

Discourse particles between cohesion and coherence^{*}

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Abstract. This paper discusses relational discourse particles as a device for the organisation of texts that holds the middle ground between cohesion and coherence. They are cohesive devices like *then* and other discourse anaphors, which link whole discourse segments directly but do not contribute to discourse structure proper. But they resemble conjunctions and other discourse markers in that they introduce relations between discourse segments that refer to inference patterns from the common ground, e.g., denial of expectation. In addition, they can refer to the literal content of segments or to their felicity conditions just like discourse markers.

1 Introduction

The goal of this paper is to establish a subgroup of discourse particles, called ‘relational’ because they link two utterances,¹ as a device for the organisation of texts that holds the middle ground between cohesion and coherence. This position is crucially based on their semantics, therefore, I will first describe their semantics in a novel way, focussing primarily on *doch*.² In a second step, their role in the organisation of texts is expounded and linked to their semantic contribution.

Discourse particles form a closed class in German. They can be defined in terms of their syntactic behaviour, in particular, by the following characteristics:

- they cannot be questioned
- they cannot function as one-word answer to a question
- they cannot be coordinated
- in declarative root clauses, they occur in the so-called ‘Mittelfeld’ (between the finite verb, which occupies the second position in the clause, and any non-finite verbal elements)

^{*} Thanks to Gisela Redeker and two anonymous reviewers for valuable comments and feedback.

¹ Other discourse particles, e.g., *ja*, merely refer to the utterance in which they occur [25].

² The paper does not attempt to cover all uses of the particles; see [7] for a more comprehensive account.

Consider e.g. (1), which hosts the discourse particle *ja* between the finite auxiliary *ist* (expressing perfect tense) and the nonfinite *gewesen*, the past participle of the copula. The particle *ja* expresses (roughly) that the information conveyed by the sentence is already part of the common ground:³

- (1) Max ist ja in Paris gewesen.
Max is JA in Paris been
 ‘Max has been in Paris, you know.’

Doch contributes a two-place relation to the meaning of a larger discourse, which relates the utterance *doch* is a part of to a previous utterance to which the *doch*-utterance reacts. This relation is one of tension in that the host utterance (the one with the particle) expresses a potential counterargument to the previous utterance (or a proposition closely related to that utterance, see (3)). In addition, the host utterance is old information. E.g., in [10]’s example (2) B’s *doch*-utterance reminds A of the (known) fact that Peter is ill, which suggests the contrary of A’s announcement that Peter will also come along:

- (2) A: Peter kommt auch mit. B: Er ist doch krank.
Peter comes also along he is DOCH ill
 ‘A: Peter will not come along. B: But he is ill.’

In (2), the (propositional) semantic arguments of the particle are the meanings of these two utterances. But semantic arguments of a particle may differ from the meanings of these utterances, which is shown by [21]’s example (3):

- (3) A: Seit wann hast du den „Faust“? B: Den hast du mir
since when have you the Faust it have you me
 doch geschenkt.
DOCH given
 ‘A: Since when have you owned the ‘Faust’? B: But you have given it to me.’

In (3), B reacts to the implicit proposition that A does not know the answer to his question (otherwise A would not have asked). This proposition is one of the arguments of *doch*, yet differs from the meaning of A’s utterance. Therefore semantic arguments of a discourse particle must be distinguished from the meanings of its host utterance and the second utterance to which the host utterance reacts: The host utterance of a discourse particle is called ‘p(article)-utterance’ (or ‘*part*-utterance’, for a particle *part*; the preceding utterance to which it reacts is called ‘a(ntecedent)-utterance’. The semantic arguments of the particle are referred to as ‘a-proposition’ and ‘p-proposition’, respectively.

The paper is structured as follows. First I will introduce the semantics of discourse particles in section 2, then their role in the organisation of texts is outlined section 3, and further directions for the line of research proposed in this paper are discussed in section 4.

³ The translation tries to mimick the effect of discourse particles in English. Note that even though sometimes this effect is expressed in terms of discourse markers, this does not mean that these particles are discourse markers themselves.

2 The semantics of discourse particles

The meaning of discourse particles involves reference to the *common ground* [12, 24, 10]. Common ground (CG) is modelled in terms of common *belief* [18]. Common belief is equated with the set of propositions that are true in all possible worlds compatible with the beliefs of all members of the respective group of believers.

Reasoning on the CG often employs *inference patterns*, which are part of the CG and will be modelled in terms of *defeasible deduction* [4]. I.e., the CG includes statements of the form ‘ $p > q$ ’ (p defeasibly entails q), which together with p allows deducing q defeasibly (by defeasible Modus Ponens).

The semantics of *doch* introduces tension between a- and p-proposition in terms of defeasible deduction: *Doch* p as a reaction to an a-proposition q against the common ground C reminds the hearer that C comprises a potential impediment p for q . Still, q is not explicitly denied. In other words, *doch* indicates that a specific inference pattern $p > q$ is not applicable to the a- and p-proposition. Formally:

- (4) $\llbracket \text{doch} \rrbracket(p)(q)$ holds iff the common ground C comprises p and the fact that p defeasibly entails $\neg q$

Note that p and $p > q$ together would defeasibly entail $\neg q$ by defeasible Modus Ponens, which is blocked because q holds. Modelling tension by defeasible deduction follows [10] and [24] (against [2] and [12], who assume that *doch* p points out a contradiction in the CG, in that q is incompatible with a consequence of p .)

In simple cases, the a-proposition is expressed directly by the a-utterance. E.g., in (2), being ill is a potential impediment for going out, so, by pointing out Peter’s illness, B expresses surprise or disbelief at A’s announcement that Peter will also come along (without necessarily correcting it or refuting it completely, because even ill people can go out in principle).

While the a-proposition is often given by the a-utterance itself, it can also emerge as one of its *felicity conditions* [17], in particular, in the case of non-declarative a-utterances like in (3), whose interpretation is not a proposition that could serve as a semantic argument of *doch*. Intuitively, *doch* in (3) suggests surprise at the question being asked at all, since A himself gave the book to B and therefore should know since when B possesses it. This can be reconstructed formally as follows: B’s utterance expresses a proposition p (that A gave the book to B) and points out that p is part of the common ground. Furthermore, it is part of the CG that p is a potential obstacle for a specific a-proposition q ($p > \neg q$).

But since B assumes that A is cooperative, A’s question has introduced into the CG all the felicity conditions that there are for questions, among them the first preparatory condition, viz., that A does not know the answer to his question. This condition can serve as the second argument q of *doch*, because it is reasonable to assume that if A gave the book to B ($= p$), he should know the answer to his question ($= \neg q$).

This use of *doch* is not restricted to reactions to non-declarative utterances. Consider e.g. [10]’s example (5):

- (5) A: Peter sieht schlecht aus. B: Er war doch lange im
Peter looks badly out he was DOCH long in.the
 Krankenhaus.
hospital
 ‘A: Peter does not look healthy. B: But he has been in hospital for a long
 time.’

In (5), the *doch*-utterance does not present a potential counterargument to the previous utterance. Instead, it even looks as if it presented a potential *explanation* (being in hospital for a long time might be a reason for not looking healthy). This apparent puzzle disappears once we realise that the *doch*-utterance targets the fact that A’s utterance expresses surprise.

I assume as one of the felicity conditions of expressing surprise at a state of affairs *S* that the speaker considers *S* as extraordinary, something that would not have obtained in a normal course of events. Then the *doch*-utterance suggests that A should not be surprised at all, because Peter’s long stay in the hospital entails defeasibly that his unhealthy appearance is a quite normal, ordinary fact, i.e., the negation of the abovementioned felicity condition for surprise.

Other authors involve speech acts in the interpretation of discourse particles, too, e.g., [24] or [10]. However, in contrast to these analyses, I do not assume that discourse particles modify speech acts or felicity conditions of their host utterances. Rather, discourse particles can relate these (p-)utterances to felicity conditions of other (a-)utterances.

The introduction of inference patterns from the common ground and the reference to felicity conditions of a-utterances reappear in other relational discourse particles. Consider first *schon*:

- (6) A: Klaus hat nicht genug gelernt. B: Er wird seine Prüfungen
Klaus has not enough learnt he will his exams
 schon bestehen.
SCHON pass
 ‘A: Klaus did not study hard enough. B: He will pass his exams, don’t
 worry.’

Intuitively, the *schon*-utterance confirms the a-utterance, but at the same time, rules out one of its potential consequences, i.e., B accepts A’s claim that Klaus did not study hard enough, but rules out the implication that this will make him fail his exams. This characterises the p-proposition (that Klaus will pass) as unexpected and surprising. This description refines [21]’s description that ‘parts of the preceding utterance are confirmed, but the overall validity of the utterance is restricted’.

Formally, the meaning of *schon* is reconstructed as follows:

- (7) $\llbracket \text{schon} \rrbracket(p)(q)$ iff both *p* and *q* hold, and, according to the CG, $q > \neg p$

Schon-utterances can also react to non-declarative a-utterances, e.g., in (8), B's reaction targets the first preparatory condition of A's warning, viz., that A has reason to believe that something will happen that is not in the interest of B ($= q$). This defeasibly entails that B will be harmed in some way ($= \neg p$), which is ruled out by B in his reply to A's warning ($= p$).

- (8) A: Pa auf Dich auf! B: Mir wird schon nichts passieren.
look after you after me will SCHON nothing happen
 'A: Take care. B: Nothing will happen to me, don't worry'

Finally, *auch* introduces a potential reason for an a-utterance, e.g., in (10), for sweaters, being made of new wool defeasibly implies being soft. I.e., *auch* states the applicability of an inference pattern from the CG, in formal terms:

- (9) $\llbracket \text{auch} \rrbracket(p)(q)$ iff both p and q , and the common ground C comprises both p and $p > q$

- (10) A: Der Pullover ist aber weich. B: Das ist auch Schurwolle.
the sweater is but soft it is AUCH new.wool
 'A: The sweater is amazingly soft. B: Well, this is new wool.'

This example once again shows that discourse particles can serve different functions: B's reaction in (10) can be just an explanation of the fact mentioned in A's statement or qualify this statement as superfluous, because it follows from the CG by defeasible Modus Ponens anyway (the fact that the sweater is new wool is in the CG as well as the inference pattern from consisting of new wool to being soft).

3 The discourse function of discourse particles

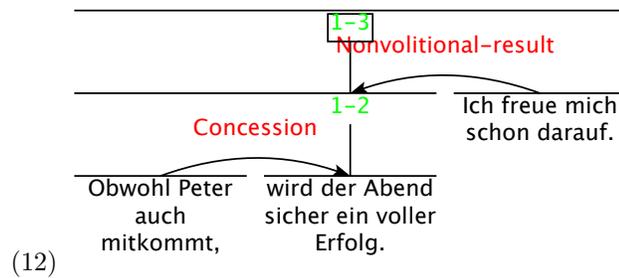
Semantically, relational discourse particles relate two propositions. However, these have a different status in that the one is the semantic contribution of the p-utterance, while the other one is an anaphor, whose antecedent must be identified in the preceding discourse. This difference remains unnoticed most of the time because in most work on discourse particles, simple adjacency pairs like (2) are employed to investigate relational discourse particles. Such adjacency pairs hide this anaphoric aspect of the semantics of discourse particles.

But consider now (11a-b), a more involved version of (2), in which *doch* targets the most embedded segment of A's utterance (the one stating that Peter will come along):

- (11) (a) A: Obwohl Peter auch mitkommt, wird der Abend
although Peter also comes.along becomes the evening
 sicher ein voller Erfolg. Ich freue mich
surely a complete success I look.forward me.reflexive
 schon darauf.
already to.it
 'A: Although Peter will come along, too, the evening will be a complete success. I'm looking forward to it.'

- (b) B: Peter ist doch krank.
Peter is DOCH ill
 ‘B: Peter is ill.’
- (c) B: Aber Peter ist krank.
but Peter is ill
 ‘B: But Peter is ill.’

(11a-b) shows that *doch* can target an (a-)utterance regardless of its position in the discourse structure. The relevant utterance is the most deeply embedded segment in A’s utterance, in terms of Rhetorical Structure Theory [16, 20], the concession satellite of the statement that the evening will be a complete success, with the last sentence serving as a non-volitional result for the preceding utterance:



Compare (11a-b) now to (11a,c), which differs only in replacing the discourse particle *doch* by the discourse marker *but*. This discourse is not well-formed, because *but* could only introduce a contrast between B’s reaction and A’s utterance as a whole or the last of its parts (that A is looking forward to the evening), neither of which would make sense. In particular, *but* cannot link B’s reaction to the first segment of A’s utterance.

If one assumes that a discourse structure does not include links caused by anaphora and other cohesive devices (in opposition to [23]), this shows the anaphoric nature of discourse particles. They function as *discourse adverbials* just like *then* or *otherwise* [22]. I.e., they are cohesive devices that complement discourse structure in the organisation of discourse. Discourse particles and other discourse adverbials are special in that they are anaphors for whole discourse segments, semantically, for abstract objects in [3]’s sense. They share this property of linking discourse segments with discourse markers such as conjunctions.

The crucial difference between discourse particles and discourse markers, however, is that the former pattern with anaphors for discourse segments (discourse adverbials and expressions like *the first of these aims*) in that they can relate discourse segments that are not linked at all in terms of the discourse structure. [8] show this in detail, using the examples of the Discourse Graph Bank presented in [23].

In spite of this different behaviour there are close similarities between discourse particles and discourse markers in the kind of relations that they establish between segments. First, the way in which *doch* and *schon* introduce defeasible

implication to model the tension between two propositions reappears in the discourse relation of CONCESSION in [9], [14], and [11]. This notion of tension is known as *denial of expectation*, which combines contrast and concession [15, 14].

The major difference between *doch* and *schon* is then the direction of the implication (from p-utterance to the negation of the a-utterance or the other way round). This similarity between discourse particles and discourse markers extends to *auch*, too, which differs from *doch* in that the implication goes from the p- to the a-utterance (not to the negation of the a-utterance): This defeasible implication between two propositions is exactly the same as for *because* [14].

Second, even the status of these implications is the same. [14] analyses the defeasible implications introduced by discourse markers as presuppositions. If we adopt [18]’s idea that presuppositions are constraints of the Common Ground (pace [1]), the CG status of these implications in the case of discourse particles and their status as presuppositions in Lagerwerf’s analysis emerge as a notational variant.

Consequently, these implications can be accommodated for discourse particles just like for discourse markers, e.g., in (13): Even if A has never heard of the name of Lamborghini before, he will in normal circumstances accommodate the default implication from Lamborghinis to high prices as introduced by *auch* in B’s reply:

- (13) A: Das Auto ist aber teuer. B: Das ist auch ein
 the car is but expensive it is AUCH a
 Lamborghini.
 Lamborghini
 ‘A: This car is terribly expensive. B: Well, it’s a Lamborghini.’

Finally, the observation that discourse particles can refer to felicity conditions of utterances reappears in the domain of discourse markers, too: They can refer to felicity conditions of utterances, as e.g. in [19]’s examples (14) and (15):

- (14) Mary loves you very much, although you already know that.
 (15) What are you doing tonight, because there’s a good movie on.

In (14), the subordinate clause introduces a potential counterargument not to the main clause itself but to its second preparatory condition (that it is not obvious to both speaker and hearer that the hearer already knows). For (15), the subordinate clause offers a reason for the sincerity condition of the question: The fact that there is a good movie on tonight motivates the wish of the speaker to know what the hearer is doing tonight. This phenomenon shows up for discourse particles, too, as shown in the discussion of (3) above.

4 Conclusion and further work

Discourse particles were assigned the middle ground between cohesion and coherence (in the sense of discourse structure) in that they are anaphoric cohesive

devices but share important properties with discourse markers: They behave like anaphoric devices in that they can link units that are positioned in different parts of the discourse structure, but the way in which they link these units closely resembles the way in which discourse markers do it.

The next steps now are to extend the coverage of this analysis to other discourse particles and to validate and refine these analyses through corpus studies, e.g., using the German Reference Corpus [13], and contrastive analyses of ‘minimal pairs’ of discourses which differ only in terms of a discourse particle.

E.g., B’s reaction in (10) could have used *doch* instead of *auch*; and an appropriate analysis of the discourse particles would have to explain why *doch* would have made B’s response less friendly:

- (16) A: Der Pullover ist aber weich. B: Das ist doch Schurwolle.
the sweater is but soft it is DOCH new.wool
‘A: The sweater is amazingly soft. B: Of course, this is new wool.’

It is straightforward to explain this difference in friendliness: The *doch*-utterance in (16) introduces a potential counterargument to the abovementioned felicity condition of expressing amazement (that it is not clear that the state of affairs about which one is amazed would have obtained in the normal course of events). I.e., (16) as opposed to (10) refutes the speech act of the preceding utterance, which is less friendly than pointing out a potential explanation for an amazing fact. However, this is a post-hoc explanation, at present the analysis cannot predict the constellations under which reference to felicity conditions of speech acts is feasible or not.

On the basis of these analyses, we then want to compare the way in which discourse particles interact with discourse structure in the organisation of texts, following the research programme outlined in [5] and [6]. This paper offers first results for the hypothesis that in expository texts (as opposed to argumentative ones) there is close alignment between discourse structure and cohesive devices in the organisation of the text, because in these texts the discourse structure is less strong and visible as in argumentative texts. The analysis of discourse particles as cohesive devices predicts that they interact with discourse structure in an analogous fashion. Further work will investigate this prediction.

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