

A QUD account of German *doch**

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Abstract. This paper proposes an analysis of the unfocused and focused discourse particle uses of *doch* in terms of questions under discussion. The particle *doch* is analyzed as signaling that a question under discussion was previously closed (i.e. answered or invalidated). Unfocused *doch* is used to re-answer this previously closed QUD in the same way as before; focused *doch* is used to re-answer this previously closed QUD in a new way. This account works for both contrastive and non-contrastive uses of *doch*. Even though, unlike most previous accounts, the analysis is not built directly on the notion of contrast, the relevant intuitions can be recovered from the account via highlighting. The formalism further allows us to distinguish two distinct flavors of contrast, where they arise. One type of contrast arises through propositional contrast between the sentence containing *doch* and a highlighted alternative. The other type of contrast arises through the switching of the QUD-answer (focused *doch*).

Keywords: question under discussion, *doch*, discourse particle, highlighting, proposal

1. Introduction

The analysis presented here unifies several use cases of the particle *doch* and provides a single meaning of *doch* in terms of questions under discussion — QUDs for short. By doing so, we situate the particle *doch* within the larger picture of QUD-navigating/QUD-negotiating discourse particles (McCready (2006); Eckardt (2007); Beaver and Clark (2008); Davis (2009); Kratzer and Matthewson (2009); Rojas-Esponda (2013, 2014)). The idea is that people communicate more effectively when they understand each other's goals and strategy of inquiry. Intonation and discourse particles play an important role in the interactive coordination and negotiation of goals and QUDs (Roberts (1998); Büring (1999); Büring (2003); Rojas-Esponda (2013)). Discourse particles are employed particularly in unexpected or marked moves, where they prevent confusion and facilitate processing. For example, it follows from my account that the use of the particle *doch* is used to indicate a violation of the Maxim of Inquisitive Sincerity (Groenendijk and Roelofsen (2009)), which says that one should not raise a question if one knows the answer. More generally, through the existence of certain discourse particles but not others, we stand to learn something about what are the most felicitous or unmarked conversational moves.

A number of analyses of the German discourse particle *doch* analyze *doch* as signaling or presupposing an incompatibility at the propositional level (Grosz (2010); Egg and Zimmermann (2011); Abraham (1991); Bárány (2009); Doherty (1985); Ormelius-Sandblom (1997)). The idea is roughly that, in reponse to a proposition q , one can utter $doch(p)$ if p and q are incompatible.

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The different accounts make distinct claims as to the status of the utterance *q*, in some cases requiring it to be explicit (e.g. Egg and Zimmermann (2011)), in others allowing it to be merely salient in context (e.g. Grosz (2010)). However, it has been argued (Karagjosova (2004a, 2009)) and I argue in this paper, that propositional contrast, whether with an explicit or a salient proposition, need not arise. I will argue that these non-contrastive examples¹ can be accounted for, along with the contrastive ones, by analyzing *doch* as signaling that a question under discussion was previously closed. Karagjosova (2009) treats unfocused *doch* as ambiguous between a reading with propositional contrast and a type of reminder reading, where the speaker signals a discrepancy between what he took the addressee to know and what the addressee seems to know. The QUD analysis proposed in this paper allows a treatment of unfocused and focused *doch* that covers contrastive and non-contrastive cases, but does not require a stipulation of ambiguity. The various cases identified in Karagjosova (2009) fall out from the QUD analysis in conjunction with highlighting (Roelofsen and Van Gool (2010); Farkas and Roelofsen (2012)).

2. The uses of *doch*

This paper deals with middle-field unaccented and accented *doch*. In other words, it deals with what has been identified as the discourse particle uses of *doch*. This means that I will not consider the uses of *doch* as an answer particle. An answer particle use of *doch* is shown below:

A: <i>Kennst du ihn nicht?</i>	A: Don't you know him?	
B: <i>DOCH.</i>	B: Yes/I DO.	(C1)

Since the answer particle *doch* can be used in isolation, it must have truth-conditional import. The discourse particle uses of *doch*, on the other hand, do not affect the truth conditions of the utterances they occur in. Therefore, I consider the discourse particle uses of *doch* separately. For an analysis of the answer particle use of *doch*, see Karagjosova (2006) or Krifka (2013).

2.1. The use of unfocused *doch*

Conversation (C2) shows a fairly common use of unfocused *doch*. The host utterance of *doch* is incompatible with a salient proposition from the context, in this case the mentioned alternative of interlocutor B's question.

¹Karagjosova (2009) calls all the examples contrastive. However, Karagjosova writes that, for some uses of unfocused *doch*, the contrast lies just between what the speaker took the addressee to know and what the addressee seems to remember. I call these uses non-contrastive, as they lack propositional contrast.

- A: *Nadine ist in Italien.*
[Some time later:]
- B: *Geht Nadine heute Abend mit uns tanzen?*
- A: *Nein. Nadine ist doch in Italien.*
- A: Nadine is in Italy.
[Some time later:]
- B: Is Nadine joining us for dancing this evening? (C2)
- A: No. Nadine is *doch* in Italy.
'No. You know Nadine is in Italy.'

In (C2), A makes it known on Monday that Nadine is in Italy. A little later, B asks A if Nadine is going dancing with them. The option that B mentions in his polar question $Q = \{q, \neg q\}$ is the option $q = \text{Nadine is going dancing}$. The proposition $p = \text{Nadine is in Italy}$ is incompatible with q , under most normal circumstances. With her answer to B's question, A conveys that p was shared knowledge.

Example (C3) is of the same kind as (C2), in that the host utterance of *doch* contrasts with a salient proposition from the context.

- A: *Hat Peter die Suppe selbst gekocht?*
- B: *(Nein.) Peter kann doch nicht kochen.*
- A: Did Peter cook this soup himself?
- B: (No.) Peter can *doch* not cook. (C3)
'But remember Peter can't cook.'

In example (C3), speaker A asks a polar question that gives rise to two possibilities. One possibility is that Peter cooked the soup himself, the other possibility is that he didn't. In formulating her question, speaker A chose to mention the positive possibility, i.e. that Peter cooked the soup himself. This mentioned possibility contrasts with the proposition that Peter cannot cook. That is, under some fairly common assumptions, the proposition that B cooked the soup himself is incompatible with B not being able to cook. In addition, by using *doch*, speaker B signals that she took the fact that Peter does not cook to be in the common ground.

What possibility is mentioned in a question has important discourse effects (Roelofsen et al. (2013)). The mentioned possibility is also referred to as the highlighted possibility. See Roelofsen and Van Gool (2010); Farkas and Roelofsen (2012) for an explanation of highlighting. For the purposes of this paper, it will suffice to know that the mentioned alternative in a polar question $\{p, \neg p\}$ is the highlighted alternative. For instance, in the question *Is Lisa in her office?* the alternative that Lisa is in her office is highlighted, while the alternative that she is not in her office is lowlighted.

In conversation (C4) below, the host utterance of *doch* is incompatible with the presupposition of the definite description in A's question.

- A: *Ist der König von Frankreich hier?* A: Is the King of France here?
 B: *(Nein.) Frankreich hat doch keinen König.* B: (No.) France has *doch* no king. (C4)

In conversation (C4), the question asked by A presupposes $q = \textit{There is a king of France}$. B replies with *doch*(p), where $p = \textit{France has no king}$. The proposition p from the utterance *doch*(p) contrasts with the presupposition q of A's question, in the sense that they cannot both be true at the same time. As in (C2) and (C3), the *doch* utterance in (C4) signals that the proposition that there is no king was already in the common ground (or rather that B thought it was already in the common ground).

Contrastiveness accounts of *doch* are primarily based on contrastive-looking examples of the kind shown in (C2) to (C4). Grosz (2010), for instance, analyzes *doch* as follows:

[simplified from Grosz (2010)]

1. *doch*(p) is defined in a context c if the speaker takes p to be firmly established and assumes it is safe to discard $\neg p$.
2. There is a contextually salient proposition q , such that
 - (a) q is a focus alternative of p
 - (b) the current context c entails $\neg(p \wedge q)$

If defined, the denotation of *doch*(p) equals the denotation of p .

For examples (C2) to (C4), the analysis of Grosz (2010) seems viable (though see the additional distributional requirements in 3.2 later). However, it turns out that we can turn each of the examples above into a non-contrastive one that is still felicitous. Below is a non-contrastive conversation based on (C3). This time, the proposition containing *doch* is compatible with the mentioned alternative of A's question.

- A: *Hat Peter die Suppe selbst gekocht?* A: Did Peter cook this soup himself?
 B: *(Ja.) Peter hat doch den ganzen Abend daran gearbeitet.* B: (Yes.) Peter worked *doch* all evening on it. (C5)

The mentioned alternative of A's question is that Peter cooked the soup himself. B's reply, that Peter worked on the soup all evening, is compatible with this mentioned alternative. What is conveyed by the use of *doch* here is that the content of B's utterance was commonly known. In other words, A's question was superfluous, as the answer to it was known. Below is a minimal pair showing contrastive and non-contrastive uses of *doch* side by side.

clause in (C8) is akin to a resolution of the question can be seen when we remove the second part of the utterance:

- | | | |
|---|--|------|
| A: <i>Ist Anna zu deiner Geburtstagsparty gekommen?</i> | A: Did Anna go to your birthday party? | (C9) |
| B: <i>Sie hat abgesagt.</i> | B: She canceled. | |

2.3. Summary and preview

I showed in 2.1 that unfocused *doch* signals shared/old knowledge and also signals that the question brought up by the other interlocutor was previously resolved. In section 2.2, I argued that focused *doch* conveys new/unshared knowledge, but that just like unfocused *doch*, it conveys that the question asked by the other interlocutor was previously resolved.

There are a number of finer-grained observations about the differences between unfocused and focused *doch*, which I will discuss in 3.2 after introducing the question formalism to be used.

In 4.2, we will touch on how to naturally expand the cases we have studied here, which all involved an explicit question, to cases where the utterances are all declaratives. This will involve the notion of *proposal* (Groenendijk and Roelofsen (2009); Farkas and Roelofsen (2012)).

3. The proposed analysis

3.1. Informal discussion

As mentioned in section 2, contrastiveness accounts analyze a proposition *doch*(*p*) as contrasting with or challenging a salient proposition *q*. This approach causes problems for non-contrastive uses of *doch* (see (C6)). I propose that an utterance *doch*(*p*) does not challenge a proposition, but instead challenges a question under discussion. This allows us to make sense of (C6). Whether B confirmed the opera visit or canceled, B's *doch* utterance indicates that the question of whether or not B will attend was already settled before, i.e. closed. In one case, B answers that she confirmed the visit and indicates that this was previously known. In the other case, B answers that she canceled the visit and that this was already previously known. In both cases, the answer to the question of whether or not B would attend was known and so the question closed. Having a particle that signals that a question was closed is empirical support for the Maxim of Inquisitive Sincerity (Groenendijk and Roelofsen (2009)).² The informal definition from Groenendijk and Roelofsen (2009), for the case of a question, is provided below.

²The most direct application of this maxim occurs when we have an explicitly given question. In section 4.2, I explain how we can apply this maxim when we have only declaratives, by using the concept of proposal (Groenendijk and Roelofsen (2009); Farkas and Roelofsen (2012)).

If ϕ is a question, then the speaker [of that question] is, under normal circumstances, expected *not* to know the complete answer to that question. We will refer to this requirement as *inquisitive sincerity*.

If discourse particles signal moves in conversation, these should tend to be surprising or unconventional moves. It therefore seems natural that there is a particle, namely *doch*, that signals a breach of this maxim. Groenendijk and Roelofsen (2009) provide a caveat for the requirement of inquisitive sincerity: ‘It should be emphasized that inquisitive sincerity cannot be assumed in all circumstances. For instance, if ϕ is a rhetorical question or an exam question, it is not supposed to be inquisitive in the information state of the speaker [...].’ Interestingly, when answering exam questions, it would not be felicitous to use the particle *doch* to indicate that the writer of the exam question already knew the answer to the question.

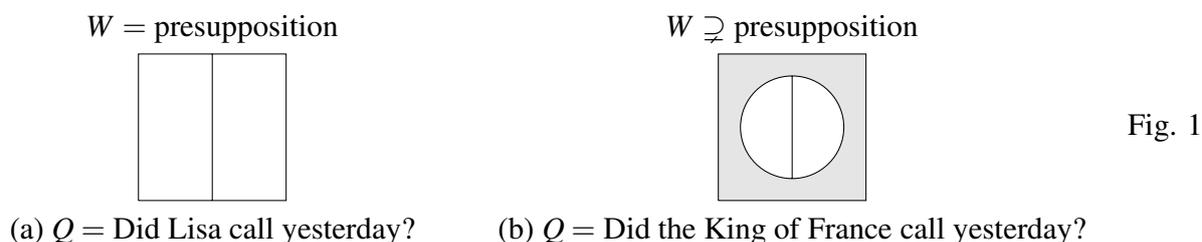
As shown in section 2, there are important differences between the unfocused and focused versions of *doch*. One very important difference was that unfocused *doch* signals shared/known knowledge whereas focused *doch* signals unshared/new knowledge. I claim that unfocused *doch* is used to signal that a previously closed question is being re-answered in the same way as before; and that focused *doch* is used to signal that a previously closed question is being re-answered in a different way from before. In (C2), the question of whether or not Nadine would go dancing was previously settled in the negative. B indicates that Nadine is in Italy, thereby recalling what she thought was the previous resolution of the question. In (C7), on the other hand, B’s use of focused *doch* is felicitous only if A and B previously had the understanding that A would not join, and A is now revising this previous answer to a different answer, namely that he is coming along. This intuitive description is formalized and refined in 3.2.

3.2. Formal analysis

We are now ready for a formal analysis of *doch*. As the proposed analysis will involve questions under discussion, it will be practical to fix a question formalism to facilitate the discussion that is to follow.³

Take a question Q to be a symmetric and transitive binary relation on the set of worlds W . This corresponds to what Groenendijk and Stokhof (1984) call a *question relativized to an information set*, or later a *structured context* (Groenendijk (1999)). In the left picture, we have an example of a symmetric, transitive, reflexive binary relation, i.e. a partition of the entire world set W . In the right picture, there is a presupposition that the king of France exists. Thus, the relation is symmetric and transitive, but not reflexive, which corresponds to a partition on a proper subset of W .

³There is no a priori reason for this choice of question formalism. The important thing is that we can represent presuppositions.



Let the presupposition of Q be $\hat{Q} \equiv \{v \in W \mid \langle v, v \rangle \in Q\}$. The question Q gives rise to a partition of W into cells

$$c_Q(w) = \begin{cases} \{v \in W \mid \langle v, w \rangle \in Q\} & \text{if } w \in \hat{Q} \\ W \setminus \hat{Q} & \text{otherwise} \end{cases}$$

Suppose Q is the current QUD and $C \subseteq W$ is the common ground before update by Q or answers to Q , where C is from the perspective of the speaker of the *doch* utterance. Then the meaning component common to both focused and unfocused *doch* is provided below:

doch marks the current QUD Q as previously closed in one of the following ways:

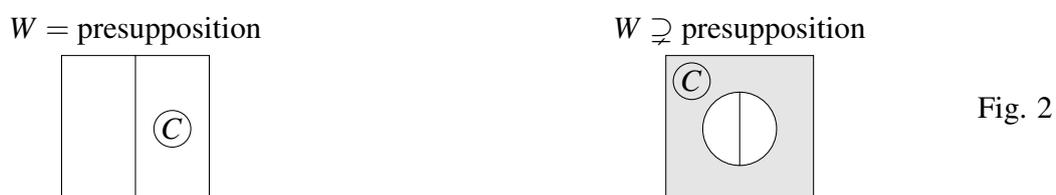
1. signals Q was previously resolved (C is contained within a single cell of Q)

$$\forall v, w \in W, (v \in C \wedge w \in C) \rightarrow \langle v, w \rangle \in Q \tag{B1}$$

2. signals Q was previously shown invalid (the presupposition of Q does not hold)

$$C \cap \hat{Q} = \emptyset$$

In cases 1 and 2 of (B1), the QUD is closed because the common ground C is contained in some individual cell $c_Q(w)$ for some $w \in W$. The difference is that in case 1 the cell pertained to the question proper, and in case 2 it was the cell corresponding to the excluded worlds, i.e. the set $W \setminus \hat{Q}$ on which the question is undefined, or equivalently where the presupposition does not hold true. These two cases are illustrated in figure 2 below:



So far, we have captured the core meaning of *doch* that is shared by both the unfocused and focused versions. But, as described in section 2, there are also some important differences between the unfocused and focused uses of *doch*. Roughly speaking, the difference is the following:

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1. Unfocused *doch*(p) is used when the cell containing C properly contains p :

$$\forall w \in C [C \subseteq c_Q(w) \wedge p \subsetneq c_Q(w)].$$

2. Focused *DOCH*(p) is used when C and p pick out different cells:

(B2)

$$p = \bigcup_{w \in S \subset \hat{Q}} c_Q(w) \text{ and } C \cap p = \emptyset.$$

Suppose C , the common ground before Q was re-raised, is contained within a single cell $c_Q(w)$ for some w . This means that the common ground before the re-raising of Q was contained in either one of the cells of Q proper, or that it was contained in the set of worlds on which Q is not defined. Then unfocused *doch*(p) is used when p is properly contained in $c_Q(w)$. Now, for the second case, suppose p is either a direct full answer or a partial answer to Q . This means p is a union of cells of the form $c_Q(w)$. Focused *doch* is used when p and C are disjoint.

4. Some ramifications and further discussion

4.1. Correct predictions

According to the analysis in 3.2, unfocused *doch* is used to re-answer a QUD in the same way. This is captured by (B1) along with (B2) part 1, by the fact that the common ground C before update by the new QUD is contained in the same question cell as the statement p from *doch*(p). This is illustrated pictorially below, on the left for the case that C is a cell of the question proper, on the right for the case that C is contained in the complement $W \setminus \hat{Q}$.

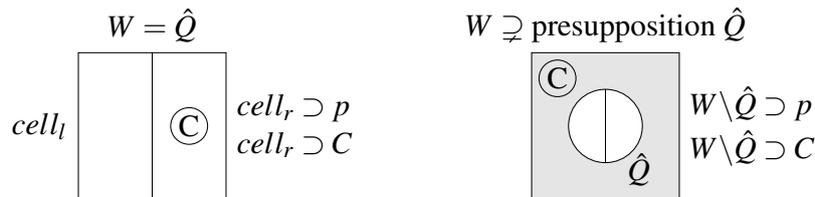


Fig. 3

That C and p are contained in the same cell correctly predicts that there is a tendency for unfocused *doch* to convey shared knowledge of its argument/target proposition (this would correspond to the case when the proposition p is not just contained in the same question cell as C , but when p is actually contained in C). However, it's useful that this does not predict p is always in the common ground. Consider the conversation below:

- A: *Kommt Jan mit auf die Wanderung?* A: Is Jan coming along for the hike?
 B: *Nein, er kann doch mit seinem schlechten Bein nicht so weit laufen.* B: No, he can *doch* not walk so far with his bad leg. (C14)

B's utterance in (C14) is felicitous even if A did not know that Jan's leg prevented him from walking far. For instance, it would be felicitous in a context where A knew that Jan had a bad leg, but did not know that this caused him problems for walking. This echoes a similar observation made about the German particle *ja*. Many analyses of *ja* claim that *ja(p)* signals that *p* is common knowledge (Helbig (1988); Franck (1980); Kaufmann (in preparation), among others), but Kratzer and Matthewson (2009) argue that the proper analysis has to do with whether or not *p* is on the table for discussion, rather than whether *p* is in the common ground.

The account in 3.2 analyzes focused *doch* as signaling the re-answering of a previously closed question in a new way. This is accounted for in (B1) and (B2) part 2, which requires *p* and *C* to pick out different cells. This is illustrated pictorially in figure 4 below:

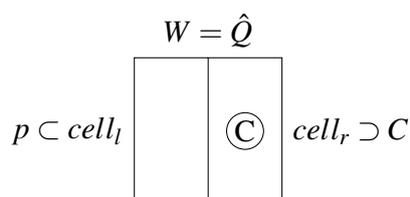


Fig. 4

As mentioned before, *C* is the context set before update by *Q* and answers to *Q*, and *doch(p)* is uttered after *Q* is re-raised. Thus, as *C* and *p* are disjoint, the analysis predicts that focused *doch* does not have a shared knowledge component.

The analysis in 3.2 (in particular, (B2)) captures that unfocused *doch* can only be used in over-informative full answers. That is, answers that provide all the information to resolve a question fully, and some additional information (this corresponds to picking out a proper subset of a single cell of the question). It also captures that focused *doch* can only be used in answers corresponding to one or more full cells of the QUD. This is desirable in view of examples (C12) and (C13).

In cases where contrastiveness arises, the intuition can be recovered from the QUD account: namely, these are the cases where the *doch* utterance is incompatible with the highlighted alternative of the QUD. The rest of this subsection shows how different contrastiveness cases can be distinguished and recovered (see Karagjosova (2004b, 2009) for comprehensive discussions of the use cases of *doch*). Examples (a) through (f) illustrate two types of contrastiveness that can arise:

propositional contrast

The highlighted cell differs from the cell containing *p*. This can be seen in examples (a), (b) and (c) below.

switch contrast

The cells containing C and p are different (meaning that a question that was resolved one way is resolved in a new way via p). This is exemplified in examples (c) and (f) below, and generally all cases of focused *doch*.

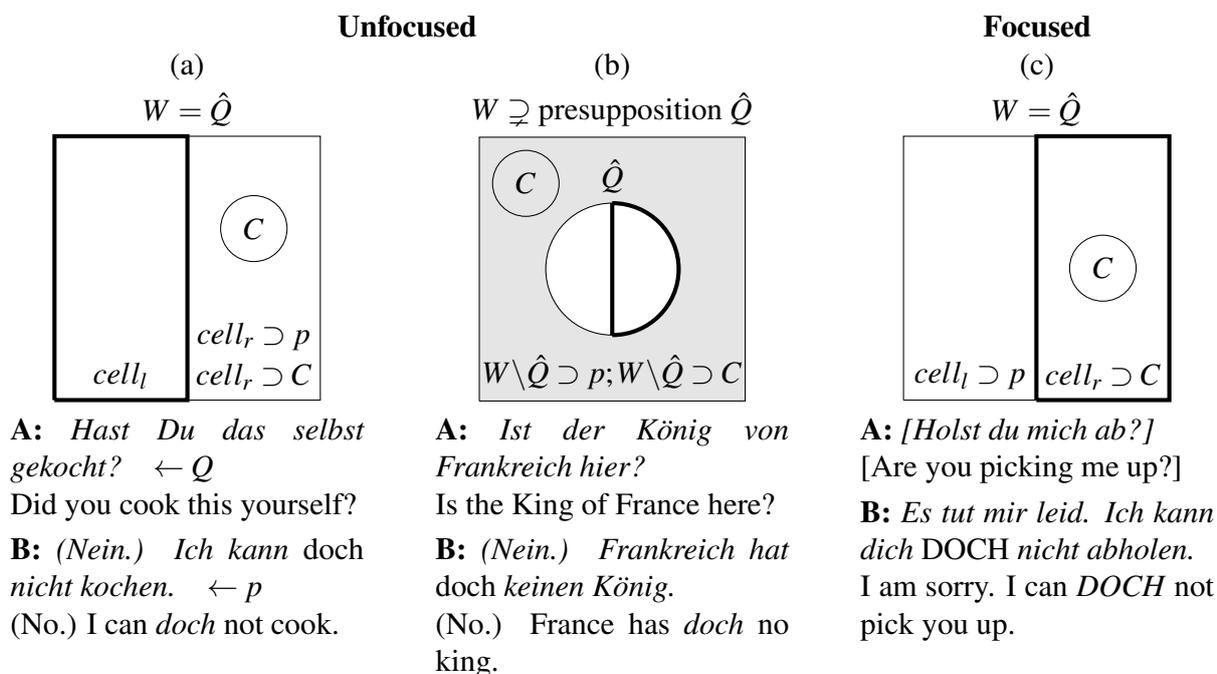


Figure 5

The pictures in figure 5 above show the highlighted (mentioned) cells of the questions with bold lines. They also show the common ground C (from the perspective of the speaker) before update by the current QUD and any answers to it. Lastly, they indicate which cell contains the proposition p from the utterance *doch*(p). In (a) and (b), C and p are contained in the same cell. This is always the case for unfocused *doch*. In (c), C and p are in different cells, as is always the case for focused *doch*.

Examples (a) and (b) exhibit propositional contrast whereas (c) exhibits switch contrast, because it involves the switching of an answer to a question to a different answer.

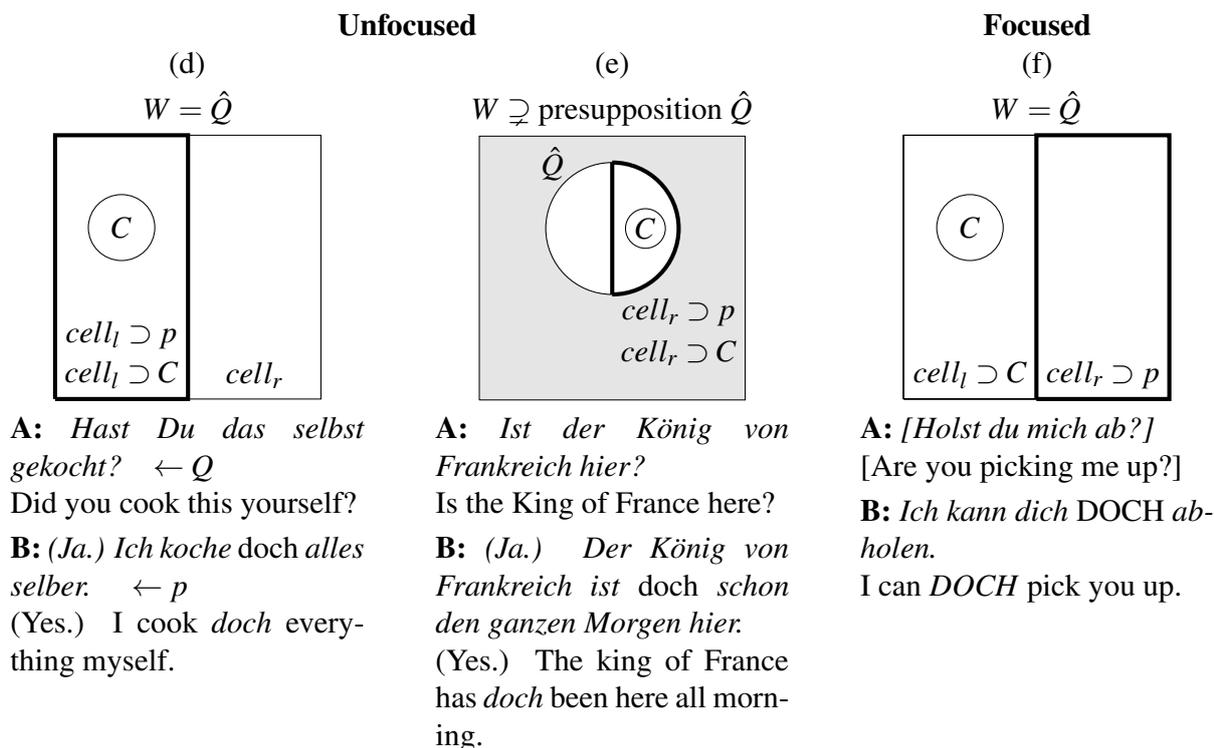


Figure 6

In examples (d) and (e) of figure 6 the highlighted cell corresponds to the cell that contains the proposition p from the utterance $doch(p)$. Conversations (d) and (e) are examples of unfocused *doch*, so the cell containing C is the same cell that contains p . Thus, as always is the case for unfocused *doch*, there is no switch contrast in (d) and (e). Furthermore, since in (d) and (e) the highlighted cell corresponds to the cell containing p , there is no propositional contrast in (d) and (e) either. In example (f), there is no propositional contrast, but there is switch contrast. Switch contrast occurs in every instance of focused *doch*. Figure 7 below summarizes the above data. It shows us that the two examples without any type of contrast are examples (d) and (e).

example	focus	propositional contrast	switch contrast
(a)	No	Yes	No
(b)	No	Yes	No
(c)	Yes	Yes	Yes
(d)	No	No	No
(e)	No	No	No
(f)	Yes	No	Yes

Fig. 7

4.2. Questions and proposals

In 4.1, we saw examples of *doch* in question-answer discourse. In dialogues where the initial utterance is a proposition instead of a question, we view this proposition as a *proposal* in the sense of Farkas and Roelofsen (2012). According to Farkas and Roelofsen (2012) (who build on Groenendijk and Roelofsen (2009)), the utterance of a proposition p has two effects. The first is that the issue of whether or not p holds, i.e. $\{p, \neg p\}$ is put on the conversational table. The second is that the proposition p is offered as a solution of this issue of whether or not p .⁴

In (C15), speaker A makes the proposal $q = \textit{Sabine went jogging this morning}$ and raises the issue $Q = \{q, \neg q\}$. The use of *doch* in *doch(p)* signals that this issue was already previously resolved, and that p then resolves it again in the same way (see 3.2). In (C15), p is incompatible with $q = \textit{Sabine woke up at 3pm}$. In other words, under normal circumstances, $\neg(p \wedge q)$ holds. Thus, this example exhibits propositional contrast.

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| A: <i>Sabine ist heute Morgen joggen gegangen.</i> | A: Sabine went jogging this morning. | |
| B: <i>Sabine ist doch um drei Uhr heute Nachmittag aufgewacht.</i> | B: Sabine <i>doch</i> woke <i>doch</i> up at 3 o'clock in the afternoon today. | (C15) |

In (C16), speaker A makes a proposal $q = \textit{Sabine went jogging this morning}$ and raises the issue $Q = \{q, \neg q\}$. Again, the use of *doch* in *doch(p)* signals that the issue was already previously resolved and is being resolved again, in the same way. This time, the proposition $p = \textit{Sabine goes jogging every morning}$ is compatible with q . Here, p and q are compatible; what speaker B signals with the use of *doch* is that the issue Q was already previously resolved. In other words, the utterance of A is signaled as superfluous or unnecessary. Here, no propositional contrast arises (and no switch contrast can arise either, as this is a use of unfocused *doch*).

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|--|---|-------|
| A: <i>Sabine ist heute Morgen joggen gegangen.</i> | A: Sabine went jogging this morning. | |
| B: <i>Sabine geht doch jeden Morgen joggen.</i> | B: Sabine goes <i>doch</i> jogging every morning. | (C16) |

⁴This might be a more flexible interpretation of *proposal* than the cited authors intended. For instance, Groenendijk and Roelofsen (2009) write: 'Purely informative, non-inquisitive propositions do not invite other participants to choose between different alternatives. But still, they are proposals. They do not automatically establish a change of the common ground.' The main point here is that the notion of proposal, or some generalization thereof, allows us to make sense of the proposed QUD analysis of *doch* in the absence of explicit questions.

4.3. Focused *doch* and its triggers

The use of focused *doch* becomes particularly felicitous and easy to process when the previous (and different) resolution of the QUD is explicitly provided.⁵ An example is given by (C8), where the first clause of B's answer essentially acts like a negative answer to A's question (see (C9)) which is then revised in the clause containing focused *doch*.

Another frequent use of the focused particle *doch* occurs after negative statements or questions. Such uses are particularly good because, as in (C8), they provide an explicit bias towards a different answer to the QUD which then can be overwritten with focused *doch*.

- A: *Anna hat gesagt, sie kommt nicht zu dem Treffen.* A: Anna said she won't come to the meeting. (C17)
 B: *Ich glaube, sie kommt DOCH.* B: I think she will come *DOCH*.

In conversation (C17), A expresses that Anna said she won't go to the meeting. That is, A is skewing the question of whether or not Anna will attend towards a negative answer. B's reply then indicates that he thinks the answer is another one, namely that Anna will attend. Interestingly, B's answer can be taken to convey not only that Anna will attend, but that Anna somehow changed her mind. That is, as in the examples in section 2.2, the change of question resolution conveyed by *doch* can have nontrivial extent over the time dimension. This is worth comparing with the answer particle use of focused *doch*, which we have left aside in this paper:

- A: *Anna kommt nicht.* A: Anna isn't coming. (C18)
 B: *DOCH.* B: *DOCH.*

While in (C17) the utterance with the focused discourse particle *doch* can convey that Anna changed her mind, B's reply in (C18), consisting of the answer particle *doch*, cannot convey that Anna changed her mind or that there has been a change over time in the resolution of the question of Anna's attendance.

This seems to be a more general pattern: The focused particle *doch* (in the middle field) can be used to convey a re-settling of a question that extends over time (though it need not necessarily do so), whereas the answer particle *doch* appears to be restricted to concurrent disagreement that is simultaneous with the other answer resolution offered. This suggests, in addition to the arguments in section 2, that it is useful to consider the answer particle uses of *doch* separately from the discourse particle uses of *doch*.

However, a curious counter-example to the generalization just offered is given by the 'agreeing' use of *DOCH*, discussed in Karagjosova (2006). Below is the example from Karagjosova (2006), slightly adapted:

⁵I thank Jeroen Groenendijk for a helpful discussion regarding some of the examples in this subsection.

- A: *Das war sehr freundlich von Arndt.* A: ‘That was very friendly of Arndt.’
 B: DOCH, *das muss man sagen.* B: ‘Yes, indeed.’ (C19)

In conversation (C19), the use of *doch* by speaker B conveys that the speaker previously held another opinion regarding Arndt’s friendliness, and that this was known amongst both A and B. The utterance with *doch*, namely agreeing that Arndt is nice, represents a revision of this former position. This is therefore a counterexample to the tendency of the answer particle to behave as in (C18), where the change of question resolution must be construed as having no extent over time.

5. Conclusion

In this paper I argued for a QUD-based account of the German discourse particle *doch*. By characterizing *doch* as signaling the closedness of a QUD, this analysis brings together contrastive and non-contrastive uses of *doch* under one umbrella. Furthermore, the meanings provided for unfocused and focused *doch* are complementary in the following way: taking up any question for the second time will necessarily result in one of two cases. Either the answer matches the original resolution, or it doesn’t. The focused and unfocused variants of *doch* are thus two sides of the same coin. That the focused variant corresponds to the new resolution of the question (as opposed to the resolution that re-answers in the same way) is in line with the tendency of focused material corresponding to new material (Schwarzschild (1999)).

The particle *doch* fits within the larger picture of particles as signaling special moves in conversation (McCready (2006); Eckardt (2007); Beaver and Clark (2008); Davis (2009); Rojas-Esponda (2013, 2014)). Signaling conversational moves explicitly is especially useful when the moves are marked or unexpected. For instance, the German particle *überhaupt* can be used when an interlocutor deviates from a sequence of questions asked and shortcuts directly to answering or invalidating a higher question (Rojas-Esponda (2014)). The unfocused particle *noch* in declaratives can be used to add an additional element to a list of positive answers (Eckardt (2007)), overwriting an expectation of exhaustivity. The German particle *ja* and the St’át’imcets particle *qa7*, according to Kratzer and Matthewson (2009), signal that the proposition *p* in *ja(p)* or *qa7(p)* is not considered on the table for discussion, which seems to go against the expectation that people will not state material that is already uncontroversial. The particle *doch* is used when there is a breach of the Maxim of Inquisitive Sincerity (Groenendijk and Roelofsen (2009); see also the Maxim of Interactive Sincerity in Coppock and Brochhagen (2013)).

By studying particles like *doch* and the discourse moves they signal, we can learn more about how interlocutors negotiate and align their views of the conversation. For this reason, discourse particles provide a unique glimpse into pragmatics in action.

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