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Modal particles and sentence type restrictions: A construction grammar perspective

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The problem addressed in this study is the sentence type restrictions of modal particles. In the literature on modal particles, it is often noted that these items cannot occur freely in all kinds of sentence types, but are restricted to certain grammatical host structures. In this article, we first discuss previous work on the semantic, formal and functional factors that determine the usage of modal particles in different grammatical configurations. The results of this discussion show that a fine-grained representation on several different levels of both modal particles and their grammatical environments is necessary to account for the usage restrictions, which is why we turn to a construction grammatical description. In particular, we suggest that the sentence type restrictions of modal particles are the result of a complex interaction between the individual modal particle on the one hand and specific grammatical constructions on the other hand. In this paper, we focus on constructions of the kind encoding particular speech act orientations, namely sentence type constructions. We explore this interaction from a construction grammatical perspective.

Keywords: modal particles; sentence types; sentence mood; construction grammar; German

1 Introduction

The modal particles (MPs) in German form a relatively closed class of frequently used, but grammatically optional items that are typical of spoken language and fulfill non-propositional functions in discourse. Example (1), which is a shortened exchange from an internet discussion, illustrates exemplary uses of German MPs. “Sonnenschein88” has asked how far in advance before graduation (s)he should start applying for jobs:

- (1) <http://www.medi-learn.de/foren/archive/index.php/t-85494.html>
(date: 12-06-2017); shortened, our emphasis:
Solara (10.02.2014, 20:12):
/.../ Wann willst du **denn** anfangen? Und in welchem Fach?
when will you **PRT** start and in what field
‘When do you want to start, **then**? And in what field?’
Sonnenschein88 (11.02.2014, 19:18):
/.../ Aktuell denke ich an Anästhesie.
currently think I of anesthesia
‘Currently, I’m thinking of anesthesia.’

Jule-Aline (11.02.2014, 20:23):

Da gibt es **doch** immer wieder Stellen. /.../

There give it **PRT** again and again jobs

'In that field, there frequently are vacancies (**there really are**).'

The following (mostly negatively stated) formal properties are usually considered to be characteristic of the word class of German MPs: MPs are optional, non-inflectional particle words with sentence scope; with some exceptions, they cannot be stressed; they have no constituent value; cannot be negated and are furthermore generally restricted to the middle field (e.g. Weydt 1969; Thurmair 1989; 2013; Zifonun et al. 1997; Diewald & Fischer 1998; Diewald 2006; 2008b). The middle field restriction is often treated as a defining criterion for MPs (cf. Thurmair 2013), but there is no single criterion for defining MPs that does not have exceptions (cf. Alm 2007; Schoonjans 2013).

Whereas the formal properties of MPs are well accepted in the literature, the meanings and functions of MPs have led to much discussion. There is agreement on the fact that they do not contribute to the propositional meaning of their host utterance and that their meaning is rather functional in nature; beyond that, controversy begins.

In the current paper, we investigate what factors influence the use of MPs in particular grammatical environments; we thus address how the sentence type restrictions of MPs can be accounted for, and how the interaction between MPs and sentence types can be described best. After reviewing previous proposals for the factors influencing the sentence type restrictions of MPs, we present our own account of the kind of work MPs do and suggest a construction grammatical account of sentence type restrictions that is a) fine-grained enough to account for the phenomena observable and b) handles the fact that both form- and meaning-based information may determine in which sentence types MPs can occur. The last section thus presents our construction grammatical model of the interaction between MPs and sentence types.

1.1 The problem addressed

The problem addressed in this study is the sentence type restrictions of MPs. MPs are restricted to certain sentence types in an item-based distribution. For instance, *bloß* and *nur* (both meaning 'only') only function as MPs in sentence types with an exclamative or imperative sentence mood, and the MP *denn* ('then') only occurs in WH- and yes/no questions (in other grammatical environments *bloß* and *nur* function as adverbs or focus particles, see König 1991; and *denn* as an adverb or a conjunction). Table 1 illustrates the possible uses of MPs in different syntactically independent sentence type formats according to the analyses of Altmann (1993), Thurmair (1989; 2013) and Kwon (2005).¹ The list is however not exhaustive; there may be more sentence types than is accounted for here, and there is no final agreement on which words count as MPs; furthermore, what is generally referred to as restrictions often refers only to the prototypical usage patterns of MPs; thus, under specific circumstances, often exceptions are possible and have been outlined in corpus-linguistic work (cf. Métrich et al. 2002). Nevertheless, it is uncontroversial that some combinations are much less common than others; we thus take sentence type restrictions to refer to the fact that MPs are unequally distributed across different grammatical contexts.

To approach the usage restrictions of MPs, researchers have discussed whether these restrictions should be attributed to the form or the meaning of the host utterance – and

¹ Kwon (2005) also presents tables of the usage of MPs in syntactically embedded clauses but here we concentrate on the *sentence type* format, i.e. on syntactically potentially independent clauses, which are not syntactically embedded in other, superordinate linguistic structures.

Table 1: A compilation of MP uses in different sentence type formats.

	Sentence type formats	Compatible modal particles
Declarative sentence mood	Verb-second (v2) declarative	<i>auch, doch, eben, eh, einfach, halt, ja, ruhig, schon, sowieso, wohl</i>
	Verb-initial (v1) declarative	<i>auch, doch, eh, JA,² sowieso</i>
	<i>wo-doch</i> -verb-final declarative	<i>auch, doch</i>
Interrogative sentence mood	Verb-initial (v1) (yes/no) question	<i>auch, denn, eigentlich, etwa, mal, wohl, vielleicht</i>
	<i>ob</i> -verb-final question	<i>auch, bloß/nur, denn,³ etwa, mal, wohl</i>
	Alternative question (X or X)	in the first conjunct: the same MPs as the verb-initial question above
	Declarative questions (v2)	<i>doch, wohl</i>
	WH-verb-second (v2) question	<i>auch, bloß/nur, denn, doch, eigentlich, schon, wohl</i>
	WH-verb-final question	<i>bloß/nur, schon, wohl</i>
	WH-“echo” question	none reported
	“return question” (Germ. <i>Rückfrage</i>)	none reported
Imperative sentence mood	Verb-initial or verb-second imperative w./without subject + polite imperative	<i>auch, bloß, doch, eben, einfach, halt, JA, mal, nur, ruhig, schon</i>
	3 rd -person imperative (Germ. <i>Heischesatz</i>)	none reported
	Adhortative imperative	<i>doch, eben, einfach, mal, nur, schon</i>
	<i>dass</i> -verb-final imperative	<i>auch, bloß, JA, nur</i>
	<i>ob</i> -verb-final imperative	<i>wohl</i>
Optative sentence mood	Verb-initial optative	<i>bloß, doch, nur</i>
	<i>wenn</i> -verb-final optative	<i>bloß, doch, JA, mal, nur</i>
	<i>dass</i> -verb-final optative	<i>bloß, doch, nur</i>
Exclamative sentence mood	Verb-initial/verb-second exclamative	<i>aber, aber auch, doch, vielleicht</i>
	<i>dass</i> -verb-final exclamative	<i>aber, aber auch, auch, doch</i>
	WH-verb-second exclamative	<i>aber, bloß/nur, doch, ?schon</i>
	WH-verb-final exclamative	<i>aber auch, ?bloß, doch, ?nur, ?schon</i>

both formally and functionally based restrictions have been suggested. Nevertheless, most researchers acknowledge that there are arguments for both perspectives even if they decide to argue for one side more than for the other themselves.⁴

Before we address different suggestions on how to account for the patterning observable, we need to clarify some terminology.

1.2 Definition of sentence type, sentence mood and illocution

It is well-known that the use of individual MPs is restricted to certain “sentence types” (e. g. Thurmair 1989; 2013). However, sometimes the term “sentence mood” is considered to be the more correct term (e.g. Diwald 2008a; b). Yet again, other researchers prefer to relate MPs directly to *illocution* or *illocutionary type*, a concept that originates in speech

² We use uppercase letters to indicate the stressed variant of MPs.

³ According to Thurmair (1989) and Altmann (1993), *denn* can be used only in the interrogative sentence type formats with V1 or V2. Kwon (2005: 230) argues the same, even though he himself provides examples of its usage in the *ob*-verb-final sentence type format (2005: 117). In Thurmair (2013), *denn* in the *ob*-verb-final sentence type format is accepted as long as the *ob*-clauses are used to render indirect speech.

⁴ For an overview of arguments from both perspectives, see Thurmair (1989: 202).

act theory (Searle 1969). In the literature on MPs we are thus confronted with three different terms, which potentially stand for three different concepts. We therefore start by disentangling these different concepts.

A sentence type is a linguistic structure that is associated with a certain basic communicative function. The four basic sentence types in English and German (cf. Sadock & Zwicky 1985 and Altmann 1987, respectively), representing three different basic communicative functions, are the v2 declarative, the v1 yes/no question, the WH-v2-question and the morphological imperative sentence type:

	Sentence type	Linguistic format	Basic function
(2)	Declarative:	Mary is watering the flowers.	telling
(3)	a. Yes/no question:	Did you water the flowers?	asking questions
	b. WH-question:	When did you water the flowers?	asking questions
(4)	Imperative:	Water the flowers!	making requests

The basic sentence types are considered to be universal by Sadock & Zwicky (1985), but there are also other, more language specific sentence types, such as, in German, the exclamative and the optative sentence types. The term *sentence type* is used in the literature either to refer only to the *form side* of these linguistic structures (e.g. Altmann 1987) or to refer to the combination of a certain linguistic format and its associated meaning/function. It seems to us that the latter is the most common usage of the term *sentence type*, especially in the English literature (e.g. Sadock & Zwicky 1985). We use *sentence types* in this latter sense, see examples (2)–(4) above.

The term *sentence mood* is also used in different ways in the literature. To Altmann (1987; 1993) sentence mood is a complex sign consisting of a form side and a meaning side, pretty much corresponding to our use of the term *sentence types*. However, *sentence mood* is also often used to refer exclusively to the meaning side of the sentence types (cf. Meibauer, Steinbach & Altmann 2013: 5), and this is the meaning we adopt for this term. We take *sentence mood* to stand for the “semantic meaning” of sentence types (cf. Zaefferer 2006: 459; Meibauer, Steinbach & Altmann 2013: 5), such as the traditional declarative, interrogative and imperative meaning. In this view, sentence mood is a broadly defined, basic communicative meaning. There are usually several different linguistic formats that express the same kind of sentence mood. This means that very different linguistic formats will still be considered as tightly interrelated since they are representatives of the same sentence mood. Thus, the two different question type formats in (3a–b) above are usually grouped together despite their striking syntactic differences because they are both considered to express an interrogative sentence mood, i.e. their basic meaning is suited for the function of asking questions.

Finally, we have to position the concept of *sentence mood* in relationship to the concept of *illocution/illocution type*, where uses also differ between researchers. For example, Jacobs (1991) uses the term *illocution type* to refer to the general illocutionary potential of sentence types, much like the notion of sentence mood outlined above. In contrast, Brandt et al. (1992: 1ff.; see also Gutzmann 2015: 167) define sentence mood as the semantically encoded counterpart or “intermediary” between the sentence type and its illocutionary potential. They consider sentence mood to be semantically encoded while the illocutionary force is considered as a pragmatic, more specific instantiation of the sentence mood in a certain context of use. Thus, the illocution of an utterance is a more specific function than that of sentence mood. This kind of thinking is also reflected in the work of many other researchers who consider the general meaning of sentence types to be broader than specific, individual illocutions; for example, the imperative sentence types, which first

and foremost express the general imperative sentence mood, can be differentiated further to express more specific imperative subcategories, for example commands, requests, suggestions, or advice (cf. Kwon's 2005: 25 discussion). We adopt this narrow meaning of illocutionary function here for all practical purposes and use sentence mood for the broader meaning of sentence types.

In the next sections, we examine the usage restrictions of MPs with respect to sentence types and other constructions in which they can occur, striving to identify the relevant factors that govern the usage of MPs.

2 The interaction between modal particles and their host structures

In the literature, we observe two types of arguments to account for the sentence type restrictions of MPs (see Table 1): function-based arguments, which take either the sentence mood or the illocution of the host utterance to be decisive for the use of MPs (e.g. Abraham 1995; Gutzmann 2015); and form-based arguments, which claim that the grammatical characteristics of the sentences in which MPs occur are decisive for their use (e.g. Altmann 1987; Thurmair 1989; 2013; Kwon 2005). Finally, there is also a view that assigns a more active role to the MPs suggesting that they *operate* on their host structures in order to modify them, specify them or even create a particular sentence type out of them.

2.1 The role of meaning in the usage restrictions of modal particles

In this section, we summarize the arguments from the MP literature on the role of meaning and functional features for the use of an MP in a given host structure.

In Table 1, we have chosen to represent the sentence types grouped together according to their sentence moods. Sentence mood is a linguistically established concept and has been suggested to be an important factor for describing the usage restrictions of MPs. For example, Gutzmann (2015: Ch. 3) argues that the semantics of the MPs interacts with the grammatically encoded sentence mood of sentence types. He presents examples demonstrating how semantics, i.e. sentence mood, takes prevalence over “pragmatic effects”, i.e. in this case over the specific illocutionary force of an utterance: If the distributional restrictions of MPs were based on the pragmatic illocution rather than on the semantic sentence mood, the MP *ja* should be incompatible with the v2 declarative format when this is used to ask a check-question because *ja* is incompatible with the interrogative meaning, but this is not the case (see example (5a) below). The reverse also holds: the MP *ja* is not allowed in rhetorical questions although this kind of questions functionally serve to make a statement and not to ask a question (example (5b)):

- (5) Gutzmann (2015: 226); his translations but our notation conventions:
- a. Du kommst **ja** morgen um zehn?
you come **PRT** tomorrow at ten
'You are **ja** coming tomorrow at ten?'
 - b. *Wer will das Spiel **ja** nicht gewinnen?
who want the game **PRT** not win
'*Who does not want **ja** to win the game?'

Abraham (1995) also advocates the meaning-orientation of MPs, but uses a different line of argumentation, as is illustrated in the exclamation using the format in example (6a) below: From a strictly formal perspective, the structure in (6a) looks like a WH-V2-question, and it can be used to ask a WH-question (6c). However, this format can also be used to make an exclamation (6b). In terms of MP restrictions, Abraham argues that the MP *aber* (literally indicating an opposition, similar to 'but') can only be used in a format like (6a) if this is

used in the *function* of an exclamation (6b). If the question-format is actually used in the function of a question, Abraham (1995) does not consider *aber* to be an MP (6c):⁵

- (6) (6a–b) are adapted from Abraham (1995: 131); our translation. (6c) is constructed by us in accordance with the argumentation in Abraham (1995):
- a. The linguistic format is ambiguous between question and exclamation:
Was war das für ein Spiel
what was that for a game
'What (kind of) game was it?/What a game it was!'
 - b. Exclamation: *aber* emphasizes the surprise, i.e. it is an MP:
Was war das **aber** für ein Spiel!
what was that **PRT** for a game
'What a game it was!'
 - c. Question; according to Abraham (1995), *aber* with the meaning 'but' is always a conjunction:
Was war das **aber** für ein SPIEL?
what was that **PRT** for a game
'(But) what (kind of) game was it?'

Examples (5) and (6) show that one and the same linguistic format can be associated with quite different illocutions. These illocutions sometimes seem to have the status of being mainly special “pragmatic effects”, like the formats in (5), and sometimes the same linguistic format seems to have been routinely encoded for two different sentence moods like the format in (6a), where the exclamation in (6b) does not feel like a question that has been converted for a special purpose. However, the picture is getting still more complicated: In contrast to the sentences in (5), some MPs seem to be usable in sentence types encoding the “wrong” sentence mood, provided that these sentence types are used to express a so-called *indirect speech act* of the right kind for the MPs under consideration (e.g. Thurmair 1989; Oppenrieder 2013). The exact meaning of the concept *indirect speech act* is usually taken for granted in the MP literature, but for clarity's sake we define it here: We consider each sentence type to grammatically encode a certain sentence mood. Each sentence mood is associated with a certain illocutionary potential (see section 1.2 above): for instance, the declarative sentence mood is associated with an informative illocutionary potential whereas the imperative sentence mood is associated with a directive illocutionary potential. With an indirect speech act, we mean that a sentence type is used to express an illocution *which is not part of the illocutionary potential* of the grammatically encoded sentence mood. Instead, the expressed illocution is normally associated with the illocutionary spectrum typical of *another* sentence mood. For example, given the right circumstances a v2 declarative sentence can be used to perform a directive speech act (see below), although its encoded declarative sentence mood is associated with an informing speech act potential and not with giving directions.

The use of MPs in such indirect speech acts, as defined by speech act theory (Searle 1969), speak against a purely semantic orientation of the MP restrictions, and it is also an argument against binding MPs semantically to a/one specific sentence mood, as is often done in formalistic analyses such as Coniglio (2011) and Struckmeier (2014).⁶ The MPs

⁵ Abraham (1995) does not consider the use of *aber* in (6c) as an MP instance because it seems to express the same “regular” semantic meaning ‘but’ that it expresses as a conjunction. In contrast, in our model of the functioning of MPs we consider it to be an MP due to its function to relate the host structure to the common ground, see section 3.

⁶ If you semantically bind an MP to a certain sentence mood, you get problems with indirect speech acts (see section 4.2.1 below for further discussion), but you also get problems with MPs that can occur in several sentence types belonging to different sentence moods, for example *auch* (literally “also”), that can be used

ruhig, *bloß* and *nur* are a case in point. While typically occurring in sentence types with an *imperative* sentence mood (see example (7a) below), they can be used in the verb-second *declarative* sentence type if this is modified in such a way that it functions as an *indirect directive* (Thurmair 1989: 202). This can be achieved by using a modal verb expressing permission together with a 2nd person address term, as is shown in example (7b) below. In contrast, verb-second declarative sentences that lack the modal verb expressing permission are obviously not modified enough to support an MP interpretation of *ruhig*. As a result, the particle can only receive its literal interpretation, as is demonstrated in (7c), which is a manipulated version of (7b). Although it is imaginable to use sentence (7c) in an advisory or instructive context, this pragmatic possibility alone is obviously not enough to allow for the MP interpretation of *ruhig*.⁷

The sentence in (7a) is a direct imperative sentence type expressing a piece of advice, i.e. *ruhig* is an MP. The example comes from a summary of arguments in favor of starting to play tennis as a grown-up. The sentence in (7b) is an indirect directive, here also expressing a piece of advice, i.e. *ruhig* is an MP. The example comes from a discussion on when to start giving babies real food. The sentence in (7c) is a declarative sentence without a modal verb and thus presenting a factual situation rather than an appeal, i.e. *ruhig* is an adverbial of manner. This example is our manipulation of the sentence in (7b):

- (7) a. <https://www.gutefrage.net/frage/anfangen-mit-tennis-spielen>
(date: 12-06-2017); our emphasis and translation:
Also, fang **ruhig** an.
PRT start PRT verbal-PRT
'So, just begin, (**there's no problem with that**).'
- b. http://www.mamiweb.de/fragen/schwangerschaft/allgemeines/3942391_moehren-4-monate-altes-baby.html (date: 12-06-2017); our emphasis and translation:
Du kannst **ruhig** anfangen, Brei zu geben,
you can PRT begin porridge to give
'You can **go ahead** and start giving your child porridge,'
wenn dein Kind 4 Monate alt ist.
'when your child is 4 months old.'
- c. Our manipulation of (7b):
Du fängst **ruhig** an, Brei zu geben /.../
you start PRT verbal-PRT porridge to give
'You **calmly** start giving your child porridge...'

However, there is one group of declarative sentences without modal verbs that routinely take MP *ruhig* and which at first glance seem to make an exception, as is demonstrated in the following example from Métrich et al. (2002):

- (8) Métrich et al. (2002: 31); our translation:
"Darüber", sagte der graue Herr, machen Sie sich nur keine Sorgen.
'Don't you worry about that, said the grey man.'
Das überlassen Sie **ruhig** uns.
this leave you PRT us
'You **just** leave this to us.'

with declaratives, interrogatives, imperatives and optatives: Should we then assume several different lexical items *auch*, one for each sentence mood, or maybe even one lexical item for each sentence type within one and the same sentence mood?

⁷ For more details on the use of MPs in indirect speech acts, see section 2.4.1.

In German, sentences like the one in example (8) have a clear established directive/permissive function despite their declarative syntax, which makes it possible for the MP *ruhig* to occur in the declarative sentence without the presence of a modal verb.⁸ Actually, it is quite possible that the sentence in example (8) is no ordinary declarative at all but an instance of the long established polite imperative sentence-type format used for a polite/formal form of requests; the polite imperative construction with explicit subject *Sie* was the first environment beyond directive sentence type formats with imperative verb morphology to which the MP *ruhig* extended in its grammaticalization process (see Diewald 2008a).⁹ In this case, it is no surprise at all that a sentence like the one in (8) can take the MP *ruhig*.

To conclude, the sentence moods and the illocutionary spectrum associated with each of them play important roles in defining the usage restrictions of MPs, but also indirect speech acts seem to play a role. The behavior of MPs in indirect speech acts is one of the reasons why we choose a construction grammar approach: This framework offers the flexibility to state the same construction several times on different levels of specificity, see section 4.

⁸ One of the three anonymous reviewers suggested that the argumentation above does not hold because also declaratives contain a basic deontic component. If declaratives were inherently deontic, there would be no difference between the declarative sentences with and without modal verbs because they would all be partly deontic. However, this is clearly not the case since all declaratives with modal verbs easily take the MP *ruhig*, whereas only declaratives that exhibit a clear directive reading even without modal verbs have been found to take *ruhig*. So while the approach we are suggesting here is generally independent of a particular approach to speech acts, the assumption that all declaratives are deontic is not supported by our observations.

⁹ We have found that example (8) needs some discussion: Because of its verb-second (v2) word order, especially in combination with the topicalized object pronoun, the sentence in (8) looks like a v2 declarative sentence type construction rather than an imperative. If so, the claim that v2 declaratives need to contain a modal verb in order to accommodate the MP *ruhig* does not hold. However, the meaning of the sentence clearly shows that it is an instantiation of the polite imperative sentence type construction and thus that the use of the MP *ruhig* is unproblematic.

The two main German imperative sentence type constructions, the regular (i.e. not marked as polite) imperative sentence type construction and the polite imperative sentence type construction, are typically realized with a v1 word order. Nonetheless, topicalization is possible. When topicalization is used with the regular imperative sentence type construction (see Altmann 1987: 47ff. for word order possibilities of different sentence types) this construction is still distinguishable from other sentence type constructions because it is obligatorily used with a distinct imperative verb morphology and, additionally, because it usually does not contain any explicit syntactical subject (the topicalized clause element in bold):

- (i) **Das** überlass ruhig uns.
that leave PRT US
 'Leave **that** to us (there is no hindrance to do that).'

In contrast to the regular imperative, the polite imperative sentence type construction contains an obligatory subject position, which is lexically filled with the 3rd person plural pronoun *Sie* (literally meaning 'they' but usually translated as 'you'). This pronoun usually follows the verb, resulting in a v1 word order. However, when this construction is used with topicalization, like the regular imperative in (i) above, the result looks like a v2 declarative sentence type construction with topicalization and subject inversion. The polite imperative sentence type construction is not formally distinguishable from the v2 declarative by means of verb morphology because it uses the plural present subjunctive verb morphology, and in modern German the 3rd person plural present subjunctive is formally identical to the 3rd person plural present indicative verb morphology – with one exception, namely for the verb *sein* ('to be'). This verb still has a distinct form in the present 3rd person plural subjunctive which identifies the construction as an instantiation of the polite imperative sentence type construction even when realized with a topicalization as in example (ii):

- (ii) <https://aussergewoehnlich-berlin.de/berliner-netzwerk/> (date: 15-10-2018); our emphasis and translation:
Deshalb seien Sie bitte offen und entspannt, das Geschäftliche ergibt sich
therefore be you please open and relaxed the business-related happen itself
 später – vielleicht.
 later perhaps
 'Therefore please be open and relaxed, the business will come about later – perhaps.'

Because the meaning of (8) is intuitively directive and precisely because it is so unproblematically used with the MP *ruhig*, it is clearly a case of a topicalized version of the polite imperative sentence type construction.

2.2 The role of formal factors in the usage restrictions of modal particles

As for formal features, many researchers suggest that the usage restrictions of MPs orient more to the form-side of sentence types than to the meaning-side (where *meaning* is taken to be the sentence mood, cf. Weydt 1969; Hentschel 1986; Altmann 1987; Thurmair 1989; but see also Zifonun et al. 1997: 1212f.). Thurmair (1989; 2013) provides a summary of reasons for favoring form-based explanations of the usage restrictions of MPs.

(i) The first argument for sentence type restrictions emphasizing the influence of the form-side (see Altmann 1993: 1013; Thurmair 1989: 202; 2013: 647; Kwon 2005: 182ff.) refers to the fact that one sentence mood can be expressed by different sentence type formats (as Table 1 in section 1.1 above illustrates); since MPs are often restricted to only some of these different formats, it seems to be the form, and not the meaning in the sense of grammatical mood that determines the usage of an MP. Especially striking is the restricted use of MPs in sentence type formats of the verb-final type in comparison to the MP usage in the verb-initial or verb-second sentence type formats expressing the same sentence mood (Thurmair 1989: 202; 2013: 647). For instance, the MP *denn* ('then') is a typical MP in questions, but Thurmair (1989: 62 + 202) and Kwon (2005: 185) claim that it cannot be used in question formats of the WH-verb-final type that are *not* regarded as instances of indirect speech. Verb-final question formats representing indirect speech, however, behave more like their verb-second or verb-initial counterparts and are regarded as elliptical structures. The sentences in (9a–c) from Kwon (2005) illustrate *denn* in the regular WH-v2-question format (9a), in the controversial verb-final format (9b), which however, according to Kwon, is fine if you imagine a left-out main clause clarifying its function as indirect speech (9c):¹⁰

- (9) Kwon (2005: 185); our translation:
- a. Was hast du **denn** vorher gelesen? (FKO/XES.00000)
 what have you **PRT** before read
 'And what were you reading before?'
 - b. Was ich (???)**denn/ wohl** mit all dem Geld mache? (TAZ 14.12.1991, 46)
 what I **PRT PRT** with all that money do
 'What shall I do with all that money?'
 - c. (Fragen Sie mich,) was ich **denn** mit all dem Geld mache?
 ask you me what I **PRT** with all that money do
 '(Are you asking me) what I am going to do with all that money?'

(ii) A second argument from the approaches emphasizing the form-side (see, for instance, Thurmair 2013: 49) is that there are clear differences in the usage of MPs in yes/no questions and in WH-questions, even though these are often treated together as representatives of the same interrogative sentence mood (see section 1.2 above). For example, the MP *etwa* (literally: 'approximately') can be used in the yes/no question type, but according to Thurmair not in the WH-question type; and the MP *schon* (literally: 'already') can be used in the WH-question type, but not in the yes/no question type.¹¹

¹⁰ We are citing the literature in example (9), not presenting findings of our own.

¹¹ As one of the reviewers pointed out, the differences in form between yes-no questions and WH-questions co-occur with a difference in their meaning, and so this formal argument is in accordance with the semantic arguments in section 2.1 above: WH-questions function to search for the identification of the variable indicated by the WH-featured phrase, and in doing so, they give rise to an existential implicature that this variable exists; yes-no questions, on the other hand, do not give rise to any existential implicature (e.g. Karttunen 1977; Brandtler 2008) and can thus be answered by "no", making the proposition void. Thus, it is not surprising that they behave differently with respects to MPs, which supports our claim that sentence types, and not sentence moods, generally, but not always, constitute the right level of description for MP restrictions, see section 4.1.

(iii) Conversely, the literature points to an overlap in the use of MPs in WH-questions and WH-exclamative sentences, even though these sentence types do not belong to the same sentence mood (Thurmair 2013: 632; see also Table 1 in section 1.1 as well as example (5)): For instance, Thurmair points out that the MPs *bloß* ('only'), *doch* ('however') and *nur* ('only') can occur in WH-questions but not in yes/no questions; they can occur in WH-exclamatives (both the verb-second and the verb-final kind), but *bloß* and *nur* cannot be used with exclamative formats without a WH-element (see Table 1). Thus, it seems that *bloß* and *nur* are sensitive to the existence of a WH-element for their use in both questions and exclamatives.

(iv) A fourth argument for the primacy of formal factors determining sentence type restrictions is the "obligatory" use of an MP in some of the "marginal" German sentence moods, like the optative sentence mood (but see the discussion in section 2.3 below) (see Altmann 1993: 1012; Kwon 2005: 226ff.; Jacobs 2008: 31; Thurmair 2013: 637). Altmann (1989; 1993), Jacobs (2008) and Thurmair (2013) consider MPs as a constitutive feature of certain sentence types. As constitutive features they would belong to the form-side of the description of those sentence types since in these cases it seems to be more important *that* a suitable MP is used than *which one* of the suitable MPs is actually chosen.

Given the arguments for both perspectives, it seems that MPs interact both with the formal and meaning features of each sentence type.

2.3 Modal particles as illocutionary operators

A third attempt at explaining the sentence type restrictions of MPs in the literature is to analyze them as *illocutionary operators*. According to such analyses, the main function of MPs is to modify the specific illocution of an utterance (e.g. Altmann 1987; Helbig 1988; Thurmair 1989; 2013; Jacobs 1991; Engel 1996; Helbig & Buscha 1998; Coniglio 2011).

MPs are claimed to interact with the illocutionary potential in three different ways, which we call *specification*, *alternation* and *constitutive feature*; we will discuss them in turn in this section (see Table 2).

First, in the *specification* function the use of an MP would be a means of selecting one specific sub-illocution within the broad illocutionary spectrum which is associated with the grammatically encoded sentence mood expressed by the host utterance (cf. section 1.2 above). This is illustrated by Zifonun et al. (1997: 1218) in example (10a) by the use of *nur* (literally: 'only') in the verb-first imperative sentence type. Both with and without the MP, the sentence format in (10a–b) expresses a directive function, but the version containing the MP in (10a) expresses a more specific subtype of the directive function: Depending on the context, it can express an encouragement to indeed do what the speaker suggests; a permission to do what the speaker suggests; or even a threat of sanctions if the addressee keeps on doing what is described in the utterance. The same utterance format without an MP in (10b) simply expresses a directive function in general and the addressee will have to do the whole interpretation all on his or her own:

- (10) a. Zifonun et al. (1997: 1218); our emphasis and translation:
 Mach **nur** so weiter!
 carry **PRT** that on
 'Just keep it up!'
- b. Our manipulation of (10a):
 Mach so weiter!
 carry that on
 'Keep it up!'

Table 2: An overview of the illocutionary operations that are suggested for MPs in the literature.

Suggested illocutionary operation	“Operand”, i.e. the part of the utterance on which the modal particle is suggested to operate	Suggested result of the modal particle operation
Specification	The illocutionary potential which is associated with the grammatically encoded sentence mood of the host structure	The presence of the MP selects a specific illocution within the illocutionary potential of the host utterance; for example, the MP can specify that an utterance with imperative sentence mood is intended as a permission (see example (10) above).
Alternation	The grammatically encoded sentence mood of the host structure	The presence of the MP overrides the illocutionary potential grammatically associated with the sentence mood of the host utterance. Instead, the MP selects an illocution belonging to a completely different sentence mood. This operation results in a so-called indirect speech act; for example, turning a declarative host utterance into an interrogative one (see example (11) below).
Constitutive feature	The definition of the host utterance as a sentence type format in the first place	Without the MP, the host utterance will not be understood as an instantiation of a grammatically independent sentence type format, and thus the host utterance will not be interpreted as encoding a sentence mood (see example (12)).

Second, in a few cases the presence of MPs is supposed to *alter* or *convert* the sentence mood affiliation of their host utterance completely (cf. Altmann 1993; Coniglio 2011). We take *alter* to mean that the host utterance, as a result of the MP usage, is changed so that it can express an illocution that does not belong to the illocutionary spectrum of the grammatically encoded sentence mood. For instance, in the following example from Coniglio (2011: 21), the modal-particle cluster *doch wohl nicht etwa* (literally: ‘but surely not approximately’) is suggested to make the verb-second *declarative* sentence type of its host utterance express the illocution of a rhetorical question, which Coniglio regards as an instance of the *interrogative* sentence mood – so basically, the presence of the MP seems to override the grammatically encoded sentence mood of the host structure:

- (11) Coniglio (2011: 21); our translation:
 Wir wollen **doch wohl nicht etwa** annehmen,
 we want to PRT PRT not PRT assume
 ‘Surely, we don’t want to assume,’
 dass die Sonne sich um die Erde dreht (?).
 ‘that the sun revolves around Earth, **do we?**’

Third, in rare cases the presence of an MP is even said to be a *constitutive* feature of the sentence type of the host utterance (cf. Altmann 1993: 1012; Kwon 2005: 226ff.; Jacobs 2008: 31; Thurmair 2013: 637). This is illustrated in example (12) from Grosz (2014): The linguistic structure in example (12a) is most often used for forming hypothetical conditional subordinate clauses. This is a dependent clause format that does not usually express a sentence mood or an illocutionary force of its own. Now, according to Grosz (2014: 90; see also among others Thurmair 1989: 117, 182; 2013: 637; Jacobs 2008: 29), the addition of an MP to the kind of linguistic format shown in (12a) turns it into a syntactically independent utterance with an optative illocution, i.e. it becomes an optative sentence type format. This is illustrated in (12b). The use of an MP in (12b) is claimed to

be an *obligatory* part of this sentence type definition, because without it, you only have the hypothetical conditional clause. Furthermore, the choice of one MP over another in (12b) does not seem to be accompanied by any meaning contrast, as it is normally the case when there is a choice between different MPs; instead, any compatible MP functions equally to create an optative interpretation of the sentence:

(12) Adapted from Grosz (2014: 96); his translation:

- a. wenn ich deine Statur hätte
if I your build had
'if I had your build'
- b. Wenn ich **doch** deine Statur hätte!
if I **PRT** your build had
'I wish I had your build!'

In this last case, the MPs do not only influence the illocutionary interpretation function of their host utterance, but even seem to be obligatory formal features for *constituting* a certain sentence type in the first place (cf. Jacobs 2008; Thurmair 2013). This role of MPs applies mostly to the “marginal” optative and exclamative sentence types, but Altmann (1993) and Thurmair (2013) also discuss obligatory MPs for some sentence types with a subordinate clause format (i.e. verb-final formats). They notice that the “individual effect” of one MP over another in these marginal sentence types is small. Instead, the important aspect is that there has to be an MP at all (e.g. Thurmair 2013: 637).

The “obligatory” use of MPs in marginal sentence types is treated in the literature as an important reason to describe the function of MPs in terms of illocutionary effects. However, in his analysis of the optative *wenn*-clause format (“if”-clause format) illustrated in example (12) above, Grosz (2014) argues that MPs such as *bloß* and *nur* (both literally meaning ‘only’) are not obligatory for achieving an optative reading of the utterances – they can just as well be substituted by other expressive particles, like for example interjections, such as *ach* (Engl. “alas”/“oh”) (Grosz 2014: 91); and if the situational context supports the use of optative utterances, the particle words can even be left out completely (Grosz 2014: 99ff.).¹² Grosz argues that generally, the hypothetical conditional meaning of the *wenn*-clause is more common than the optative meaning and therefore the hypothetical conditional use is more salient and unmarked, whereas the optative use is unexpected and marked. He suggests a general principle that recommends the use of cues whenever necessary:

“If a marked use of an ambiguous utterance can be made more salient by adding certain elements (e.g. particles, interjections, intonational tunes) to this utterance, the addition of one (or more than one) such element is obligatory. Such elements qualify as cues for the respective utterance use.” (Grosz 2014: 93)

Grosz goes on to state that the principle to use cues is obviated if the context independently supports the intended interpretation of the utterance – and such *dispensable* cues cannot be *constitutive* in an Aristotelian understanding of definition.¹³

¹² See also Kwon (2005: 2017ff.) for a similar line of argumentation.

¹³ Thurmair (2013: 643, footnote 11) presents a similar reflection: She suggests that the prototypical optative sentence types contain the MP as a signal of these formats being used as syntactically unembedded, illocutionary independent structures. If the MP is missing, there is an increased need for other signals to help clarify the linguistic format. Because Thurmair (2013) holds that MPs mainly fulfil illocutionary functions, she distinguishes between sentence-mood modifying functions (in sentence types belonging to the basic sentence moods) and sentence-mood identifying functions of MPs (in marginal sentence types belonging to the optative and exclamative sentence moods).

We conclude that MPs may indicate certain functional interpretations even though they are not obligatory constituents of certain sentence types (see Alm & Behr in preparation for further discussion of this perspective on MPs); nevertheless, none of the perspectives presented in section 2.1–2.3 alone solves the problem of explaining the sentence type restrictions of MPs.

2.4 The interaction of formal and meaning/functional features in the usage restrictions of modal particles

While all three perspectives considered in section 2.1–2.3 have advantages and account for some aspects of the sentence type restrictions of MPs, none provides the whole picture. The evidence in section 2.4.1 illustrates how sentence type restrictions can be related to formal, functional and illocutionary factors at the same time. This complex synchronic situation may be the result of the variety of factors that influence the historical development of MPs (see below); from this perspective, each MP grammaticalizes in an idiosyncratic way, such that there is no single definition of restrictions that works for all MPs. This is exemplified in section 2.4.2 by Diewald's (2008a; b) diachronic findings on the MP *ruhig* (original meaning: 'calm, without disturbances'; MP-meaning: 'there is no obstacle to (doing) X').

2.4.1 Evidence from present-day German

In this section, we demonstrate that the factors previously proposed in the literature, i.e. meaning, form, and function, do not apply independently of each other, but may interact in complex ways. In particular, there are a few attested combinations of MPs that should not be compatible if the sentence type restrictions discussed in section 2.1–2.3 were based on only one of the factors. These combinations occur in utterances expressing indirect speech acts (see section 2.1 above): One of the MPs in the MP combination typically belongs to the grammatically encoded sentence mood of the host utterance, whereas the other one belongs to the superimposed indirect speech act.

In example (13), we find the MPs *ja* (MP-meaning: 'as you and I both know') and *ruhig* (MP-meaning: 'there is no obstacle to (doing) X') being used together.¹⁴ The unstressed MP *ja* is exclusively compatible with the verb-second declarative sentence type format and cannot be used in any other kinds of sentence type formats of whatever sentence mood.¹⁵ The MP *ruhig*, on the other hand, is primarily usable with host utterances expressing a (general) directive speech act, which *ruhig* then specifies into the subcategory of permissive speech acts (see Table 1 in section 1.1 and Table 2 in section 2.3). Now, the verb-second declarative sentence type can be lexically changed into having a permission/suggestion function by using a suitable modal verb and a 2nd person address term. This means that if the illocution of the sentence alone was the determining factor, the MP *ja* should not be compatible with the utterance anymore – but it obviously is:

- (13) [http://www.motor-talk.de/forum/innere-bremskloetzer-klappern-t2784853.html?page=1&\(date:04-09-2014\);](http://www.motor-talk.de/forum/innere-bremskloetzer-klappern-t2784853.html?page=1&(date:04-09-2014);) our translation and emphasis:
 Du kannst **ja** **ruhig** über meine Vermutungen schmunzeln.
 you can **PRT PRT** at my assumptions smirk
 'You can just go ahead and grin at my assumptions (**you and I know that you do and there is no hindrance to it**).'

¹⁴ This is a frequent MP combination: A Google search (www.google.de) for *du kannst ja ruhig* ('you can *ja ruhig*') (without quotation marks) resulted in about 743.000 hits and googling *Sie können ja ruhig* ('you (polite form of address) can *ja ruhig*') resulted in about 19.400.000 hits (date of search: 13-02-2018).

¹⁵ This is probably not only a form-based restriction, but also has to do with some special meaning or function distinctions between the different declarative sentence types, to which the meaning/function of *ja* is sensitive, see Oppenrieder (2013) in section 4.1.

Similarly, example (14) shows the (rather rare) combination of the MP *eigentlich* (MP-meaning: ‘really’), which in Table 1 is listed as an MP typical of V1 and WH-V2-interrogatives, with the “directive MP” *mal* (MP-meaning: ‘it’s no big deal’)¹⁶ and, additionally, the directive politeness particle *bitte* (‘please’) in the verb-initial interrogative sentence type (yes/no question), which is here used to perform a polite indirect request:

- (14) <http://www.linuxforen.de/forums/archive/index.php/t-232523.html>
 (date: 04-09-2014); our translation and emphasis:
 Kannst du mir **eigentlich mal bitte** erklären, was “MiB” sind?
 can you me PRT PRT PRT explain what MiBs are
 ‘Can you **really just** explain to me what MiBs are, **please?**’

Thus, in (13) the presence of the MP *ja* as in *Du kannst ja schmunzeln* (‘both you and I know that you can grin at it’) indicates that it is a declarative utterance expressing some kind of informing illocution, whereas the MP *ruhig* as in *Du kannst ruhig schmunzeln* (‘You can go ahead and grin’) indicates that it must be understood as some kind of request. Similarly, the MPs in (14) are indicative of speech acts belonging to the illocutionary spectrum of the directive (*mal*) and interrogative (*eigentlich*) sentence moods.

These examples illustrate that formal, meaning-based (in terms of grammatical mood) and illocutionary considerations may all influence sentence type restrictions at once; to focus on one area at the expense of another thus does not provide the whole picture. The next section will illustrate that the complicated nature of MP restrictions in present-day German is the result of their historical development.

2.4.2 Evidence from language change

In section 2.4.1 above, we presented some present-day evidence for a view that combines formal and meaning/functional features for describing the usage restrictions of MPs; further evidence comes from diachronic work on the grammaticalization of MPs. The example of grammaticalization of the MP *ruhig* (literally: ‘calmly’), which in present-day German has the MP-meaning ‘you might think that there is an objection to (doing) X, but there is not’ (cf. Diewald 2008a; b), demonstrates how both form and meaning features of its host utterance play a role in its grammaticalization process. The sentences in examples (15)–(16), which are constructed in accordance with the argumentation in Diewald (2008a; b), summarize the current usage of *ruhig* in German. (15a) illustrates the regular imperative sentence type format with morphological imperative and no explicit address term. (15b) illustrates the closely related polite imperative sentence type format with the obligatory explicit use of the polite address term *Sie* in the subject position. (16a) is syntactically no imperative sentence type format but a verb-second declarative sentence with an explicit informal 2nd person address term in the obligatory subject position. In (16b) the verb-second declarative sentence type does not point to any explicit addressee at all, as the obligatory subject position is filled by an expletive pronoun:

- (15) a. Geh **ruhig** nach Hause, wenn du möchtest!
 go PRT to house if you want-to
 ‘Go home if you want to, **it’s okay.**’
 b. Gehen Sie **ruhig** nach Hause, wenn Sie möchten!
 go you PRT to house if you want-to
 ‘Go home if you want to, **it’s okay.**’

¹⁶ According to our view, *mal* is not an MP because it rather has a downtoning function than a context-referring function, see example (21) below. However, it is analyzed as an MP in the literature and since it in any case is an item typical for imperatives it is still relevant for the argumentation in this section.

- (16) a. Du kannst dich **ruhig** hinsetzen.
 you can yourself **PRT** sit down
 ‘You can sit down (**there is no reason not to**).’
- b. Adapted from Diewald (2008a: 43):
 Da darf es **ruhig** ein bisschen später sein.
 there may it **PRT** a bit later be
 ‘**It’s fine** if it’s a little later.’

According to Diewald (2008a; b), *ruhig* first occurred in prototypical directive clauses with imperative verb morphology and without an overt subject (like in (15a)) and then later in imperative clauses with overt subject (like in (15b)). The next step in the development was the inclusion of the verb-second declarative sentence type modified into expressing permission by way of its lexical filling, namely by containing one of the modal verbs *dürfen* (‘may’) or *können* (‘can’) and a pronoun referring to the addressee (16a). In its latest development, *ruhig* has spread to the verb-second declarative sentence type not directly addressing the interlocutor and talking about things instead of addressing people directly (16b).¹⁷

As Diewald (2008a; b) reveals, the relevant formal factors are located at the level of the individual sentence types and involve even specific lexical items. As her discussion shows, the most general, completely schematic description level of sentence types is not sufficient to characterize the sentence type restrictions of MPs. Accordingly, she suggests that:

“[The usage restrictions of MPs] cannot be described by just referring to structural and/or illocutionary notions (e.g. sentence types like verb first, verb second, verb final, or speech act types like assertives, directives etc.) as they usually imply specific and complex feature constellations including particular lexical and morphological restrictions [...]” (Diewald 2008b: 223)

On the basis of her diachronic studies, Diewald concludes that in their grammaticalization process, MPs do not *gain* sentence type restrictions, but that they rather *shed* them:

“While constructional restrictions are necessary to create a critical context and to start the grammaticalization process, they are gradually given up as the process of grammaticalization advances. From this angle, grammaticalization can be seen as giving up restrictions to certain construction types” (Diewald 2008b: 235).

The evidence from this section suggests that the synchronic usage restrictions of MPs in present-day German are due to the idiosyncratic interaction between the meaning of the individual MP and different form and meaning aspects of its host utterances as these have developed gradually over time. We argue that the evidence from section 2.4.2 gives us good reasons to assume that MPs work in an item-based manner with respect to both formal and functional characteristics of their host utterances. We therefore conclude that we need a model that considers pairings of formal and functional components at different levels of specificity to allow flexible descriptions that state generalizations, sub-generalizations and idiosyncrasies (i.e. item-based information) in a coherent manner. We thus suggest a construction grammatical approach, which we present in section 4. That is, we suggest that the usage of MPs interact with *individual sentence type constructions* (for a definition, see section 4.1 below). But first, we argue that the findings of the discussion so far are not very surprising given the work MPs do, which will be illustrated in the next section.

¹⁷ See Diewald (2008a) for some possible further, ongoing developments.

3 The work modal particles do

In this section we demonstrate the ways in which MPs fulfill their functions. Thus, in this section, we outline our model of MPs.

The discussion in section 2.4.2 above showed that sentence type restrictions are often item-based and may furthermore change over time; these findings raise the question whether we can formulate generalizations over the relationship between MPs and the constructions in which they occur at all.

Diewald & Fischer (1998) and Diewald (2006) suggest that all MPs indeed share a certain grammatical function, namely to present their host utterances as being non-initial, i.e. as anchored in the argumentative situation or as a logical consequence of it. We take this grammatical function to be part of the word class definition of MPs and to apply to all MPs alike.

In fact, many linguistic items anchor utterances in context – above all the deixes, as well as everything that has been discussed as contextualization cues (Gumperz 1982; Levinson 2003). Nevertheless, MPs are special by anchoring the whole host utterance in the argumentative context, i.e. they address the question: *Why this utterance now?* Thus, they make the host utterance seem a “logical” consequence in the light of shared assumptions in the common ground and thus serve mostly argumentative functions (Fischer 2007).¹⁸

The basic function of all MPs thus consists in anchoring the current utterance in the argumentative situation, i.e. they signal that their host utterance should be interpreted in relation to a propositional aspect of the communicative situation that is proposed to be shared by the communication partners. However, the way the host utterance is related to the argumentative situation depends entirely on (the semantics of) the respective particle. For instance, the unstressed MP *ja* expresses a relationship of accordance between the current utterance and the common ground. This can have either a backgrounding function as in example (17a) below, in which *ja* presents the current utterance as uncontroversial; or it can serve to remind the communication partner of this shared background and thus ask him or her to take it into account, as in example (17b).

The sentence in (17a) is taken from an internet discussion, in which a mother asks for feedback. She feels that the community expects her to provide her only daughter with a little brother or sister but she does not want to. She emphasizes that she and her husband take care that their daughter sees other children. Another mother agrees that also an only child can be part of a socially and cognitively promotive environment, using the sentence containing *ja* to name further examples of enriching social contexts that a child is part of. The sentence in (17b) comes from a book review: The main character is a woman who lives with her husband and two children in Berlin. The woman asks herself if she would be just as tiresome as a childless acquaintance of hers if she herself had had no children. The sentence containing *ja* refers to the already known fact that she has two children:

- (17) a. <http://familie.gofeminin.de/forum/schuldet-man-seinem-kind-ein-geschwisterchen-fd75689> (date: 29-08-2017); our emphasis and translation:
 Sie hat **ja** Kinder in Der (sic!) Nachbarschaft, im Kindergarten,
 she has **PRT** children in the neighbourhood in-the preeschool
 ‘**As you and I both know**, she has children in the neighborhood, in preschool’
 eventuell im Turnen und später in der Schule.
 possibly in-the gymnastics and later in the school
 ‘possibly in her gymnastics group and later in school.’

¹⁸ Our view of the argumentative situation is similar to the concepts of the argumentation in language theory (e.g. Ducrot 1996), which takes language to be inherently dialogical and even assumes that individual linguistic signs comprise an argumentative orientation (for details, see Fischer 2007).

- b. <https://www.diebuchbloggerin.de/anke-stelling-bodentiefe-fenster/>
 (date: 29-08-2017); our emphasis and translation:
 Für Sandra ist es schlimm, festzustellen, dass sie ebenso wäre
 ‘For Sandra it is painful to realize that she would be just like that, too,’
 – aber sie hat **ja** Kinder.
 but she has **PRT** children
 ‘– but she has children (**as is known/evident**).’

The pragmatic function of *ja*, which is the presentation of a reason in (17a) and of a repeal in (17b), is thus different from the encoded meaning of the MP, which is that there is an accordance between the current utterance and the common ground (Fischer 2000). Thus, while many scholars have proposed similar contextual functions to constitute the meanings of MPs (e.g. Helbig 1988; Thurmair 1989; 2013; König et al. 1990; Haselow 2011), the model developed by Diewald & Fischer (1998), Diewald (2006) and Diewald & Kresic (2010) differs from previous work by providing a mechanism for retrieving the contextual proposition the MP is taken to refer to (see below). These authors have described this grammatical function of MPs as a 3-step relation, which is exemplified in Table 3 on the unstressed MP *ja*.

Diewald’s and Fischer’s three step model works like this: It takes the current utterance as a starting point, from which a logical variant, based on the semantics of the respective MP, is (re-)constructed. Since the meaning of the MP *ja* is iterative (see Diewald & Fischer 1998), the proposition that can be assumed to be communicatively given is the same as the information conveyed by the current utterance. As can be seen from Table 3, the communicatively given proposition evoked by the MP *ja* is thus basically identical with the host utterance.

By comparison, the German MP *aber* (literally: ‘but’) functions basically in the same way, yet it negates the proposition that is treated as shared background. Hence, here the proposition evoked is not identical to the proposition contained in the host utterance, but it is a logical (negated) variant of it. This is demonstrated for the utterance *She has aber children in the neighborhood* in Table 4.

Tables 3 and 4 demonstrate that in this model, the communicatively given proposition is not left to be freely invented by the hearer (and the analyst), as in much previous work (e.g. Hentschel 1986; Ickler 1994; Meibauer 1994; Weydt 2006; Haselow 2011; Bross 2012), but it is developed based on a semantic analysis of the MP meaning. For example, Hentschel (1986: 30ff.) suggests that MPs are deictic elements which refer to, and in that way anchor, their host utterances in the communicative situation. However, Hentschel does not specify how the hearer knows what aspect of the communicative situation is currently being referred to by means of the MP. In the three-step model presented here,

Table 3: The 3-step context-anchoring function of the MP *ja* in (17a).

1. Communicatively given, “at hand”:	she has children in the neighborhood
2. Current situation:	she has children in the neighborhood
3. Current utterance:	She has ja children in the neighborhood.

Table 4: The three-step context-anchoring function of the MP *aber* (‘but’).

1. Communicatively given, “at hand”:	being an only child, she has no other children (to interact with)
2. Current situation:	she has indeed children in the neighborhood (to interact with)
3. Current utterance:	She has aber children in the neighborhood.

the relevant aspect of common ground is a logical variant of the host utterance (cf. Foolen 1989) and is thus identifiable for the hearer.

The main function of MPs is thus to relate the current utterance to an aspect of the argumentative common ground. This relationship can however be instantiated in different ways. We will demonstrate this by the case of consecutive MPs: In contrast to *ja* and *aber* above, the consecutive MPs do not evoke logical variants of the propositions expressed in the host utterance but rather claim that the host utterance as a whole, i.e. including the speech act, follows from the common ground. For example, MP *denn* (literally: ‘then’) indicates that the act of asking a certain question follows as a natural consequence from the current situation. That is, *denn* is taken to state that the act of asking is licensed by the common ground, as in *Wo wohnen Sie denn?* (‘**And** where do you live?’, cf. also Heritage & Sorjonen 1994) in reply to the request to deliver a package. Just like *denn*, the German MP *also* (literally: ‘thus’) can also be used in WH-questions, yet then it does not refer to the act of asking, but to the contents; this means that the question *Wo wohnen Sie also?* (‘**So** where do you live?’) would ask what conclusion can be drawn from the contents of the previous discussion regarding the communication partner’s address. Thus, we can observe a somewhat arbitrary division of labor, such that while both MPs express consecutive relationships, *also* and *denn* refer to different aspects of the argumentative background.

So, while all MPs anchor the current utterance in the argumentative situation they may do so differently; the kinds of processes involved in anchoring an utterance in the argumentative common ground are encoded in the meanings of each MP. This includes the fact that different aspects of the argumentative background are operated on. Thus, the kind of work MPs do implies a multitude of different interactions with the communicative context, which are specified in item-specific ways. This is what construction grammar accounts for naturally.

4 A construction grammatical description of the interaction between modal particles and sentence types

In this article, we have so far examined the interaction between MPs and their host utterances and arrived at the conclusion that both form and meaning aspects of the host utterances need to be taken into account. This position is supported by studies of language change, by MP combinations and by our model of MPs.

A relatively recent, yet thriving linguistic approach, in which linguistic knowledge is taken to consist entirely of pairings of form and meaning, is construction grammar (Goldberg 1995; 2006; Kay & Fillmore 1999). This approach is particularly suited to account for our observations on the sentence type restrictions of MPs made so far because of the dependence of MPs on both formal and functional aspects of their host utterances. By defining sentence types as grammatical constructions, i.e. as form-meaning pairs, the interaction between MPs and formal and functional aspects of the constructions in which they occur can be modeled. At the same time, construction grammar allows the representation of structures at different levels of specificity (see Langacker 2008), which allows us to model the interaction between MPs and their host constructions also on different levels of schematicity. For instance, for the MP *denn* (literally: ‘then’), an interaction with the interrogative sentence type construction on a very general level can be assumed, which comprises both the different WH- and yes/no question sentence type constructions, whereas for other MPs, such as the stressed MP *JA* (which means roughly ‘you and I know that this must be taken into account’), sentence type constructions at much more specific levels need to be provided. Construction grammar accounts not only for both levels of description, but also allows flexible relationships between them.

Furthermore, the wide semantics assumed in construction grammar (see Kay & Michaelis 2012) allows the inclusion also of illocutionary function as part of the meaning of the construction and thus provides the basis for describing interactions between MPs and pragmatic information within grammar.

Thus, construction grammar seems to be a useful framework to describe the kinds of interactions identified. In such a framework, the sentence type restrictions of MPs could be described as an interaction between different kinds of constructions. We assume that there are three relevant types of constructions involved in the use of MPs: First, there are sentence type constructions at various levels of specificity, which is the topic of section 4.1. Second, there are lexical constructions representing each MP, which are individual particle constructions that apply across different word classes. These will be discussed in section 4.2. Third, there is the word class construction of MPs, which will be presented in section 4.3. Finally, in section 4.4 we describe the interaction between all these constructions.

4.1 Sentence type constructions

In the course of this investigation, we have seen that the different sentence types belonging to the same sentence mood are not freely interchangeable such that one MP could occur in all of them. At the same time, these different grammatical configurations differ from each other by additional meaning- or functional specifications. For example, the verb-initial declarative sentence type in German (example (18)) can only be used in certain contexts, namely for building up the background for a joke or an emotionally involved story (cf. Oppenrieder 2013):

- (18) Oppenrieder (2013: 40); our translation:
 Kommt der Papst in den Himmel...
 comes the Pope into the heaven
 ‘Comes the Pope to heaven...’

Since we are working from a construction grammatical perspective, we argue that the non-interchangeability between the individual sentence type formats is reason enough to postulate different, very specific *sentence type constructions* (cf. Wulff 2006). Sentence types have been analyzed as constructions in the construction grammar literature before (cf. Michaelis & Lambrecht 1996; Välimaa-Blum 2005; Jacobs 2008; Hoffmann 2013; compatible with a construction grammar perspective is also Sadock & Zwicky 1985, for instance), corresponding to the fact that sentence types are traditionally characterized as form-meaning pairings of linguistic form and sentence mood.

The relevant *form-features* for describing the sentence type formats are usually divided into four classes. Following Altmann (1987; 1993) these are: (i) verb morphology, above all the difference between finite verbs and infinite verbs, and among the finite verb forms between the imperative mood and the non-imperative mood;¹⁹ (ii) the position of the finite verb and of the WH-marked question elements inside the clause; (iii) the “categorical filling”, i.e. the presence of WH-elements, of certain performative or modal verbs, or of MPs etc.; (iv) and finally, there is the intonational realization. The representation of intonation as a defining feature for sentence types is somewhat controversial: First, it is not agreed yet whether intonation should be included in a sentence type definition at all. Second, if it is included, the question arises on what level of detail intonational features should be analyzed. Most work on sentence types

¹⁹ In German, the “non-imperative mood” comprises the indicative and the subjunctive moods.

includes an intonational characterization, usually in the form of holistic nuclear intonation contours (“end intonation”). There is, for example, a large body of literature on the use of falling vs. rising intonation in declarative sentences and questions (for an overview, cf. Alm 2016; Gunlogson 2003; Välimaa-Blum 2005).

On the *meaning side* of the sentence type constructions, we have the traditional sentence mood, but also the pragmatic meanings associated with the respective sentence type construction, for instance discourse functional meanings or the usage conditions of a given construction (Fillmore, Kay & O’Connor 1988: 501f.; Goldberg 1995: 6f.; Kay & Michaelis 2012). This means, for instance, that the verb-initial declarative sentence type in example (18) above (*Comes the Pope to heaven...*) can be specified with information about the special kinds of contexts in which it can be used (cf. Michaelis & Feng 2015). Furthermore, also information-structural differences between different sentence type constructions (cf. Michaelis & Lambrecht 1996) and other non-propositional meanings may be relevant.

In our analysis, sentence mood can be regarded as a common meaning component that accounts for the affiliation of all the sentence type constructions belonging to the same sentence mood – but additionally each sentence type construction will have its own differentiating meaning components. We illustrate this in Figure 1, where the arrows correspond to post hoc classification links (Croft 2001), which can be seen as the generalization from specific examples to schematic structures on the one hand but also the instantiation of general structures as specific instances on the other; hence, the relationship is bidirectional.

Given this network of different but related sentence type constructions, we can specify now the possible matches between individual MPs and the specific sentence type constructions. For example, the (unstressed) MP *ja* (literally: ‘yes’) can only be used in the prototypical verb-second (V2) declarative sentence type construction (cf. Thurmair 1989: 49); it cannot be used with the verb-initial (V1) declarative sentence type construction used to introduce jokes (Oppenrieder 2013: 40ff.), which is demonstrated in example (18’):

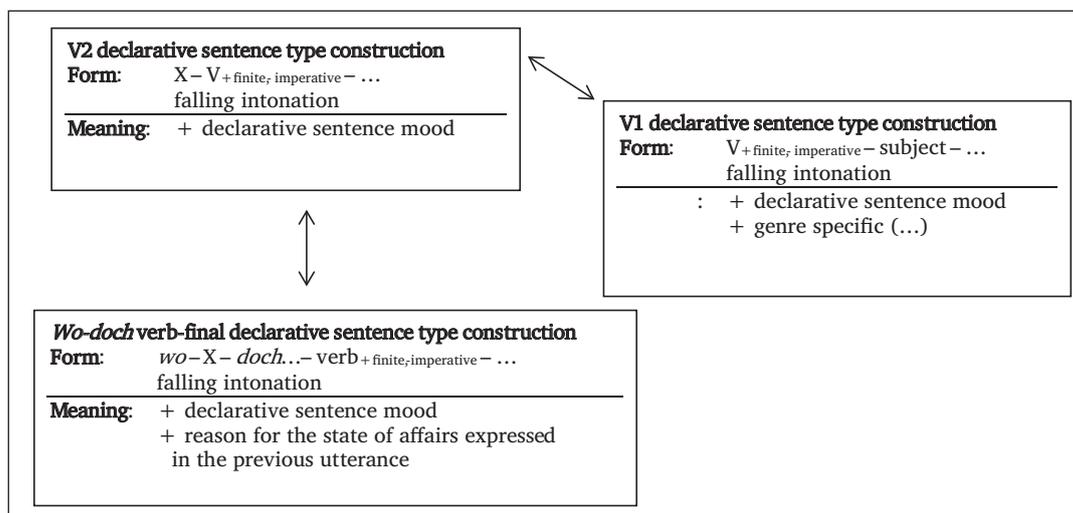


Figure 1: Individual declarative sentence type constructions²⁰ grouped together according to their shared sentence-mood meaning.

²⁰ The three declarative sentence type constructions presented here are discussed, among others, in Oppenrieder (2013) and Kwon (2005). The *wo-doch*-verb-final sentence formats often present a reason for the state of affairs expressed in the previous utterance, as is illustrated here, but since the MP *doch* contains an adversative meaning component, they can also attain a concessive meaning.

- (18) Our manipulation of example (18):
 Kommt der Papst ***ja** in den Himmel...
 comes the Pope **PRT** into the heaven
 ‘Comes the Pope to heaven (***as you and I both know**) ...’

We therefore need to specify the interaction between *ja* and the v2 declarative sentence type construction at a sentence type specific level in the hierarchy.

At the same time, we assume that both the form-side and the meaning-side of the definition of the sentence type constructions may contain *prototypical* features that can be *overridden* by contextual factors in the actual communicative situation (cf. Välimaa-Blum 2005; Panther & Köpcke 2008) or by more specific constructions. In prototype theory, categorization is not about absolute category memberships; in contrast, some members may be better representatives of their category than others, and they form the core of the category. The members at the periphery of the category do not exhibit as many relevant features of that category as the core members do and are therefore more difficult to recognize as category members (for a discussion of different notions of prototypicality cf. Geeraerts 1988).

A prototypical sentence type is maximally independent of situational context (Panther & Köpcke 2008: 91): On the form-side, a prototypical format should be recognizable as a sentence type construction with as little contextual support as necessary. On the meaning side, the prototypical meaning of a sentence type is the meaning that we intuitively associate with that format with as little contextual support as possible. This means, for instance, that the prototypical meaning of imperative sentence type constructions is the function of commanding rather than the function of giving advice (Panther & Köpcke 2008: 100). In contrast, non-prototypical sentence type meanings/functions, such as the invitation reading of the imperative, as in “please sit”, need contextual support if the hearer is to arrive at the correct interpretation intended by the speaker (in this case, the support comes in the form of the politeness particle *please*).

This position requires a definition of what counts as “contextual” support and in what way the meaning/function of sentence type constructions can be modified in actual communicative use. We will not be able to answer this question exhaustively here, but we can make some suggestions. The “prototypical” form and meaning of sentence type constructions seem to correspond to what Altmann (1987; 1993) calls the *structural meaning* of a sentence type in his “three-level model of the meaning constitution of sentence types”.

The first level consists of the *structural meaning* of the sentence type, namely the grammatically specified meaning. In our analysis, this is the meaning associated with the *schematic* sentence type construction formats. On the next two levels, this grammatically specified meaning can be functionally (though not *grammatically*) modified or even “altered”: On the second level, there is the *lexical filling* of a schematic sentence type construction. According to Altmann, the lexical filling can influence the interpretation of the function of the sentence type, e.g. through the use of performative verbs like *ask* or *promise* or by certain modal verbs. For example, in the declarative sentence type, the combination of an address term like *you* and a modal verb expressing obligation usually signals a request: *You have to leave now*. On the third level, we find all kinds of (yet to be specified) contextual factors embedded in the concrete communicative situation.

Returning to the sentence types and their meanings, in construction grammatical terms, these form-meaning pairings are assumed to constitute an inventory of *sentence type constructions*. As Diewald (2008a; b) and our analyses in section 2 have shown, the licensing of MPs may be strongly tied to the form-side of their host utterance; for example, the original use of the MP *ruhig* (‘there is no objection to (doing) X’) was constrained to the verb-initial imperative sentence type construction with imperative verb morphology

and without an explicit subject (see example (15a) in section 2.4.2). Yet MPs can also be licensed by the meaning-side of the sentence type construction; this was the case when the use of the MP *ruhig* extended to other sentence type constructions due to their lexical filling (see example (15b) in section 2.4.2). Thus, MPs interact with different aspects of the individual sentence type constructions.

The relevant aspects for describing the usage restrictions of MPs consequently vary both on the form-side and on the meaning-side of a sentence type construction. The relevant form-side features of sentence type constructions range from completely schematic to partially lexically filled structures. The meaning-side of the sentence type constructions comprises both the prototypically encoded sentence mood of that sentence type construction and much more concrete pragmatic functions that can be used to perform indirect speech acts.

Depending on the individual MP under consideration, it may thus be necessary to choose different levels of specificity of the host utterance in order to explain when the particular MP can or cannot be used. Some MPs are compatible with a certain sentence type construction at a high level of schematicity; for instance, the MP *aber* (literally: ‘but’) can be used in all exclamative sentence type constructions (cf. Table 1 in section 1.1). For other MPs, individual sentence type constructions within the same sentence mood have to be specified; for instance, for *ja* (‘as you and I both know’), we will want to specify that it only occurs with v2 declarative sentences to account for instances such as example (18’) above. And for some MPs it may even be necessary to specify some of the lexical filling of the individual sentence type construction, as was illustrated for the MP *ruhig* (‘there is no objection to (doing) X’) in the indirect use of declarative sentence type constructions involving verbs of permission, such as the modal verb *können* (‘be able to’) in example (7) above.

To sum up, we need to postulate a fine-grained network of sentence type constructions with detailed form- and meaning descriptions as part of the constructional inventory. The individual MPs will then orient to different levels of form and meaning in an idiosyncratic way.

4.2 Particle constructions

In a construction grammatical model, also lexical items are considered to be constructions since the knowledge of a language is taken to consist entirely in the knowledge of the constructional inventory of a language (cf. Kay & Fillmore 1999; Goldberg 2003). We thus need to assume individual particle constructions. Each MP is considered to have an *invariant meaning* across all of its uses that distinguishes it from other items that can be used as MPs (cf. Fischer & Diewald 1998; Fischer 2000; 2006); for instance, *ja* has an invariant affirmative meaning and *aber* an invariant contrastive meaning (cf. Tables 3–4 in section 3 above). Further, the items functioning as MPs often have “doubles” (i.e. heterosemes, cf. Diewald 2015) in other word classes, e.g. as adverbs, conjunctions, discourse particles etc. – and the core meaning associated with the respective phonological form needs to be sufficiently abstract to account for all of these uses (Fischer 2000; Diewald 2013).²¹ For instance, for the particle *ja*, Fischer (2000) has shown that an abstract meaning of accordance can be assumed, which is then instantiated concretely in the various word class constructions (answer particle, discourse marker, modal particle). Similarly, Diewald and Fischer (1998) identify abstract meanings for the particles *aber* (literally indicating opposition), *auch* (literally indicating augmentation), *doch* (literally indicating opposition) and *ja* (literally indicating accordance), which are taken to be specified when these particles

²¹ In case readings have developed apart to a high degree, also polysemy (Mosegaard Hansen 2006) can be assumed. However, serious attempts at identifying core components should be made to account for speakers’ intuitions that the readings of the same form are related (Fischer 2000).

are used as discourse marker or modal particle. Diewald (2008a) furthermore makes the same argument for *ruhig*. In order to account for the function of a particle lexeme as an MP, we therefore also have to assume a general MP construction, which describes the work a particle does when functioning as an MP. This is the topic of the next section.

4.3 The modal particle construction

In order to explain how the phonological forms *ja*, *also*, *aber* and other particles that have “doubles” (heterosemes, cf. Diewald 2015) in other word classes come to be used as MPs, we need to assume a *construction* that accounts for the grammatical word class (see Fischer 2006; see also Diewald 2006 concerning MPs as a grammatical word class). Diewald and Fischer (Diewald & Fischer 1998; Diewald 2006; Fischer 2006) suggest that the word class “modal particle” constitutes a grammatical construction by itself. Like every grammatical construction, it has a form-side and a meaning-side. The form-side consists of the description of a particle slot in the easily recognizable, characteristic mid-sentence position. According to the particle model by Diewald and Fischer (e.g. Diewald & Fischer 1998; Diewald 2006; Fischer 2007), the meaning-side consists in anchoring the host utterance to a proposition of the interlocutors’ common ground, presenting the utterance as based on already established, mutually accepted assumptions (see Tables 3–4 in section 3).

An argument in favor of the assumption of such a construction is the fact that many German particles fulfill systematically different functions depending on their grammatical position, in particular whether they occur turn-initially or utterance-medially in the syntactic middle field.²² This is demonstrated in the constructed sentences in (19a–b):

- (19) a. Utterance-initial particle:
Ja, es geht am Montag.
 yes it goes on-the Monday
 ‘**Yes**, Monday works well.’
- b. Utterance-medial particle:
 Es geht **ja** am Montag.
 it goes **PRT** on-the Monday
 ‘**As you and I both know**, Monday works well.’

The turn-initial use of particles concerns the management of conversation in some way or other in a situated exchange (Fischer 2000; Clark & Fox Tree 2002), the middle field use concerns a previously ratified proposition which is assumed to be common ground and which is thus presupposed in the official business. This shift between situated exchange and proposition assumed to be common ground is systematic and applies to many different German particles (e.g. Diewald & Fischer 1998; Diewald 2006), as is illustrated in example (20), using the same sentence as in (19) with the particles exchanged:

- (20) a. **Doch**, es geht am Montag. vs. Es geht **doch** am Montag.
 ‘**Yes**, Monday works well.’ ‘Monday works **after all**.’
- b. **Eben**, es geht am Montag. vs. Es geht **eben** am Montag.
 ‘**Exactly**, Monday works well.’ ‘**As we have seen**, Monday works well.’
- c. **Also**, es geht am Montag. vs. Es geht **also** am Montag.
 ‘**So**, Monday works well.’ ‘**So**, Monday works well.’

²² See Fischer (2000) for attested examples of the same type as discussed here.

This systematic contribution of the grammatical position suggests that certain features are contributed by the grammatical construction, such that the utterance-initial or sentence-medial positions impose certain interpretations on the lexical items involved (cf. Fischer 2000; 2006).

However, there are also problems with the assumption of an MP construction. First, if we propose these grammatical positions to be constructions, then all items in these constructions should be affected by the constructional meaning. This has indeed been established for utterance-initial discourse particles (Fischer 2006) but not for the syntactic middle field. Thus, in the same syntactic slot in which MPs occur, also adverbs and downtoners can be used without invoking a proposition from the common ground. As illustrated in example (21) on the sentence *I can do it*, only the MP *ja* in (21b) evoke common ground; the middle-field items in (21c–e) do not:²³

- (21) a. Ich kann das machen.
I can that do
‘I can do that.’
- b. Ich kann das **ja** machen. approx.: ‘As you and I can see, I can do it.’
- c. Ich kann das **jetzt** machen. ‘I can do it **now**.’
- d. Ich kann das **heute** machen. ‘I can do it **today**.’
- e. Ich kann das **mal** machen. ‘I can do it, **no big deal**.’

Second, prosody may play a role in distinguishing between the MP-function and a non-MP-function for particles in the middle field, but only for *some* items. In example (22), the placement of prosodic prominence distinguishes between the interpretation of the particles as a temporal adverb (22a) and a focus particle (22c) (emphasis on the particles themselves) and the function of the same particles as MPs (22b, d) (emphasis on the verb):

- (22) a. Ich habe das **EBen** gemacht.
I have that **NOW** done
‘I **just** did it.’
- b. Ich habe das **eben** gemacht.
I have that **PRT** DONE
‘I **just** did it **anyway**.’
- c. Kannst Du das **AUCH**?
can you that **TOO**
‘Can you do it, **too**?’
- d. **KANNST** du das **auch**?
CAN you that **PRT**
‘Are you **at all** able to do it?’

While prosody may thus play a systematic, i.e. grammatical, role in the definition of *some* MPs, stress placement does not change the grammatical role of *other* particles, even though it influences their semantic interpretation; for example, *doch* is an MP in both the unstressed and the stressed middle-field use because in both cases it evokes a communicatively given proposition to which it anchors the current utterance:

²³ We are taking here a surface oriented perspective as a language learner would (see Tomasello 2003); however, as, for instance, Coniglio (2011) has shown, the items inhabiting the syntactic middle field are of different types, to which certain ordering constraints apply, which would then also be available to the language learner in terms of distributional characteristics. In this respect, the current comparison is an oversimplification.

- (23) a. Ich habe das **doch** gemacht.
 I have that **PRT** done
 ‘One may think that I haven’t, but I have done it.’
- b. Ich habe das **DOCH** gemacht.
 I have that **PRT** done
 ‘I have done it **after all**.’

Thus, the role prosody plays may be rather item-dependent.

To account for these findings, we propose to assume not only an MP construction, but also a middle-field particle construction, of which the former is an instance. The MP construction accounts for the stable form-meaning pairing, specifying their syntactic position and the peculiar pragmatic function of MPs, which is to relate the current utterance to a particular aspect of the common ground. This however leaves open how the more general middle-field particle construction, which also comprises adverbs, downtoners, focus particles etc., can be described and how the relations between individual items and the constructions in which they can occur can be represented, i.e. why some items in the middle field position are MPs while others are not. In the middle field, four groups of particle items emerge: 1) those with “doubles” in the utterance-initial position (discourse particles, conjunctions), which all function only as MPs when used in the middle-field particle construction; 2) those that are potentially ambiguous in the middle-field position and rely on prosody for disambiguation; 3) downtoners; and 4) those with proposition-modifying functions, such as adverbs. Membership in these different classes seems to be item-based, and it also changes historically for individual items.

There are thus no specific formal or functional properties that determine class membership in the middle-field particle construction; this means that for particles that can be used in the same position with other meanings than the MP function, for instance as focus particles or adverbs, the form-side alone is not sufficiently distinctive, but constitutes only one of several possible interpretations. The general middle-field particle construction is thus rather schematic, basically describing only the particular grammatical slot for the kinds of items that can occur. In contrast, the MP construction, one level down in the hierarchy, is informative particularly for those particles whose function as MPs is indeed defined by their grammatical position. That is, for *ja*, *also* or *denn*, for instance, which also occur independently or utterance-initially and thus in different constructions, the MP construction unambiguously contributes meaning components and disambiguates their uses. Consequently, like for the relationship between verbs and argument-structure constructions (Stefanowitsch 2011), we need to assume two processes at work: On the one hand, constructions express generalizations over particular items; on the other hand, category membership may have to be dynamically defined in an item-based manner.

4.4. Modal particles in sentence type constructions

In construction grammar, individual constructs, i.e. instantiations of constructions, are created by an interaction between different constructions, including lexical constructions (e.g. Goldberg 2003). Such interactions comprise the unification with maximally general, schematic constructions, but also sub-generalizations may be captured by postulating partially filled constructions, and even idiosyncrasies can be accounted for in individual constructions. Accordingly, the compatibility of specific particles with specific sentence type constructions can be represented in an item-specific construction to specify the conventional aspects of the interactions between sentence type constructions and a given MP. For instance, there is no difference encoded in the consecutive meanings of *denn* and *also* (both mean approximately ‘then’) that would suggest that *denn* refers to the illocution-

ary act of asking questions, hence tying it to interrogative sentence types, whereas *also* refers to the propositional content of an utterance or the topic discussed and therefore is not bound to any specific speech act (see Fischer 2007; Fischer & Alm 2013). Thus, this information cannot be specified as part of their lexical meaning. Likewise, it does not make sense to specify for interrogative constructions that they may take *denn* and *also*, yet each in different uses (see the discussion of *denn* and *also* in section 3). Consequently, we have to assume that item-specific MP constructions exist that specify for each of the two particles what work they do as MPs. We therefore postulate (in addition to the general MP construction, the *denn*- and *also*-particle constructions and the sentence type constructions) constructions describing the particular relationships between specific MPs and certain sentence type constructions, for instance, a *denn*-in-WH-question construction, which specifies that *denn* in this construction refers to the speech-act meaning of asking the question, presenting the act of asking the question as a consequence of a shared background. In contrast, in the *also*-in-WH-question construction, we would specify that it presents the contents of the question as a potential consequence of what was discussed before.

Much work in cognitive linguistics supports the idea that language users retain such item-specific information and even specific exemplars in addition to generalizations and sub-generalizations (cf. Langacker 2008; Taylor 2012; from a language acquisition perspective see Abbot-Smith & Tomasello 2006). Such a model is also plausible from a diachronic perspective since we have seen that historically, MPs are restricted to certain contexts of use in an item-based manner (see section 2.4.2 above). Hence, we need to assume conventional relationships between MPs and sentence type constructions (i.e. the existence of item-specific constructions that specify attested combinations between particles and sentence types such as the *also*-in-WH-question construction discussed above). This is unproblematic for construction grammar since, following the usage-based model, this framework allows the redundant encoding of schematic and fully instantiated structures if they are only sufficiently entrenched (see Goldberg 2006). Nevertheless, the constructions involved do express the generalizations that exist across different uses.

An alternative view would be to encode all sentence type restrictions in the MPs themselves; this would also account for the item-based relationships that we have seen. However, such an approach does then not account for the fact that there are generalizations identifiable across items; a construction grammatical approach allows the flexible encoding of (sub-) generalizations and idiosyncrasies at various levels.

To sum up the discussion in section 4, we hold that all MP instances inherit from the MP construction the general function to relate the current utterance to common ground, i.e. to some communicatively given background which is taken to be “at hand”. Furthermore, the model comprises the different sentence type constructions, namely pairings of form (verb morphology, word order, grammatical category, and possibly intonation, see section 4.1 above) and meaning (grammatical mood and further functional contributions). The third component of the model are the lexical constructions, i.e. the individual particle lexemes.

Then, in order to specify the interaction between these three resources, we describe constructions of different degrees of specificity and lexical filling. Since construction grammar does not necessarily target a characterization of those structures licensed by the grammar of a language and only those (cf. Goldberg 2006), but instead assumes entrenchment and preemption to guide users to common, accepted structures, we can state generalizations on a general level and constrain them by representatives of attested uses. For instance, for verb-second (V2) declaratives, we can assume a sentence type construction on a high level of generality which includes an optional MP slot; at the same time, there are more specific constructions of specific MPs in this construction, for instance, *ja* as an MP in the V2 declaratives, *aber* as an MP in V2 declaratives or *doch* as an MP in V2 declaratives, which

guide the speaker into accepted, entrenched structures. In addition, we assume a lexically filled v2 declarative construction with *können/dürfen* ('can'/'may') which can take the MP *ruhig*. Thus, to prevent the licensing of constructs that are not generally acceptable, it is sufficient to represent that (i) instances of *ruhig* as an MP in v2 declaratives are very infrequent unless associated with a directive interpretation (see the examples in Métrich et al. 2002: 28–34; and our discussion in footnote 9) and (ii) that there is the construction with the MP *ruhig* in v2 declaratives with *können/dürfen* and other modal verbs, which preempts other kinds of uses of *ruhig* in v2 declaratives. That is, the scarcity of *ruhig* in general v2 declaratives serves as evidence for speakers that the use of the construction is restricted (Stefanowitsch 2006; Taylor 2012), given the relative frequency of both the lexical item and the construction.²⁴ In this way, the item-specific constructions account for the fact that MP lexemes occur only in some and not in other sentence-type constructions.

Based on the sentence type restrictions of MPs, we see several advantages with the construction grammatical framework over other approaches to sentence types and MPs.

First, in contrast to most previous work, a construction grammatical representation accounts naturally for the interplay between form and meaning components relevant for MP use. Similarly, in most formal approaches semantic meanings and pragmatic meanings are usually strictly separated, whereas the example of MPs in indirect speech acts shows that they interact with each other in complex ways. It is one of the defining features of construction grammar that the meaning-side of a construction can comprise both semantic and pragmatic meaning on equal terms.

Second, in construction grammar it is unproblematic to state the same construction several times on different levels of abstraction, which is needed in the case of partially filled constructions with specialized uses (see the discussion of the MP *ruhig* in section 4.1 above).

Third, in our model, sentence type restrictions are handled on a constructional level, not as a property of each MP. By distinguishing between the lexical MP constructions, the modal particle word class construction, the sentence type constructions and the lexically specified sentence type constructions, we can state generalizations across MPs and across sentence types (see discussion in section 4.4).

In sum, the complex interaction between sentence types and MPs reveals the need for a theoretical framework that is flexible enough both to handle several different abstraction levels in parallel and to account for the simultaneous interaction of semantic, formal and functional meaning with each other as well as with lexical items, and construction grammar can provide such a framework.

5 Conclusion

The aim of this paper was to examine the nature of the complex interaction between German MPs and sentence types. We conclude that neither exclusively formal features nor exclusively semantic or functional features of the host utterance/structure are sufficient to account for the usage restrictions of MPs. Instead, the usage of MPs is based on complex “multi-feature restrictions” that have to be specified for each MP individually (Diewald 2008a; b). Due to the interaction of the MP restrictions with only a selection of the sentence type constructions belonging to the same sentence mood, and due to the non-interchangeability between sentence type formats within the same sentence mood, we argued that the individual sentence type formats are best treated as sentence type constructions of their own, with a form- and a meaning-side, where the meaning-side may comprise more semantic and pragmatic meaning components than just the much focused on sentence mood.

²⁴ In this particular case, the compositional semantics of the v2 declarative with modal verb *können* or *dürfen* shares components with the semantics of v1 imperatives, which additionally strengthens the item-specific construction.

To account for the sentence type restrictions, we suggested that MPs and sentence type constructions interact on several different levels: First, every particle has an individual, invariant core meaning that remains consistent between the different word classes in which that particle can be used (Fischer 2006; Diewald 2013). Second, there is the word-class construction of MPs, the meaning of which, we argue, is not of an inherently illocutionary nature but rather operates on the interlocutors' argumentative common ground. Third, there are the *form and meaning* of the individual sentence type constructions. The MPs can interact with both, and not always on the highest schematic level possible of the sentence type construction in question. Fourth, there are item-specific interactions between specific MPs and the form- and meaning features of the grammatical sentence type constructions in which they can occur, represented as item-specific constructions.

To conclude, the observed sentence type restrictions are best described by using an approach that combines form and meaning components and describes the interactions between particle lexemes and various aspects of the grammatical contexts in which MPs occur in an item-based manner, while still allowing for generalizations when appropriate. Such a view of the sentence type restrictions of MPs is fully compatible with a construction grammatical perspective on language.

Abbreviations

MP = modal particle, v2 = verb-second word order, v1 = verb-first word order, WH = the kind of interrogative features contained in question-words

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Competing Interests

The authors have no competing interests to declare.

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