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A discourse structural view on the (combined) use of the modal particles *doch* and *auch*

Abstract

This article is concerned with (combinations of) modal particles (MPs) in German. Although MPs can in principle combine, such combinations are restricted by a) conditions that regulate which MPs can combine at all and b) by ordering rules. Focussing on the combination of *doch* and *auch*, I will argue that the fixed order of the two particles is an iconic reflex in grammar. Building on work by Diewald & Fischer (1998) as well as Karagjosova (2004), an analysis will be developed which captures the contribution of the single particles as well as of their combination within the discourse model developed in Farkas & Bruce (2010). The account eventually traces the difference in markedness between the two orders of *doch* and *auch* back to a different weighing of the discourse structural information conveyed by them. In particular, the claim is that *doch* contributes to deciding the topic of the conversation and, therefore, aims at finally increasing the *common ground* (cg). *Auch*, on the other hand, evaluates the same proposition (p) as being the reason for another proposition (q) (an inference relation p > q ['If p, then normally q.'] is in the cg). Although *auch doch* is not altogether avoided by speakers (as corpus data show), it is very clearly dispreferred. Therefore, I will consider *doch auch* to be the unmarked order and *auch doch* the (highly) marked sequence. Deciding an issue will be considered a superior discourse goal in comparison to a qualitative judgement about a causal link between propositions. The order *doch auch* thus mirrors the flow of discourse which fulfills its main aim (increasing the cg) in a more straightforward way.
Keywords: modal particle, organisation of discourse, iconicity, utterance meaning

1   The phenomenon: constraints on the order of modal particles

The subject of this article is the combination of modal particles (MPs) in German.

MPs are associated with the mainland Germanic languages.[1] They are a phenomenon of the spoken (colloquial) language or occur where this is intended to be mirrored in the written medium. Among the typical properties attributed to these words are the following: They do not inflect, they are usually unaccentuated, they are restricted to the middle field, they do not contribute to the truth conditions of the sentence, they have little lexical content, but they rather show communicative, speaker-related, discourse structural meaning. As MPs also have identical forms in other categories, for example among adjectives and adverbs, criteria as the ones mentioned here are essential in guaranteeing that one is really speaking about MPs (for an overview of their characteristics including questions regarding their internal and external syntax as well as the precise functions that they have been assumed to fulfill cf. Diewald 2007, Thurmair 2013, 628ff., Müller 2014a, chapter 2; for an overview of MPs in the tradition of formal semantics cf. Zimmermann 2009, Grosz to appear).

(1) and (2) show examples for *auch* and *doch* which are the particles this paper will be concerned with.[2]

(1)   A: Albert ist sehr fröhlich.
        Albert is very happy
        'Albert is very happy.'

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[1]   Of course, this does not mean that other (Germanic) languages do not have lin-guistic entities which can fulfill similar functions. However, MPs as a category (displaying certain properties [see below]) have mainly been described for Dutch, Frisian, Danish, Swedish, Luxemburgish and German. Additionally, Slavic lan-guages, Greek and Japanese are mentioned. However, for English as well as the Romance languages, it has been assumed that they do not show MPs (to the same extent as German). Waltereit (1999, 2006) e.g. discusses right dislocation in Italian (1999, 527) or intonation in English (2006, 130) arguing that phenomena of this kind can code the meaning MPs display. As my approach is pragmatic in nature, I argue that if a language codes the meaning I attribute to *doch* and *auch* by using different entities, their combination should underly the same conditions.

[2]   It is very hard (if possible at all) to find appropriate translations. The translations provided throughout the article can therefore only be claimed to come close to the MP-utterances.

B: Er fährt **auch** morgen   in den Urlaub.
He goes MP   *tomorrow in the holidays*
'**That's because** he will go on holiday tomorrow.'

(2) A: Albert fährt morgen   ans Meer.
Albert goes   tomorrow to-the sea
'Albert will go to the sea tomorrow.'
B: Es sind **doch** gerade keine Ferien.   Bist du dir
It are MP   *now   no   holidays are you yourself*
sicher?[3]
sure
'**But** there are no holidays right now. Are you sure?'

Another characteristic of MPs is their ability to combine, that means, along certain restrictions (which will be explained below), MPs can occur in sequences. (3) is an example extracted from DECOW2014 (cf. Schäfer & Bildhauer 2012).

(3) B: „Sie wissen dass sie mir meinen Job nicht gerade leicht
You know   that you me my   job not   exactly easy
machen?"
make
'You know that you are not really making this job easy for me?'
A: „Na   sie müssen sich ihr Geld   **doch auch** verdienen
Well you must   self your money MP   MP   *earn*
Lucius!"
Lucius
'Well, **but**, **that's because** you must be worth your money, Lucius.'
(http://www.tabletopwelt.de/index.php?/topic/92424-40k-rpg-20/)
(DECOW2014AX01)

Although MPs can in principle combine, it is well-known (at least since Thurmair's 1989 seminal work) that such sequencing is subject to restrictions. Approaches range from mere classifications (cf. Helbig & Kötz 1981), the formulation of descriptive generalisations (cf.

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[3] Apart from the unstressed *doch*, there is a stressed *doch* as well. On its semantics and use cf. e.g. Meibauer 1994, 104-131, Egg & Zimmermann 2012, Rojas-Esponda 2013). Throughout the article, I will only be concerned with the unstressed version.

Thurmair 1989, 1991), semantic/pragmatic criteria (e.g. assertive force [Doherty 1985, 1987], illocutionary weight [cf. Abraham 1995]), syntactic conditions (scope relations) (Ormelius-Sandblom 1997, Rinas 2007), input conditions (Doherty 1985, Rinas 2007) and information structural criteria (de Vriendt et al. 1991) to phonological (Lindner 1991) and historical (Abraham 1995) argumentations.[4] As far as is known, two types of (ordered) restrictions apply.

1.1 Restriction 1: syntactic and semantic/pragmatic intersections

The first one is concerned with the fact that not all MPs can combine with each other. It is assumed that syntactic and semantic/pragmatic (in)compatibilities play a role here. Thurmair (1989, 205; 1991, 20) renders this condition in such a way that two MPs can only be combined if the set of sentence moods in which both particles can occur independently is not empty.

Against this background, the combined use of *doch* and *auch* is possible in (3) for example because these two particles can occur in declarative clauses in isolation as we can see in (1) and (2). However, they cannot occur together in a polar interrogative because *doch* is excluded from this domain (cf. (4)).

(4) a. Ist das Kleid **auch** durchsichtig?   Thurmair (1991, 27)
        Is the dress MP *transparent*
        'Are you sure the dress is really transparent?'
        (A positive answer is expected.)
    b. *Ist das Kleid **doch** durchsichtig?
    c. *Ist das Kleid **doch auch** durchsichtig?

Thurmair (1989, 281; 1991, 25ff.) also shows that this condition on intersection can apply on the level of the interpretation as well, in the sense that the MP-utterances involved have incompatible use conditions (see also already Dahl 1985, 218; 222f.). This assumption can also be confirmed when looking at combinations of *doch* and *auch*: (5) and (6) demonstrate that both particles can occur in wh-interrogatives. A *why*-question is at hand in (5), a *who*-question in (6).

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4   For an overview of these approaches see Müller (2018, chapter 2.1).

(5) A: Ich bin heute sehr müde.
      I   am today very tired
      'I'm very tired today.'
   B: Warum gehst du **auch** immer so spät ins Bett?
<div align="right">Helbig (1990, 89)</div>

      Why   go   you MP *always so late to-the bed*
      'You are supposed not to go to   bed that late. It is clear that you are tired if you go to bed that late.'

(6) Wer war **doch** der berühmte Feuerfresser im Zirkus Krone?[5]
<div align="right">Dahl (1985, 88)</div>

    Who was MP *the famous   fire-eater   in-the Circus Krone*
   'I can't remember: Who was the famous fire-eater in Circus Krone ***again***?'

Although both particles can in principle occur in wh-questions, they cannot combine in this domain. A combination is neither possible in a *why*-question nor in a *who*-question.

(7) a. *Warum hat er **doch auch** sein Studium abgebrochen?
       Why   has he MP MP *his studies   quit*
   b. *Wer hat **doch auch** dieses neue "Glamping"
       Who has MP MP *this*   new "glamping"
       ausprobieren wollen?
       try   wanted

This has nothing to do with the particular wh-pronouns which differ in (5) and (6), as one might object at first glance. Typical *auch*-questions ask for reasons, but they can also contain other wh-pronouns (cf. (8)).

(8) Der Jochen muß 4.000 Mark   Kaution bezahlen! Aber wer
    The Jochen must 4000 D-marks deposit pay!   But who
    unterschreibt **auch** einen Mietvertrag,
    signs   MP *a*   *tenancy agreement*
    ohne   ihn vorher genau durchzulesen?
    without it   before exact read through
<div align="right">Thurmair (1989, 159)</div>

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[5] For some speakers this use of *doch* is only acceptable if it occurs in combination with *gleich*.

'Jochen has to pay 4000 D-marks as a deposit! But who signs a tenancy agreement without reading it in every detail be forehand?'

And *doch*-questions can also ask for reasons (cf. (9)).

(9) Warum waren die Karten gegen Braunschweig **doch** vier
Why   were the tickets against Braunschweig MP   *four*
Euro   teurer   als sonst? Ach ja, es ist ein
Euros   more expensive than usual Oh, yes, it is a
Topspiel!
top match
'Why did the tickets against Braunschweig go four Euros up in price **again**? Oh, I remember, it is a top match!'

(10) to (13) provide contexts in which the two particles occur in the sentences in which they are combined in (7) in isolation.

(10)   Warum hat er **doch** (gleich) sein Studium abgebrochen?
Why   has he MP *just   his studies quit*
Ach so! Ich erinnere   mich.
Oh so   I   remember me
Seine Freundin   war der Grund.
His   girl-friend   was the reason
'Why was it **again** that he quit his studies? Oh yes! I remember. His girl-friend was the reason.'

(11)   Warum hat er **auch** sein Studium abgebrochen? Ist doch
Why   has he MP *his studies   quit   Is* MP
klar,   dass er so schnell keinen
obvious that he so quickly no
Ausbildungsplatz   findet.
apprenticeship training position finds
'How **could** he quit his studies? It is obvious that he won't find an apprenticeship trainig position that quickly.'

(12)   Wer hat **doch** dieses neue "Glamping" ausprobieren
Who has MP   *this   new "glamping" try*
wollen? Irgendwer hatte sich gemeldet, meine ich.
wanted Someone   had self volunteer think I

'Who was it ***again*** who wanted to try this new "glamping"? Someone wanted to volunteer, I think.'

(13)   Wer hat **auch** dieses neue "Glamping" ausprobieren
       Who has MP *this   new "glamping" try*
       wollen? Dass das Unsinn   ist, war doch schon vorher
       want   That this nonsense is   was MP MP   *in advance*
       klar!
       obvious
       'Who **can** have wanted to try this new "glamping"? It was obvious in advance that it is nonsense!'

As the MP-utterances have different conditions of use (which is the main point of my argumentation here), it is difficult to find environments in which they can both occur on their own (see below).

(7) shows that when looking at the occurring sentence mood, the sequencing should be possible in wh-questions. However, the two particles cannot combine in this sentential environment.

For different examples, Dahl (1985, 218; 222f.) and Thurmair (1989, 281; 1991, 25ff.) showed that such circumstances can be due to the fact that the interpretations of the particles (or rather of the utterances which result when they are inserted) clash. In the following, it is shown that it cannot be the sentence mood alone which decides on the (un)acceptability of the examples in (7). Arguments will be provided for the claim that incompatible conditions of use for *doch-* and *auch*-wh-questions are at hand here.

For *auch*-wh-questions, it has been assumed in the literature that the speaker expects a negative answer or no answer at all (cf. (14)). The question is considered not to be information-seeking, but rhetorical. In this sense, the utterance does not really serve the function of a question from the perspective of classical speech act theory (cf. Searle 1969, 102f.). One is rather dealing with a commentary or an explanation of the previous utterance (cf. Franck 1980, 218f.; Dahl 1985, 51ff.; Thurmair 1989, 158f.; Helbig 1990, 89; Karagjosova 2004, 231; Kwon 2005, 77; 202).[6]

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[6]   An answer such as "I forgot my jacket at work." is not completely inadequate. However, the question does not primarily aim at an answer of that sort.

(14)   A: Ich friere so.
         I   freeze so
         'I'm freezing so much.'
      B: Warum ziehst du dich   **auch** so leicht   an bei so
         Why   dress you yourself MP   *so lightly on at such*
         nem nasskalten Wetter?
         a   damp   weather
         'Why do you dress that lightly in such a damp weather?'

                                                          Franck (1980, 218)
         [= You should not dress so lightly and it is clear that you are
         freezing if you dress like that.]

With *doch*-wh-questions, however, the speaker asks for information
which s/he actually knows, but which s/he has forgotten or cannot
remember in the current situation. S/he wants to get the answer from
the addressee, while there is no presupposition that the hearer can
answer the question (even if this is not ruled out). The question is not
about information generally known, for instance (Dahl 1985, 88;
Thurmair 1989, 117; Helbig 1990, 114; Kwon 2005, 204). The question
rather targets individual knowledge of the speaker which s/he tries to
recover.

  A wh-question with *doch auch*, therefore, has to be a rhetorical
question (expecting a negative answer) and a question the speaker
poses in order to remember its answer at the same time. That means,
the speaker knows the answer, assumes that s/he and the hearer
know the answer (*auch*) and the speaker does not really know the
answer and, therefore, asks for it (*doch*). The speaker will express
then that s/he knows the answer (*auch*) and does not know the
answer (*doch*). And the hearer must be able to answer the question
(*auch*) and s/he does not have to be able to do so (*doch*).[7]

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7   Helbig (1990: 90) refers to a sporadic use of *auch* in non-rhetorical wh-questions
    such as in (i).

(i)   Wie hieß   der kleine Gasthof in Masserberg **auch** wieder?
      How called the small hotel   in Masserberg MP   *again*
      What was the small hotel in Masserberg called ***again***?'

The answer used to be known to the speaker, but it slipped his/her mind. As this
is one of the contexts in which *doch* can occur in wh-questions, the combination of
the two particles is possible under this particular meaning again. Thus, inserting
doch in (i) results in an acceptable structure. Indirectly, the possible combination
of the two particles in this environment provides evidence for *doch* being used in
questions which address an issue the speaker tries to remember.

Coming back to the examples in (10) to (13), it now becomes obvious why it is difficult to find contexts in which *doch*- and *auch*-wh-questions can equally be used: It is more plausible to ask for an entity when remembering some piece of information rather than having forgotton a reason. On the other hand, causal relations occur when reasons or motivations are involved and are not built up between entities. Furthermore, *doch*-wh-questions seem to favour past tense marking on the verb which *auch*-wh-questions, on the contrary, do not prefer. Nevertheless, (7a) and (7b) are unacceptable in all of the contexts described in (10) to (13).

1.2 Restriction 2: orderings

If two MPs can in principle combine (in accordance with the first condition), a second type of constraint is brought in which is concerned with the relative ordering of the particles.

When comparing the order *doch auch* to *auch doch* (cf. (15)), the first version is clearly preferred.

(15) „Na sie müssen sich ihr Geld **doch auch/??auch doch**
Well you must self your money MP$_1$ MP$_2$/ MP$_2$ MP$_1$
verdienen Lucius!"
earn Lucius
'Well, **but**, **that's because** you must be worth your money, Lucius.'

It is a robust generalisation that the orders of MPs cannot be readily reversed: A number of proposals have been made in order to account for this observation (see above).

My own programme – which I already applied to other MP-combinations (cf. Müller 2014b, 2016) – is to anchor the restrictions on the level of the interpretation. In particular, I argue that the form (= the order) mirrors the function (= the MPs' contribution to discourse). Consequently, I argue for an iconic relation in the sense that the order is motivated by what MPs contribute to discourse. Furthermore, I also assume that it is not the case that the one order is grammatical and the other one is ungrammatical and needs to be filtered out by the analysis, but that the one order is unmarked and the other one is marked.

Therefore, the particular question I want to address in this article is: Why is *doch auch* unmarked and *auch doch* (highly) marked?

The explanations will be restricted to verb second declarative clauses (or more precisely verb second-assertions) in this account, that means cases as in (15). However, one has to deal with other contexts as well. As I showed above, particles can combine in those sentence moods in which they can also occur in isolation, unless there are interpretative incompatibilities within those sentence moods. I will come back to this issue in section 6. I consider this aspect concerning the wider distribution important because the explanation for the ordering preference must not rely too much on sentence mood or illocutionary type. On the contrary, it has to be general enough to cover more than assertions (at least if one assumes that MPs have the same contribution in different sentence moods [which is my basic assumption until I find out about the contrary]).[8]

In the following, I will first introduce the main features of the discourse model within which I capture the MP utterances' contribution to discourse (section 2). I will then model the contribution by *doch* and *auch* when they occur in isolation (section 3). Section 4.1 will determine the interpretation of utterances in which the two particles occur in sequence before I will present my own idea concerning the ordering preference in section 4.2. That is, I will propose an answer to the question why *doch auch* is the unmarked order and I will explicate in how far I consider *discourse structural iconicity* (which is my term for the concept) to play a role here. In section 5, I will raise the question whether the reversed, dispreferred order should really be excluded altogether as all pieces of work I know assume (cf. Dahl 1988, 230, Thurmair 1989: 278, Zifonun et al. 1997, 1542, Rinas 2007: 149). Based on data displaying the order *auch doch*, I will claim that – rare as it may be – an account should leave the niche for its existence. Section 6 will summarise the results and point at further questions and some more general issues concerning the combination of MPs in order to broaden the perspective of this discussion about a very particular linguistic structure.

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8   Examples are given in section 6. It is not possible to give a precise account of other sentence types within the confines of this paper as this requires modelling the contextual effects of directives, exclamatives, *doch-/auch*-directives as well as *doch-/auch*-exclamatives. Concerning directives the interested reading be referred to Müller (2018, chapter 5.5). A short sketch how the analysis developed in this paper can be transferred to directives will be given in section 6.

2   The discourse model (Farkas & Bruce 2010)

The discourse model within which I will describe the MPs' contribution (under slight changes) was proposed by Farkas & Bruce (2010).[9]

2.1   The components

A central component in all discourse models is the *common ground*, which is modelled as a set of propositions (cf. (16)).

(16)   cg = {p_1, p_2, p_3} (for example)

According to Farkas & Bruce, the contents of the cg are the consciously shared public discourse commitments. That means, it contains the propositions to which the interlocutors committed themselves in public, which they agree upon and which they mutually know that they agree upon.

The interlocutors also have individual systems of discourse commitments, called the *discourse commitment set*. This set contains for each participant the propositions to which s/he publicly committed herself/himself in the course of the conversation (cf. (17)).[10]

(17)   a. DC_A = {p_1, p_2, p_3, p_5, p_6} (for example)
        b. DC_B = {p_1, p_2, p_3, p_7, p_8} (for example)

The third component relevant for my modelling is *the table*, which saves the open topics of the conversation. It saves what is under debate in the conversation in its current state. As long as elements are placed on the table, there are topics which need to be sorted out.

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[9]   I adopt a slightly changed version here. The major change is that I put the actual propositions on the table and not a form-meaning-pair as the authors do. The reason is that this allows me to make the MPs' contribution more explicit.

[10]   In Farkas & Bruce' (2010: 85) own formulation the individual systems only contain those propositions to which the interlocutors committed themselves, but which they do not agree upon yet. In order to make the contribution of MPs more explicit, I leave the propositions in DC_A and DC_B even if they have already become cg.

2.2 *Example: canonical assertions and canonical reaction to assertions*

When an assertion is uttered, the components are involved in the following way: Before the assertion is made, the context state K_1 in (18) is at hand.

(18) K_1: initial context state

DC_A	Table	DC_B
cg s_1		

The discourse commitment sets of A and B as well as the table are empty and the cg has a particular state.[11]

The next move in disourse is that A utters an assertion, such as (19).

(19) A: Sam is at home.

The result is context state K_2 in (20).

(20) K_2: A asserted relative to K_1: *Sam is at home.*

DC_A	Table	DC_B
p (Sam is at home.)	p $\vee$ $\neg$ p (Is Sam at home?)	
cg s_2 = s_1		

By A asserting p, p is added to A's discourse commitment set. The cg does not change, the new state is identical to the previous one. That is because the contents of this assertion can only become cg by B accepting it (cf. (21)).[12]

(21) Uh huh/sure/right/you bet/yup/(nod)/staying silent.

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[11] Assuming that DC_A, DC_B and the table are empty is an idealisation for the purpose of my presentation. Of course, other utterances can precede the assertion. The cg can be assumed to be empty or it matches the state which it displays in the conversation at that moment.

[12] Note that more recent accounts introduced finer distinctions concerning reactions to assertions than Farkas & Bruce (2010). Krifka (2015, 334) distinguishes between *acknowledging, confirming* and *contradicting* information. This differentiation increases the number of subsequent context states. However, as far as I can see, these changes do not have consequences for the account I propose.

Before B does not show a reaction of the sort in (21), p remains a contribution by A to which s/he publicly committed herself/himself.

That means assertions can open up an issue by placing an element on the table. If p is put on the table, the question opens up whether p. Therefore, $p \vee \neg p$ opens up on the table.

If B accepts p, then B also has a discourse commitment to p, i.e. both have one (cf. (22a)).

(22) K_3: B confirmed A's contribution
      a. part 1

DC_A	Table	DC_B
p (Sam is at home.)	$p \vee \neg p$ (Is Sam at home?)	p (Sam is at home.)
cg $s_3 = s_2$		

As a consequence, p becomes part of the cg as a consciously shared public commitment as in part 2 in (22b). The issue is removed from the table and the components of A and B are emptied.

      b. part 2

DC_A	Table	DC_B
cg $s_4 = \{s_3 \cup \{p\}\}$ (Sam is at home.)		

2.3   Canonical moves in discourse

Farkas & Bruce (2010: 87) assume that the two aspects in (23) drive conversations in general. This assumption will become essential for my idea why *doch* precedes *auch* in the unmarked case in section 4.2.

(23) a. increasing the cg
      b. reaching a stable state

The first driving force is that participants follow the need to increase the cg. As they strive for that, they place elements on the table. The second driving aspect is that participants strive for reaching a stable state, that means a state in which nothing is under debate. Speaking with the components, nothing is placed on the table in this case. Because of the two intentions interlocutors remove elements from the table in that way that the cg increases.

I think that a requirement especially for the second intention is that one refers to the issues on the table. That means, one actually addresses the open topics when communicating.

3   Modelling the meaning of modal particles

My modelling of the MPs' contribution within this discourse model relies on a conception of MPs as taken by Diewald in a number of works (cf. Diewald & Fischer 1998; Diewald 1999, 2006, 2007). It says:

> [...] the MP-utterance [appears] as a second, i.e. reactive conversational turn in a supposed dialogical sequence. This does not have to correspond to the actual situation. On the contrary: [...] the speaker [can] simulate a non-initial move [...] (Diewald 2007, 130, my translation).

I model this impression that the MP-utterance is always reactive by assuming that it presupposes a particular context state.[13] That means, depending on the respective MP, the components I introduced in the last section need to be filled differently for the MP-utterance to be appropriate (in bold face in the following boxes which represent the context states).

3.1   *The isolated use of* doch *in assertions*

In (24), in which a *doch*-assertion occurs, one perceives a certain conflict between the two statements.

(24)   B: Sandra hat einige Linguisten aus der Abteilung   zum
           Sandra has some linguists   of   the department for-the
           Sekt   eingeladen.
           sparkling wine invited
           'Sandra invited some linguists of the department for spark-
           ling wine.'

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[13] As the meaning of MPs cannot be captured by formulating truth conditions, all formal approaches formulate their contribution in terms of conventional implicatures (e.g. Ormelius-Sandblom 1997), presuppositions (e.g. Rinas 2007) or use conditions (e.g. Gutzmann 2015). In this sense, all formal approaches in one way or another assume that MPs impose restrictions on the previous context state.

A: Sie hat **doch** alle Linguisten eingeladen.
She has MP   *all   linguists   invited*
'**But** she invited all linguists, didn't she?'

This meaning aspect of *doch* has often been treated as a *contradiction* or some *adversative moment* between the proposition contained in the *doch*-utterance and another inferred proposition (cf. for example Thurmair 1989, 110ff.; Meibauer 1994, 108ff.; König 1997, 67ff.). I capture it that way that a *doch*-utterance requires that the proposition expressed is already under debate in the current context. Put differently, $p \lor \neg p$ is already placed on the table. With the *doch*-utterance, the speaker commits herself/himself either to p or $\neg p$ (depending on the polarity of the assertion).

(25)   Context preceding a *doch*-assertion

DC$_A$	Table	DC$_B$
	$p \lor \neg p$	
cg s$_1$		

For (24) that means that after B's statement, it is under debate whether Sandra invited all linguists. And by uttering the *doch*-assertion, A commits herself/himself to p. This example also shows that the MP scopes over the propoposton expressed with the utterance.[14]

Consequently, I assume (25) to be the minimal requirement for a *doch*-utterance to be appropriate. From case to case, it might vary how this openness comes about, and therefore further components might be involved as well (see below). However, I consider (25) to be the invariant contribution of *doch* or rather the requirement *doch* imposes on the context. All other fillings which might occur are not due to *doch* (see below).[15] In this particular case, the openness the

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[14]   This is the case most of the time. However, there is also data which suggests that MPs can also scope over speech acts.

(i) Witness: And we are driving and driving, at a pace of 80 to 100.
    Richter: Warum fahren Sie denn so schnell?
    Judge   *Why drive you* MP *so quickly*
    And why did you drive so quickly?' (Hoffmann 1994; 61)

(i) can be analysed in that way that *denn* indicates that posing the question is motivated by the context. In this sense, the MP relates to the whole utterance.

[15]   Note that this is a recurrent problem for acccounts on MPs as meaning effects caused by context, intonation, the propositional contents or sentence type/sen-

particle calls for arises due to a conversational implicature which looks like in (26).[16]

(26)   Sandra invited some linguists of the department for spark-
       ling wine. (= q) +> She did not invite all linguists of the de-
       partment (=¬p).

Non-p is plausibly derived from q because *all* and *some* form a scale (*all* implies *some*) (cf. Horn 1984). Due to the maxim of quantity, it can be assumed that the use of *some* is all the speaker can say, and, therefore, the stronger form *all* is not suitable. Concretely, one could imagine the relations as in (27).

(27)   Context preceding the *doch*-assertion: B: Sandra invited some
       linguists of the department for sparkling wine. (= q)[17]

DC_A	Table	DC_B
	q ∨ ¬q (Did Sandra invite some linguists of the department for sparkling wine?)	q (Sandra invited some linguists of the department for sparkling wine.)
	p ∨ ¬p (Did she invite all linguists of the department?)	¬p (She did not invite all linguists of the department.)
cg s_1 = {q +> ¬p} (Sandra invited some linguists of the department for sparkling wine. +> She did not invite all linguists of the department.)		

tence mood/illocution have to be carefully distinguished (cf. for example Karagjo-sova 2004, 36ff.; Müller 2014a, 35ff.).

[16] This is not meant to mean that the particle is <u>responsible</u> for the openness. In this
      example, the topic is under debate due to a conversational implicature. The
      particle <u>reacts</u> to a context state of this kind which it requires for its adequate
      use.

[17] Bold letters stand for the context state which is necessary for an adequate use of
      the particle (apart from other contextual changes which might occur in the respec-
      tive discourse situation).

In this case, it seems conceivable that the implicature in (26) is part of the cg. As a consequence, speaker B then also commits herself/himself to $\neg p$ when committing himself to q. Therefore, in addition to $q \lor \neg q$ $p \lor \neg p$ opens up as well.

Next, the *doch*-assertion is uttered and A commits herself/himself to p (cf. (28)).

(28) Context following the *doch*-assertion: A: Sie hat **doch** alle Linguisten eingeladen. (= p)
      '**But** she invited all linguists.'

DC$_A$	Table	DC$_B$
	$q \lor \neg q$ (Did Sandra invite some linguists of the department for sparkling wine?)	q (Sandra invited some linguists of the department for sparkling wine.)
p (She invited all linguists.)	$p \lor \neg p$ (Did she invite all linguists of the department?)	$\neg p$ (She did not invite all linguists of the department.)
cg $s_2 = s_1$		

This example shows that with a typical *doch*-assertion a speaker reacts to another proposition ($\neg p$) which can be inferred from another utterance and which for some reason stands in a controversial relation to the proposition expressed with the *doch*-utterance. In this case, $\neg p$ comes about by being implicated by a preceding assertion expressing q. The discourse might proceed in the following ways: As the topic $p \lor \neg p$ is under debate now because A is committed to p while B is committed to $\neg p$, it can be the case that B insists on $\neg p$ being true, thereby confirming the implicature. If A accepts $\neg p$ then, q and $\neg p$ could become cg. B could also deny his commitment to $\neg p$ and agree that in fact the stronger version of expressing p is true. In this case, q and p would become cg. Under all scenarios either A or B have to cancel their commitment to $p/\neg p$.

As mentioned above, the openness can arise in various ways. It can also be due to an implication (cf. (29)), a presupposition (cf. (30)) or a

speech act condition (cf. (31)). In all three contexts, the *doch*-assertion is adequate. If my analysis of *doch* requiring the openness of p is correct, one should be able to describe how this openness comes about. When asserting p in (29) e.g., q is implied. Therefore, p $\lor \neg$ p as well as q $\lor \neg$ q are placed on the table. The *doch*-utterance reacts to the topic q $\lor \neg$ q.

(29) B: Moni spielt Harfe. (p)
     Moni plays harp
     'Moni plays the harp.'
   A: Moni spielt **doch** kein Musikinstrument. ($\neg$ q)
     Moni plays MP   *no   musical instrument*
     '***But*** Moni does not play a musical instrument.'
     [Moni plays the harp. $\rightarrow$
             p
     Moni plays a musical instrument.]
                 q

(30) B: Die Kinder von   nebenan sind immer so   laut. (p)
     The children from next door are   always that loud
     'The children next door are always that loud.'
   A: Nebenan wohnen **doch** gar   keine Kinder. ($\neg$ q)
     Next door live   MP   at all no   children
     '***But*** there are no children living next door.'
   [The children next door are always that loud. >>
                             p
   There are children next door.]
               q

(31) B: Geh   bitte! (!p)
     Leave please
     'Please leave!'
   A: Das hatte ich **doch** gerade vor. (q)
     That had   I   MP now   up
     '***But*** that's what I was just about to do.'
   [Second preparatory condition for requests: It is not obvious to both S and H that H will do A in the normal course of events on her/his own accord.]   Searle (1969, 66)

Moreover, being under discussion can also be simulated in order to insinuate an ongoing conversation (which applies to discourse initial uses as in (32)).

(32)   [first contribution in a conversation]
       Sie sind **doch** Norbert Meier. Herzlichen Glückwunsch
       You are MP   *Norbert Meier. Heartily   congratulations*
       zum Aufstieg!
       to-the promotion
       'You are Norbert Meier, **aren't you**? Congratulations on the promotion!'

In (32), no utterance has been made yet from which one might infer that the topic is really already under debate. On discourse initial uses of *doch* see e.g. König (1997, 68), Grosz (2014, 7), Müller (2014b, 187f.).

   The idea to model the MP's contribution to discourse within the model by Farkas & Bruce (2010) can also be found in Müller (2014b), (2016) as well as in Döring (2016) and Döring & Repp (to appear). As Döring (2016) and Döring & Repp (to appear) also model the contribution *doch* makes (however, they are not concerned with *auch*), I would like to point out in how far my approach differs from these pieces of work. Their account of *doch* comprises two aspects: a) *doch* indicates that the assertion is incompatible with something on the table, b) the speaker assumes that p is contained in the cg and that the addressee is currently not aware of this fact and introduced that incompatible proposition (see a)) (Döring 2016, 51). I think that these two approaches both succeed in capturing the core cases in which *doch* is used equally well. However, there are other uses to consider for which one cannot assume that the proposition is part of the cg and that the addressee introduced the incompatible proposition. These concern V1- and *Wo*-VE-clauses (cf. Müller 2017) as well as directive and discourse initial uses (cf. (32)). E.g., it does not seem plausible to assume for a proposal as in (33) that the addressee already knows that s/he should come at 9 o'clock. And the interpretation that the addressee considered doing the opposite also does not seem to be apt.

(33)   Perfect. And the day after tomorrow, we can only meet in the afternoon.
       − Yes. Good afternoon, Mrs Müller. Saturday, the 15th, is good for me.

Ja okay dann kommen Sie **doch** gleich um neun Uhr
Yes okay then come   you MP   *right   at   night o'clock*
zu mir.
to me
'Allright. Then ***why don't you*** come to me right at 9
o'clock?'
(Tübinger Baumbank des Deutschen/spontaneous speech)
(my translation)

A similar point can be made in relation to V1-clauses as in (34).

(34) Since the early Middle Ages, the wine has lent importance to the
place.
War es **doch** König Dagobert I., der der Metzer Domkirche
Was it MP   *king   Dagobert I who the Metzer Domkirche*
ein Weingut in Neef schenkte.
a   winery   in Neef gave
'Because it was King Dagobert I who gave a winery in Neef to
the cathedral of Metz.'
(RHZ09/OKT.24515 Rhein-Zeitung, 10/28/2009)
(my translation)

The *doch*-clause is certainly not incompatible with the first clause and
there is no addressee who considered the opposite. Assuming p to be
known is not compatible with assumptions on V1-clauses which have
been made independently (cf. Önnerfors 1997).

Discourse initial uses as in (32) are also problematic for an
approach which builds on incompatibility as the addressee un-
doubtedly did not express that he is not Norbert Meier.

Assuming that the issue is under debate, however, allows to
capture these uses without the proposition having to be cg-
information: In the context of organising a meeting different options
can open up (Shall we meet at 8, 9, 10, 11 o'clock etc.?). In discourse
initial uses, suggesting the topic to be already open evokes a polite
context. The use of *doch* in V1-/*Wo*-VE-clauses has been discussed at
length in Müller (2017).

Note that *being under debate* does not automatically mean *being
contradictory*. The concepts are not equal. The latter rather involves
the former. However, a contradiction is no condition for being an open
topic. An aspect can be under debate without arising from a
contradiction as the more peripheral uses of *doch* above show.

3.2   *The isolated use of* auch *in assertions*

There are a couple of descriptive findings on *auch* in the literature which I want to account for in my formal modelling: For instance, the particle utterance marks a causal relation between its own contents and a previous utterance (cf. Dahl 1985, 47; Thurmair 1989, 160; Zifonun et al. 1997, 1226; Karagjosova 2004, 343; Möllering 2004, 222ff.). This point can be illustrated by (35): From the point of view of the speaker, that Peter had not prepared himself explains why he failed the exam. This is a plausible and not a necessary connection though, because one can pass an exam without being prepared, of course, and preparing is also no guarantee for passing.

(35) B: Peter hat die Prüfung nicht bestanden. (q)
      Peter   has the exam   not   passed
      'Peter did not pass the exam.'
   A: Er hatte sich **auch** nicht vorbereitet. (p)
      He had   self MP   *not   prepared*
      '**That's because** he had not prepared himself.'

The preceding utterance gets (implicitly) confirmed by an *auch*-assertion (cf. Franck 1980, 212; Thurmair 1989, 160; Helbig 1990, 88; Möllering 2004, 222ff.; Karagjosova 2004, 343). Undoubtedly, it makes sense that the speaker assumes the proposition for which her/his utterance provides a reason. In (35), A implicitly confirms that Peter did not pass.

   The causal relation cannot solely be a contribution by the context. This can be illustrated by examples such as (36).

(36) A: Der Wein ist ja   ausgezeichnet!
      The wine is MP delicious
      'The wine is so delicious!'
   B: *Ja, das war **auch** der billigste Wein im   Handel.
      Yes that was MP   *the cheapest wine in-the shop*
      'Your are right. **That's because** it was the cheapest wine in
      the shop.'   Franck (1980, 211)

The use of *auch* is inadequate if a causal relation cannot be established: Having been cheap is not a suitable explanation for wine being delicious. The same effect does not come about without the MP *auch*. If B does not use *auch*, her/his utterance is an adequate reaction.

Furthermore, the causal connection is regarded as being generally valid by the interlocutors (cf. Burkhardt 1982, 103; Dahl 1985, 47). The connection between failing an exam and not preparing oneself, for example, can be assumed to be generally accepted. It has also been assumed that the preceding utterance loses its amazing and questionable nature (cf. Franck 1980, 211f.; Helbig 1990, 88; Kwon 2005, 74) or its informativity (Karagjosova 2004, 223f.).

If turn-taking is involved as in (35) (dialogical use), A can derive the contents of B's utterance which B considers worth conveying. It is generally known that when he has not prepared himself, he will probably not pass. If A assumes that Peter has not prepared himself, A can derive that he will probably fail. Therefore, it is no amazing or new information to A that he did not pass. S/he expresses that s/he does not consider the other speaker's contribution relevant. If the *auch*-assertion is uttered by the same speaker as the first utterance (monological use), the speaker does not consider the preceding proposition expressed with her/his own assertion to be of high relevance as s/he can derive it from the second one.

Whereas the relation between the *auch*-proposition and the preceding proposition is considered to be generally valid or known, the contents of the *auch*-assertion is viewed as new information (cf. Franck 1980, 215; Thurmair 1989, 156; König 1997, 71; Karagjosova 2004, 343; Kwon 2005, 73), that means it is not really known or simulated as being known.[18]

Aiming at accounting for these descriptive findings, (37) shows what I regard as the minimal requirement for an appropriate *auch*-context: An inference relation 'If p, then normally q.' is part of the cg.[19] Furthermore, q is either part of A's or B's commitments (depending on whether we are dealing with a monologue or dialogue).

(37)   Context preceding the *auch*-utterance

DC_A	Table	DC_B
(q)		(q)
cg s_1 = {p > q}		

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[18]   Note that the possible combination of *doch* and *auch* thus also provides evidence for not attributing the meaning component 'being known' to the MP *doch*.

[19]   Note that assuming that the inference relation is part of the cg is much more straightforward here than in the case of *doch* (see the discussion above).

In the concrete example in (35), the relation is 'If Peter does not prepare himself for an exam, Peter will probably not pass.' and q is *Peter did not pass the exam* (cf. (38)). Additionally, because B asserts q, the topic q or non-q opens up on the table. This is the common effect of the assertion.

(38) Context preceding the *auch*-assertion: B: Peter hat die Prüfung nicht bestanden. (= q)
'Peter did not pass the exam.'

DC$_A$	Table	DC$_B$
	q ∨ ¬q (Did Peter pass the exam?)	**q** (Peter did not pass the exam.)
cg s$_1$ = {p > q} (If Peter does not prepare for an exam, Peter will probably not pass.)		

Against this context state, the *auch*-assertion is made. (39a) illustrates that A commits herself/himself to p and, therefore, the topic opens up *whether p*. A implicitly confirms q because both assume 'If p, then normally q.' and A assumes p (cf. Asher & Morreau 1991, 387; Karagjosova 2004, 202ff.; 224).

(39) Context following the *auch*-assertion: A: Er hatte sich **auch** nicht vorbereitet. (= p) '***That's because*** he had not prepared himself.'
a. part 1

DC$_A$	Table	DC$_B$
q (Peter did not pass the exam.)	q ∨ ¬q (Did Peter pass the exam?)	q (Peter did not pass the exam.)
p (Peter had not prepared himself.)	p ∨ ¬p (Had Peter prepared himself?)	
cg s$_1$ = s$_2$		

(39b) depicts that q becomes cg. This course comes about because B already committed himself to q, so that the topic q or non-q gets decided. The topic concerning p, however, is still open because B could reject the explanation by A.

b. part 2

DC$_A$	Table	DC$_B$
p (Peter had not prepared himself.)	p $\lor$ $\neg$p (Had Peter prepared himself?)	
cg s$_3$ = {s$_2$ ∪ {q}}		

One question which one can ask when discussing MPs is whether they make the same contribution in every sentence type. As my analysis is built on a minimalist perspective, I assume that one does not have to distinguish between different versions of the same particle. In the following, I will illustrate this aspect for the occurrence of *auch* in polar and wh-interrogatives as well as in imperatives.

In the declarative in (40), the relation between p and q comes about by the plausible inference that being well-behaved leads to Santa Clause being nice.

(40) A: Santa Clause was nice to us. (q)
      B: Ihr wart **auch** artig   dieses Jahr. (p)
         You were MP   *well-behaved this*   *year*
         '**That's because** you were well-behaved this year.'
      [p > q, When you are well-behaved, Santa Clause will be nice to you.]

The same relation is involved in the polar interrogative in (41).

(41) Nikolaus: Wart ihr **auch** artig?
      Santa Clause *Were you* MP   *well-behaved*
      'Did you behave well?'
      [p > q, When you are well-behaved, Santa Clause will be nice to you.]

In contrast to a polar interrogative without the MP, (41) has a bias towards p which can be traced back to the fact that it is obvious in this scenario that the children want Santa Clause to be nice.

The interpretation of (42) also involves the inference relation p > q.

(42) A: Santa Clause was not nice to us.
      B: Warum wart ihr **auch** nicht artig   dieses Jahr?
         Why   were you MP   *not   well-behaved this   year*
         '**This does not surprise me.** Why were you not well-behaved
         this year?'
         [p > q, When you are well-behaved, Santa Clause will be nice
         to you.]

As the utterance by A introduces non-q, non-p follows. That means, if
Santa Clause was not nice, the children plausibly were not well-
behaved during the year. Non-q is presupposed by the *why*-question.

   In principle, also imperatives can be described by the same
meaning contribution. The only difference is that the relation gets
reversed (cf. (43)). However, this difference is due to a directive being
associated with plans and intentions rather than assumptions. The
proposition p has yet to be brought about.

(43) A: We want Santa Clause to be nice to us. (q)
      B: Dann seid **auch** artig! (!p)
         Then be   MP   *well-behaved*
         '**It is obvious what you have to do**: Behave well then!'
         [q > !p, If you want Santa Clause to be nice, you need to be
         well-behaved.]

Thus, this look at the occurrence of *auch* in other sentence moods
shows that it is not necessary to assume another contribution for the
MP than in declarative clauses.

   (44) and (45) show again what I consider the context states to look
like in the context preceding the particle-utterances.

   In the case of *doch*, the proposition which the *doch*-assertion
contains is already under debate.

(44) Context preceding the *doch*-utterance

DC$_A$	Table	DC$_B$
	p $\vee$ $\neg$p	
cg s$_1$		

An *auch*-assertion needs an inference relation in the cg and q has to
be part of the commitments of A or B.

(45) Context preceding the *auch*-utterance

DC$_A$	Table	DC$_B$
(q)		(q)
cg s$_1$ = {p > q}		

Under the view I represent, the relevant part in modelling the discourse effect of MPs is always the context preceding the MP-utterance. When uttering the MP-assertion, the assertion works entirely regularly: It introduces a commitment to p. Depending on how the components are filled, p (and q) take different paths within the current discourse then.

4   The combination of *doch* and *auch*

The next question is how an utterance in which both *doch* and *auch* occur gets interpreted. In the literature on the phenomenon, the interpretation of MP-combinations is a controversial issue: The central question is whether and if so, how the scopes (which each MP takes over the proposition) interact. Assuming that the single particles take scope over the proposition p (= that the team won) as in (46), the four possible scope relations in (48) and (49) arise for the sequences in (47).

(46) a. Die Mannschaft hat **doch** gewonnen.   doch(p)
        the team   *has* MP *won*
      b. Die Mannschaft hat **auch** gewonnen.   auch(p)

(47) Die Mannschaft hat **doch auch/auch doch** gewonnen.

The particles can either scope over each other (cf. (48)) with *auch(p)* falling in the scope of *doch* (cf. (48a)) or *auch* taking *doch(p)* in its scope (cf. (48b)).

(48) Different scope
     a. doch(auch(p))
     b. auch(doch(p))

The alternative is that their meaning adds up, that means the overall meaning consists of the sum of what *doch* and *auch* contribute in isolation.

(49)   Same scope
    a. doch(p) & auch(p)
    b. auch(p) & doch(p)

With the formulation in (49), I intend to express that both MPs relate to the same proposition. Nevertheless, they do not make their contribution simultaneously, but they come into effect one after another.[20]

A common explanation for the fixed order is that it mirrors the asymmetric scope relation between the two particles (cf. for example Ormelius-Sandblom 1997; Rinas 2007). However, I believe that an utterance in which *doch* and *auch* occur gets the correct interpretation in case the two particles take the <u>same</u> scope. That means, both particles scope over the same proposition as in (49).

Apart from Rinas (2007: 149), I do not know of any author who discusses this particular MP-combination of *doch* and *auch* in terms of scope. However, several pieces of work discuss the combination of *ja* and *doch* and all four possibilities have been suggested (cf. (50)).

(50)   a. ja(doch(p))   Ormelius-Sandblom (1997), Rinas (2007)
    b. doch(ja(p))   Lindner (1991)
    c. 1. ja(p), 2. doch(p)   Thurmair (1989), Müller (2014b)
    d. 1. doch(p), 2. ja(p)   Doherty (1985)

4.1   Against a scope relation between the two modal particles

I want to verify this assumption by analysing the authentic example in (51) (cf. (3)).[21]

(51)   B: „Sie wissen dass sie mir meinen Job nicht gerade
        You know   that you me my   job not   exactly

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[20]   Alternatively, one could represent this interpretation as [doch & auch](p). However, in my opinion, this suggests that the two MPs form one entity – which I do not assume. I do not consider the MP-combination a complex lexeme or something similar.

[21]   I consider it more convincing to analyse a couple of examples and not just one occurrence of a *doch auch*-assertion. However, due to lack of space, I cannot accomplish this aim in this article. See Müller (2018, 352ff.) for an analysis of further corpus examples.

> leicht machen?"
> *easy make*
> 'You know that you are not really making this job easy for me?'
> A: „Na sie müssen sich ihr   Geld   **doch auch**
> *Well you must   self your money* MP MP
> verdienen Lucius!"
> *earn   Lucius*
> 'Well, ***but***, ***that's because*** you must be worth your money, Lucius.'

If my account of the isolated use of *doch* and *auch* is correct, the causal link between the proposition contained in the MP-utterance and another proposition/utterance has to be detected, at least B needs to commit himself to what is to be explained and the proposition which serves as the explanation needs to be under debate.[22]

I assume that the relevant relation in (51) is: 'If B has to be worth his money, A does not make B's job easy for A.' This is in the cg in (51).[23] Furthermore, the question by B presupposes (factive *wissen* [*know*]) that A does not make B's job easy. Thus, ¬q is in the cg as well (and, therefore, it is also among A's and B's commitments). These fillings of the components cover what *auch* requires. Additionally, the question sounds reproachful to me or B is (negatively) amazed by the fact that A does not make B's job easy. On these grounds, I believe, that from the fact that B poses this question, one can derive that B commits himself to the proposition that he does not have to be worth his money. If he assumed that he needed to be worth his money, he would not be amazed by his hard time. This is how the topic *Does B*

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[22] One might analyse As contribution by assuming that s/he is joking and only pretends that having to be worth the money is the reason for making Bs job difficult although both interlocuters know that this is not the reason. However, I do not think that this impression provides a counter argument to my analysis. This is a naturally occurring example and as the contextual requirements for the MPs' use are fulfilled, I think that the interpretation I describe arises. However, of course, MPs do not give any information on whether the speaker's contribution can be taken seriously. When s/he uses the particles, the respective interpretation arises, regardless of whether the expressed causality really exists or has been meant as a joke by the speaker.

[23] Note that it is never possible to find out whether a component is really filled in a certain way or whether a MP only pretends it is.

have to be worth his money? opens up in this dialogue – the requirement *doch* imposes on the context.

(52) Context preceding the *doch auch*-utterance

DC$_A$	Table	DC$_B$
	p $\vee$ ¬p (Does B have to be worth his money?)	¬p (B does not have to be worth his money.)
cg s$_1$ = {p > ¬q, ¬q} (If B has to be worth his money, A does not make B's job easy for B., A does not make B's job easy for B.)		

When making the *doch auch*-assertion (cf. the effects in (53)), A introduces p which serves as the explanation for ¬q (A does not make B's job easy for B.). From the point of view of A, this assumption follows because 'If p, then normally ¬q.' is in the cg. Moreover, A reacts to the open topic p $\vee$ ¬p (*Does B have to be worth his money?*).

(53) Context following the *doch auch*-utterance

DC$_A$	Table	DC$_B$
p (B has to be worth his money.)	p $\vee$ ¬p (Does B have to be worth his money?)	¬p (B does not have to be worth his money.)
cg s$_2$ = s$_1$		

After the utterance of the *doch auch*-assertion B knows that A assumes p and that this is A's explanation for ¬q. Depending on how the context continues, B can revise his own assumption about ¬p or he can just keep it.

Thus, I believe, it is possible to motivate why the requirements which *doch* and *auch* need in isolation are both fulfilled in this dialogue in which a *doch auch*-assertion gets used.[24]

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[24] The rising declarative might also be relevant in this example. Rising declaratives have a different impact on the context than polar interrogatives (cf. e.g. Bartels 1999, Truckenbrodt 2009, Gunlogson 2001). However, this difference does not interact with my analysis which relies on the availability of the presupposition non-q and the openness of p vs. non-p. The rising declarative comes with the same presupposition as the polar interrogative and although the rise indicates that the

(54) and (55) illustrate what results when modelling scope between MPs. In (54), the context requirement for *auch(p)* serves as the input for *doch(p)*; in (55), the configuration for *doch(p)* is the input for *auch(p)*.

(54)   Context preceding the *doch auch*-utterance; reading: doch(auch(p))

DC$_A$	Table	DC$_B$
	(q $\in$ DC$_{A/B}$ & cg = {p > q}) $\vee$ $\neg$(q $\in$ DC$_{A/B}$ & cg = {p > q})	
cg s$_1$		

(55)   Context preceding the *doch auch*-utterance; reading: auch(doch(p))

DC$_A$	Table	DC$_B$
(q)		(q)
cg s$_1$ = {((p $\vee$ $\neg$p) $\in$ T) > q}		

It becomes immediately clear that the assumptions in the components become much more complex. In short, I believe that neither description captures the relevant context state in the situation which precedes the MP-utterance immediately.

Following (54) for example, the dialogue would be about whether A or B assume that A does not make B's job easy for B ($\neg$q) and whether the causal link exists between making the job hard ($\neg$q) and B having to be worth his money (p). This interpretation does not seem to be apt: It is not up for discussion whether A and B commit themselves to $\neg$q. These two discourse commitments are clearly at hand (*You know that $\neg$q?*). Neither is it a topic of the conversation whether p justifies $\neg$q. A simply bears on this relation. Nor is it an issue whether the two aspects hold at once.

In (55), the reading comes about that it is a common assumption that if the topic about p is under debate, q normally follows. Applying this constellation to (51), the reading arises that A and B agree that if it is under discussion whether B has to be worth his money, it usually follows that A does not make B's job easy for B. Even though I do not consider this constellation completely besides the point as far as this

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addressee is committed to p (according to Gunlogson 2001, 36), the issue is still not settled in the current context. I, therefore, assume that the topic is open.

particular example is concerned, I do not believe that this context state motivates the use of the MP-utterance. $p \lor \neg p$ would not really have to be under debate then. And there should not be contexts in which the interlocutors hold contrary views concerning q while $p \lor \neg p$ is lying on the table. According to (55), both participants have to commit to the proposition which the MP-utterance motivates.

I think, both readings are not suitable to capture the context state which motivates (or allows) the use of the *doch auch*-assertion. However, it is possible to reconstruct the additive meaning of the two particles in this dialogue as I showed above.

My argumentation in favour of the non-scope reading is consequently based on the interpretation of the MP-combination. A more general argument for my analysis is suggested in Jacobs (2018, 136ff.): Relying on the classification of MPs as expressives (cf. Gutzmann 2015, 2017), he argues that MPs can never scope over each other because one expressive expression cannot fall within the scope of another expressive item. This assumption goes back to Potts (2005). The example in (56) can only be interpreted along the lines of (57a). The relative clause can only refer to the descriptive part of the main clause. It cannot refer to the main clause as modified by the adjective (cf. (57b)).

(56)   I have to mow the **fucking** lawn, which is reasonable if you ask me.

(57)   a. that I have to mow the lawn is reasonable if you ask me
       b. that I disapprove of having to mow the lawn is resonable if you ask me   (Potts 2005, 61)

4.2   *Explaining the unmarked order doch auch*

Although the assumption that the preference for one particle order can be explained by scope relations (cf. Ormelius-Sandblom 1997, Rinas 2007) sounds plausible, I believe it is not of much use if the resulting interpretation is not apt in dialogues in which such utterances are appropriate.

4.2.1   *Iconicity*

Assuming that my additive interpretation is adequate, in the follow-ing, I will make the proposal that the preferred and dispreferred ordering of *doch* and *auch* can be derived by referring to some form of *iconicity*. Croft (1995, 129) defines iconicity in language as follows:

> [...] the principle that the structure of language should, as closely as possible, reflect the structure of experience, that is, the structure of what is being expressed by language.

A fundamental distinction in the literature on iconicity which goes back to Peirce (1960, 2.277) is that between *imagic* and *diagrammatic iconicity*. The first one concerns a single linguistic sign (a prototypical example is onomatopoeia) for which holds that a resemblance exists between its form and its contents (cf. (58)).

(58)   signifier   meow

            $\updownarrow$ $\updownarrow$ (direct resemblance of sound and form)

      signified   'sound caused by a cat'

<div align="right">Nänny & Fischer (1999, xxii)</div>

In the case of *diagrammatic iconicity*, the relevant level is not the isolated sign, but a motivation of the relations between signs is at hand. There is not a direct (vertical) connection between signifier and signified. The link exists between the horizontal relation on the level of the signifier and the horizontal level of the signified. These constella-tions can be realised structurally (morphologically, syntactically) or semantically (metaphors for example). In (59), the sequencing of the three forms in the famous Caesar-quotation corresponds to the order of the events in the real world.

(59)   signifier   veni   →   vidi   →   vici

            $\updownarrow$ $\updownarrow$ $\updownarrow$

      signified   'event'   →   'event'   → 'event'

<div align="right">Nänny & Fischer (1999, xxii)</div>

                (in the real world)

Within the scope of my argumentation, *structural diagrammatic iconicity* is of interest, and more precisely the constellation Haiman

(1980, 516) calls *iconic motivation.* He defines this type of iconicity in the following way: "a grammatical structure, like an onomatopoeic word, reflects its meaning directly." Typically, ordering restrictions are comprised under this type of iconicity. For instance, there is the tendency to order sentences in discourse according to the temporal sequencings of the events they describe (cf. (60)).

(60) a. He opened the door, came in, sat and ate.
      b. *He sat, came in, ate and opened the door.

<div align="right">Givón (1991, 92)</div>

In the following, I will explicate in how far the ordering of the MPs *doch* and *auch* can be said to mirror discourse structural processes from my point of view. I will argue that the unmarked sequence represents the most direct mapping of word order and the order in which things should (ideally) happen in discourse.

4.2.2   Addressing the current issue and giving reasons for another issue

According to my modelling, *doch* refers to the openness of the proposition, i.e. it reacts to the topic which is currently under debate, *auch* explains another issue.

My idea for deriving the preference towards *doch auch* is that this structure mirrors the discourse goal more directly than *auch doch* in the following sense: It is more directly relevant for the course of a conversation and the goal of communication to address the current topic (which *doch* does) than to state a reason for another issue (which *auch* does). That means, it is more urgent to learn in a discourse that the asserted proposition is part of a topic under debate than to learn that the speaker assumes that this proposition serves as a reason for another proposition.

This assumption has to be seen in the light of Stalnaker's (1978, 322) original idea that communication serves the purpose of increasing the cg and, thereby, reducing the context set (the set of worlds in which the cg-propositions are true):

> To engage in a conversation is, essentially, to distinguish among alternative possible ways that things may be. The purpose of expressing propositions is to make such distinctions.

The same idea is expressed by Farkas & Bruce (2010: 87). In section 2, I referred to their assumption that conversation is generally driven by the two aspects in (61).

(61)   Aspects that drive conversation
      a. increasing the cg
      b. reaching a stable state

Firstly, interlocutors place elements on the table because they intend to increase the cg. Secondly, they strive for reaching a state in which nothing is under debate. Nothing is lying on the table. In order to reach this aim, they remove elements from the table in that way that the cg increases.

Being under debate is a precondition for becoming part of the cg and if this is the main discourse goal, any other aim is less important. This should then also apply to the expression of a causal relation.[25]

Although both orders lead to the same literal interpretation (*doch* and *auch* scope over p) (cf. section 4.1), *doch auch* (cf. (62a)) (unlike *auch doch* [cf. (62b)]) complies with the communicative aim in the most direct, isomorphic way.

(62) a. order *doch auch*:   1. addressing the current topic p (*doch*),
                  2. stating a reason for another issue q (*auch*)
     b. order *auch doch*:   1. stating a reason for another issue q (*auch*), 2. addressing the current topic p (*doch*)

5   The reversed order *auch doch*

As already mentioned in section 1, I believe that one should not say that there is only one grammatical order and that the reversed order needs to be filtered out by the analysis. I rather pursue the view to look at this phenomenon as a markedness phenomenon. And from my assumptions on the form-function-relation it follows why one order is more normal. If possible, I also go as far as to say that the reversed order does exist, that it is just restricted to very particular contexts

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[25] On urgency determining word order cf. Givón (1985, 199). It would be desirable to find independent evidence (e.g. within other constructions) for this particular order of urgency: addressing the topic > expressing a causal relation.

and I try to determine these contexts (cf. Müller (2014b, 2016, 2018) for an account of other MP-combinations).

As far as *doch auch* and *auch doch* are concerned, it is doubtlessly the case and it is not up to discussion that the *auch doch*-hits one finds are clearly underrepresented in the data.[26] I want to stress at this point that my argumentation regarding the reversed order does not run along the lines of wanting to prove that the marked sequences are used to the same extent as the unmarked ones. Without doubt, we are dealing with a clear difference in markedness. Nevertheless, I do not consider the marked cases ungrammatical and non-existent. In fact I hold the view that they are not altogether excluded and occur with a certain systematicity. In particular because of the latter observation, I want to deny their status as performance errors. In DECOW2014, I found 40 examples in which both forms of the combination are really used as MPs in my opinion. Although this is definitely only a small number of examples, it is still large enough to analyse it for patterns.

For several reasons it is difficult to provide numbers for *doch auch*- and *auch doch*-examples within one and the same corpus. Within DGD2, I found 60 *doch auch*-hits and two *auch doch*-hits. In DeReKo, four *auch doch*- and 59 *doch auch*-examples could be made out when looking at a random sample of 500 hits. It is only possible to look at samples of this kind because one needs to read every example within its context and has to decide whether *doch* and *auch* are really used as MPs. Interpolating the data from DeReKo allows me to determine a 95%-confidence interval for the occurrence of *doch auch*: Between 6654 and 11258 relevant hits are expected to occur. A parallel interpolation for *auch doch* is not possible as the statistical conditions for calculating such interpolations are not met (cf. Perkuhn & Keibel & Kupietz 2012: chapter 6.5). The estimated number would be seven hits. In a sub-corpus of DECOW (DECOW14AX01), I found eight relevant *auch doch*-combinations. However, it is impossible to check all *doch auch*-examples. Additional efforts are involved as it is only possible to extract single sentences from the corpus. However, it is essential to look at MP-utterances within contexts. One thus has to search for the contexts before one can look at the examples. For that reason, I can only provide a very rough estimation which is 6552 hits.

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[26] I consulted DECOW (Corpora from the web) (cf. Schäfer & Bildhauer 2012), DeReKo (Deutsches Referenzkorpus) (cf. Kupietz et al. 2010) and DGD2 (Datenbank für gesprochenes Deutsch) (cf. Schmidt & Dickgießer & Gasch 2013).

The 40 hits occur in the whole DECOW-corpus and it is obviously impossible to provide numbers for *doch auch*-examples for the reason explained above.

The magnifying glass is big. But this does not have to keep one from looking at the examples which are available. It is clear that it is the central task of the analysis to explain the considerable preference for *doch auch*. However, nevertheless, it should be allowed to look for reasons why reversing the order occurs in particular contexts and the analysis should be able to account for this observation.

I think that two patterns can be made out. The first one is causal subordinate clauses, the second one the combination with *ja* (*ja auch doch*). The latter is also mentioned in the only reference to the order *auch doch* I could find (see Hentschel 1986, 254). (63) to (66) show two examples for each context.

(63) @Titus: If I remember correctly, you wished for an additional function [see the commentary 42 further above].
Ich bin aber   noch nicht dazu gekommen eine solche
I   am however still   not   to-it got   a   such
Funktion einzubauen, **da** es aufgrund der
function integrate   as it due-to   the
Wahlmöglichkeit die   man dazu haben sollte
options   which one   for-it have   should
auch doch kein kleiner Aufwand ist.
MP MP   *no   small   effort   is*
'However, I still haven't got down to integrate such a function, **because**, **as you know**, it is not a small effor **though**, due to the options which one should have for it.'
(http://www.crazytoast.de/plugin-wordpress-
blogroll-widget-with-rss-feeds.html)
(DECOW2014)

(64) Ich finde ohne   Sattel   reiten prima, **weil**   **man**
I   find   without saddle   riding super because one
auch doch viel   genauer   merkt, was unter
MP   MP   *much more precise perceives what under*
einem los ist.
one   up   is

'I consider riding without a saddle super ***because*** one perceives much more precisely what is going on underneath oneself ***though***.'

<div align="right">(http://www.wege-zum-pferd.de/
forum/archive/index.php?t-5461.html)
(DECOW2014)</div>

(65) I'm sorry for you that there are problems again! You got really stitched with yours! Mine is rather harmless in comparison, although I'm annoyed enough. Have you considered that they convert it for you?
Es gibt *ja   auch doch* einige im   Board, bei denen
It gives MP MP   MP   *some   on-the board for who*
alles   funktioniert.
everything functions
'[I'm suggesting that] ***because***, ***as you know***, there are some on the board for whom everything works ***though***.'

<div align="right">(http://www.der206cc.de/forum/archive/
index.php/t-2177.html)
(DECOW2014)</div>

(66) The woman answered: "No, that's not possible, young man."
Manuel
21.06.2009, 21:11
Ja ... naja **das is *ja   auch doch* ziemlich dreist**. xD
Yes well that is MP MP   MP   *quite   bold*
'Well [that's an expected reaction] ***because***, ***as you know***, this is quite bold ***though***.'

<div align="right">(http://forum.torwart.de/de/archive/
index.php/t-62037-p-4.html)
(DECOW2014)</div>

Among the 40 hits for *auch doch* for which I assume that both elements are used as MPs, there are 14 causal clauses which are marked by a causal conjunction or the verb-first-order, 11 sequences with *ja* and two combinations of these two contexts.[27] If one searches specifically for *auch doch* in these two contexts on the web, one finds more

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[27] I could not make out patterns in the remaining 13 occurrences. However, the difference between the cases with a pattern and the ones without turns out to be statistically significant: $\chi^2(1, n = 40) = 4.9$, $p < 0.05$, $V = 0.35$.

examples of the type in (63) to (66), which I do not consider peculiarly abnormal.

Further examples are given in (67) to (70).

(67) My blog used to be mainly a blog for nature photography. Nowadays it is mostly a blog for people fotography. Concerning my motives I made a 180 degrees turn. :D
Das liegt zunächst   einmal daran, dass ich kaum   noch
This lies first of all once   at-it   that I   hardly still
Natur   fotografiere,
nature take pictures
weil ich **ja auch doch** keine 36 Stunden Tage habe
as   I MP MP MP   *no   36 hours   days have*
'In the first place the reason for that is that I hardly take pictures of nature because **[that's an expected reason]**, **as you know**, I do not work 36 hours a day **though**.'
(unfortunately :D) and, therefore, there is no time for that besides the shootings

<div align="right">(Google-search 25/06/2015)
(http://www.lichtreflexe-2014_10_01_archive.html)</div>

(68) According to rumours, the German economy wants to make Asia's last original dictator get a move.
Weil **auch doch** dort unten alles   besser werden
as   MP   MP *there below everything better   become*
soll.
shall
'Because **[and that's expected]** everything shall become better down there **though**.'

<div align="right">(Google-search 25/06/2015)
(http://www.tagesspiegel.de/sport/willmanns-
kolumne-dresdner-fans-wollen-den-fdgb-
pokal-wieder-einfuehren/7601988-2.html)</div>

(69) He does not make "Die Frau in den Dünen" sound without a special touch.
Das könnte einigen Hörern   vielleicht etwas zu
That might some   listeners maybe   a bit too
verkünstelt sein, aber es geht aufgrund des Inhaltes,
artificial   be   but it goes due to   the contents

der   *ja* auch doch eher   auf einer
which MP MP MP *rather on a*
psychologischen Ebene seinen Schwerpunkt hat.
psycholocical   level   his   focus   has
'Some listeners might find this a bit too artificial, but it works
because of the contents which, ***as you know***, has its focus on
the psychological level ***though***.'

<div align="right">(Google-search 25/06/2015)
(http://www.hoerspieltipps.net/archiv/
diefrauindenduenen.html)</div>

(70) I rather think that the 11 point font is for multiplayer apps…
This is logical. The display is bigger than an iPhone. Maybe
there are no apps which use it correctly now, but who knows
what the future will bring. ;)
— Coolix
Ich will neben meinen Finger aufm iPhone *ja* auch
I   want next to my   fingers   on-the iPhone MP MP
doch was   erkennen…
MP *something recognise*
das ne Simple erklareung…
that an easy   explanation
'***As you might imagine***, I would like to recognise something on
my iPhone apart from my fingers ***though***.'
— Gtc-michel89

<div align="right">(Google-search 25/06/2015)
(http://www.iphone-ticker.de/multitouch-punkte-
ipad-unterstutzt-11-iphone-nur-funf-10833/)</div>

I am aware of the fact that it is probably unavoidable to face criticism
regarding the reversed orders. In order to provide further evidence for
my assumption that it does exist, I would like to direct the reader's
attention to the examples in (71) and (72).

(71) When the reception was over, he had a job which he hadn't
expected to get. With his incredible persuasiveness, Trippe
brought Lindbergh to become a "technical consultant" for Pan
AM.
Mit   derselben Überredungskunst machte Trippe
With the-same   persuasiveness   made   Trippe

seine Betty schließlich <u>auch doch</u> noch zur
his   Betty finally   MP   MP   yet   to-the
Ehefrau.
wife
'With the same persuasiveness, Trippe finally made his Betty a
wife.'   (Z04/405.04570 Die Zeit (Online),
                                                              27/05/2004)

(72)   Question: Is it not possible to delete all contributions which are
       not related to the article?
       Nein. (**Das gäbe schlimmstenfalls dann <u>auch doch</u>**
       No   This gave worst case   then   MP   MP
       nur weitere Bewertungsscherereien   nach dem
       only further annoyance concerning judgements after the
       Motto: „Was   ist artikelbezogen"
       motto   "What is article-related"
       'No. As this would just lead to further annoyance concerning
       judgements in the worst case, according to the motto: What is
       related to the article?'
                                    (WDD11/L43.00760: Diskussion: Lectorium
                                         Rosicrucianum/Archiv/2010/1. Teilarchiv)

In (71), it is obvious that *auch* and *doch* cannot be used as MPs. *Auch*
is a conjunctive adverb (meaning 'additionally') and *doch* is an adverb
(meaning 'nevertheless'). In (72), *auch* can be understood as a MP,
however, *doch* is a stressed adverb (meaning 'nevertheless'). In my
opinion, the possibility to interpret *doch* and *auch* both as MPs
increases from (71)/(72) to (63)–(70).

Although a number of empirical questions definitely still need to be
addressed (for instance: Do speakers really judge *auch doch* better in
these domains than in others? Are causal clauses and combinations
with *ja* also preferred environments for *doch auch* or can they be
considered a genuine *auch doch*-context?), for the moment (as long as
the opposite has not been proven), I want to assume that these two
contexts play a role, in case speakers use the order *auch doch*. And I
would like to think about reasons why the reversal of the order seems
to be possible more easily in exactly these contexts.

I would like to suggest that MPs in combinations are not weighted
identically, in the sense that the sentential context can have an
impact on the weight of a particle. The contribution of the particles
can be foregrounded or backgrounded depending on the context. If *ja*

is added to the sequence *auch doch*, I argue that addressing the topic becomes less relevant as the expressed proposition is made part of the cg anyway immediately by *ja*.[28] The consequence is that *doch* can also apply later, and for that reason occurs at the right margin of the combination of three MPs. The constellation which is responsible for *doch* occurring in front position according to my analysis of the unmarked *doch auch*, thus gets cancelled in this context by adding *ja*, and therefore makes the late application of *doch* possible.

Similarly, one can argue for the causal context, too, that the aspect of addressing the topic gets backgrounded here. I generally assume that if particles occur, their discoursive contribution comes into effect in the respective sentential context and their use is really intended by the speaker. However, it does not seem surprising if the reversal can arise particularly in the causal context. The aim of a causal clause is precisely to provide a reason. If a particle occurs which underpins the causal reading and another one which marks the addressing of the current topic, it seems quite plausible to assume that it is exactly this context which allows backgrounding of addressing the topic under debate. As a consequence, the particle which codes addressing the actual discourse topic (which is principally highly relevant for assertive utterances) can step back in this exact context and can be brought to application later.[29] As every causal clause is an assertive context after all[30], the order *doch auch* is possible, of course, and also more commonly used.

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[28] My modelling of *ja* builds on Doherty (1987, 191), Thurmair (1989, 104) or Rinas (2007, 425) who assume that the proposition is already known on the part of the hearer. As the confirmation of p by the hearer is a precondition for p becoming part of the cg, I assume that p is either already contained in this component or becomes part of this component by making the *ja*-utterance. Like other cg-contents, the contribution by *ja* can also be accommodated, namely in situations in which the contents is in fact not known. An example for this use is given in (i). The addressee probably would not admit that s/he knows that s/he is a fool.

(i) Du bist **ja** ein Depp!
    You are MP *a*   *fool*

[29] Note that this assumed shift of urgency is in accordance with Givón's (1985) assumptions on urgency. He (1985, 199) also assumed for the order of topic and comment that the urgency to process the comment first or introduce the topic early interacts with the topic's form.

[30] It is under debate in the current literature whether/which subordinate clauses can be considered to be (relatively) independent in terms of their illocution. In the literature on German, these questions have predominantly been discussed for verb-second orders in *weil*-clauses (cf. e.g. Küper 1991, Holler 2008, Antomo &

6   Summary and further questions and issues

This article claims that the unmarked order of the MPs *doch* and *auch* is an iconic reflex of what discourse strives for, namely, increasing the cg and reaching a stable state. As addressing the current topic is essentially involved in this endeavour and, decisively more than stating reasons for other propositions, the order *doch auch* mirrors this discourse goal more directly. Put differently, one could say that advancing the discourse is superior to conveying a qualitative assessment.

My explanation offers a link to Thurmair's (1989, 288) hypothesis 2. The author suggests a catalogue of five hypotheses which describe acceptable orderings of MPs. Hypothesis 2 says that MPs which relate to present utterances precede MPs which take a qualitative evaluation of the previous contribution. Thurmair models the meaning of MPs by attributing features to them. *Doch* displays the features BEKANNT$_H$ (known to the hearer) and KORREKTUR (correction), capturing that the proposition which *doch* relates to, according to Thurmair, is known to the hearer and the utterance asks the hearer to change his assumption. *Auch* is characterised by the features KONNEX (connection) and ERWARTET$_{V/S}$ (the preceding utterance is expected by the speaker). BEKANNT$_H$ and KORREKTUR relate to the current utterance, KONNEX and ERWARTET$_{V/S}$ to the previous one which is qualitatively evaluated by being judged to be expected. Of course, Thurmair works with a different modelling of the MPs' meaning contributions. The constellation described in hypothesis 2 is reflected in my analysis: From the point of view of the development of discourse, *doch* makes the more urgent contribution to address the open topic whereas *auch* accounts for the comparatively subordinate information that this proposition provides the reason for another issue. In contrast to Thurmair's hypothesis, I do not only describe the constellations which arise under this order of the MPs, but I offer a

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Steinbach 2010) and in complement- and relative clauses (cf. Reis 1997, Gärtner 2001, 2002). Recently, Jacobs (2018) and Rapp (2018) suggested that the occurrence of MPs does not depend on illocutionary force in the subordinate clause, but that the embedded contexts also express certain attitudes which need to be compatible with the attitudes coded by MPs. However, regardless of whether one wants to assume that main and subordinate clauses code attitudes or display a certain illocutionary force, the result for declarative clauses and *weil*-clauses would be that the speaker expresses his belief of p. As my analysis only relies on speaker commitments, this discussion does not have an impact on my argumentation.

proposal for an explanation. After all, her account leaves the question open why the MP-sequences mirror the constellations described in the hypotheses. Why do particles which relate to the current utterance precede those that offer a qualitative judgement of the previous utterance? My account provides an answer to this question for the case at hand by referring to the most direct mapping of the desired discourse goals.

In this article, only assertions are discussed. In accordance with Thurmair's (1989) condition introduced in section 1.1, *doch* and *auch* can also combine in directives and exclamatives (cf. (73) to (75)).

(73) Mach **doch/auch/doch auch** die Heizung an!
      Make MP MP   MP   MP   *the heating on*
      'Switch on the heating!'[31]

(74) Dass der mir **doch/auch/doch auch** so dicht auffährt!
      That that me MP   MP   MP   MP   *so close drives*
      'Gosh! He is driving so close behind me!'

(75) a. Was haben die **doch/auch/doch auch** gut gespielt!
         What have they MP   MP   MP   MP *well played*
         'How well they played!'
      b. Was die **doch/auch/doch auch** gut gespielt haben!
         What they MP MP   MP   MP *well played have*
         'How well they played!'

It would be desirable if the ideas I presented for assertions carried over to these sentential contexts. I believe one has to analyse such occurrences in detail before making such claims. In particular, the impact such illocutionary types have on the discourse context need to be described and the MPs' contribution has to be captured. However, in my opinion, my constraint is general enough to be applicable to such contexts. It is not constricted to assertions. Addressing the current topic should usually be more relevant than evaluating another proposition qualitatively across speech acts.

Of course, one should also aim at an account which can explain all combinations of MPs.[32] My contribution might seem rather modest in

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[31] I do without providing paraphrases for MPs in these utterances here as it is not possible to discuss the MP-utterances' contribution in contexts within the confines of this paper.

this respect. Thurmair (1989, 280) assumes that there are 171 possible combinations of two MPs, 50 of them being actually used. I think there is no way around analysing each combination in detail before making statements about the whole system. However, there is also evidence that a criterion such as the one I make responsible for the preferred sequence *doch auch* might be adequate to cover the general distribution of *doch*. This MP usually precedes any other particle (except for *ja* [see below] and in combination with *denn* in assertions – which is peculiar in this use for independent reasons). Addressing the current topic is always a highly ranked discourse aim if one understands the goal of communication to be the desire to increase the cg and to solve the topics in discourse. Normally, only *ja* yet precedes *doch*. In Müller (2014b), I propose that this is due to the fact that *ja* makes the proposition part of the cg more directly than *doch* (as a *doch*-assertion does not establish cg according to my modelling), and therefore gets presented early in the sequence in order to be able to make its contribution immediately. The order *doch ja* can also be shown to be restricted to certain linguistic contexts in which the contribution by *ja* is backgrounded (such as epistemic modalisations, evaluations). Thus, my analysis makes the right prediction that there should be an interest for speakers to introduce *doch* instantly when it combines with other MPs.

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[32] Apart from MPs, other entities can combine as well, such as adverbs (cf. e.g. Cinque 1999) and adjectives (cf. e.g. Trost 2006) and discourse markers (cf. Fraser 2013), and show ordering restrictions when they occur in sequences. It would be desirable to find criteria which determine orderings across categories.

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Corpora/Tools

Corpora from the Web ((DE)COW): http://hpsg.fu-berlin.de/cow/
[Schäfer & Bildhauer 2012]

Datenbank für gesprochenes Deutsch (DGD2):
http://dgd.ids-mannheim.de:8080/dgd/ pragdb.dgd_extern.sys_desc
[e.g. Schmidt & Dickgießer & Gasch 2013]

Deutsches Referenzkorpus (DeReKo):
https://cosmas2.ids-mannheim.de/cosmas2-web/
[e.g. Kupietz, M. et al. 2010]

Tübinger Baumbank des Deutschen / Spontansprache
(TüBa-D/S):
http://www.sfs.uni-tuebingen.de/ascl/ressourcen/corpora/tueba-ds.html

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