

Particles: Presupposition Triggers, Context Markers or Speech Act markers

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1 Introduction

This paper discusses two possible formal approaches to the semantic/pragmatic characterisation of a subclass of the modal particles. It may well be that the approaches can be applied to other particles or that they can be applied to certain intonational patterns (e.g. contrastive stress), to morphemes (past tense, agreement) or to words (pronouns), constructions (some uses of definite descriptions, clefts), but I will not try to show that here.

The first approach is based on the optimality theoretic reconstruction of Blutner & Jäger (2000) of the theory of presupposition that has become fairly standard, the Heim (1983) and van der Sandt (1992) view of presuppositions as anaphora (see Zeevat (1992) for an introduction and comparison). The first half of the paper critically reviews my earlier views on the treatment of particles in this setting, the second part introduces a novel view, again based on optimality theory, which takes as a starting point the marking constraints that are a necessary ingredient of my earlier treatment.

The advantage of the second treatment is not so much that it gives a better account of the particles in question but that it generalises better to other particles and that it is more economical. There are more particles that can be seen as context markers than as (non-standard) presupposition triggers.

The empirical content of this paper is limited to some well-known observations on the English particle *too* in Kripke, ms.) on the Dutch/German particle *toch/doch*, (see Karagjosova, 2001) and related particles as in Zeevat (2002).

Discourse particles present a special problem for frameworks in which semantic characterisations are made exclusively in terms of truth conditions. Stalnaker (1973) observed that particles like *even, too, also, doch, etc.* can make the utterances in which they appear pragmatically incorrect, though they can never make a true utterance false. If this is so, it is impossible to deal with the semantic/pragmatic role of particles in such frameworks. Dynamic semantics of the kind that has been assumed for the treatment of anaphora and presupposition is more promising and in fact many particles have been described as presupposition triggers. In a dynamic semantics, meaning becomes a function from an old information state (what the speakers knew already) to a new information state (the old information state together with the information conveyed by the utterance).

The characterisation of the semantic or pragmatic contribution of discourse particles to the utterances in which they occur is not just a puzzle in pragmatics, but it is question with repercussions for the foundations of natural language semantics and pragmatics.

I will conclude that not even the dynamic notion of meaning is sufficient for the particles and that a proper account of the particles requires more, probably an

analysis of speech acts in terms of the conditions under which it can be carried out, the effects that are achieved if the act is taken seriously by the hearer together with the effects that the speaker intends to achieve. Discourse particles are means for indicating that these are not the normal ones and that other conditions or intended effects apply. The change that a speech act can effect on an information state is only one aspect. In the conclusion, I will give an outline of a theory along these lines.

2 A Presupposition Theory of Certain Particles

The particle “too” has occupied a central place in the presupposition literature, both before and after Kripke’s underground paper on this particle. The view of Karttunen (1974) is that a presupposition must be true in the context of an utterance of a sentence that contains a presupposition trigger that triggers it if it is not filtered away or stopped by a plug (filters are operators that let through some but not all of presuppositions of their arguments, plugs operators that let none of them through). This condition is always met by simple context of the trigger, like the one in (1).

- (1) John will have dinner in New York too.

What is the presupposition? There are a number of readings, but if John carries contrastive stress, it is the statement that somebody different from John will have dinner in New York. Now New York has many inhabitants and most of them have dinner there every night. In addition, everybody knows that. So in a normal context of utterance, the theory of Karttunen (1974) (and similar theories

like Gazdar (1979), Heim (1983), Stalnaker (1973) and van der Sandt (1992) run into the same problem) predicts that the particle *too* cannot change the felicity of the utterance, because its presupposition is trivially met. But the presupposition does matter. The sentence is infelicitous if the previous conversation has not mentioned another person who will have dinner in New York.

One can try to escape from Kripke's argument by assuming a different presupposition, e.g. x is a person different from John who will have dinner in New York. This is an open formula and can only be satisfied by finding a binder for the x in the context: it is very much like a pronoun. To take x as a hidden pronoun has been proposed by van der Sandt & Geurts (2001) in the context of a discourse representation theory. A problem is then that presupposition triggers in theories like Van der Sandt's and Heim's generally allow the possibility of accommodation and that the most natural way for applying accommodation leads to regaining the original problematic presupposition: there is somebody apart from John who will have dinner in New York. Van der Sandt and Geurts remedy this problem by assuming that pronouns do not accommodate, something which they motivate by observing that pronouns do not have sufficient descriptive content for accommodation. The observation that pronouns do not accommodate is correct, but the explanation seems problematic, since a pronoun like "he" or "she" has roughly the same descriptive content as "the man" or "the woman" which would accommodate, at least under the assumptions of the theory adopted by Van der Sandt and Geurts.

This however still allows for partial accommodation: resolve the pronoun to some known entity and accommodate the information that the person will have dinner

in New York ¹. E.g. (2)

- (2) A man is walking in the park. John will have dinner in
New York too.

could (must, under the assumptions of van der Sandt & Geurts, 2001) be treated by resolving the pronoun from the presupposition triggered by *too* to the walking man in the first sentence and by accommodating the remaining part of the presupposition, so that it would be equivalent to (3).

- (3) A man is walking in the park. He will have dinner in
New York. John will have dinner in New York too.

The correctness of Asher's argument follows from a parallel case with an overt pronoun inside the trigger, (4) where we indeed seem to accommodate unproblematically the presupposition (the man has a dog) after resolving the pronoun.

- (4) A man is walking in the park. Some children are playing
with his dog.

The assumption that *too* does not allow accommodation because of hidden pronoun has another problem as well. The particle *indeed* (or the Dutch *immers*, roughly "As you know") presupposes the content of the whole sentence in which it occurs and so its presupposition has arbitrary amounts of descriptive content. But the presuppositions of these particles cannot be accommodated anymore than the presupposition of *too* and it seems rather artificial to assume a hidden pronoun in the presupposition of *indeed*.

In fact, it is a general property of the particles that are presupposition triggers that their presupposition cannot be accommodated². *Again, indeed, instead, German/Dutch doch/toch, Dutch immers* are rather clear examples.

The particles also have other properties that make them unlike normal presupposition triggers. First of all, they are not optional in the sense that if one finds them in a body of natural text or dialogue they can just as well be omitted. (5) is an example, but one really needs to look at the total picture³.

(5) A: Bill will come tonight.

B: John will come *(too).

A: Bill is ill.

B: He is *(indeed).

Second, they have a rather minimal meaning apart from their presuppositional properties. *Again* in (6)

(6) Mary has failed again.

does not inform us of anything apart from Mary's failing. The truth-conditions of the sentence with *again* are the same as for the sentence without the particle.

The existence of another occasion of failing is not asserted, but only presupposed.

A third and even more puzzling characteristic is that the antecedents of some of these particles can occur in contexts that are not accessible from the position of the trigger in the sense of discourse representation theory⁴

(7) Mary dreamt that night that she would fail the exam and

indeed she did.

None of the other triggers that are central in the presupposition literature have these three properties. The only exception might be the obligatory nature of the trigger. Is the use of presupposition triggers instead of non-presupposing alternatives obligatory if the presupposition is fulfilled? I think not, but the

situation is not as clear cut as one would like. Two examples, based on the triggers *know* and *the*.

Can I say (8) when I know that p is the case?

(8) John believes/suspects that p .

Would I be pragmatically incorrect? There seems to be no problem. I merely suggest that John does not have the appropriate epistemic access to p to warrant the use of *know*.

If we have discussed a new girl at the office who I saw with John in town, it is again not incorrect for me to report that I saw John with a girl in town, instead of saying that I saw John with the new girl at the office: I may consider the connection irrelevant in the context. (I would suggest that they are different, if the hearer would think the identity would be relevant.) To the extent that the standard triggers like *know* or *the* are obligatory, they are so because they are liable to mislead the hearer. Not using them can be a transgression of Grice's maxim of quantity.

The particles are different. They can only be used when the presupposition is there (since they do not accommodate) and their absence cannot really mislead the hearer if the presupposition is satisfied, since the presupposition is common knowledge already.

There are unclarities here, but it is obvious that *know* and *the* accommodate, have content and do not take inaccessible antecedents.

(9) John knew that Mary has failed.

(9) can be used to convey that Mary had failed. Knowledge is more than just belief with a presupposition and so has independent content. The truth of the presupposition is therefore not enough to make it necessary to use the word *know*.

(10) is only acceptable under the extra assumption, that the dream is true.

(10) Mary dreamt that she would fail the exam. Bill knows
that she will.

(11) gives similar examples with *the*.

(11) I met the director of Peter's school.
Mary dreamt there was a burglar in the house. The police
captured the burglar after a chase in the garden.

The first sentence can be used without Peter's school having been mentioned before or the fact that it has a director. Both fact can be unproblematically accommodated. The second sentence of the second example can (when it is not taken as an elaboration on the contents of Mary's dream) only be understood under the extra assumption that the dream was true.

It is clear that if we want to analyse particles as presupposition triggers, we must be able to modify our presupposition theories to make it possible that the particles come out as a special case with special properties. No semantic content of their own, no accommodation, the possibility of inaccessible antecedents and the obligatory character of their use. I will now sketch my earlier attempt to do just that (cf. Zeevat, 2002).

Preliminaries

I am assuming a version of the presupposition theory of Van der Sandt or Heim formulated in an update semantics. In such a theory, a presupposition trigger is

always added to an auxiliary information state that is introduced in order to allow the interpretation of a logical operator like negation, implication or disjunction, a modal operator or a propositional attitude. Auxiliary information branch off from the common ground or from other auxiliary states. An auxiliary information state has access to the state from which it has branched off or to the states to which that state has access. A pronoun or a presupposition trigger in an information state *IS* can be resolved to antecedents in *IS* itself or to material in other states to which *IS* has access.

The information state that contains John’s dream is not accessible from the common ground itself, as can be easily tested. But, as we saw, it is an antecedent for a particle like *indeed* (I am assuming that *indeed p* presupposes *p*). *Indeed* is very liberal in taking such antecedents.

(12) John dreamt that Mary would fail her exam and she failed
indeed.

John suggested that Mary would fail her exam and she
failed indeed.

But even *indeed* does not like antecedents under a logical operator, or “negative operators” like *doubt* or *deny*. This is illustrated in (13).

- (13) A: If John comes, the party will be a success.
B:?? John comes indeed.
B:?? The party will indeed be a success.
A: John did not come.
B:* John came indeed/*John did indeed come.
A: John came in or Mary left.
B:? John came indeed.
B:? Mary left indeed.
A: Bill doubts that John will come.
B:* He will come indeed.

Possible environments are the complements of verbs like *dream*, *say*, *think*, *suggest* and also cases where suggestions are made indirectly, e.g. by saying *maybe John will come*. Iterations of these also seem to be fine.

- (14) A: John said that Bill maybe has to stay home.
B: Charles also has to stay home.
Bill suggested that Mary was not pleased. She was indeed rather unhappy.

The problem is to explain why in specific cases the larger class of antecedents is not available. My explanation is that this is due to overlaps between the presupposition of the trigger and its semantic content. The presupposed complement of *know* can only be a fact, i.e. information that is true in the local information state or in the information states to which it has access. So an antecedent from a dream, or from John's beliefs is not sufficient for giving the semantics of the verb *know* what it needs. The semantics of the particle *again* that presupposes an

earlier occasion of the same state occurring or event happening imposes a temporal relation of precedence between the earlier state or the current one in the local information state. A state or event that is not available in the local information state cannot precede the current state or event in the information state. The cases where the weaker antecedents are possible are the ones that have little to no semantic content, i.e. *too*, *indeed*, *doch/toch*, *wel*, etc.

Marking Principles

It is not possible to explain the obligatory occurrence of anything within the bounds of a purely interpretational theory and the presupposition theory that I have been describing is exclusively concerned with interpretation. My solution is to assume a set of marking principles in Bidirectional Optimality Theory. Marking principles enforce the presence of certain features of the semantic input in the linguistic output. For a particle like *too* that is the presence of an item that is similar to the one reported in the current sentence. For accented *doch* or *toch* it is the presence of the negation of the sentence in which the particle occurs, for *indeed* the presence of the same information as reported in the current sentence. I will try to be more precise about these marking principles, when I come to speak about the context marking theory.

Non accommodation

Blutner & Jäger (2000) reformulate presupposition theory in bidirectional optimality theory by two constraints: ***Accommodate** and **Strength**. The first constraint prefers interpretations in which accommodation does not occur, the second prefers the strongest readings. Two other constraints that we need are **Consistent** that prefers interpretations that are consistent with the context over

those that are not and a constraint **Trigger** that asks that presuppositions of triggers hold in their local context. Thereby resolutions are preferred over accommodations and if accommodations have to occur, they occur in the common ground, unless that makes the common ground inconsistent (in general accommodating the presupposition in the common ground gives more information than adding it to a temporary information state.) Within this theory one can show that adding a particle is ruled out if its presupposition leads to an accommodation. In that case there is competition with the sentence without the particle. Under the assumptions of bidirectional optimality theory the violation of the constraint ***Accommodate** is fatal for the version with the particle.

The principle is general. If a presupposition trigger has a simple non-presupposing alternative that does not presuppose, it does not accommodate. It has been questioned whether the principle is correct for other presupposition triggers. Geurts (p.c.) has suggested that the trigger *manage* is a proper counterexample.

- (15) a. John managed to open the door.
 b. John tried to open the door.
 c. John opened the door.

(15a.) presupposes (15b.) while it seems clearly in competition with (15c.) and the presupposition can be accommodated.

There is however a problem with the analysis of *manage* as a presupposition trigger, presupposing that the action was tried or that it was difficult. It seems I can say (16) even if I never tried and it would not have been difficult to do so, without misleading anybody.

- (16) I did not manage to phone Mary.

Manage seems to force the focus of the question to be whether the action was successful or not. This in turn makes it necessary to find or construct a topic that it makes it sensible to have this focus (in (16), this is maybe my promise to do so, it is clear that if the difficulty of the action is given or an attempt to perform the action, a suitable topic is thereby provided). But if the presupposition is no more than the necessity of a certain kind of topic, one should not treat *manage* as a presupposition trigger at all, but as a context marker or a speech act marker. *Manage* is an interesting case, but not a good counterexample.

Summing Up

It is important to note that our alternative presupposition theory forces the replacement of **Trigger** by **Weaktrigger**, the requirement that the local context of a presupposition trigger needs to have access to the suggestion of its presupposition. But this has an unfortunate consequence. We now also need to make sure that the “normal” presupposition triggers that need the full truth of their presupposition in their local context get the normal accessible antecedents that they need. The idea that for them the presupposition itself is part of their meaning and that without the truth of their presupposition they cannot be true or false is intuitively correct, but that is not enough for a proper account. Without further constraints, we would allow updates which are only partially defined. In some of the possibilities in our information states, the presupposition is true and they can be eliminated or not depending on the truth of the of the semantic content. In others however, the presupposition is not true and therefore there would be no criterion that would eliminate these possibilities or not. In sum, the update with a partially defined proposition is not properly defined. This can be remedied by a

constraint **Defined**, asking us to make our interpretations an update that is fully defined with respect to the information state. But this is just a reformulation of the principle **Trigger** that we had before, with the difference that it is now limited to a subclass of the triggers, i.e. those that require the local truth of their presuppositions. This shows that something has gone wrong with our attempt to understand particles as presupposition triggers. The constraint **Weaktrigger** is just a special postulate needed for particles. In fact, given that the particles do not accommodate, none of the constraints for presupposition triggers seem to play any role in understanding the particles. All the specific constraints for presupposition triggers have to do with regulating accommodation and the choice between accommodation and resolution, and as we saw earlier on, accommodation does not play a role for particles.

There is no other possibility but to conclude that thinking of particles as presupposition triggers has no explanatory value. One can try to assimilate them to the other triggers, but it does not help in understanding the particles any better. It is not inconsistent to claim that our particles are (a kind of) presupposition triggers, but the claim that this is the key to understanding particles is not tenable.

3 An Alternative Theory: Context Marking

The marking principles that we had to adopt in our analysis of the presuppositional particles were an addition to the presuppositional analysis: there is no way we can derive them from an analysis that is content with saying that they just presuppose that particular presupposition, have that particular content (if they

have any).

A natural strategy towards understanding them better is therefore to turn the argument around and to investigate whether we can understand why they are like presupposition triggers if we assume that they are markers of a relation of the content of the current sentence to the context (or to another parameter of the utterance context) which must be there because of a functional necessity (e.g. if the relation in question is unmarked, wrong interpretations result). A functional explanation is necessary, for marking to be possible at all. If it were always superfluous markers would never arise. But without a further grammaticalisation process, it is not possible to understand why languages vary so much in what they have to mark. Both Dutch and English speakers can mark progressive aspect, but only English speakers have to mark it all the time. Both Russians and English can mark definiteness on NPs, but only the English have to do it all the time. I will take this up this issue in the conclusion.

The relations for which we have to assume marking principles are the following.

old

The content is already suggested in the common ground (indeed, immers, doch/toch (unaccented), ja).

adversativity

The content has been suggested to be false in the context (doch/toch, pro-concessives, concessives).

correction The content was denied in the common ground (but, sondern, WEL, NIET, DOCH, TOCH, DO, DIDn't).

additive

The topic has been addressed before but the content gives an expansion of the earlier answer (too, also, ook/auch).

replacing additive

The topic has been addressed before, but this contribution needs to be replaced (instead, sondern).

contrast

The new content addresses the old topic with its polarity inverted (but, however, maar, aber).

Are these marking strategies universal? Empirically this is not clear. There are many things unknown about discourse particles and they are hard to understand even in a single well-studied language. It suffices for our purposes to assume that there is a strong functional pressure to have ways of expressing these relations. That assumption is necessary, since otherwise it is not clear how we could have particles like the ones listed above or how they can appear so often. And we can indeed try to make clear what could go wrong in the interpretation process if the particles (or other forms of marking) would not be there. I give my attempt to do that below.

Old Marking

If an old element is not marked as old, it may be interpreted as new even if its expression is formally identical with the original introduction of the element (cf. indefinites, tense). The original element is integrated into the semantic representation by the original interpretation process, the new version will lack the connections made there.

Adversative Marking

If the presence of a suggestion to the contrary is not noticed, this means that the suggestion to the contrary will be unchecked and can be the source of later errors.

Correction Marking

This should lead to the retraction of the corrected element. If this does not happen, the old and wrong information may remain active. Like suggestions to the contrary, they should be marked as corrected, since otherwise they can create wrong information later on.

Additive Marking

Additive marking finds an old topic and the way this was addressed before. Without the additive marking, a different topic may be assumed. Without additive marking, the two occasions of addressing the same topic remain unintegrated and can lead to wrong information due to exhaustivity effects. If one instance is noticed, it may be assumed that that is all. Or one instance may be noticed without there being a link to the other instance.

Substitution Marking

Here it is essential to make sure the two ways in which the topic is addressed are kept distinct and that the two answers are not taken as a joint answer to the same topic. It is related to correction.

Contrast Marking

If the polarity switch remains unmarked, it may be unnoticed. Misinterpretations can also result from interpreting the second conjunct as belonging to the topic of the first conjunct.

These motivations suggest that it is in the speaker's interest to mark these rela-

tions: without marking, she may well be misunderstood. And it is in the hearer's interest to pay attention to the marking particles since without doing that, she may well get confused.

3.1 Context Marking in Bidirectional Optimality Theory

Let us assume the convention around our particles is very simple: if the relation R obtains between context parameters and the current utterance, add the particle P to the utterance. (A more abstract version only asks for R to be marked somehow and so allows other marking devices apart from P : other particles, lexical material, constructions, intonation). This convention (a constraint **max(R)**) overrules a constraint against special devices (an economy constraint ***Particle**). The combination of the two constraints guarantees that P appears if and only if R holds between the content and the context parameters. From the point of view of the interpreter of the utterance, an occurrence of P indicates that R holds. Since the hearer now knows the content of the utterance and already knew the context parameters, she can make sure for herself that R holds. This check of R will force certain identifications, involving the current utterance, the common ground and the topic. The check is part of the interpreter's task of reconstructing the intentions of the speaker. It is also part of the interpreter's task of integrating the new information within her overall representation of the world and of doing so in an efficient way.

Can we now understand why there are similarities between presupposition triggers and a class of particles? What we have so far is a tentative explanation of two properties of our particles: the fact that they do not accommodate and the fact

that their occurrence is not optional but obligatory. The other things we need to explain is the fact that they lead to a resolution process in which certain material is identified in the context and the extra embeddings under which this material may occur. The first part of this is that the relation R needs to be recognised as holding between the current utterance and the context parameters. I will go through that for each R . The second part is just the assumption that it is the local and not the global context (the common ground) that is relevant for finding the relations. Together, that gives the presupposition-like behaviour of the particles.

Let us go through these for each of our R s.

Old markers

φ is the content of the current utterance, CG the common ground. $old(CG, \varphi)$ holds iff $CG \models suggested(\varphi)$.

The relation $suggested(\varphi)$ can be defined by a recursive definition, using a set $\{O_1, \dots, O_n\}$ containing operators like *x dreams that*, *x suggests that*, *x believes that*.

It comes in place of our earlier inaccessible antecedents.

$$(17) \quad suggested(\varphi) \leftrightarrow \varphi \vee O_1\varphi \vee \dots \vee O_n\varphi \vee suggested(\varphi)$$

Each of the particles does more than just mark R almost by definition in this case, since repeating old information is not useful by itself. *Indeed* indicates the presence of better evidence for φ , *immers* makes φ a reason for assuming the current discourse pivot (the discourse element to which the current utterance is related by a discourse relation, normally the previous utterance), *doch/toch* without accent makes the old information subject of discussion again, *ja* presents

it as common ground between speaker and hearer (and allows further causal or other connections based on that). This makes it hard for *immers* and *ja* to have antecedents which are merely suggested⁵.

The account of *suggested* that I give here does not take into account that suggestions are not eternal (the same holds for *normally*). If p has been suggested, p may turn out to be false after all. Or evidence may come in that makes $\neg p$ as plausible as p . For *normally*, it is possible to build this into the semantics, so that *normally* p can be true with respect to an information state IS but becomes false again on an extension of JS of IS . We can reach the same effect with *suggested* p by requiring that *may* p is a necessary condition for *suggested* p , where *may* p is the requirement on an information state that it contain possibilities in which p is true⁶. (18) illustrates the wrong predictions that one gets without the proviso. It should be clear that the point of adversative marking and correction is precisely to get rid of incorrect suggestions and evidence in the common ground.

(18) A: John thinks that Mary will come tonight, but he is
wrong.

B: *Mary will come indeed.

B: *Susan will come too.

An amended version of *suggested* is given in (19).

(19) $suggested(\varphi) \leftrightarrow may\varphi \wedge (\varphi \vee O_1\varphi \vee \dots \vee O_n\varphi \vee suggested(\varphi))$

Adversative Markers

adversative(CG, φ) holds iff $CG \models normally(\neg\varphi)$ or $CG \models suggested(\neg\varphi)$

The semantics of *normally* is the subject of default logic and there is no standard view. I am assuming here that the truth of *normally*(p) on an information state requires that the $CG \models \psi_1, \dots, \psi_n$ and that ψ_1, \dots, ψ_n together constitute a reason for thinking that p , while at the same time the CG must not contain a reason for thinking that $\neg p$.

The easiest case here is that of full concessives. The complement of the concessive clause gives the reason for thinking that $\neg\varphi$ and also chooses *normally* instead of *suggested*. Since the complement of the concessive connective is presupposed, it can be treated as part of the common ground. Pro-concessives (e.g. isolated *though* in English) indicate that the reason is highly activated. The other branch, based on *suggested* is necessary. Compare (20):

- (20) Mary dreamt that she failed the exam. She had passed
 though.

It seems impossible to construe dreams as reasons for thinking that their propositional content is true. So this is really a non-concessive adversative reading of *though*. If there is a grammaticalisation path here, it goes from proper concessives to the vaguer adversative meanings.

Accented *doch/toch* is adversative. Partly these are pro-concessives with a normal stress (like *trotzdem*, *nevertheless*, *desondanks*), partly *doch/toch* has contrastive stress contrasting with an activated negative version of the current sentence. The real puzzle with *doch* and *toch* are the unaccented cases that can be proper *old*-markers without the slightest trace of adversativity. These can probably be connected to affirmation questions with a positive bias, elicited by an apparent opposite opinion of the interlocutor.

(21) A. Ich werde es ihm nächste Woche sagen.

A: I will tell him next week.

B. Dann bist du doch verreist?

B: You are away then, aren't you?

Though *doch* is here appropriate because *B* seems to imply that what *A* said is false, it also expresses that according to *B* the common ground is that *A* is abroad next week. Reanalysis as an old marker is thereby possible. Hans-Martin Gärtner (p.c.) observes that there are two intonational contours for this *doch* only one of which can be combined with the contrast marker *aber*.

An example of this use of unaccented *doch* is given in (22).

(22) Wenn er doch hier ist, kannst du ihn auch selbst fragen.

When he is here anyway, you can ask him yourself.

Corrections

$correct(CG, \varphi)$ holds iff $CG \models \neg\varphi$. The correction relation is an extreme case of adversativity: the best reason for thinking that φ is false is knowing that it is false. At the same time unlike the weaker possibilities for adversativity, the current sentence is then not consistent with the common ground. The intended change to the common ground is a combination of retraction of (the reasons for) $\neg\varphi$ and the addition of φ as a replacement.

DOCH/TOCH with contrastive stress is one correction marker. Others are Dutch *WEL* and *NIET* (both with contrastive stress), English *DO* and *DOn't* (both with contrastive stress).

Additive Markers

Common grounds naturally record their own history and any formal model of them must follow suit. $additive(CG, \varphi)$ is then a combination of a complex relation to the common ground and a special intention.

The relation is between the common ground, a topic and a proposition. The topic must be such that φ addresses it. The proposition must be the strongest to hold on the common ground that addresses the topic and the common ground must “remember” that the earlier proposition addressed the topic. This calls for a special predicate.

$$(23) \quad CG \models addressed(\psi, T)$$

The predicate should entail: $CG \models \psi$ and $address(\psi, T)$ and there should not be a χ such that $CG \models \chi$, $\chi \models \psi$ but $\psi \not\models \chi$ which also addresses T .

On a proper model of topic, addressing should be a formal relation between the formal topic and the sentence. E.g. on a model of topics where they are equated with Hamblin-style questions (Hamblin, 1973), a proposition addresses a topic iff it is member of the topic.

The intention of the speaker is that now the conjunction of ψ and φ becomes the information that the common ground has about the topic. I.e. $addressed(\psi, T)$ will be false on the new common ground and $addressed(\varphi \wedge \psi, T)$ will be true. Close in functionality to *additive* markers are “*other-* markers” like *another* in *Another girl walked in*. If we think of the noun *girl* as a topic that is addressed by the indefinite, their treatment is formally the same. But I am not sure it makes sense to think of the noun semantics as an additional topic *which girl?*.

Replacing Additive Markers

Replacing additive markers like *instead* are only different in the intention with which they are used and place the same condition on the context. We want to effect that the proposition that addressed our topic before is replaced by the current proposition φ so that afterwards the common ground has it that $addressed(\varphi, T)$ is true and $addressed(\psi, T)$ is false.

The choice between additive and replacing additive markers explains the relative uncomfotability of antecedents that are only suggested for these markers. The first example of (24) suggests that Sue is in Spain next to John, the second suggests that the dream is false. Leaving out the particle completely is not an improvement. We now no longer mark that the topic has been addressed before.

(24) Mary dreamt that John is in Spain. (?) Sue is also in Spain.

Mary dreamt that John is in Spain. (?) Sue is in Spain instead.

Mary dreamt that John is in Spain. (?) Sue is in Spain.

(25) illustrates how subtle this is. The situation (A and B are children in a secret phone call) makes it clear that B's parents do not know about the other child. And many people find the example mildly anomalous.

(25) A: My parents think that I am in bed.

B: My parents think that I am also in bed.

One way of explaining the anomaly is therefore the assumption that *too* and *instead* are not a pure context markers, but also speech act markers for the specialised speech act of adding to/substituting information in an old topic. In our last two examples this function is not applicable.

Contrast Markers

The most complicated relation I consider here is contrast and one might well wonder whether it belongs in this sequence. I think it does and that it is a mere coincidence that contrastive markers often appear as coordinating sentence connectives. In German, *aber* (*but*) also appears in later positions in the sentence and an extensive corpus study by Schösler (2002) reveals that there is no essential difference in these uses, which are translatable by *echter* in Dutch or by *however* in English. My provisional analysis, derived from Umbach (2001), goes as follows, using the machinery I introduced above.

Let ψ be the discourse pivot (the predecessor of the current utterance) and let $CG \models \text{addressed}(\psi, T)$. φ is contrastive iff it directly or indirectly addresses $\text{negate}(T)$. Here, $\text{negate}(T)$ is the topic that is addressed by the negation of any formula that addresses T . Using the conception of topic derived from Hamblin (1973), we can obtain $\text{negate}(T)$ from T by replacing all T 's elements by their negations.

The sentence S indirectly addresses a topic T iff the common ground updated with the information that S answers its own topic Q entails an element of the topic.

I illustrate the analysis by (26). In a. the second conjunct directly addresses the topic of the first sentence: *Who was ill?* I assume that this is the topic of the first conjunct also in b. and c. In b. we can construct the topic of the second sentence as e.g. *who was as fit as a fiddle?* or *Was John as fit as a fiddle.* In both cases the answer entails that John was not ill, which directly addresses the negation of the topic of the first clause. In c. the topic of the second conjunct

is something like: What about John? The fact that the answer does not include that he was ill together with the fact that the negation of the topic of the first conjunct must be addressed implies that John was not ill.

- (26)
- a. Mary was ill but John was not.
 - b. Mary was ill but John was as fit as a fiddle.
 - c. Mary was ill but John came to the party.

This last type of inference is typical for contrast. In (27), we can infer that Mary did not attend the party, even though world knowledge tells us that many people wash their hair before going to a party.

- (27) John went to the party, but Mary washed her hair.

With Umbach, I hold that the concessive uses of contrastive markers are derived uses⁷. In (28), a. can be paraphrased as b.

- (28)
- a. Although Mary was ill, John went to the party.
 - b. Mary was ill, but John went to the party.

Here *but* functions as a pro-concessive, taking its antecedent from the first conjunct. This requires that the common ground makes Mary's illness a reason for thinking that John would not go to the party (it may be known that in such cases he feels his duty is at home). Perhaps the reanalysis is based on the fact that often one positive answer to a topic makes further positive answers more plausible. If you know Mary and John, the fact that Mary goes to the party can make it much more plausible that John will go there as well. Where this is so, contrastive *but* in (29) also marks adversativity. Notice that extra adversative markers seem out of place.

(29) Mary is going to the party, but John is not.

A simple treatment of *and* along the same lines (as a *topic maintenance marker* is to say that *and* forces the second conjunct to at least indirectly address the same topic. This is the essence of the analysis of given by Gomez-Txurruka (to appear).

4 Conclusion

I have discussed so far what is context marking if we assume that syntax tells us to mark certain relations of the current utterance to context parameters like topic and common ground and if the interpreter's task is just to reconstruct the speaker intention. We have assumed that the presence of context markers is largely explainable by the difficulties facing the hearer in properly integrating the current utterance with the information that she has already got. Particles in this view are the signals from one copy of the human conversational faculty to another. They may not make much sense to us as rational agents, but they do a lot for the proper storing and connecting of the bits and pieces that come in.

The only assumption that we need to make for obtaining the presuppositional behaviour of some of the particles that I discussed is the assumption that for embedded occurrences of triggers, the local context is the one with respect to which marking needs to take place. This will explain those cases in which the common ground does not itself have the required relation to the content of the sentence, as in (30).

(30) Falls du nach Berlin kommst, triffst du ihn ja.

In case you come to Berlin, you will meet him *ja*.

The presuppositional character of some of the particles is basically the reconstruction by the hearer of the relation marked by the particle under which the utterance is made. This forces the identification of a topic or a proposition in the common ground. There is no accommodation because the relations are overt. It makes no sense to warn the hearer about a relation that does not obtain. Suggestions can open topics and address them positively and negatively. That is enough to understand why old, adversative and additive markers can take indirect antecedents.

It is therefore not necessary to invoke “presupposition theory” for the analysis of discourse particles. In fact, one may wonder whether presupposition -or presupposition trigger- must be considered a natural class in linguistics, a category that explanations can be based on. After all, the triggers normally considered in the presupposition literature fall into at least three classes: the ones considered here, the referential devices like names, definite descriptions, clefts, etc. and the lexical presupposition triggers (the largest and least studied group, including next to *bachelor* and factives, most adjectives, nouns and verbs.). This paper should have convinced you that there are serious differences between the particles and the other triggers. Zeevat (1992) discusses differences in their projecting behaviour between the lexical and referential triggers.

An attempt to understand particles as presupposition triggers also runs into the problem that many are not. It is clearly the case that more particles can be analysed as context markers, but this should not fool us into thinking that context

marking is all there is to particles. Very obviously a great many discourse particles mark speech acts. The clearest case are markers like Chinese *ma* that makes yes-no questions out of assertions as in (31).

- (31) Ni hao ma?
You good QUESTION-PARTICLE.
Are you OK?

Or take the unaccented *wel* in Dutch as in (32).

- (32) Het komt wel goed.
Don't worry.

The particle tones down the preconditions of normal assertion (the speaker has to believe to know what she is telling the hearer) to mere “trust me” belief. This — like a repetition or a correction— is a specialisation of the speech act of assertion. The context markers we considered before also have aspects that relate them to the evidentiality dimension of speech acts: *indeed* also indicates an increase in evidentiality with respect to the antecedent, accented *doch* can have a similar function, indicating that there is now evidence that what we thought before to be false has now turned out to be true.

I will not attempt a formal theory of speech acts in this paper, but just give an outline. We assume that there are at least three dimensions. The first dimension is the set of preconditions for the speech act: what must be the case with the context of the utterance that makes it possible to carry out the speech act. The second dimension is the aim that the speaker wants to achieve with her speech act. The third is the effects that the speaker achieves with the speech act independently of whether she properly reaches her aim. (Her speech act must still

be recognised as such by the interlocutor, but the interlocutor does not give the intended response.).

Context marking is the first dimension: the preconditions of the speech act and changes the defaults assumed there. We have seen that the two varieties of additive marking (*too* versus *instead*) also affect the second and third dimension. With *too*, we intend to bind an old topic question to a new value that is obtained by adding the value specified in the sentence to the old value. With *instead*, we intend to replace the old value by the value specified in the sentence. This also affects the third dimension: in the case of *too* the speaker endorses the old value of the topic in addition to the value specified in the sentence, whereas, in the case of *instead*, she disagrees with the old value and only expresses her belief to know that the value is as expressed in the sentence.

Assertions have the following preconditions, intentions and minimal effects. It is tempting to think that all other speech acts derive from this notion of standard assertion by overriding some of the default settings, by using marked sentence forms, intonation, particles, etc.

Assertion: p

Preconditions:

the common ground contains no reason for thinking that p is true or false.

the hearer wants to know the answer to a new topic Q

p settles Q

Intention:

that it become common ground that p

Minimal effect:

to make it common ground that the speaker believes to know that p .

Adversative and old-marking changes the preconditions. We obtain corrections and reconfirmations when the adverse or old information is in the common ground itself. Additive markers make the topic question old. Other markers (*wel, maybe, schon*) change the operator under which the new information enters the common ground from *the speaker believes to know* to weaker ones: *the speaker thinks it is probable that, the speaker thinks there is a chance that* or *the speaker thinks that*. The effect of an accepted weakened assertion of this kind is also changed: *it is probable that, there is a chance that, speaker and hearer think that*. Markers are possible that change the intention and minimal effect entirely, like the tag *isn't it* (the speaker believes to know that p , but wants to know if the hearer agrees with that instead of proposing it as common ground directly), the Chinese particle *ma* (the speaker wants the hearer to decide between p or $\neg p$), the intention is that p or $\neg p$ are added to the common ground. Yet other markers (performative verbs, please) turn the assertion into promises or requests.

In promises and requests, the intention and the preconditions are the same (or can be thought of as the same since p becomes a part of the common ground after the promise or request is accepted, not as what the interlocutors believe to know, but as something they agree will be brought about by them). But the minimal effect is different: the speaker wants p to be true.

The speech act that is most different is the *wh*-question. Here the precondition is that the common ground does not settle the question yet, the intended effect that the common ground settle the question and the minimal effect that the speaker

wants the common ground to settle the question. A proper treatment of this requires delving into semantics and pragmatics of *wh*-questions, something that I want to defer to another occasion.

It is clear that default settings for speech acts can be found by considering what goes on with the most unmarked surface forms. One can study the default assertion, the default question, the default request, the default acknowledgment etc. One can then add more and more marking and obtain an ever increasing range of speech acts. There are two interesting questions here. One is what the semantic type of a particle (intonation pattern, syntactic inversion etc.) is. If I am right they map speech acts into speech acts and we need the type of a speech act for a proper mathematicized account. In the more pedestrian environment of unification based semantics, we have default unification as a standard tool however: the particle is slot filler that can override default settings. The second question is whether we are dealing here with universal defaults and universal marking patterns. Empirically this is a hard question. As a Dutch speaker who occasionally attempts to speak English, German and Italian, I can only say that sometimes one needs to considerably change the speech act and its propositional content in order to achieve roughly the same effect.

There is a principled question as well here. If we assume with the founders of optimality theory that constraints are universal, then our marking constraints must be universal as well. They can of course be unsatisfiable if the language lacks appropriate marking devices or they can be outranked by an economy constraint that prohibits marking.

To take up our earlier example, Dutch⁸ can mark progressive aspect but does it

optionally, whereas English does it obligatorily, Russian can mark definiteness but does it optionally, whereas in West European languages it is obligatory. Within OT, we must say that **max(progressive)** or **max(definite)** is outranked by ***Structure**, in Dutch and Russian respectively. This is not the whole story, since we must allow optional marking. I assume that bidirectionality is responsible for this: if the speaker can see that the unmarked version leads to the wrong interpretation in the interlocutor, marking is necessary, even if it transgresses ***Structure**.

In a theory of speech acts in which there are default settings for various parameters, it is possible to understand better why the use of particles is governed by marking principles. If the particle is not there to override the default setting, the default is assumed. This means that the speaker will be misunderstood if she omits the particle when she intends a speech act with a property expressed by the particle. Obligatory marking can therefore arise from the zero situation with an ambiguous speech act form. If marking has become possible, if there is a statistically based preference for one of the readings (possibly resulting from the optional marking) and if there are sufficiently many misunderstandings, **Jaeger's** Bidirectional Learning Algorithm (this volume) lets the optionality of the marking decrease and the bias for misunderstanding the unmarked form as standard increase. This promotes further marking and stronger bias towards misinterpretation of the standard form. Under the appropriate statistical conditions this leads to obligatory marking.

It is not necessary to assume universal marking principles or universal default settings. The possibility of marking may create a bias towards the opposite

interpretation which in turn may create the default setting and the obligation to mark.

It should be clear that a proper account of speech act marking needs a lot of further elaboration. But the concept of a speech act semantics as a successor to dynamic semantics seems the most promising direction in which a fully formal approach to the semantics and pragmatics of particles could be achieved.

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Notes

¹I thank Nick Asher (p.c.) for this argument

²This claim needs a number of proviso's. First of all, partial accommodation does not seem a problem, as is made quite clear in Kamp & Rossdeutscher (1994)'s treatment of *wieder*. Also, the non-linguistic context can provide salient antecedents (*I watched too*, the morning after the world cup final). Finally, there are counterexamples which involve the speaker or the hearer as in: *Do you want a beer too?*

³Corpus studies by Tim Kliphuis and myself suggest that omitting them nearly always leads to awkwardness, or to differences in the implicatures.

⁴A subordinate context is inaccessible at a position x iff the information that it contains is not entailed at x . A subordinate antecedent for a pronoun occurring

at x is inaccessible if the existence of the antecedent is not entailed at x .

⁵This makes a proper account of them dependent on the constraint **Defined** that I discussed earlier on.

⁶Thanks to Marie Nilsenova and Robert van Rooy for pointing out this complication and to Manfred Krifka for the example.

⁷This can be doubted. Prof. Asiatini of the Tblisi State University noticed (p.c.) that in Georgian the concessive and contrastive uses of *but* are lexicalised in a different way. This shows at least that normal language users do not conflate the two uses and that contrastive markers do not always allow concessive interpretations.

⁸Certain Flemish dialects including the Antwerp dialect are an exception and pattern like English.

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