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PRAGMATICS OF GERMAN DOCH
A thesis submitted in partial satisfaction of the requirements for the degree of

MASTER OF ARTS
in
LINGUISTICS

by

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September 2015

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Abstract

Pragmatics of German doch

by

Kelsey N. Kraus

The purpose of this paper is to propose a new interpretation of *doch*, a German modal particle that has been widely studied, but whose contributions to an utterance are disputed by many prominent scholars. In what follows, I diverge from analyses put forth by Thurmain (1989), Abraham (1991), Rinas (2007), Grosz (2011, 2014), Rojas-Esponda (2013), and Müller (2014), and propose that *doch*’s contribution to an utterance represents expectation violation with respect to a salient proposition in discourse. In particular, the analysis here stems from two observations made about *doch* that is absent in previous work on this particle. First, I put forth evidence showing that *doch* is not only able to appear discourse-initially, a previously undiscussed property of this particle, but also that the prejacent of *doch* need not be the propositional argument of the particle. Second, I argue that *doch* is a grammatical marker of mirativity, a category which inherently references surprise or violated expectation of a discourse participant (DeLancey, 1997, Aihkenvald, 2004). By taking these two steps, this approach is able to capture the previously undiscussed properties of this particle, and also explain an interesting distributional generalization about *doch* in polar questions.
For James Maffia
Always my biggest cheerleader
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Chapter 1

An introduction to modal particles

German has a particular class of lexical items that is commonly referred to as modal particles. Classic grammars identify these elements as a subclass of adverbs, which are grouped together based on shared syntactic and semantic properties. Loosely defined, modal particles, or MPs, are unstressed, invariant sentential elements that have a range of functions from pinpointing a sentence’s focus, which the particle *ausgerechnet* accomplishes in (1b), to making a speaker’s beliefs known, as the particle *ja* does in (2b):

(1) a. Nach Hamburg möchte Paul fahren.  
   to Hamburg wants Paul go\textit{infinitive}  
   ‘Paul wants to go to Hamburg.’

   b. \textbf{Ausgerechnet} nach Hamburg möchte Paul fahren.  
of-all-things to Hamburg wants Paul go\textit{infinitive}  
   ‘Paul wants to go to HAMBURG, of all places!’  
   \textit{(König, 1991)}

(2) a. Den Brief hat Paul am Freitag gehabt.  
   the letter has Paul on Friday had  
   ‘Paul had the letter on Friday.’

   b. Den Brief hat Paul \textbf{ja} am Freitag gehabt.  
   the letter has Paul \textbf{ja} on Friday had  
   ‘Paul clearly/obviously had the letter on Friday.’  
   \textit{(modified from Lindner, 1991)}
The addition of the MP in each of the sentence pairs above amounts to a subtle change in the interpretation of the utterance. Whereas (1a) is a simple declarative sentence with neutral intonation, the addition of *ausgerechnet* in (1b) targets *Hamburg* as the bearer of focus. Semantically, the two sentences are equivalent. Each of them express the basic proposition that *Paul wants to go to Hamburg*. But by forcing focus on *Hamburg* in (1b), the pragmatic interpretation shifts. Here, the speaker’s overall message is no longer simply interpreted as a straightforward proposition. Rather, the addressee is invited to infer that Paul has elected to go to Hamburg over some other member of a (perhaps unknown) set of possible places, much to the frustration or annoyance of the speaker.

The inclusion of the MP *ja* in (2b) also has a distinct pragmatic effect. Just as in (1b), the semantic contribution of *ja* here appears minimal. Both (2a-2b) contribute the base proposition *Paul had the letter on Friday*. Including the MP is an overt marker of the speaker’s attitude. Here, *ja* seems to indicate that as far as the speaker is concerned, it was painstakingly clear that the proposition *Paul had the letter on Friday* was true.

Modal particles in German are extremely pervasive. Though these elements tend to be left out of written speech, the spoken language is rife with MPs. The language has over twenty MPs, all of which have their own discrete semantico-pragmatic functions. But as a class, they do share a number of commonalities both syntactically and semantically.

Two of these properties that we can observe in the examples above are that they are taken to be optional and have sentence scope. Given the discussion of (1a-1b), it is clear that MPs are not necessary elements of meaning or pieces of syntactic structure in the overall interpretation of the proposition—both versions of this sentence have the same truth value with and without the MP. And as alluded to in the discussion of sentence (2b), the contribution of the MP *ja* in this sentence does not target a particular lexical item or constituent phrase for interpretation, but rather, takes the entire sentence in its scope and comments on the utterance as a whole:
Paraphrasing 'ja' in terms of (4) above allows us to draw a parallel between MPs and their relation to modal operators. Just as modals themselves open up the possibility for accessibility and comparison to other possible worlds of interpretation, MPs also have this function. But such a relation is highly particle-specific, and the intricacies of the entire MP system will not be addressed in any complete way here. Instead, this paper will focus on one such MP, *doch*.

In what follows, I argue for an interpretation of *doch* that diverges from previous analyses in two ways. First, it takes into account previously unnoticed data about the presence of *doch* in discourse-initial contexts. Such data is difficult to account for in many previous analyses, as these crucially rely on an updated discourse record for a felicitous use of *doch*. Instead, I propose an extension of Rett & Murray’s (2013) account of evidentials, which argues that *doch* need not target the prejacent, and can instead reference another salient propositional argument $q$.

Second, I argue that *doch* is a grammatical marker of mirativity, which encodes the surprise or violated expectations of a salient discourse protagonist. Taking this step allows us to fit this MP into a preexisting grammatical category present in many of the world’s languages (DeLancey, 1997, Aihkenvald, 2004). These two insights are then tested against declarative, interrogative, imperative and exclamative sentence types, showing that the generalizations made here about the MP hold in all sentence types, and predict an environment that was previously thought to be ruled out of the domain of *doch*: polar questions.

In what follows, Chapter §1.1 outlines the basic properties of modal particles in general, and provides a background for the investigation carried out in Chapter §2.
There, an overview of *doch* in all sentence types is given, and preliminary insights about the core meaning of the particle are explored. The following Chapter §3 presents undis-
cussed cases of *doch* in out-of-the-blue contexts, and the challenges that are faced in terms of arriving at a core understanding of this MP. In Chapter §4, I discuss previous analyses of *doch* in light of the complete set of sentence types this MP can occur in, as well as the problems that arise with discourse-initial *doch* utterances. Chapter §5 proposes a new semantics for the interpretation of *doch*. Chapter §6 concludes.

1.1 General properties of modal particles

Previous overarching studies of MPs as a class show that these particles be-
have in a very regular fashion in terms of their syntax, general semantic scope, and prosodic shape. Below, taken from Dohery (1982), Thurmail (1989), Abraham (1991) and Diewald (2007), is a partial list of some of the prominent characteristics of MPs:

(5) Modal Particles:
   
   a. are optional elements
   b. are uninflected and generally unaccentuated
   c. cannot be negated
   d. occur only in the Mittelfeld
   e. cannot be questioned
   f. are dependent on sentence mood or type
   g. are combinable with other modal particles
   h. have sentence scope
   i. can change the utterance type of a sentence

The list of properties above in (5) mentions that modal particles are both uninflected and unstressed. This is *almost* accurate. While it is true that MPs in general are never inflected, there are two exceptions to the generalization that MPs
must be unstressed. Both of the unstressed particles *ja* and *doch* have accentuated counterparts, *DOCH* and *JA*.\(^1\) However, in both cases, the distribution of the stressed variant is much more limited than the unstressed variant, and in both cases, constitutes a proper subset of the distribution of the unstressed particle. Though Thurmair (1989) argues for the inclusion of these two stressed particles into the class of MPs, she also accurately notes that accentuation on both *ja* and *doch* seems to change the function of these from pure MP elements to particles that tend toward a scalar or polarity particle interpretation.

German descriptive syntax is traditionally divided up into three regions based on the V2 nature of its clauses. The pre-verb region, or the *Vorfeld*, immediately precedes the inflected verb, and in embedded contexts, this region is largely assumed to be closed off to movement of syntactic elements. The *Nachfeld*, which is the region following the finite verb, is most often the location of embedded clauses and other heavy-shifted elements (Hoffmann, 2007). Modal particles are generally disallowed in both of these regions, electing to appear instead in the *Mittelfeld*, a structural zone between the inflected and finite verbs. It is conventionally assumed that this region has very few restrictions in terms of word order and placement of elements that occur there, and the apparent free placement of MPs seems to corroborate this fact:

(6) a. Susanne hat **doch/ja** gestern ihrer Tochter das versprochene Buch
geschenkt.
   ‘Susanne gave her daughter the book she was promised yesterday.’

b. Susanne hat gestern **doch/ja** ihr Tochter das versprochene Buch geschenkt.
   ‘Susanne (clearly) give her daughter the book she was promised yesterday.’

c. Susanne hat gestern ihrer Tochter **doch/ja** das versprochene Buch geschenkt.
   ‘Susanne (clearly) gave her daughter the book she was promised yesterday.’

\(^1\)These are distinct from the polarity particles of the same orthographic and phonological shape. The variants of *ja* will not be discussed here; the stressed variant *DOCH* will later become part of the analysis. For a discussion of the polarity particle *DOCH*, see Farkas & Roelofsen (2014).
d. Susanne hat gestern ihrer Tochter das versprochene Buch **doch/ja** geschenkt.

‘Susanne (clearly) gave her daughter the book she was promised yesterday.’

Hentschel (1983) notes that in a sentence like (6), the placement of the semantically related MPs *ja* and *doch* is quite free, and assuming no special intonational pattern, all can be translated in roughly the same way. But as soon as a MP is placed outside of the Mittlefeld, ungrammaticality results.

MPs in general are also thought to signal backgrounded material, either presuppositionally triggered, entailed, or appearing in the form of an implicature. In this sense, it is generally understood that MPs are not themselves subject to questioning, as they cannot be targeted as part of the at-issue material of an utterance. In no sense can the utterance in (7) be interpreted as asking about the content of the MP *mal*. But this does not disallow them from appearing in questions. The question asked in (7) below is quite ordinary, and signals with *mal* a polite request for someone to pass the butter:

(7) Kannst du mir **mal** die Butter reichen?
‘Could you maybe pass me the butter?’

In the same vein, MPs are also not subject to negation. Though MPs and negation operators frequently occur in the same utterance, both of which are assumed to operate on the sentence as a whole, Thurmair (1989) notes that the scope of negation must be narrower than the scope of the modal particle when they co-occur.

(8) a. Hans kann **doch/ja** die Geschichte vom Rattenfänger **nicht** erinnern.
‘Hans can’t remember the story of the Pied-Piper, though.’

b. Hans kann die Geschichte vom Rattenfänger **doch/ja** **nicht** erinnern.

---

2 All of these sentences have multiple interpretations based on stress/focus placement. One interpretation of these sentences is with no special focus or topic marking on elements that may have been picked out by *doch* or *ja*, which is the prosodic contour that I am assuming. It is also possible for a sentence such as (6b) to have focus on daughter, but this is not necessary. Whether or not *doch* must lexically associate with focus will be addressed in a later section.
‘Hans can’t remember the story of the Pied-Piper, though.’

c. Hans kann die Geschichte vom Rattenfänger nicht doch/ja erinnern.

‘Hans can’t remember the story of the Pied-Piper though.’

(9)

a. Hans kann doch/ja nicht die Geschichte vom Rattenfänger erinnern.

‘Hans can’t remember the story of the Pied-Piper though.’

b. Hans kann nicht doch/ja die Geschichte vom Rattenfänger erinnern.

Though both MPs *doch* and *ja* should be able to occur syntactically anywhere in the Mittelfeld, in the presence of negation, the MPs must obligatorily scope over it. This not only holds for low placement of negation, as in (8a-8c), but also for high negation, as in (9a-9b). Another restriction, which is loosely based around V2/SOV clause type, is the restriction on which sentence types a MP can occur in. This is an idiosyncratic property of each MP, and there is not a sentence type that the class of MPs are categorically disallowed from appearing in. Rather, semantic/pragmatic conditioning factors may rule out a specific modal particle in a particular sentence context.

Finally, a last governing property of MPs is their combinability with other MPs. This is not to be confused with conjunction of these elements, which is strictly ungrammatical. Stacking of MPs, as long as they are distinct, is considered a fairly regular process, and serializations of up to four particles have been found in quite widespread use:

(10) Ruf **doch**<sub>mp1</sub> **ruhig**<sub>mp2</sub> **mal**<sub>mp3</sub> bei mir an!
    call **doch** **ruhig** **mal** by me on
    Do feel free to just give me a call!

    (Stocker, 2012, 83)

However, there are complex rules governing the placement and ordering of these combinations, the specifics of which will not be discussed, though they do pose an interesting problem. For now, the main focus of this inquiry into MPs will be aimed at
a particular particle, namely, *doch*. What follows next is an attempt to make explicit the problems concerning the interpretation of this MP.
Chapter 2

*Doch* and the problem of constraining meaning

With the complexities of the German MP system now established, the heart of the problem can now be addressed. It is apparent that not only are MPs a robust class of elements with particular parameters set for their distribution, but given this potential for variation, the interpretation of these sentential operators has the potential to vary widely. *Doch* is one such particle. Though this particle has been widely researched, the contribution that this MP has to an utterance remains disputed. Thurmair (1989) proposes that *doch* is used to mark circumstances that are already known, but mentions also that in some instances, it appears to also mark knowledge that was not already known (111). Bross (2012) explains that *doch* is often also used to introduce a premise that will be relevant for the conversation to follow (191). Others (Diewald 2007, Rinas 2007, Grosz 2014, Müller 2014) offer that the core contribution of this MP is the notion of contradiction, and another recent proposal by Rojas-Esponda (2013) suggests that *doch* signals the reintroduction of a QUD.

At first glance, such a range of interpretation for a single MP raises a flag. It cannot be that all of these interpretations accurately capture the core contribution of *doch*. But as will quickly become apparent, all of these interpretations contain an element of truth. The following subsections will outline the general properties of *doch*,
focusing primarily on the the distributional properties, and the range of interpretation this particle receives in each of these sentential environments.

2.1 *Doch* in the base case: declaratives

Much of the research on *doch* takes place in the realm of declaratives, and many of the examples that are brought up appear as answers to questions. This is unsurprising, as the most canonical use of this element is as its polarity particle cousin, which has the same linguistic form. German has a tripartite polarity particle system, and much like French, distinguishes between positive affirmation to a positive utterance, and positive affirmation to a negative utterance (Farkas & Bruce, 2010, Farkas & Roelofsen, 2014).

Positively uttered questions are affirmed with *ja*, while *doch* is used as an answer to a question with negative polarity:

(11) A: Haben wir Eis im Gefrierschrank?
   'Do we have ice cream in the freezer?'

   B: *Ja*, (haben wir).
   'Yes, (we do).

(12) A: Haben wir **kein** Eis im Gefrierschrank?
   'Do we **not** have ice cream in the freezer?'

   B: *Doch*, (haben wir).
   'Yes, (we do).

As a polarity particle, *doch* differs from MPs in a few important ways. First, it is able to form a complete answer to a question asked, or can be used in isolation as a response to a statement. This is a departure from the MP use, which disallows particles from appearing in first position of the syntactic Vorfeld, and based on this selectional restriction, must co-occur at the very least with the inflected verb. Second, the polarity particle use of *doch* always carries intonational or phrasal stress, which sets it apart from most other MPs.
Recall, however, that the MP *doch* differs from most other MPs in the very fact that it has a stressed variant, as well as a well-behaved, unstressed form. This stressed form (which I will henceforth refer to as *DOCH*), mirrors some of the behavior of the polarity particle. Particularly, *DOCH* may only appear in the presence of sentential negation. But where the polarity particle is required as a positive response to an immediately preceding negatively uttered statement or question, the placement of the negation is much more free with the stressed MP:

(13) *Andrea tells Hans and Hanna that she is going to take a risk and dye her hair blue during her next trip to the salon. Upon later seeing her in the street with her natural locks, Hans utters to Hanna:*

Hans: Andrea hat die Haare **DOCH nicht** gefärbt!
Andrea has the hair **DOCH not** colored
‘Andrea DIDN’T color her hair!’

(14) *Andrea tells Hans and Hanna that she is **not** going to risk dying her hair again the next time she goes to the salon. Upon later seeing her in the street with blue hair, Hans utters to Hanna:*

Hans: Andrea hat die Haare **DOCH** gefärbt!
Andrea has the hair **DOCH** colored
‘Andrea DID color her hair!’

In (13), the prejacent of **DOCH**, \(\neg p = Andrea didn’t color her hair\), is the negation of a previously discussed \(p\), that *Andrea will color her hair*. It is the presence of this negation that licenses the use of the accentuated **DOCH** here. But in contrast to polarity particle uses, the **DOCH** utterance can come much later—days even—after the original assumption was made that Andrea would dye her hair. The utterance in (14) can also come much later than when the assumption was made, and it is still that assumption that Hans and Hanna have that Andrea will **not** dye her hair that licenses the use of **DOCH**. In this second case, the placement of negation parallels the placement of negation in the polarity particle cases. But in order to capture the full range of
use of this accentuated MP, the generalization made for the polarity particle must be expanded: negation must either be present in the prejacent, or in the discourse record proposition that DOCH must reference.

Investigating the stressed MP DOCH lends insight into one of the core meanings proposed of doch as a whole. From the examples above, it seems that DOCH, much like the polarity particle of the same form, requires a proposition to be in logical contradiction with it. In many existing analyses, this argument has been extended to the unstressed variant as well. Take, for example, the example in (15):

(15) Anke: Wie alt ist dein Hund?
    ‘How old is your dog?’

Birgit: Wir haben **doch** keinen Hund.
    we have **doch** no dog
    ‘We (clearly) don’t have a dog!’

The proposition that doch might react to here is the presupposition imposed by Anke’s question— that Birgit’s family has a dog. If this is the case, then contradiction is a very valid conclusion to draw, as the propositions $p = \text{We have a dog}$ and $\neg p = \text{We don’t have a dog}$ are in fact logically contradictory. But this is not all that doch contributes. The presence of the MP in Birgit’s statement also signals to Anke that she is surprised that this information was not already common ground. This speaker mood is not present in the utterance without the MP, *Wir haben keinen Hund*, ‘We don’t have a dog.’ This utterance would be a relatively neutral statement, simply correcting Anke’s assumption that Birgit has a dog. The addition of the MP overtly indicates that Anke *should have known* this information, and furthermore, can indicate that Anke’s not knowing this fact counters the expectations held by Birgit.

Setting the issue of contradiction aside for a moment, we can turn to examples like (16), which demonstrate the idea that speaker mood is a large part of the interpretation of sentences containing the MP *doch*:

(16) Anke: Kommst du mit in die Oper?
Are you joining us for the opera?

   no    I    have declined
   No, I declined.

   no    I    have **doch** declined
   Roughly: No, I clearly declined.  
   (Rojas-Esponda, 2013)

The discrepancy here between Birgit’s responses is subtle in terms of truth conditional differences, and in fact, one would be hard-pressed to evaluate the two responses as anything but truth conditionally equivalent. But whereas the response in (16a) is relatively neutral, the response in (16b) conveys something like you should have known this to the addressee. Including **doch** here even implies that there was some previous discussion of whether or not Birgit was going to be joining Anke at the opera, and that given this previous discussion, Anke’s question should already have been resolved.

But contradiction and the sense that a conversational partner should have known are far from the only contributions that **doch** makes. In fact, the internet is full of helpful tutorials for those wanting to learn more about the nuances of this MP, all of which attempt to sort out the core meaning of **doch**. The following are taken from one such website:

(17) Super Bowl? Das ist **doch** total langweilig.
   super bowl  that is  **doch** totally boring.
   ‘Super Bowl? That’s totally boring, come on!’  (Schuchart, 2012)

(18) Du kannst **doch** nicht ohne Training einen Marathon laufen.
   you can  **doch** not without training a marathon run
   ‘(Oh please), you can’t run a marathon without training.’  (Schuchart, 2012)

The contribution of **doch** in the examples above adds another layer of interpretation, one that cannot be captured by contradiction or the sense that one should have known. The use of **doch** in sentences like (17) or (18) amount to the speaker wanting the addressee to agree with her, because the relative truth of the propositions is so obvious
to the speaker. In a sense, *doch* seems to mark that the speaker strongly believes the prejacent to be true. And as evidenced by the English approximations of these sentences, this response-seeking behavior is apparent. Imagine the following context for (18). Hans has just returned from cheering on the runners at the Berlin Marathon. Riding the adrenaline rush from the previous hours, and remembering all of the runners who were not elite athletes who participated in this event, he logs on to his computer and signs himself up for the next marathon that he can find. When Hanna arrives home, he tells her this, and mentions that she should be cheering him on from the sidelines when he runs his marathon in a month. Completely surprised, Hanna responds with the utterance in (18).

As the author of the website from which (18) was taken writes, “*doch* gives [a sentence] a certain hunger for affirmation or response without really asking openly” (Schuchert, 2012). And this is precisely what is conveyed by this utterance. In examples like (17-18), it is not only a sense of incredulity that the speaker expresses, but it is also an implicit request for a response. After the utterance in (18), just as with its English counterpart, Hans will have to defend his actions in some way, either by replying that he is, in fact, going to train, or that he need not train in order to run this event.

The use of both stressed and unstressed *doch* in these declarative sentences carries with it three important observations. First, in all cases of the stressed MP and in at least some of the instances of the unstressed MP, contradiction, or at the very least, expectation violation, is a factor in the computation of meaning. Second, *doch* can indicate to a conversational participant that a certain aspect of the conversation should have been known. Third, this tendency of *doch* to mark statements as evident to (at least) the speaker gives rise to an implicit pressure on the part of the hearer to respond to the utterance.
2.2 Another puzzle piece: imperatives

While the MP *doch* in declarative statements appears to have three main functions outlined in the previous section, this element’s interpretation looks markedly different in imperatives:

(19) a. Wir gehen ein Bier trinken. Komm mit!
    we go a beer drink come with
    ‘We are going to have a beer. Join us!’

b. Wir gehen ein Bier trinken. Komm **doch** mit!
    we go a beer drink come **doch** with
    ‘We are going to have a beer. Come join us, if you’d like!’  (Schuchart, 2012)

(20) a. Bring dein Freund mit!
    bring your friend with
    ‘Bring your friend with you.’

b. Bring **doch** dein Freund mit!
    bring **doch** your friend with
    ‘(Go ahead and) bring your friend with you.’

Here, the addition of *doch* to the base imperative in (19a) seems to “soften” the statement, pragmatically making room for the addressee to accept or decline the invitation. Whereas “Komm mit!” in (19a) is not harsh, it does directly command the listener to accompany the speaker for a beer. With *doch*, the statement does not obligate the addressee to comply with the imperative. It is meant to be interpreted as a suggestion, but certainly as a suggestion that heavily leans toward compliance with the imperative. The effect is the same in (20b). The presence of *doch* makes the utterance seem less like a command, and functions more as an invitation to the addressee to bring their friend along. This “softening” effect can be seen much more immediately in the utterance presented in (21).

(21) a. Sei endlich still!
    be finally quiet
‘Shut up!’

b. Sei **doch** endlich still!
   be finally quiet
   ‘Shut up now, will you!’ \(\text{(Schuchart, 2012)}\)

Here, the effect of **doch** is quite apparent. The command (21a) is very direct, very forceful, and in fact, quite rude. What **doch** contributes in (21b) is again an attempt at softening the blow of this sentence. Here, it seems that contrary to **doch** in declaratives, the MP gives rise to an interpretation of the speaker’s mood. What **doch** requests in imperatives appears to slightly mask the speaker’s attitude toward the particular proposition. Consider a context for the sentences in (21) in which Hanna and Hans are both working in the living room. Hanna is painting at the window, and Hans is sitting in a chair reading a book. As Hanna works, she begins to whistle, first softly, and then louder and shriller. She is oblivious to Hans, who is obviously irritated by the noise. He can choose to utter (21a), which signals quite obviously to Hanna that she should be quiet. Alternately he can utter (21b), which, though still forceful, does have the effect of masking his mood enough that the effect of the imperative seems to be softened to that of a stern request.

So what does this say about the core meaning of **doch**? With declaratives, **doch** is able to modify an utterance from an neutral statement to one that expresses the speaker’s mood. With imperatives, it seems that this modification happens in much the same way. **Doch** directly reflects the speaker’s attitude toward the utterance. Whereas a bare imperative can have the effect of removing the speaker from the utterance (“Don’t talk in class!” = *I don’t want you to talk in class* OR *The rules advise not to talk in class*), adding **doch** seems to force an interpretation that orients the imperative toward the speaker. In cases like (21b), this softens an otherwise harsh utterance, downgrading it to more of a firm request, while in cases like (19b), the “softening” has more of the force of a suggestion.

But this imperative softening is not always interpreted as a suggestion or an invitation to act. Consider the case below:
A mother and her young child are walking in a parking lot. Normally, she allows her child to walk without holding her hand, but this afternoon, the parking lot is very busy, and she is worried about her child’s safety. She utters:

Nimm **doch** meine Hand.

take **doch** my hand

Just hold my hand.

Contrary to many of the declarative cases, this “softening” that is prevalent in many of the uses of *doch* in imperatives cannot always be interpreted as an implicit suggestion to the addressee that they *should have known* the content of the *doch* utterance, or even that they have the option to comply, as with the cases in (19-20). In (22), this is clearly not the case. The child knows that it is normally allowed to walk without holding the mother’s hand. When the mother utters *Just hold my hand*, she is not indicating that the child should have known this, or that the child has the option not to comply, but rather, she is softening her command. Along the lines of Brown & Levinson (1987), we can interpret her as diffusing a potentially face-threatening act toward her child. Implementing *doch* here seems to be a politeness strategy. Because this imperative is contrary to the child’s expectations, *doch* softens the blow, and seems to acknowledge this overtly.

For the case of (21b), such an analysis could reasonably be extended. Hans tells Hanna *Shut up now, will you!*, and by softening the blow, marks the utterance as face-saving. And in this same situation where she knows that Hans hates her shrill whistling, we can interpret this as Hans reminding Hanna that she should have known not to whistle. But in (19b), there is no sense that the softening effect also indicates to the addressee that they *should have known* that they should come along with the speaker for a drink. Clearly there are extensions of *doch* from the declarative domain present in the interpretations of these imperatives. But taking stock here, it is clear that just two of the handful of sentence types that *doch* can appear in give rise to potential contradictory generalizations about this MP’s core meaning.
2.3 The question of *doch* in questions

The contribution of *doch* in questions is a bit more constrained than in other domains, partially due to the restrictions that this MP’s interpretation has on this utterance type. Particularly, *doch* is assumed to be generally licit in WH-Questions, but disallowed in pure polar questions. As such, a constituent question as in (23a) is grammatical while the minimally different polar question in (23b) is ill-formed:

(23) a. Wer hat **doch** die Kerzen ausgebassen?
   who has **doch** the candles blown-out
   ‘Who blew out the candles then?’

   b. *Hat jemand **doch** die Kerzen ausgebassen?*
   did someone **doch** the candles blown-out
   *‘Did someone blow the candles out?’*

As we will see, accounting for this ungrammaticality is fairly simple, provided three assumptions. First, let us assume that questions semantically denote sets of alternatives, and that for polar questions they are the prejacent of the question and its negation. Then \( p \) semantically denotes \( \{p, \neg p\} \). If we further assume that *doch* operates pointwise on the set of alternatives, we end up with the set \( \{doch(p), doch(\neg p)\} \). Now, if *doch*’s contribution is such that one cannot hold *doch*(p) and *doch*(\neg p) simultaneously, we have a route to explaining why *doch* is ungrammatical with polar questions. If, as many theories assume (and which will be addressed in further detail in a later section), *doch* presupposes that the speaker strongly believe the prejacent, there is no way for the alternative set \( \{doch(p), doch(\neg p)\} \) to be coherent. It would presuppose that the speaker strongly believes both the prejacent and its opposite. Furthermore, it would be quite odd for *doch* to signal content that should be known in a question seeking to find an answer to unknown information.

But Wh-questions are not necessarily bad with *doch*. What *doch* is doing in a case like (56) is simultaneously stating a fact that the speaker finds surprising (namely, that the candles have been blown out) and asking for more information regrading the
circumstances that conspired. Although questions are usually inherently information-seeking, what *doch* contributes here is sense of immediacy in terms of a response. Again, much like in the declarative and imperative cases, the semantic contribution of *doch* puts forth an utterance that has countered the expectation of the speaker in some way, and demands explanation on the part of their conversational partner.

Another interesting observation here stems from the fact that though polar questions are not valid with *doch*, biased and tag questions are just fine. This is surprising, given the fact that these question types seem to be based at least syntactically off of a polar question formation, and are semantically similar in their resemblance to a polar question’s bipartitioning of possible response spaces. Consider the examples in (24-26):

(24) Jemand hat *doch* die Kerzen ausgeblasen, oder?
    someone has *doch* the candles blown-out or
    ‘Someone blew the candles out, right?’

(25) Du hast *doch* den Artikel gelesen...?
    you have *doch* the article read
    ‘You did read the article, didn’t you?’

(26) Ich meine wenn z.B. Bäcker A bereit ist, z.B. bis 22 Uhr zu öffnen, dann ist es *doch* auch nur fair, dass er evtl. mehr Brötchen verkauft – oder nicht?
    I mean if e.g. baker A ready is e.g. until 10 pm to open then it is *doch* also only fair that he potentially more bread sells or not
    ‘I mean, if for example, Baker A is willing, for example, to be open until 10pm, then it’s only fair that he potentially sells more bread, no?’

    from DWaC corpus\(^1\)

An utterance like (24) differs very slightly from the ungrammatical polar question in (23b). Setting aside the modal particle, the biased question differs already from

\(^1\)Information here was gathered from the German Web-as-Corpus database (DeWaC), from a larger-scale investigation of modal particles, whereby these particles were tagged and sentences were filtered out based on whether they contained a MP. Enormous thanks to Pranav Anand for technical help here.
the polar question simply based on the fact that it implicates the speaker’s bias for the positive disjunct that the question raises. Knowing this, the contribution of *doch* in such an utterance contributes the sense that action that the speaker comments on should have been done. Whereas the biased question without *doch* seeks an affirmative response, with *doch*, it indicates to the addressee that the answer should be affirmative, and that no one should have to be reminded to blow out the candles.

With (25), *doch* here seems to contribute precisely what it does in the ordinary declarative, that is, surprise that the addressee read the article. The rising intonation signals the speaker’s own doubt about whether the event in question arose. That is, what *doch* signals is a kind of conditional surprise: if the event in question happened (as the speaker suspects) then she is surprised that it did.

(26), unlike (24), is not interpreted with the sense that the proposition in question should have been known. Rather, it is a request for a response from their addressee. What *doch* does here is similar again to what it does in declaratives, and its interpretation can also be thought of conditional surprise. Given the overt conditional, the speaker indicates that the consequent should be true based on the truth of antecedent. But *doch* here indicates that the speaker may believe that her conversational partners might not believe this, but she would be surprised if it were not the case. The tag question here brings this to the forefront. *doch* affirms that this is the case, and the tag *oder nicht?* indicates that in the case that it isn’t, she will be thoroughly surprised.

But in other question types, like that (27), what *doch* seems to be contributing is a kind of self-referential comment. Though one interpretation open for this utterance is rhetorical, another indicates that the speaker is asking for a quote that she has forgotten. The use of *doch* is referencing her own inability to remember the quote, and by using this MP, she is highlighting this fact and indicating surprise and irritation at it.

(27) Wie bemerkte Goethe *doch* so treffend?
how remarked Goethe *doch* so aptly
‘What was it again that Goethe said so aptly?’

20
From what has been said about capturing the core meaning of *doch* in declaratives and imperatives, the facts presented here seem to corroborate at least some of them. Questions provide perhaps the clearest case of surprise, and just what is surprising can vary. It can be some presupposed fact, as in (56) or at asking the question itself, as in (24) or (27). And from the examples given in this section, it seems that normativity, or the sense that someone in the discourse context *should have known* again is a major contribution to the meaning of *doch*. But from what is discussed here, it remains unclear whether the notion of contradiction plays a large role.

### 2.4 Interpreting exclamatives and optatives

In addition to questions, imperatives and declaratives, *doch* is also possible in exclamatives. This is perhaps the corner of the scholarly work on *doch* that is the most untouched. Thurmair (1989) notes that *doch* can be used only in Wh-Exclamative contexts as in (28a-b):

(28) a. Was hast du **doch** für einen schönen Pelzmantel!
    what have you **doch** for a **nice** fur-coat
    ‘What a (very) nice fur coat you have!’

b. Was hast du **doch** für schöne Beine!
    what have you **doch** for **pretty** legs
    ‘What (very) pretty legs you have!’ (Thurmair, 1989, 115)

It is difficult to capture just what extra information *doch* brings to an exclamative utterance, as exclamatives seem to be the closest approximation of what *doch* actually is. But analyses of exclamatives are tricky, as it is not clear what exactly the propositional content of such an utterance is meant to convey. Rett (2009) characterizes exclamatives as content that comments the fact that the degree to which some property holds exceeds a relevant contextual standard. She notes that for an exclamative to be expressively correct, there must also be a salient context for the utterance, and the speaker must find the content of the utterance surprising. In addition, she reasons that
propositional exclamations differ from pure exclamatives with respect to the fact that propositional exclamations do not require a contextually salient degree. The relevance here is that the contexts in which doch occurs are exclamative contexts. That is, they require a contextually salient degree.

In fact, it is very highly contextually relevant. Take, for example, the utterance in (29) below:

(29) A five year old comes home from Kindergarten with a painting in her hand, and proudly presents it to her father. The painting is an obvious improvement, and showcases the child’s developing motor skills very nicely. Her father exclaims:

Das ist doch so schön!
that is doch so pretty
‘That is just so pretty!’

A five year old child’s Kindergarten painting will not be the epitome of high quality art. But in context, the overall detail of the painting may surprise the father enough that degree to which this painting is pretty exceeded the previous paintings that she may have done for him. What doch in (29) does is reference just this. The painting being pretty is not surprising, but it is surprisingly good for a piece of children’s art.

In Wh-exclamatives with doch, the speaker is expressing their amazement at the degree to which something holds. Take the case in (28a). Most Wh-exclamatives express some degree of amazement in terms of a gradable property. Here, this property is nice. The coat could be nice, it could be pretty nice, it could be at the upper end of the extreme, commenting on the extreme niceness of something. The presence of doch in the utterance in (28a) tends toward the extreme interpretation, implying that the item in question is on an extreme end of the degree in question.

So what is doch doing in an exclamative sentence? Is it a form of overstatement or a form of redundancy? Perhaps the presence of doch in these situations points to a threshold value, signaling that a speaker’s surprise at a given event is so far beyond that
value that it’s notable to mention the surprise.² What does seem clear is that *doch* in an exclamative context signals surprise to a very high degree, which is strikingly evident in interpreting WH-exclamatives. This is another proposed meaning of this MP that must be considered when formulating the core meaning of *doch*.

### 2.5 Overview of the conditions that license *doch*

The puzzle set out in Sections 2.1–2.4 can be condensed into Table 2.1 below, which shows the conditions under which each of the potential “core meanings” of *doch* we arrived at arises. As can be observed, many “core meanings” are present in only certain sentence types – e.g., normativity seems to be present in declaratives and interrogatives, but not imperatives or exclamatives.

²Grosz (2012) mentions also that in addition to WH-exclamatives, that polar exclamatives also allow *doch*, but are restricted by the fact that they must occur with what he calls ‘overt particles’ *glatt*, ‘outrightly’ or *tatsächlich*, ‘indeed’ in order to license *doch*. In fact, as he notes, all polar exclamatives must obligatorily occur with some marker of acknowledgment that the surprise that is being conveyed is to an extreme degree. That is, not only are the sentences below ungrammatical with only *doch*, but they are also no good without an overt degree marker:

(1) a. Kennt der **doch** **glatt** den Kaiser von China!
   \[\text{know he DOCH/doch outrightly the emperor of China}\]
   ‘[I’m shocked that] he knows the emperor of China!’

   b. Hätte der dem **doch** **tatsächlich** das Buch gegeben!
   \[\text{hadSUBJ he him DOCH indeed the book given}\]
   ‘[I’m shocked that] he would have indeed given him the book!’

Grosz, 2012 notes that a polar exclamative “expresses a polar opposition between what is the case and what was to be expected.” In a sense, a speaker’s expectations have been completely surpassed to such a degree that this amount must be verbalized. One must also observe that the *doch* that is licensed here is not always the unstressed MP, but can also be the stressed variant. In fact, though the polar exclamative in (1a) can be either stressed or unstressed, the variant in (1b) may only be the stressed particle. The distribution of the stressed and unstressed particle in these polar questions is, contrary to other environments where this particle is licensed, highly irregular.
One way of dealing with the inconsistencies here would be to say that in each utterance type, the meaning of *doch* shifts. That is to say, in declaratives and interrogatives, one could propose a meaning of the unstressed *doch* that targets counterexpectation, while the stressed variant in these conditions indicates contradiction. However, doing this would miss a generalization that unites this particle across sentence types. Constructing this generalization is the subject of the next sections.

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Table 2.1: Core meaning generalizations of *doch*
Chapter 3

Previously undiscussed aspects of *doch*

3.1 Out-of-the-blue cases of *doch*

In all of the cases of *doch* that have been presented this far, there has either been an explicit discourse context provided, or they have been introduced in some way as non-initial discourse moves. However, a fact that has previously gone unnoticed about this particle is its ability to occur in out-of-the-blue contexts. Contrary to many current theories, it is possible that a *doch* statement can be a discourse-initial utterance:

(30) *Hans and Hanna are talking on a street corner. Hans’ back is to the street, and as Hanna talks, she observes a man open an upper story window in the building across the street and begin to climb out. Hanna can then utter to Hans:*

*Hanna:* Er springt *doch* gleich ** runter!
he jumps *doch* shortly down
‘He’s going to jump (and you should turn around and look)!’

(31) *You are sitting in the grass talking to a friend. You look down, see something and utter:*

Das ist *doch* ein vierblättriges Kleeblatt!
that is *doch* a four-leaf clover
‘It’s a four-leaf clover!’
What has gone unnoticed in most accounts of this MP is not only that *doch* does not need an overt linguistic antecedent, but it can also occur completely discourse-initially. Not only do (30) and (31) mark the beginning of a new topic of discourse, but they also need not reference a linguistic event. In (30), though the participants may already be taking to each other, the utterance that Hanna makes does not refer to their previous discussion. Rather, it comments on the actions that are unfolding in real time in front of Hanna. In (31), *doch* here refers to a sudden discovery, and as is the case with the example previous, may occur, like its English translation, without ever before having made reference to clovers with some proposition given in the context. Such an observation is a cause for concern for any theory of *doch* that relies on contradiction as the main contribution of semantic or pragmatic meaning.

What does *doch* contribute in these out of the blue contexts and moreover, how does that contribution differ from what we have already observed for declaratives? Take first the example in (30). Without the MP, this sentence contributes just what one would expect—it indicates to the conversational participant that someone is going to jump. With the particle, the addressee is invited to interpret the speaker’s mood as pure surprise, and similar to the declarative and imperative cases, which puts pressure on the hearer to respond, an utterance in this context puts pressure on the hearer to act, here, in the form of turning around to watch the events referenced in the prejacent of *doch* unfold.

A similar interpretation is apparent in the evaluation of (31). What *doch* adds to an otherwise declarative statement is pure astonishment. We don’t expect that finding a four-leaf clover is an every day event. And this is specifically what *doch* indicates to the addressee. The speaker’s use of *doch* here does not imply that this fact should have been known, nor does it contradict anything relevant in the discourse. In English, we could preface such a statement with *Wow!* or *My goodness!,* and get a very similar meaning to that in (31). Much like in the exclamative cases, what *doch* indicates is a level of surprise or counterexpectation that exceeds a threshold value that has been placed on a particular event. What *doch* is doing in these out-of-the-blue contexts seems
to get at what we should take as the core meaning of this MP. It is not the case that the sentences in (30-31) must be exclamatives (in fact, they are likely both declaratives). Rather, what we are able to discover from these out-of-the-blue uses of doch is that at their core, in a null context, all these particles add to the interpretation of an utterance is the notion that the proposition is counter to a given expectation. It is just this— that doch indicates surprise or violated expectations—that I will take as the core meaning of doch.

3.2 Doch as a marker of mirativity

If the core meaning of a doch utterance is that on some level, doch(p) indicates that p is surprising. This is quite a jump from previous proposed analyses of this particle: it not only loosens contextual restrictions (especially from analyses that propose pure contradictions or normativity as core meanings), but it also characterizes this MP meaning as being intrinsically discourse participant-oriented. But this is not an odd move, as miratives are an entire class of elements that grammatically mark surprise or expectation violation

First proposed by DeLancey (1997), mirativity is a grammatical category that encodes a speaker’s surprise or unpreparedness of mind. This class of elements is thought to be distinct from exclamatives and from evidentials. Whereas evidentials tend to overtly mark the source of information (Aihkenvald, 2004), miratives show “the status of the proposition with respect to the speaker’s overall knowledge structure” (DeLancey, 1997). One of the driving differences between miratives and evidentials is that miratives do not necessarily make a claim about how the information was obtained. Many of the world’s languages, including Cantonese, Korean, Turkish, Chechen, and Lhasa Tibetan, among others, all reportedly have mirative markers, all of which distinguish these markers as distinct from markers of evidentiality.

Aihkenvald (2004, 2012) proposes that the range of mirative meanings across languages can include the following values:
(32) Mirative Values

a. sudden discovery, sudden revelation or realization
b. surprise
c. unprepared mind
d. counterexpectation
e. new information \((Aihkenvald, 2012, 436)\)

Additionally, depending on the language and the mirative element, the mirative meaning can be defined with respect to the speaker, the addressee, or a third party.

In fact, this modal particle has even more in common with mirative markers than just expectation violation. As outlined above in (??) of §??, two of the properties identified as defining characteristics of modal particle were that they cannot be negated or embedded under negation in a clause, and that they cannot be questioned. They are in some sense markers of backgrounded material. These properties have been shown to also be properties of miratives. Rett & Murray (2013) note that miratives are “distinct from speaker surprise, [...] because [they are] undeniable in discourse [and] unembeddable under negation and other sentential operators” (455). From this, it seems likely that \textit{doch} has a place in this grammatical category.

What is now necessary is to take these observations and see how they fare with previous accounts of \textit{doch}. What I show in the following section is that none of the current theories can account for all of the data that has thus far been presented for the MP \textit{doch}.

3.3 The individual anchor for surprise

In conjunction with this mirative meaning, it is important to ask who the individual to which the surprise is anchored. In any discourse, are three logical possibilities for a conversational participant to express surprise about, namely, the speaker, the addressee or a third party. In what has been presented so far, the it seems to be the
speaker or, in the case of imperatives, perhaps the addressee. In principle, \textit{doch} could be anchored to any number of participants—it is an indexical mirative.

We have already seen contexts where the counter expectation or surprise element can refer to the speaker. Take, for instance, the \textit{Wh}- question in (27), or the out-of-the-blue context found in (31), here as (33) and (34), respectively:

(33) Wie bemerkte Goethe \textit{doch} so treffend?
    how remarked Goethe \textit{doch} so aptly
    ‘What was it again that Goethe said so aptly?’ \hfill (Thurmair, 1989)

(34) \textit{You are sitting in the grass talking to a friend. You look down, see something and utter:}

Das ist \textit{doch} ein vierblättriges Kleeblatt!
that is \textit{doch} a four-leaf clover
‘It’s a four-leaf clover!’

Both of these examples reference surprise on the speaker’s part. In (33), it is the surprise or counter expectation that the speaker has not remembered a particular quote, and is attempting to jog her memory. In (34), the surprise is also speaker-oriented, indicating surprise at finding a rare four-leaf clover. But can \textit{doch} reference the counter expectation of the addressee? Consider (35):

(35) \textit{Hans is about to leave for a work-related trip. He walks into the bedroom to collect his suitcase, and sees Hanna packing her things. Hans had not planned on Hanna coming, and Hanna, anticipating this, utters:}

Hanna: Ich fahre \textit{doch} mit dir mit!
    I drive \textit{doch} with you with
    ‘I’m going to come with you!’

Here, it is not the speaker whose expectation have been violated—Hanna is not surprised that she is coming along. What \textit{doch} indicates is that Hanna is taking into account Hans’ surprise that she has decided to go with him. In this sense, \textit{doch}(p, Hans) = That Hanna is leaving Hans is surprising to Hans.
And as it turns out, one can also refer to the violated expectations of a third party as well, as evidenced in (36):

(36) You and a friend are talking about Hans’ recent attempt to propose to Hanna, which both of you know wouldn’t go well. You say:

Er hat sie geboten, ihn zu heiraten, aber sie hat **doch** nein gesagt.

‘He asked her to marry him, but she said no.’

With this utterance, and with the combined knowledge that the speaker and her addressee knew the intentions of Hanna, the speaker indicates that Hans is the subject of the violated expectations that **doch** references: **doch**\( (p, \text{ Hans}) \) = That Hanna said no is surprising to Hans.

What the facts here show is that **doch** can reference the violated expectations of any salient protagonist, be it the speaker, the addressee or a third party. Given what has been said so far, this may seem unsurprising, or necessary to understanding the core meaning of what **doch** contributes to an utterance. And with this information that **doch** may reference any salient protagonist, the claim that this MP has a mirative meaning is strengthened even more. If **doch** can reference the counter expectation of either the speaker, the addressee or a third party, the core meaning proposed for this MP tracks quite nicely with the basic function of miratives.
Chapter 4

Previous accounts of \textit{doch}

Many of the previous accounts of \textit{doch} overlap in terms of the element of meaning that is assumed to represent the core function of \textit{doch} as a MP. Table 2.1 at the end of §2 outlines just some of those elements. This section will focus on five of the major pieces of meaning that have been identified as necessary core meanings of \textit{doch} in previous analyses:

\begin{itemize}
\item Normativity
\item Contradiction
\item Speaker Commitment to \textit{p}
\item Marker of Focus
\item Previously answered QUD
\end{itemize}

Given these, this section also seeks to show that in the place of previous assumptions, it is really expectation violation that comprises the core meaning of this MP.
4.1 Normativity

I use normativity as a gloss for the proposal that *doch(p)* signals that some salient individual in the context *should have known* *p*. Both Thumair (1989) and Rinas (2007) have explicitly argued for normativity as a central component of the meaning of *doch*. For many of the contexts for this particle seen thus far, this is a reasonable attribute to ascribe to it. Take, for example, the sentence in (37):

(37) Context: *Hans and Hanna are at a natural history museum. Hanna points to a stuffed sabertooth tiger and asks Hans what it is. He responds:*

*Hans:* Das ist *doch* ein Säbelzahntiger!

*that is* *doch* a saber-tooth-tiger

‘That’s (clearly) a saber-tooth tiger.’

Hans’ response indicates to Hanna that there is no reason for her not to know what this creature is. What *doch* seems to indicate here is that Hanna *should have known* *p*. He is surprised that the question was even asked, and it is clear that he assumes that identification of saber-tooth tigers should be an element of general knowledge, which fits into a normative interpretation of this particle.

Thurmair’s (1989) book outlines an approach to interpreting MPs based on a closed set of attributes. This work is able to propose a system of interpretation for all modal particles by showing how these attributes combine with each other to form the core meaning of each particle she discusses. In doing this, she is not only able to capture the meaning of these elements on a particle-by-particle basis, but her method also makes predictions about the compatibility of these particles with each other in a single utterance. Her account also has the advantage of providing a consistent analysis of these particles as a class. Her (slightly modified) analysis of the unstressed *doch* and the stressed *DOCH* is summarized in (38):

(38) The attributes *<CORRECTION>*, *<KNOWN>_x_, *x* = *speaker* or *addressee*¹

¹I have translated these from the original German, namely from *<Korrektur>*,. *<Bekannt_Sprecher>* and *<Bekannt_Hörer>* , respectively.
The idea of normativity is essential to such an account. For, it is crucial that this is interpreted as $x$, the conversational participant in question, should have known the proposition that is indicated in the prejacent of _doch_. Under such analysis, the scenario in (37) can easily be accounted for. But to say that normativity is a necessary core meaning of _doch_ is too restrictive. Consider again the out-of-the-blue case in (46):

(39)  *Hans and Hanna are talking on a street corner. Hans’ back is to the street, and as Hanna talks, she observes a man open an upper story window in the building across the street and begin to climb out. Hanna can then utter to Hans:*

_Hanna:_ Er springt _doch_ gleich runter!

_He jumps _doch_ shortly down

‘He’s going to jump (and you should turn around and look)!’

In light of these out-of-the-blue contexts discussed above in §3.1, if we were to retain a notion of normativity, we would be hard-pressed to find a referent of this utterance, be it the speaker, the addressee, or a third party, who should have known that someone was going to jump out of a window. And in fact, what _doch_ seems to be referencing here is the speaker’s surprise or violated expectation at the events unfolding. Given this, it seems that normativity is not a necessary component of meaning for the interpretation of _doch_.

### 4.2 Contradiction

Perhaps one of the most common proposals for a generalized core meaning of _doch_ comes in the form of contradiction. Many previous accounts, Thurmair (1989)
included, assume an element of contradiction is a key element in calculating the meaning of this particle, and not without good reason. As has been discussed in §2, it is a matter of fact that the stressed MP DOCH must always contradict a previous statement. Consider (40):

(40) Context: Hans and Hanna are discussing Andrea’s cookie eating habits:

Hans: Andrea hat keine Kekse gegessen.
   ‘Andrea hasn’t eaten any cookies.’

Hanna: Sie hat DOCH Kekse gegessen!
   ‘She DID TOO eat cookies!’

Here, the introduction of DOCH into (40) definitively contradicts the statement made immediately prior. But this can be attributed to the properties of stressed DOCH in general. This distribution of this particle is much more restricted than its unstressed counterpart. As Rojas-Esponda (2013) points out, stressed DOCH is only found in conjunction with overt negation, and is reminiscent of the phonetically identical positive polarity particle in this sense. The utterance in (40) is licit due to the presence of negation in the utterance that it reacts to, namely, that Andrea hasn’t eaten any cookies. Similarly, for DOCH to be licensed in response to an immediate utterance without negation, there must be overt negation in the prejacent, as discussed previously in reference to (13), repeated here for convenience:

(41) Context: Hans and Hanna are under the assumption that Andrea was going to dye her hair blue during her next trip to the salon. Upon later seeing her in the street with her natural locks, Hans utters:

Hans: Andrea hat die Haare DOCH nicht gefärbt!
   ‘Andrea DIDN’T color her hair!’

It is clear here that both situations are cases of pure contradiction. In terms of probability, what DOCH indicates is that \( P(p \land q) = 0 \). But unstressed doch is much more
pervasive. The idea that unstressed *doch* also necessarily contradicts another proposition hits a first obstacle with its relation to out-of-the-blue contexts. For reference, (39) is repeated in (42) below:

(42) *Hans and Hanna are talking on a street corner. Hans’ back is to the street, and as Hanna talks, she observes a man open an upper story window in the building across the street and begin to climb out. Hanna can then utter to Hans:*

*Hanna: Er springt *doch* gleich runter!*

‘He’s going to jump (*and you should turn around and look)!’

It seems clear in a case like (42) that contradiction is not a driving force, unless we assume that contradiction here is with a well-known, general expectation that we have. If this is the case, we can assume that *doch*(*p*) contradicts the general principle that *people don’t jump out windows*. Let’s entertain this notion for a while.

Rinas (2007) assumes such a contradiction account of *doch*. In essence, his account assumes that a *doch*(*p*) utterance presupposes that a salient proposition *q* is in direct contradiction to *p*. In addition, the hearer knows either *p* or knows *q*. Rinas (2007) originally proposed the following translation for *doch*:

(43)  

*doch*(*p*) ⇒ \( \text{Contradicts}(p, q) \land (\text{Knows}(H, p) \lor \text{Knows}(H, q)) \)

where *H* = hearer/addressee, and *q* is contextually salient

“*doch*(*p*) presupposes that *p* contradicts *q*, and if the hearer knows *p* or knows *q”

It is then up to interpretation whether *q* = \( \neg p \) or if it is a completely distinct proposition. What is important here is that the core meaning that *doch* carries in this analysis is that it presupposes a contradiction with another salient proposition in the context. Müller (2014) slightly modifies this view, and implements this into a context-updating model à la Farkas and Bruce (2010), and assumes following Diewald (2007) a step-by-step analysis of the presuppositions of *doch* in (43). For a proposition *doch*(*p*) like that in (44), she crucially assumes that these particles simulate a non-initial discourse move that is in contradiction with the prejacent of *doch*:
Das war **doch** richtig!
that was **doch** right
That was clearly right! (Müller, 2014, 184)

Such an utterance would be interpreted with the pragmatic pretext that on the table is *whether that was right*. She further assumes that there is a relevant situation such that *the speaker thinks p*, where \( p = \text{that was right} \). Given that there is a conflicting proposition to the proposition on the table, \( \neg p = \text{that was not right} \), with these background assumptions, one’s choice to utter \( p \) contradicts the contextually salient proposition \( \neg p \), which was raised by assuming \( \neg p \).

Along similar lines, Grosz (2014) proposes a modified account of Rinas’ (2007) interpretation of this MP. In keeping with previous analyses that assume an element of contradiction, this account first assumes that **doch** triggers two presuppositions, one of uncontroversiality and one of contradiction.

\[(45) \quad \begin{align*}
(a) \quad \text{**doch**}(p) & \text{is defined in a context } c \text{ if the speaker takes } p \text{ to be firmly established and it is safe to disregard } \neg p. \\
(b) \quad \text{There is a contextually salient proposition } q \text{ such that:}
\quad & \text{i. } q \text{ is a focus alternative of } p \\
\quad & \text{ii. The current context } c \text{ entails } \neg (p \land q)
\end{align*}\]

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

This approach parallels that of Rinas (2007) and Müller (2014) by assuming that there is a salient \( q \) that is crucially a focus alternative of \( p \). This focus alternative must be false at the time of the utterance \( p \) for the overall context to be non-contradictory. Under this analysis, the main contribution is that **doch** assumes that a speaker is strongly committed to \( p \), and the MP is analyzed as being lexically associated with focus.

But how are we to reconcile the facts from the out-of-the-blue cases? We could go the route of Müller (2014), and propose that an utterance like (46) simulates a
non-initial discourse move, and that the speaker assumes a pretext like \( p = \text{is there a four-leaf clover?} \):

(46) You are sitting in the grass talking to a friend. You look down, see something and utter:

\[
\text{Das ist } \textbf{doch} \text{ ein vierblättriges Kleeblatt!} \\
\text{that is } \textbf{doch} \text{ a four-leaf clover} \\
\text{‘It’s a four leaf clover!’}
\]

In this case, because the speaker thinks \( p = \text{there is a four-leaf clover} \), this would contradict another salient proposition on the table, \( \neg p = \text{There is not a four-clover} \) and the presence of \textit{doch} could be explained. But why should discourse-initial \textit{doch} utterances be assumed to simulate non-discourse initial moves? True, if we set this notion aside, it is very difficult to explain an apparent contradiction in these out-of-the-blue cases. But perhaps these are not cases of contradiction, but rather, of low probability:

(47) Low Probability: \( P(r \land s) \) is low, but not necessarily 0

If this concession is made, the use of \textit{doch} in examples like those in (30) and (46) are very easily explained. Contradiction would say that two propositions \( r \) and \( s \) are not compatible:

(48) \textit{Er springt} \textbf{doch} gleich runter!  \\
he jumps \textbf{doch} shortly down  \\
‘He’s going to jump (\textit{and you should turn around and look})!’

a. \( r = \text{He’s going to jump (out the window)} \)

b. \( s = \text{People don’t jump out of windows} \)

From the context of an utterance like in (48) (see (30) for full description), it is clear that this cannot be pure contradiction; if this were so, we would expect that in any world where it is an established fact that people that don’t jump out of windows, that a person jumping out of a window would contradict that fact. Since this is obviously
the case in utterances like (48), and since we don’t want inconsistent worlds, it is clear that contradiction is not the route to take. The probability of $r$ given $s$ above is very low, but it is not zero, which means that crucially, contradiction should not be part of the core meaning of this particle. What does seem to be the right generalization is that *doch* amounts to a certain degree of expectation violation.

Grosz (2014) attempts to tease apart this notion of expectation violation versus contradiction. Ultimately, he argues that *doch* must contain an element of contradiction. The following dialogue pits a general principle against an exception. Given these overtly contradictory elements, using *doch* seems to be anomalous:

(49) *Slightly modified from Grosz, 2014:*

So gut wie jeder Atheist ist liberal und Vegetarier. Hans ist die Ausnahme. as good as every atheist is liberal and vegetarian Hans is the exception
Er ist nicht liberal. Er ist nicht Vegetarier. he is not liberal he is not vegetarian

Just about every atheist is liberal and vegetarian. Hans is the exception. He isn’t liberal. He isn’t vegetarian.

a. - - #Er ist *doch* Atheist. he is *doch* atheist
   - - #’He’s an atheist.’

b. Aber er ist *doch* Atheist. but he is *doch* atheist
   ‘But he’s an atheist.’

The argument for the ill-formedness of this is as follows: (49) asserts a set of facts that are taken to be typically the case: if someone is an atheist, he is liberal and also a vegetarian. It then states outright that Hans is an exception to this general rule, claiming that he is neither liberal nor vegetarian, but nevertheless, he is an atheist. We can then deduce that being a non-liberal and a non-vegetarian must not be contradictory to being an atheist. And because we know that Hans is indeed an atheist, but that he does not conform to two of the general descriptors of this set of people, uttering *Hans ist*
*doch Atheist* here is strange because *doch* may only be used in cases of true contradiction. Here, we do not have true contradiction, but rather, expectation violation.

However, there is a confound here. Grosz (2014) mentions that a rhetorical break (indicated above) is “required for independent reasons.” However, I am told by consultants that this discourse as it stands, both with and without *doch* sounds unnatural and forced. The oddness here is not due to contradiction or lack thereof because the utterance containing *doch* in (49) is ill-formed without the MP. Why is this so? (49) is anomalous for the same reason that the English translation is anomalous: We don’t normally make generalizations and then counter-exemplify them without some sort of overt contrast marker. It is not the presence or absence of *doch* here that is cause for concern, but rather, the discourse relation between the sentences. The presence of the German connective *aber*, or English ‘but’ remedies this situation entirely. Given the very same context as in (49) above, and even with the overt possibility for contradiction to be a factor, the continuation in (49b) is completely licit with and without *doch*.

The relation that *doch* ascribes to utterances then cannot hinge on contradiction. With the right discourse context, *doch* is completely grammatical in such an utterance. It seems that the crucial observation here is not contradiction, but rather, low probability.

### 4.3 Speaker commitment to *p*

#### 4.3.1 Evidence from conditionals

At least two of the recent analyses of *doch* mention that a strong speaker commitment to the prejacent of *doch* is an essential kernel of meaning that this particle contributes. Both Grosz (2011, 2014) and Müller (2014) consider strong speaker commitment as taking a proposition *p* to be firmly established in the context in the current world, and that this speaker’s commitment allows the other conversational participants to infer that ¬*p* is “safe to disregard [...] as a possible answer to the question of whether *p* or ¬*p* holds in *w.c.*” This seems to be a reasonable assumption. And in fact, though
not all previous accounts explicitly note this, it is likely that this is an assumption that all of them make implicitly. And why shouldn’t they? It is the nature of assertion in general that can be thought of as committing a speaker to the propositions that they utter.

Where the idea that speaker commitment to \( p \) originates is in the observation that *doch* seems to mark its prejacent as an established fact. But this could very well be an assumption brought about by the idea that Normativity is an essential component of the meaning of this particle, or even the fact that the speaker is making an assertion. What is it exactly that distinguishes this speaker commitment to the speaker commitment that is made by any assertion?

Grosz (2011) provides an argument for this view using data from some conditional environments that seem to disallow *doch*. The data given comes from analysis of *doch* in conditional statements, and particularly, in conditional statements where subjunctive mood is overtly marked on the verb. Grosz argues that in subjunctive conditionals without the MP as in (50), both a counterfactual conditional and an optative reading are available. That is, (50) can easily be interpreted as the speaker stating that in a counterfactual world of interpretation, Hans stayed, and if he stayed, something very nice happened. But it can just as easily be interpreted as an optative—a wish on the part of the speaker that is not lexically encoded by verbs of wishing. However, with the introduction of *doch*, the conditional may only be interpreted factually, though the optative reading should also be available (modified from Grosz, 2011):

(50) Wenn Hans geblieben wäre, wäre etwas ganz Schönes passiert.
    if Hans stayed have-SUBJ, have-SUBJ something very nice happened.
    ‘Since (under certain circumstances) Hans would have stayed, something very nice would have happened.’
    ‘If (only) Hans would have stayed, something very nice would have happened.’

(51) Wenn Hans *doch* geblieben wäre, wäre Fürchterliches passiert.
    if Hans *doch* stayed have-SUBJ, have-SUBJ horrible-things happened
‘Since (under certain circumstances) Hans would have stayed, horrible things would have happened.’

#‘If only Hans would have stayed, horrible things would have happened.’

When used in a conditional antecedent as in (51), the utterance apparently cannot be counterfactual, unless it is overtly conditionalized with other relevant, background information. Thus, Grosz (2011) that it seems that *doch* carries a strong commitment of the speaker to the truth of the conditional antecedent. But it must also be noted that an utterance like (51) maintains an optative reading in such a subjunctive conditional when an addressee has a context to refer back to. Consider the following background context:

(52) *Hanna*: I’m so annoyed that nothing bad happened to the boys the other night.

*Andrea*: But why? You shouldn’t wish ill on other people.

*Hanna*: Because they always get away with murder. They should have been caught.

*Andrea*: But luckily Hans was able to defuse the situation by leaving.

*Hanna*: But they should be punished...

Wenn Hans *doch* geblieben wäre, wäre Fürchterliches passiert.

‘If only Hans would have stayed, horrible things would have happened.’

(53) Wenn Hans *doch* geblieben wäre, dann hätten wir ins Kino gehen können.

‘If only Hans had stayed, then we could have gone to the movies.’

Grosz (2011) does mention that when a context is forced, *doch* can trigger a presupposition/implicature that targets a speaker’s ideal list—the set that incorporates

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3SUBJ hereafter refers to the subjunctive verbal mood.
the speaker’s wishes, goals and laws that they abide by (277-8). If the speaker targets this ideal list, the addressee is more likely to interpret the utterance as optative. In the utterance in (51), just this has been done. By giving an utterance context instead of assuming a default context, the consequent proposition, *horrible things would have happened*, is assumed to be part of the common ground on the speaker’s ideal list. In this sense, Grosz argues, *doch* can commit the speaker to the common-ground material that her conditional statement makes reference to. The addressee can then compute (52) as optative, as it is something that the speaker has expressly committed herself to wanting. In this sense, the speaker must be committing themselves to the *doch* utterance.

However, I argue that speaker commitment is not in fact a necessary core contribution of *doch*. Rather, both an optative and a factual conditional reading can be made available without an explicit background context by changing two factors: the lexical item choice, and incorporating the overt complementizer into the consequent. The sentence in (53) is completely ambiguous: it can easily be interpreted as both an optative and as a factual conditional.

Changing the lexical items here seems to be key. The conditional in the original sentence (51) is likely interpreted as factual in a null context rather than optative due to the fact that it is not a general assumption that the consequent, *horrible things would have happened*, will be interpreted as something that the speaker would like to add to their ideal list. Recall that on the ideal list, one lists wishes, goals and laws they abide by. In a null context, asking the addressee to assume that the consequent of (51) does not fall in line with propositions that people usually wish for, and pragmatically rules out an optative reading. However, in (53), the consequent is a much more reasonable candidate to assume as the target of an optative reading; people frequently wish that they could go to the movies. Because of this, the optative reading is much more available, and notion of speaker commitment can be dissolved.

There is another crucial difference here. The complementizer *dann* is overt. And in fact, in the sentences that Grosz (2011) constructs to show that the optative reading is available with the correct background context, all contain this *dann*, ‘then’.
The reason for this small difference in the syntax is unclear. What is clear is that these sentences do not fall under Iatrodou’s (1994) generalization that the conditional dann/that is disallowed in cases in which the speaker believes that the consequent is always true.\textsuperscript{4} Thus, if dann in the conditional construction in (51) were left out due to the fact that they fell part of this generalization, a pause here might be warranted. However, this sentences is just fine with dann, ruling out this restriction as a basis for concern. What instead seems to be emerging is that evidence for speaker commitment is on shaky ground.

4.3.2 Evidence from polar and Wh-questions

One could make the argument for a strong speaker Commitment to $p$ based on the evidence that doch is not licensed in polar questions (Doherty 1982, Thurmair 1989). Because a speaker cannot commit herself to both alternatives when asking \(^?\)p, they do not commit to one alternative over another. Assuming that speaker commitment is the reason for the strangeness, the construction is invalid. However, doch in tag or biased questions are just fine, as noted by Thurmair and discussed in §2.3, and as evidenced in the following example taken from a corpus study of web-based text sources:

(54) Ich meine wenn z.B. Bäcker A bereit ist, z.B. bis 22 Uhr zu öffnen, dann ist es doch auch nur fair, dass er evtl. mehr Brötchen verkauft – oder sich nicht?

‘I mean, if for example, Baker A is willing, for example, to be open until 10 pm, then it’s only fair, that he potentially sells more bread, no?’ \textit{from DWaC corpus}

\textsuperscript{4}Iatrodou (1994) makes a generalization about conditional statements that can be summarized as follows:

(1) i. ‘if $p$, then $q$’ is felicitous the speaker believes that in some cases where $\neg p$ holds, $\neg q$ holds as well.

ii. ‘if $p$, then $q$’ \textit{cannot} be uttered if the speaker thinks that $q$ holds in all worlds.

She also mentions that in the cases where the speaker has no belief about what holds in the $\neg p$ cases, that \textit{then/dann} is predicted to be fine as well.
What *doch* does in (54) is comment on the speaker’s surprise that, given the hypothetical situation that one baker keeps his shop open later than the others, it should not be surprising that this individual sells more bread. Though the truth of both the antecedent and the consequent of the conditional may be unknown, *doch* anchors to the speaker’s surprise that her preference—that the entire proposition is true—is not shared by all.

Northrup (2014) suggests that there is a preference in tag questions for the truth of the proposition that a tag is anchored to. Indeed, he notes that tag questions in fact do have a considerable evidence-based bias, which can be inferred based upon the form of the tag. In the above example (26), there is a positive speaker belief for the prejacent of *doch*, namely, that the entire conditional is true. Northrup’s generalizations about the rising intonation of tag questions in English suggest that rising intonation indicates some prior evidence for the anchor of the tag, but contributes a weaker commitment than falling intonation. Under such an analysis, (54) suggests that the best that can be inferred here is a *weak* speaker commitment (198-208).

Northrup (2014) also notes that tag questions have the effect of a polar question, namely, they raise the issue of ?p and commit the speaker to the disjunction of (p ∨ ¬p). However, they “also carry weak commitments to signal that the speaker’s willingness to commit to both alternatives is not equal” (203). But though this is perhaps a small point in favor of any sort of speaker commitment to the prejacent of *doch*, as Northrup points out, this is a *weak* commitment and only slightly biases the speaker one way or another.

Along the same lines, as pointed out to me by Armin Mester (p.c.), polar questions can contain *doch* if they appear in V2 word order, instead of the canonical verb-first question syntax. Thus, while (55a) is completely uncontroversial, (55b) is completely ungrammatical:

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5Because of the similarities in prosody and intonation across the the West Germanic languages, including similar foot-structures, nuclear pitch accent placement, the generalizations made about English intonation in terms of tag and biased questions in Northrup’s (2014) manuscript can easily be attributed to similar constructions in German. See Féry (2011), Isačenko et al. (1966), and Wiese (1996) for further discussion of German stress and prosodic mappings.
b. * Ist das doch sicherlich manchmal sehr ekelhaft?
   is that doch surely sometimes very disgusting

   It seems that it is not the question feature of these constructions in itself that disallows *doch, but rather the fact that they are presented with canonical question syntax. Perhaps this is the reason for this disallowance of *doch in these construction: Wh-Questions can quite freely contain *doch, but they do not leave the syntactic Pre-field open—it is instead filled by a Wh-word:

   (56) Wer hat doch die Kerzen ausgeblasen?
        who has doch the candles blown-out
        ‘Who blew out the candles then?’

   But such questions also return us to the issue of speaker commitment. As seen in Northrup (2014), it can be argued that many types of polar questions (tag, biased, high negation) can indicate a speaker bias in favor of one of the disjuncts that the question puts on the table, which can translate as a weak speaker commitment to that proposition. However, the speaker commitment to the alternatives to the Wh-questions is a bit more murky. As with polar questions, Wh-questions place a listed set of propositions on the table which are possible answers to the question. It could be the case that any one of the potential answers to the question in (56) listed below could be true:

   (57) a. Hans blew out the candles.
   b. Everyone blew out the candles.
   c. Hans and Hanna blew out the candles.
   d. The boy blew out the candles.

   But there is not a way to indicate a strong speaker preference for one of these potential answers to a Wh-question. The bias that such a question permits is that
someone blew out the candles, which does, in some sense presuppose a kind of answer to this question. But even this does not prove enough, as it need not be a person who blew out the candles: the wind could have blown them out, or they could have burned themselves out. To say that Wh-questions have a strong speaker bias turns out to be a weak prediction.

And in the case of imperatives, the commitment of the speaker to the utterance is even more puzzling, as the relationship of the utterance to a speaker’s belief state is not well understood:

(58) Bring **doch** dein Freund mit!

bring **doch** your friend with

‘(Go ahead and) bring your friend with you.’ \(\text{\textit{(Thurmair, 1989, 117)}}\)

If constrained simply to declarative utterances, it seems that Speaker Commitment is a viable core meaning of **doch**. However, in light of the other environments where **doch** may occur, it seems clear that speaker Commitment is not a necessary core generalization.

### 4.4 Marker of focus

#### 4.4.1 Cases of contrastive stress

As part of the the core meaning of **doch**, Grosz (2014) argues that **doch** must lexically associate with focus, which is assumed to be part of the contradiction presupposition that this particle triggers. But the idea that **doch** must indicate contrast or contradiction has been already been thoroughly discussed in §4.2, where it was shown that contradiction was not a necessary condition for **doch**. The following is an attempt to show that once the idea of contradiction has been shown to be not needed, it also follows that Focus is also a non-mandatory inference with respect to **doch**’s core meaning.

Grosz (2014) shows that **doch**’s failure to associate with a reduced or an extracted element that should bear the focus is a predictor that this element should lexically be associated with focus. The following examples purport to show this.
(59) Hans küsst jeden tag entweder Helga oder Anna, aber niemals beide...
Hans kisses every day either Helga or Anna but never both
Hans either kisses Helga or Anna every day, but never both...

a. ...Daher hat er heute nicht Helga geküsst, weil’s heut die Anna
therefore has he today not Helga kissed because-it’s today the Anna
ist, für die gilt, dass er doch SIEfac geküsst hat.
is for who holds that he doch HER kissed has
‘...Therefore he didn’t kiss Helga today because today it’s Anna for whom
it’s the case that he kissed HER.’

b. Reduced element

#...Daher hat er heute nicht Helga geküsst, weil’s heut die Anna
therefore has he today not Helga kissed because-it’s today the Anna
ist, für die gilt, dass er s’ doch geküsst hat.
is for who holds that he her doch kissed has
#‘...Therefore he didn’t kiss Helga today because today it’s Anna for whom
it’s the case that he kissed ‘er.’

c. Extracted element

#...Daher hat er heute nicht Helga geküsst, weil’s heut die Anna
therefore has he today not Helga kissed because-it’s today the Anna
ist, für die er doch __ geküsst hat.
is for who holds that he __ kissed has
#‘...Therefore he didn’t kiss Helga today because today it’s Anna who he
__ kissed.’

all from Grosz (2014)

The idea here is the following. The examples in (59a-59c) are clefts. In both
(59a) and (59b) we have a resumptive element (sie or s’, ‘her’ respectively) for the trace
position of the cleft extraction. In (59c), we have actual extraction. Lexical association
with focus is seen here as associating with a preceding or following lexical item that
bears focus stress in contrast with the bare nuclear stress of the utterance. Beaver &
Clark (2008) observe that a focused element is ill-formed when it attempts to associate
with a reduced form. Thus, if doch is focus sensitive, it should be only good when the
focused item is unreduced and overt. Hence, as Grosz (2014) shows, doch should be licit
with (59a) and illicit with the other two, in one case because the focus sensitive element is reduced, and in the other, because *doch* is no longer string-adjacent to the element that should bear focus.

The contexts presented above are, as one consultant noted, very convoluted, and do not seem to replicate normal German speech. And as it happens, when examples are simplified, a fact emerges that was previously obscured: *doch* CAN appear next to gap of an extracted element:

(60) *Extracted element*

...Da er heute nicht Helga geküsst hat, ist’s heut die Anna, die er *doch* because he today not Helga kissed has it-is today the Anna, who he *doch* ___ küsst.

‘...Because he didn’t kiss Helga today, today it’s Anna who he’ll kiss ___.’

The element immediately following *doch* here, which should be the focused element, is the relative clause gap. Since one cannot focus missing material, based on the arguments given for (59b-59c), this sentence should be illicit. But in fact, it is just fine. Interestingly, the utterance-final verb is also not stressed, indicating either that extraction from a relative clause gap is not a diagnostic for lexical focus association, or that perhaps *doch* is perfectly licit when occurring before gaps or traces, and does not necessitate lexical focus at all.

And interestingly, if *doch* is moved out of the deepest embedded clause of (59b) and is placed next to the cliticized and reduced element ’s, the anomalous reading turns into a perfectly fine used of the particle. The meaning here has not changed from the intended meaning in the original (59a) continuation of the baseline utterance:

(61) ...Daher hat er heute nicht Helga geküsst, weil’s *doch* heut die Anna therefore has he today not Helga kissed because-it’s *doch* today the Anna ist, für die gilt, dass er s’ geküsst hat.

‘...Therefore he didn’t kiss Helga today because today it’s Anna for whom it’s the case that he kissed ’er.’
Here, as before, the focus stress may not fall on the reduced element s’ in the final clause, and it also may not fall on the cliticized weil’s or the following heut (which interestingly, is also a non-standard/colloquial/“reduced” form of the German for ‘today’). Contrastive focus may be placed on Helga and also on Anna, but crucially, focus need not be places on Anna, the referent of the reduced element. From this, it seems that lexical association with stress may not be an intrinsic property of this modal particle.

4.5 Questions Under Discussion

A recent proposal by Rojas-Esponda (2013) suggests that the interpretation of doch stems from the interpretation of answers to particular QUDs. This approach points to the meaning of stressed and unstressed doch as a difference in answers to a previously closed QUD. Unstressed doch would provide the same answer when the QUD was re-raised, and stressed Doch re-answers a previously closed QUD in a different way than before. The following pair of answers to the question of whether Anke is joining Birgit for the opera shows this:

(62) Anke: Kommst du mit in die Oper?
Are you joining us for the opera?

No, I have doch declined.

b. Birgit: Ja, ich habe doch zugesagt.
Yes, I have doch confirmed.

Rojas-Esponda, 2013

Both of the responses above make use of unstressed doch, which indicates to the addressee that this question has already been answered in discourse. In (62a), the response indicates that no, Birgit will not be joining for the opera, and unstressed doch
indicates that this question was already answered, and that the speaker is answering it in the same way as before. The picture is quite the same in (62a); the response here indicates that yes, Birgit will be joining, and that this question was previously closed with the same answer.

The presence of stressed DOCH in a response to the question in (62) contributes a slightly different meaning:

(63) Birgit: Ja, ich kann DOCH mitkommen.
    yes I can DOCH come-with
    Yes, (it turns out) I CAN come.

Here, with the stressed variant, Birgit indicates that though the QUD was previously answered, her previous answer differs from the one that she is giving in (63). By partitioning the way a question was answered with regard to a previous QUD, Rojas-Esponda (2013) is able to put forth a generalization about the differences between the stressed and unstressed variants of the MP.

Such an account also provides another argument against the view that doch must associate with focus. Using a theory of questions put forth by Farkas & Roelofsen (2012) and Roelofsen et al. (2013), the claim that doch must lexically associate with focus is challenged in the following way: In a polar question, the mentioned possibility is also considered to be the highlighted possibility, making the unmentioned possibility lowlighted. Thus, the positive answer to the question is highlighted in a question such as Are you coming to the opera?, whereas the negative answer is highlighted in the negative form of the same question, Are you not coming to the opera?. It follows then that for the polar question posed in (62), the highlighted possibility is \( p = \text{you are joining us for the opera} \), while the lowlighted possibility is \( \neg p = \text{you are not joining us for the opera} \). It is the case that doch can be interpreted as associating with a focus alternative when the answer is to (62a), as the question is answered with the lowlighted possibility, and therefore contrasts with the preference for the highlighted one. However, as Rojas-Esponda (2013) shows, it is also possible to use doch in those cases where there is no focus alternative, namely, in those cases where the given answer matches the highlighted
possibility of the QUD. This is the case in the response in (62b).

As Rojas-Esponda notes, the answers in (62-63) do seem to be signaling that the question has been resolved previously. For this account, this is the hallmark of *doch*. However, it is possible to change (62) in a way that the feeling of resolution disappears. Consider (64):

(64) Hans: Are you joining us for the opera?

a. Hanna: Ja, ich habe *doch* mein Aufsatz zu Ende geschrieben!
yes I have *doch* my essay to end written
‘Yes, I was able to finish my essay!’

no I have my essay *doch* not to end written
‘No, I wasn’t able to finish my essay.’

The responses above warrant a bit of context. For these to be felicitous, Hans and Hanna must have already had a discussion about Hanna’s essay. But at the time of the conversation, it was unclear to both of them when or if Hanna would be done with her essay in time. This information is backgrounded and can be reactivated. But what cannot be reactivated is a previous and identical answer to the QUD that is raised in (62a), because crucially, it has not yet been answered. It is still an unsettled QUD. The answers to the question in (62a) are informative to the asker, but yet, they contain *doch*. What then should we make of (62)? Why does it feel different? I would like to argue that this relate to the lexical items. ‘Confirm’ and ‘decline’ in German seem to suggest confirm and decline with the addressee. Given this, it must then be the case that *doch* need not provide an answer to an already closed QUD.

But all of Rojas-Esponda’s (2013) examples are Question-Answer pairs, and it follows that the QUD is already present in the discourse. But as we have seen previously, *doch* statements can be discourse-initial:

(65) You are sitting in the grass talking to a friend. You look down, see something and utter:
Das ist **doch** ein vierblättriges Kleeblatt!

that is  *doch*  a  four-leaf  clover

‘It’s a four-leaf clover!’

Such an analysis assumes that for every *doch* utterance, there is a particular QUD and that this particular QUD has a previous answer already on the discourse record. But just like in the alternative answers to a question posed in (62), it seems clear that in an out-of-the-blue context, there is no sense that the QUD has already been answered in the same way as is has been before. What a discourse-initial *doch* can do is activate a current QUD. This is non-controversial. In terms of the addressee alone, it seems plausible that they can accommodate the QUD. But it does not seem likely that they can also accommodate a previous answer. Another question also arises: how does this analysis fare in light of the facts surrounding imperatives, exclamatives and interrogatives? Extending this analysis to these other domains runs into some serious issues. It is quite clear that though a QUD analysis can very nicely capture much of the data on declaratives, but in light of the facts in (64) and (65), it is limited in scope.

What must be incorporated is the fact that *doch* reacts to the violated expectations of the speaker. The speaker in (65) is clearly surprised to find this clover, given the very low probability of ever finding one. And indeed, this is explanatory for the cases in (64) as well. The particle *doch* reacts to the violated expectations of the participants in this discourse, emphasizing the fact that Hans and Hanna both assumed the likelihood of Hanna finishing the essay to be very low. It is the fact that she finished it in time to go to the opera that is surprising to the participants. The question of how to expand this generalization is taken up in the following chapter.
Chapter 5

Deriving a meaning for \textit{doch}

As indicated in the previous section, there have been a number of proposals that attempt to pinpoint the core meaning of \textit{doch}. In this section, I will demonstrate that, despite their various differences, previous accounts all share the feature of being too restrictive. Instead, I will propose that the core meaning of \textit{doch} is to be found in what was said about its contribution in (65), that it indicates surprise, or violation of expectation. I will show that this fairly weak meaning can handle the diversity of contexts where \textit{doch} can be used and, indeed, derive the kind of fine-grained shades of meaning we have observed.

5.1 A proposal

I will propose a semantics of \textit{doch} here based off the accounts of Rett (2009) on exclamatives, and on Rett & Murray (2013) of mirative evidentials. To do this, I will adopt the notions present in Rett & Murray (2013) that mirative elements encode not-at-issue content and serve to modify the illocutionary or speech-act-level content (263). From what has been explored so far, it seems that an extension of this mirative system should provide a basis for interpretation of \textit{doch}:

\begin{enumerate}
\item We assume that an utterance \textit{u} containing \textit{doch} has a logical form of the form \([\ldots \text{doch}_{q,x}\ldots]\), where:
\end{enumerate}
i. \( q \) is anaphoric to a proposition in the context \( C \), and

ii. \( x \) is anaphoric to a salient doxastic center in \( C \), which may be the speaker, the addressee, or a salient third party protagonist

Such a \( u \) is expressively correct in context \( C \) iff:

i. there is a contextual degree of probability \( d_C \) s.t.: \( \text{EXPECTATION}_{x,C}(q) < d_C \)

ii. \( R(q,u) \), where \( R \) is defined below.

b. Let \( R(q,u) \) hold between a proposition \( q \) and an utterance \( u \) in a context \( C \) iff one of the following is true:

i. \( q \) is the semantic content of \( u \)

ii. \( q \) is the fact that \( u \) occurred

iii. \( q \) provides an explanation for why \( u \) occurred

iv. \( q \) provides an explanation for why \( x \)’s expectations have been violated

Defining \( doch \) in this way accounts for the crucial observation that there are two degrees of freedom in the semantic representation of \( doch \). First, the referent of the expectation violation can vary between the speaker, the addressee or a third party. This encodes one aspect of the mirative element of this particle. The second degree of freedom lies with the other mirative aspect—the expression of expectation violation. The formulation in (66a) makes room for either the prejacent of the MP or another distinct, salient \( q \) to be an expectation-violating element. To do this, there must be reasonable constraints on the discourse relations between \( q \), what I will call the the propositional argument of \( doch \), and the utterance that \( doch \) appears in.

I propose that there are (at least) four distinct relations between the \( doch \) utterance and the propositional argument of \( doch \). Looking to (66b-i), this first relation is unsurprising and uncontroversial: \( doch \) can reference the semantic content of the utterance that it is a part of. The second is quite the same. The event of uttering a statement with \( doch \) can be the locus of a participant’s expectation violation. Where
this analysis departs from previous analyses is in the third and fourth relations of \( q \) to the utterance. In both (66b-iii) and (66b-iv), a discourse participant’s surprise or expectation violation is not expressed by the semantic content of the utterance or the utterance itself. Rather, the third discourse relation proposes that \( q \) is distinct from the utterance entirely, but limited to those propositions that can explain why an utterance \( u \) occurred. Finally, \( q \) may also provide a distinct proposition that provides an explanation for why a discourse participant’s expectations may have been violated.

In what follows, I defend the position that a partitioning of the discourse relations of \( doch \) into (at least) four distinct cases can all be viewed rhetorically as explanations. I start by showing the necessity of dividing the first two relations indicated in (66b). Then I argue for the necessity of the distinction between these cases and the two presented in (66b-iii-iv). From this, what emerges is that in those cases where the utterance and the propositional argument of \( doch \) differ, the relations represent causal explanations.

### 5.2 Distinguishing semantic content from the act of utterance

With the proposal for \( doch \) laid out in (66a), a question arises as to why the source of expectation violation must be distinguished from the semantic content of \( doch \) and the act of uttering a \( doch \) in itself. To see this, consider the two familiar examples below:

\begin{equation}
\text{(67) } \text{You are sitting in the grass talking to a friend. You look down, see something and utter:}
\end{equation}

Das ist \textbf{doch} ein vierblättriges Kleeblatt!
that is \textbf{doch} a four-leaf clover
‘It’s a four-leaf clover!’

\begin{equation}
\text{(68) } \text{Hans and Hanna are at a masquerade ball. Hans recognizes Hanna’s trademark silver earrings through her disguise, and triumphantly utters:}
\end{equation}

\begin{center}
55
\end{center}
For (67), it is clear that the expression of surprise or violated expectations rests in the semantic content of the *doch* utterance. The context dictates that there is a very low probability of finding a four-leaf clover, and the speaker’s expectations of themselves finding such a rare mutation is even lower. When such a specimen is found, the surprise references exactly $q = \text{It is a four leaf clover}$. Including *doch* in an utterance like (67) signals the speaker’s surprise at the content of that proposition. Here, $doch(q, \text{Speaker})$ roughly indicates *I am surprised that it is a four-leaf clover*. The speaker uses this MP to both indicate their surprise, and at the same time, to point exactly to what it is that has inspired this utterance.

The interpretation is slightly different with a context and utterance like that in (68). What Hans means to convey with his *doch* utterance is that he is violating the expectations of Hanna, his conversational partner. In this situation, Hanna is disguised, and assumes that she is unrecognizable to anyone at the party. Because the mirative component of this utterance is directed at the addressee, it would be strange for $doch(q, \text{Addressee})$ to refer only to the semantic content thereof. This would amount to interpreting (68) as Hanna being surprised that she is Hanna, or that Hanna’s expectations have been violated because she is herself. This is not the case. Rather, the proposition $q$ must be expanded here to include the entire utterance and its context: *Hans knows that she is Hanna*. Under such an interpretation, the entire statement in context must mean something along the lines of $doch(q, \text{Hanna}) = \text{Hanna is surprised that Hans knows that she is Hanna}$. Again, *doch* not only adds the mirative element, but it also seems to explain the utterance: the fact that Hans knows $q$, given Hanna’s assumptions that she is disguised, is the source of Hanna’s violated expectations.

This second relation can also explain what is happening in many of the imperative contexts that *doch* finds itself. Take again the example in (69):
A mother and her young child are walking in a parking lot. Normally, she allows her child to walk without holding her hand, but this afternoon, the parking lot is very busy, and she is worried about her child’s safety. She utters:

Nimm doch meine Hand.
take doch my hand
Just hold my hand.

The actual utterance in context here is the source of the violated expectations of the child. The child expects not to have to hold the mother’s hand, and both participants are aware of this. The imperative context inherently targets the addressee as the recipient of the surprise, and doch references the mother’s knowledge that the fact that the utterance occurred at all violates the expectations of the child.

From this, we can conclude that simply stating that the semantic content of doch provides the surprise or violation of expectation of a conversational participant is not enough. It must minimally be expanded to include the doch utterance and the context surrounding it. In other words, the source of this mirative component, q, must minimally be able to reference the semantic content of an utterance, as well as the fact that an utterance occurred at all.

5.3 Determining a salient q

The third and fourth relations between q and a doch utterance itself proposed under (66b) also warrant an explanation. Particularly, what must be addressed is the claim that the propositional argument of a doch utterance may not include the utterance or its semantic content. I propose that in those cases where this distinction arises, that there is a causal, explanatory relation between q and the utterance containing doch. Consider the examples in context below:

You have invited a friend over for coffee. You bring out the mugs, and as you set your friend’s down, utter:
Du nimmst doch Zucker in deinem Kaffee. Es tut mir Leid.
you take doch sugar in your coffee it does me harm
‘You take sugar in your coffee. I’m sorry (but we don’t have any).’

(71) You and a friend are walking in the woods on a winter day and although it’s
cold and snowing, you encounter a flower blooming. You indicate the flower and utter:

(Aber) Es schneit doch!
but it snow doch
‘(But) It’s snowing!’

In (70), similar to (68), it is not the semantic content of the utterance that is surprising or expectation violating. In fact, on the surface, it would seem that the content of the doch utterance is completely uninformative: the fact that both the speaker and the addressee know that the addressee takes sugar in their coffee is already known, given that the addressee knows this about herself, and the speaker references this common ground proposition. And it is also not the act of the utterance that is surprising. The fact that the speaker knows that their friend takes sugar in her coffee violates neither the expectations of the addressee of the speaker. Rather, there is a salient $q$ in the context that the speaker references, $q =$ *Your coffee is unsweetened*. This salient $q$ acts to explain why the addressee’s expectations were violated. And the explanation here is causal. If we assume an informal interpretation schema like $q$ is surprising to $x$ because of $u$, we can easily constrain this discourse relation. A doch utterance like that in (70) could be approximated as in (72d):

(72) $\text{doch}(q, x)_u = q$ is surprising to $x$ because of $u$

a. $q =$ *Your coffee is unsweetened*

b. $x =$ Addressee (you)

c. $u =$ *You take sugar in your coffee*

d. *That your coffee is unsweetened is surprising to you because you take sugar in your coffee.*
The interpretation is much the same in (71). Again, given your surroundings, and the assumption that your conversational partner is also aware that it is snowing, it would seem that an utterance like (71) is completely uninformative. It is not that you are reminding your partner that it is snowing, and the fact that it is snowing is not surprising or expectation-violating. What is surprising is the fact that you have encountered a blooming flower in the middle of the cold forest. The surprise is anchored to the contextually relevant, expectation-violating proposition \( q = A \text{ flower is blooming} \). And again, this is a causal relation. This implicit proposition is the cause for the speaker’s surprise that is interpreted in the \( \text{doch} \) utterance. Schematically, as above, and following (66b-iv), we can interpret this as \( \text{doch}(q, x)_u = \text{That a flower is blooming is surprising to me because it is snowing} \).

For \( \text{doch} \) questions, the schematic outlined above will not always work. Take, for example, the following scenario:

(73) **Hans and Hanna are at a party. All of the sudden, Hans’ face turns white, and he turns and quickly walks out of the room. Hanna has seen this happen and utters:**

\[
\begin{align*}
\text{Hanna: Was } & \text{ ist doch passiert?} \\
& \text{ what is } \text{ doch happened} \\
& \text{ ‘What happened?’}
\end{align*}
\]

It is clear that neither relations (66b-i) nor (66b-ii) can capture the relation here. For a question, the environment that \( \text{doch} \) occurs in is not a single proposition, but rather a question that denotes a set of propositions. As such, it cannot be the prejacent of \( \text{doch} \) that is the source of the expectation violation. Rather, it is some other salient proposition \( q = \text{Hans suddenly left the room} \). But interpreting a question in the same way as the declaratives in (70-71) is not the right strategy. The utterance in (73) does not attempt to explain why a discourse participant’s expectations have been violated. This falls out from reflection on the nature of questions themselves. They are information-seeking, and for the propositional argument of \( \text{doch} \) to express surprise or expectation violation regarding propositional content that is not yet known is strange.
The utterance in (73) can, however, be interpreted using the third relation that 
*doch* introduces. If the relation of *q* to the *doch* utterance can be a causal explanation
for why *u* occurred, the contribution of *doch* can easily be stated:

(74) \[ \text{doch}(q, x)_u = q \text{ is surprising for } x, \text{ and explains why } u \]

a. *q = Hans suddenly left the room*

b. *u = What happened?*

c. *That Hans suddenly left the room is surprising to Hanna, and explains her utterance "What happened?"*

This relation is perhaps best exemplified in just those situations that such
an analysis predicts: *doch* in a polar question. It is widely acknowledged that this
environment does not allow *doch*, and this is easily explained. Polar questions ask \?*p.*
Under a polar question operator, where there is a bifurcation of possible answer spaces,
one would be hard pressed to indicate surprise or expectation for one of the two possible
answers that your question assumes. If you are seeking an answer to \?*p*, it would be
strange to also show violated expectation of one of the two possible answers to \?*p* at the
same time.

But the formalization in (66a) makes the prediction that, under the right con-
ditions, a polar question can contain *doch* if the expectation that is being violated is not
the semantic content of the utterance itself, but rather, another salient *q*. And in fact,
this prediction is borne out. Consider the example in (75) below:

(75) *Hans and Hanna are in Hans’ office. They had both mentioned yesterday that
they would be riding their bikes to work, and the signs that Hans has done just
that are apparent: his bike is in the corner, his helmet and bike lock are on the
table, and his biking gear is draped across his chair. The two of them are getting
ready to leave, but Hans picks up his car keys, and heads toward the door. There’s
no reason for Hanna to think that Hans has also driven his car today, as the signs
are quite apparent that he has biked. She can then, surprised, ask:*

60
The utterance still seeks an answer to the question of whether you drove your car today, but what doch does is target a salient answer to this question from the discourse context, namely, q = You are leaving your bike. The expectation violating element cannot simply be represented by the question itself. If it targeted only the semantic content of the question, the expectation violation would need to be anchored to one of the two possible propositions that partition the answer space. Doing this would commit the speaker to one to the other possibility, and would invalidate the need for a question at all. And pausing here for a moment, we can see that this predicts the right outcome for doch in a polar question. Consider the utterance and context in (76), whose acceptability differs significantly from (75):

(76) Hans and Hanna are in Hans’ office. There are no signs that he has ridden his bike today, but Hanna knows that sometimes Hans walks to work. They get up to leave, and Hans grabs his car keys. Hanna utters:

\[ \text{Hanna: Bist du \textbf{doch} heute mit dem AUTO gefahren?} \]
\[ \text{are you \textit{doch} today with the \textit{car} drove} \]
\[ \text{‘Have you driven your car today, then?’} \]

With the intended doch reading, such an utterance is infelicitous. There is no reason to suspect that this behavior is surprising, as she has no evidence to suspect that Hans has not driven today. With this polar question, there is nothing for the mirative element to reference that would not commit the speaker to one or the other alternative answer to this question. Lacking such an anchor renders this utterance pragmatically odd.

\[^{1}\text{Armin Mester (pc) mentions that in this context, there must be contrastive stress on AUTO to license the unstressed \textit{doch}. Interestingly, without contrastive stress on AUTO, the stressed variant DOCH may appear here, likely indicating an apparent contradiction arising from the inability of someone to both drive their car as well as ride their bike to work on the same day.}\]
But anchoring the surprise to another salient proposition \( q \) in the discourse context is exactly what the utterance in (75) does. In referencing \( q = \text{You are leaving your bike} \) as the source of the expectation violation, Hanna’s utterance is felicitous. It does not target an answer to the question that the \( \text{doch} \) utterance raises. Rather, it provides an explanation for raising the question in the first place:

\[
(77) \quad \text{doch}(q, x)_u = q \text{ is surprising for } x, \text{ and explains why } u
\]

\begin{itemize}
  \item[a.] \( q = \text{Hans is leaving his bike} \)
  \item[b.] \( u = \text{Have you}\text{Hans} \text{ driven your car today?} \)
  \item[c.] \text{That } \text{Hans is leaving his bike} \text{ is surprising to } \text{Hanna, and explains her utterance } \text{"Have you}\text{Hans} \text{ driven your car today?"}
\end{itemize}

Based on this evidence, splitting the meaning of \( \text{doch} \) into four distinct discourse relations can capture the core generalizations to be had from this particle. Not only is the mirative aspect of this MP readily attributable to a salient discourse participant, but proposing an explanatory discourse relation is able to further constrain what implicit propositions can and cannot be anchored to the utterance.

### 5.4 Summary

Table 5.1 summarizes the relevant conclusions that have been made throughout the course of this analysis.

What this shows schematically is the necessity of each of the four discourse relations outlined in (66b) above. Each has its own particular function, but each serves the same overall goal. The MP \( \text{doch} \) expressive a mirative meaning, indicating surprise or expectation violation on the part of a discourse participant. For sentences like (67), this can be expressed in the semantic content of the proposition itself, as (66b-i) suggests. But it is also important to be able to reference the occurrence of the utterance as the source of expectation violation, as (66b-ii) explains, and as shown in (68) and (69). Examples like those in (70) and (71) illustrate the necessity of identifying a salient \( q \)
<table>
<thead>
<tr>
<th></th>
<th>$q$</th>
<th>$x$</th>
<th>$u$</th>
<th>Discourse Connective</th>
</tr>
</thead>
<tbody>
<tr>
<td>(67)</td>
<td>It is a four-leaf clover</td>
<td>Speaker</td>
<td>It is a four-leaf clover</td>
<td>$q = u$, and $u$ is surprising to $x$</td>
</tr>
<tr>
<td>(68)</td>
<td>Hans knows that she is Hanna</td>
<td>Addressee</td>
<td>You are Hanna</td>
<td>$q$ is surprising to $x$ at, the fact that $u$ occurred</td>
</tr>
<tr>
<td>(69)</td>
<td>Mother tells child to hold her hand</td>
<td>Addressee</td>
<td>Give me your hand</td>
<td>$q$ is surprising to $x$ at, the fact that $u$ occurred</td>
</tr>
<tr>
<td>(70)</td>
<td>Your coffee is unsweetened</td>
<td>Addressee</td>
<td>You take sugar in your coffee</td>
<td>$q$ is surprising to $x$ because of $u$</td>
</tr>
<tr>
<td>(71)</td>
<td>A flower is blooming</td>
<td>Speaker</td>
<td>It’s snowing</td>
<td>$q$ is surprising to $x$ because of $u$</td>
</tr>
<tr>
<td>(73)</td>
<td>Hans suddenly left the room</td>
<td>Speaker</td>
<td>What happened?</td>
<td>$q$ is surprising to $x$, explains why $u$</td>
</tr>
<tr>
<td>(75)</td>
<td>You are leaving your bike</td>
<td>Speaker</td>
<td>Are you driving your car?</td>
<td>$q$ is surprising to $x$, explains why $u$</td>
</tr>
</tbody>
</table>

Table 5.1: Summary of the discourse relations of *doch*

distinct from the utterance as the target of the surprise, and this causal relationship allows it to connect back to the utterance, which is proposed in (66b-iv). The inclusion of a discourse relation like (66b-iii) is further supported by question utterances containing *doch*, as (73) and (75) do, as these utterances use a salient $q$ to explain the reason for an interrogative utterance containing $q$. 
Chapter 6

Concluding remarks

6.1 Overview

The analysis of the German modal particle *doch* presented in this paper diverges from previous analyses in a few very distinct ways. First, it allows for the fact that unstressed *doch* does not require at its core the notion of contradiction, but in fact, is simply a marker of expectation violation. In the case of the stressed DOCH, which shares many of the same properties as the unstressed variant, the distributional restrictions can be explained here in terms of a special case of expectation violation, which turns out to be pure contradiction. It is only under pure contradiction that DOCH is licensed, that is, when $\text{EXPECTATION}_{x,C}(q) = 0$. With that, *doch*’s contribution can be schematized in (78).

(78) a. We assume that an utterance $u$ containing *doch* has a logical form of the form $[\ldots \text{doch}_{q,x} \ldots]$, where:

i. $q$ is anaphoric to a proposition in the context $C$, and

ii. $x$ is anaphoric to a salient doxastic center in $C$, which may be the speaker, the addressee, or a salient third party protagonist

Such a $u$ is expressively correct in context $C$ iff:

i. there is a contextual degree of probability $d_C$ s.t.:
\[ \text{EXPECTATION}_{x,C}(q) < d_C \]

ii. \( R(q, u) \), where \( R \) is defined below.

b. Let \( R(q, u) \) hold between a proposition \( q \) and an utterance \( u \) in a context \( C \)

iff one of the following is true:

i. \( q \) is the semantic content of \( u \)

ii. \( q \) is the fact that \( u \) occurred

iii. \( q \) provides an explanation for why \( u \) occurred

iv. \( q \) provides an explanation for why \( x \)'s expectations have been violated

The observations made here are robust. Not only does this new formalization of 
doch capture previously unnoticed cases of discourse-initial doch, but it also provides an
interpretation of this MP that generalizes across utterance types. It is flexible enough to
accommodate situations were doch targets a presupposition or an implicature of the pre-
jacent utterance, allowing expectation violation to be the driving force of interpretation,
and can also be interpreted in situations where it is clear that contradiction is a driving
force of the utterance. The following sections address some lingering questions about
this account of doch, particularly in terms of constraining the propositional argument
and in targeting the dimension of meaning that doch references.

6.2 Defining and constraining discourse relations

This analysis presents two previously unnoticed facts about this modal particle:
German doch can occur discourse initially, and the referent of doch need not be the
prejacent. Rather, the reach of doch can be much wider, and can extend to another
salient proposition \( q \) in the context. But what remains uncertain is just how connected
doch must be to this other salient \( q \). Minimally, the connection can be thought of in
terms of the conjunction of \( \text{doch}(q) \) and \( p \). But this is vague, and opens the door for any
proposition to be this \( q \) bearing some element of surprise.
Looking again to (37), here (79), we can observe the connection in the following way:

(79) Context: Hans and Hanna are at a natural history museum. Hanna points to a stuffed sabertooth tiger and asks Hans what it is. He responds:

Hans: Das ist **doch** ein Säbelzahntiger!
that is **doch** a saber-toothed-tiger
‘That’s (clearly) a saber-toothed tiger.’

If we take **doch** in this case to be a general statement about the surprise of the speaker in relation to the utterance, we could easily conjoin this proposition with the uttered content:

(80) a. **doch** = I’m surprised that you asked this question because it seems obvious to me
b. p = That’s a saber-toothed tiger
c. **doch** \(\land\) p

As long as the propositions in (80a-b) can be felicitously uttered together with conjunction, we will likely run into no problems. But such an analysis, though it may work, still poses a problem inherent in the notion of “contextual salience.” What is salient enough in the context to target as the surprise of the speaker in relation to the utterance?

On the surface, this seems quite similar to Tsoorvandani’s (2010, 2012) treatment of adversatives, and particularly the adversative expression **but**, which evokes two alternatives, one true and one false. In this theory of adversative **but**, the connection between the two conjuncts must stand in some sort of implicational relationship to a proposition in the QUD. But the problem with **doch** is that its relation to the QUD is not always the same, as seen in assertions like (65). The added constraint that the two propositions p and q referenced by a **doch** utterance might be one in the same also disqualify any concrete parallels to be drawn to this analysis.
Imagine in our example in (79) above that as Hanna asks her question, the two of them turn to the display and discover that the creature in question was not only stuffed, but also animatronic. Such a discovery would indeed be surprising, and could indeed violate Hans’ expectations given the environment he is in. Could *doch* then, in this utterance in (79), reference the surprise in finding a moving replication of a saber-toothed tiger? As it turns out, it can’t. The relevant question then is why not? This occurrence is absolutely salient in the larger context of Hans and Hanna at the natural history museum, and even in the smaller context of them approaching the extinct cats exhibit. It also meets the specifications taken from the formulation of the core meaning of *doch* in §5. In terms of constraining this from happening, it is clear that we would have to make a vague statement referencing both the formalization of *doch*, and the fact that the conjunction of *doch*(q) and p is not a non-sequitur. Consider the potential schematic for the alternate scenario sketched above:

(81) a. *doch*(q) = *I’m surprised that the display is animatronic*
b. p = *That’s a saber-toothed tiger*
c. #*doch*(q) ∧ p

This is a strange conversational package. We must be able to say that the cases where *doch* is ill-formed are those cases where the surprise is not relevant to the utterance. In (81), the surprise that is expressed is not relevant to the utterance. Anything that is not related in a reasonable rhetorical way is going to be blocked. And this seems to fall in line with the view given by Aihkenvald (2004, 2012) on miratives. She notes that information that is new or unexpected is in itself as much about the surprise and the newness as it is about the utterance content. Furthermore, DeLancey (1997) comments that mirative markers “convey surprise at what is newly acquired and unintegrated” into the discourse. The constraints that govern the connection between surprise and a *doch* utterance must hinge very tightly on contextual saliency, relevancy and recency.

One attempt at more restrictive view of *doch* would be to look at this MP in terms of rhetorical relations (for one theory of this, see Asher & Lascarides, 2003). In
a theory of discourse representation, we want to assume that some sort of hierarchical structure is built over discourse relations by means of smaller, rhetorical relations. Utterances can relate to the previous context in terms of differing rhetorical connections. Prior rhetorical moves constrain current ones, and the creation of a larger discourse structure inherently imposes constraints on future moves. *Elaborations* are subordinations, and serve to narrow the discourse topic. *Narrations* are a different kind of rhetorical link, and coordinate utterances. Two types of coordinating relations that could potentially constrain the meaning of *doch* are *parallel* relations and *contrasting* relations.

As coordinations, both should be able to join utterances to form structurally similar elements, but where *parallel* and *contrastive* relations differ is in their relation to semantic content. *Contrast* relations should treat discourse segments as “semantically dissimilar” whereas *parallel* relations should treat these relations as “semantically similar” (Asher & Lascarides, 2003, 168-9). Put simply, contrast relations may be formed with the conjunction ‘but’, whereas parallel relations are linked with ‘and.’

So where would *doch* fit in to such a model of discourse? It is safe to say that this element is not an *elaboration*, as the relationship between a proposition and the propositional argument of *doch* is not subordinating. There is no inherent cause-effect relation where one propositional argument seems more central to the discourse than another. On the contrary, given the definition of *doch*’s core meaning, if this is correct, the rhetorical relation here must be of the subtypes of narration.

The previous sections have hinted at an explanatory relationship between a *doch* utterance and a salient propositional argument *q* that *doch* may anchor to. But what defines these relations? Specifically, it has been argued that *doch* has an inherent explanatory function which serves to relate this salient *q* to the utterance. It is interesting to note that this explanatory connection parallels a relation The Penn Discourse Tree Manual (2008) annotates as part of its “implicit connectives.” The manual outlines the relations between corpus sentences, which are assigned a hierarchical structure based on tags relating one sentence’s content to another. Sentences are connected either explicitly
with overt, phrase initial signals, or with annotations that pinpoint certain lexical items as implicit sentence connectives. Using this annotation system, the Penn Treebank can "capture relations between abstract objects that are not realized explicitly in the text, left to be inferred by the reader" (26).

One of the implicit connectives identified by the manual is the **contingency** relation, which is a class of connectives that indicates a causal association between two arguments. Specifically, a subtype of this relation is the **cause** relation, which, left unspecified, indicates that two arguments are causally influenced, but not necessarily in a conditional relation (28). There are even further refinements. Cause explanations can be broken down into **reason** and **result** tags in the Treebank system, and this level establishes a direction of causality toward the arguments in question. But it is not clear whether **doch** establishes a particular direction of causality. For cases like (75), the connection is a **result**: the argument \( q = \text{You are leaving your bike} \) is the effect brought about by the **doch** utterance. In contrast, cases like (70) are **reasons**: an argument \( q = \text{your coffee is unsweetened} \) causes the **doch** utterance.

Where this MP diverges from the Penn Treebank annotation system is in what kinds of elements it connects. Here, explicit and implicit connectives pair adjacent sentences. And since this is entirely corpus-based, all of these sentences are overt in the discourse. As is apparent from the discussion of **doch**, many of the relevant propositions \( q \) are not.

But turning to other models of discourse structure, assuming that **doch** may connect an implicit proposition with an overt utterance is not at all strange. Büring (2003) proposes a model of discourse based on what Roberts (1996) calls **strategy**, which is formed by a question and the subquestions that further define and answer the super-question. Discourse trees (d-trees) represent a hierarchical discourse structure, and questions and subquestions are answered by the discourse moves that they dominate.

Büring also uses Stalnacker's (1978) notion of Relevance to constrain discourse moves. This is defined relative to a QUD, and “for any move M, the question under discussion is the move M’ immediately dominating it” (Büring, 2003, 517). Moves must
answer or address the current QUD. Büring (2003) also notes that moves can be mapped onto discourse trees that contain implicit, unpronounced moves or subquestions between the utterance and the QUD. His argument rests on evidence from contrastive focus in question-answer pairs, but he notes that this relation is a part of a more general principle. He indicates that “for a sequence of utterances to be a well-formed discourse, each utterance must map onto a move in a d-tree,” and that d-trees are composed of explicit and implicit moves that are linearly and hierarchically ordered.

From this, the discourse relation of the arguments of doch is simple. In those cases where q is not the utterance itself, it represents an implicit discourse move that further constrains a discourse strategy. Taking this approach is similar to assuming a QUD model of discourse representation. Coherent discourse moves are constrained by a hierarchical ordering of questions under discussion, which may be introduced explicitly or implicitly. Where this differs from a strictly QUD analysis is in the relation of the doch utterance to the causal explanation q. In cases where the semantic content of the utterance is q itself, no further discourse relation must be proposed. But where q is distinct from the utterance, the utterance and q must stand in a causal relation to each other, and both serve as a reply to the QUD. This is not a subordinating relationship. Instead, both the utterance and the q are sisters dominated by the same QUD, and are inherently linked in the hierarchical ordering of the discourse.

The question then arises as to what dominates a doch utterance when it is discourse-initial. If a discourse is structured in terms of QUDs, there must be some initial, implicit QUD that licenses a discourse move containing doch, and which also allows an explanation relation between q and the utterance. The strategy here involves an implicit question, as well as an implicit causal relation between q and the utterance itself that answers that QUD.

Such an analysis is then similar to that of Rojas-Esponda (2013) in terms of assuming a general QUD model of discourse representation. But this analysis diverges significantly from Rojas-Esponda’s by assuming a broader definition for the meaning of doch. Specifically, the contribution here is based on a mirative interpretation of
doch, which assumes a causally explanatory relation between a doch utterance and the propositional argument \( q \) of doch. Doing this is able to allow for a particular freedom in the interpretation of this particle, an interpretation which depends crucially on discourse context to restrict the relation between \( q \) and the utterance itself. The hope is that an exact solution to this problem lies in how one connects two propositions in a single conversational package, which would require committing to and proposing a general theory of how discourses cohere.


Relatedly, there are a number of theories that comment on which dimension of meaning doch targets. Some purport that it is a presupposition trigger, some say that it is an implicature, others argue that it is an entailment. Until now, I have been deliberately silent about this. What is clear is that information that doch targets is backgrounded. Broadly speaking, this is a property of all modal particles, not this one in particular. They are sentence operators, and ones that scope higher than negation, outside of conditionals, and are not targeted as something that can be questioned. But just what kind of backgrounded material this MP activates remains unclear.

Based on the evidence from the following dialogue, one might reason that doch is in fact a presuppositional element:

(82) You and a friend are talking about Hans’ recent proposal to Hanna. Both of you knew that this was going to happen, and both of you knew that if asked, Hanna would say yes. The following dialogue then ensues:

- Hast du gehört? Hanna hat ja gesagt!
  ‘Did you hear? Hanna has yes said’
- Hat sie?
  ‘She said’
Ja, in der Tat!
yes in the act
‘Yes, as a matter of fact!’

Ich bin #(doch) so froh!
I am doch so happy
‘Oh, I’m so happy!’

Here, the surprise or expectation violation comes simply from hearing confirmation of the news, though the content of the announcement was expected. Interestingly, in this example, the discourse seems odd without doch. It seems to be the case that if both conversational participants know what the outcome of a certain situation should be, once it is verified, doch is obligatory for a logical, coherent discourse relation. What happens is that doch triggers this acknowledgement of the presupposed content. This also is analogous to what is happening in the example in (83a):

(83) a. You have invited a friend over for coffee. You bring out the mugs, and as you set your friend’s down, utter:

Du nimmst #(doch) Zucker in deinem Kaffee. Es tut mir Leid.
you take doch sugar in your coffee it does me harm
‘You take sugar in your coffee. I’m sorry (but we don’t have any).’

Again, here we have two discourse participants, one serving coffee, and one receiving coffee and expecting sugar. The presupposed content here is the propositional argument of doch, \( q = \text{that there is not any sugar for the coffee} \). But in this case, what is happening is that this presupposition held by the speaker and addressee is being highlighted as the element targeted as the locus of violated expectations.

In a sense, it does seems that doch must reference some presupposition whether present in the discourse, or brought to the surface in virtue of uttering the doch statement. And judging from the two interactions above, both of which depend on doch to get the pragmatic message across, when both parties know the content that doch refers to, then doch is an obligatory part of the semantic well-formedness of the sentence. In this sense, it seems that MAXIMIZE PRESUPPOSITION (Heim, 1993, Sauerland, 2008) is
in play–doch is seen in these cases as pinpointing the strongest presupposition in the discourse context, and when it does, its presence is mandatory.

But this is not always how doch behaves. We have seen cases in which doch is optional as well as instances where the expectation violation is not common ground. In cases like (17), repeated here as (84), this *Maximize Presupposition* principle which seems to be in effect for the previous two examples is not in play:

(84) Super Bowl? Das ist **doch** total langweilig.

super bowl that is **doch** totally boring.

‘Super Bowl? That’s totally boring, come on!’

Here, doch references the violated expectations of the speaker that the addressee thinks that the Super Bowl is boring. Though this may be something the speaker assumed, it is not a discourse presupposition in the strict sense—it is not a mutually shared belief held by the speaker and her conversational participant. In the discourse context, doch marks this information as backgrounded, but it is not a presupposition. In contrast to the previous two examples where both the speaker and the addressee had mutual, shared knowledge that doch was able to reference, when only one participant in the discourse has access to the expectation violation, doch is optional and it seems to be informing the discourse participant about the speaker’s attitudinal state.

This perhaps ties in with the account of this element as a marker of mirativity. Rett & Murray’s (2013) analysis of Cheyenne suggests that the mirative markers in this language signal not-at-issue content, and this is corroborated by evidence in other languages as well. This seems right. Though the mirative meaning of an utterance is present in the form of surprise, it does not overshadow the proposition that the content of the utterance is meant to express. In an out-of-the blue case of doch, this seems to be the interpretation that holds. If I suddenly see someone attempt to jump out of an upper story of a building, I do not assume that this information was presupposed to already have been established in the discourse. As I show in preceding sections, this cannot be true. But I do treat the utterance surrounding doch in these cases as irrefutably true, as does my conversational partner. And in point of fact, to refute my statement, my
interlocutor must do much more to waive off my statement than respond with a simple ‘nein’ and move on.

Recent work by Krifka (2013) does not go into detail, but mentions the possibility that ja, a closely related MP, might also have a mirative element to it as well. In terms of the discourse relation that ja offers, he suggests that a backgrounding effect is very apparent, which he hypothesizes could be due to the expressive prosody that is lurking many so-called mirative utterances. On some levels, this seems to be an accurate representation of the situation with doch, as it is as much the performance of the utterance as it is the content of the actual proposition that really contributes to the backgrounding effect that happens when interpreting modal particle meaning.

It is clear that the contribution of doch to an utterance is backgrounded. But it is neither necessarily proffered information, nor necessarily presupposed. What effect it has to a conversation is negotiated by the utterance context. It is clear that it can be a presupposition, and it is clear that it can be backgrounded, but at the same time, hearer-new. In the grand scheme of things, all we can say about doch is that it always contributes not-at-issue content.

6.4 Final remarks

Overall, this account of doch has advantages over previous analyses. Not only does it loosen the pragmatic restrictions imposed on this particle, but it also fits doch into the category of miratives, which is a previously unnoticed fact about this element. In doing this, it is also able to generalize the meaning of this MP to mere expectation Violation, which enlarges the domain of use, and correctly predicts the environments where doch should be licensed without sacrificing any of its necessary contributions or components of meaning.
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