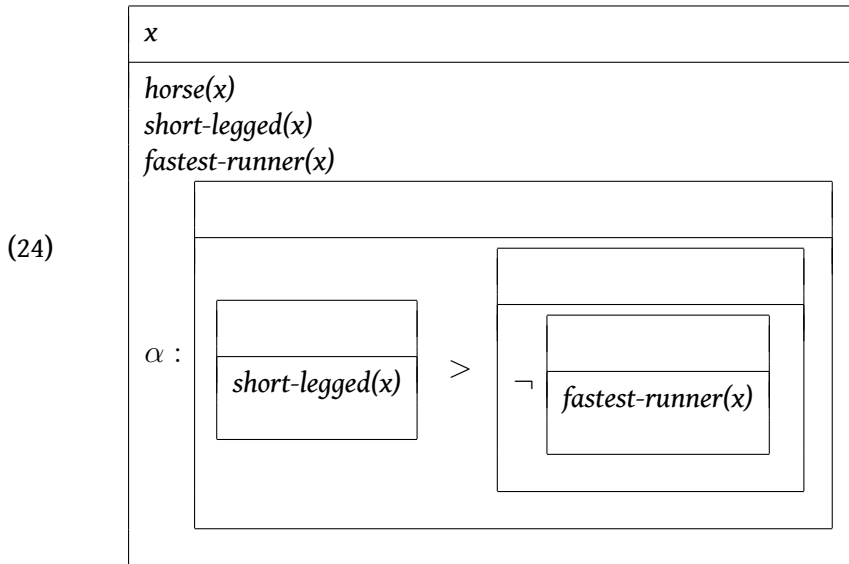


A similar solution is possible for the anaphoric resolution of the focus alternative evoked by CA *doch*. Here we need the axiom  $p_1 > \neg p_2$  to become available as the antecedent of the focus alternative  $\neg p_2$  evoked by focussed CA *doch*. The axiom becomes available due to the concessive interpretation of the discourse relation,

as we saw in section 5.1. The presupposed material is accommodated, i.e. added to the main DRS and thus made available for anaphoric resolution.

Applied to our example, the technique described above renders the following representation:

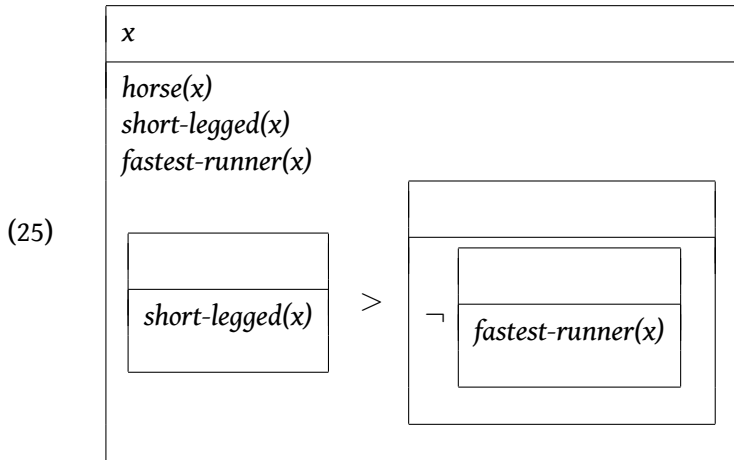
*Seine Beine waren kurz, und doch war es der schnellste Renner.*



The DRS reflects the information that there is a horse which has short legs and is the fastest runner. The presupposed information is that normally, if the/a horse is short-legged, then it is not the fastest runner.<sup>7</sup>

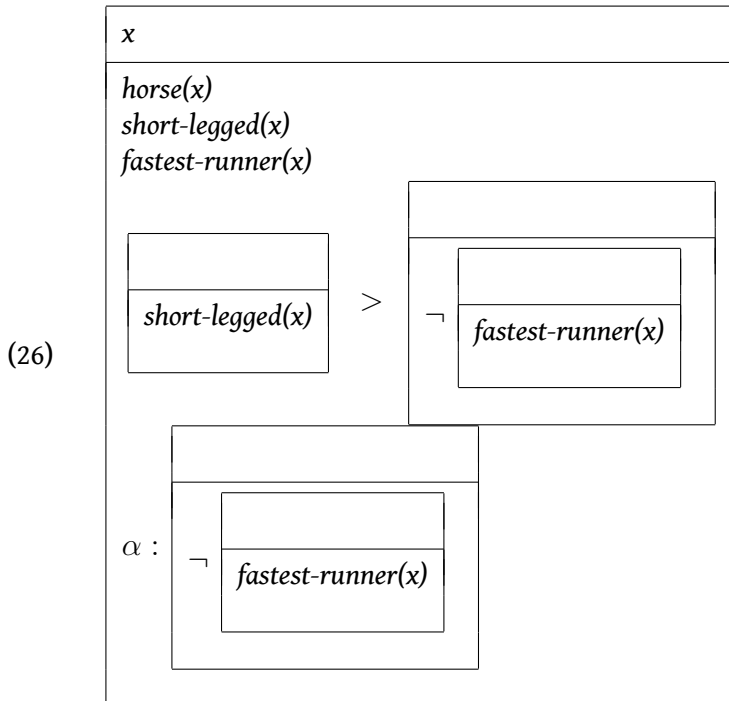
After accommodating the default rule, it becomes part of the main DRS and its consequent is available as the antecedent for the alternative evoked by *doch*:

[7] Standard DRT does not include defeasible implication, so a more elaborated formalisation should be concerned with integrating it into the theory. This is however outside the scope of the present proposal.



The defeasible implication prevents by its definition the inference of information that contradicts the information accumulated in the hitherto context, here that the horse is not the fastest runner. Otherwise, the accommodation of the axiom would have been prohibited by van Sandt's (1992) consistency constraint.

The anaphoric resolution happens when the focus alternative  $\neg fastest-runner(x)$  enters the DRS. Focus alternatives are generally treated as presuppositional (cf. e.g. Umbach 2001b; Bende-Farkas et al. 2003). I.e. we have the representation below:



The presupposed focus alternative above is locally bound by the defeasible rule, i.e., the final representation will be the one in (25) above.<sup>8</sup> The defeasible relation in the concessive axiom makes sure that the global DRS stays consistent, since it prevents the inference of information that would contradict information already contained in the context. This accounts for the difference between CA *doch* and cases of corrections with accented *doch*, such as (27), where the context must be updated with contradicting information and where a context revision is required in order to keep the DRS consistent, cf. Maier and van der Sandt (2003).

- (27) A: Karl war nicht auf meiner Party.  $\neg p$   
 ‘Karl was not at my party.’  
 B: Karl war DOCH auf der Party.  $p$   
 ‘He was indeed.’

#### [6] SUMMARY AND CONCLUSIONS

I suggested an analysis of what I claimed was the anaphoricity and concessivity of German CA *doch*. I argued that these properties are acquired by the CA *doch* rather than being inherent to the lexical item *doch*, and that both properties can be ascribed to the effects of the prosodic accent that CA *doch* carries. I also sketched a formal account of the concessivity and anaphoricity of CA *doch*. My account relates CA *doch* to its use as conjunction as well as to the remaining uses of *doch* where it receives a correction interpretation.

Further work must be carried out to spell out more precisely the details of the analysis, as well as to elaborate on the relation between the different uses of the discourse marker *doch*.

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[8] A problem with this solution that was pointed out to me by an anonymous reviewer is that in standard DRT, material on the right-hand side of conditionals is not available for presuppositions triggered in the main DRS. The question whether this restriction can be relaxed for cases involving defeasible implication must be however postponed for further work.



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