

DISCOURSE PARTICLES AND THE SYNTAX OF DISCOURSE-
EVIDENCE FROM MIESBACH BAVARIAN

by

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Abstract

This dissertation is concerned with the form, function, and distribution of discourse particles in Miesbach Bavarian. These elements are commonly considered in either semantic, pragmatic, or discourse analytic terms. This current investigation explores the interaction between form, meaning, and distribution of discourse particles, their syntax. I show that discourse particles in Bavarian are constructed, and discourse particles therefore should not be considered as a primitive. ‘Discourse particle’, as I show in this dissertation, is the effect of a unit of language with an invariable core meaning (among them scalar and deictic core meanings) when it associates with a discourse functional syntactic layer that represents the discourse participants’ epistemic states.

The claims of this dissertation are empirical at the core; I show conversational data from the Miesbach Bavarian dialect of German that provides the need to distinguish three classes of discourse particles (DPRTs); *speaker oriented*, *addressee oriented*, and *other oriented* DPRTs. I present an analysis that proposes these three classes to be the result of an association with different discourse participants (speaker, addressee, or other). This association serves to *ground* propositions. In order to model this grounding function of those items interpreted as DPRTs, I make use of the Universal Spine Hypothesis, a framework proposed by Wiltschko (2014). I extend Wiltschko's Universal Spine to include the participant anchor with the projection *GroundP*.

Preface

Except for some independent and collaborative projects presented at conferences and/or submitted for publication, the work in this dissertation is based on original, unpublished research by the author, Sonja Thoma. Whereas the analysis and theoretical implementation of the analysis is my own, many aspects of the framework is indebted to the fruitful discussions from lab meetings in Martina Wiltschko's 'Eh-Lab' (<http://syntaxofspeechacts.linguistics.ubc.ca>).

Part of the analysis for *fei* (Chapter 4) was published as *To p or to¬ p; The Bavarian Particle fei as Polarity Discourse Particle* in *Sprache und Datenverarbeitung*, 33(1-2):139-152 (Thoma 2009). The analysis of some of the discourse particles examined here was previously published as Thoma (2013) *Bavarian discourse particles-at the syntax pragmatics interface* in *Proceedings of NWLC 2013, University of British Columbia Working Papers in Linguistics* 38:41-58; the analysis presented here differs slightly in implementation.

The development of the syntactic framework of the Extended Universal Spine used for the analysis in Chapter 6 is due to discussion, and collaboration with colleagues of the Eh-Lab. This framework is elaborated in a publication I co-authored with other members of the Eh-Lab: '*Intonation and Particles as Speech Act Modifiers: A Syntactic Analysis*', in *Studies in Chinese Linguistics* as Heim Johannes, Herman Keupdjio, Zoe Lam, Adriana Osa-Gómez, Sonja Thoma and Martina Wiltschko (2016).

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List of Abbreviations

Abbreviations used in glosses

1,2,3	1 st person, 2 nd person, 3 rd person
DET	determiner
DPRT	discourse particle
NEG	negation
PL	plural
PRT	particle
SG	singular

Abbreviations used in the text

A	Addressee
ERP	Epistemic reference point
<i>f</i>	Function
MB	Miesbach Bavarian
O	Other
S	Speaker
SG	Standardized German
UoL	Unit of Language

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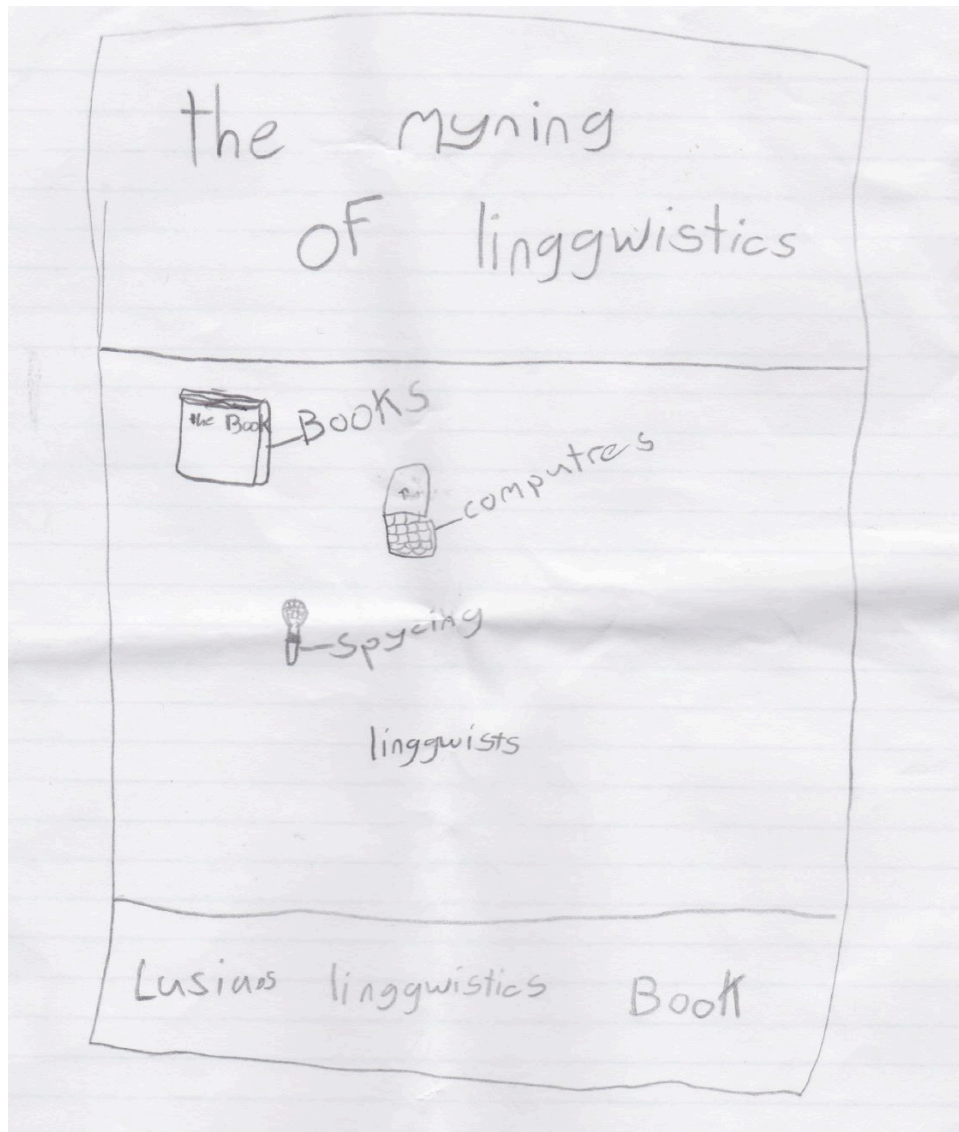
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Chapter 1: Introduction

1.1 Introduction

Natural language and specifically its use in dialogue does much more than simply to express a specific content. The utterance of a sentence with a specific content often also conveys the interlocutors' epistemic stance, that is, their epistemicity; the commitments, attitudes, and beliefs of the interlocutors regarding the (propositional) content encoded in the string of sound. Epistemicity is encoded differently across the languages of the world, with a varied set of linguistic units that are specialized in the expression of epistemic stance. Discourse particles are among them, and in recent years, the formal study of discourse particles has received rising attention. They are also the topic of this dissertation.

It has become clear that, as linguistic items that straddle the syntax-pragmatics interface, discourse particles can provide valuable insights into the formal mechanisms of discourse organization. German discourse particles specifically are probably among the best researched among the languages of the world. Typically, a group of 16 items is considered to comprise the 'core' discourse particles of German; Thurmair's (1989) 'classical 16' includes *aber*, *auch*, *denn*, *doch*, *eben*, *eigentlich*, *einfach*, *etwa*, *halt*, *ja*, *mal*, *nur*, *ruhig*, *schon*, *vielleicht*, and *wohl*. However, the total number of items that are considered discourse particles is not clearly delimited, and ranges up to 40 particles (Diewald 2013). This difficulty in establishing what is to be considered a discourse particle, and what is not, still poses one of the overarching questions in current discourse particle research. This dissertation aims to address aspects of this difficulty, and proposes analytical tools in response. I also speak in detail to the specific function of discourse particles (DPRTs).

Consider the following data:¹

- (1) a. *Da Marinus is fei drei.*
DET Marinus is **fei** three

“Marinus is **fei** three (years old).”

- b. *Da Marinus is ja drei.*
DET Marinus is **ja** three

“Marinus is **ja** three (years old).”

- c. *Da Marinus is eh drei.*
DET Marinus is **eh** three

“Marinus is **eh** three (years old).”

Each of these utterances has the same propositional content, namely the assertion that *Marinus is drei*: ‘Marinus is three years old’. However, the ‘flavor’ of each utterance in (1) a-c is different, due to the contribution of the DPRTs *fei*, *ja*, and *eh*. Each individual DPRT contribution restricts the use of the utterances to specific contexts in a specific way. It is a well documented property of DPRTs that they do not contribute to the truth-conditional content, but add restrictions on felicitous contexts of use (Gutzmann, 2008, 2012, 2013; Kratzer, 1999; cf. Weydt, 1969). One of the contributions of this dissertation is to present the *functional range*, that is, the various interpretations of a given DPRT, and the corresponding contexts for the five Miesbach Bavarian discourse particles (DPRTs) *fei*, *doch*, *ja*, *eh*, and *jetz*.

It has been established that the general function of DPRTs is to relate the content of the utterance they occur in (i.e. the *host utterance*) to the context, which includes

¹ I will develop a detailed approach to the contribution of each particle I investigate here in Chapter 3. For now, I will simply use the form of the DPRT itself for both the gloss and the translation.

the conversational background shared by the interlocutors (Diewald, 2013; Zimmermann, 2011, Kaufmann and Kaufmann, 2012; Zeevat, 2006). In this dissertation, I provide evidence that DPRTs can be further classified. Based on contextual evidence, I show that DPRTs can be classified into three classes:

- i) DPRTs which relate the host utterance to the *speaker*,
- ii) DPRTs which relate the host utterance to the *addressee*,
- iii) DPRTs that relate the host utterance to a contextually determined discourse participant (henceforth *other*).

DPRTs thereby serve to convey fine-grained participant epistemicity. The term epistemicity here refers to the epistemic stance of the interlocutors: the epistemic attitude the speaker has about the proposition expressed in the host utterance within the discourse context. This sensitivity to an individual discourse participant's epistemicity is reflected in strict contextual constraints for the felicitous use of any given DPRT. These are discussed in Chapters 4 and 5 respectively.

Based on the observation that DPRTs are associated with a range of functions, (henceforth referred to as *functional range*) I hypothesize that the DPRTs of MB are decomposable. In particular, we call a particular Unit of Language (*UoL*)² a DPRT if it occurs in a particular context (abbreviated as *Cx*) and has a particular function f_{DPRT} . In other words, the function of a discourse particle derives from the contribution of the UoL and its context, as in (2).

² The term 'Unit of Language' UoL is introduced in Wiltschko (2014), and will be adopted here. It refers here to a basic sound π meaning Σ bundle $\langle \pi, \Sigma \rangle$. I follow Wiltschko (2014) and will not call $\langle \pi, \Sigma \rangle$ bundle simply a morpheme, as it can comprise units as large as phrases and utterances, which arguably should not be considered as morphemes.

$$(2) \quad f_{DPRT} = UoL + Cx$$

I argue that the key to understanding the multi-functionality of DPRTs and their function is to consider their syntax. This argument will be presented in Chapter 6.

The remainder of this Chapter is organized as follows. This dissertation focuses on a specific dialect of German, namely the Middle Bavarian variety spoken in the Miesbach area of Upper Bavaria. I justify this methodological choice in section 1.2 I provide an overview of the Miesbach Bavarian dialect and its syntax. I present a rationale for choosing a dialectal variant of German to study DPRTs, as opposed to using data available from academic literature on DPRTs, or from written corpora. In 1.3 I introduce some of the main theoretical assumptions I use to frame the analysis. The main claims of this dissertation are introduced in 1.4. In 1.5 I present a roadmap of this dissertation.

1.2 Data and Methodology

The language of investigation in this dissertation is Miesbach Bavarian (MB). Auer (2004) and Weiss (1998, 2004) give extensive arguments for the preference for data from a spoken regional variant over written data for linguistic investigation. Most importantly, a *standard* language, such as Standard German (SG) is subject to regulations and normative pressure. Dialects, Auer (2004) argues, display a higher level of consistency due to natural language change, which is often absent or highly constrained in a standard language.

Weiss (2004) contends that prescriptive rules, arising from the normalization of a unified, written standard, arise in some of the grammatical properties of that standard.

This, in turn, results in data that are not as reliable for formal generative investigation, as standardized languages are subject to arbitrary normative rules not grounded in a conception of grammar. He gives examples from negative concord, and the obligatory presence of a determiner with proper nouns; both of these are grammatical features of Bavarian, but are not phenomena observed in SG. Also, the existence of clitic pronouns, which lead to typical dialect phenomena such as inflected complementizers or pro-drop, are features of Bavarian, but not of SG. All these points will be illustrated in the brief sketch of MB in 1.2.1.

So why dialect? First, children acquire dialect as L1. L1, as the first language of a speaker, is the preferred object of theoretical investigation (cf. Auer 2004; Weiss 2004, 1998). This will be discussed in more detail in 1.2.2.1. Second, a dialect is primarily a spoken language (Auer 2004). Since DPRTs are predominantly used in conversation and dialogue, they constitute a spoken language phenomenon (Thurmair 1989) and hence they should be explored in spoken language. This will be discussed more in 1.2.1.2. Third, the inventory of DPRTs, and the range of their uses, varies across the varieties of German. This presents another reason to delimit the study to a specific dialect, and will be discussed in 1.2.2.4. I begin this section by providing an overview of where Miesbach Bavarian is spoken, and its basic syntactic properties.

1.2.1 Miesbach Bavarian

1.2.1.1 Dialect

Bavarian itself is not a single dialect, but has distinct northern (Nordbairisch), middle (Mittelbairisch), and southern varieties (Südbairisch) (Renn and König, 2005). This study is limited to a specific Middle Bavarian variant spoken in Weyarn, a village

located in in Miesbach County just south of Munich, in the state of Bavaria.

Bavarian is an East Upper-German dialect spoken in the German state of Bavaria, as well as in Austria. Small language islands where Southern Bavarian is spoken exist in Italy as well (Ethnologue, 2016). The map in Figure 1 shows Bavaria in the south of Germany. In the map below that (Figure 2), you find Miesbach County highlighted in dark grey and the location of Weyarn within Miesbach County highlighted in red. Miesbach County shares a border with Austria (Österreich) to the south.



Figure 1: Map of Germany

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Figure 2: Weyarn and Miesbach County in a map of Germany

(Hagar66, 2010) reproduced in accordance with [CC-BY](#)

1.2.1.2 Syntax

In this section I give a brief grammatical sketch of Miesbach Bavarian (henceforth MB). In many respects, the clausal syntax of this dialect is similar to that described for SG (Weiss 1998). Most notably, it shares the verb second constraint (V2) for matrix clauses. Descriptively, V2 refers to the phenomenon where the finite verb can be preceded by one and only one phrase, as schematized in (3).

(3) [XP V ...[_{VP} ... \bar{V}]]

(4) a. $[_{CP} D' Martina] [_{C} fährt] [_{IP} mi'm Radl] [_{VP} d' Martina] [_{VP} [_{V} fährt]]]$
 DET Martina drives with.DET bicycle

b. ...[_C *wei* [_{IP} *d'Martina mi'm Radl* [_{VP} ~~*d'Martina*~~ [_V *fahrt*]]]]
 COMP DET.Martina with.DET bicycle drives

b. This functional head wants a constituent moved to its specifier position.
Holmberg (2010:77a,b)

8

The structure of German sentences is often presented within the ‘topological field model’ (the *topologisches Stellungsfeldermodell* Drach (1963). This model divides clauses into three areas: the *Vorfeld* ‘prefield’, *Mittelfeld* ‘middle field’, and the *Nachfeld* ‘post field’. The Mittelfeld is delineated by the span defined by the finite verb in C, which serves as the ‘left bracket’, and the verb in its VP-internal position, which serves as the ‘right bracket’. The commonly assumed mapping of the linearly defined topological fields onto the syntactic spine is illustrated in Figure 3.

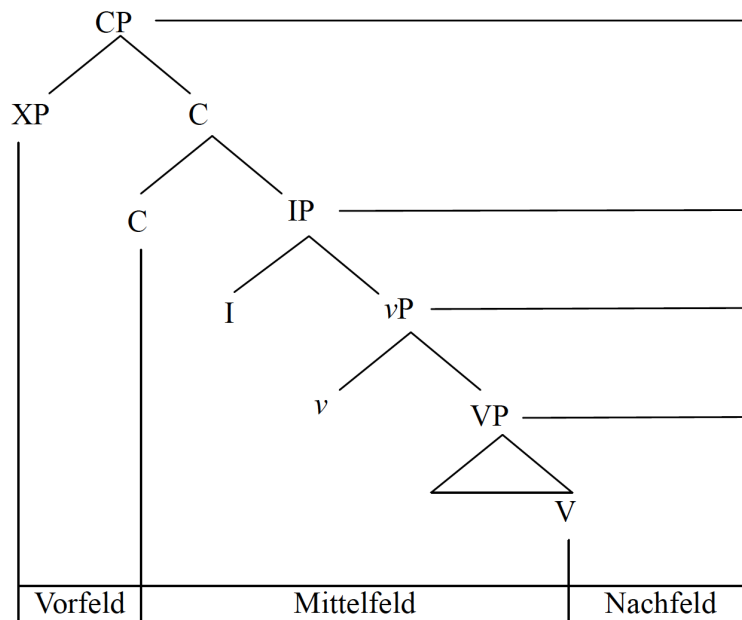


Figure 3: The topological field aligned with the clausal structure

In clause types other than the declarative, the prefield, i.e. SpecCP, is either occupied by a wh-phrase as in wh-questions (6a), or remains empty as in polar interrogatives (6b), V1 exclamatives (6c), and imperatives (6d). This is summarized in Table 1, with examples (6a-d) below (more detailed discussion about clause types and their formal features will follow in Chapter 3).

(6)

Clause type	Vorfeld SpecC	C	Mittelfeld IP, vP, VP	Nachfeld
a. Wh-interrogative	<i>Wea</i> who	<i>gibt</i> gives	<i>da Luzie a Bussl</i> DET Luzie DET kiss “Who is giving Luzie a Kiss?”	--
b. Polar interrogative	--	<i>Gibt</i> give	<i>da Marinus da Luzie a Bussl</i> DET Marinus DET Luzie DET kiss “Is Marinus giving Luzia a Kiss?”	--
c. V1 exclamation	--	<i>Schaugt</i> looks	<i>des KIND³ scho wieda aus</i> DET child already again out “(My), the way this child looks like again!”	--
d. Imperative	--	<i>Gib</i> give	<i>am Marinus a Bussl</i> DET Marinus DET Kiss “Give Marinus a Kiss.”	--

Table 1: Clause typing and the topological field

Material occupying SpecCP, as well as left dislocated constituents define the *Vorfeld*, whereas right dislocated material following V define the *Nachfeld*, the area after the final verb, as *gestan* in example (7).

(7) [_{SpecC} I [_C *hob* [*an Elias beim Schlecka dawischt ~~hob~~*]]] *gestan*
I have DET Elias at.DET eating.sweets caught yesterday

“I caught Elias eating sweets yesterday.”

Note that positioning a constituent in SpecC has effects on information structure.

Word order within the Mittelfeld is also fairly free due to the availability of scrambling.⁴ Scrambling, which I assume to involve (leftward) movement of XPs,

³ A pitch accent will be indicated by CAPS throughout this dissertation. V1 exclamatives have an obligatory extra high pitch accent, usually utterance initially. This will be discussed in Chapter 3.

⁴ Several formal accounts of scrambling exist, with roughly two different approaches: (i) movement approaches and (ii) base generation approaches. See the introduction in Corver and Riemsdijk (1994) for an overview of both. Analyses making reference to movement are e.g. Krifka (1998), Büring

presents one of the main reasons for the difficulty of establishing the syntactic position of DPRTs. Specifically, it is unclear whether a given XP in the Mittelfeld is in its base position or in scrambled position.

DPRTs in MB (like in SG) occupy the Mittelfeld, as illustrated in (8), where all possible positions for the DPRT *fei* are identified.

- (8) *Da Hansi hod (fei) gestan (fei) am Basti (fei) auf da...*
 DET Hansi has **fei** yesterday **fei** DET Basti **fei** on DET...

...oidn Wiesn (fei) a Maß spendiad
 ... old Oktoberfest **fei** DET litre.beer pay.for

“Yesterday Hansi bought Basti a beer at the old Oktoberfest”

In addition to scrambling, MB displays several phenomena unique to the Bavarian dialect that do not occur in SG. One of these is negative concord, referring to multiple negative morphemes in one clause, which together express a single negation semantically. These multiple negations, introduced by a negative particle *ned* in (9) and a negated indefinite *neamd*, do not cancel each other out, but are interpreted as one single, sentential negation (Weiss, 1999, data from his Bavarian dialect).

- (9) *I han neamd ned gseng*
 I have NEG.someone NEG seen

“I didn’t see anybody.”

(Weiss 1999: ex 2)

I will use negative concord as one of the diagnostics for the relative position of DPRTs in Chapter 6.

(2008), Neeleman and de Koot (2008). For accounts which do not assume movement in scrambling, i.e. which assume base generation, see e.g. Bayer and Kornfilt (1994), Fanselow (2003).

Another property of MB, less relevant for this dissertation, yet noteworthy, is the doubly filled Comp phenomenon. This refers to the possibility of having both the head and the specifier of CP filled in embedded clauses in Bavarian, which is banned in SG. I refer the interested reader to Bayer (1984), or Weiss (1998) for in-depth analyses of this phenomenon.

Also not directly relevant yet worth mentioning is complementizer agreement in Bavarian, where the complementizer shows agreement with the subject.

- (10) ...*wenn-sd moang wieda gsund bist*
 if.2pSG tomorrow again healthy you.are

“... if you are healthy again tomorrow.”

(Weiss 2002:2)

This morphology on the complementizer has been analyzed as inflection (Bayer 1984), agreement morphology (van Koppen 2005 for Dutch dialects, Fuß 2005), or as the spellout of a functional addressee feature on the subject pronoun (Gruber 2008).

A final property of MB that can be observed throughout the data presented here is the obligatory occurrence of determiners on proper nouns.

Since most of the features of MB discussed so far (except negative concord) are not directly relevant for the analysis of DPRTs, and since the clausal syntax, specifically the V2 constraint, the possibility of scrambling, and the distribution of DPRTs within the middle field are the same as in SG, the question arises about the reason for the particular focus on MB DPRTs. The reasons for this choice will be discussed in the next section.

1.2.2 Why dialect?

Many linguistic investigations dealing with DPRTs in German (with the notable exceptions of Grosz 2005 and Bayer 2012) tacitly assume their data to represent a unified, more or less standard variety of the language. For example, Cardinaletti (2011:496) observes, “...[t]hat **German** MPs [DPRTs] have a restricted syntactic distribution is a well-established generalization... Some examples are **German** denn, doch, eben, etc.” Zimmermann (2004:543) focuses on “the **German** discourse particle” (all emphases added by ST). This idealization of the linguistic landscape does not capture the true state of affairs, however.

After introducing the methodology of data collection and data presentation conventions in section 1.2.2.1, I show reasons to restrict the investigation to one particular dialect, here MB. First, a German dialect (as opposed to SG) is, so Weiss’ argument, acquired by children as L1, and hence constitutes their first language (Weiss, 2004) (1.2.2.2). Second, DPRTs are a spoken language phenomenon (Thurmair, 1989) and dialect is the natural language used in conversation for native Miesbach Bavarians. Hence dialect presents the most natural ‘habitat’ for DPRTs (1.2.2.3). Third, I present evidence for variation in DPRT inventories and use across dialects 1.2.2.4.

1.2.2.1 Methodology and data presentation

Unless otherwise noted, all the data come from the author’s primary fieldwork with native speakers of MB, aged 50 and above. I also transcribed dialogues from Bavarian dialect movies, particularly M. H. Rosenmüller’s films *Wer früher stirbt ist länger tot* and *Die Perlmutterfarbe*. Rosenmüller, the screenwriter and director, is a Miesbach

native from the community of Hausham. In addition, data comes from *Irgendwie und Sowieso*, a popular Bavarian series of the seventies, written and directed by Bavarian native Franz-Xaver Kroetz. In addition, I based data on dialogues in Lena Christ's *Memoiren*. All data from movie dialogues and books have been re-elicited and verified with a male and female speaker (both 61), residents of Weyarn and lifetime residents of Miesbach county to ensure consistent judgments from the MB dialect. Additional judgments from speakers from the communities of Weyarn and Holzkirchen were also taken into consideration. Data collection also included excerpts of naturally occurring discourse from conversations at family gatherings. Unless otherwise noted, all data are from MB.

An interesting observation is in order here; for one of the parts of this corpus, I had the opportunity to compare the movie script to the actual movie dialogues. The screenwriter of *Die Perlmutterfarbe*, Marcus 'Hausham' Rosenmüller, provided me with the original movie script, with the explicit comment that most DPRTs were added in the actual enactment of the scene.⁵ Preliminary findings showed that many more DPRTs occurred in the corresponding spoken sequences as compared to the written sequences of the script. This confirms the hypothesis that DPRTs serve to ground utterances within an immediate discourse context: they are interactive, and manage the common ground between interlocutors (in the sense of Krifka 2008). Hence they are expected to be a 'live' phenomenon, which cannot be encapsulated in a script.

Challenges posed by this approach, and a reason why only few scenes were investigated this way, were due to the difficulty in comparing the script with the

⁵ M. H. Rosenmüller (pc): "*Meistens ist es aber so dass so die "fei" und "hehs" und "ohs" erst beim Inszenieren dazukommen, aber schau mal*".
'Mostly the 'fei' 'hey' and 'oh's are added in the enactment, but have a look.'

actual scenes, controlling for exact word choice, word order, and particularly important, controlling for intonation between the script and the movie dialogue. As will be discussed in more detail in Chapter 3, intonation plays an important role, which is not represented or controlled for in writing; this is also a reason why corpus data that is not thoroughly annotated for intonation cannot provide sufficient indications about the status of the host utterance within the discourse context.

I now turn to the conventions for presenting the dialect data. Since DPRTs are highly context sensitive, I present most data with the appropriate discourse context. In cases where syntactic or other considerations are the primary purpose of presenting the data, and where the actual interpretation of the DPRT is secondary, a context may not be provided.

In order to indicate the (un)acceptability of any piece of data, I adopt the following convention: * indicates that an utterance is ill-formed. This is in line with common linguistic convention. However, I consider ill-formedness across a variety of contexts, taking into account not only narrow syntactic contexts, but also discourse contexts and dialectal variation. Therefore, to indicate dialect variation I will not use %, but instead I indicate a sentence-dialect pair such as <*, MB>, which should be read as ill-formed in Miesbach Bavarian. In contrast, <✓, MB> indicates that the sentence is well-formed in MB.

Similarly, to indicate ill-formedness within a discourse context, (i.e., infelicity) I will not use #, but instead I will use a sentence-context pair such as <*, Cx₁>, which should be read as *ill-formed in a particular context Cx₁* (which is given along with the example sentence). In contrast, the same form may be acceptable in another context

Cx₂. The latter sentence-context pair is indicated as <✓,Cx₂>. I summarize this notation below.

- (11) <*,MB> ill-formed example in Miesbach Bavarian
 → replaces %
- <✓,MB> well-formed example in Miesbach Bavarian
- <*,Cx₁> ill-formed example in Context 1
 → replaces #
- <✓,Cx₂> well-formed example in Context 2

Lastly, I adopt the convention of placing the contribution of a DPRT in square brackets [...] in a separate line below the translation line to give the reader a better sense of the English equivalent. DPRTs are often not directly translatable with corresponding UoLs in English (often the function of DPRTs is picked up by intonation in English). Take the example below with the DPRT *fei* (CAPS indicate accent).

- (12) *Des* *is* ***fei*** *ganz* *schee* *vadrackt*
 DET is **fei** whole nice tricky

“That is PRETTY TRicky”

‘[I believe you don’t believe that] that is quite tricky.’

This line with the DPRT contribution will only be provided in those cases where the function of the DPRT is under discussion. In other cases, I will resort to providing only a free translation in quotes “...”, as in (13).

- (13) *Des is **fei** ganz *schee* vadrackt*
 DET is **fei** whole nice tricky

“That is PRETTY TRicky”

As for the orthographic rendition of the data, since there is no orthographic standard for written Bavarian, I use my own system for all data. In this dissertation I transcribe data based on my own intuition, using Standard German orthography as a base. I try to be phonetically as true as possible to the actual pronunciation, but also ignore many details that are irrelevant for the points I am making here.

1.2.2.2 Dialect as L1

Weiss (1998, 2002, 2004) argues that it is preferable to use dialectal data for formal linguistic investigation (cf. Auer 2004). He questions the suitability of standardized languages, such as Standard German (SG), for the investigation of natural language phenomena. Dialect, he argues, is the language acquired by children without special instruction, i.e. it is the first language (L1) for these children (Weiss 2004:1). Thus a dialect such as MB represents L1 for speakers growing up in areas and households where MB is spoken.

SG, as a standardized language can, like other standardized languages, be considered a natural language. However, due to normative, prescriptive pressures, it is also “partially invented” (Chomsky, 1995:51). The same applies of course to English. Many prescriptive, ‘standard’ rules of English are artificial and do not reflect the reality of spoken language. Famous examples are for example the ‘no split-infinitive’, and preposition stranding rules. This is, of course, also a matter of register: the spoken variety adopted in formal settings is a different register than the spoken variety adopted in informal, familiar settings (cf. Auer 2009). The former is often a lot closer

to the written standard, whereas the latter is generally not represented in writing.⁶ The point here is that the formal spoken variety tries to emulate the written variety, which is subject to normative pressures. Weiss (2004) argues, that SG thus has properties that cannot be just ascribed to natural language change. As an example he refers to the disappearance of negative concord in SG due to normative pressure. However, in most German dialects including MB, negative concord is very much alive.

Additionally, SG was not acquired as a first language before the second half of the 20th century (Weiss 2004). It is in many respects to be considered an L2 for speakers, since it was not until formal schooling started at around age 6 that speakers were instructed in SG; this is also true for my consultants. Historically, SG was primarily intended for a standardized writing system. The Bavarian expression for speaking SG is telling in this regard: *Noch da Schrift reen* is to “speak like writing” in MB.

In sum, Weiss presents evidence that dialects provide a more privileged access to Universal Grammar, the subject of formal linguistic investigation (Weiss 1998, 2002, 2004). The dialect that serves as the empirical basis for this dissertation, Miesbach Bavarian, is my native language.

1.2.2.3 Dialect as spoken language phenomenon

Dialect is predominantly spoken. If it is written, the writing is often a direct representation of a dialogue (as in novels by e.g. Lena Christ). As such, dialect presents an ideal testing ground for DPRTs, which are predominantly a phenomenon of spoken language (Thurmair 1989). Conversation, as a back and forth between interlocutors, constantly builds, amends and revises the Common Ground (CG) (Stalnaker 1978, 2002). Since DPRTs are used to signal the epistemicity of the

⁶ A point in case here is the lack of orthographic standard for written Bavarian.

discourse participants (i.e., the individual states of knowledge regarding the utterance they occur in), they are a means of Common Ground (CG) management in the sense of Krifka (2008). DPRTs are an aide in the establishment of mutual understanding, and therefore, they primarily feature in spoken dialogue. This is another reason for the preference of predominantly spoken data, as instantiated in dialect, over written (and often standardized) data.

1.2.2.4 Variation in DPRT inventory and use

A final argument in support of delimiting the data to a dialect is the great variation in the use and inventory of DPRTs across German dialects. I focus on two main points in this section:

- (i) Judgments regarding the use of DPRTs differ depending on the dialect spoken by the consultants, and
- (ii) the lexical items used as DPRTs vary across dialects.

I discuss each of these points in turn.

The following data illustrate the problematic assumption that German is a homogenous language. The judgments my consultants gave for this example differs from the judgments reported in the original source. Gutzmann (2010) presents *JA* in (14a) as well-formed (note that Gutzmann does not specify the variety of German the data stems from). In MB, accented *JA* is consistently judged ill-formed in declaratives with assertive force (14b).

(14) a. A: *David riecht wie ein Zombie*

“David smells like a zombie.”

B: <✓, SG> *David ist JA ein Zombie*
 David is ja DET zombie

“David IS a zombie.”

(Gutzmann, 2010:15 ex 40)

b. A: *D’Elli schaut aus wiar’a Saubea*
 DET.Elli looks out like.DET male.pig

“Elli looks like a pig.”

B: <*, MB> *D’Elli is JA aa a Saubea*
 DET.Elli is ja aa DET male.pig

B’: <✓, MB> *D’Elli IS ja aa a Saubea*
 DET.Elli is ja aa DET male.pig

“Elli IS a little pig”

Note that *JA* is not ill-formed in all MB contexts. However, its use is restricted to commands with special emphasis, either expressed in an imperative as in (15a) or as a declarative with directive force, as in (15b).

(15) a. *Mach JA as Fensta zua!*
 make JA DET window close

“Make sure to close the window!”
 ‘[DO] Close the window!’

b. *Du machst JA as Fensta zua!*
 you make JA DET window close

“You’re going to make sure to close the window!”

(15a) is an imperative clause type with directive force, whereas (15b) is a declarative

clause type with directive force.⁷ Crucially, however, in MB, the use of *JA* is ungrammatical in declaratives with assertive force.

Another example of dialectal variation in DPRT use comes from *wohl*. This DPRT is not used with the same function across all German dialects. According to Zimmermann (2004, 2011) the use of *wohl* in (16) expresses uncertainty on the part of the speaker, i.e. it has a dubitative meaning. The data presented to support this claim are not identified for the dialect, but presented as ‘German’.

(16) *wohl*: <✓, SG >

Max ist wohl auf See
Max is **wohl** on ocean

“Max is probably at sea.”

(Zimmermann, 2011: 2013)

MB also has a version of *wohl*, realized as *woi*. It cannot be associated with a dubitative interpretation in the same context (17a).

(17) Heini: *Wo is 'n da Maxl heid? I how 'n no gar ned g'seng*

“Where is Max today? I haven’t seen him yet”

Karl: *I woass aa ned so recht.*
I know also NEG so right.

“I’m not so sure...”

a. <*, MB >

... *dea is woi an Säa ausse gfahrn*
DET is **wohl** on.DET lake out driven

⁷ For details on the connection between clause type, illocutionary force and DPRTs see the discussion in Chapter 3.

b. <✓, MB >

...	<i>dea</i>	<i>is</i>	<i>wahrscheinlich</i>	<i>an</i>	<i>Sää</i>	<i>ausse</i>	<i>gfahrn</i>
	DET	is	probably	on.DET	lake	out	driven

“... he probably went out on the lake.”

c. <✓, MB >

...	<i>dea</i>	<i>kannt</i>	<i>an</i>	<i>Sää</i>	<i>ausse</i>	<i>gfahrn</i>	<i>sei</i>
	DET	could	on.DET	lake	out	driven	be

“... he might have gone out on the lake.”

Speaker doubt cannot be expressed in MB with the DPRT (17a), but is expressed with the adverb *wahrscheinlich* (‘probably’) (17b) or via a modal verb, as in (17c).

If *wohl* is used in MB, the speaker does not indicate doubt. This is illustrated in (18), a context where Tina is sure about her assessment that riding without a helmet on a motorcycle is dangerous, even for short distances.

(18) Cx: Tobi proclaims that he is going for a motorcycle ride. He is not wearing a helmet. His sister Tina thinks this is reckless and dangerous behavior, and urges him to wear a helmet. He responds that he only wants to go for a short spin around the block, and it will be ok.

Tina:	<i>Du</i>	<i>spinnst</i>	<i>woi</i>	<i>total!</i>
	you	spin	wohl	totally.

“You are totally crazy!”

An example from my corpus further corroborates the claim that in MB *wohl* is not used to express doubt. Example (19) shows co-occurrence with *ja*. *Ja*, as I will argue in detail in Chapter 4, expresses speaker commitment to the propositional content of the host utterance. This interpretation would be incompatible with an expression of doubt. Nevertheless, *ja* can co-occur with *wohl*.

- (19) Cx: Students are visiting a radio station to learn about broadcasting. Alfred, the radio host, mentions Jimmy Hendrix to the class.

Student: *Ähh wer is da Jimmy Hendrix?*

“Um, who is Jimmy Hendrix?”

Alfred: *Jimmy Hendrix?!? Na jetz glab e's awa...*
Jimmy Hendrix PRT jetz believe I.it aber

...ia werds ja woi no an Jimmy Hendrix kena oda?!
...you will ja wohl still DET J. H know CONF

“Jimmy Hendrix!? Well, now it's too much! You must surely know J. H., right?”

We have seen now that the use of DPRTs is not uniform across all German dialects. This illustrates the need for a better understanding as to which specific dialect allows for which DPRT reading. To my knowledge this has not been undertaken up to this point.

A second argument for considering a specific dialect of German comes from the fact that some dialects have DPRTs that are not part of the inventory of other dialects. Bavarian, in general, and MB in specific, have the DPRTs *fei* and *ebba*⁸, not used in SG, or northern dialects of German (cf. Weiss 1998). Observe the following example of *fei* from an online version of a Munich based daily paper, the *TZ*.

- (20) Cx: As of March 2014, the *TZ* offers a Bavarian written site. The editor solicits submissions on the Internet homepage.

⁸ I am not going to consider *ebba* in this dissertation. The following example from Weiss (1998) illustrates its use, which is close in function to the DPRT *vielleicht*. Note that Bavarian has an indefinite pronoun ‘somebody’ with the exact same form.

(i) *Hod ebba ebba ebbs gseng?*
 has **ebba** somebody something seen

“Did somebody see something?”
 [Could it be that] somebody saw something?

(Weiss, 1998:97 ex 19a)

*Unsa neie Bairisch-Seitn: De woi'ma **fei** ned alloa macha...*
 our new Bavarian site that want.we **fei** NEG alone make

“Our new Bavarian language site: we **fei** don’t want to do it by ourselves.”

...mia daadn uns gscheid gfrein, wenn aa Sie a bissl middoa daadn
 we would us properly be.happy if also you DET bit with.do would

“...we would be very happy if you’d help, too.”

We could speculate that these additional DPRTs simply add other meanings that cannot be expressed in other dialects, and that the meanings of DPRTs shared by both dialects are the same. This speculation is not quite right, as we have seen above. Moreover, there is preliminary evidence that the specific inventories of DPRTs in a given dialect may affect their interpretation. An example comes from an Upper Austrian-Bavarian variety, which has the DPRT *leicht* (Burton and Wiltschko 2015, cf. Grosz 2005 for Viennese), which does not exist in MB.⁹ When a speaker has current evidence to believe the proposition expressed in the host utterance is true, Upper Austrian (UA) speakers can use the DPRT *leicht*. Crucially, the speaker did not know that this proposition holds (i.e. was true) prior to the utterance situation. This is illustrated by (21), which is used if Maria has evidence on the spot, i.e. a current reason to believe that Paul has a dog now. In this context, the sentence-peripheral confirmational particle *geu* is ill-formed (Burton and Wiltschko 2015; cf. Heim et al.

⁹ *leicht* is likely grammaticalized from the DPRT *vielleicht*, which does exist in MB as well. However, note that *vielleicht* is ill-formed in rising declaratives in MB (i), whereas *leicht* is well-formed in this context, as illustrated by (ii).

(i) <*, MB> *Du host **vielleicht** an neia Hund?*
 you have **vielleicht** DET new dog

(ii) <✓, MB> *Host du **vielleicht** an neia Hund?*
 have you **vielleicht** DET new dog

“Do you have a new dog?”

‘[Is it possible that] you have a new dog?’

2016, cf. Wiltschko and Heim 2016).

- (21) Cx₁: Maria is going on a walk, and thinks of her friend Paul, whom she hasn't seen in a while. A few minutes later she runs into Paul, who has a dog on a leash beside him. After saying hello, Maria says:

- a. *Du host leicht an neichn Hund?*
you have leicht DET new dog?

“You have a new dog?”

- b. <*, UA> *Du host an neichn Hund, geu?*
you have DET new dog, CONF

“You have a new dog, eh?”

The existence of the DPRT *leicht* blocks a particular interpretation of the confirmational particle ‘*geu*’, which is used in UA to express only that the speaker has previous reason to believe the proposition expressed in the utterance. This is illustrated in a context Cx₂, where Maria is told that Paul has a new dog, providing her with previous reason to believe that p.

- (22) Cx₂: Maria hears from her neighbor that her friend Paul has a dog now. A few hours later she runs into Paul on the street, who has a dog on a leash beside him. After saying hello, Maria says:

- a. *Du host an neichn Hund, geu?*
you have DET new dog CONF

“You have a new dog, eh?”

- b. <*, UA> *Du host leicht an neichn Hund?*
you have leicht DET new dog?

In MB, the equivalent of Upper Austrian *geu* is *gä*. *Gä* is well-formed in both contexts, Cx₁ and Cx₂. This suggests that the existence of *leicht* in Upper Austrian covers part of the functional use spectrum of *geu*, which is covered by *gä* in MB. In

essence, the existence and function of *leicht* in this dialect appears to block a function of *geu/gä* that is reported for MB.

Lastly, variation in DPRT inventory also includes the existence of clitic DPRT forms in MB. Notably, MB has clitic versions of some DPRTs, specifically *ja* and its clitic counterpart *'a* and *denn* with its clitic counterpart *'(a)n* (Weiss 1998). These are much more restricted in their distribution than their full counterparts (see Grosz 2005 for an in-depth discussion of the Viennese German equivalent *'dn*).

- (23) a. *How'e'n* *da des* *ned* *gsogt?*
 have.I.(**den**)n you DET NEG said

“Didn’t I tell you that?”

- b. *How'e' da denn des* *ned* *gsogt?*
 have.I.you **denn** DET NEG said

- c. **How'e denn* *da des* *ned* *gsogt?*
 have.I.**denn** you DET NEG said

- d. **How'e' da'n* *des* *ned* *gsogt?*
 have.I.you.(**den**)n DET NEG said

- e. **How'n'e' da* *des* *ned* *gsogt?*
 have.(**den**)n.I.you DET NEG said

Clitic versions of DPRTs are not reported for SG. Whereas the full forms can follow a full DP/pronoun in the middle field (24a), the clitic forms have to cliticize onto C, following clitic pronouns (24c).¹⁰

- (24) *Mia* *is grod eigfoin ...*
 me is just fall.in

¹⁰ I will not deal with clitic data in this dissertation, but see Grosz (2005) for a discussion of the Viennese interrogative DPRT clitic *'dn*, and Bayer (2012) for the Bavarian counterpart *'n*.

a. ... *dass d’Katl ja scho lang Geburtstag ghabt hod*
 ... that DET.Katl **ja** already long birthday has had

“I just remembered that Katl already had her birthday a while back.”

b. ...*dass ’a d’Katl scho lang Geburtstag ghabt hod*
 ... that (**j**)a DET.Katl already long birthday has had

"I just remembered that Katl already had her birthday a while back."

c.*... *dass d’Katl’a scho lang Geburtstag ghabt hod*
 ...that DET.Katl.(**j**)a alreadylong birthday has had

To summarize, the observation that different regional versions of even one general dialect (here Bavarian) show variation in inventory and use of DPRTs, as illustrated by *wohl*, *fei*, and Upper Austrian *leicht*, as well as the existence of clitic versions with different distributional restrictions, indicates the need to restrict data to sources from a delineated dialect area.

1.2.3 Summary

In this section I discussed reasons why I chose to restrict the data in this dissertation to the MB dialect of German. First, I summarized arguments from Weiss (1998, 2004) who points out the preferred status of dialect for formal linguistic investigation, since it is in many regards L1, the first language acquired by speakers. Second, dialect as a spoken language phenomenon is ideally suited to the investigation of DPRTs, which also feature predominantly in spoken language. Third, I argued that there is a great variety in the inventory and use of DPRTs across dialects. All these arguments point to the preference of a delineated regional dialect. I refer the interested reader to Weiss (2004) and Auer (2004) for further in-depth arguments in support of this point.

1.3 Theoretical assumptions and background

In this section I introduce some of my assumptions regarding the models of grammar and pragmatics. I begin with a sketch of my syntactic assumptions.

1.3.1 Syntax

I locate the claims presented in this dissertation within a framework that takes as its point of departure the assumption that linguistic competence is based on basic principles provided by a Universal Grammar, which all human languages share. Differences in languages arise via differences in certain language specific parameters. This Principles and Parameters approach to language and linguistic variation has undergone various instantiations since its initial conception in Chomsky (1981). Two such current instantiations of the Principles and Parameters framework are the *Minimalist Program* (Chomsky 1995) and *Cartography* (Cinque 1999, Rizzi 1997). The former assumes bare phrase structure, eliminating functional categories as primitives. Clauses are built from the bottom up, by binary merge of linguistic items. The latter approach, Cartography, assumes a wide range of functional categories, which are often introduced to capture the function of a linguistic item. Clauses in this framework are built by merging linguistic items within a pre-existing syntactic structure. Critics of this approach admonish the proliferation of function-based projections. I refer the interested reader to Ramchand and Svenonius (2014) and Wiltschko (2014) for in-depth arguments and comparisons of the two models.

An instantiation for an in-between model is the *Universal Spine Hypothesis*, developed by Wiltschko (2014). I adopt this model for the analysis presented here. The Universal Spine Hypothesis, as the name suggests,

recognizes a universal syntactic spine, which consists of a series of hierarchically organized, functional categories κ . Each of these functional categories κ fulfills intrinsic abstract grammatical functions, such as linking, anchoring, or classifying. The abstract functions of the spine are based on general cognitive functions (cf. Ramchand and Svenonius 2014). This model also captures the long observed parallelism between the nominal and verbal domains. I will introduce the Universal Spine Hypothesis in more detail in section 6.3, since a discussion of the syntactic analysis of DPRTs will be delayed to Chapter 6. Much of the syntactic discussion in Chapter 6 is inspired by the seminal work of Speas and Tenny (2003), who take Ross (1970) as a point of departure. They argue for the need to introduce a syntactic representation of the speech act and its participants. This approach is further pursued and formalized in much subsequent works from which I draw here, most notably Hill (2007), Haegeman and Hill (2013) and Haegeman (2014).

1.3.2 Pragmatic model

The DPRTs discussed in this dissertation allow interlocutors to position an utterance within a context while providing information about a specific mental model; they reflect a speaker's or addressee's mental model of each other (cf. Green 2006). This is the reason why I investigate DPRTs in the context of a syntax pragmatics interface. DPRTs provide pragmatic information, which in Green's (2006:407) terms "is ultimately indexical information, that is, related to indices for speaker, hearer, time, and location of an act of uttering something [...]".

Syntax plays a role on the one hand, in providing the relationship between the index (e.g. discourse participants) and the content of the act of uttering something (i.e.

the content of an utterance, which I will call *p* across all clause types for exposition). The relation between the index and its content can be viewed as a predicative relation. On the other hand, the aspect placing DPRTs into the realm of pragmatics has to do with their relationship to the index. As we will see in the course of this dissertation, the model alluded to in the previous section and developed in detail in Chapter 6, advocates for the ‘syntacticization of discourse’ (Haegeman and Hill 2013), and places some of this pragmatic burden onto the syntactic spine.

A part of the analysis presented in this dissertation will be framed within speech act theory and is based on a model of conversations and discourse advanced in Clark (1996) and Clark and Schaefer (1989). In particular, I assume that utterances (and their contents) do not enter a common ground shared between a speaker and addressee by virtue of being uttered; rather, they need to be *grounded*. Grounding, introduced in Clark and Schaefer (1989: 262) is based on the condition that a speaker and addressee mutually believe that the addressee has understood what the speaker meant with an utterance, in a way sufficient for the purposes of the conversation. This leads to a two-step process, where a speaker *presents* some utterance, and the addressee *accepts* the utterance. I formalize this separation further, by adopting terminology from Farkas and Bruce (2010) and Malamud and Stephenson (2015), which in many ways builds on the proposal in Clark and Schaefer (1989) and Clark (1996). In particular, the two-step model of grounding utterances presupposes a separation of a formal component tasked with representing the speaker’s belief, and the addressee’s belief. This will be introduced in detail in Chapter 3.

DPRTs are highly context sensitive. However, it is not *a priori* clear what context sensitivity means. Bach (2012) argues for the need to ask whether it is the content of the host utterance that varies from one context of utterance to another, and whether it

does so because of specific features of the context itself. In the case of indexicals, that is, with expressions that have no fixed reference, such as ‘I’ and ‘today’, context can play a more direct, semantic role. Indexicals are context sensitive in that their function depends on the context in which they are used. DPRTs, as I argue in this dissertation, are context sensitive in that their functional range (which is what I will call their individual, sometimes changing interpretational contribution to a host utterance) can be attributed to context. However, DPRTs do not depend on context. A given DPRT can be compatible (or not) with a context, and context can influence the function of a compatible DPRT, but context does not determine this function.

DPRT have received a variety of names that reflect insights about their pragmatic function. DPRTs are known in German as *Modalpartikeln* ‘modal particles’. Under a definition of modality as ‘relational’, establishing a connection between what is known by the interlocutors and the proposition expressed in the utterance, we can understand DPRTs as modal in the sense that they relate the proposition to the epistemic state of each discourse participant. I show in this dissertation that a fine-grained distinction can be established, corroborating the idea of DPRTs as modal particles: DPRTs can be classified into those that relate the utterance to an addressee, a speaker and a contextually defined discourse participant O.

Another term used to refer to DPRTs is *Abtönungspartikeln* ‘toning particles’ (e.g. Weydt 1969). This can be understood as another core property of discourse particles that will be explored here, namely their ability to amend (i.e. tone down or emphasize) the illocutionary force associated with a given utterance. This brings us back to pragmatics, into the realm of speech acts and their associated conditions (Searle 1969). These will be further contextualized in Chapter 5.

1.4 Proposal

The main empirical goal of this dissertation is to establish the existence of three types of DPRTs, each expressing a different discourse participant's attitude. I propose that each type of DPRT is associated with a different syntactic layer. This presents the analytical contribution of this dissertation. That is, I follow recent syntactic proposals that argue for the need to expand the clausal spine to include projections representing the speech act participants S and A and their epistemic states (e.g. Haegeman and Hill 2013, Haegeman 2014, Heim et al. 2016, Wiltschko and Heim 2016).

My initial research on DPRTs was spurred by the commonly made observation that these UoLs are pervasively multifunctional. A main question triggered by multifunctionality is whether DPRTs are somehow inherently specified as such: can DPRTs be analyzed as a unique sound-meaning pairs with specific categorial labels that do justice to their function? Categorized as such, DPRTs would differ from other, homophonous particles that would be analysed as fully distinct sound-meaning pairs with other category labels. For example, the UoL *ja* can be used as a response marker ('yes'), as a discourse particle, and as a discourse marker. Hence it appears to have three functions that may be attributed to three distinct but accidentally homophonous UoLs, as schematized (25).¹¹

(25)	f^1 :	UoL ¹
	f^2 :	UoL ²
	f^3 :	UoL ³
	etc...	

¹¹ These UoLs of course don't necessarily have to be completely different. But even under the assumption of principled polysemy, most researchers assume DPRTs and their counterparts in other word classes to be distinct items, and featurally specified differently. I discuss this in more detail in Chapter 2 (2.2.1).

The Universal Spine Hypothesis provides us with an alternative to positing massive accidental homophony (and even to the idea of related yet distinct items), which I explore here. In effect, I adopt a hypothesis that endows a *UoL* with a meaning that is general enough to allow more fine-grained functions to arise in the relevant contexts. Specifically, I argue that the notion of a discourse particle is a construct (at least in MB). I talk about a DPRT when we refer to a (language specific) function f of a *UoL* in a specific syntactic context Cx_{SYN} . Other language specific functions (e.g. as response particle) are represented as another function f_{resp} of a *UoL* in another specific context Cx_{SYN}^2 .

$$(26) \quad \begin{aligned} f_{DPRT} &= UoL + Cx_{SYN}^1 \\ f_{resp} &= UoL + Cx_{SYN}^2 \end{aligned}$$

This dissertation focuses on the first function, the DPRT function. I establish that DPRTs are not homogenous in their property of expressing attitude; specifically, I establish in Chapter 4 a more fine-grained approach, showing that DPRTs do not only express speaker attitude. Rather, I show that they can be separated into expressing three epistemic stances; into those that express (i) addressee belief (A-orientation), (ii) speaker belief (S-orientation), and (iii) those which relate the host utterance to a contextually determined participant other (O-orientation). I show in Chapter 6 that the fine-grained orientations of DPRTs are conditioned by syntax ($Cx:syn$), that is, by the specific functional projections with the abstract category label κ that these DPRTs associate with (27).

(27) *A-orientation* = *UoL* + κ : *addressee*

S-orientation = *UoL* + κ : *speaker*

O-orientation = *UoL* + κ : *other*

The functional range of a single DPRT, i.e. the variety of interpretational nuances which can arise from one single DPRT in different contexts, are shown to arise from the contribution of the context. This includes the discourse context (Cx: disc) as well as the situational context (Cx: sit), and is discussed in detail in Chapter 5.

The overarching function of Miesbach Bavarian DPRTs is uniform in that they share the property of being relational (cf. Diwald 2013); they establish a relation between the host utterance and the larger discourse context by *grounding* the proposition *p* to a discourse participant. This relational property likens them to predicates, which also relate two arguments. To accommodate this grounding function in the spine, I adopt recent proposals to extend the Universal Spine, introducing an Extended Universal Spine in Chapter 6. Each of the domains introduced by the Extended Spine has a relational function as illustrated in Figure 4.

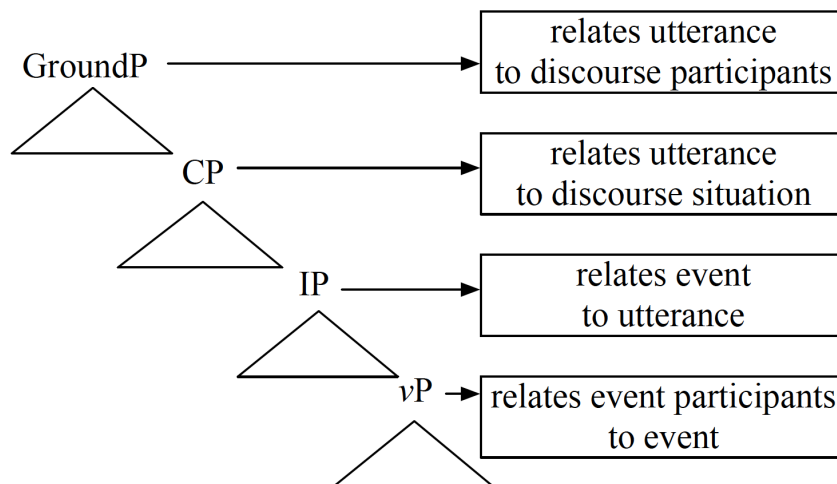


Figure 4: The relational functions of the Universal Spine

I show further that MB DPRTs display variation in how *grounding* proceeds, that is, they differ in how they relate the host utterance to the discourse situation. With this extended spine we can understand the classification of DPRTs introduced here into DPRTs that are addressee-oriented (A-oriented), those which are speaker-oriented (S-oriented), and those which are other-oriented (O-oriented).

This subdivision of DPRTs into these functional groups suggests that the *grounding* layer GroundP needs to be subdivided, too, into a projection representing A and a projection representing S. I argue for this in Chapter 6, where I also propose that O-oriented DPRTs associate with CP.

1.5 Roadmap

The dissertation is organized as follows.

In **Chapter 2**, I give a brief background of the properties that have been uncovered so far in the extensive literature on DPRTs. These properties, however, do not allow us to establish DPRTs as a natural class, since not all items considered DPRTs conform to all of them. One well-known property of DPRTs, and certainly a necessary property, is that DPRTs are attitudinal in some ways. Other properties, such as the obligatory occurrence in the syntactic middle field, their propositional scope despite the syntactic integration, and their sentence type dependence will also be discussed.

In **Chapter 3**, I introduce the background on the two necessary ingredients that allow me to derive DPRT function: the context, and the UoL serving as the basis for deriving DPRT function.

Chapter 4 provides evidence for the need to further distinguish the notion of attitude. My empirical basis draws on case-studies of five MB particles: *fei*, *doch*, *ja*, *eh*, and *jetz*. I show that MB DPRTs express epistemicity, i.e. the epistemic stance of a discourse participant. Further I show that we can distinguish three classes of DPRTs, each relating the host utterance to a different discourse participant, thereby indicating their respective epistemicity. *fei* and *doch* show that DPRTs can relate the host utterance to the addressee; they are A-oriented DPRTs. *ja* shows that DPRTs can relate the host utterance to the speaker; it is S-oriented. *eh* and *jetz* show that DPRTs can relate the host utterance to a contextually determined discourse participant 'other'; they are O-oriented.

Chapter 5 shows that the wide range of interpretations associated with DPRTs, their functional range, can also be derived on principled grounds (cf. Abraham, 1991a,b). A UoL with DPRT function can derive functional range due to the context. I show that it is the larger context (Cx: disc and Cx: sit) of the DPRT that contributes the fine-grained interpretational differences. DPRTs are compatible with a variety of contexts which all have in common that they include aspects of their unique core function. In this way, the larger context contributes to the meaning just like the DPRT (and its host utterance) contributes meaning.

Chapter 6 aims at providing a syntactic account for the three orientations uncovered in Chapter 4. I adopt previous proposals to expand a core syntactic spine to include a 'speech act' level projection (e.g. Hill 2007, Abraham 2012, Coniglio and Zegrean 2012, Zu 2013, Thoma 2014, Lam 2014, Haegeman 2014, Heim et al. 2016, among others). I integrate this with Wiltschko's (2014) Universal Spine, and analyze the case studies from Chapter 4 within this extended Universal Spine. I propose that

the function of the particles in the three classes is derived, and that DPRTs are best analyzed as syntactic constructs.

Chapter 7 summarizes and concludes with a brief look at open issues and further research.

Chapter 2: Discourse particle properties

2.1 Introduction

Until the 1960s, DPRTs were largely considered superfluous, unnecessary filler words, as Reiners (1944) puts it: *Läuse Im Pelz unsure Sprache* ‘lice in the fur of our language’. Based mostly on normative approaches to grammar, which took written language as the ideal object of investigation, DPRTs, as a predominantly spoken language phenomenon, did not receive much attention. This changed during the 1960s and 1970s, when the field of linguistic pragmatics began to emerge, and led to theoretical approaches such as speech act theory, discourse analysis, and conversation analysis. All of these came with their respective approaches to DPRTs, leading to the manifold ways in which DPRTs have been described and analyzed over the last 50 years (cf. Kwon 2005 for more details on some of these approaches). The first investigations into DPRTs, such as Krivonosov (1977), Weydt (1969, 1979), and Helbig (1988), were restricted to describing the general meaning of individual DPRTs. One of the first, more formal approaches to DPRTs is that of Doherty (1987), who argued that the primary function of DPRTs is found in the expression of epistemic attitudes of the speaker. I will follow in Doherty’s footsteps in this dissertation and present an analysis of DPRTs that sees as their main function the expression of discourse participant epistemicity.

More recently, researchers from the generative tradition have approached and investigated DPRTs from the point of view of their syntax and semantics. For syntactic approaches see Grosz (2005), Coniglio (2006, 2007, 2009), Bayer (2008, 2012), Bayer and Obenauer (2011), Cardinaletti (2011), Coniglio and Zegrean (2012),

Struckmeier (2014) among others. For semantic analyses see Kratzer (1999, 2004), Zimmermann (2004, 2011), Grosz (2005, 2010a), Gutzmann (2008, 2009), Kaufmann and Kaufmann (2012), among others.

In addition, Werner Abraham has been at the forefront of formal discourse particle research since the early eighties, offering various analyses both in functional and generative grammar frameworks (e.g. Abraham 1986, 1988, 1991a, 1991b, 1991c, 1996, 2000, 2001, 2009, 2010, 2012). Many aspects of the analysis presented here are indebted to and build on his insights, as well as the insights offered by the above-mentioned particologists.

Despite the extensive research on DPRTs, we do not, however, have an exhaustive list of necessary and sufficient conditions to classify DPRTs to date. It is debated whether they constitute an (emergent) word class, with proponents like Meibauer (1994), Diewald (2006, 2013) and Stuckmeier (2014), though others, like Helbig (1988) and Thurmair (1989), argue against this view. With this unresolved debate on their categorial status, it also comes as no surprise that there is no real consensus on the number of linguistic objects that should be considered DPRTs in German. Proposed numbers range from 15 up to 40 (Diewald 2013), with new DPRTs continuously being added to this inventory (e.g. for SG *wieder* Pittner 2009, for Bavarian *fei* Thoma 2009). Their multi-functionality, their apparent optionality, sentence type restriction, distribution, and their categorial status, are all well documented, yet analytically unresolved properties. This dissertation aims to contribute to our understanding of these properties.

In what follows, I discuss these properties in more detail, and illustrate them on the basis of MB.

2.2 DPRT properties and the questions they raise

DPRTs are characterized by a variety of empirical properties. These properties raise a host of analytical questions, which will be presented in the next section. The problems addressed include multi-functionality (2.2.1) and their reported optionality in a sentence (2.2.2). In 2.2.3 I show their linear distribution within the clause. Their phrasal status is addressed in 2.2.4. In section 2.2.5 I address the propositional scope of DPRTs. Sentence type restriction will be discussed in 2.2.6, whereas the meaning contribution of DPRTs is addressed in 2.2.7 I conclude this Chapter in section 2.3.

2.2.1 Two types of multi-functionality

Probably one of the most mentioned, but least discussed properties of DPRTs is their pervasive multi-functionality (Abraham 1991a,c). DPRTs are multifunctional in two ways. First, DPRTs have counterparts in other word classes, with different functions. This will be discussed as *multi-functionality across categories*. Second, DPRTs are multi-functional within their DPRT use. That is, a DPRT such as *doch* can have a functional range, with interpretational differences delimited by context. Examples are the so called ‘corrective’ use of *doch* versus the ‘reminding’ use of *doch*, and the ‘shared knowledge’ use of *ja* versus the ‘surprise’ use of *ja*. This will be further illustrated and discussed below as the *functional range of DPRTs*.

Multi-functionality across categories: DPRTs in MB are generally multi-functional. That is, DPRTs have counterparts in other categories.¹² This is illustrated

¹² Of the five particles discussed here in detail, all besides *fei* are multi-functional. *fei* along with one other DPRT (*hoid*; *SG halt*) in MB is mono-functional. The mono-functionality of *fei* will be briefly addressed in Chapter 7, where I deal with grammaticalization of DPRTs.

below based on *jetz*, a UoL, which can function as a DPRT, as a temporal adverb, as an adjective, and as a discourse marker.¹³

(1)

UoL	Function <i>f</i>
	<i>f</i> ₁ : discourse particle
	<i>f</i> ₂ : temporal adverb
<i>jetz</i>	<i>f</i> ₃ : adjective
	<i>f</i> ₄ : discourse marker

Multi-functionality is pervasive with DPRTs, and can be treated two ways; in terms of meaning maximalism or in terms of meaning minimalism (cf. Abraham 1991a, Zimmermann 2011 and references therein). According to a meaning maximalist approach in its most extreme instantiation, multi-functionality arises due to accidental homophony. UoLs with differing functions are assumed to be synchronically unrelated – each function is associated with a distinct lexical entry, with different distributional, phonological and semantic properties. This is illustrated in (2) based on *jetz*.

(2) Meaning maximalist approach to multi-functionality of *jetz*

UoL ₁	<i>jetz</i> :	<i>f</i> ₁	→ discourse particle
UoL ₂	<i>jetz</i> :	<i>f</i> ₂	→ temporal adverb
UoL ₃	<i>jetz</i>	<i>f</i> ₃	→ adjective
UoL ₄	<i>jetz</i>	<i>f</i> ₄	→ discourse marker

¹³ The differentiation between DPRTs and discourse markers is not particularly clear, since there is a wide range of naming conventions in the literature (see the introduction in Fischer (2006), as well as Diewald (2013) for ways of differentiating). The assumption I adopt here is that DPRTs are distinct from discourse markers due to (i) their unique distribution in the middle field and (ii) their function. These criteria are specific to MB (German), since discourse markers and discourse particles differ in their distribution across languages.

The most prominent advocate for this approach is Helbig (1988). But more recent approaches toward the syntax and semantics of DPRTs can also be seen to fall under this category. Bayer and Obenauer (2011), for example, consider the interrogative DPRT *denn* to be endowed with special syntactic features, which account for its restriction to polar and wh-interrogatives (see Coniglio and Zegrean 2012 for a similar proposal for Italian and Romanian DPRTs). *Denn* can also function as a conjunction, however. The conjunction *denn* under this proposal is presumably not equipped with the same syntactic features as the DPRT *denn*, since their distribution and interpretation is different. Two UoLs with two separate feature specifications are the result.

Coming from the semantic side, Grosz (2010a) approaches DPRTs similarly to how Bayer and Obenauer (2011) approach their syntax. Instead of proposing special syntactic features that distinguish DPRTs from their homophones, Grosz (2010a) argues that the DPRTs *JA*, *ruhig*, and *bloß* should be considered as special modals, each with their own lexical entry. These lexical modal features then restrict their distribution and interpretation. He states: “Note that JA (with obligatory stress) is homophonous with ja ‘yes’ and the unstressed discourse particle ja discussed by Kratzer (1999); bloß is homophonous with bloß ‘only’ and ruhig with ruhig ‘quietly’. These alternative readings are irrelevant for the purpose of this paper.” (Grosz, 2010: Fn2). This quote captures the general approach to DPRT multifunctionality, even under a meaning maximalist hypotheses; variable readings are seen as homophonous, and often considered unrelated, irrelevant or are simply excluded from analysis.

Meaning maximalist approaches contrast with meaning minimalist approaches, according to which differences in interpretation can be derived from an underlying

core interpretation, provided by a sound π meaning Σ bundle $\langle \pi, \Sigma \rangle$ (which I call UoL, following Wiltschko 2014). Under this hypothesis, it is the syntactic context (Cx_{SYN}) that DPRTs appear in that is responsible for the differences in function.

(3) Meaning minimalist approach to multi-functionality for *jetz*

UoL: <i>jetz</i>	$Cx_{\text{SYN } 1}$	f_1	\rightarrow	discourse particle
	$Cx_{\text{SYN } 2}$	f_2	\rightarrow	temporal adverb
	$Cx_{\text{SYN } 3}$	f_3	\rightarrow	adjective
	$Cx_{\text{SYN } 4}$	f_4	\rightarrow	discourse marker

There are several attempts that seek to derive (at least a subset of) the possible functions of some DPRTs from one underlying core meaning (Abraham 1991a, 2001; Krifka 2013; Thurmair 1989). I will follow in this vein here, and whereas I make suggestions, I will not be able to address in detail this aspect of multi-functionality in this dissertation. The next multi-functionality aspect, however, is at the core of Chapter 5, and will be introduced next.

Note, in passing, that I view both types of multi-functionality as instantiating the same phenomenon: the function of a given UoL is largely contextually derived where context can be viewed as the narrow syntactic context or the larger discourse and situational context.

The functional range of DPRTs:

Meaning maximalism originally intends to refer to the fact that a DPRT such as *ja* and *doch* can have a variety of interpretations depending on the host utterance, discourse context, and accenting pattern (unaccented or accented). Thus, there is a functional range associated with a given DPRT. For the particles discussed here (*fei*, *doch*, *ja*, *jetz*, and *eh*), a variety of functions have been reported (cf. Franck 1980,

Helbig 1988). I will address in detail the functional range of *ja*, *doch*, and *fei* in Chapter 5, but introduce the general problem below by illustrating with a subset of the functional range of *ja*.

(4) a. Cx¹: Martl asks who is coming to Dani's party. Alex responds:

D'Sonja kann ned kemma...
 DET Sonja can NEG come.

...de muass'se ja um ihre Zwilling kimman.
 ...she has.self ja for her twins care

“Sonja can't come. She *ja* has to care for her twins.”

(Modeled after Kratzer 2004: ex 10)

b. Cx²: I am sitting in the coffee shop, working on my thesis. I check the time, and realize how late it is. I mutter to myself:

I *muass ja in 5 Minuten in da Abteilung sei!*
 I must ja in 5 minutes in DET department be

“(Gosh), I gotta *ja* be in the department in 5 minutes!”

(Modeled after Kratzer and Matthewson, 2009: ex 10)

In (4) a, the function of *ja*, according to Kratzer (2004) is to refer to mutually shared knowledge, often framed as a Stalnakerian presupposition (cf. also Kaufmann 2004, Kaufmann and Kaufmann 2012). In (4) b, however, the function of *ja* cannot refer to mutually shared knowledge; there is no addressee present in the discourse context, as observed by Kratzer and Matthewson (2009). In this context, *ja* expresses surprise (Kratzer 2004, Lindner 1991). The (partial) functional range of *ja* is summarized in (5).

(5) Functional range of *ja*

UoL: <i>ja</i>	Cx ₁	<i>f</i> ₁	→ mutually shared knowledge
	Cx ₂	<i>f</i> ₂	→ surprise

The question that arises here is whether the *functional range* of *ja* is lexically encoded or derived by contextual factors. I take up this question in Chapter 5.

2.2.2 Obligatoriness

DPRTs are not considered obligatory for the grammaticality of a sentence in MB (cf. also Thurmair 1989, Kwon, 2005 for SG). This is illustrated below. The host sentence by itself, without a context, is well-formed without a DPRT (6a), with the DPRT *eh* (6b), and with the DPRT *ja* (6c), and with both DPRTs (6d).

- (6) a. *Es findts nix.*
you find.2PL nothing

“You're not gonna find anything.”

- b. *Es findts eh nix.*
you find.2PL eh nothing

“You're **eh** not gonna find anything.”

- c. *Es findts ja nix.*
you find.2PL ja nothing

“You're **ja** not gonna find anything.”

- d. *Es findts ja eh nix.*
you find.2PL ja eh nothing

“You're **ja eh** not gonna find anything.”

However, consider what happens if we place these examples in a particular context.

Take (6d), where both DPRTs co-occur. In the context below, the presence of these

DPRTs is obligatory. Without them, the utterance is not possible in this context.

- (7) C_{x1}: Alexander is being accused by his classmates of stealing a special kind of paint. His classmates interrogate him, he denies. At the end, one of them suggests to look into his bag. Alexander reacts:

Vo mir aus...

“As far as I’m concerned...”

- a. <✓, C_{x1}>... *schaugts in mein Schuiranzn, findts ja eh nix.*
look.2PL in my school.bag find.2PL **ja eh** nothing

“...look into my bag ,you're **ja eh** not gonna find anything anyways.”

- b. <*, C_{x1}>... *schaugts in mein Schuiranzn, findts nix.*
look.2PL in my school.bag find.2PL nothing

This suggests that, once we take context into consideration, DPRTs are no longer optional.

Furthermore, there are several sentence types, such as in subordinate clauses, where DPRTs, according to Thurmair (1989) are “almost obligatory”, (cf. Zimmermann, 2004, Kwon 2005, Struckmeier 2014). In subordinate clauses are typically characterized by two seemingly contradictory properties:

- (i) they are used as independent utterances (i.e., what appears to be a root-context),
- and
- (ii) they have the form of a subordinate clause: they are introduced by a complementizer.

(8) a. (*I mecht*) ...*dass'd* *brav* *bist* *bei* *da* *Oma*
 I want ...that.you good are atDET grandma

 “I want that you’re good at Grandma’s.”

 b. * *Dass'd* *brav* *bist* *bei* *da* *Oma*
 that.you good are at DET grandma

 “...that you’re good at Grandma’s.”

 c. ✓ *Dass'd* ***fei*** *brav* *bist* *bei* *da* *Oma*
 that.you *fei* good are at DET grandma

 “Be good at Grandma’s.”

- (i) Why are DPRTs considered optional?
- (ii) Why are DPRTs obligatory in some contexts?

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2.2.3 Distribution

As shown in (9), DPRTs like *fei* occur in the middle field.

(9) (**fei*) *Da Hansi* (**fei*) *hod* (*fei*) *am Basti* (*fei*) *a Maß* ([?]*fei*) *spendiad* (**fei*)
fei DET Hansi *fei* has *fei* DET Basti *fei* DET litre.beer *fei* pay.for

“Hansi bought Basti *fei* a beer.”

We have seen in Chapter 1, that in German, scrambling can alter the base position of constituents. Hence, the surface position of a UoL, i.e. the way it is linearized, is not always indicative of its interpretive position, the place it associates with the spine (details in Chapter 6). While the linear position of DPRTs in the middlefield is clear (cf. (9)), the question about their syntactic association, that is, structural position in the spine is less clear. Nevertheless, the position of DPRTs in the syntactic string has been used as structural diagnostic (e.g. Diesing 1992).

This position has also prompted analyses that propose that DPRTs occupy the specifiers of functional projections in a highly articulated IP domain (Coniglio 2005, 2008; Grosz 2005, 2007), whereas Bayer and Obenauer (2011), propose that DPRTs are merged in a Particle Phrase in the middle field above vP. This open question about the position in the spine DPRTs associate with (which, as I mentioned, can be different from their overt position), immediately leads to the next open issue, namely the phrase-structural status of DPRTs as heads or modifiers. I turn to this question below.

2.2.4 Heads or phrases

It is an open issue in DPRT research whether DPRTs are best considered as heads or phrases. Below I discuss some of the empirical problems associated with this issue.

DPRTs cannot be modified. In this respect, they contrast with adverbs. Unlike the adverb *bestimmt*, the DPRT *ja* cannot be modified with *ganz* as shown in (10).

- (10) a. *Da Hans is ganz bestimmt scho do*
 DET Hans is completely surely already there
 “Hans is certainly already there.”
- b. *Da Hans is *ganz ja scho do*
 DET Hans is completely **ja** already there
- c. *Da Hans is ja scho do*
 DET Hans is **ja** already there
 “Hans is **ja** already there.”

This resistance to modification has led researchers to assume that DPRTs are heads (Abraham 1995, cf. Cardinaletti 2011, Coniglio 2005, Grosz 2005, cf. Poletto 2004 for Italian dialects).

DPRTs cannot be moved to SpecCP. Another possible indication of the head status of DPRTs is the fact that they cannot be questioned. This has been taken as an indicator that DPRTs lack constituent value (Weydt 1969).

- (11) a. *Des is fei schwaar.*
 DET is **fei** heavy
 “That is **fei** difficult.”
- b. A: *Wia is des so?*
 “What's it like?”
 B: *Schwaar / *fei*
 “difficult” / **fei**

Also unlike phrasal constituents, DPRTs cannot occur in Spec C; this again can be taken as an indication of their head status.

- (12) a. *Do is **fei** mei Mama.*
 there is **fei** my mom
- b. *Mei Mama is **fei** do*
 my mom is **fei** there
- c. ****fei** is do mei Mama*

DPRTs can be combined but not coordinated. DPRTs, unlike other phrases (for example APs), cannot be coordinated.

- (13) **Do is **fei** und **eh** mei Mama*
 there is **fei** and **eh** my mom

This inability to coordinate, unlike adverbs, is often taken as an indirect indication of their head status (cf. Grosz 2005, Abraham 2000). However, DPRTs can combine by stacking (14a). Stacking is not coordination (14b) and not considered a phrasal property, but a property of heads. The most common combination is that of two DPRTs like in (14a).

- (14) Cx¹: Luzia is complaining to grandma about her brother.

Luzia: *Oma, da Elias nimmt ma imma de Lego weg*

“Oma, Elias is always taking my Lego!”

- a. Oma:
 <✓, Cx¹> *Du* *host* ***doch*** ***eh*** *scho* *so* *vui...*
 you have ***doch*** ***eh*** alreadyso many
- “You already have ***doch eh*** so many, just leave them to him.”
- b. <*, Cx¹> *Du* *host* ***doch und*** ***eh*** *scho* *so* *vui...*
 you have ***doch*** and ***eh*** alreadyso many
- c. <*, Cx¹> *Du* *host* ***doch*** *scho* *so* *vui...*
 you have ***doch*** alreadyso many
- ... *loss'* *eam* ***doch*** *nehma.*
 ... leave.them him ***doch*** take
- “You already have ***doch eh*** so many, just leave them to him.”

Thurmair (1989, 1991) observes that sequences of three DPRTs are rare, but can be found; more than two DPRTs are not attested in my corpus however. Also observe that whereas DPRTs can combine, the same DPRT cannot be repeated (14c) to achieve an emphasis effect, for example. Under analyses that consider DPRTs types of expressives (Kratzer 1999, 2004; Potts 2007), repeatability could be expected, since this is a typical property of expressives (Potts 2007). However, the same DPRT such as in (14c) cannot be repeated, such as an intensifier like ‘very’ could. I address a possible reason behind this stacking restriction in Chapter 6.

Some DPRTs can behave as clitics. Some MB DPRTs have clitic-like properties. For example, ‘*a* and ‘*n*, the clitic counterparts of *ja* and *denn*, respectively, cliticize to the verb, or, if clitic pronouns are used, to the verb-pronominal clitic complex (cf. Bayer 2012, cf. Grosz 2005). So far, no clear pattern has been established about when a clitic version of a DPRT is used versus when the full particle counterpart is used. Observe (15a), with the full form of the DPRT *denn*, which follows the pronominal

clitic complex. (15b) shows that the clitic version of *denn*, 'n, can attach to the pronominal clitic complex as the last element. However, it cannot directly cliticize directly onto the verb, preceding pronominal clitics (15c).

- (15) a. *Wos hob'e'da denn do?*
 what have I you **denn** done?
 “What have I **denn** done to you?”
- b. *Wos hob'e'da'n do?*
- c. **Wos hob'n'e'da do?*

Since clitics behave inconclusively with regard to their behavior as syntactic heads or phrases (cf. Zwicky 1985), therefore this particular property is inconclusive with respect to their phrasal status.

DPRTs don't block Verb 2. A possible indication that DPRTs are phrasal is the fact that they do not block head movement. For example, in a V2 clause the finite verb moves from V to C via INFL. If DPRTs were generated as heads between vP and C, they should block verb-movement. That is, according to the Head Movement Constraint head-movement cannot skip any head position (Travis 1984). With this in mind, Bayer and Obenauer (2011) and Bayer (2012) argue that DPRTs are merged as ‘minor deficient heads’ that don't project, and therefore don't block verb movement (cf. Struckmeier 2014).

The table below summarizes the findings of the properties discussed in this section, and indicates for each property whether DPRTs behave more like heads (X) or Phrases (XP).

properties	DPRTs
can be coordinated	X
can be modified	X
can occupy SpecC	X
can behave as clitic	X/XP
blocks head movement	XP

Table 2: DPRTs as heads or phrases

Despite the seemingly overwhelming evidence in favor of DPRTs as heads, many authors (e.g. Cardinaletti 2011; Coniglio 2007; Grosz 2005, 2006) adopt the view that, due to the adverbial nature of many of their counterparts in the other word classes, they are deficient maximal projections in the sense of Cardinaletti and Starke (1999). As such, they are proposed to be merged as adjuncts in the specifiers of a highly articulated IP domain. In sum, it is unclear, and debated in the literature, whether DPRTs are heads or modifiers. The challenge of their status will be taken up in Chapter 6.

2.2.5 Propositional scope

DPRTs are interpreted with propositional scope (e.g. Gutzmann 2008, Meibauer 1994, Weydt 1969, Thurmair 1989, Zimmermann 2011). This is surprising because DPRTs appear inside the propositional structure, while scope is assumed to be assigned under c-command (e.g. Hinzen 2006). Hence we might expect that DPRTs would c-command the proposition. This might be related to another well-known property of DPRTs: they cannot be negated (Thurmair 1989). Crucially, it is the overt syntactic position of negation, and not the semantic scope of negation, which matters for acceptability. The following data show that a DPRT can occur in a negated

sentence, where sentential negation occurs low, but scopes semantically over the whole proposition.

- (16) a. *Vo dia loss'e mi **fei** **ned** dablecka!*
 from you let 1SG me **fei** NEG mock

“I won't **fei** let you mock me.”

(Lena Christ: Memoiren)

- b. **Vo dia loss'e mi **ned** **fei** dablecka!*
 from you let 1SG me NEG **fei** mock

The ordering restriction between DPRTs and negation suggests that DPRTs cannot occur in the semantic scope of negation. They have to take scope higher than negation (cf. Thurmair 1989).

The next examples illustrate the same phenomenon with other DPRTs. (17a-b) show that *doch* also has to precede, and thus scope above, negation. (18a) illustrates that *jetz* is interpreted as a DPRT when it precedes negation. In contrast, when *jetz* follows negation, as in (18b) it has to be interpreted as the temporal adverb “now”.

- (17) a. *I geh **doch** **ned** auf's Seefest*
 I go **doch** NEG on.DET lake.fest

“I'm **doch** not going to the lake festival.”

- b. * *I geh **ned** **doch** auf's Seefest*
 I go NEG **doch** on.DET lake.fest

- (18) a. *Fahrts's' **jetz** **ned** in' Urlaub?*
 drive.2PL **jetzt** NEG in.DET vacation

“Aren't you **jetz** going on vacation?”

b.<*, f_{DPRT} > *Fahrts's* *ned* *jetz* *in'* *Urlaub?*
 drive. 2PL NEG now in. DET vacation

“Aren’t you going on vacation now?”

A similar pattern is observed between DPRTs and other operators, such as modals, quantifiers, question formation, etc. (Gutzmann 2008:33). They have to outscope all of these sentence level operators semantically. Under the assumption that scope is assigned under c-command the propositional scope of DPRT is a puzzling.

2.2.6 Sentence type restriction

Another property of DPRTs is their sentence type restriction. That is, not every DPRT can occur in every sentence type. Consider, for example, the contrast between *ja* and *doch* illustrated in (19).

(19) **declarative**¹⁴

a. *I* *geh* *doch* *in'd* *Uni*
 I go doch in.DET uni

“I go **doch** to University.”

b. *I* *geh* *ja* *in'd* *Uni*
 I go ja in.DET Uni

“I go **ja** to University.”

¹⁴ I use ‘declarative’ for exposition purposes here. It will become clear that it is neither the formal clause type (i.e. declarative) nor the illocutionary force conventionally associated with this clause type (i.e. assertion), which licenses the DPRT. Aspects of this complex interaction between form and force are discussed in Chapters 3 and 4.

(20) **imperative**

- a. *Geh* ***doch*** *in'd* *Uni!*
 go **doch** in.DET Uni

“Go **doch** to University!”

- b. **Geh* ***ja*** *in'd* *Uni!*¹⁵
 go **ja** in.DET Uni

(21) **interrogative**

- a. **Gehst* **doch** *in'd* *Uni?*
 go. 2SG **doch** in.DET Uni

- b. **Gehst* **ja** *in'd* *Uni*
 go.2SG **ja** in.DET Uni

(22) **exclamation**¹⁶

- a. **DU*¹⁷ *bist* ***doch*** *gwaggsn!*
 you are **doch** grown

- b. *DU* *bist* ***ja*** *gwaggsn!*
 you are **ja** grown

“How you've **ja** grown!”

As summarized in Table 3, *doch* is possible in declaratives and imperatives, but not in interrogatives or exclamations. In contrast, *ja*, is possible in declaratives, and exclamations, but not in imperatives or interrogatives.

¹⁵ Note that accented *JA* is acceptable in imperatives, however. See Chapter 6 for a discussion on accent on DPRTs.

¹⁶ There is a crucial difference between (sentence) exclamations such as the examples here, and exclamatives. Both express the illocutionary force of exclamation, however, their syntax differs. A thorough discussion is beyond the scope of this dissertation, but see Rett (2011) for the differentiation, and the motivation for it. In this dissertation I only consider sentence exclamations that are based on V2 declaratives. Further discussion on these is provided in 3.3.

¹⁷ Accent on a word is indicated by CAPS throughout this dissertation. I will address the formal features of exclamations as (21) in 3.3.

DPRT	ja	doch
Sentence type		
declarative	✓	✓
interrogative	✗	✗
imperative	✗	✓
exclamation	✓	✗

Table 3: Distribution of *ja* and *doch* across sentence types

The question arises as to what is responsible for this sentence-type restriction of DPRTs. In particular, are we dealing with a restriction on formal clause-type? Or are we dealing with a restriction on illocutionary force? The data in (19)-(22) show that *ja* and *doch* are both allowed in declaratives with assertion force, whereas only *ja* is allowed in exclamations based on the declarative clause type. This suggests that it is the illocutionary force of an utterance that determines the restriction. Observe the following contrast in (23), which shows that this conclusion cannot be correct; the DPRT *doch*, which was shown to be acceptable in declaratives with assertive force (19a) and imperatives with requesting force (20a), cannot occur in a V1 structure that with requesting force (23b) (indicated by the falling intonation \ and second person inflection on the verb, unlike in a true imperative such as (20a)). This suggests that the distribution of DPRTs is not directly sensitive to illocutionary force, either.

- (23) a. *Machst* *des* *auf* \.
 make.2SG DET open
 “(You) open this!”
- b. * *Machst* *des* ***doch*** *auf* \
 make.2SG DET ***doch*** open

Thurmair (1993) for example argues that DPRTs are dependent on the formal syntactic features of the clause, not the illocutionary force associated with it. She doesn't, however, provide a motivation for how this dependency comes about.

Similarly, Bayer (2008) also argues for a dependence of DPRTs on formal clause typing features. According to him, a feature lexically associated with the DPRT is responsible for the clause type restriction (Bayer 2008, cf. also Bayer and Obenauer 2011, Bayer 2012, Coniglio and Zegrean 2012). Following this, Bayer and Obenauer (2011) propose that the DPRT *denn* carries an uninterpretable feature that restricts it to interrogatives (represented as QForce). They propose the feature specification for *denn* given in (24).

(24) *denn* [*u*QForce]

Following in this vein, one could posit similar lexical entries for *ja* and *doch*, and endow them with a specific force feature, akin to (24). However, positing a force feature is inherently problematic, and raises several concerns. First, it presupposes that the illocutionary force of a sentence is syntactically encoded (Rizzi 1997). This is not uncontroversial, and rejected by many researchers on conceptual grounds (cf. Brandt et al. 1992, Reis 1999, Zanuttini and Portner 2003, Portner 2004, a.o.). Second, clause type and illocutionary force do not map onto each other in a one to one fashion, as will be further explored in 3.3. For example, the exclamation in (22) is realized by a declarative clause, which is typically used for assertions as in (19) (cf. Rett 2011). If illocutionary force and the speech act were indeed encoded syntactically, we might expect some syntactic reflexes of this difference. Alternatively, one could say that an exclamation like (22) is not a clause type; but

then we have no way to account for the distribution of *ja* and *doch* in this example based on syntactic grounds. A third problem for a feature specification account is that many DPRTs (including *ja* and *doch*) can occur with a variety of clause types. This means that a given particle would have to be specified for a variety of clause types. This raises the question of how multiple sentence type dependency can be modeled. Presumably we would have to posit a series of unvalued features associated with distinct, but possible related lexical entries.

There is another possibility besides the syntactic feature specification hypothesis, namely that the clause-type restriction is semantically conditioned (Grosz 2010a). To evaluate this hypothesis, we have to explore some of the semantico-pragmatic properties of DPRTs. I turn to this in the next subsection.

2.2.7 The semantico-pragmatic properties of DPRTs

It is generally agreed that due to their non-truth-conditional status, DPRTs contribute ‘not at-issue’ content in the sense of Potts (2007). Non truth-conditional status is ascribed to DPRTs in particular due to their perceived optionality for the grammaticality of an utterance. As I will argue, however, DPRTs are not truly optional (see section 2.2.2, and Chapter 6) but do not, however, contribute to the truth-conditions of an utterance, as illustrated below.

- (25) a. *Da Marinus is fei drei*
 DET Marinus is fei three

“Marinus is FEI three (years old).”
 → true iff Marinus is three

- b. *Da Marinus is drei*
 DET Marinus is three

“Marinus is three (years old).”

→ true iff Marinus is three

Both utterances are true in a context where Marinus is indeed three years old. The additional meaning *fei* (like other DPRTs) operates on a different level of interpretation than adding direct lexical content to the propositional content of the host utterance. However, from an analytic point of view, there is little agreement on exactly what kind of meaning DPRTs contribute.

Types of meaning that have been suggested to be at the core of DPRTs include presuppositions (e.g. Kaufmann 2004, Kaufmann and Kaufmann 2012), expressive meaning (Kratzer 1999, Zimmermann 2011), and conventional implicatures (Gutzmann 2008). Although I do not couch my analysis in a specific semantic model, the proposal made here follows closely a proposal in Rett (2013). She argues that there is a distinction between content that is traditionally thought of as at issue (e.g. propositional content), not-at-issue (e.g. implicature or presupposition) and further argues for the need to distinguish content that is neither of these two, but is distinct illocutionary or speech act content (e.g. declarative force). DPRTs, I argue here, modify illocutionary content. This is also how DPRTs have been seen in some of the literature, where they are analyzed as speech act or illocutionary force modifiers (e.g. Jacobs, 1991; Karagjosova 2004; Lindner 1991; Zimmermann, 2004, 2008; Zeevat 2004). A stronger stance takes them as indicators of illocutionary force (Doherty 1987, Jacobs 1986).

In the rest of this section I discuss the strong claim that DPRTs are indicators of illocutionary force, and the weakened version that DPRTs are modifiers of

illocutionary content (2.2.7.1). In 2.2.7.2 I discuss the general observation that DPRTs indicate speaker attitude, a claim that will be refined in the course of this dissertation. Section 2.2.7.3 briefly addresses the idea that DPRTs are presupposition triggers.

2.2.7.1 DPRTs and illocutionary force

DPRTs have been argued to be indicators of illocutionary force (Doherty 1987; Jacobs 1986, 1991). Consider for example insubordinate clauses, i.e., clauses that have the form of a subordinate clause in that a complementizer introduces them, but at the same time can be used in isolation (i.e., without an embedding matrix clause). However, to be fully felicitous, some insubordinate clauses have to contain a DPRT. For example, the addition of *fei* renders the formally subordinate clause well-formed in isolation, i.e. it allows it to stand as an insubordinate clause. In particular, it is interpreted as a command (26c).

- (26) a. *I mecht dass'd brav bist bei da Oma.*
 I want that.you good are at DET grandma
 "I want that you're good at Grandma's."
- b. * *Dass'd brav bist bei da Oma.*
 that.you good are at DET grandma
 "...that you're good at Grandma's."
- c. ✓ *Dass'd **fei** brav bist bei da Oma!*
 that.you **fei** good are at DET grandma
 "Be *fei* good at Grandma's!"

In the example above, (26c) is an insubordinate clause- it can stand by itself, and here does not have the illocutionary force of an assertion, but that of a request/command,

and it contains the DPRT *fei*. Note that the same insubordinate without *fei* cannot function as an insubordinate clause.¹⁸ Similar examples have been taken as evidence for the status of DPRTs as indicators of illocutionary force, allowing a clause that otherwise cannot stand by itself to function like an independent matrix clause (Thurmair 1989).

But how does *fei* contribute to the illocutionary force of the clause? Since *fei* is also compatible with assertions, we have to conclude that it does not always trigger the same illocutionary force. Hence any approach that proposes that DPRTs supply or ‘match’ semantic or syntactic illocutionary force features of the clause will have difficulty in accounting for data like (26c).

A slightly weakened version of the claim that DRPRTs are indicators of illocutionary force is pursued in Jacobs (1986, 1991) (cf. also Linder 1991), who argues that DPRTs modify the illocutionary force of a sentence. Accordingly, a clause-type is associated with a particular illocutionary type. For example, declaratives are typically associated with the illocutionary force of an assertion. The addition of a DPRT like *ja*, however, derives a special illocutionary type (i.e., “ja-assertions” Jacobs 1991). According to Jacobs (1986:103) ”Wenn Verbstellung, Verbmodus, Intonation etc. einen bestimmten Illokutionstyp X festlegen, so wird

¹⁸ Special intonation on *BRAV* can render the example in (26b) felicitous, such as (i)

- (i) *Dass'd BRAV bist bei da Oma!*
 that.you good are at DET grandma

“Be *fei* good at Grandma’s!”

The point here is that without a DPRT or special intonation, the clause cannot function as an independent sentence.

daraus durch Hinzunahme eines Abtönungsmittels ein anderer Illokutionstyp X', der [...] in ihren Anwendungsbedingungen eine eingeschränkere Version von X ist."¹⁹

There appear to be several problems with this account. First, it is not clear how an operator for illocutionary type, that is, a 'force typer' is assigned to a sentence, and how it interacts with, or can be attributed to clause typing. It resembles the force feature proposed under syntactic proposals, and suffers from the same problems (see 2.2.6). Second, DPRTs can occur in embedded clauses (Coniglio 2009). Hence, embedded clauses would have to be associated with their own illocutionary operator. Whereas this is an assumption made for embedded clauses under verbs of saying (e.g. Krifka 2013), it is unclear whether this applies to all embedded clauses. Last, it is unclear how many illocution types should be considered, and how a DPRT selects its 'matching' illocution type.

However, despite these problems, the proposal put forth in this dissertation is a version of, and builds on the illocutionary force modification approach. In particular, I analyze DPRTs as modifiers of the default commitments of the discourse participants. This approach will be developed in more detail in Chapter 5.

Zimmermann (2004, 2008, 2011), also a proponent of a modification approach, argues that DPRTs do not form a homogenous semantic class in this respect. The findings in this dissertation corroborate Zimmermann's claim. Whereas the analysis presented here differs, I also propose the need for a differentiation of classes of DPRTs from one another. This is argued for in Chapter 4.

¹⁹ When verb position, verb mood, intonation etc determine a specific illocution type X, it turns, via the addition of a 'toner' [DPRT-added by the author] into another illocution type X'. This type is more restricted in its conditions of use than X is. (Translation ST).

Zimmermann specifically shows that *wohl* in the German variety he discusses is a modifier of clause type (as schematized in Figure 5), whereas *ja* is a modifier of force (as schematized in Figure 6).²⁰

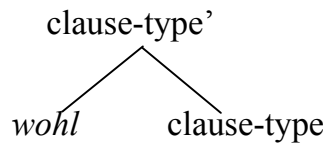


Figure 5: *Wohl* as modifier of sentence type

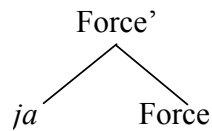


Figure 6: *Ja* as modifier of force

It is unclear at this point which exact syntactic projections are associated with ‘force’ or ‘clause type’. I take up this question in Chapter 6 where I build on Zimmermann’s insight, and show how a semantic split of DPRTs can follow from a syntactic approach.

2.2.7.2 Expressions of speaker attitude

Most approaches to the semantics of DPRTs consider them to be indicators of the speaker’s attitude towards the host utterance (e.g. Doherty 1987, Kwon 2005, Meibauer 1994, Weydt 1969). For example, according to Cardinaletti (2011:493) DPRTs “...are elements that express the **speaker’s** mental attitude toward his/ her utterance”. Zimmermann (2011:2012) refines this attitudinal function by including the

²⁰ Note that I do not intend to map illocutionary force or sentence type onto a functional projection. It serves exposition purpose only.

addressee: DPRTs “are used to organize discourse by expressing the **speaker’s** epistemic attitude towards the utterance, or by expressing a **speaker’s** assumptions about the epistemic states of his or her **interlocutors** concerning a particular proposition”. Kaufmann and Kaufmann (2012) specifically choose the term ‘epistemic particles’ to reflect one of the main functions of DPRTs, namely that of indicators of epistemicity (cf. Doherty 1987). Despite a clear intuition among researchers that DPRTs have a core attitudinal function, it is unclear how exactly DPRTs encode this speaker attitude. Is it directly encoded in the lexical entry, along with the features that restrict it to sentence types? Or does it arise via other means? This, too, is a challenge taken up in this dissertation. In Chapter 6 I will argue that (at least in MB) the attitudinal properties of DPRTs are derived from syntax.

2.2.7.3 DPRTs and presuppositions

DPRTs such as *ja*, are often considered to indicate what is in a mutually shared Common Ground (CG) (e.g. Gutzmann 2012, Kratzer 1999). The CG is assumed to be the (continuously changing) body of public information. It keeps track of what has happened in the conversation (Stalnaker 1978, 2002). In other words, the CG refers to the information that is mutually known to be shared by interlocutors. Under the assumption that presuppositions also refer to mutually shared beliefs (Stalnaker 2002), DPRTs are often considered to be presuppositional (e.g. Grosz 2010b, Kaufmann 2004, Kaufmann and Kaufmann 2012).

Presuppositions are encoded in the semantics of natural language sentences (von Stechow, 2008). If presuppositions are not (yet) satisfied in the CG, addressees can accommodate. Accommodation refers to “the process by which the context is adjusted quietly and without fuss to accept the utterance of a sentence that imposes certain

requirements on the context in which it is processed.” (von Fintel, 2008:137).

I will argue in this dissertation that MB DPRTs are not presuppositional. On the basis of a case study, I establish in Chapter 4 that some DPRTs can refer to A’s belief on the one hand (*fei, doch*), and are compatible in contexts where S and A share knowledge about p on the other hand. In that sense, DPRTs like *ja* and *doch* can have presuppositional *effects*, as will be discussed in Chapter 5, but these derive indirectly from the compositional effects of the discourse context, the host utterance, and the core semantic contribution of the UoL that derives the DPRT function.

2.3 Conclusion

In this Chapter I introduced some of the core properties that have been observed for German DPRTs. I showed that these properties raise several questions, which to date have received unsatisfactory or incomplete answers. The open questions concern the following.

(i) DPRTs are multifunctional in two distinct ways. On the one hand, they have counterparts in other word classes such as adverbs, conjunctions, or response particles. On the other hand, they also are multifunctional as DPRTs: they display a functional range. Whereas the first aspect will not be directly addressed in this dissertation, I will provide an answer for the second facet of DPRT-multifunctionality in this dissertation.

(ii) DPRTs are described as optional, since they contribute neither truth-conditional content nor grammatical content. However, I showed that DPRTs are not optional when considered within a larger discourse context as well as in some cases of insubordination. This raises the question of whether propositional structure is the only

point of evaluation for the ‘grammaticality’ of an utterance, and in what way felicity and grammaticality judgments can be seen as parallel. I show in this dissertation that we can extend the domain of evaluation for well-formedness of an utterance within discourse.

(iii) The phrasal status (head of modifier) of DPRTs is unclear. It is also unclear whether DPRTs are to be considered a word class. I argue here that DPRTs are a category in the sense of Wiltschko (2014). Their categorial status is not lexically encoded, however, but derived from syntax. Syntax also derives their mixed behavior with respect to their phrasal status; in Chapter 6 I argue that DPRTs do not merge in a head position, but that they associate with a head (Wiltschko 2014).

(iv) DPRTs have high propositional scope, yet are syntactically integrated into the utterance. The question arises as to how DPRTs gain propositional scope. Chapter 6 argues that DPRTs associate with the syntactic spine initially at IP, the clausal level where a situation is fully established with all its arguments and temporal relations.

(v) The sentence type restriction of DPRTs has been treated as a consequence of syntactic/semantic features, or as a correlate of the illocutionary force of an utterance. In Chapter 4 I propose that this restriction is the result of neither of these; the restriction falls out from the compatibility between the orientation (expressed as commitment) of a clause type, and the orientation of a DPRT.

(vi) Regarding the semantic contribution of DPRTs, it has been argued that they indicate or modify the illocutionary force of an utterance, that they supply presuppositions, and express the speaker’s attitude. I will take elements of all these proposals, but will show that some of these observations about their semantics are merely effects of DPRTs in a particular context, but not their main function.

Each of these questions summarized here will be addressed in more detail in the course of this dissertation.

Chapter 3: Ingredients for an analysis of DPRTs

3.1 Introduction

One of the basic components of human cognition is the recognition and understanding of others' mental states. Theory of mind, which is the ability to attribute mental states, that is, knowledge, beliefs, and intentions, to oneself and others, is a prerequisite for the ability to have conversations. If a speaker were not able to assess an addressee's epistemic state, she could not decide, for example, whether or not a proposition is new to the addressee (Hayano 2013). This means that knowledge about the discourse context influences what kind of utterances are used, what form those utterances have, and how the discourse participants are affected.

I argue in Chapter 4 that DPRTs are sensitive to discourse participant epistemicity. This will lead me to the proposal that some DPRTs are sensitive to the (perceived) epistemic stance of the addressee; some are sensitive to the epistemic stance of the speaker; and some are sensitive to the epistemic stance of some other discourse participant.

As introduced in Chapter 1, I pursue here the idea that the DPRT function f_{DPRT} is just that; the function f of a UoL in a specific context Cx , as indicated in (1).

$$(1) \quad f_{DPRT} = UoL + Cx$$

Chapter 4 will deal in detail with the distinct discourse particle functions f_{DPRT} of five MB UoLs. This current Chapter is dedicated to providing the necessary background for the tests applied in Chapter 4, which rely heavily on context. I also introduce the core contribution of the UoLs that derive their DPRT function.

This Chapter is structured as follows. I begin with the introduction of the UoLs that are at the heart of this dissertation, and show examples of their discourse particle function f_{DPRT} for illustration. Based on diachronic evidence, I propose a core DPRT meaning for the f_{DPRT} of each UoL discussed. With this f_{DPRT} , these UoLs operate over participant epistemicity, in that they indicate something about a discourse participant's epistemic stance toward the content of the utterance p . This brings us into the realm of Common Ground, beliefs, commitments and context, all of which will be introduced in more detail in the second part of this Chapter. In 3.3 I introduce how I perceive of Common Ground (CG) in this dissertation, and how CG relates to individual beliefs, shared beliefs, commitments and to the context. In 3.4, I discuss the role of clause typing in establishing a discourse participant's commitment to the content of an utterance. Since DPRTs are sensitive to the participants' epistemic stance, I argue that they predictably interact with the public commitments established by clause typing (cf. Jacobs 1991), shown in 3.5. Section 3.6 summarizes.

3.2 The test cases

The main claim of this dissertation is that discourse particle function is decomposable into a UoL with a core content and a specific context. This is repeated again below.

$$(2) \quad f_{DPRT} = UoL + Cx$$

At the heart of this idea are UoLs, basic sound and meaning bundles, and contexts. This means that a UoL and its core meaning itself contributes toward f_{DPRT} . This contribution has been recognized in many approaches to DPRTs, such as this:

“particles [...] have a semantic content which they deploy in connection with other elements of the utterance.”(Weydt 2006:207, cf. Abraham 2001). Diewald (2006) also recognizes that each DPRT (used throughout this dissertation as the shorthand for f_{DPRT}) has a diachronically motivated UoL with a basic semantic meaning at its core. This core meaning is generally interpreted within the context of the propositional structure (p-structure), resulting in the ‘other’, lexically accessible interpretations of these multifunctional UoLs. However, if interpreted within the context of the discourse participants’ epistemic stance (see Chapters 4 and 6), the lexical content of the UoL is not directly transparent. Yet, it crucially contributes to deriving f_{DPRT} . In this dissertation I discuss *jetz* (3.2.1), *eh* (3.2.2), *ja* (3.2.3), *doch* (3.2.4), and *fei* (3.2.5). For each UoL I address the following aspects in this Chapter:

- (i) core DPRT function and epistemicity
- (ii) diachronic origin
- (iii) example of f_{DPRT}
- (iv) previous literature
- (v) non-DPRT functions (multi-functionality)

I follow Hentschel (1986) and Zeevat and Karagjosova (2007) in considering diachronic data for a synchronic analysis, assuming that diachronic core meaning components are synchronically present as specific meaning components that are *shifted* in DPRT use. This shift in meaning is referred to as deixis shift in Hentschel (1986) leading to her concept of metacommunicative deixis.

3.2.1 Jetz

The UoL *jetz* derives from Middle High German *je* and *zuo*, meaning ‘always’ and ‘to, towards’. These two independent words were conjoined, rendering the Upper German *ietzo* (DWDS 2016). Echoes of this use are visible in MB until today, where *jetz* often is phonetically realized as *jetza*, or *etza*. Synchronically, *jetz* is most often used as a temporal adverb, with the interpretation ‘at the present time, now’. Based on this diachronic origin and synchronic use, I propose that the core function of the DPRT *jetz* in MB is as in (3) below (to be refined in Chapter 5).

- (3) *jetz* \approx p is salient in the context now

In particular, I will argue that *jetz* expresses salience of p for a contextually determined discourse participant O at the moment of utterance, argued for in Chapter 4. Examples of its f_{DPRT} are shown in the following examples:

- (4) a. *Warst **jetz** gestan bei da Gerda?*
 were.you **jetz** yesterday at DET Gerda
- “Now then, were you at Gerda’s yesterday?”
 ‘[It is relevant now] whether you were at Gerda’s yesterday.’
- b. *Mia fahrn **jetz** moang east.*
 We drive **jetz** tomorrow first
- “We’re now going tomorrow.”
 ‘[It is relevant now that] we’re going tomorrow.’

(4a) shows *jetz* in a polar interrogative, (4b) in a declarative. In each of the examples, *jetz* co-occurs with a temporal adverb ‘yesterday’ and ‘tomorrow’, *gestan*, *moang*, indicating that *jetz* cannot be interpreted as temporal adverb in these examples, as the

result would be two conflicting temporal references.²¹ Under a reading with both as adverbs, they would have to be coordinated, e.g. as *jetz und moang* ‘now and tomorrow’ in order to result in a grammatical utterance. I take this ability to co-occur with other temporal adverbs as a diagnostic that *jetz* is not interpreted with respect to the p-structure (where temporal relations are established), but with respect to the discourse structure (to be refined in Chapter 6) (cf. Hentschel 1986).

jetz is not mentioned in the list of ‘core’ DPRTs presented e.g. in Thurmair (1989). Hentschel (1986:35) however argues that *jetz* is a DPRT in Alemannic varieties of German (cf. Krier 1991). She considers the function of *jetz* to be equivalent to *denn*, a DPRT used in interrogatives (1986:35). Hentschel does not discuss cases like (4b), however, which show that *jetz* can also be used in declaratives, where, like in interrogatives (4a), it loses its adverbial function (cf. Rehbock 2009). I adopt Hentschel’s assessment that *jetz* is used as a DPRT in southern German varieties, and propose that in the uses shown in (4) it functions as a DPRT.

Besides its use as a DPRT, and temporal adverb meaning ‘now’, *jetz* also has a use as discourse marker, characterized by its clause initial position. In example (5) below, *jetz* occurs in a request before the vocative *Heini*, clearly indicating that it does not occupy SpecC, and therefore is not a moved temporal adverb. In the example in (6), the second occurrence of *jetz* is as temporal adverb.

²¹ Munaro and Poletto (2004) show that the Venetian dialect of Italian has a DPRT ‘mo’, which is derived from (and synchronically used as) a temporal adverb meaning ‘now’ in other dialects of Italian. *mo*, however explicitly cannot co-occur with other temporal adverbs, since, according to the authors “[i]n Venetian imperatives *mo* is sensitive to the time of the utterance, as it signals that the utterance time and the event time must coincide.” This is different from MB DPRTs, which clearly can co-occur with temporal adverbs.

(i) Ciamime (*tra un’ora), **mo**!
 Call me (in an hour), *mo*

(ii) Lezilo (*doman), **mo**!
 Read it (tomorrow), **mo**

- (5) Cx: Heiei and Heini, two boys are making a plan together. Heini is distracted and monkeys around. Heiei admonishes him.

Heihei: **Jetz** Heini, reiß di zsamm!
jetz Heini pull you together

“Now Heini, pull yourself together!”

(Perlmutterfarbe)

- (6) Cx: Heiei and Heini, two boys, are making a plan together. They are pulling sticks to see who is going to be the person getting strapped into a contraption their friend made in order to undergo an ‘experiment’. Heini, who always tends to lose, complains:

Heini: **Jetz** konn’e ma scho wieda denge wos **jetz** bassiert
jetz can.I me already again think what **jetz** happens

“I can already imagine what is going to happen right now”

In the right syntactic context, namely when it is derived by the adjectival suffix-*ig*, *jetz* can also function as an adjective, as the next example illustrates.

- (7) *Da* **jetz-ige** *Voastand* *is* *fia* 2 *Jahr* *gwäid*
 DET **jetz**.adj.SG board is for 2 years elected

“The current board is elected for 2 years.”

The table below summarizes the various uses of *jetz* depending on the contexts.

UoL	function
<i>jetz</i>	discourse particle
	temporal adverb
	discourse marker
	adjective

Table 4: Multi-functional uses of *jetz*

3.2.2 Eh

The UoL *eh* derives from the Middle High German temporal marker *ē*, meaning *früher, vormals* ‘earlier, before’ (DWDS 2016). Following Hentschel (1986), and based on its diachronic temporal origin, I propose that the function of DPRT *eh* is that of marking the content *p* of an utterance as true before the time of utterance (see 4.5).

(8) *eh* \approx *p* was true in the context before the time of utterance

An example for the DPRT use of *eh* follows.

(9) Cx: The cabinet-maker offers farmer Schiermoser some furniture.
Schiermoser declines.

Schiermoser: *A Einrichtung sogst?...*
DET furniture say.2SG

“Furniture you say?”

...*I brauch koa Einrichtung. Mei Haus is eh eingricht....*
...I need NEG.DET furniture my house is **eh** furnished.

...*I brauch gar nix.*
...I need really nothing.

“I don't need furniture. My house is **eh** furnished. I don't need anything at all.”

(Lena Christ, Memoiren)

The cabinet-maker didn't know that Schiermoser doesn't need or want furniture, otherwise he wouldn't have offered. However, Schiermoser responds that his house is furnished; *eh* in the answer indicates that this state of affairs was true before he uttered this. Its use thereby also indicates to the cabinet-maker that he may have

known this already.

The DPRT *eh* has received little attention in the literature (Hentschel 1986, Schlieben-Lange 1979, Thurmair 1989). To date no generative analysis has been provided. Hentschel (1986:53) considers the contribution of *eh* to be “that what is said was valid and true before, that is, before it became the topic of conversation.”

(translation ST). She, as I do here, relates this contribution of *eh* to the diachronically related temporal adverb counterpart *ehe* ‘before’. Thurmair provides the most detailed description for DPRT *eh*, which is often translated as *anyways* or *already*. She assigns *eh* the function of marking p as previously known to S (but not to A) (Thurmair 1989: 136). In the account offered in Chapter 4, *eh* does not relate p to S, but rather to a contextually defined participant O.

Echoes of the temporal origin of *eh* can be seen in some Bavarian dialects, which use *eh* as a temporal conjunction (although no instances for MB were found in my corpus). Merkle (2005:193) provides the following example:

- (10) ***Eh*** *dass’e do* *naufsteig ...*
 before that.I there up.climb

<i>...vazicht’e</i>	<i>liawa</i>	<i>auf</i>	<i>de</i>	<i>scheene</i>	<i>Aussicht</i>
<i>...go.without.I</i>	rather	on	DET	nice	view

“I’d rather give up on the nice view than climb up there.”

Besides the (rare) use as temporal conjunction, *eh* can also function as a response particle, as in the example below.²²

²² The adverbial use of *eh* in contemporary German is restricted to a fixed phrase *seit eh und je* (‘since forever’, ‘since ages’), which attests to the diachronic origin of the word as a temporal adverb (Hentschel 1986).

- (11) Martin: *Kummst* *moang* *aa* *zum* *Alex*
 come.2SG tomorrow also to.DET Alex

“Are you coming to Alex’s tomorrow, too?”

Hans: *Ja, eh.*

“(Yes), *eh*.”

‘(Yes), [this was true before I answered this].’

In sum the UoL *eh* has a variety of uses, shown in the table below.

UoL	function
<i>eh</i>	discourse particle
	response particle
	temporal conjunction

Table 5: Multi-functional uses of *eh*

3.2.3 Ja

The UoL *ja* has as diachronic origin in the proto-Indo-European pronominal stem *i- (a 3rd person neuter demonstrative ‘that’), which in turn derives from a locative (DWDS 2016, Hentschel 1989). From this origin, the UoL derives its synchronic uses as response particle, as well as discourse particle and discourse marker. I propose that as DPRT, *ja* functions to mark that the speaker S believes the propositional content of the utterance p.

- (12) *ja* \approx *I believe p*

The following example illustrates this function (13).

- (13) Heihei: *Jetzt Heini, reiß di zamm!*
 jetzt Heini pull you together
- Heini: *Is **ja** scho guad!*
 is **ja** PRT-already good
- “Ok, ok, I got it.”
 ‘[I believe that] it’s already good.’

According to Hentschel (1986), SG *ja* is the most common DPRT in the German language. Besides *doch*, it is one of the best-described and researched DPRTs. Despite this wealth of literature on SG *ja*, several problems remain. First, it is unclear which German variety/varieties the claims in the various analyses and descriptions are made for. This is relevant, since the inventory of DPRTs in a given language can affect the individual particle’s range of functions, as I illustrated in Chapter 1. Second, the analyses diverge in the scope of the data covered; most accounts, for example, regard *ja* and its accented counterpart *JA* as two separate DPRTs (e.g. Coniglio 2009, Kratzer 1999, Thurmair 1989). Observe the contrast between the two below.

- (14) a. *Du gehst **ja** in’d Schui*
 you go.2SG **ja** in.DET school
- “You’re *ja* going to School.”
 ‘[I believe that] you’re going to school.’
- b. *Du gehst **JA** in’d Schui*
 you go.2SG **ja+accent** in.DET school
- “You’re *JA* going to School.”
 ‘You had better be going to school.’

In (14a), unaccented *ja* renders a reading that will be discussed in more detail in

Thurmair (1989) for example bases her assumption about two separate forms, *JA* and *ja*, on observations about the relative position of *JA* and *ja* with other DPRTs such as *auch*; *ja* has to precede *auch*, whereas *JA* has to follow *auch*.

- (Thurmain1989:103)

Instead, I follow Meibauer (1994), Gutzmann (2010), and Egg and Zimmermann (2011) in assuming that the accented DPRTs are derived compositionally from its unaccented counterpart. The difference in function follows from the contribution of

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focus accent (Féry 2012).²⁴

Another problem concerns the contribution of *ja* to an utterance. There are two main approaches in the literature as to how the contribution of *ja* can be best captured. I refer to them as the (i) *shared knowledge* approach (e.g. Kratzer 1999, 2004, Thomair 1989; Zimmermann 2011), and (ii) the *factivity* approach (Lindner 1991, Ormelius-Sandblom 1997, Bárány 2009, Kratzer and Matthewson 2009, cf. Grosz 2010b). I argue that the *factivity* approach is on the right track, at least for MB *ja*.

According to the shared knowledge approach, *ja* refers to mutually shared knowledge between S and A, that is, to CG (Kratzer 1999, 2004; Thomair 1989; Zimmermann 2011). The appeal to shared CG knowledge is often reflected in the choice of English translations for *ja*, such as ‘as you know’. The shared knowledge approach is ostensibly supported by the example below from an unidentified German dialect. No context was provided for the example, which makes it difficult to verify (or falsify) the proposed contribution. In this example in particular, according to Zimmermann (2011:2013) *ja* "indicates that the speaker takes the hearer to be aware of the fact that Max is at sea." Without context, however, it is impossible to determine what A knows, and what S can reasonably assume that A knows.

(16) *Max* *ist* *ja* *auf* *See*
 Max is ja at sea

(Zimmermann, 2011: ex 1)

In an approximation for the contribution of *ja*, Kratzer (1999), another proponent of the shared knowledge approach, considers *ja* appropriate “...in a context *c* if the

²⁴ I will return to accented DPRTs in Chapter 6.6.3.

proposition expressed by *p* in *c* is a fact of w_c which - for all the speaker knows - might already be known to the addressee.” (Kratzer 1999: def. 3).

The second approach, the *factivity* approach to *ja* characterizes the role of *ja* to point to the factivity of *p* in a given situation. In particular, *ja* is assumed to mark the proposition *p* expressed in the host utterance as a fact and hence true (Bárány 2009, Lindner 1991, Kratzer and Matthewson 2009, Ormelius-Sandblom 1997). No appeal to shared knowledge between interlocutors (i.e., CG) is made.

I adopt the factivity approach for MB *ja* as well. In particular, I present evidence in Chapter 4 that *ja* does not explicitly appeal to shared knowledge. This follows Kratzer and Matthewson (2009), who argue that *ja* is not presuppositional, i.e. does not refer to A’s epistemic stance (pace, for example Kaufmann, 2004). They consider the contribution of *ja* to be as follows.

- (17) “If *p* is the descriptive content of a sentence *U* in a context *c*, then the use of [...] *ja* in *c* indicates that the speaker of *c* takes *p* to be an established fact, and therefore doesn't consider the question whether or not *p* to be an issue for either the current or any future inquiry”.

(Kratzer and Matthewson, 2009:6)

My proposed contribution for *ja* in (12) follows Kratzer and Matthewson’s proposal in (17). It will be defended in detail in Chapter 4.

Besides the use as DPRT, *ja* has other functions as well, most prominently as a positive response particle, shown in (18), and as discourse marker, shown in (19).

- (18) Cx: Sebastian’s class is at a radio station, where they learn about radio transmission of sound. The students get to try a radio booth and microphones.

Bernie: *I her di, herst du mi aa?*

“I hear you, can you hear me, too?”

Sebastian: ***Ja***, *freilich!*
ja certainly

“Yes, of course!”

(Wer früher stirbt...)

- (19) Cx: A family dinner. Everybody is getting ready to sit down. Oma is getting her grandkids to sit, whereas other adults are trying to find open spots on the bench.

Oma: *Jetza- de Luzia sitzt si moi do her. Elias, wo bist denn du?*

“Now- Luzia is gonna sit down over here. Elias, where are you gonna be?”

Peter: ***Ja*** *und SCHO is da Blots bsetzt...*
ja and already is DET place occupied.

...Ja dann sitz'e me do hea
...ja then sit.I me there here

“Oh well, and the spot is taken just like that. Well then I'll sit down here.”

Hentschel (1986) in particular argues for the idea that all uses of *ja*, in particular the DPRT use can be derived from its diachronic origin as a deictic root. The synchronic multifunctional uses are summarized below.

UoL	function
<i>ja</i>	discourse particle
	response particle
	discourse marker

Table 6: Multi-functional uses of *ja*

3.2.4 Doch

According to Karagjosova and Zeevat (2007), *doch* originates as a marker of questions with which the speaker seeks confirmation of A's opinion. Hentschel (1986) argues that *doch* derives from the proto-Indo-European demonstrative *te-/to- and the addition of two emphatic clitics, functioning like an emphatic "*this!*" (Hentschel 1986:43).²⁵ *Doch* therefore has a similar diachronic origin as *ja*, but contains more emphasis.

Taking these diachronic origins of *doch* into consideration, I suggest the contribution of the DPRT *doch* to be: *this is something that I believe you believe*, or shorthand *I believe you believe p*.

(20) *doch* \approx *I believe you believe p*

This proposed contribution in (20) is corroborated by Kwon (2005), who assumes that when S uses *doch*, she assumes that A does not consider p at the moment, although p is already known to A (Zimmermann 2011). An example for this use of *doch* in MB is shown in (21).

(21) Cx¹: Franz hears music on the radio, which is played on the intercom in the supermarket where he is shopping with his dad. His brother Sebastian is on a field trip at a radio station. When the station identifier is played, Franz says to his dad:

²⁵ Hentschel (1986:43-44) considers the combination of "*all this+emphasis+emphasis*" nothing else but a "*doubly reinforced, anaphoric 'this'*" (Translation ST)

$\langle \checkmark, Cx^1 \rangle$ Do is *doch* heid da Sebastian.
there is **doch** today DET Sebastian

“SeBASTIAN is THERE today!

‘[I believe you believe that] Sebastian is there today.’

(Wer früher stirbt...)

DPRT *doch*, alongside *ja* is among the most widely researched DPRTs of German (e.g. Abraham 1991, Bárány 2009, Egg and Zimmermann 2011, Grosz, 2010b, Hentschel 1986, Lindner 1991, Schmerse et al. 2013, Thurmair 1989; Zeevat and Karagjosova 2007, a.o.). According to Grosz (2010b:1) the function of DPRT *doch* in SG is to mark its host utterance as “familiar, old, given, uncontroversial or shared”. In addition, he assumes that it also conveys, “some notion of contrast or correction” (cf. Abraham 1991, Bárány 2009, Kaufmann and Kaufmann 2012, Lindner 1991, Thurmair 1989, Zeevat and Karagjosova 2007). Whereas I do not adopt this approach, contrast is widely proposed to be one of the core meaning components of *doch* (e.g. Bárány 2009, Egg and Zimmermann 2011, Grosz 2010b, Ormelius-Sandblom 1997), and is considered to be encoded in its lexical entry. As an advocate of this hypothesis, Grosz (2010b) suggests that it includes two meaning components, as shown in (22). The first component establishes p as uncontroversial, the second component establishes that p contrasts with another proposition q. Grosz bases the first part of the contribution of *doch* on Kratzer and Matthewson's (2009) semantics of German ‘*ja*’, and in effect claims that *doch* is *ja+contrast*.

(22) Grosz' proposal for the meaning of *doch*

a. uncontroversiality:

doch p presupposes that p is an established fact and \neg p can be safely discarded.

b. contrastiveness:

doch p presupposes that there is a contextually salient proposition q, such that:

- i. q is a focus alternative of p
- ii. given contextually salient background assumptions, q contradicts p
(i.e. if p and q is not a logical contradiction, *doch* p presupposes that in the current context \neg [p and q].)

(Grosz 2010b:2)

Grosz (2010b:3) presents the following example to support the contrastive meaning component; according to his analysis, *doch* is the element introducing the correction.

(23) Mary: *Schau mal! Diese Blumen sind so hässlich.*
look PRT these flowers are so ugly

“Have a look! These flowers are so ugly.”

Bill: *Was hast du denn? Diese Blumen sind doch schön!*
what have you denn these flowers are **doch** beautiful

“What's your problem? These flowers are [DOCH] beautiful!”

⇒ [p The flowers are beautiful] is used to correct [q the flowers are ugly].

(Grosz 2010b: ex (3))

Following Karagjosova and Zeevat (2007), who also claim this for other German varieties, I do not consider *doch* inherently contrastive (cf. Krifka 2013). Rather, I show in Chapter 5 that the contrastive interpretation is composed from the context

doch occurs in, and from inferences that arise due to the need to establish discourse coherence. The main reason for this is that *doch* can also occur in contexts that do not provide any contrastive interpretation. This will be discussed in more detail in 5.6.

A common translation for *doch* is ‘but’, reflecting this idea of contrast (24a). However, contrast arises (and the same translation can be chosen) in the absence of the DPRT, as is illustrated in (24b). Translation therefore can be misleading, since it is often aimed at verbalizing the elements of the propositional structure (not the discourse structure).

- (24) Cx: Hanni is at a family gathering at her aunt Betty’s. Betty usually makes cake, and also tends to prepare an evening meal, *Brotzeit*. After coffee Hanni says goodbye and gets ready to leave. Betty says:

a. *Gehst du scho? Es gibt doch no a Brotzeit!*
 go.2SG you already it exist **doch** still DET bread.time

“Are you leaving already? But there is still cold cuts and bread”

b. *Gehst du scho? Es gibt no a Brotzeit!*
 go.2SG you already it exist still DET bread.time

“Are you leaving already? But there is still cold cuts and bread”

Regardless of whether *doch* encodes contrast or not, all analyses agree that it expresses some aspect of S’s belief about A’s belief. That is, *doch* relates p to A’s epistemic state.

Besides its use as DPRT, MB *doch* also functions as response particle, illustrated below.²⁶

²⁶ SG has also a use for *doch* as conjunction; this function is not attested in MB, however.

- (25) A: *Fahrts es heia ned mid zum törggelen?*²⁷
 drive.2Pl you.pl this.year NEG with to.DET wine-tour

“Aren’t you coming along this year to go wine-touring?”

B: *Doch.*
 doch

“Yes, we are.”

Krifka (2013) analyzes the response particle *doch* as an IP (propositional) anaphor. He proposes that *doch* presupposes a contextually relevant proposition *p*, as well as a another contextually salient proposition *p'*, such that *p'* is a focus alternative to *p*, and $\neg[p \text{ and } p']$, the same way Grosz (2010b) analyzed the DPRT *doch*. This lends itself to deriving DPRT and response particle use from one another. Both uses of *doch* are summarized below.

UoL	function
<i>doch</i>	discourse particle
	response particle

Table 7: Multi-functional uses of *doch*

3.2.5 Fei

Very common in southern German varieties, the MB DPRT *fei* is popularly seen as a marker of Bavarian identity (Merkle 2005).²⁸ *Fei* is diachronically derived from the adverb *fein*, meaning ‘fine, exact, to the highest degree’ (DWDS 2016). In its adverbial use, the final nasal ‘n’ is kept, whereas the DPRT *fei* drops the nasal at the

²⁷ Törggelen is a term used in South Tyrolia for wine-harvest time trek from mountain side wine-cellar to wine-cellar. Groups of people usually hike together and enjoy wine and local delicacies.

²⁸ Fei, in 2004 and 2010 surveys conducted by the Bavarian public broadcaster “Bayrischer Rundfunk” was voted to be the most popular Bavarian word.
 (<http://www.sueddeutsche.de/panorama/mein-liebstes-bayerisches-wort-des-is-fei-a-dantschigs-herzipopperl-1.665773>)

end. Echoes of the diachronically present final nasal can be found in older speakers, who nasalize the diphthongized vowel to render *feĩ*. The particle *fei* is frequent in MB. It is one of the only two DPRTs that is not multifunctional, and only used as DPRT, the other one being ‘*halt*’.²⁹ I propose its contribution as DPRT to be the following.

(26) *fei* ≈ *I believe you don’t believe p*

In an attempt to formalize the contribution of the DPRT, I analyze *fei* as a “polarity discourse particle” in Thoma (2009). In particular, I propose a meaning for *fei* in terms of polarity focus (cf. Höhle 1992): *fei* emphasizes the opposite of *p* (note that this is the generally proposed function of *doch*). *Fei* anchors the utterance to the discourse context by accessing A’s beliefs toward *p*. Like *doch*, *fei* expresses the speaker’s assessment about the epistemic state of A. An example of the DPRT *fei* is shown in (27).

(27) Cx: Martin is at an Ox race, where Sir Quickly races his Ox Ringo. Ringo only runs to the tune ‘Mr. Tambourine Man’, but the tape is missing. This makes Sir Quickly extremely nervous, and he is pacing up and down. Martin gets impatient with Sir, and says to him:

Martin: *Lang schaug’e ma des fei nimma oo*
 long look I me DET **fei** NEG.always on

“I am running out of patience!”

‘[I believe you don’t believe it, but] I am running out of patience!’

(Irgendwie and Sowieso)

Schlieben-Lange (1979) considers the contribution of the DPRT *fei* as marking the

²⁹ *halt* is rendered as *hoid* in MB. This particle will not be discussed in detail here.

propositional content of the host utterance (her ‘argument’) as new. *Fei* has also been called an emphatic marker in Merkle (2005); its use, according to Merkle, “strengthens” the utterance. This notion of strengthening or emphasis is often evoked in the description of DPRTs in general. I will turn to an explanation for how emphasis is derived from the interplay between the core meaning of *fei*, and the various contexts in which it occurs in Chapter 5.

3.3 Belief, commitment and epistemicity

The repository of knowledge shared between discourse participants in a conversation is known as the Common Ground (CG; cf. Stalnaker 1978, 2002). Establishing CG requires the discourse participants to build and maintain a complex model of the conversation situation. Any given speaker has to consider her own belief, her interlocutor’s belief, and the beliefs that S assumes to be shared with A. All these beliefs can be accessed by DPRTs. Hence, we need a model of CG which can be relativized to a conversational situation, and which allows one to target any of the discourse participant’s individual beliefs. In order to model the contribution of DPRTs, we need a discourse model that separates the discourse participants’ public beliefs, that is, their commitments (cf. Farkas and Bruce 2010). The concept of *grounding* (introduced in 3.3.1.) allows us to model just that. I show that an individual’s belief about a state of affairs expressed in an utterance can be established via the context within which this utterance occurs (3.3.2). I propose for all the UoLs introduced above that they function to express the epistemic stance of a discourse participant regarding the content of the host utterance. This stance is dependent on the discourse context, as well as the individual commitments and content (propositional

or otherwise) expressed via clause-typing. Whose stance is expressed exactly, and with which UoL, will be argued for in detail in Chapter 4. In order to frame the discussion to follow, I now explain how the notions of belief, epistemicity and commitment relate to each other. In order to frame the discussion to follow, I now explain how the notions of belief, epistemicity and commitment relate to each other.

In a given (discourse) situation, S and A both have their individual sets of private beliefs, that is, the beliefs that are not public. By uttering a sentence, a speaker S conveys her private belief, expressing, by uttering the sentence, a public commitment regarding its content. For example with an assertion with propositional content p S expresses a public commitment to p (Gunlogson 2001). S wants her private belief to become CG, and pending on the addressee's acceptance or refusal, the content of the assertion will become CG. CG then is the intersecting set of these private beliefs that, if made public and mutually accepted, are the set of mutual beliefs. Following Gunlogson (2001) I will call these mutual beliefs shared public commitments. This is how commitments can serve as proxy for beliefs (Rett 2013). A commitment then is public, whereas a belief is private. However, often beliefs are referred to as public beliefs, but when they are, they are in effect commitments, at least in the sense I intend it here. An utterance, before its content p is grounded, can be understood as straddling the line between the speaker's private beliefs and the Common Ground (of shared public commitments). Therefore speaker intention plays a role in reaching certain conversational states of affairs; for example, by uttering an assertion, S wants to effect a specific conversational state of affairs (namely that p become CG).

As I discuss in 3.4, clause-type also serves to indicate a speaker's public commitment (Beyssade and Marandin 2006). For example, the form of a declarative communicates an assertion that expresses S (public) commitment to the propositional

content *p* (Gunlogson 2001). *p* does not only refer to the content of assertions. I intend for it here to serve as shorthand for the content of any utterance, in the form of any clause-type. Therefore, in this dissertation *p* also stands as shorthand for the content of imperatives, interrogatives and exclamations. In short, I take *p* as any (propositional or otherwise) content expressed in a clause type, and accordingly *p* co-varies with the syntactic form. Whereas this is a simplification of the facts, it allows me to model the contribution and effects of DPRTs.

3.3.1 Grounding: separating speaker from addressee

DPRTs are used to indicate the epistemic stance, often in form of a belief, of a discourse participant toward the host utterance. It is therefore crucial for an analysis to be able to track *who believes what* in a conversation. The discourse component tasked with storing shared mutual beliefs, that is, public commitments, is commonly assumed to be the CG (Stalnaker 1978, 2002). The CG minimally contains propositions (Stalnaker 1978), a partially ordered set of questions under discussion (QUD) (Roberts, 2012) and the latest discourse move (Ginzburg, 1996). I also assume that it contains the individual discourse participants discourse commitments with regards to a to-do-list (Portner 2004). Thus the CG is a model of how discourse participants share what is talked about (propositions, to-do-lists) and, as well, that something has been said (latest discourse move, QUD). Its contents are summarized in figure 7 below.

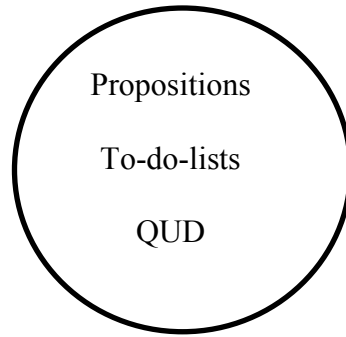


Figure 7: CG Content

Crucially, this content only becomes CG after it has been *grounded*. Grounding, a term introduced by Clark (1985) can be seen as “...the fundamental, moment-by-moment conversational process by which speaker and addressee are constantly establishing mutual understanding” (Bavelas et al. 2012:5, Clark and Schaefer 1989).³⁰

CG building and management is viewed as a *dynamic process*. CG content is not built and updated automatically. Just by virtue of uttering an utterance with a given content (that co-varies with clause-type, and henceforth is called *p* for exposition), *p* and *latest move* do not automatically become CG; they need to be *grounded*.³¹ The process of grounding proceeds in two phases (28) (cf. Clark and Schaefer 1989, Clark and Brennan 1991, cf. Bavelas et al 2012).

³⁰ Michael Rochemont (pc) points out that this also makes deaccenting a grounding device, as well as non-focus accenting.

³¹ I am only concerned with the grounding of the content of an utterance, not with grounding the fact that something has been uttered- the two are separate processes, as evidenced by the fact that a response particles can react to both (examples due to work on response particles by Erin Guntly p.c. and Martina Wiltschko p.c.)

(i) Elise: Are you coming to the party?
Erin: Yeah, no.

Here Erin grounds the utterance by accepting that Elise asked a question. She grounds the content *p* of the utterance by refuting it with ‘no’.

(28) **Phases in grounding:**

Presentation Phase: S presents utterance with content *p* to A

Acceptance Phase: A accepts *p*

This two-step process is necessary in order to integrate the content of an utterance into the CG (Farkas and Bruce 2010, Irmer 2009, Malamud and Stephenson 2015). This is in many ways an idealization of the state of affairs, since much depends on the form of the utterance, the choice of lexical items, etc. In other words, the contexts that will be presented next play a crucial role in whether *p* becomes CG or not.

Since utterances do not update the CG by virtue of being uttered, they are then *proposals* to enhance the CG of a conversation (cf. Farkas and Bruce 2010; Malamud and Stephenson 2015). S, by uttering *p*, places *p* on the “conversational table” T. A then can pick up *p* from T, and accept it, or refute it. Grounding can occur with linguistic as well as non-linguistic cues, such as gestures, facial expression, nods, etc. *p* can be grounded for example by the absence of a negative response; speakers may also assume that A accepts *p*, by virtue of a lack of overt linguistic disagreement (cf. Gunlogson 2008).

This two-step model crucially presupposes the separation of the beliefs of the discourse participants: S’s beliefs about *p* are separate from A’s beliefs about *p*. In addition, S can have a belief about A’s belief, but does not have to share A’s belief. That is, there are propositions to which a certain discourse participant is not publicly committed, but which are nevertheless in their ‘belief space’ (i.e. for example S knows that A knows that S believes *p*, but A doesn’t believe *p*, etc.). In what follows, I indicate S’s belief about *p* as in (29a) and S’s belief about A’s belief as (29b).

- (29) a. Bel (S,p)
b. Bel (S, Bel (A,p))

Importantly, the discourse participants can hold beliefs about their interlocutor's epistemic states. Belief ascription is a necessary precursor to our ability to have conversations; S would not normally ask A a (sincere) question, if S didn't believe A had the answer. S normally would not make an informative statement via an assertion if she thought A already knew this information. This *normal* state of affairs is expressed in the constitutive rules associated with the speech act of an utterance (Searle 1969). DPRTs serve to modify aspects of this *normal course* (cf. Zeevat 2004). They are special kinds of speech act modifiers that do not change the speech act itself, but amend the public commitments (and thereby, epistemicity) indicated by the speech act (cf. Egg 2010, cf. Jacobs 1991, cf. Zeevat 2003).

Discourse participants gain support for what (and how strongly) they believe, and for what they believe their interlocutor believes from *linguistic*, *discourse*, and *situational* evidence provided to them (Fischer 2006). The beliefs of S and A can therefore differ, since propositions, to-do-lists, and QUD can be established by means other than linguistic context alone. This is discussed in the next section.

3.3.2 Context: the relation between an individual and p

In this section I discuss in more detail the notion of context (Cx). The core proposal of this dissertation is that the function of a given DPRT is compositionally derived from a UoL and the context it is used in. I introduced the UoLs in section 3.2, whereas now I turn to the role of context with the background on *grounding* in mind.

$$(30) \quad f_{DPRT} = UoL + Cx$$

In particular, we shall see that context serves as an indicator for which discourse participant believes what about *p*, or about their interlocutor's epistemic stance. Hence, context restricts the use of DPRTs, as we will see in more detail in Chapter 4.

I take context to be multi-faceted. That is, context is not one, uniform discourse entity, but instead is best viewed as a construct of several sub-contexts, all of which can establish CG content (Clark 1985, 1996; cf. Irmer 2009). In particular, to understand the function of a DPRT (f_{DPRT}) we have to take into consideration several sub-contexts, as listed in (31).

(31) **Ways of establishing CG content via context**

- (i) **syntactic form**: the host utterance
- (ii) **discourse context**: linguistic knowledge via discourse antecedent
- (iii) **situational context**: specific facts regarding the utterance situation
- (iv) **world knowledge**: nonspecific knowledge of facts and rules in the world

These factors are not separate, but rather are in a subset relationship to each other.

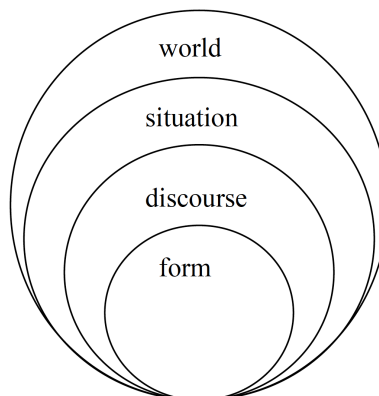


Figure 8: Discourse contexts

In order to utter a sentence, S needs to decide on the appropriate **form** of a sentence, i.e. its clause type and associated intonation contour, which results in a particular function (i.e. illocutionary force). The specific form depends on the discourse context; not every form is appropriate in every context. The immediate discourse context, (i.e., preceding utterances), also delimits the types of forms that are possible.³² Furthermore, the situational context, which contains the participants' actions, non-actions, behaviors, looks, gestures, etc., can serve as indicator of the kinds of utterances that are appropriate and felicitous in a discourse context (Fischer 2006).

Lastly, CG content established by world knowledge is the kind of information we assume our interlocutor shares with us, based on general facts about the world that are taken for granted by members of the speech-community at large. For example, as a resident of Canada, I can reasonably assume that people I talk to in Vancouver in late October 2015 are aware that a new Canadian Prime Minister was elected recently. Crucially, discourse participants do not need overt linguistic antecedents in order to gain belief, or share CG about a certain situation or state of affairs. Bartels (1999) frames this in terms of salient propositions, which need not be expressed overtly.³³ All contexts can provide evidence, or allow for inferencing, that a certain state of affairs is known to or believed by a given interlocutor (Fischer 2006, Irmer 2009). This is illustrated in the following examples.³⁴

³² The discourse context may also contain information about the social status of participants, their relationship to each other, etc.

³³ This can also be framed as QUD (Roberts 2012). Nothing hinges on the choice of salient propositions over QUD for the purpose of the analysis presented here.

³⁴ Whereas these contexts *guide* inferences, and can provide evidence for certain beliefs about the interlocutors' epistemicity, contexts do not *determine* the belief of an interlocutor.

(32) Belief inferred from **discourse context** (via linguistic antecedent)

Cx¹: Two friends, Martl and Alex, visit with each other and chitchat. Martl tells Alex he doesn't have time to stick around for dinner since he's going to the movies.

- Martl believes that Alex knows that he doesn't have time for dinner, since Martl just told Alex so.

(33) Belief inferred from **situational context**

Cx²: Two friends, Martl and Alex, visit with each other and chitchat. Alex, who lives alone, sets the dinner table for 2. Martl assumes the second plate is for him.

- Martl believes that Alex thinks he is having dinner with him, since he sets the table for two.

(34) Belief inferred from **world knowledge**

Cx³: I have a conversation with a colleague. I make reference to "our new Prime Minister" without mentioning his name.

- I believe that my interlocutor knows I speak about Justin Trudeau since we both live in Canada. I can reasonably assume that anybody living in Canada would have followed the very extensive election coverage, and knows that Trudeau was elected PM in the fall of 2015.

DPRTs, as shown in 2.6, are subject to clause-type restrictions. I argue, that clause-type restriction instantiates a special kind of contextual restriction, namely a restriction to form. (i.e., Cx: *form*). In particular, clause-type, I argue, provides CG content regarding the interlocutor's belief states in terms of public commitments. That is, an utterance does not only carry information regarding its propositional content, its syntactic form also indicates who is committed to, and is supposed to be committed to p. This will be discussed next.

3.4 Clause types, illocutionary force, and speech acts

I take a speech act to be the output of a form and force pair, which can be modified by a variety of means, including DPRTs (cf. Zeevat 2003). What I refer to as form is what is traditionally *clause type*, whereas force is *illocutionary force*, the function associated with the form. I make this distinction, since there is sometimes a terminological conflation of the notions of clause type (here form) and the associated illocutionary force (here considered a function). Speech act, under the approach taken here, corresponds to the notion of sentence mood, which is the final output of the combination of form type and function type (Altmann 1993). The insight that form type (= clause type) and function type (=illocutionary type) are two distinct concepts and need to be kept separate is particularly relevant for the question of clause type restriction of DPRTs (cf 2.6).

I assume here that the force of a clause type is compositionally derived from the combination of distinct distributional and morphological features (cf. Lohnstein 2000, cf. Zanuttini and Portner 2003). This contrasts with the growing body of literature on clause typing, according to which sentential force is syntactically encoded via a force feature in the left periphery of the clause (e.g. Cheng 1997, Han 2000, Rizzi 1997, 1999, and most cartographic accounts). I do not adopt a formal feature that determines the illocutionary force of a clause type, due to form-force mismatches shown later in this dissertation.

It is uncontroversial that clause type is conventionally associated with a function, that is, with a specific illocutionary force (Meibauer et al. 2013, Sadock and Zwicky 1985) as summarized in (35).

(35) The conventional association of form and force types

Form	Force	Commitment
declarative	asserting	S
interrogative	asking	A
imperative	requesting	A
exclamative	exclaiming	S

Allan (2006) refers to this conventional association with illocutionary force as the *primary illocution* of an utterance. Each illocutionary force is concomitant with a discourse participant's commitment, and therefore, a belief (cf. Rett 2013). Assertives commit S to p, and ask A to commit to p as well. Questions commit S to an open issue that A is supposed to resolve. Directives commit S to an outcome, and ask A to add it to their to-do-list. Exclamatives are exclusively concerned about S's commitment, and do not involve A (Beyssade and Marandin 2006; Malamud and Stephenson 2015). Each of these commitments will be motivated further when I turn to individual clause types.

Clause typing then, as I claim here, can serve to establish 'who believes what' in a conversation. I crucially draw from the proposal in Truckenbrodt (2006), who develops a formal theory of the effect of V to C movement in German. Whereas I do not adopt the feature mechanisms proposed by Truckenbrodt (2006), I take his main insight that verb movement to C activates a 'context index' situated in the CP layer, representing S's belief (his *Epist*).³⁵

³⁵ More formally, Truckenbrodt proposes the following:

- (i) In a context index <DeontS (x) (<Epist>)> in C
 - a. Epist is present iff
 - (i) C contains a finite verb with indicative or subjunctive II, or
 - (ii) C/CP is marked [+WH];
 - b. x = A iff C contains a finite verb with person inflection.

In Truckenbrodt's terms, *DeontS* refers to the speaker of the utterance. *Epist* is the shared knowledge between S and A, expressed in Truckenbrodt as '*it is common ground that/whether..[p]*'. Indicative or subjunctive verbal morphology, as well as the person features on the verb provide the necessary

Clause types, in sum, are conventionally associated with an illocutionary force, which in turn is tied to a specific discourse participant's commitment (Beyssade and Marandin, 2006). This commitment can be modified and changed by intonation, however (among other modifying tools, such as DPRTs, as will be shown here). Therefore, intonation is an essential factor, for establishing and also for modifying belief. I assume that every form has a 'default' intonation contour, as we simply cannot produce an utterance without any intonation at all. I also assume that there is a second type of modifying intonation that is not usually associated with a specific form, and can serve to modify the primary illocution (cf. Rett 2013). However, the picture is a lot more complicated than what I am able to present here; nevertheless, I argue here that clause type and intonation are considered to form a unit, which must be interpreted together, establishing a **form**. This form (clause type + intonation) also constitutes a special kind of context. It encodes the public commitments of a discourse participant, and positions its content *p* with respect to the discourse participants. Clause typing this way establishes a commitment for a discourse participant (cf. Gunlogson 2004, 2008). Since form gives an indication of the (public) commitments of the discourse participants, it indirectly provides an indication of who believes what. I crucially adopt Rett's (2013:20) assumption that public commitments can serve as a proxy for belief.³⁶

Searle (1969), following Austin (1975), refers to the primary illocutions, expressed as the result of the commitments, as speech acts, each with their constitutive rules.

features that need to be valued in *C*. Therefore only verb movement from *V* to *C* can value these features in *C*. Thus *x* (referring to *A*) and *Epist* in the context index of *C* can be seen as unvalued features triggering *V*-to-*C*. (Truckenbrodt 2006: 262).

³⁶ I refer the reader to Rett (2013, 2014) for further details on how commitment and belief can be considered the same for the purposes I intend here.

These will be introduced in Chapter 5, where I discuss how DPRTs mark a divergence from the default commitments expressed in each speech act. He specifies four types of constitutive rules for utterances:

- (36) **Constitutive rule for speech acts**
- a. content rules
 - b. preparatory rules
 - c. sincerity rules (addressing what is needed for a speech act to be sincere)
 - d. essential rules (specifying what the speech act counts as).³⁷

The **content rules** for a speech act corresponds to what I refer to as *Cx: form*. This, in Austin's terms, refers to the *locutionary act*: it is the actual utterance and its meaning, including the phonetic realization, syntactic form, and semantics of the lexical items involved in the utterance.

The **sincerity rules** concern the situation in which a given speech act is uttered, i.e. they refer to the contextual preconditions for a given speech act. These contexts will (have to) be presented for each utterance containing a DPRT, in order to track the epistemicity and intentions of the interlocutors.

The **preparatory rules** for each speech act will be presented in detail when I investigate the interpretational effects of DPRTs in Chapter 5.

In the next two sections I show in more detail that a form is comprised of two parts: clause type and intonation. Each will be discussed.

³⁷ In the following I ignore the 'essential rules', since they do not directly bear on the discussion here. An example for an essential rule for a request for example would be that the utterance counts as an attempt of S to have A perform the requested action.

3.4.1 Syntactic form as context

The form of an utterance, its clause type and its intonation establishes the commitment of the discourse participant towards p. I refer to this as *commitment assignment* (cf. Rett 2013)

- (37) **Commitment assignment:** sentence form (including clause-type + intonation) encodes the discourse participants' belief toward p, showing their public commitments.

The notion of commitment assignment is based on the well-established assumption that the features of formal clause typing show S's relationship, and S's preference for A's commitment to p (Byessade and Marandin 2006; cf. Brandner 2010; cf. Condoravdi and Lauer 2011; cf. Zaefferer 2001; Truckenbrodt 2006). This preference is expressed in the constitutive rules associated with each speech act. A declarative for example publicly commits S to its propositional content p. In addition, S wants A to commit to p as well (Bach and Harnish 1979, Zeevat 2003, Searle 1969). When S has a question, A, by default, is believed to have the answer, and so on.

The commitment assignment created by the default form-force pairing is not invariable, however; it can be modified to indicate a change in S and/or A commitment. Clause typing establishes a default force, and modifiers such as peripheral particles (Beyssade and Marandin 2006, Malamud and Stephenson 2015 Heim et al. 2016, Wiltschko and Heim 2016) and intonation (Gunlogson 2004; Truckenbrodt 2006, 2012, 2013; Trinh and Crnic 2011), may modify the intended speech act, more explicitly, the default epistemicity expressed in the speech act. This means that a clause type and the associated illocutionary force do not always map onto each other in a one to one fashion. I show now that intonation is an integral part

of Cx: form, and a non-negligible factor when considering discourse participant commitment.

3.4.2 Intonation

Intonation is usually not directly taken into consideration when discussing clause types (see Altmann 1984, 1993 for an exception). The role of intonation, however, is crucial in (re-)assigning commitments (Trinh and Crnic 2011; Heim et al. 2016). For that reason Searle (1969) classifies intonation as an Illocutionary Force Indicating Device. I adopt here the idea developed elsewhere that intonation contours are intonation morphemes in their own right (Truckenbrodt 2012, 2013; Pierrehumbert and Hirschberg 1990, Trinh and Crnic 2011; Davis 2011 for Japanese; cf. Altmann 1984, 1993 for German). Therefore, they play an essential role in the syntactic composition of clause types. Simplifying a rather complex picture significantly, I will consider three basic contours here and describe their contribution to specific clause types: sentence final falling intonation (indicated by \), sentence final rising intonation (indicated by /), and sentence initial or medial extra heavy pitch accent (exclamation intonation; indicated by √).³⁸ I summarize each of their functions in turn.

Studies such as Gunlogson (2004) establish that **rising intonation** may serve to turn a declarative clause-type into a question. Such sentences are known as ‘rising declaratives’. With /, S raises the issue whether p; it involves A in that it shifts the commitment to p from S to A (Gunlogson 2004, 2008; Truckenbrodt 2006, for German 2012, 2013; cf. Davis 2011 for Japanese). That is, the assertive illocutionary

³⁸ This is a simplification of the picture. However, I base my assumptions on findings from the works cited in this section, which provide a clear indication about the crucial role of intonation. However, more work on its contribution, and on the exact pitch contours needs to be undertaken.

force typically associated with a declarative clause-type is modified, and yields question force. This shows clearly that it is not clause type alone that establishes illocutionary force; rather, clause type and the associated intonation have to be taken into consideration. In example (38), for instance, a V1 structure with rising intonation / renders a polar interrogative with question force. A declarative with the same intonation / renders a (rising) declarative with question force. The same clause type with falling intonation \ renders an assertion.

(38) **Clause type+ intonation = form**

- a. Is that a persimmon /? Polar interrogative = Question
- b. That's a persimmon /? Rising declarative = Question
- c. That's a persimmon \. Declarative with falling intonation = assertion

(adapted from Gunlogson 2008, ex:3)

Next consider the special intonation that derives **exclamations** (√). It is typically characterized by extra high amplitude or length on any constituent in the clause, or an intonation peak on the main accent of the utterance (Bolinger 1986, Batliner 1988, Bartels 1999). It is associated with high speaker emotion (Bolinger 1986, Truckenbrodt 2013), and surprise. The surprise can either be about the fact that p, or due to the extreme degree of an element of p (Rett 2011, Truckenbrodt 2013). Regardless of the reason for the surprise, an exclamation does not involve A in any way. Rather it involves only S's attitude towards p in that it commits S to p (Beyssade and Marandin 2006, Rett 2011).

Consider the example in (39). Here the change in intonation leads to a change in illocutionary force. The same clause type (in the form of a declarative) can receive

three different functions, depending on intonation. It can function as an exclamation (39a), as an assertion (39b), or as a question (39c).

(39) Adam can cook steak.

Example	Clause type	Intonation	Force
Adam can cook steak!	declarative	√	exclamation
Adam can cook steak.	declarative	\	assertion
Adam can cook steak?	declarative	/	question

(modified from Rett, 2011: ex 27a)

According to Truckenbrodt (2013), the **falling intonation** morpheme \ expresses that S wants to assert p as true.³⁹ This contribution is conventionally associated with assertions.⁴⁰ I assume here that \ facilitates to establish S commitment to p, as in (38c) and (39b).

In what follows, I discuss the forms relevant for the analysis of DPRTs.⁴¹

3.4.3 Declarative

A MB declarative matrix clause is characterized by the following properties (cf. Altmann 1993, Brand et al 1992, Reis 1999, cf. Meibauer et al 2013); (i) the finite

³⁹ Mit [∕] drückt der Sprecher aus, dass er zu p eine assertive Einstellung hat, i.e. p als wahr darstellen will. ("Ich sage, dass p"). With \ S expresses that he has an assertive attitude toward p, that is, wants to present p as true. ("I say that p"). Truckenbrodt (2013) (Translation ST).

⁴⁰ It is difficult to establish whether it is the contribution of \ alone, or whether the syntactic properties of clause types also encode this

⁴¹ This list is not exhaustive, but covers the clause types and associated illocutionary forces investigated here.

This is illustrated in (40). In (40a), a subject DP ('da Marinus') occupies SpecC, whereas in (40b), an adverbial phrase occupies SpecC. The default intonation associated with declaratives is \.

- “Marinus is giving Luzia a kiss today.”

- “Today Marinus is giving Luzia a kiss.”

A declarative with \ conventionally is interpreted as an assertion. The constitutive rules for uttering an assertion include that S is committed to p, and believes p, i.e. Bel (S, p).

⁴² Verb movement is assumed to establish illocutionary force (e.g. Wechsler 1991; Truckenbrodt 2006; Bayer 2010). This is a type of syntactic force feature approach, since it assumes a feature that triggers the verb to move to C to establish force, where matrix clauses have their own illocutionary force, and can stand by themselves as utterances, whereas subordinates lack illocutionary force, and thus cannot stand independently (cf. Haegeman 2002:159).

- (41) ?? *Da Marinus gibt da Luzie heid a Bussl /*
 DET Marinus gives DET Luzia today DET kiss

“Marinus is giving Luzia a kiss today?”

A declarative associated with \checkmark is a sentence exclamation in Rett’s (2011) terms. It is associated with the illocutionary force of exclaiming. Only S belief is involved, and there is no requirement on A’s part to respond, or add p to their beliefs. Rett (2011) notes that since sentence exclamations are always uttered with an intonation distinct from matrix assertions, they should not be analyzed as assertions. The next example provides an illustration; whereas the clause type is that of a declarative, the illocutionary force is that of an exclamation.

- (42) *Da MaRINUS gibt da Luzie heid a Bussl *
 DET Marinus gives DET Luzia today DET kiss

“(Wow), Marinus is giving Luzia quite a kiss today!”

The findings of this section are summarized below.

INTONATION	function	commitment
\	Assertion	S
/	Question	A
\checkmark	Exclamation	S

Table 8: Intonation associated with declaratives and resulting functions

Next I turn to the interrogative clause type, and the associated illocutionary forces.

⁴³ Note that it is my impression that rising declaratives are very rare in MB. They are certainly not used with the same frequency as in English. I believe that the same is true for other dialects of German, but this would have to be confirmed by a larger data sample.

3.4.4 Interrogative

I consider two types of interrogatives, (i) wh-interrogatives, and (ii) polar interrogatives. Each type of interrogative is conventionally associated with the illocutionary force of questioning. However, formally, and in terms of commitments, both types differ, and both types can be modified by intonation. I discuss each in turn.

3.4.4.1 Wh-interrogative

As illustrated in (43), MB wh-interrogatives are characterized by the following properties: (i) the finite verb is in C and (ii) verb mood is either indicative or subjunctive. (iii) SpecCP has to be occupied by a wh-word. Wh-interrogatives typically occur with a rising intonation /. They are conventionally associated with the illocutionary force of questioning.

- (43) [SpecC *Wea* [_C *gibt* [*da* *Luzie* *a* *Bussl*]]] /
who gives DET Luzia DET kiss

“Who is giving Luzia a Kiss?”

Unlike what we observed with declaratives, however, a change in the intonation contour does not correlate with a change in illocutionary force. That is, even if an interrogative clause associates with falling intonation \, the illocutionary force is still that of questioning. I assume with Brandner (2010 for SG) that wh-interrogatives are always interpreted as questions because of their *syntax*: spec head agreement between the wh-word in SpecC and the verb in C triggers questioning force.

Turning to √, Brandner (2011:88) reports for German that wh-interrogatives, “can never be re-interpreted [as exclamation: ST] – even with the “best” [...] intonation and the “best” plausible context”. In MB Bavarian, however, wh-interrogatives can

easily be modified with $\sqrt{}$, and be interpreted as exclamations, as the next example shows.

(44) Cx: Teenager Lena is dressed up, ready to go out. Her mom looks at her with a disapproving look, and says:

- a. *Wia schaugst denn DU aus* $\sqrt{}$
 how look denn you out

“(Boy) how you look!”

- b. *Wia SCHAUGST denn du aus* $\sqrt{}$
 how look denn you out

“(Boy) how you look!”

The table below provides a summary.

INTONATION	function	commitment
\	question	A
/	question	A
$\sqrt{}$	exclamation	S

Table 9: Intonation associated with wh-interrogatives and resulting functions

3.4.4.2 Polar interrogative

As illustrated in (45), polar interrogatives are characterized by the following properties: (i) the verb occurs in C, (ii) it has indicative or subjunctive morphology, (iii) nothing occupies SpecC. Conventionally, a polar interrogative associates with rising intonation /, resulting in question force.

- (45) [_{SpecC} --[_C *gibt* [_{da} *Marinus* _{da} *Luzie* _a *Bussl*]]] /
 give DET Marinus DET Luzia DET kiss

“Is Marinus giving Luzia a kiss?”

(46) Cx¹: Karl tells a joke to his soccer buddies. He begins:

- “So an Austrian goes to heaven ...”

- I follow Reis (1999), who, building on Önnersfors (1997), argues that the filling of SpecC with an XP results in S commitment to p (cf. Truckenbrodt 2006). She observes that so-called V1 sentences are all comment and do not assert. V1 plus \ presents propositional content, but does not assert its truth. These types of V1 are often used to set the scene when opening a narrative, or to begin a joke as in (46a), which supports this view of them being ‘presentative’ (Wiltschko to appear) V1 clauses associated with \ are therefore not assertions and lack S commitment to p.

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- (47) a. Cx¹: 3 year old Marinus is visiting from Canada. He hasn't seen his great-Aunt Christa in a long time. He is shy, but she overhears him saying something in Bavarian to his grandma. Christa exclaims:

Redt *da* *BUA* *BOArisch* √ !
 speak DET boy Bavarian

“(It’s surprising that) the boy speaks Bavarian!”

- b. Cx²: 3 year old Marinus is visiting from Canada. He hasn't seen his great-Aunt Christa in a long time. He is shy, but she overhears him saying something in Bavarian to his grandma. Christa chuckles about his Canadian influenced Bavarian:

Redt *da* *BUA* *a* *Boarisch* √ !⁴⁴
 speaks DET boy DET Bavarian

“The (kind of) Bavarian the boy speaks!”

Like with all exclamations, the use of a V1 does not involve A, or express A commitment to p. Only S is committed to p.

If the verb in a V1 utterance is inflected for a 2nd person and occurs with \, the associated illocutionary force is that of a directive. I assume here that it is specifically the 2nd person features on the verb that facilitates this interpretation (cf. Zanuttini 2008, Isac 2012).

- (48) *Machst* *as* *Fensta* *zua* \
 make.2SG DET window closed

“You close the window!”

The clause type typically associated with directive force is the imperative, which will be discussed next. Before discussing imperatives, I show a summary of the findings in

⁴⁴ The value for the extreme degree reading is due to the determiner, which implies an elided adverb phrase specifying the degree (Brandner 2010). I will not further consider the differences in these two exclamative readings, since the associated commitments and thus illocutionary force are the same.

this section.

INTONATION	function	commitment
\	presenting (“V1 Declarative”)	--
\ + 2 nd person inflection	requesting	A
/	question (polar interrogative)	A
√	exclamation	S

Table 10: Intonation associated with V1 clauses and resulting functions

3.4.5 Imperative

As illustrated in (49), the imperative clause type is characterized by the following properties: (i) V in C. (ii) verb in imperative mood. Whereas imperatives in German are often considered subjectless (Wratil 2013), subjects are sometimes possible, as discussed in detail by Zanuttini (2008). SpecC remains unoccupied.

- (49) $[_{SpecC} \text{--}[C \text{ } \textit{gib} \text{ } [am \text{ } \textit{Marinus} \text{ } a \text{ } \textit{Bussl}]]]]$
 give DET Marinus DET kiss

“Give Marinus a Kiss!”

By uttering an imperative, S places a requirement on A, and gives instructions to add the property expressed in the utterance to A's discourse commitments (to-do list in Portner 2004). With the use of an imperative S asks A to add p to her discourse requirements. Thus the conventionally associated illocutionary force is that of a directive. The associated intonation contour is a final fall (Altmann 1993).⁴⁵ Neither / nor √ can associate with imperatives.

If the A commitment expressed in an imperative could be either tied to the verb

⁴⁵ It is my impression that this final fall differs from the final fall associated with e.g. declarative assertions \. Further research is necessary to establish what the precise contours are. For exposition, I will continue calling this contour ‘final fall’ and represent it with \.

mood or the fact that there is nothing in SpecCP, I consider the possibility that it is due to the imperative mood of the verb. This is due to the fact that imperative force obtains even in those rare cases where an XP precedes the imperative verb. The data below suggest that even though SpecC is occupied with XPs in the marked forms below, no S commitment is expressed with those imperatives (Wratil 2013).

- (50) a. *Jetzt gib am Marinus a Bussl *
 now give DET Marinus DET kiss

“Give Marinus a kiss now!”

- b. *A Bussl gib am Marinus *
 DET kiss give DET Marinus

“Give Marinus a kiss!”

I summarize the findings of this section in the table below:

INTONATION	function	commitment
\	request	A
/	n/a	n/a
√	n/a	n/a

Table 11: Intonation associated with imperatives and resulting functions

3.5 Conclusion

In this Chapter I introduced the necessary components needed to derive the function of DPRTs. In particular, I introduced the UoLs that serve as a base to express DPRT function. I also introduced the types of contexts I will use in the next Chapter to test the epistemic states of the discourse participants.

Discourse, situational and world contexts can set up the ‘who believes what’ by means of preceding utterances, situations, gestures, and the general environment (e.g.

if two people are standing in the rain talking, they both are aware of, and therefore can be reasonably assumed to believe that it is raining without overtly saying so). Form is also such a context, albeit a more restricted one. In particular I discussed that the form of an utterance, clause-type and intonation, indicates which discourse participant is committed to, and has a belief about p. The combination of both can therefore determine the illocutionary force of an utterance, and which in turn is restricted due to the discourse context. For example, since a polar interrogative with /, expressing a question, conveys S's wish to receive an answer from A, this polar interrogative can only be uttered in the appropriate context, one in which the discourse context (e.g. via preceding utterances as in (51)), provides an indication to S that A can reasonably know the answer to the question. This is illustrated below.

- (51) a. Cx¹: Andreas tells Heidi about the new house he just bought. She asks him where it is located. Andreas responds that it is in the interior of BC, and continues:

<*, Cx¹> *Are winters snowy there?*

- b. Cx²: Andreas tells Heidi about the new house he just bought in the interior of BC. She congratulates him and tells him she grew up there. Andreas responds that he would love to have tips about life out there and continues:

<✓, Cx²> *Are winters snowy there?*

Discourse and situational contexts can therefore restrict the possible forms available to discourse participants in their next discourse move; a form and its associated illocutionary force indicates a discourse participant's commitments (and by proxy, beliefs).

Below I present a table of the forms shown in this Chapter. The illocutionary force of the clause types under consideration here changes depending on the associated intonation contour (cf. Altmann 1993). Imperatives appear to resist association with intonation contours other than the default, as do wh-interrogatives. The latter, however, allow for modification with $\sqrt{}$, resulting in an exclamation.

form		function	
Clause type	intonation	illocution	commitment
V2 Declarative	\backslash	assertion	S, A
	/	question	A
	$\sqrt{}$	exclamation	S
Interrogative -wh	/	question	A
	\backslash	question	A
	$\sqrt{}$	exclamation	S
Interrogative polar V1 V1	/	question	A
	\backslash	presentation	-
	$\sqrt{}$	exclamation	S
Imperative	\backslash	request	A
	/	n/a	
	$\sqrt{}$	n/a	

Table 12: Summary of clause types, intonation, functions, and commitments

In the next Chapter I show how each of the UoLs I introduced above expresses a DPRT function f_{DPRT} in specific contexts. These f_{DPRT} can be organized into three separate groups; those which express the belief of a contextually determined reference point O, those which express the belief of the speaker S, and those which express the belief of the addressee A.

Chapter 4: Speaker-orientation, addressee-orientation and other-orientation

4.1 Introduction

In this Chapter I show that DPRTs are sensitive to the epistemic states of discourse participants: some are sensitive to the epistemic state of the addressee (A); some are sensitive to the epistemic state of the speaker (S); and some are sensitive to the epistemic state of some other discourse participant (O). I refer to this particular characteristic of DPRTs as their *orientation*. I show that DPRTs can be classified according to their orientation, that is, to which discourse participant's epistemic state they are sensitive. As a result, I argue that the MB DPRTs I discuss here fall into three main classes as summarized in (1).

- (1) a. **A-oriented DPRT:** relates content of an utterance to A
- b. **S-oriented DPRT:** relates content of an utterance to S
- c. **O-oriented DPRT:** relates content of an utterance to a contextually determined discourse participant O

To establish the orientation of a particular DPRT I make use of specific test frames as summarized below.

A-orientation: A-oriented DPRTs can be identified in contexts in which S displays a belief about A's attitude towards p. This is the case in three distinct contexts as summarized in (2). S believes that A believes p (2a); S believes that A believes $\neg p$ (2b) or S believes that A has no belief about p (2c).

(2) Three contexts to diagnose A-orientation

- a. $\text{Bel}(S, (\text{Bel}(A, p)))$
- b. $\text{Bel}(S, (\text{Bel}(A, \neg p)))$
- c. $\text{Bel}(S, (\neg \text{Bel}(A, p)))$

S-orientation: S-oriented DPRTs can be identified in contexts which require S to display an explicit attitude towards p. This is the case when S believes p (3a) or when S believes $\neg p$ (3b).⁴⁶

(3) Two contexts to diagnose S-orientation

- a. $\text{Bel}(S, p)$
- b. $\text{Bel}(S, \neg p)$

O-orientation: O-oriented DPRTs can be identified in contexts where neither S nor A, but a contextually defined epistemic reference point (EPR) ‘other’ expresses a belief about p. This is the case in contexts where S doesn’t have grounds to believe that p (4a).⁴⁷ If S is neutral toward, and has no commitment to p, S does not express her attitude and is not taking any stance with respect to p. Specifically, this property results in a shifting behavior of O-oriented DPRTs; they can occur in forms that have a variable EPR in terms of the commitments of the discourse participants. This has as result that O-orientation is testable in shifting contexts, i.e. across several forms;

⁴⁶ S can also say something about p without displaying an attitude or an orientation- this is the case, for example in presentatives, i.e. V1 clauses with falling intonation. Also specific markers such as evidentials (e.g. reportedly, allegedly in English) present a context in which S presents some information and reports another’s belief about p, without herself having an attitude about p.

⁴⁷ Recall that if S thinks that A doesn’t believe p, S still has a belief about A. This is not the case when S doesn’t have a belief; then S truly is not committed to p or an attitude about p.

interrogatives, declaratives and imperatives, each of which commit different discourse participants to p (4b). The term shifting is usually used to refer to indexical elements that shift, for example from referring to the addressee of the utterance to referring to the addressee of the matrix predicate. I also chose this term, following Döring (2013), highlighting the similarity between DPRTs with shifting indexicals.

(4) Test contexts to diagnose O-orientation

- a. $\neg\text{Bel}(\text{S}, \text{p})$
- b. Shifting environments: $\text{Bel}(\text{O}, \text{p})$

This is summarized in Table 13 below.

A belief	Orientation
$\text{Bel}(\text{A}, \text{p})$	A
$\text{Bel}(\text{A}, \neg\text{p})$	A
$\neg\text{Bel}(\text{A}, \text{p})/\text{no belief about p}$	A
S belief	
$\text{Bel}(\text{S}, \text{p})$	S
$\text{Bel}(\text{S}, \neg\text{p})$	S
O belief	
$\neg\text{Bel}(\text{S}, \text{p})$	O
$\text{Bel}(\text{O}, \text{p})$	O

Table 13: Orientations arising from epistemic states

I begin the discussion in 4.2 with A-orientation, and show that the DPRTs *fei* and *doch* function as A-oriented DPRTs. Section 4.3 shows that *ja* functions as an S-oriented DPRT. In section 4.4 I take stock and discuss the predictions regarding the distribution of S- and A-oriented DPRTs, across forms as well as across contexts that indicate epistemicity via non-grammatical means. In section 4.5 I show that *jetz* and

eh function as O-oriented DPRTs. I summarize the findings and conclude this Chapter in 4.6.

4.2 A-orientation

In what follows, I discuss two MB A-oriented DPRTs: *fei* and *doch*. I show that they both are sensitive to what S takes to be the epistemic state of A.

A belief is established here via situational contexts (Cx: sit) and discourse contexts (Cx: disc), although general knowledge about the world, (i.e. Cx: world) can serve to indicate the belief state of A as well. In other words, in certain contexts, what can reasonably be known about the world, can give S an indication about A's set of beliefs.

As I show now, A-orientation obtains whenever S assesses A's attitude towards p. This is the case if S thinks that (i) A believes p, (ii) A believes $\neg p$, and (iii) when A does not have a belief about p. This results in three test frames for establishing A-orientation for *fei* and *doch*.

(i) Cx: sit and Cx: disc provide S with evidence that A believes p, (ii) Cx: sit and Cx: disc provide S with evidence that A believes $\neg p$ and finally, (iii) Cx: sit and Cx: disc do not provide S with evidence that A has a belief about p (this is trivially true in the absence of contextual information as well as in contexts where A just asked S about p). These test frames are summarized below. Note that, soliloquy, (i.e., self-talk), is a special instance of (i) and (ii), with the additional requirement that S is the same person as A (cf. Hasegawa 2011).

- (5) Test frames for A-orientation
- (i) **A believes that p**: Bel (A, p) due to Cx: disc or Cx: sit
 - (ii) **A believes that $\neg p$** : Bel (A, $\neg p$) due to Cx: disc or Cx: sit
 - (iii) **A has no belief about p**: Cx: disc or Cx: sit do not indicate whether A believes p or $\neg p$
 - a. out of the blue (OOB) as a special context of \neg Bel (A, p)
 - b. S answers A's question about p
 - (iv) **Self talk** (Soliloquy): A believes p or $\neg p$, AND A=S

I show now that *fei* and *doch* (introduced above in sections 3.2.4 and 3.2.5) are both A-oriented DPRTs. The former is used in contexts where A believes that $\neg p$, whereas the latter is used in contexts where A believes p. As proposed in 3.2.4 and 3.2.5, the contribution of *fei* and *doch* can be summarized as in (6) (see Chapter 5 for some refinements):

- (6) a. *fei* \approx *I believe you don't believe p*
b. *doch* \approx *I believe you believe p*

The following two examples provide support that these are indeed the contributions of *fei* and *doch*, respectively. The context S uses to infer A's belief is established by world knowledge and situational context in the following way: Sir is in a beer tent full

of people, and wins an award (Cx: sit). It is common and generally expected for award winners to say at least a few words of thanks (Cx: world).

- (7) Cx¹: Sir Quickly, who is extremely shy, won an Ox race. The award ceremony is in a beer tent full of people. He is called to the podium to receive his award, and his friends urge him to go up. He is extremely hesitant, but gets up to go, while uttering the following:

Des sog'e da glei...
that say.I you soon

“I’m telling you...”
‘I’m telling you...’

- a. <✓, Cx¹> ...*I sog* ***fei*** *nix* ...
 ...I say ***fei*** nothing...

“...I definitely won’t say anything...”
‘...[I believe you don’t believe] I won’t say anything...’

...*wenn'e* *wos* *sogn* *muass* *geh* *I* *glei* *wieda* *obe*
...if I something say must go I soon again down

“...if I need to say something I’ll go down right away.”
‘...if I need to say something I’ll go down right away.’

(Irgendwie and Sowieso)

- b. <✓, Cx¹> ...*I* *sog* *nix*
 ...I say nothing

“...I won’t say anything”

- c. <*, Cx¹> ...*I* *sog* ***doch*** *nix*
 ...I say ***doch*** nothing

“... I won’t say anything”
‘...[I believe you believe] I won’t say anything.’

Sir, in Cx¹ can be reasonably expected to speak, and give a thank you or acknowledgment for the prize he won, when getting up on stage. With the use of *fei*, he emphasizes that, counter to expectations he won't speak (7a). The utterance is felicitous in the same context without *fei* (7b) but here it lacks the 'counter what you expect' component. *Doch* in this context is not felicitous (7c); this is expected under the proposal that it expresses A believes that p.

In the constructed, minimally contrasting context Cx², where the friends encourage Sir to go to the podium, and explicitly state that he won't be expected to speak, *fei* is not felicitous (8a). In contrast, the utterance with *doch* is felicitous here (8b). An utterance without a DPRT (8c) is perceived as odd by consultants.

- (8) Cx2: Sir Quickly, who is extremely shy, won an Ox race. The award ceremony is in a beer tent full of people. He is called to the podium to receive his award, and his friends urge him to go up, and reassure him that he won't have to say anything; he can just get the medal. He gets up to go, while uttering the following:

a. <*, Cx²> *I* *sog* ***fei*** *nix*
 I say **fei** nothing

b. <✓, Cx²> *I* *sog* ***doch*** *nix*.
 I say **doch** nothing

“I won't say anything.”
 ‘[I believe you believe] I won't say anything.’

c. <?, Cx²> *I* *sog* *nix*.⁴⁸
 I say nothing

“I won't say anything.”

The contrast between (7) and (8) shows that it S's assumptions about A's belief which

⁴⁸ The crucial contrast that consultants noted is the difference between (8a) with *fei*, which is perceived as a lot worse than (8c) without *fei*.

fei and *doch* are sensitive to. In (7) Sir believes that he is expected to speak; the use of *fei* is felicitous, *doch* is not. In (8) Sir believes that he is not expected to speak; *fei* is not felicitous, whereas *doch* is.

The following section introduces further tests to support the proposed function of *fei* and *doch*, showing that both DPRTs access S's assumptions about A's belief and thus are classified as A-oriented.

4.2.1 A believes p

The proposal that *fei* expresses S's belief that A doesn't believe p makes predictions about the discourse conditions under which the DPRT can be used. In particular, *fei* should be infelicitous in contexts where S has evidence that A believes that p. This prediction is borne out as shown in (9).

- (9) Cx¹: Martl and Alex chitchat. Martl tells Alex he doesn't have time to stick around for dinner, since he's going to the movies. Alex sets the dinner table for 2 and Martl assumes the second plate is for him.

Bel (A, p)

<*,Cx ¹ >	I	hob	fei	koa	Zeit	zum	Essn
	I	have	fei	NEG.DET	time	to	eat

"I really don't have time to eat"

'[I believe you don't believe that] I don't have time to eat.'

In Cx¹, Alex knows that Martl can't stay for dinner, since Martl explicitly told Alex that he has a movie date (Cx: disc). Even though Alex seemed to temporarily have forgotten about p, as evidenced by him setting the table for two, and thereby implicating Martl may stay for dinner (Cx: sit)., it is public knowledge (i.e. S and A should know) that Alex believes that p. In this circumstance, S (Martl) cannot use *fei*

in his response. Note that the DPRT *doch* in the same scenario is felicitous (10). A-oriented *doch* expresses that S believes that A believes and is committed to p.⁴⁹

- (10) Martl: <✓, Cx¹> *I hob doch koa Zeit zum Essn*
 I have **doch** NEG.DET time to eat
- “I don’t have time to eat”
 ‘[I believe you believe] I don’t have time to eat.’

The next example further supports that S’s assumptions about A’s belief is an important factor for the felicitous use of *doch*. The example below uses two continuations for the utterance containing *doch*. One continuation makes reference to p already being known to A, i.e. A believes that p (11a), whereas the other continuation (11b) asks whether A didn’t know that p (i.e. it implies that S is not sure whether A knows p). As predicted, (11a) is felicitous, (11b) is not.

- (11) Cx¹: Alex promises to do a chore for Dani before leaving on vacation, and leaves the room. Roman, who witnessed this exchange, says to Dani:

Dofia hod’a doch koa Zeit ...
 for.that has.he **doch** NEG.DET time

“He doesn’t have time for that...”
 ‘[I believe you now that] He doesn’t have time for that...’

- a. <✓, Cx¹> ...*awa des woasst eh*
 “...but you know that anyways”
- b. <*, Cx¹> ...*host des ned gwusst?*
 “...didn’t you know that?”

⁴⁹ I will discuss how accommodation plays a role in cases where A seemed to have forgotten about p, or never knew p in Chapter 5.

We further predict that *doch* is felicitous in situations when S wants to check information that A knows. The following example illustrates such a context. S wants to confirm A's identity. It is clear to S that A, as a rational discourse participant, must know who he is. The use of *doch* here is felicitous (12a). As expected, *fei* is infelicitous (12b).

- (12) Cx²: A villager who knows my dad from playing music runs into my brother, whom he hasn't met, at the village bakery. The family resemblance is striking. He says:

a. <✓, Cx²> Du bist **doch** am Thoma sei Bua
you are **doch** DET Thoma his boy

“You must be a Thoma”

‘[I believe you believe that] You are the Thoma family's boy.’

b. <*, Cx²> Du bist **fei** am Thoma sei Bua

Consider the next example, which has as a premise from Cx: sit that S and A both know that Dani has lived in Munich for a while now. In this context, the most natural utterance contains *doch* (13a). The utterance without *doch* in this context is acceptable, but the consultant reported that he strongly prefers the utterance with *doch*.

- (13) Cx¹: I visit Munich. I want to go out in a particular neighborhood and ask my friend Sylvia for advice where to go. We have a mutual friend Dani who we both know has been living in the city for a while. She responds:

a. <✓, Cx¹> Da Dani wohnt **doch** schon a Zeit lang do....
DET Dani live **doch** already DET time long there

b. <?, Cx¹> Da Dani wohnt schon a Zeit lang do....
DET Dani live already DET time long there

...*dea woass bestimmt* *wos.*
 ...he knows surely something.

“Dani’s been living there for a while so he surely will have an idea.”
 ‘[I believe you believe that] Dani’s been living here for a while now, he surely will have an idea.’

If the context is changed slightly as in (14), *doch* is not acceptable in the discourse (14a). The altered context has a premise that I don’t know this person Dani that my friend Sylvia is talking about. I therefore cannot know where he lives. The version without *doch* is more acceptable in this context than in the context for (13b) above.

- (14) Cx²: I visit Munich. I want to go out in the particular neighborhood and ask my friend Sylvia for advice where to go. She mentions a friend of hers might know:

- a. <*, Cx²> *Da* *Dani* *wohnt* ***doch*** *scho* *a* *Zeit* *lang* *do....*
 DET Dani live **doch** already DET time long there
- b. <✓, Cx²> *Da* *Dani* *wohnt* *scho* *a* *Zeit* *lang* *do....*
 DET Dani live already DET time long there

...*dea woass bestimmt* *wos.*
 ... he knows surely something.

“Dani’s been living there for a while, you know, so he surely will have an idea.”
 ‘[I believe you believe that] Dani’s been living here for a while now, he surely will have an idea.

Next I show that *fei* is infelicitous in self- talk scenarios, whereas *doch* is felicitous in these kinds of contexts. This again, is predicted under the proposal made here.

4.2.2 Soliloquy

There is a special circumstance where one person instantiates both S and A, i.e., S talks to him/herself. This is known as a soliloquial context, and I refer to it as self-

talk.⁵⁰ In these scenarios, where $S = A$, *fei* is predicted to be infelicitous. This is so, because a rational speaker knows about his or her own beliefs, and cannot tell himself or herself that *I believe that you (=I) don't believe p*. The next example illustrates such a scenario, and shows that A-oriented *fei* is infelicitous.

- (15) Cx^1 : Alex promises to do a big chore before leaving on vacation, and leaves the room. Martl is muttering to himself (Martl = Addressee).

$<*, Cx^1>$	<i>Dofia</i> that.for	<i>hod'a</i> has.he	<i>fei</i> fei	<i>koa</i> NEG.DET	<i>Zeit</i> time
-------------	--------------------------	------------------------	---------------------------------	-----------------------	---------------------

“He really doesn’t have time for this.”

‘[I believe you don’t believe] he doesn’t have time for this.’

Doch on the other hand is felicitous in self-talk contexts. This is expected, since a rational speaker knows about his or her own beliefs, and can easily "tell themselves" that *I believe that you (=I) believe p*.

- (16) $<\checkmark, Cx^1>$
- | | | | | |
|--------------------------|------------------------|-----------------------------------|-----------------------|---------------------|
| <i>Dofia</i>
that.for | <i>hod'a</i>
has.he | <i>doch</i>
doch | <i>koa</i>
NEG.DET | <i>Zeit</i>
time |
|--------------------------|------------------------|-----------------------------------|-----------------------|---------------------|

“He doesn’t have time for this.”

‘[I believe you believe] he doesn’t have time for this.’

The S-oriented DPRTs *ja* is equally felicitous, with its own contribution due to its function. This will be discussed in detail in 4.3. For now, it suffices to point out that S-oriented DPRT *ja* is felicitous in self-talk.

⁵⁰ Soliloquy, and the discourse conditions for soliloquy has been studied by Hasegawa (2011) in detail. I here will continue to refer to it as 'self-talk' for exposition.

- (17) <✓, Cx¹> *Dofia* *hod'a* **ja** *koa* *Zeit*
 that.for has.he **ja** NEG.DET time

“He doesn’t have time for this”
 ‘[I believe] he doesn’t have time for this.’

The next example further supports the claims about *doch*. Again, *fei* is illicit.⁵¹

- (18) Cx²: I drive along and see a faintly familiar looking person crossing the street. I do a double take, muttering to myself:

- a. <✓, Cx²> *Des* *is* **doch** *da* *Alex*
 that is **doch** DET Alex

“That's Alex.”
 ‘[I believe you believe] that's Alex.’

- b. <*, Cx²> *Des* *is* **fei** *da* *Alex*
 that is **fei** DET Alex

“That's Alex.”
 ‘[I believe you don’t believe] that's Alex.’

I showed in this section that *doch* is licit, whereas *fei* is illicit in contexts where S talks to him- or herself (i.e., S = A). The same pattern emerged in contexts where it was established that A believes p. Next I show that *fei* is felicitous in contexts where A believes that ¬p.

⁵¹ Note that proposals that assume *doch* to be inherently contrastive (e.g. Grosz 2010b) have a hard time accounting for the kind of data presented in (18). Here S is not correcting her own mistaken belief, or another’s person belief. She reminds herself about p, reaffirms to herself that she knows p. This use of *doch*, as well as other aspects of the functional range of *doch* will be discussed in detail in Chapter 5. For that reason I will delay further justification, but wanted to point out this problem with the assumption that *doch* lexically encodes contrast.

4.2.3 A believes that not p

In this section I show that *fei* is felicitous in contexts where A believes that $\neg p$, whereas *doch* is shown to be unacceptable. The following example illustrates this. Cx: sit provides indication to Regina (S) that Hanni (A) assumes she, Regina, doesn't want coffee. Regina does want coffee, however, and can use *fei* but not *doch* in her response.

- (19) Cx1: Hanni has a few friends at her house. She's bringing coffee to a few people, as well as some glasses of water. She puts a glass of water in front of Regina, who says.

a. <✓, Cx¹> I *mog* ***fei*** *aa* *gern* *an* *Kafä*
 I like **fei** also willing DET coffee

“I'd also really love a coffee.”

‘[I believe you don't believe] I also want coffee.’

b. <*, Cx¹> I *mog* ***doch*** *aa* *gern* *an* *Kafä*

Regina has sufficient evidence from the situational context to believe that Hanni thinks she won't drink coffee (since Hanni only serves her water). In this context, the use of *fei* is predicted to be felicitous (because it indicates that A believes $\neg p$) while *doch* is predicted to be infelicitous (because it indicates that A believes p).

The next example further illustrates this contrast between the two A-oriented DPRTs. In particular, S can make assumptions about A's epistemic state based on Cx: world. People are generally not expected to leave their zippers open when returning from the washroom, hence S can safely assume that A believes that $\neg p$ (that the zipper is not open). *Doch* is correctly predicted to be infelicitous (20a), whereas *fei* is correctly predicted to be well-formed in this context (20b).

(20) Cx¹: Hansi returns from the washroom. His zipper is down. Hanni says:

a. <*, Cx¹> *Dei* *Hos'ntiarl* *is* ***doch*** *auf*
 your pant.door is ***doch*** open

“Your fly is down.”
 ‘[I believe you believe] your fly is down.’

b. <✓, Cx¹> *Dei* *Hos'ntiarl* *is* ***fei*** *auf*
 your pant.door is ***fei*** open

“Your fly is down.”
 ‘[I believe you don’t believe] your fly is down.’

Next, I show that not only the discourse context and situational context, but also the *interpersonal relationship* between the discourse participants plays a significant role in determining the use of DPRTs.⁵² This can be viewed as a special case of world knowledge interacting with situational knowledge; the special cultural knowledge about assumptions we can make about the discourse participants’ belief about p. Witness the following data:

(21) a. Cx¹: I’m going Christmas shopping with my cousin and am justifying the purchase of a nice and cozy cashmere scarf for her mom, my aunt. I say to her:

<✓, Cx¹> *Dei* *Mama frierts* ***doch*** *immer so...*
 your mom freezes ***doch*** always so...

... *do* *is* *des* *genau des* *richtige.*
 ...there is DET exactly_{DET} right

⁵² Interpersonal relationships could arguably be subsumed under situational as well as specific world knowledge. I wanted to point out the particular sensitivity of DPRTs to this aspect of the situational context, however. I will also address this in the discussion on accommodation in 5.8.

“Your mom is always so cold so this is just perfect.”
 ‘[I believe you believe that] your mom is always cold, so this is just perfect.’

b. Cx²: I’m going Christmas shopping with a friend and am justifying the purchase of a nice and cozy cashmere scarf for my aunt. I say to her:

<*, Cx ² >	<i>Mei</i>	<i>Tante</i>	<i>frierts</i>	<i>doch</i>	<i>immer so</i>
	my	aunt	freezes	<i>doch</i>	always so

... <i>do</i>	<i>is des</i>	<i>genau des</i>	<i>richtige</i> .
...there	is DET	exactly DET	right

“My aunt is always so cold so this is just perfect.”
 ‘[I believe you believe that] my aunt is always so cold so this is just perfect.’

My cousin knows my aunt, her own mother, and therefore I can make the reasonable assumption that she knows about her mother always being cold. I can use *doch*, to show that I believe she knows this (21a). In contrast, I cannot use *doch* in Cx² (21b) since someone who doesn’t know my aunt accompanies me. My interlocutor cannot reasonably know about my aunt always being cold.

4.2.4 A doesn’t believe that p

In this section I show that *fei* can also occur in contexts where A gives no indication whether she believes p (or ¬p). That is, she has no public commitment to p or indicates that she doesn’t believe p. This is a more general condition than A believes that ¬p. Recall that S can make an assessment about A’s belief; she can believe A believes p, she can believe that A believes ¬p, but she can also be in a situation where she has no evidence at all about the epistemic states of A, or where she has indication that A does not believe p. This is different from S belief that A believes ¬p and can be reduced to having an explicit belief Bel (A, ¬p), versus not believing that A believes

p , $\neg\text{Bel}(A, p)$. I discussed the former above, whereas the latter, $\neg\text{Bel}(A, p)$, is instantiated by out of the blue (OOB) contexts. OOB contexts don't presuppose shared knowledge, in that it is not public knowledge that A is aware of p or believes p .

S can also be in a position where she has actual evidence that A has no belief about p , that is, A doesn't believe p , but also doesn't believe $\neg p$. This is instantiated when A has asked a question about p . The fact that A is asking a question is evidence for S that A does not know the answer, i.e. A does not believe p or $\neg p$. This is summarized below.

(22) Two types of contexts for $\neg\text{Bel}(A, p)$

(i) Out of the blue

(ii) S answers A's question about p

Besides *fei*, *doch* also can occur in some contexts where A has no belief about p .⁵³ However, in contexts that have as a premise that S has to assume that A doesn't believe p , *doch* is predictably infelicitous. In this way, DPRTs explicitly restrict possible responses and discourse moves on the part of A.⁵⁴

4.2.4.1 Out of the blue context

When *fei* occurs in OOB utterances, it refers to salient propositions, which have not explicitly been uttered in the context. *Doch* in contrast to *fei* is infelicitous OOB,

⁵³ I will address the issue of accommodation, and how DPRTs often appear to force accommodation in Chapter 5.

⁵⁴ Davis (2011) analyzes this in terms of a domain restriction over possible output contexts.

since it refers to a (positive) belief about p. Yet OOB contexts are those where it is public knowledge that A is unaware of p. The next two examples illustrate this.

(23) Cx¹: Hansi returns from the washroom. His zipper is down. Hanni says to him:

a. <✓, Cx¹> *Dei Hos'ntiarl is **fei** auf*
 your pant.door is **fei** open
 “Your fly is down.”
 ‘[I believe you don’t believe] your fly is down.’

b. <*, Cx¹> *Dei Hos'ntiarl is **doch** auf*
 your pant.door is **doch** open
 “Your fly is down.”
 ‘[I believe you believe] your fly is down.’

(24) Cx²: First thing said by an aunt to her niece whom she hasn’t seen in a year.

Griass de Maus, wia geht’s da denn? Mei,...
 Greet you mouse how goes.it you denn? PRT...

“Hi darling, how are you? My, ...

a. <✓, Cx²> ... *du bist **fei** ganz schee g’waggs’n!*
 ... you are **fei** whole nice grown

“...you really have grown quite a bit.”
 ‘...[I believe you don’t believe] you have grown quite a bit.

b. <*, Cx²> ...*du bist **doch** ganz schee g’waggs’n!*

(23a) and (24a) suggests that *fei* accesses more than the public commitment of A to ¬p, i.e. in cases where the context provides evidence that A believes ¬p. *Fei* can be used as long as S has evidence that A doesn’t believe p. *Fei* crucially cannot be used OOB in contexts where A is, or *should be* aware of what is asserted in the utterance. Personal experience predicates such as ‘*frieren*’ exemplify this, since the person

undergoing the experience is the EPR, and the judge of their experience (cf. Stephenson 2007). In contrast to *fei*, *doch* is good with those kinds of predicates, predicted under the proposal made here. Since A is the expert on her feelings and bodily sensations, *doch* can be used to ‘remind’ A of her own state.⁵⁵

(25) Cx¹: I say to my partner, who is sitting next to me shivering:

a. <*, Cx¹> *Di frierts* *fei*
 you freezes.it **fei**

“You’re really cold”
 ‘[I believe you don’t believe] you are cold.’

Consultant’s comment: ‘*Des ko ma ned sog’n, des merkt derjenige ja seiba*’ (you can’t say that, he notices that himself)

b. <✓, Cx¹> *Di frierts* *doch*
 you freezes.it **doch**

“You are cold.”
 ‘[I believe you believe that] you are cold.’

The consultant’s comment in (25a) is illuminating: it is fully consistent with the proposal made here, according to which *fei* expresses that A doesn’t believe p. In the context above, A necessarily must believe p, since A is the experiencer. It is illicit to tell A something that they necessarily know.⁵⁶

⁵⁵ More on the reminding function of *doch* in Chapter 5.

⁵⁶ Of course we can imagine contexts where a person would be unaware their own sensations. For example a little kid is playing in the lake until her lips turn blue, and she stand there shivering. A mom could possibly say ‘*Di frierts fei*’ under the assumption that the kid is not aware of her own cold body.

4.2.4.2 Answer to a question

Another testing ground for the A-orientation of *fei* and *doch* are their use in answers to questions. Following Hamblin (1958), to know the meaning of a question is to know which propositions count as direct answers to that question. Asking a question implies that one does not know the answer to that question (rhetorical questions and examination questions aside). I begin with *fei* to illustrate this. With the use of the yes/no question in (26) S calls on A to reply to p or $\neg p$. To use either *fei* or *doch* in an answer to a yes/no question is correctly predicted to be infelicitous because *fei* is used to express S's belief that A believes $\neg p$ (26a), while *doch* is used to express S's belief that A believes p (26b).

(26) Cx¹: Christa is about to go to the store and while getting ready asks whether it is currently still snowing.

Christa: *Schneibts* *no?*
 snows.it still

“Is it snowing still?”

Karl:

a. <*, Cx¹> *Ja,* *s* *schneibt* ***fei.***
 yes it snows **fei**

“It’s snowing.”

‘[I believe you don’t believe] It is snowing.’

b. <*, Cx¹> *Ja,* *s* *schneibt* ***doch***
 yes it snows **doch**

“It’s snowing.”

‘[I believe you believe that] it’s snowing.’

c. <✓, Cx¹> *Ja,* *s* *schneibt*
 yes, it snows
 “Yes, it is snowing.”

To answer a yes/no question with an utterance that contains *I believe you believe p/-p* violates the maxim of Relevance (Grice 1975) because A - by asking a question - clearly expresses that they don't know p.⁵⁷

For completeness, note that *fei* is not ruled out as a response to yes/no questions as long as this response is not a direct answer as in (27) below. Here Hans' question implies the proposition: *You are not cold*. This is so because by asking this question, Hans assumes that Johanna is warm enough, so a window can be opened. In this context, as predicted, *fei* is felicitous: Johanna responds that *counter expectation* she is cold.

(27) Cx: Hans is asking whether he can open the window in the living room

Hans: *Konn'e as Fensta aufmacha?*

"Can I open the window?"

Johanna: *Mi friats fei*
me freezes **fei**

"I'm really cold."

'[I believe that you don't believe that] I am cold.'

This exemplifies the inferencing processes at play with the use of DPRTs (cf. Schmerse et al. 2013).

Now consider DPRTs used in answers to wh-interrogatives. With the use of a wh-interrogative, S calls on A to respond to something they don't know, the variable expressed as the wh-word. In this context *doch* and *fei* are felicitous: *Doch* is used when of all the possible values which the variable represented by the wh-word can take, the value in the answer is one that A already knew (28a) while *fei* expresses that

⁵⁷ See Chapter 5 for more discussion on the relation between DPRTs and the Gricean maxims.

it is the one A didn't know (28b).

- (28) Cx²: Hans has several guests in his house; they are all chatting with each other. He has been asking who wants what to drink, but hasn't gotten conclusive answers. He asks:

Hans: *Wea mog jetzt oiss an Kafä?*

“Who all wants coffee now?”

Johanna:

- a. <✓, Cx²> *D'Regina woidd doch oan.*
 DET.Regina wanted doch one

“Regina wanted one.”

‘[I believe you believe that] Regina wanted one.’

- b. <✓, Cx²> *D'Regina woidd fei oan.*
 DET.Regina wanted fei one

“Regina wanted one.”

‘[I believe you don't believe that] Regina wanted one.’

Summarizing this section, I showed that the DPRTs *fei* and *doch* are both used when S has a belief about A's attitude towards p. The contexts used to test this claim are summarized in Table 14.

A belief	Orientation	DPRT
Bel (A, p)	A	doch
Bel (A, ¬p)	A	fei
¬Bel (A,p)/no belief about p	A	fei/doch

Table 14: A-orientation and epistemicity

As a final support for the proposed contributions of the two DPRTs and their A-orientation take the minimal pair below. It shows that *fei* is felicitous in a context where the negative bias of an utterance is emphasized via focus accent on the

sentential negation (29a).

- (29) Cx³: 3-year-old Marinus is trying to get into the locked living room, which is closed off for Christmas preparations. His grandpa tries to tell him that he can't go in there so that *Christkindl* can come with his angel helpers to bring presents and a Christmas tree. Grandpa begins with:

a. <✓, Cx³> Du konnst **fei** NED do neigeh
you can **fei** NEG there in.go

“You really can't go in there.”

‘[I believe you don't believe] You can't go in there’

b. <*, Cx³> Du konnst **doch** NED do neigeh.
you can **doch** NEG there in.go

‘[I believe you believe] you can't go in there’

Doch in contrast is infelicitous when negative bias is highlighted, as illustrated by (28b). It shows that *doch* is not compatible with a focus on the opposite polarity of the content of the utterance. This is predicted, since it goes against the core function of the DPRT *doch*, which highlights that A believes the content of the utterance.

4.3 S-orientation

In this section, I discuss an S-oriented DPRT, namely MB *ja*. I present evidence that it serves to express S's attitude toward the propositional content of an utterance. Hence, it can be classified as an S-oriented DPRT. As with A-orientation, I use contextual information to test the beliefs of S concerning p. In addition, I will use the context *form* Cx: form. Recall that I argued in 3.4 that form is the output of clause typing and intonation, and has a commitment associated. I also adopt an assumption from Rett (2013, 2014) that commitment serves as a proxy for belief. I therefore use.

Cx: form in the next section as an additional test frame to establish S-orientation. As with A-oriented DPRTs, a belief about p can come about via an overt linguistic antecedent in the discourse context Cx: disc, or via the situational context Cx: sit, instantiated by e.g. actions or situations the discourse participants are involved in.

(30) Test frames for S-orientation

(i) **A belief irrelevant**

(ii) **S believes p:**

- a. Bel (S, p) established by Cx: form
- b. Bel (S, p) established by Cx: disc (immediately preceding discourse or lexical content of matrix embedding verb)

4.3.1 A belief is irrelevant

The first step in establishing that *ja* is S-oriented, is to show that it is not A-oriented. That is, with the use of *ja* S signals that s/he has an explicit attitude towards p whereas A's epistemicity is irrelevant for the felicitous use of *ja*. Hence, we expect that S-oriented DPRTs can be used in conversations with strangers. Since *ja* is not signaling what S thinks about A's attitude towards p, S need not know anything about A's epistemicity. This prediction is borne out, as shown in (31a). The behavior of *ja* contrasts with that of A-oriented *fei* (31b), and *doch* (31c), which are both ruled out in this context.⁵⁸

⁵⁸ Note, that a shared knowledge analysis for *ja* cannot capture this data adequately; *ja* in this example cannot express a presupposition on S's side that A shares the propositional content expressed in the utterance.

(31) Cx¹: My mom tells a stranger next to her on the airplane about her regular trips to Canada:

a. <✓, Cx¹> *I hob ja Enkel drum...*
 I have **ja** grandchildren over.there...

...do	fliag'e	mindastens	oamoi	im	Jahr
...there	fly I	at.least	once	in.DET	year

“I have grandchildren over there, so I fly at least once a year.”
 ‘[I believe that] I have grandchildren over there, so I fly at least once a year.’

b. <*, Cx¹> *I hob fei Enkel drum...*
 I have **fei** grandchildren over.there

c. <*, Cx¹> *I hob doch Enkel drum...*
 I have **doch** grandchildren over.there

Recall from section 4.2.4.1 that both A-oriented DPRTs (*fei* and *doch*) are infelicitous in contexts that refer to personal experience. If *ja* is S-oriented only, it follows that it should be well-formed in such contexts because it does not express an assessment about A's epistemic state. Observe the next example with a personal experience predicate.

(32) Cx¹: I say to my partner, who is sitting next to me shivering:

Di frierts ja...
 you freezes.it **ja**

...ziag	da	liawa	a	Joppn	oo.
...pull	you	rather	DET	jacket	on

“You're cold...you had better put a jacket on.”
 ‘[I believe that] you're cold... you better put a jacket on.’

If indeed A's belief about p is irrelevant for the felicitous use of *ja*, we further predict

that it should be possible in contexts where A believes p, as established by the situational context (Cx: sit). This prediction is borne out as shown in (33).

- (33) Cx¹: Alexander is being accused by his classmates of stealing a special kind of paint. His classmates interrogate him, he denies. At the end, one suggests to look into his bag:

Alexander: *Vo mir aus,...*
 of me out...

...schaugts hoid in mein Schuiranzn findts ja eh nix.
 ...look hoid in my school.bag find.you ja eh nothing

“If it’s for me, look into my bag, you’re not gonna find anything anyways.”
 ‘[do] look into my bag, [I believe[it was the case before that]] you’re not going to find anything.’

In this context, A (the classmates) believes that p (they are going to find the paint) whereas S believes $\neg p$. This establishes that it is not S’s belief about A commitment that matter for the use of *ja*.⁵⁹

The same effect, namely that A-belief is irrelevant for the felicitous use of *ja* is also observed when A’s commitment to $\neg p$ is explicitly introduced by a linguistic antecedent (i.e., via Cx: disc). Consider (34). Here A (Martin) is committed to $\neg p$ (‘I don’t want to watch this much longer’). Effendi (S) uses *ja* in his retort ‘you don’t have to (watch this much longer.)’.

- (34) Cx³: Martin and Effendi are watching an Ox race. Sir Quickly and his ox Ringo are part of the race. Martin is getting impatient with the antics of Sir and his ox.

Martin: *Lang schaug-e-ma des fei nimma oo*
 long look.I.me that fei NEG.anymore on

⁵⁹ *Ja* crucially, does not refer to shared CG knowledge between S and A, since in context (31), S and A have the opposite beliefs. More in Chapter 5.

“I’m really not gonna watch this much longer.”
 ‘[I believe you don’t believe that] I’m not gonna look at this much longer.’

Effendi: *Muasst ja ned, is ja imma schnäi vorbei*
 must.you **ja** not it.is **ja** always fast over

“You don’t have to, it’s always over quickly.”
 ‘[I believe that] you don’t have to, [I believe that] it (*the race*) is always over quickly.’

Furthermore, if the use of *ja* is not sensitive to A’s attitude towards p, then we predict that a statement with *ja* can be followed by continuation that indicates either that A believes p, or that A believes $\neg p$. This prediction is borne out, as shown in (35). (35a) shows a continuation of the preceding utterance which indicates that A knows p, whereas (35b) shows a continuation that indicates that A doesn’t know p. Both are acceptable in this context.

- (35) Cx⁴: Alex promises to do a chore for me before leaving on vacation, and leaves the room. Roman doubts his promise and says to me:

Dofia hod-a- ja koa Zeit
 for.that has.he **ja** NEG.DET time

“He doesn’t have time for that”
 ‘[I know] he doesn’t have time for that.’

a. <✓, Cx⁴> ...*Awa des woasst eh* “But you know that anyways”

b. <✓, Cx⁴> ...*Host des ned gwusst?* “Didn’t you know that?”

In essence, no matter whether A believes p or believes $\neg p$, *ja* is felicitous. This is a clear indication that A belief does not play a role. I show in the next section that *ja* is sensitive to S belief about p.

4.3.2 S belief is relevant

I show in this section that tests referring to S belief about p can be successfully employed in identifying those discourse contexts in which S-oriented *ja* is felicitous, as well as contexts in which it is not. Furthermore I show that *ja* is also sensitive to S's belief by proxy of *commitment*. For this reason I take Cx: form into consideration as a further test frame that can indicate S belief. Cx: sit, Cx: disc, as well as Cx: form, can serve as an indicator of S belief about p, and are used to establish the necessary conditions for S-orientation

I show that *ja* is felicitous in contexts where S is committed to p ($\text{Bel}(S, p)$), and that *ja* is not felicitous in contexts where S is committed to $\neg p$ ($\text{Bel}(S, \neg p)$). This is true for contexts where S's belief is established via Cx: disc (4.3.2.1) as well as contexts where S's belief is established via Cx: sit (4.3.2.2)

4.3.2.1 S committed to p due to discourse context

This section establishes that S commitment to p is relevant for the felicitous use of *ja*. *ja* occurs in declaratives with assertive force (Coniglio 2009, Kwon 2005, Thurmair 1989) hence they commit S to p. The minimal effect of asserting p is to add p to the public commitments of S; it publicly commits S to act as though she believed p (Condoravdi and Lauer 2011, Zeevat 2003, cf. Rett 2013).

However, *ja* is felicitous not only in matrix declarative assertions, as was illustrated in the examples in the previous section, it can also be found in some embedded clauses (cf. Coniglio 2009, Kwon 2005).⁶⁰

⁶⁰ Zimmermann doesn't consider SHG *ja* to be embeddable „[...] *ja* is generally impossible in complement clauses [...], except under *verba dicendi* (often with subjunctive mood), even though there is no binding relation involved and even though a plausible interpretation is available in principle. [...] *ja* is always evaluated with respect to the utterance context. Hence, it cannot be embedded, unless it

- (36) Cx¹: Hanni and Gitta have been discussing over the last two days what to give Katl for her upcoming Birthday. Hanni calls Gitta one morning and says:

Mia *is* *grad* *eigfoin...*
 to.me is just fall.in

 ... *dass d* *Katl* ***ja*** *scho* *lang* *Gebursdag* *ghabt* *hod.*
 ...that DET Katl **ja** already long birthday has had

“I just remembered that Katl already had her birthday a while back.”
 ‘I just remembered that [I believe that] Katl already had her birthday a while back.’

The embedded clause in (36) inherits commitment from the embedding matrix verb (cf. Simons 2007). Hence, the subordinating clause *Mia is grad eigfoin* instantiates Cx: disc and determines whether S is committed to the proposition expressed in the subordinated clause. Felicity therefore depends on the lexical content of the embedding verb.

The proposal that *ja* expresses S belief in p predicts that it is infelicitous in contexts where S does not believe p, as presented in (37). (37a) shows *ja* embedded under a positive, attitude verb which report on the “private mental state of an individual” (Anand and Hacquard 2014). In embedded contexts like (37b), where the matrix attitude predicate is negated, *ja* is infelicitous.

- (37) Cx: Tina and Roman talk about Vroni’s English skills. Tina says:

a. *I glab* *dass’* ***ja*** *scho* *eftas in Kanada war*
 I believe that.she ja already often in Canada was

‘I think that [I believe that] she’s been to Canada several times so far’

forms part of a reported speech act under a *verbum dicendi* [...]” (Zimmermann 2007:20f.) The data in (37) and (38a) show that this is not quite correct for MB (cf. Coniglio 2009, Doering 2008).

b. **I glab ned dass' ja scho eftas in Kanada war*
 I believe NEG that.she **ja** already often in Canada was

Recall from Chapter 2 that DPRTs are known to be impossible under the scope of negation. The infelicity of (37b) could therefore stem from the fact that *ja* is embedded under negation. Consider the next example, however. The verb *vagessen* ('forget') presupposes the truth of the complement, and commits S to p, whether it is negated or not. *ja* is predictably acceptable in both cases, negated and not (38)-(39). This is evidence that it is the interaction of the lexical content of the embedding verb with negation, and not the presence of negation alone, which results in the (in)felicity of the S-oriented DPRT *ja*.

- (38) Cx: Mom remembers that winter holidays start on Monday. She says to her kids:

Am Monddog miasst's ned in'd Schui...

"On Monday you don't need to go to school..."

...*I hob ganz vagessn dass ja da scho Ferien san*
 ...I have whole forgot that **ja** then already holidays are

"...I totally forgot that holidays will have started by then!"

'...I totally forgot that [I believe that] holidays have started then already'

- (39) Cx: The parents are talking about possible dates for booking a vacation. They are trying to find a suitable date. Mom suggests the first week of August for the getaway. Dad says:

Du deafs ned vagessn dass ja do übaroi Ferien san...
 you may NEG forget that **ja** there everywhere holidays are...

"Don't forget that everybody will have vacation time then..."

'You shouldn't forget that [I believe that] it's vacation time everywhere then...'

...*do weads ganz schee zuageh*
 "...it'll be pretty busy then."

Ja cannot be used in the complement of verbs such as, *leugnen* (deny), *hoffa* (hope), *frang* (ask). It is inconsistent to hope, ask, deny, etc., but to believe *p* at the same time (cf. Hentschel 1986). This is consistent with the proposal that *ja* marks the host proposition as one which *S* explicitly believes to be true.

4.3.2.2 *S* committed to *p* due to form

I present now another context where *S* is committed to *p* as a ‘fact’ (Zanuttini and Portner 2003), namely exclamations. Exclamations are a special context *Cx*: form. As discussed in 3.4, exclamations in MB are not always overtly marked with dedicated UoLs, or have a dedicated syntactic clause type, although some exclamationatives are marked syntactically (cf. Brandner 2010, Rett 2011 for a detailed rationale about the distinction between exclamationative and exclamation). They are characterized by a special exclamation contour represented below as \checkmark . This contour is realized as an extra high pitch accent, often on the first word, which is marked by CAPS.

- (40) *Cx*¹: 5 year old Elias is coming into the house all dirty after playing outside in the mud on a rainy day. Grandma greets him at the door:

<i>DU</i>	<i>schaugst</i>	<i>schee aus</i> \checkmark
you	look	nice out

“(My,) how you look!”
 ‘You look nice.’

My proposal predicts that *ja* is felicitous in this context, since an exclamation commits *S* to *p*. This prediction is borne out as shown in the next example.

- (41) *Cx*¹: 5 year old Elias is coming into the house all dirty after playing outside in the mud on a rainy day. Grandma greets him at the door:

DU schaugst ja schee aus ✓
 you look ja nice out

“(My,) How you look!”
 ‘[I believe that] you look nice.’

The next example shows another exclamation context. The specific situation has no addressee. This underscores the claim that *ja* does not reference the epistemic state of A. Note that the A-oriented DPRTs *fei* and *doch* are not acceptable in this self-talk context. The example below is adapted from Kratzer and Matthewson (2009).

(42) Cx²: I am sitting in the coffee shop, working on my diss. I check the time, and realize how late it is. I mutter to myself:

a. <✓, Cx²> *I muass ja in 5 Minuten in da Abteilung sei!*
 I must ja in 5 minutes in DET department be

“(Gosh), I gotta be in the department in 5 minutes!”
 ‘[I believe that] I gotta be in the department in 5 minutes.’

b. <*, Cx²> *I muass doch in 5 Minuten in da Abteilung sei!*

c. <*, Cx²> *I muass fei in 5 Minuten in da Abteilung sei!*

I have shown in this section that *ja* is felicitous in contexts where S believes p. Relevant contexts are root declaratives with assertive force, complements of verbs that express the epistemic state of the speaker, and exclamations, which do not require A. This is summarized below.

S belief	Orientation	DPRT
Bel (S, p)	S	<i>ja</i>
Bel (S, ¬p)	S	-

Table 15: S-orientation and epistemicity

4.4 Predictions so far

In this section I show some of the predictions of the proposed S- and A-orientation of the DPRTs discussed so far. I argued that DPRTs are sensitive to the epistemic states of the interlocutors. I also showed in Chapter 3 that the form of an utterance, i.e. its clause type and associated intonation contour, establish the particular epistemic stance of a discourse participant toward p. We would therefore expect these sources of epistemicity to interact. As I show in this section, the sensitivity of DPRTs to clause-type is the direct result of the compatibility between the epistemicity expressed with a DPRT, and the epistemicity expressed in Cx: form. Furthermore, for A-oriented DPRTs I show more contexts that show S's assessment about A belief, and how A-oriented DPRTs interact with those.

A-oriented DPRTs: I showed above that A belief is involved in the felicitous use of *fei* and *doch*. This sensitivity to A belief predicts that both DPRTs are felicitous in contexts that establish that A is committed to p. This is borne out in imperatives, where Cx: form establishes A commitment only. Consider the following examples.

- (43) a. ✓ Gäh **fei** in'd Uni!
 go **fei** in.DET Uni
- b. ✓ Gäh **doch** in'd Uni!
 go **doch** in.DET Uni

In contrast, we predict that A-oriented DPRTs cannot occur in contexts which do not require any belief on the part of A, but S belief only. This is borne out in exclamations, which do not admit *doch* or *fei* (44a-b).

- (44) a. * *Da MARINUS gibt doch da Luzie a Bussl* ✓
 DET Marinus gives doch DET Luzia DET kiss
- b. * *Da MARINUS gibt fei da Luzie a Bussl* ✓
 DET Marinus gives fei DET Luzia DET kiss

Moving from Cx: form to another context, we can see that the proposal made here also makes correct predictions for answers to questions. I showed above that *doch* and *fei* are predictably infelicitous in answers to wh-interrogatives, if the person who asks the question can be assumed to genuinely not know the answer. This is illustrated in another example in (45).

- (45) Cx³: At the main train station in Munich, Andreas, not a local, asks a stranger for directions to Marienplatz:

Andreas: *Entschuidgns, wia kumm e'n am bestn zum Marienblotz?*
 excuse.me.2PL how come I.denn on.DET best to.DET Marienplatz

“Sorry how do I best get to the Marienplatz?”

Stranger:

- a. <✓, Cx³> *Do miassn's d'S-Bahn nehma, oda d'U3.*
 there must.you DET.rapid.train take, or DET.underground 3

“You gotta take the S-Bahn, or the U3.”

- b. <*, Cx³> *Do miassn's doch d'S-Bahn nehma oda d'U3.*
 there must.you doch DET.rapid.train take, or DET.underground

“You gotta take the S-Bahn, or the U3.”

‘[I believe you know that] You gotta take the S-Bahn, or the U3.’

However, as illustrated next in (46), *doch* is felicitous if the same utterance appears in a different context. If S can reasonably assume that A knows, or is supposed to know about p, *doch* is predicted to be well-formed in the answer to a question. This could be the case in a context of a conversation among friends, who can be assumed to

know about each other's general epistemic state regarding certain facts (such as being familiar with a city).

- (46) Cx⁴: Andreas asked his friend Dani for directions to a very popular and well-known landmark in Munich. Dani knows that Andreas has been using public transit in Munich for years.

Andreas: *Du Dani...*
you Dani...

... *wia kumm e'n am bestn zum Stachus?*
... how come I.denn on.DET best to.DET Stachus

"Hey Dani, how do I best get to Stachus?"

Dani: *Do muasst doch d'S-Bahn nehma.*
there must.you doch DET.rapid.train take

"You gotta take the S-Bahn."

'[I believe you know that] you gotta take the S-Bahn.'

Finally, consider a teaching context, where it is common knowledge that the interlocutor asking the question (i.e., the teacher) knows the answer to the question. In this example, modeled after Zimmermann (2008:ex 9b), *doch* is again predictably felicitous in the answer, whereas *fei* is not.

- (47) Cx⁵: The teacher asks Marinus the study questions from the day before:

Teacher: *Marinus, wos is jetz unsa Kreisstadt?*
Marinus, what is jetz our county.city

"Marinus, what's our county seat?"

Marinus:

a. <✓, Cx⁵> *Des is doch Miaschboch, (oda)?*
that is doch Miesbach (or)

"That's Miesbach, isn't it?"

‘[I believe you know that] That’s Miesbach.’

- b. <*,Cx⁵> *Des* *is* *fei* *Miaschboch*, *(oda)?*
 that is **fei** Miesbach (or)

S-oriented DPRTs: I showed above that only S commitment, and no A commitment is involved in the felicitous use of *ja*. This predicts that the DPRT is infelicitous in contexts where no S commitment, but only A commitment is expressed. This is borne out in imperatives, where Cx: form establishes A commitment only.

- (48) <*,Cx¹> *Gäh* *ja* *in'd* *Uni!*⁶¹
 go **ja** in.DET Uni

Furthermore, *ja* should be equally infelicitous in questions, since questions commit A to p. This is borne out in the next example. The clause type in the example is a declarative, yet the rising intonation / commits A to p, and results in question force. Recall that declaratives with \, resulting in assertion force, admit *ja* (49a).

- (49) a. ✓ *Da* *Marinus* *gibt* *ja* *da* *Luzia* *a* *Bussl* \
 DET Marinus gives **ja** DET Luzia DET kiss

“Marinus is giving Luzia a kiss.”

- b. * *Da* *Marinus* *gibt* *ja* *da* *Luzia* *a* *Bussl* / ?
 DET Marinus gives **ja** DET Luzia DET kiss

Questions expressed with wh- and polar interrogatives both also commit A to p, and

⁶¹ Note that accent on *ja* renders this example felicitous. I turn to accented *ja* in Chapter 5, where I propose that it is O-oriented.

also do not allow for *ja*, equally expected.

- (50) a. * *Wea* *gibt* ***ja*** *da* *Luzie* *a* *Bussl* / ?
 who gives ***ja*** DET Luzia DET kiss
- b.* *Gibt* *da* *Marinus* *da* *Luzia* ***ja*** *a* *Bussl* / ?
 gives DET Marinus DET Luzia ***ja*** DET kiss

Recall from Chapter 3 that V1 clauses do not express S commitment to p, since they do not assert (Reis 1999). Therefore, when uttering a V1 utterance, S expresses no belief about p. *Ja* is predicted to be infelicitous in this context. This is borne out as shown in (51).

- (51) **Gibt* *da* *Marinus* ***ja*** *da* *Luzia* *a* *Bussl* \
 gives DET Marinus ***ja*** DET Luzia DET kiss

These interactions with the different clause types show that DPRTs show restrictions based on the compatibility between the belief expressed with the DPRT, and the belief (via commitment) expressed via the features of formal clause typing and the associated intonation. This suggests that the clause type dependency of DPRTs is mediated indirectly, and not based on a direct (syntactic or formal semantic) dependency.

4.5 O-orientation

So far I have shown several ways of establishing whose belief is expressed in an utterance. I used a variety of contexts to do so. The individuals whose point of view was being tested were the discourse participants S and A. I now show that we need to

consider another point of view, as well. Since it does not directly target the discourse participant roles S and A, respectively, I will refer to it as O, for ‘other’. That is, O is not dedicated to targeting either S or A, rather O-oriented DPRTs display variable (chameleon-like) behaviour. Depending on the context, O can be instantiated by (the individual who is currently) S, or (the individual who is currently) A or some other individual who is currently neither S nor A. Thus, O can be understood as a variable epistemic reference point (ERP) or epistemic judge (in the sense of Stephenson 2007) of an utterance. I argue that the DPRTs *jetz*, and *eh* are associated with O.

The default ERP of a matrix declarative clause with assertive force is the utterer of the sentence, and generally coincides with the speaker S.⁶² In such contexts, O-oriented DPRTs will appear to be S-oriented. The ERP can be different from S, however (cf. Doherty 1987, McCready 2007, Stephenson 2006). For example, in interrogatives, the ERP is A while in utterances expressing a subjective judgment, the ERP is the judge.⁶³

I show now that the ERP can be S, A, or O depending on the syntactic context, and the lexical items involved. Certain contexts can lead to ERP shift, where the evaluation context is different from the context of the proposition (Banfield 1982, Doherty 1987, Döring 2013).⁶⁴

⁶² There are contexts where the utterer does not coincide with the speaker. This is the case in indirect speech, for example, as well as the historical present (Banfield 1982, cf. Döring 2008, 2013), where the utterer of the proposition differs from the discourse participant or narrator of the story.

⁶³ McCready (2007) suggests that S, A and O (*judge* in McCready’s 2007 terms) are separate entities in a discourse context. He suggests that Kaplanian contexts are tuples of the following form: “ $Cx=a,i,t,l,j$, a is agent of the context, i = interlocutor, t is time of utterance, l the location of utterance, and j is the judge.” I adopt this idea here, and show that O-oriented DPRTs support the need to separate the immediate discourse participants S (McCready’s *agent*), A (McCready’s *interlocutor*) and a separate other reference point O (McCready’s *judge*) (cf. Truckenbrodt’s 2006 contextual index).

⁶⁴ Schlenker (2004) shows that indirect speech, as well as narratives in the historical present, are shifting contexts as well, where the speaker and the attitude holder, the EPR do not coincide.

We saw in previous sections that in embedding contexts, the embedded clause inherits the main clause's EPR (i.e. S). In light of this discussion, consider now the following MB example. In (52) it is S, the person uttering the sentence, who thinks that Hans should be home (cf. Hacquard 2010). The modal in the example below has to have an epistemic interpretation. It expresses a necessity, given what the speaker knows at the time when the sentence is uttered. A paraphrase for (52) is, 'given what I know now, it is necessary that Hans was home.'

- (52) *Da Hans miassad scho lang dahoam sei*
 the Hans should already long at.home be

“Hans should long be home by now”

(modeled after Hacquard 2010: ex1)

Now observe the next example. In the subordinated clause in (53) the ERP is the subject of the embedding clause.

- (53) D' Hanni moant...
 DET Hanni means

... *dass da Hans scho lang dahoam sein miassad...*
 ... that DET Hans already long at.home be should

....*awa I glab dass'a heit ned voa achte hoamkummt*
 ... but I believe that'he today NEG before eight home.comes

“Hanni thinks Hans should be long home by now, but I think he's not gonna come home before eight.”

When an epistemic modal is embedded under an attitude verb, it does not necessarily inherit S as ERP: the modal is not interpreted relative to S. Instead, in this context the

ERP is the matrix subject (Hanni in 53) (Hacquart 2010:81, cf. Speas 2004, cf. Stephenson 2007).⁶⁵

In (53) S and the subject are necessarily different individuals with different belief states. The propositional attitude verbs *moana* ('be of an opinion') and *glam* ('believe') each assign their subjects as the ERP of their respective complement clauses. In (53) this is a third person, Hanni for the former, whereas for the latter it is a first person pronoun, which indexically refers to S. It is in this sense that the ERP is the person from whose perspective a proposition is evaluated (cf. Waldie 2012). It can coincide with S, A, or some third person O, but it crucially depends on the subject, which can be S, A or a third person O.

I now introduce DPRTs that shift their reference point depending on the ERP. I begin with *jetz* and then turn to *eh*. To test for O-oriented DPRTs we have to explore contexts with variable ERPs. I use the following test frames for establishing the O-orientation for both these DPRTs. Note that the shifting contexts are the ones which establish the shifting behavior of O-oriented DPRTs, whereas (ii) and (iii) are contexts in which S does not need to have an attitude about p, and are therefore compatible with O-orientation.

(54) **Test frames for O-oriented DPRTs**

- (i) shifting behavior: can occur in interrogatives, declaratives and imperatives
- (ii) no S belief about p is expressed: instantiated by V1 clauses with \
- (iii) can occur in Cx: disc which establishes S doesn't know p

⁶⁵ Hacquart (2010) considers this an 'attitude-holder' oriented event, and distinguishes this from subject oriented events. Each of these events result in a different modal interpretation. This does not bear directly on the facts discussed here; the crucial point is that S is the ERP for contexts such as (52), whereas in contexts such as (53) the ERP is different from S.

4.5.1 Jetzt

By using the test frames introduced above, I show now that the DPRT *jetz* is O-oriented. It expresses that p is particularly salient at the time of utterance, in line with its core lexical meaning introduced in Chapter 3. The temporal content of the UoL *jetz* is not interpreted relative to the event, but relative to the speech act as f_{DPRT} (see Chapter 6 for the role of the lexical content of the UoLs, which doesn't itself indicate orientation). I proposed the following contribution for the DPRT *jetz*.

(55) *jetz* \approx p is salient for O **now**

The first test frame used to probe for the O-orientation of *jetz* is its occurrence across a variety of syntactic forms, attesting to its shifting behavior. In this respect it differs from S- and A-oriented DPRTs. For O-oriented DPRTs, the EPR shifts depending on Cx: form. We see in the following examples that *jetz* can occur in declarative assertions interrogatives, and imperatives alike.

(56) Cx: Regina asks her two kids about who's going to help her move some things:

<i>Wea</i>	<i>huift</i>	<i>ma</i>	<i>jetz</i>	<i>dann</i>	<i>moang?</i>
who	helps	me	jetz	then	tomorrow

“NOW who's gonna help me tomorrow?”⁶⁶
‘[It is salient now] who is going to help me tomorrow.’

⁶⁶ Note that this is not intended with a comma intonation, akin to “Now, who's gonna help me tomorrow.”

Jetzt in this wh-interrogative co-occurs with a temporal adverb *moang* ‘tomorrow’, again indicating that its temporal interpretation is not relative to the event.

In another example from my corpus we find an exclamation based on a wh-interrogative. Recall that exclamations express S commitment only (Rett 2011).

- (57) Cx: Sepp, the driver of a beverage truck left his truck running and got out to talk to the owner of the inn he is delivering to around the house. The truck runs into the side of the house with a big crash. Sepp comes running around the corner, yelling:

Scheiße! Scheiße, wie hat denn das jetzt so sein können?! Scheiße!...
 shit shit how has denn this **jetz** so be can shit

... *de Wand de zoi'e dia natürlich, I Depp!...*
 DET wall DET pay.I you of.course I idiot

...*Aja, das ist weil'e ma das einfach oogwohnt hob! A varreck!*
 DM DET is because.I me DET einfach gotten.used.to have. DM die

“Shit! Shit, just how could this have happened ...

‘Shit! Shit! [It is salient now that I am puzzled at] how this could have happened...’

...of course I’ll reimburse you for the cost of the wall, the idiot I am! Man, I just have gotten used to doing this! Goddamn!”

(Wer früher stirbt)

In this example, *jetz* occurs in an exclamation. The accident, the truck running into the wall, already happened, another indication that *jetz* cannot refer to the (time of the) accident itself.

Evidence that *jetz* is not S-oriented comes from the fact that – unlike S-oriented DPRTs – it can occur in A-oriented imperatives as well.

- (58) Cx: Regina calls Lukas and requests that he help her move furniture tomorrow:

Kumm jetzt bitte moang vorbei...

come **jetz** please tomorrow over

... *dass'e* *den* *Schrank* *nausbringa* *ko!*
 ...that.I DET closet out.bring can

“Come over tomorrow please so that I can get the closet outside!”
 ‘[It is salient now that you] please come over tomorrow so that I can get the closet outside.’

Again, as in the previous examples, *jetz* co-occurs with a temporal adverb *moang* ‘tomorrow’, indicating that it does not have the function of a temporal deictic, but that of a DPRT.

Other contexts that are proposed as a suitable test frames for O-oriented DPRTs (and were shown to be illicit for S- and A-oriented DPRTs) are those in which no S belief about p is expressed. As established previously, I assume following Reis’ (1999) that this is the case in V1 clauses with falling intonation \. Observe the following data.

- (59) Cx: Lukas is supposed to help Regina move some furniture in her house. He disappears, and Regina, looking for him around the house finds out from Marein, who is also helping to pack, that he left for home. Regina says:

Geht ***jetz*** *der* *tatsächlich* *hoam* \.
 goes ***jetzt*** he indeed home

“Huh, he really went home.”
 ‘[It is salient now that] he indeed went home.’

Note that since Lukas is already gone, *jetz* cannot have temporal reference relative to the event in this example. Instead its temporal reference is relative to the proposition; it functions to highlight that p is particularly salient at the moment of utterance.

A third test frame for O-orientations is where S does not believe or know p. These are negative embedding contexts with a 1st person matrix subject, which co-index O

with S. *jetz* is felicitous in such a context. If O is coindexed with A (via a second person pronoun) or a third person (via a third person pronoun), *jetz* is equally felicitous (60a-c).

(60) Cx: There is a discussion among several people about an upcoming public holiday, and the question arises whether people have to go to work and university. Roman tells Tina that he definitely will have to go to work. He then adds:

- a. *Awa I woass imma no ned...*
but I know always still NEG

...ob jetz morgen Uni is
whether jetzt tomorrow Uni is

“But I still don’t know whether University is now open tomorrow.”

- b. *Aba du woasst imma no ned...*
but you know always still NEG

... ob jetz morgen Uni is
...if jetz tomorrow Uni is.

“But you still don’t know whether University is now open tomorrow.”

- c. *Aba ea woass imma no ned...*
but he know always still NEG

...ob jetz morgen Uni is
...if jetz tomorrow Uni is.

“But he still doesn’t know whether University is now open tomorrow.”
(when talking about another person participating in the conversation)

In sum, *jetz* can occur in contexts where S has no commitment with respect to p, instantiated by V1 + \. It also can across a variety of shifting contexts. These are instantiated by form types, such as declaratives, imperatives, exclamations, and wh-interrogatives. Another shifting context was shown to be in embedded clauses.

4.5.2 Eh

The test-frames for O-oriented DPRTs also identify *eh* as O-oriented. Specifically, I propose that *eh* expresses that O was committed to p before the utterance time as summarized in (61). This is consistent with its lexical origin presented in Chapter 3.

(61) $eh \approx O \text{ believed } p \text{ before the time of utterance}$

The first test frame used to test for the O-orientation of *eh* is its shifting orientation: it can occur both in interrogative questions (62) and declaratives used as assertions (i.e., with \) (63).

(62) Cx: Hans, a drummer, is wondering how to get his drum kit to the location of his next gig tomorrow, since he doesn't have a car. He asks his colleague Gerhardt:

Hans: *Wia bring'e jetzt moang des Schlogzeig do hi...*

"How am I gonna get the drum kit there tomorrow..."

...Du Gerhardt, fährst du moang **eh** in'd Stodt?
 ...you Gerhardt drive you tomorrow *eh* in.DET city

"Gerhardt, are you still going to the city tomorrow..."

'Gerhardt, [was it true before me asking] are you going to the city tomorrow?

...dad'st ma's do mitnehma?

"... could you take it for me?"

Eh, as mentioned, is also felicitous in declarative assertions, as evidenced below.

(63) Cx: Hans, a drummer, is wondering how to get his drum kit to the location of his next gig tomorrow, since he doesn't have a car. His colleague Gerhard responds:

Hans: *Wia bring'e jetzt moang des Schlogzeig do hi?*

"How am I gonna get the drum kit there tomorrow?"

Gerhardt: *I fahr moang eh in'd Stodt...*
 I drive tomorrow **eh** in.DET city

...do kann'e's da mitnehma.
 ...there can.I.it you with.take

“I am going to the city tomorrow still. I can take it for you.”
 ‘[I believed before saying this that] I am going to the city tomorrow. I can take it for you.

Unlike *jetz*, *eh* cannot occur in imperatives, as shown below.

(64) a. ✓ *Bring jetz des Schlogzeig naus!*
 bring **jetz** DET drum.kit out

“Now bring the drum kit out!”
 ‘[It is salient now that I want you to] bring the drum kit out.’

b. * *Bring eh des Schlogzeig naus!*
 bring **eh** DET drum.kit out

I assume that this is due to the lexical contribution of *eh*. That is, if O has to believe p before the utterance time, then it follows that p must hold before the utterance time. This is incompatible with the meaning of an imperative. With the use of an imperatives S asks A to add the content of the utterance to their discourse requirements. To mark this with *eh* as something that was a requirement for A before S uttered the request would in essence presuppose that A had some mind-reading skills, and could have known about the content of the request before it was uttered.

Unlike *jetz*, *eh* is also incompatible with V1 + \. There were no instances in my corpus, and attempts to elicit such forms resulted in ill-formed utterances, such as below.

(65) * *Geht eh der tatsächlich hoam \.*
 goes **eh** he indeed home

Since by uttering $V1 + \backslash$ a speaker *presents* p , rather than asserting it (Reis 1999), it would be odd to mark it as something that was valid, true or relevant to a *before* uttering it. The same is true for the form $V1 + \checkmark$. This form commits S to p , and results in an exclamation. Exclamatives, which express surprise, are inherently temporally restricted. The content p of the host utterance is marked as entering S belief at the time of utterance. If S were to believe p before the utterance time, p would not be surprising and hence would not trigger an exclamation. *eh*, due to the past temporal restriction encoded in its core lexical entry, however, is incompatible with the immediacy of exclamations and exclamatives.

Next, I turn to contexts where S does not believe p . These are negative embedding contexts with a 1st person matrix subject. In these contexts O is in effect coindexed with S . Recall that *ja* was infelicitous in several such contexts because as an S -oriented DPRT, it expresses that S believes p . This is incompatible with those kinds of matrix verbs which, when negated don't commit S to their complement. *eh*, unlike *ja* is felicitous under such a verb, as shown in (66).

(66) Cx: Dani asks Tina about whether Alex should receive a special invitation to the Christmas party. She responds:

- a. *I woass ned ob'a ned eh kummt*
 I know NEG whether.he NEG eh comes

“I don't know whether he's not already planning on coming.”

- b. * *I woass ned ob'a ned ja kummt*

We expect that with 2nd or 3rd person subject pronouns, *eh* is equally felicitous, since it is not tied to a specific speech act role. Rather it shifts its ERP with the pronoun. This prediction is borne out in the data below. *eh* can occur when the matrix subject is

co-indexed with A (67).

- (67) Cx: Tina tells Dani that Alex doesn't need a special invitation to the Christmas party. He's going to show up anyways.

Du woasst doch dass'a eh kummt
you know doch that.he eh comes

“You know that he's gonna come anyways.”
‘[You believe that] you know that [it was the case before uttering this that] he is coming.’

O-oriented DPRTs sometimes appear to involve S attitude because they are compatible with S-orientation. However I argue this is an artifact of the contexts. Each sentence has to have an utterer. This utterer is usually coindexed with the speaker S, and considered to be the attitude holder. But as we saw above, the attitude holder of the content of an utterance can be different from the utterer of the sentence; independence evidence for this will not be discussed here, but comes for example from the interpretation of the historical present (Banfield 1982, Schlenker 2004). For this reason a tri-partition that separates the direct discourse participants into utterers, hearers, and attitude holders (EPRs), i.e. into S, A, and O was proposed.⁶⁷

4.6 Conclusion

In this Chapter I showed the empirical need to differentiate between DPRTs which are sensitive to A belief and S belief. I established two different orientations for the DPRTs *fei*, *doch* and *ja*, S-orientation and A-orientation. First I showed that *fei* and

⁶⁷ Raffaella Zanuttini suggests that O-orientation may not be about anyone's belief at all. This aspect warrants further in depth research, and is in line with the observation that *eh* and *jetz* express primarily temporal content. I suggest in Chapter 7 that DPRTs are used to relate p to an aspect of the contextual index. S- and A-oriented particles relate p to S and A respectively, whereas O-oriented DPRTs relate to the temporal and local aspects of the contextual index.

doch are in complementary distribution across most of the contexts shown. Both are sensitive to A belief about the propositional content expressed in the utterance. A-orientation, refers to S's assessment of A's belief about p. Even if S believes that A has no belief about p, S still evaluates A's epistemic state. So the belief that p, belief that $\neg p$, and absence of belief about p are classified as A-orientation.

For *ja* it was shown that A belief is irrelevant. It is S belief that proved to be the determining factor for the felicity of the DPRT.

I also established a third group of DPRTs, the O-oriented DPRTs *jetz* and *eh*. These DPRTs can occur in contexts where either S has no commitment to p (such as in V1 +\), or in contexts where S doesn't believe p. O-oriented DPRTs shift their orientation, and can occur in a variety of clause types. This compatibility with clause types was shown to be not only dependent on the orientation of DPRT and epistemicity expressed in the form of the clause, but also on the lexical content of the DPRT. In this way, one of the often-cited properties of DPRTs, namely their sentence type restriction, falls out as a corollary of independent properties of clauses and the DPRTs, and are not directly built into them, as selectional restrictions for example. The other often noted property, that DPRTs are expressions of speaker attitude was shown to be more fine grained, and testable taking into consideration the epistemic states of S and A.

The findings of this section are summarized in the table below.

Epistemicity	Orientation	DPRT
Bel (A, p)	A	doch
Bel (A¬p)	A	fei
¬Bel (A,p)/no belief about p	A	fei
Bel (A,p) and A=S	A	doch
Bel (S,p)	S	ja
Bel (S¬p)	S	ja
¬Bel (S,p)/ no belief about p	O	jetz/eh
Bel (O, p)	O	jetz/eh

Table 16: Participant epistemicity and DPRT orientation

Chapter 5: Deriving the functional range of DPRTs

5.1 Introduction

I showed in Chapter 4 that DPRTs can be divided into three classes, based on whose epistemic state they express. Within their broad classification as A-, S- and O-oriented DPRTs, however, DPRTs can be further distinguished. That is, DPRTs supply a wide range of interpretational nuances to their host utterance. I refer to this as their *functional range*. The purpose of this Chapter is to show that the functional range of three DPRTs can be derived from the core contribution of the UoL and the contribution of different contexts (cf. Abraham 1991), as schematized in (1).

$$\begin{aligned} (1) \quad f_{DPRT}^1 &= UoL + Cx^1 \\ f_{DPRT}^2 &= UoL + Cx^2 \\ f_{DPRT}^3 &= UoL + Cx^3 \\ &\dots etc. \end{aligned}$$

For example the DPRT *doch* is reported to express a *contrastive* function (e.g. Grosz, 2010b), as well as a *reminding* function (e.g. Hentschel 1986, Gast 2008) in addition to a *shared knowledge* function (Bárány 2009, Helbig 1988). Similarly, *ja* is also reported to have a *shared knowledge* function (Kratzer 1999, Zimmermann 2011), and thus seems to have a functional overlap with *doch*. Unlike *doch*, however, *ja* has a surprise function as well (cf. Helbig 1988). Consider the following data, which show that *ja* and *doch* are equally acceptable in the context shown below. Both (2a) and (2b) evoke a sense that the host proposition is in the Common Ground (CG).

- (2) Cx¹: A family with two little twins is at the desk of a car rental place. They chose a compact car for rental. The clerk says:

- a. <✓ Cx¹> Sie ham **ja** Zwillling...
 you have **ja** twins
 ...woin's do ned a gressa's Auto nehma?
 ...want.you there NEG DET bigger car take.

“You have *ja* twins, don't you want to take a bigger car?”

- b. <✓ Cx¹> Sie ham **doch** Zwillling...
 you have **doch** twins
 ...woin's do ned a gressa's Auto nehma?
 ...want.you there NEG DET bigger car take.

“You have *doch* twins, don't you want to take a bigger car?”

Now observe that *ja* and *doch*, despite this functional overlap in Cx¹ in (2) behave differently from each other in another context, Cx² (3); *ja* here is acceptable, whereas *doch* is not.

- (3) Cx²: I am sitting in the coffee shop, working on my dissertation. I check the time, and realize what time it is. I mutter to myself:

- a. <✓ Cx²> I muass **ja** in 5 Minuten in da Abteilung sei!
 I must **ja** in 5 minutes in DET department be

“(Gosh), I gotta *ja* be in the department in 5 minutes!”

(Modeled after Kratzer and Matthewson 2009: ex 10)

- b. <* Cx²> I muass **doch** in 5 Minuten in da Abteilung sei!
 I must **doch** in 5 minutes in DET department be

“(Gosh), I gotta *doch* be in the department in 5 minutes!”

This contrast between the function of *ja* in (2), which overlaps with the function of *doch* in that context, and the function of *ja* in (3), which doesn't overlap with the function of *doch* in that context, raises two questions. First of, how can we account for this functional range, i.e. the different types of interpretations of *ja* and *doch* in the examples (2) and (3)? I show here that functional range can be derived from the context the DPRTs occur in. Second, what is the difference between *ja* and *doch*, if sometimes they seem to express very similar notions as seems to be the case in (2)? I show in this chapter that both are compatible with similar contexts, and therefore appear to be similar to each other.

Both functions of *ja*, namely shared knowledge and surprise, are difficult to reconcile under the assumption that only one DPRT *ja* exists. We could, however, adopt a *meaning maximalist* approach, which posits a variety of DPRTs, each of which is lexically specified differently (e.g. Franck 1980, Helbig 1988, cf. Abraham 1991: Introduction, cf. Zimmermann 2011 for more references). Alternatively, we could adopt a *meaning minimalist* approach, as argued in Abraham (1991). He specifically argues “...it is implausible to assume that our memory will not make use of derivational processes of a general sort to relate the obvious meaning correspondences between the respective words, instead of listing them under different, unrelated entries. What this boils down to methodologically is strict observance of Ockam's razor principle. [...assume] no distinct lexematic listing unless it can be shown that no derivational reconstruction can be invoked.” (Abraham 1991: 208).

I side here with Abraham's approach and propose a *meaning minimalist* way of accounting for the functional range of *doch*, *ja* and *fei*. In particular, I propose that each DPRT has a core DPRT function. The resulting variation in interpretation,

surfacing as functional range of a DPRT, is conditioned by context and the Cooperative Principle (Grice 1975). This will be shown with the three case studies in 5.5 for *ja*, 5.6 for *doch*, and 5.7 for *fei*.

I show now that the main function of DPRTs is to mark a divergence from the normal course of a conversation. The DPRTs I discuss here, as argued in Chapter 3, have in common that they mark discourse participant epistemicity. Epistemicity is not usually marked beyond what is associated with the speech act (SA); at the level of the SA, i.e. the output of a form and its associated illocutionary force, epistemicity is not overtly marked, but encoded in the given SA as *commitments*. These commitments are usually described by way of the constitutive rules associated with that SA (Searle 1969). Within a discourse, following these conditions then leads to an adherence to the normal course of a conversation (cf. Zeevat 2003). I show the constitutive rules for the SAs I discuss here in section 5.4, where I also introduce epistemicity matrices as a way to model epistemic states in the course of the grounding process. I introduced grounding in 3.3.1, but will discuss it in relation to the model introduced in this Chapter in section 5.3.

One way (of the many) to depart from the normal course of a conversation is to mark the divergence of an interlocutor's epistemic states from the default, i.e. marking who is or is not committed to the content of the host utterance, and who does or does not believe the content of the host utterance at the time of utterance (or some other time). DPRTs are *one* tool to mark this divergence, and thus they modify speech acts (Zeevat 2003, cf. Rett 2013). DPRTs mark epistemic states, as I showed in detail in the previous Chapter. These beliefs indicated by DPRTs via epistemicity, can diverge from the belief state introduced by each speech act via commitments resulting in illocutionary force, which in turn is conventionally associated with their syntactic

form. This is how DPRTs indicate a change from the normal course of the conversation (cf. Zeevat 2003, cf. Zimmermann 2004, 2011).

Depending on the context, marking a divergence from default epistemicity also may lead to certain inference processes on the part of A. Therefore I will show in section 5.4 that certain inferences and discourse relations between clauses and context hold that are independent of DPRTs, before I turn to three DPRTs in more detail, and show in case studies how their functional range derives from inferences, how it changes in context, and the type of speech act they occur in.

5.2 Formalizing grounding

In Chapter 3, specifically in 3.3.1, I adopt a discourse model that separates the CG further into discourse components that refer to the beliefs of S, as opposed to the beliefs of A (cf. Farkas and Bruce 2010, Malamud and Stephenson 2015, a.o.).

The discourse component tasked with storing public S beliefs will be referred to as speaker ground (Ground_S). Public S beliefs are those beliefs that S has committed to publicly. The respective component for A belief is the addressee ground (Ground_A) (Lam 2014, Thoma 2014, Heim et al. 2016, Wiltschko and Heim 2016). Both Ground_S and Ground_A can contain the same elements as the CG (introduced in 3.3.1). The CG here can be conceived of as the intersection of Ground_S and Ground_A . Note that each discourse participants' Ground can also contain beliefs about the epistemicity of the interlocutor.

I implement the separation of the epistemic states of each discourse participant here by following Heim et al (2016) and Wiltschko and Heim (2016): S's belief about p will be represented as $\text{Bel}(S, p)$. A's belief about p will be represented as $\text{Bel}(A,$

p).

Figure 9 below shows a multi-step process for grounding an assertion with the propositional content p . It is to be read beginning at the top left, representing Ground_S , proceeding toward the right in the top row, then dropping one row lower, then moving from right to left, as indicated by the direction of the arrows. The bottom row, the CG column, is the end result of this specific grounding process, which had as a premise a positive response from A.

The way this figure is read is as follows: S presents an utterance with content p in the presentation phase (see 3.1.1). p then is on the conversational Table, as well as the fact that S believes p , i.e. $\text{Bel}(S, p)$. By default, the fact that S has uttered something is in Ground_A (i.e. latest move). In the acceptance phase, under the assumption that A makes a positive step toward integrating p into her beliefs, A's acceptance of p is on the Table. From there S can add the fact that A believes p into her set of beliefs. Only at the end of this grounding process, p , the fact that S believes p , and the fact A believes p is CG between the interlocutors.

	Ground_S	Table	Ground_A
Presentation phase	$\text{Bel } p \rightarrow$	$p, \text{Bel}(S, p) \rightarrow$	$\text{Bel}(S, p)$
Acceptance phase	$\text{Bel}(A, p) \leftarrow$	$\text{Bel}(A, p) \leftarrow$	$\text{Bel}(p)$
Common Ground	$\downarrow \text{accept}$ $p, \text{Bel}(S, p); \text{Bel}(A, p)$		

Figure 9: Grounding an assertion

Not every SA commits the same discourse participants to the content of the utterance. In addition, the timing of when a belief holds may vary. I will therefore make use of a more fine-grained model of showing the belief states of each DPRT in a given SA via epistemicity matrices. The two phases of grounding, presentation and acceptance

phase, can be mapped onto different times. The former maps onto the time of utterance t_U , whereas the latter maps onto a time after the utterance time. However, we also need to consider participant epistemicity before the time of utterance ($t_{<U}$), since DPRTs are sensitive to it as well. Therefore, an epistemicity matrix for an assertion looks as in table 17.

	$t_{<U}$		t_U	
	S	A	S	A
assertion	Bel p		Bel p	

Table 17: Epistemicity matrix for assertion

The content of the matrices I will use for the analysis is supplied by the constitutive rules, in particular, by the preparatory rules for the given SA. These will be introduced in the next section, as well as how to understand the normal course of a conversation and deviation from it.

5.3 The normal course of a conversation

I showed in Chapter 3 that each clause type is linked to a participant's discourse commitment and by proxy, to their belief (cf. Rett 2013). I did this by showing the particular structural and morphological characteristics that constitute a specific clause type.

As we saw, modifying Cx: form via intonation can lead to a change in the commitments (beliefs) of the discourse participant (S or A), and can therefore lead to a change in the associated illocutionary force. Hence a modification in form can lead to a modification of the speech act. I therefore consider speech acts to be derived from

the form (cf. Beyssade and Marandin 2006). While there is a default relation between the form of an utterance and its function (and by proxy, the commitments expressed), a change in form may correlate with a change in this function.

Rett (2013:20) argues that to add an attitude marker to an utterance with default function changes it and in particular, it changes or adds to the preparatory and sincerity conditions that are typically associated with the SA. Whereas Rett considers intonation and attitude markers like *alas* in her account, I propose that her insight also captures the contribution of DPRTs. Specifically, S and A's epistemic states can be overtly marked by DPRTs, if they diverge from the normal course. It is precisely in that sense that DPRTs are markers of divergence from the normal course of a conversation (non-standard utterances in Zeevat's (2003) sense). This is one of the great insights of Jacobs (1986), who analysed DPRTs as modifiers of illocutionary types. Whereas the analysis presented here differs from Jacobs', I nevertheless agree with his assessment about the core purpose of DPRTs.

- (4) Wenn Verbstellung, Verbmodus, Intonation etc. einen bestimmten Illokutionstyp X festlegen, so wird daraus durch Hinzunahme eines Abtönungsmittels ein anderer Illokutionstyp X', der [...] in ihren Anwendungsbedingungen eingeschränkere Version von X ist.
(Jacobs 1986:103)

When verb position, verb mood, intonation etc. determine a specific illocution type X, it turns, via the addition of a 'toner' (DPRT- added by ST) to another illocution type X'. This type is more restricted in its conditions of use than X is. (translated by ST)

Crucially, Jacobs (1986) invokes use-conditions in his characterization of the function of DPRTs; the felicitous use of DPRTs is not determined by considerations of truth-conditions, but subject to specific contextual restrictions regarding the epistemic states of S and A. This is precisely the finding presented in the previous chapter,

where I showed that each DPRT is sensitive to a specific discourse participant's epistemicity.

Searle (1969), following Austin (1962) identifies constitutive rules for SAs, which establish the normal course of an utterance/conversation. He specifies four types of constitutive rules for utterances (repeated from 3.4). Recall that I disregard the essential rules for the purpose of the current analysis.

(5) **Constitutive rule for speech acts**

- (i) content rules
- (ii) preparatory rules
- (iii) sincerity rules
- (iv) essential rules

The **content rules** refer to the *locutionary act*; the actual utterance, its propositional content, and its meaning, including the phonetic realization, syntactic form, and semantics of the lexical items involved in the utterance.

The **preparatory rules** are most relevant for the analysis of DPRTs presented here. I will use these to indicate the epistemicity of the discourse participants in the normal course, and use them as a base for the content of the epistemicity matrices. These serve as the base to indicate a deviation from the normal course, with DPRTs as indicators of this deviation (cf. Egg 2010). I will introduce the epistemicity matrix after presenting the constitutive rules.

The **sincerity rules** concern the situation in which a given speech act is uttered, i.e. they refer to the contextual preconditions for a given speech act.

DPRTs serve to amend the discourse commitments of the SA participants. Thus, DPRTs modify the SA by amending aspects of the preparatory rules associated with

them (Egg 2010; Rett 2013, 2014; Zeevat 2003).⁶⁸ To understand how exactly DPRTs modify SAs by amending the discourse commitments and thereby beliefs of the interlocutors, and thus signaling a departure from the normal course, I introduce the conditions for SAs leading to the normal course next.

Assertion: A standard assertion is conventionally expressed with the clause type declarative (but see the discussion in Chapter 3 for clause type and illocution force mismatches). The constitutive rules (minus the essential rules) for uttering an assertion are as follows: In order for S to felicitously utter an assertion with content p, she has to believe p (i.e. Bel (S, p)). It is also not obvious to her that A believes p. S wants A to accept p, that is, S wants to add Bel (A, p) to her set of beliefs (Rett 2011, cf. Searle 1969).

(6) **Constitutive rules for assertions**

content rule: the content of an assertion is any proposition p

preparatory rules:

a. S has evidence that p is true

b. it is not obvious that to both S and A that A believes p

sincerity rule: S believes p

Question: A standard question is typically expressed with the clause type interrogative. We have seen two types of interrogatives, polar interrogative and wh-interrogative. The constitutive rules for both are similar, but differ in some crucial aspects: the content rule and the sincerity rule. (7) presents the rules for polar

⁶⁸ Rett (2013, 2014) sees intonation as a morpheme, too, (a UoL in Wiltschko's 2016 terminology) which also can serve as a speech act modifier.

questions, typically expressed with V1 clauses with final rise. (8) presents the rules for wh-questions, typically expressed with V2 wh-interrogatives.

(7) **Constitutive rules for polar interrogatives**

content rule: the content of a polar interrogative is a set of two propositions
 $\{p, \neg p\}$

preparatory rules:

- a. S does not know whether p is true or not
- b. S believes that A knows whether p is true or not
- c. It is not obvious to both S and A that A will provide an answer without being asked

sincerity rule: S wants to know whether p or $\neg p$

(8) **Constitutive rules for wh-interrogatives**

content rule: the content of a wh-interrogative is a set of propositions with an open variable represented by the wh-word⁶⁹

preparatory rules:

- a. S does not know the value for the open variable
- b. S believes A knows the value for the open variable
- c. It is not obvious to both S and A that A will provide an answer without being asked

sincerity rule: S wants to know the value for the variable represented by the wh-word

Request: A standard request is typically expressed with the clause type imperative. Its semantic content is a property, which S wants A to fulfill (in Portner's 2004 terms, imperatives represent actions A should take).

(9) **Constitutive rules for requests**

content rule: the content of a request is a property S wants A to have

preparatory rules:

- a. S believes A has the ability to fulfill the request

⁶⁹ I will continue to refer to the content of any of these clause types as propositions, or p, for exposition purposes.

b. It is not obvious to both S and A that A will take the requested action without the request
sincerity rule: S wants A to fulfill the request

Exclamation: Unlike other speech acts, exclamations do not have a ‘typical’ clause type associated with them;⁷⁰ they can be expressed with V2 structures, V1 structures, bare DPs, or bare exclamative words such as *mei* (‘my’). The exclamative speech act expressed in sentence exclamations, however, has the following associated constitutive rules, as established by Rett (2011).

(10) **Constitutive rules for sentence exclamations**

content rule: the content of an exclamation is the proposition p denoted by that sentence
preparatory rule: S has direct evidence that p is true.
sincerity rule: S is surprised by p

Adhering to these constitutive rules presents the normal course of a conversation, however, following the constitutive rules alone does not lead to coherent discourse. If S deviates from this normal course, A is led to believe that there is a reason for this deviation, due to the cooperative principle (Grice 1975). This leads discourse participants to use independent pragmatic inference processes and deductive reasoning to establish coherence. This will be presented next, before turning to the three case studies.

⁷⁰ There is crucial distinction between exclamations and exclamatives. MB, like German has a dedicated exclamative in the form of a wh-clause, with the verb in its base position as in (i).

(i) Wos’a eam oiss vasprocha hod!
 what.he him all promised has
 “‘Oh the things he promised him!’”

See however Brandner (2010) for a different approach, and references therein for support of the distinction made here (cf. Rett 2011).

5.4 DPRTs, inferences and discourse coherence

Utterances, whether they contain DPRTs or not, don't occur in a context-less vacuum. In order to assign the appropriate meaning to an utterance, it is crucial to take into consideration its context of utterance. Consider the following example, which illustrates a typical case of pragmatic inferencing, showing how discourse relations, albeit not overtly expressed, are necessarily part of the interpretation of an utterance in context.

(11) Cx: Martl asks his friends about an upcoming party.

Martl: *Wea kummt'n olla zum Alex seina Feia?*
"Who all is coming to Alex' party?"

Tina: *D'Sonja konn ned kemma.*
DET.Sonja can NEG come

De muass se um ihre Zwilling kimman.
she has self about her twins care

"Sonja can't come- because she has to care for her twins."
'Sonja can't come- she has to care for her twins."

Observe the causal relation connecting the two utterances. The fact that she has to care for her twins is interpreted here as the reason why Sonja cannot come to Alex' party despite the fact that this causal relation is not overtly expressed (via a conjunction for example).

Pragmatic inferencing is responsible for the fact that the meaning of an utterance is enriched by additional information that is not directly encoded in the linguistic signal. Inferencing is one way in which discourse coherence is established. Coherence, according to Kehler (2011:19) "is defined in terms of the underlying semantic relationships that characterize and structure the transitions between utterances." It

determines implicit relationships between clauses such as a causal or a temporal connection, by connecting the ‘what is said’ to the ‘what is meant’ as was shown in (11). Formally represented linguistic meaning, that is, meaning represented by truth-conditional, compositional semantics, must be combined with conceptual knowledge as part of broader human cognition (Irmer 2009, Kehler 2011). Crucially, discourse coherence can be guided and facilitated by the use of lexical items, but it is not exclusively dependent on it (Kehler 2011). Irmer (2009:38 emphasis ST) argues that "coherence is established by virtue of rhetorical relations which mark a relationship between chunks of texts. Rhetorical relations can be expressed by cohesive means such as discourse connectors (e.g. "and", "but"), but in many cases they are **not explicitly marked**".

Kehler (2011) advocates for a classification of coherence relations based on three types of primary, basic connections among ideas, taking inspiration from David Hume’s (1749/1955) Inquiry concerning human understanding. These three relations are (i) cause/effect, (ii) resemblance, and (iii) contiguity.

Discourse cohesion, based on these three basic relations, obtains whether these relations are overtly marked or not. Crucially, coherence obtains whether overt cohesive markers (such as connectives, anaphors, etc.) are present or not. Coherence in fact, does not obtain due to the use of these cohesive markers, but rather, coherence has to be established as a prerequisite for the felicitous use of cohesive markers (Kehler 2011). Thus, cohesion is based on contextual, extra-linguistic knowledge, that is, a matter of cognitive skills. And this is precisely where pragmatic inferences come into play.

One framework, under which ‘what is said’, and ‘what is meant’ has been captured, is Grice’s (1975:26f.) proposal of the maxims of conversation and the

overarching Cooperative Principle.

- (12) **Cooperative Principle:** Contribute what is required by the accepted purpose of the conversation.

The Gricean model thus presupposes that two discourse participants are rational and cooperative, and make maximally relevant contributions to the CG.

The DPRTs under consideration here can only be adequately captured when considering the interplay between pragmatic inferences based on establishing discourse coherence, the cooperative principle, and the contribution of the individual DPRT. That is, context Cx plays a crucial role in establishing the function f of DPRTs. This is again captured by the blueprint used throughout this dissertation, and repeated in (13).

$$(13) \quad f_{DPRT} = UoL + Cx$$

Context Cx here includes the form of the utterance, and the associated discourse relations and inferences that hold, regardless of the contribution of the UoL itself (that is, the DPRT).

I now turn to the DPRTs, and show that it is not that the DPRTs themselves vary in their core function, but that the contribution of the context, including the inferences associated with it, derives the fine-grained differences in function; contextual variation creates the functional range of DPRTs.

5.5 The functional range of *ja*

Even in its use as a DPRT, *ja* is multifunctional. The following functions have been identified for SG *ja*: (i) referring to *shared knowledge*, (ii) expressing *surprise*, (iii) expressing *emphasis*, (iv) indicating a *causal* relation between an antecedent utterance and the host utterance for *ja* (Helbig 1988). This is summarized below:

(14) DPRT functions of *ja*

DPRT	Function
$DPRT_{ja}$	f^1 : shared knowledge
	f^2 : surprise
	f^3 : emphasis
	f^4 : reason

Recall from 3.2 that a proposition (i.e. the content of an utterance) does not enter the CG by virtue of being uttered. Instead it needs to be grounded in a two-step process, exemplified with an assertion in Figure 10 repeated from 5.3.

	Grounds _S	Table	Ground _A
Presentation phase	Bel p →	p, Bel (S, p) →	Bel (S, p)
Acceptance phase	Bel (A, p) ←	Bel (A, p) ←	Bel (p)
Common Ground	<p style="text-align: right;">↓ accept</p> <p style="text-align: center;">p, Bel (S,p); Bel (A,p)</p>		

Figure 10: Grounding an assertion

For an assertion, this means that p is grounded, and becomes CG only when A does not disagree, or when A shows signs of agreement. Alternatively, A might disagree with S, and as a consequence A will not add Bel (p) to Ground_A. As a result, S might also remove Bel (p) from Grounds_S, in particular if A presents convincing evidence against Bel (p). In that case p is not CG, and may also not be in Grounds_S anymore.

I propose that *ja* indicates that S will not remove p from Ground_S. As illustrated in (15), when uttering [*ja* (p)], S places p, and Bel (S, p) on the conversational table. With the use of *ja* S indicates that she does not consider changing her mind with regard to p now or during the course of the conversation.

$$(15) \quad ja(p) \approx \text{Bel}(S,p)(t_U) \text{ and } \forall t > t_U: \text{Bel}(S,p)(t)$$

This proposal strengthens and elaborates on the previous proposal made in 3.2.3. *ja*, in essence, marks that the acceptance phase of the grounding process is skipped; S believes p, whether A accepts p or not. This is how the overarching ‘backgrounding’ effect of *ja* can be understood: if S indicates that she believes, and will continue to believe p, whether A accepts p as their belief or not. p is not up for discussion, according to S. This is illustrated below:

	Ground _S	Table	Ground _A
Presentation phase	Bel p →	p, Bel (S,p) →	Bel (S,p)
Acceptance phase	↓		
Common Ground	Bel (S,p)		

Figure 11: Grounding with *ja*

In this way, the core contribution of the DPRT *ja* is something like *I firmly believe*, as informally proposed in 3.2.3. This is of course consistent with its use as an affirmative response particle, where it serves to value the polarity of the proposition positively. Given the constitutive rules associated with positive assertions, S will be assumed to believe p.

In the next sections I show that there are several contexts that are compatible with the core contribution of *ja* (15). Depending on the particular context, however the

contribution of *ja* has a different effect. This allows us to see the functional range of *ja*.

5.5.1 Shared knowledge

According to several analyses, with the use of *ja* S refers to knowledge that is mutually shared between the speech act participants. Some accounts argue for this explicitly, such as Kaufmann (2004) for example, who claims that *ja* contributes a presupposition that relates to the mutual knowledge shared between S and A, i.e. to CG (also e.g. Kaufmann and Kaufmann 2012, Kratzer 1999, 2004, Thurmair 1989, Weydt, 2006). Others take the CG interpretation to be more of an implicit contribution of the DPRT, such as Zimmermann (2011), according to whom *ja* "indicates that the speaker takes the hearer to be aware of [p]".

I argue that this CG effect is just that; an effect. I claim that it is inferential, and can be deduced from the core meaning of the DPRT in combination with its context of use. This proposal is consistent with evidence discussed in Kratzer and Matthewson (2009), who show that SG *ja* is often used in contexts which report obvious, readily observable facts, or in contexts that entail facts that have already become CG. In other words, *ja* is used in contexts in which it is appropriate for S to say that she is not going to remove p from Grounds without awaiting A's acceptance. This can be seen as the often-cited uncontroversiality interpretation of *ja* referred to in Lindner (1991) and used in Grosz (2010b), and by others. Something that is uncontroversial then can be assumed to be CG.

Crucially, the context can contribute a shared knowledge inference, i.e. add that the proposition is CG at the time of utterance, independently from the contribution of *ja*.

This is schematized in the epistemicity matrix for shared knowledge in Figure 13 below; this matrix represents the speech act participants' belief regarding *p* at the time of utterance t_U and at a time just before the utterance $t_{<U}$. Shared knowledge presupposes that A believes *p* and S believes *p* at the time of utterance t_U . It implies that if A believes *p* at t_U , A also believed *p* just before t_U , i.e. at $t_{<U}$. Shared knowledge diverges from a normal assertion in that here A does not believe *p* at the time of utterance or before. In the epistemicity matrix presented in table 18, empty cells under A indicate that S may not know anything about A's epistemic state regarding *p*. Empty cells under S indicate that S doesn't have a commitment to *p*.

	$t_{<U}$		t_U	
	S	A	S	A
assertion	Bel (<i>p</i>)		Bel (<i>p</i>)	
shared knowledge	Bel (<i>p</i>)	Bel (<i>p</i>)	Bel (<i>p</i>)	Bel (<i>p</i>)
surprise			Bel (<i>p</i>)	

Table 18: Epistemicity matrix for shared knowledge

Witness the following context, which instantiates this. The discourse situation *Cx*: disc establishes that the family has twins, i.e. that it is CG that *p*.

- (16) *Cx*¹: A family with two little twins is at the desk of a car rental place. They chose a compact car for rental. The clerk says:

a. *Sie* *ham* ***ja*** *Zwilling...*
you have ***ja*** twins

...woin's *do* *ned* *a* *gressa's* *Auto* *nehma?*
...want.you there NEG DET bigger car take

“Since you have twins, don’t you want to take a bigger car?”
 ‘[I firmly believe that] you have twins, don’t you want to take to a bigger car?’

b. *Sie ham Zwilling...*
 you have twins

...woin’s do ned a gressa’s Auto nehma?
...want.you there NEG DET bigger car take.
 “You have twins. Don’t you want to take a bigger car?”

The immediate discourse context leads to the possible assumption that the speech act participants both share as relevant CG knowledge that this family has twins. This assumption is independent of the use of *ja*. This situation is compatible with the use of *ja* in the clerk’s utterance as in (16a). However, the same situation also allows for an utterance without *ja*, as in (16b) where p (*Sie ham Zwilling*) is still taken as shared between S and A.

Consider the next example, which also shows that shared knowledge is not a necessary condition for the use of *ja*. The host utterance is uttered in a context where S infers from what she is told that A doesn’t believe p.

(17) Cx: I tell my mom that I took out a 50,000 Euro student loan. She says:

Du host ja an Schlog.
 you have **ja** DET hit

“You’re totally crazy!”
 ‘[I firmly believe that] you’re crazy!’

It can be safely assumed that the addressee doesn’t share the speaker’s sentiment that she is crazy. Again, A in this context, according to S, doesn’t believe p; the addition of *ja* expresses that S, however, firmly believes p and will not remove it from her Grounds.

This establishes that shared knowledge is not a sufficient condition for the use of *ja*. Moreover, shared knowledge is also not a necessary condition for the felicitous use of *ja*. In particular it can be used if S is surprised about p and A is not (yet) aware of p. This is discussed in the next subsection.

5.5.2 Surprise

Another common context for the use of *ja* is in utterances expressing surprise. However, surprise is neither a necessary nor a sufficient condition for the felicitous use of *ja*. Hence, surprise cannot be directly encoded in the lexical entry of this DPRT (cf. Kratzer, 2004). Rather, the element of surprise falls out from the discourse context and the form of the utterance. In what follows, I discuss the use of *ja* in exclamations. Surprise arises when S gets to believe p at the time of utterance and when p is a new (relatively unlikely) belief. In other words, S did not believe p prior to the time of utterance ($< t_U$). As discussed in section 4.3, A's belief is irrelevant for the felicitous use of *ja*. This yields the epistemicity matrix for surprise summarized in Table 19.

	$t_{<U}$		t_U	
	S	A	S	A
surprise			Bel p	
assertion	Bel p		Bel p	

Table 19: Epistemicity matrix for surprise

In this section I present data that have been widely used for various analyses of SG *ja* that associate a surprise component with this DPRT. What has been overlooked, however, is that each of the examples used to show the surprise effect instantiate an

exclamation context. Consider for instance, the widely cited example from Lindner (1991), rendered here the way she does.

(18) Mother is looking out of the window

M: *Da* *ist* ***ja*** *ein* *Zeppelin!*
 there is **ja** DET zeppelin

“There is a Zeppelin!”

Child comes running to the window: *Oh, ist der groß!*

“Wow, that is big!”

(Lindner 1991: ex 12. p171)

Note that an extra high pitch accent on *Zeppelin* is needed for the well-formedness of this example. Whereas the clause type of the utterance is a declarative, the extra high pitch accent \checkmark triggers exclamation force (see section 3.4). In this example the mother, by looking out the window, has direct visual evidence for the existence of the *Zeppelin* (blimp), which is a necessary condition for the exclamation speech act (5.3). Blimps in the sky can be taken to be a rather unusual sight. Note that the surprise context is not a sufficient condition for the use of *ja*. Instead, the sentence can also be felicitously used as a surprise utterance without *ja* as shown in (19).

(19) Cx¹ : Mother is looking out of the window

M: *Do* *is* *a* *ZEPelin* \checkmark !
 there is DET zeppelin

“There is a Zeppelin!”

Since the surprise reading comes about with and without *ja*, *ja* is merely compatible

with the context; it does not in itself contribute a surprise meaning.

Kratzer (2004) proposes that the content of the host utterance for *ja* is verifiable on the spot. Recall that the preparatory rules for exclamations include that S has to have direct evidence that p is true. I now show that utterances that match Kratzer's (2004) condition are exclamations; therefore the meaning component, 'verifiable on the spot' is contributed by the preparatory rules for uttering an exclamation, which state that S has direct evidence that p is true. This derives the surprise reading of *ja*.

Another well-known example from the literature provides further support for the claim that surprise is contributed by context, not by *ja*.

(20) Spencer is walking up the stairs in front of Webster.

Webster: *Du hast ja 'n Loch in Ärmel.*
you have **ja** DET hole in.DET sleeve

"There is a hole in your sleeve."

Kratzer (2004:126) cites this example from Lindner (1991) to argue for the idea that the 'facts' expressed in utterances with *ja* either have to be shared knowledge or have to be verifiable on the spot. She doesn't, however, provide the complete discourse context given in the original example in Linder (1991). This missing context (given in (21), provides crucial clues about the epistemic state of A (Spencer in this example). It shows that A, Spencer, did NOT know about the content of the proposition expressed by the utterance. This is an additional piece of evidence that *ja* does not reference mutually shared knowledge, that is, shared knowledge is not a necessary (or sufficient) condition for the use of *ja*. This is consistent with the analysis developed here, according to which the use of *ja* is independent of the epistemic state of A.

(21) S is climbing the stairs in front of W

W: *Du hast ja ' n Loch im Ärmel!*
you have ja DET hole in.DET sleeve

“You've got a hole in your sleeve, you know.”⁷¹

S: *Wo?*

“where?” *“(looks at sleeve)”*

W: *Da!*

“There!” *“(Points at sleeve)”*

A: *Ach, dann krempel ich ihn eben rauf.*

“Oh well, I'll just roll it up then.”

(Lindner 1991 ex:13)

Spencer, the addressee, clearly does *not* know that he has a hole in his sleeve, as evidenced by the discourse (he is asking where, then responds with *ach* “Alas/oh well”, which in turn indicates that p is new)⁷². Again, the surprise effect comes from the host utterance, not from *ja*; it is merely compatible with the context, but does not contribute a surprise component. This is supported by the fact that Lindner's original example is marked as an exclamation by means of an exclamation mark “!” (which is missing in Kratzer's rendition of the example).

Ja is felicitous in this context, since S has direct evidence that p, and p is verifiable on the spot, in Kratzer's (2004) terms. Therefore S does not need A's acceptance. This is consistent with the present analysis according to which *ja* indicates that S's belief of p is not contingent on the acceptance of p by A.

⁷¹ This is Lindner's translation.

5.5.3 Emphasis

Another context of use in which *ja* is appropriate is if S is certain about p, but believes that A thinks otherwise. If *ja* is used in this context, the effect is *emphasis*.

Recall that the assertion of [*ja* (p)] includes that S believes p, puts it on the Table, and won't remove it from Ground_s. This signals to A that the *ja* modified utterance is not up for discussion, no matter what A may believe. The addition of *ja*, which signals to A that S won't remove Bel (p) from Ground_s thus leads to the effect of emphasis on p. This is illustrated below:

inference/effect	t _{<U}		t _U	
	S	A	S	A
emphasis	Bel (p) and Bel (¬Bel (A, p))		Bel (p) and Bel (¬Bel (A, p))	
assertion	Bel (p)		Bel (p)	

Table 20: Epistemicity matrix for emphasis

The example below illustrates the use of emphasis with *ja*. The context provides information about the epistemic states of the interlocutors (kids who are accusing Alexander of having stolen a special paint). Alexander, using *ja* in the response shows that he won't change his mind about p, i.e. that they won't find anything.

- (22) Cx: Alexander is being accused by his classmates of stealing a special kind of paint. His classmates interrogate him, he denies. At the end, one of them suggests to look into his bag. Alexander responds:

Von mir aus...

‘If it's for me...

...schaugts hoid in meinSchuiranzn...

...look hoid in my school.bag

... es findts ja eh nix.

...you.2PL find **ja** eh nothing

“Go ahead, look into my bag, you're not gonna find anything anyways.”
 ‘Go ahead, look into my bag [I firmly believe that [it was the case before uttering this that]] you're not gonna find anything.’

5.5.4 Reason

In this section I show a fourth context of use compatible with the meaning of *ja*, which I call the *reason* context (cf. Helbig 1988). This particular interpretation of *ja* has, to my knowledge, not been discussed in the literature, but is a prevalent use of the DPRT. Reason interpretation for *ja* arises when two conditions are met: (i) S utters a host utterance with content p_i , indicating Bel (S, p_i); (ii) S uttered an utterance with content p_j immediately preceding, indicating Bel (S, p_j).

I showed in 5.4 that discourse coherence is established via certain inferences. Certain discourse relations, such as a causal relation leading to reason interpretation, can hold between clauses in a discourse independent of the use of DPRTs (Kehler 2011). Example (23) is repeated from above, and shows such a causal relation, where p_i is interpreted as the reason for p_j .

(23)	p_j	<i>D'Sonja</i>	<i>konn</i>	<i>ned</i>	<i>kemma.</i>		
		DET.Sonja	can	NEG	come.		
	p_i	<i>De</i>	<i>muass'se</i>	<i>um</i>	<i>ihre</i>	<i>Zwilling</i>	<i>kümman</i>
		DET	has.self	for	her	twins	care

“Sonja can’t come, since she has to care for her twins.”
 ‘Sonja can’t come. She has to take care of her twins.’

The addition of *ja* leads to the following effect: since *ja* marks that S will not remove p (here p_j) from Ground_S, p_i is ‘backgrounded’ in the discourse context; it is not up for discussion, according to S. By backgrounding p_i , *ja* in effect foregrounds p_j ,

facilitating the reason interpretation. Crucially, *ja* itself doesn't specifically encode reason function. This is formalized in the epistemicity matrix for reason below.

	$t_{<U}$		t_U	
	S	A	S	A
reason	Bel (p_j) and Bel (p_i)		Bel (p_i)	
assertion	Bel (p)		Bel (p)	

Table 21: Epistemicity matrix for reason

Witness the following example to illustrate this, modified from Kratzer (1999).

(24) p_i : *D'Sonja kann ned kemma.*
 DET.Sonja can NEG come

p_j *De muass'se ja um ihre Zwilling kümman.*
 she has.self **ja** for her twins care

“Sonja can't come. It's because she has to care for her twins.”

‘Sonja can't come. [I firmly believe] that she has to care for her twins.’

The next example also illustrates a causal relation between two propositions, which holds with or without *ja*.

(25) p : *D'Regina kummt heid zum Essn vorbei.*

“Regina is coming to eat (with us) today.”

p_j : *Do mach'e a Gmias.*
 there make I DET vegetables
 “So I'll make veggies.”

a. p_i : *Sie isst ja koa Fleisch*
 she eats **ja** NEG.DET meat

‘It’s because she doesn’t eat meat.’
 ‘[I firmly believe that] Regina doesn’t eat meat.’

b. p_i : *Sie* *ISST* *koa* *Fleisch*
 she eats NEG.DET meat.

(modeled after Thurmair 2013)

Again, a reason interpretation obtains with or without *ja*, as evidenced by (25a -b). Note however the obligatory special pitch accent on the finite verb, which leads to a special emphasis on the propositional content of the utterance (verum focus, Höhle 1992). Without this verum accent the utterance would not be acceptable in this context. I will discuss this need for either the DPRT or the special accent in Chapter 6.

The utterance with *ja* facilitates the ‘reason’ inference in the following way; with S marking that she won’t remove p_i from Ground_s, a rational, cooperative interlocutor A, will attempt to make S’s contribution maximally relevant to the discourse, and relate it to p_j . By marking p_i as ‘not up for discussion’ with *ja*, S conveys to A that the fact that Regina doesn’t eat meat is not something she wishes to discuss, i.e. it is backgrounded. A is thereby discouraged to challenge p_i . Since p_i is not up for challenge, the inference about the coherence relation between the two clauses (here reason) is facilitated (cf. Kehler 2011).

5.5.5 Summary

In this section, I argued that the functional range of the DPRT *ja* is an artifact of the core function of *ja* and the contribution of the context in which it is used.

$$(26) \quad f_{DPRT,ja} = ja + Cx$$

In particular, I introduced epistemicity matrices for the contexts that are compatible with the core function of DPRT *ja*, as summarized below

$$(27) \quad ja(p) = \mathbf{Bel}(S, p)(t_u) \text{ and } \forall t > t_u : \mathbf{Bel}(S, p)(t)$$

	$t_{<u}$		t_u	
	S	A	S	A
shared knowledge	Bel p	Bel p	Bel p	Bel p
surprise			Bel p	
emphasis	Bel p and Bel(\neg Bel (A,p))		Bel p and Bel(\neg Bel (A,p))	
reason	Bel p_i and Bel p_i		Bel p_i	
assertion	Bel p		Bel p	

Table 22: The functions of *ja*

What this epistemicity matrix reveals is that what all of these contexts have in common is that S believes p at the time of utterance. And I argue that this is the only core meaning associated with *ja*, as shown in Chapter 4. The epistemicity matrix of each host context for *ja* varies, however, and also contributes a meaning; this is how the functional range of *ja* can be understood.

5.6 The functional range of *doch*

Like *ja*, the DPRT *doch* is multi-functional. Each of its functions depends on the context of use. The functional range of *doch* includes (i) expressing *shared knowledge* (Grosz 2010, 2014) (ii) *reminding* A of p, (iii) *backchecking*, and (iv) indicating a *contrast* (cf. Gast 2008, Hentschel 1986). This is summarized below:

(28) DPRT functions of *doch*

DPRT	Function
$DPRT_{doch}$	f^1 : shared knowledge
	f^2 : reminding
	f^3 : backchecking
	f^4 : contrast

Based on its diachronic origin as an A-oriented deictic marker (in Hentschel 1986 calls it ‘emphatic affirmative marker’, cf. Karagjosova and Zeevat 2007), I suggested in Chapter 3 that *doch* can be informally paraphrased with *I believe that you believe p*. This amounts to saying that *doch* marks that S believes p is in Ground_A at the time of utterance, as indicated in (29).

(29) $doch(p) \approx \text{Bel}(A, p)(t_U)$

With the use of *doch*, S marks that A knows p (*or at least could reasonably know that p*) at the time of utterance. Hence A need not accept p and therefore the acceptance phase can be skipped, just like it was the case with *ja*. It is in this sense that *doch* marks the utterance as deviating from the normal course of the conversation. Figure 12 illustrates the grounding process with *doch*.

	Ground S	Table	Ground A
Presentation phase	Bel p Bel (A, p) →	p, Bel (S,p) p, Bel (A,p) →	Bel (S,p) Bel (S,(Bel (A,p)))
Acceptance phase			
Common Ground	Bel (S,p)		

Figure 12: Grounding with *doch*

Several of the functions of *doch* have been widely discussed in the literature, first and

foremost the contrastive function (e.g. Hentschel 1986, Thurmair 1989, Abraham 1991, Lindner 1991, Bárány 2009, Grosz 2010b, Egg and Zimmermann 2011). The uses presented in (28) have not, however, been unified in previous analyses. In what follows I show that the functional range of *doch* can be derived from the core contribution of *doch* in interaction with its context of use.

5.6.1 Contrast

A common use of *doch* is in contrastive contexts. As mentioned in 3.5, contrast is commonly argued to be the core function of *doch*, and assumed to be part of its lexical entry (Hentschel 1986, Thurmair 1989, Abraham 1991, Lindner 1991, Bárány 2009, Egg and Zimmermann 2011, Grosz 2010b).

Here I argue that the contrastive function can be derived as a pragmatic inference based on the context of use of *doch*. Hence we do not need to postulate it as an intrinsic part of the meaning of the DPRT itself (Krifka 2013). In essence, I argue that *doch* is compatible with a contrastive context, but does not itself encode contrast. Rather contrast comes about because with the use of *doch*, S says that A knows p. So if uttered in a context where A states that s/he doesn't know p, this derives a contrast. The relevant epistemicity matrix for the contrastive interpretation is given below.

	$t_{<U}$		t_U	
	S	A	S	A
contrast	Bel $\neg p$	Bel p	Bel $\neg p$	Bel p
assertion	Bel p		Bel p	

Table 23: Epistemicity matrix for contrast

Grosz (2010:3) presents the following example to support the contrastive hypothesis.

- (30) Mary: *Schau mal! Diese Blumen sind so hässlich.*
 look PRT these flowers are so ugly

“Have a look! These flowers are so ugly.”

- Bill: *Was hast du denn? Diese Blumen sind doch schön!*
 what have you PRT these flowers are **doch** beautiful

“What's your problem? These flowers are [DOCH] beautiful!”
 ⇒ [p The flowers are beautiful] is used to correct [q the flowers are ugly].

(Grosz 2010: ex 3)

Crucially, the contrastive interpretation in (30) arises even without the DPRT as shown based on the MB examples in (31).⁷³

- (31) Maria: *Schaug amoi! De Bleame do san vielleicht greislig*
 look PRT DET flowers there are vielleicht ⁷⁴ ugly

“Have a look! These flowers are so ugly.”

- Willi: a. *Wos host'n? De san SO schee!*
 what have.you PRT. they are so beautiful

“What's your problem? These flowers are so beautiful!”

- b. *Wos host'n? De san doch schee!*
 what have.you. PRT. they are **doch** beautiful

“What's your problem? These flowers are beautiful!”

Hence we have to conclude that contrast is not a sufficient condition for the use of *doch*; it is, however, a context compatible with the function of *doch*. Contrast is the

⁷³ A retort without *doch* would need the particle *so*, and an emphatic accent on *so*, in order to render an acceptable discourse response in this context, or, alternatively, an extra high pitch accent on *schee*.

⁷⁴ Vielleicht here is used as a DPRT, strengthening the exclamation. The original Grosz example with the intensifier ‘so’ strikes me and other speakers of Bavarian as slightly odd. This may be due to the fact that it is an example from a different variety.

result of pragmatic inference based on the antonymy of ‘ugly’ and ‘beautiful’.

The crucial point of this example is that the contrastive interpretation is not dependent on *doch* but derives from its context of use. While the retort without *doch* is possible, the utterance with *doch* is preferable. This is expected, under the assumption that in this specific context, S wants to convince A that indeed, ‘p’. S does so by marking Bel (p) as part of Ground_A. This means S bypasses the acceptance phase of grounding, in essence preventing A from not accepting p. The contrasting interpretation in the example above then arises due to the need of the interlocutors to establish discourse coherence, and to interpret each contribution as maximally relevant in the given discourse.

The next example further supports the idea that contrast can be inferred from context, which is compatible with *doch*.

- (32) Cx: Kathrin and Hansi are cousins. Kathrin knows where Hansi has been for vacation ever since they were little. They chat about where they each might want to go next.

Hansi: *I war no nia am Mea*
I was still never at.DET ocean

“I have never been to the ocean.”

Kathrin: a. *Du warst doch letzt's Jahr in Kroatien*
you were doch last year in Croatia

“But you were in Croatia last year.”

‘[I believe you believe that] you were in Croatia last year.’

b. *Du warst letzt's Jahr in KROATIEN*
you were last year in Croatia

“(But) you were in Croatia last year.”

Here the discourse situation introduces a relevant contrasting proposition $\neg p$ (*I war no nia am Mea*). The function of *doch* supports the contrastive effect, but does not

induce it. This is because it can be reasonably assumed that as a rational discourse participant, Hansi knows where he was last year, i.e. at the ocean in Croatia. It is also possible, however, that he might have forgotten, or simply had another “mental image” of the ocean than the one evoked by the Mediterranean around Croatia. Kathrin’s use of *doch* foregrounds the fact that *p* is in Ground_A at the time of utterance. Yet given Hansi’s previous assertion that he has never been at the ocean, the use of *doch* here can be construed as contrastive. All *doch* does is to show that *S* (Kathrin) thinks *A* (Hansi) knows that he was in Croatia. Contrast falls out from inferencing, but need not be explicitly encoded in the particle. Fully in line with the reasoning pursued here, Krifka (2013), too, argues that the contrastive interpretation associated with the use for *doch* is due to its context of use.⁷⁵

We have now seen that contrastiveness is not a sufficient condition for the use of *doch*. The data discussed in the following subsections, establish that contrastiveness is also not a necessary condition for the use of *doch*. Hence we can conclude that contrastiveness is not directly encoded in the lexical entry of *doch*.

⁷⁵ Krifka argues that DPRT *doch* derives from a propositional anaphor *doch* that denotes a proposition *p*, presupposes an alternative proposition *p'* and asserts that $\neg[p \wedge p']$ are part of CG. He argues that it is the implicit *p'* which *doch* expresses an adversative attitude to, but that this arises via the context. He presents the following response particle use, which he judges as a “clearly non-adversative use[s]”, e.g. after negated questions:

- (44) A: Hat er keinen Keks gestohlen?
 has he NEG.DET cookie stolen?
 “Didn’t he steal the cookie?”
- B: Doch.
 “Yes (he did)”

5.6.2 Reminding

Another context of use compatible with the core function of *doch* is the reminding context.

The following example is from Hentschel (1986) who refers to this us as “*erinnerndes doch*” ‘reminding doch’ (cf. Gast 2008).⁷⁶

(33) *Da war doch neulich der schwere Unfall in unserer Straße.*
there was **doch** recently DET heavy accident in our street

Und da hat sich jetzt ergeben, dass...
and there has refl. now turned.out that....

“(As you might remember), there was this bad accident on our street recently. And so it turns out that....”
‘[I believe you know that] there was this bad accident in our street recently. And so it turns out that...’

Reminding *doch*, according to Hentschel (1986:134) refers to a ‘presupposed mental state of the addressee’ (“*angenommener gedanklicher Zustand des anderen*”). This yields the following epistemicity matrix for the reminding function of *doch*. Note that there are two contexts to consider: S can either assume that A does not believe p ($\neg\text{Bel}(A,p)$ at $t_{<U}$), or else S may not know anything about A’s epistemic state regarding p.

	$t_{<U}$		t_U	
	S	A	S	A
reminding (1)	Bel p	$\neg\text{Bel p}$	Bel p	Bel p
reminding (2)	Bel p		Bel p	Bel p

Table 24: Epistemicity matrix for reminding

⁷⁶ This example is presented as illustrating a reminding use, yet it gives no contextual information or background, which would allow us to track the actual discourse participants’ epistemic states. In other words, the contribution of *doch* here is merely asserted, but not actually shown, as is the case with many other DPRT examples in the literature.

I now show that *doch* is compatible with contexts which instantiate this type of epistemicity matrix. Consider the example in (34) which provides an elaborated context for the utterance (in 33). A suitable discourse context for (33) will minimally have to include that S and A are familiar with each other, e.g. they may be neighbors. If familiar with each other, and under the premise that *as long as A can reasonably know p*, S can skip the acceptance phase by using *doch*.⁷⁷

- (34) Cx: One neighbor meets the other at the garden fence. The conversation turns to the eternally debated intersection in the village.

<i>Do</i>	<i>war</i>	<i>doch</i>	<i>letzt's</i>	<i>Jahr</i>	<i>der</i>	<i>schwere</i>	<i>Unfoi...</i>
there	was	doch	last	year	the	heavy	accident

<i>...und do</i>	<i>ham's</i>	<i>bei</i>	<i>da</i>	<i>Gemeinde</i>	<i>na</i>	<i>gsogt...</i>
...and there	have.they	at	DET	city.hall	then	said

<i>...dass do</i>	<i>a</i>	<i>Ampe</i>	<i>heasoi.</i>
...that there	a	traffic.light	here.shall

“As you know there was this bad accident last year, so the folks at the city hall said that they would put a traffic light up.”
 ‘[You know that] There was this bad accident last year, and then the folks at the city hall said that they would put a traffic light up.’

(33) and (34) would be felicitous as an opening statement in a conversation between two neighbors. In this instance, even if A might in fact not know *p*, S can safely assume that A can *reasonably know p*, since noteworthy news like a big accident down the street can be assumed to be mutually known to neighbors. Both examples crucially are not a felicitous way to open a conversation between strangers, and could not be used in a context where I chat with the person next to me sitting on the bus,

⁷⁷ I will show in 5.8 that the kind of ‘accommodation’ which is induced by DPRTs is different from presupposition accommodation in the sense of von Stechow (2008).

whom I just met.

This is illustrated in the example below where two strangers talk to each other on an airplane. Recall that in this context S-oriented *ja* is felicitous. In this context, *doch* is infelicitous because A cannot reasonably be assumed to believe p. Hence the acceptance phase cannot be skipped.

(35) Cx¹: My mom tells a stranger next to her on the airplane about her regular trips to Canada:

<*, Cx¹> I hob **doch** Enkel drum...
I have **doch** grandchildren over there

...do fliag e mindastens oamoi im Jahr.
...there fly I at.least once in.DET year

“As you know I have grandkids over there, so I fly over at least once a year.”
‘[I believe you believe that] I have grandkids over there, so I fly over at least once a year.’

The reminding effect for *doch* in all of the scenarios presented above falls out as follows: the normal course of grounding an assertion with content p involves a two step process. Crucially the preparatory conditions of an assertion include that *A does not know p at the time of utterance*. In a context where S has no explicit evidence whether p is in Ground_A at the time of utterance, but S can safely assume that A knows p, or reasonably can know p, *doch* serves as a reminder of that knowledge about p. It is in that sense the DPRT marks a departure from the normal course of the conversation, and signals a non-standard assertion in the sense of Zeevat (2003).

Witness two other reminding contexts with *doch* below. The first context in (36) makes it clear that both S and A share knowledge of p. Here *doch* is felicitous. As

shown in (36) if the interlocutors do not share knowledge of p, *doch* is not.

- (36) Cx¹: Franz hears music on the radio, which is played on the intercom in the supermarket where he is shopping with his dad. His brother Sebastian is on a field trip at a radio station. When the station identifier is played, Franz says to his dad:

< ✓, Cx¹ > Do is **doch** heid da Sebastian.
there is **doch** today DET Sebastian

“SeBASTIAN is THERE today!

‘[I believe you know that] Sebastian is there today.’

(Wer früher stirbt...)

- (37) Cx²: Franz hears music on the radio, which is played on the intercom in the supermarket where he is shopping with his dad. His dad is not very involved with the boys, and usually doesn’t know what they are up to in school. When the station identifier is played, Franz says to his dad:

< *, Cx² > Do is **doch** heid da Sebastian.
there is **doch** today DET Sebastian

“SeBASTIAN is THERE today!

‘[I believe you know that] Sebastian is there today.’

The proposal according to which *doch* marks that p is in Ground_A can derive the reminding function. In contrast, if contrastiveness were built into the lexical entry of *doch*, then the reminding function cannot be explained. Contrast in the next example (38) is introduced by the accent on the negative particle *NED* and on the verb *IS* (introducing a polarity/verum focus effect, Höhle 1992).

- (38) Cx: There’s an Ox race, and Sir Quickly’s Ox Ringo is nervous. Sir has to go to get a cassette tape with Beatles music, since this is the only way Ringo will run the race. Sir asks Martin to take care of Ringo while he is gone, and to calm him down, since there is a lot of commotion. A Bavarian band is playing marches in the background.

Sir: *An tambourine man kennst du ned, gä? Des kannt’s eam vorsinga.*

“You don’t know ‘Tambourine man’, do you? You could sing that for him.”

Martin: *Jetzt schlaich de, an Defilirmarsch pfeif’e eam vor!*

“Get lost now, I’ll whistle the Defilirmarsch for him!’⁷⁸

Sir: *NED an Defilirmarsch...*
 NEG DET defilier.march

...*drum* *IS* *a* ***doch*** *so nervös!*
 ...PRT.REASON is he ***doch*** so nervous

“Not the defilirmarch, that’s why he’s so nervous!”

Consider the next dialogue as final support for the hypothesis that *doch* does not make reference to a contextually salient, contrasting proposition $\neg p$. In the discourse below Sebastian asserts that he does not want to die (p). Sepp in his response with *doch* does not contradict Sebastian, but affirms p. That is “not dying” is activated with both Sepp and Sebastian, and Sepp is in agreement with Sebastian about this. Here all *doch* does again, is to mark that p is in Ground_A.

(39) Cx: Sebastian, a 11-year-old boy is obsessed with the afterlife. He is worried that he will end up in hell, and not in heaven.

Sepp: *Wos is’n los mid dia? Wos schaut’n a so?*

“What’s going on with you? Why the sad face?”

Sebastian: *I deaf auf ga koan Foe steam.*
 I be. Allowed on INTENSIFIER NEG.DET case die
 “I can’t die under any circumstance.”

Sepp: *A geh du Esel! Du muast doch aa ned steam!*
 PRT go you donkeyyou must ***doch*** aa⁷⁹ NEG die

⁷⁸ This is a very typical, iconic Bavarian march.

⁷⁹ *aa* (from *auch*, ‘also’) is a DPRT here. It has an additive core function.

“C’mon, you donkey! You don’t have to die!”
 ‘[You believe that] you don’t have to die.’

5.6.3 Backchecking

Related to the reminding function of *doch* is its backchecking function. Backchecking refers to a context where S believes p, but wants to confirm that p is indeed true. This is summarized in the epistemicity matrix in Table 25.

inference/effect	$t_{<U}$		t_U	
	S	A	S	A
backchecking	Bel p	Bel p	Bel p and p true?	Bel p

Table 25: Epistemicity matrix for backchecking

I show here that backchecking is derived from the discourse situation, and is not directly encoded in the lexical entry of *doch*. Consider the example in (40) where S checks with A whether p is true.

- (40) Cx¹: Someone who knows my dad runs into my brother whom she hasn't met. The family resemblance is striking. She says:

Du bist doch am Thoma sei Bua, oda?
 you are doch DET Thoma his boy CONF

“You are the Thomas' boy, right?”
 ‘[You believe that] you are the Thomas' boy [confirm that this is true].’

The backchecking effect in this example arises due to the context of use. In particular, the sentence final particle *oda* is used to request confirmation that p from A. (Wiltschko and Heim 2016 for a detailed analysis of *confirmational*s such as *oda* and *geu*). The object of confirmation can vary, however, from confirmation of the truth to

the proposition to confirmation of A's belief about the proposition. Note that in the same context as above, the utterance below is equally felicitous without *doch* indicating that backchecking is not a sufficient condition for the use of *doch*.

- (41) Cx¹: Someone who knows my dad runs into my brother whom she hasn't met. The family resemblance is striking. She says:

<i>Du</i>	<i>bist</i>	<i>am</i>	<i>Thoma sei</i>		<i>Bua</i>	<i>oda?</i>
you	are	DET	Thoma his		boy	or

“You are the Thomas' boy, right?”

‘You are the Thomas' boy [confirm that this is true].’

Doch in (40) above adds the additional information that, according to S, A knows p. Therefore backchecking obtains without *doch*, but the DPRT, due to its contribution is highly compatible with this context. The next example illustrates the same effect.

- (42) Cx²: I'm walking with my dad through the home village. I see a young man coming out of the bakery and ask my dad.

a.	<i>Des</i>	<i>is</i>	<i>am</i>	<i>Lechna</i>	<i>sei</i>	<i>Bua</i>	<i>oda?</i>
	that	is	DET	Lechna	his	boy	or

“This is the Lechner's boy, right?”

‘[confirm that it is true that] this is the Lechner's boy.’

b.	<i>Des</i>	<i>is</i>	<i>doch</i>	<i>am</i>	<i>Lechna</i>	<i>sei</i>	<i>Bua</i>	<i>oda?</i>
	that	is	<i>doch</i>	DET	Lechna	his	boy	or

“This is the Lechner's boy, right?”

‘[Confirm that you believe that it is true that] this is the Lechner's boy.’

c.	<i>Des</i>	<i>is</i>	<i>doch</i>	<i>am</i>	<i>Lechna</i>	<i>sei</i>	<i>Bua.</i>
	that	is	<i>doch</i>	DET	Lechna	his	boy

“This is the Lechner's boy”

‘[I believe you believe that] this is the Lechner's boy.’

(42a) shows that, as above, backchecking obtains due to the particle *oda*, and is

independent of the function of *doch*. (42b) shows that *doch* as expected is compatible with this context. (42c) shows that *doch* can be used in the context without the particle *oda* but here the interpretation isn't with the backchecking function.

In sum, backchecking is a contribution of the context, not a direct contribution of *doch*. The function of *doch* is merely compatible with it.

5.6.4 Shared knowledge

Propositions marked with *doch* are often described as marking shared knowledge between S and A. Accordingly, *doch* would mark p as being in the CG. For example Thurmair (1989), Zeevat and Karagjosova (2007) and Grosz (2010b) argue that *doch* marks its host utterance as 'familiar, old, given, uncontroversial or shared'. I show now that the core function of *doch* proposed in (29) is compatible with contexts that require shared knowledge.

The epistemicity matrix for an utterance that expresses a proposition that is shared knowledge is shown below.

	$t_{<U}$		t_U	
	S	A	S	A
shared knowledge	Bel (p)	Bel (p)	Bel (p)	Bel (p)
assertion	Bel (p)		Bel (p)	

Table 26: Epistemicity matrix for shared knowledge

Recall that p does not become part of the CG simply by virtue of uttering an assertion: A needs to accept p either by means of explicit agreement (e.g. 'yes/I agree') or implicitly by not contradicting S. For a regular assertion, S does not believe that p is in A's ground at the time of utterance.

As argued above, due to the core function of *doch*, S essentially proposes that the acceptance phase is skipped. This derives the shared knowledge effect: with uttering [*doch* (p)], S indicates that she assumes p to be in Ground_A already. Since by virtue of asserting p, S also indicates that p is in Ground_S, this means that p must be in the CG. The example below, repeated from Chapter 4 shows that if it is obvious that p *cannot* be in Ground_A, *doch* is predictably infelicitous.

- (43) Cx¹: I'm going Christmas shopping with my cousin and am justifying the purchase of a nice and cozy cashmere scarf for her mom, my aunt. I say to her:

a. <✓, Cx¹> *Dei Mama friads doch immer so...*
 your mom freezes **doch** always so

...do is des genau des richtige.
 ...there is DET exactly DET right

“Your mom is always so cold so this is just perfect.”
 ‘[I believe you believe], your mom is always cold, so this is just perfect.’

b. <*, Cx¹> *Dei Mama friads immer so...*
 your mom freezes always so...

...do is des genau des richtige.
 ...there is DET exactly DET right

- (44) Cx²: I'm going Christmas shopping with a friend and am justifying the purchase of a nice and cozy cashmere scarf for my aunt. I say to her:

a. <*, Cx²> *Mei Tante friads doch imma so...*
 my aunt freezes **doch** always so

...do is des genau des richtige.
 ...there is DET exactly DET right

“My aunt is always so cold so this is just perfect.”
 ‘My aunt is always so cold so [I believe you believe this] this is just perfect.’

b. <✓, Cx²> *Mei Tante friads imma so...*
... do is des genau des richtige.

Consider another example, which provides further evidence that *doch* appeals to a belief in Ground_A, which is in turn compatible with a context in which knowledge is shared. In those cases where it already is shared knowledge that *p*, *doch* can underscore this, as illustrated in 5.5.1. In contrast, where *p* is not shared, but *S* marks *p* as known to *A* with *doch*, this actually can be challenged.⁸⁰ The following example was observed as a natural discourse.

- (45) Cx: Sonja who lives in far away Canada is home visiting. Her mom left the house, saying she had to go to the doctor. That particular doctor had an office in the village of Valley, as well as in another village. Sonja asks Hans about where her mom went.

Sonja: *Is'd Mama noch Valley zum Dokta g'fahrn?*

“Did Mom go to the doctor in Valley?”

Hans: *De ham doch scho lang zuag'macht.*
they have **doch** alreadylong closed

“As you know, they already closed a long time ago.”

‘[I believe that you believe that] they closed a long time ago.’

Sonja: *Wia soi I des wissn? Papa- I wohn nimma do!*

“How am I supposed to know that? Dad- I’m not living here any more!”

⁸⁰ The fact that the assertion with *doch*, in particular the idea that *p* is *known to A* can be challenged reveals a deeper fact about *doch* if not about DPRTs in general; only at-issue content can be challenged, but if the contribution of *doch* here can be challenged, as this example suggests, then the DPRT seems to be ‘at-issue’, counter common analysis (e.g. Kratzer 1999, Gutzmann 2008, 2013). Following Rett (2013), I consider it to contribute to illocutionary content, which encodes epistemic stance. It seems illocutionary content can be challenged.

Hans: *Ja <nods>, oiso. Dann. De ham zuagmacht.*
 yes well then they have closed

“Yes. Well. In that case. They closed. “

(Conversation observed Dec 8, 2015)

This naturally occurring exchange is illuminating insofar as Hans’ response marks *p* as known to A (Sonja). Sonja challenges this assumption about *p* being (reasonably) known to her explicitly in her response. Since she is living abroad, she corrects Hans by expressing that it is NOT reasonable for her to know this. Hans, realizing, corrects himself.

5.6.5 Summary

I argued in this section that the functional range of the DPRT *doch* can be derived from the core contribution of the DPRT and the context it occurs in.

$$(46) \quad f_{DPRT, doch} = \text{doch} + Cx$$

Shared knowledge, backchecking, reminding, and in particular, contrast, was argued to arise via a process of pragmatic inferencing. In cases where the discourse situation introduces a relevant contrasting proposition $\neg p$, the use of *doch* has a contrastive effect. Where the context introduces shared knowledge, *doch* has a shared knowledge effect, etc. This effect can also come about without the DPRT. I summarize here the epistemicity matrices introduced for each context *doch* was discussed in.

$$(47) \quad \text{doch}(p) = \mathbf{Bel}(\mathbf{A}, p)(t_u)$$

	$t_{<U}$		t_U	
	S	A	S	A
contrast	Bel ($\neg p$)	Bel (p)	Bel ($\neg p$)	Bel (p)
reminding	Bel (p)	\neg Bel (p) OR --	Bel (p)	Bel (p)
backchecking	Bel (p)	Bel (p)	Bel(p) and p true?	Bel (p)
shared knowledge	Bel (p)	Bel (p)	Bel (p)	Bel (p)

Table 27: Functions of *doch*

What remains constant across all contexts within which *doch* is felicitous is the fact that A believes p at the time of utterance. This is precisely the contribution of *doch* as argued in Chapter 4. Since the rest of the epistemicity matrix varies, in each context the apparent function of *doch* also varies. This derives the functional range of *doch*.

5.7 The functional range of *fei*

The DPRT *fei* has not received much attention within a formal framework (except Schlieben-Lange 1979, Thoma 2009). From the data and reports about the general meaning of the DPRT, two main functions of *fei* emerge, *newness* (Schlieben-Lange 1979) and *emphasis* (Merkle 2005). These functions are illustrated below.

(48) DPRT functions of *fei*

DPRT	Function
<i>fei</i>	f^1 : newness
	f^2 : emphasis

In what follows I show that these functions can be derived from the core meaning of *fei* and the context; the nuanced interpretation arises through variations in context *fei* is compatible with.

In Chapter 3 I proposed the following contribution of the DPRT *fei*.

$$(49) \quad \text{fei} \approx I \text{ believe you don't believe } p$$

This amounts to saying that with the use of *fei*, S indicates that she believes that p is not in Ground_A at the time of utterance as in (50).

$$(50) \quad \text{fei}(p) \approx \neg \text{Bel}(A, p) (t_U)$$

This proposal captures the two conditions of use for *fei* I presented in Chapter 4. *Fei* can be used in contexts when (i) A is committed to $\neg p$, as well as when (ii) A has no public commitment to p. It follows that with the use of *fei* S signals that the acceptance phase of the grounding process can be bypassed again.⁸¹ This is illustrated below.

	Ground S	Table	Ground A
Presentation phase	Bel (p) $\neg \text{Bel}(A, p) \rightarrow$	p, Bel (S,p) p, $\neg \text{Bel}(A, p) \rightarrow$	Bel (S,p) Bel (S, ($\neg \text{Bel}(A, p)$))
Acceptance phase			
Common Ground	Bel (S,p)		

Figure 13: Grounding with *fei*

I show now how the newness effect for *fei*, as well as the emphasis effect reported for the DPRT can be derived from (50) and the contribution of context.

⁸¹ Martina Wiltschko points out that the insight that the acceptance phase is bypassed should be observable in the responses to utterances with these DPRTs. The investigation of possible responses to utterances with DPRTs in general opens up another avenue of research, and potential evidence toward the contribution of DPRTs.

5.7.1 Newness

Schlieben-Lange (1979) considers the contribution of the DPRT *fei* as marking the propositional content of the host utterance as new. Before turning to the role of *fei* let us look at a context in which the content of an utterance can be considered new. Newness can in principle arise in two contexts. The first is when A has no belief about p at the time of utterance (and the time preceding it). This corresponds to the preparatory conditions under which a regular assertion with content p is uttered. This includes situations in which it is not obvious that A believes p. That is, S utters a sentence when she believes its content is new to A. Hence, by hypothesis, an assertion introduces new information. But since this is part of the normal condition for assertions, it need not be marked by DPRT. Instead, what is relevant for the present purpose is a different type of context where p is considered new. If S has reason to believe that A *doesn't* believe p at the time of utterance and the time preceding it, then p is new. This is the special content that deviates from the normal conditions for assertions and hence is marked by the DPRT *fei*. The relevant epistemicity matrix is given below and compared with the one for normal assertions.

inference/effect	$t_{<U}$		t_U	
	S	A	S	A
newness	Bel (p)	\neg Bel (p)	Bel (p)	\neg Bel (p)
assertion	Bel (p)		Bel (p)	

Table 28: Epistemicity matrix for newness

I have shown in Chapter 4 that *fei* is compatible with a context where S has reason to believe that A doesn't believe p. In such contexts, an assertion without *fei* is not acceptable, as shown in (51).

(51) Cx: Dani and Alex are driving in the car together. Dani is the driver. They approach a red stoplight, but Dani shows no sign of slowing the car or engaging the brakes. Alex says:

a. <✓, Cx> *Es* *is fei* *rot.*
 it is **fei** red

“Hey it’s red.”
 ‘[You don’t believe that] it’s red.’

b. <✓, Cx> *Es* *is* *ROT* ✓⁸²
 it is red

“It’s red!”

c. <*, Cx> *Es* *is* *rot.*
 it is red

The newness-effect associated with *fei* can be derived from its core function and one of the conditions for uttering assertions with newness effect. What *fei* adds in (51) is that according to S, A’s belief diverges from the normal conditions for assertions. This normal condition includes that for all S knows, A doesn’t believe *p*. However, *fei* expresses that S explicitly believes that A does not believe *p*. That is, the contexts for uttering [*fei* (*p*)] felicitously differs from those in which *p* alone can be uttered felicitously, as evidenced by (51c).

A seeming counterexample to this is presented in the context below, repeated from Chapter 4. Both utterances, one with and one without *fei*, are felicitous in this example.

⁸² Extra high pitch on the predicate/verb has an effect that has been reported to be similar to verum focus (cf Höhle 1992); it evokes alternatives to the whole proposition, along the lines of [it is red, ~~it is not red~~]. This leads to the effect of emphasis on the whole utterance. This accent is necessary in this context to render the utterance acceptable. More on this in Chapter 6.

(52) Cx¹: Hansi returns from the washroom. His zipper is down. Hanni says to him:

- a. <✓, Cx¹> *Dei Hos'ntiarl is **fei** auf*
 your pant.door is fei open
- “Your fly is down.”
 ‘[I believe you don’t believe] your fly is down.’
- b. <✓, Cx¹> *Dei Hos'ntiarl is auf*
 your pant.door is doch open
- “Your fly is down.”
 ‘[I believe you believe] your fly is down.’

The difference between an assertion without *fei* and one modified by *fei* is that in the latter, S explicitly expresses her assessment of A’s epistemic state as $\neg\text{Bel}(A, p)$. It can be safely assumed that it is situational knowledge that people do not walk around with their zippers open. Since Hansi has his zipper open, in this context Hansi (A) shows evidence to Hanni (S) that he doesn’t believe *p* (that his zipper is open). *fei* is sensitive to exactly this aspect. This assessment about A’s epistemic state as $\neg\text{Bel}(A, p)$ is missing in (52b). Here S simply states that *p*, and for all S knows, A may or may not know *p*. The context in (52) is compatible with both utterances, but a more fine-grained context that was presented in (51) showed that *fei* is sensitive to a difference in epistemicity; S has evidence that A doesn’t believe *p*. In particular, *fei* is not felicitous in regular assertions, uttered in a context compatible with a plain assertion. This is shown next:

(53) Cx²: It’s late evening, and Hanni comes down the stairs into the living room where Hans is sitting. She utters:

- a. <✓, Cx²> *I ko ned schlafa.*
 I can NEG sleep

“I can’t sleep.”

b. $\langle *, Cx^2 \rangle$ I ko **fei** ned schlafa.
I can **fei** NEG sleep

“I can’t sleep.”

‘[I believe you don’t believe that] I can’t sleep.’

This data shows that whereas *fei* is compatible with a newness context, i.e. where S has clear evidence that $\neg \text{Bel}(A, p)$, whereas it is not compatible with a context which does not give S evidence that $\neg \text{Bel}(A, p)$; this is the context for a regular assertion.

5.7.2 Emphasis

Closely connected to the newness effect is the emphasis effect of *fei* reported in Merkle (2005), and anecdotally observed by several of my consultants. I show now that newness and emphasis are essentially derived the same way, but in different SAs. Newness is related to assertions, whereas emphasis is related to requests. The epistemicity matrix for emphasis is repeated from 5.5.3.

inference/effect	$t_{<U}$		t_U	
	S	A	S	A
emphasis	$\text{Bel } p \text{ and Bel } (\neg \text{Bel}(A, p))$		$\text{Bel } p \text{ and Bel } (\neg \text{Bel}(A, p))$	

Table 29: Epistemicity matrix for emphasis

The emphasis effect can be derived from the constitutive rules associated with uttering certain speech acts. Recall that an assertion, by virtue of including the preparatory condition that p , is not obviously known to A , and that S wants A to add $\text{Bel}(p)$ to Ground_A . This in and of itself has a newness effect; assertions are uttered when S thinks p is new to A . This was shown to be independent of the DPRT.

The same is the case for requests. The constitutive rules for requests include the condition that it is not obvious to both S and A that A will take the requested action without the request expressed with the utterance. In effect, uttering a request is instructing A to do the requested action in a context where there is no evidence that A would do p without being told. That is, the request is *new* to A; this is how newness and emphasis are related.

The felicitous context for the use of a request with *fei* adds the modification that according to S there IS evidence, or a reasonable assumption that A wouldn't do p without being told. This is illustrated in the next example, which is based on the premise that kids have a tendency to not always behave like perfect angels. This is of course something that their moms are particularly aware of.

- (54) Cx: When her children are saying goodbye to spend the weekend with Grandma, mom tells them:

<i>Seid-s</i>	<i>fei</i>	<i>schee brav</i>	<i>bei</i>	<i>da</i>	<i>Oma!</i>
be.2pl	fei	niece well.behaved	at	DET	Oma

When a mom reminds her kids to behave, she (S) does this under the presumption that the kids (A) didn't already have this as an instruction in their Ground_A. That is, Bel S (¬Bel (A,p)). This is how the emphatic effect of adding *fei* to the utterance in (54) can be understood.

The next example serves to further illustrate this effect. To utter a request *fei* (p) in a context where S has can reasonably assume that A would do p is odd.

- (55) Cx: Karl always closes the windows when leaving the house. His wife Christa, who is away for a few days checks in with him over the phone. She reminds him:

“Do close the window before you go, eh!”
 ‘[Confirm that [you don’t already intend to]] close the window.’

“Close the window before you go, eh!”
 ‘[Confirm that [you intend to]] close the window.’

5.7.2 Summary

We have seen in the previous section that the functional range of *fei*, expressing both newness and emphasis derive from the same contextual conditions. Both functions are an artifact of the contexts *fei* occurs in, in combination with the core contribution of the DPRT itself.

$$(56) \quad f_{DPRT,fei} = \text{fei} + \text{Cx}$$

The epistemicity matrixes for both newness and emphasis are the same and are summarized below.

$$(57) \quad fei(p) \approx \neg \mathbf{Bel}(\mathbf{A}, \mathbf{p})(\mathbf{t}_U)$$

inference/effect	t_U		t_U	
	S	A	S	A
newness	Bel (p)	\neg Bel (p)	Bel (p)	\neg Bel (p)
emphasis	Bel (p)	\neg Bel (p)	Bel (p)	\neg Bel (p)

Table 30: Functions of fei

The perceived difference between newness and emphasis arises due to the different

speech acts *fei* occurs in. Crucially, both effects are not directly encoded in the lexical entry for the DPRT. I showed that newness (assertion) and emphasis (request) obtain without the DPRT, and that *fei* is therefore not necessary to for these two functions.

5.8 DPRTs, presuppositions, and accommodation

We have seen contexts in the sections above which showed that DPRTs are compatible with shared knowledge. The question arises how DPRTs are related to accommodation then. Consider again the two DPRTs *ja* and *doch* in an example repeated from above:

(58) Cx¹: A family with two little twins is at the desk of a car rental place. They chose a compact car for rental. The clerk says:

- a. *Sie ham ja Zwilling...*
you have **ja** twins

...woin's do ned a gressa's Auto nehma?
...want.you there NEG DET bigger car take

“Since you have twins, don’t you want to take a bigger car?”

‘[I firmly believe that] you have twins, don’t you want to take to a bigger car?’

- b. *Sie ham doch Zwilling...*
you have **doch** twins

...woin's do ned a gressa's Auto nehma?
...want.you there NEG DET bigger car take

“Since you have twins, don’t you want to take a bigger car?”

‘[I believe that you believe] you have twins, don’t you want to take to a bigger car?’

c. *Sie ham Zwillling...*
 you have twins

...woin's do ned a gressa's Auto nehma?
 ...want.you there NEG DET bigger car take

“Since you have twins, don’t you want to take a bigger car?”
 ‘You have twins, don’t you want to take to a bigger car?’

It seems that DPRTs like *ja* and *doch* instruct A to accommodate p, particularly in circumstances where it is not clear that A believes p.

However, as I argued above, the DPRTs are *compatible* with this shared knowledge context, but they do not induce it. Therefore the type of ‘accommodation’ happening with DPRTs is different from what is generally referred to as accommodation. Consider the next example, which forces accommodation of p.

(59) *I have to bring my three kids to daycare*

If I uttered this sentence to a complete stranger, they could accommodate that I have three children (and that they are going to daycare). This, as was shown, is different with DPRTs. An addition of *doch* in (60), for example, does not allow A to accommodate that they already know the fact that my mom has three grandchildren in Canada; accommodation of previous knowledge of this is simply impossible for A and the use of *doch* is not possible.

(60) Cx¹: My mom tells a stranger next to her on the airplane about her regular trips to Canada:

<*, Cx¹> *I hob doch Enkel drum...*
 I have doch grandchildren over.there

...do	fliag'e	mindastens	oamoi	im	Jahr
...there	fly I	at.least	once	in.DET	year

“I have grandchildren over there, so I fly at least once a year.”
 ‘[I believe that you believe that] I have grandchildren over there, so I fly at least once a year.’

I presented a discourse condition in which S and A have to be familiar enough to share background assumptions for the felicitous use of *doch*. I called this *what can reasonably be known* (by A). Thurmair (1989) for example notes an increased use of DPRTs in informal and familiar oral language settings over formal settings; the proposal presented here, namely that DPRTs are used by a given speaker to express a certain epistemic state (either hers, or her interlocutors’), provides an explanation for the rise of DPRT use in familiar settings without introducing a presuppositional meaning component per se. Note that DPRTs are not always ill-formed in a formal setting either; whereas a speaker is not in a position to make assumptions about a stranger’s epistemic state out of the blue, she is, with evidence (either via linguistic antecedent or via actions which indicate an epistemic state) in a position to make an assumption about A’s epistemicity. That is, the discourse context (provided by Cx: form, Cx: disc, Cx: sit and Cx: world) places S in a position to make a reasonable assumption about A’s epistemic state.

The reported ‘friendliness’ effect of DPRTs (Thurmair 1989) is achieved in that DPRTs indicate to an addressee that the speaker takes her perspective and mental state into account, which is why the speaker’s contribution using a DPRT is often conceived as amiable (Weydt 2006).

5.9 Conclusion

In this Chapter I addressed the question regarding the multi-functionality of DPRTs within their DPRT function, introduced in Chapter 2. I showed that DPRTs vary in their interpretations depending on the context. Context includes the immediate discourse, the situation in which the discourse occurs, as well as the world-knowledge shared by all discourse participants.

$$(61) \quad f_{DPRT} + C_{x_{Disc, Sit, World}} \rightarrow functional\ range$$

I conducted three case studies deriving the functional range of three MB DPRTs: *ja*, *doch* and *fei*. I showed the variety of functions they fulfill is determined by their core function as DPRT, and the contribution of the discourse context they occur in. In particular, epistemicity matrices were used. These show a descriptive model of the epistemic states of the speech act participants in a specific context, and are independent of the DPRTs. The matrices show that an individual DPRT, in particular, a meaning component expressed with the DPRT may be *compatible* with certain contexts, but that the DPRT does not have to encode fine-grained contextual information itself. Furthermore, the variation in interpretation arises from the variation in the context the DPRT appears in. This compatibility was indicated by bolding the respective meaning components that are compatible. I repeat the matrices below.

$$(62) \quad ja(p) = \mathbf{Bel}(S, p)(t_u) \text{ and } \forall t > t_u : \mathbf{Bel}(S, p)(t)$$

inference/effect	$t_{<U}$		t_U	
	S	A	S	A
shared knowledge	$\mathbf{Bel}(p)$	$\mathbf{Bel}(p)$	$\mathbf{Bel}(p)$	$\mathbf{Bel}(p)$
surprise			$\mathbf{Bel}(p)$	
emphasis	$\mathbf{Bel}(p)$ and $\mathbf{Bel}(\neg \mathbf{Bel}(A, p))$		$\mathbf{Bel}(p)$ and $\mathbf{Bel}(\neg \mathbf{Bel}(A, p))$	
reason	$\mathbf{Bel}(p_i)$ and $\mathbf{Bel}(p_i)$		$\mathbf{Bel}(p_i)$	
assertion	$\mathbf{Bel}(p)$		$\mathbf{Bel}(p)$	

Table 31: The functions of *ja*

$$(63) \quad doch(p) = \mathbf{Bel}(A, p)(t_u)$$

inference/effect	$t_{<U}$		t_U	
	S	A	S	A
contrast	$\mathbf{Bel}(\neg p)$	$\mathbf{Bel}(p)$	$\mathbf{Bel}(\neg p)$	$\mathbf{Bel}(p)$
reminding	$\mathbf{Bel}(p)$	$\neg \mathbf{Bel}(p)$ OR --	$\mathbf{Bel}(p)$	$\mathbf{Bel}(p)$
backchecking	$\mathbf{Bel}(p)$	$\mathbf{Bel}(p)$	$\mathbf{Bel}(p)$ and p true?	$\mathbf{Bel}(p)$
shared knowledge	$\mathbf{Bel}(p)$	$\mathbf{Bel}(p)$	$\mathbf{Bel}(p)$	$\mathbf{Bel}(p)$

Table 32: Functions of *doch*

$$(64) \quad fei(p) \approx \neg \mathbf{Bel}(A, p)(t_u)$$

inference/effect	$t_{<U}$		t_U	
	S	A	S	A
newness	$\mathbf{Bel}(p)$	$\neg \mathbf{Bel}(p)$	$\mathbf{Bel}(p)$	$\neg \mathbf{Bel}(p)$
emphasis	$\mathbf{Bel}(p)$	$\neg \mathbf{Bel}(p)$	$\mathbf{Bel}(p)$	$\neg \mathbf{Bel}(p)$

Table 33: Functions of *fei*

The discussion in this chapter addresses one of the core properties of DPRTs introduced in 2.2.1, showing how the multi-functionality derives from contextual factors. I also briefly addressed whether DPRTs can be considered presuppositional in the sense of Stalnaker (1978, 2002). First of, as already shown in the previous chapter, not all DPRTs make reference to shared beliefs in the CG, and in that way

cannot be considered presuppositional. Any presupposition arising from an utterance is independent of the DPRT. In cases where DPRTs make reference to A belief, I showed that they do not allow A to accommodate S's belief about A.

Chapter 6: The syntax of discourse particles

6.1 Introduction

Thus far, I have established that the DPRTs I investigated can be divided into three basic classes: A-oriented, S-oriented and O-oriented. I showed for a subset of these particles that their functional range can be derived from their core meaning in interaction with their context of use.

The purpose of this chapter is to show that orientations too can be derived, however in different ways. In particular, I argue that orientations are syntactically conditioned.

I start by ruling out a hypothesis according to which these orientations are lexically encoded. I refer to this hypothesis as the *lexical hypothesis* and discuss it in section 6.2. I show that the lexical hypothesis faces a variety of problems. I contrast this approach with the *syntactic hypothesis* according to which the orientations are syntactically conditioned (section 6.3). These two competing analysis are summarized below.

(1) Two hypotheses to account for DPRT orientations

a. **Hypothesis 1 -lexical hypothesis:**

difference in function is due to difference in UoLs

$$\begin{array}{l} \text{UoL}^1 : f^1 \\ \text{UoL}^2 : f^2 \\ \text{UoL}^3 : f^3 \end{array}$$

b. **Hypothesis 2 -syntactic hypothesis:**

difference in function is due to the syntactic context

$$\begin{aligned}f^1 &= \text{UoL} + \text{Cx}_{\text{SYN}}^1 \\f^2 &= \text{UoL} + \text{Cx}_{\text{SYN}}^2 \\f^3 &= \text{UoL} + \text{Cx}_{\text{SYN}}^3\end{aligned}$$

Given the relevance of DPRTs to speech acts, and due to their sensitivity to the epistemic states of the speech act participants, I frame this discussion within current theories of the syntax of speech acts and speech act structure. I show that the Universal Spine Hypothesis, introduced in Chapter 1, serves as an ideal model to capture the findings. I adopt existing proposals to extend the Universal Spine, and show that DPRT functions can be modeled with an Extended Universal Spine.

I show several pieces of evidence in support of the syntactic hypothesis, in 6.4, 6.5 and 6.6. These come from the obligatoriness of DPRTs in certain contexts, the co-occurrence patterns of DPRTs, scopal interactions with other particles (confirmational), speech act adverbs and speaker oriented adverbs, as well as accent on DPRTs. In 6.7 I hypothesize about the peculiar syntactic integration of DPRTs, and 6.8 summarizes

6.2 Lexical hypothesis

How shall we account for the DPRT orientations established in Chapter 4? According to the *lexical hypothesis*, S-, A-, and O-orientations are lexically encoded in each DPRT, i.e., they form an intrinsic part of their lexical entries as in (2).

- (2) **Hypothesis 1 -lexical hypothesis:**
 difference in function is due to difference in UoLs

$$\begin{array}{l} \text{UoL}^1 : f^1 \\ \text{UoL}^2 : f^2 \\ \text{UoL}^3 : f^3 \end{array}$$

This type of lexical approach seems to be widely adopted by the majority of DPRT researchers. Most take DPRTs to be lexically specified to encode their contribution, as different from other functions (e.g. Helbig 1988, Thurmair 1989). Some take their semantic specification to be encoded (e.g. Grosz 2010), others take clause-type compatibility to be a syntactic feature specification (Bayer and Obenauer 2011). In this section, I review three problems that arise under the assumption that DPRTs are (semantically or syntactically) inherently lexically specified in this way.

6.2.1 Problem #1: Clause type restrictions are not feature specification

As we have seen, not every DPRT is compatible with every clause type (e.g. Bayer 2008, Bayer and Obenauer 2011, Coniglio and Zegrean 2012). Clause type restrictions are often analyzed as being lexically encoded clause type features on the DPRT. For example, Bayer and Obenauer (2011) assume that the SG DPRT *denn* does not only encode S concern via a dedicated feature [+conc], but that it is also associated with an uninterpretable feature that restricts it to interrogatives ([*uQForce*]). The lexical entry they assume for *denn* is given in (3).

- (3) *denn* [+conc, *uQForce*]

Following this type of analysis, one could specify the varying orientations of the DPRTs under investigation here as well. For example, we could posit that *ja* is

lexically specified for S attitude whereas *fei* and *doch* are lexically specified for A attitude.⁸³ In addition, a specific force feature, such as [*u* xForce], akin to (3), could be made responsible for the clause type restriction we observe with these particles. Hence, we could associated *ja*, *fei*, and *doch* with the lexical entries in (4), respectively.

- (4)
- | | |
|-------------|-----------------------|
| <i>ja</i> | [+S, <i>u</i> xForce] |
| <i>fei</i> | [+A, <i>u</i> xForce] |
| <i>doch</i> | [+A, <i>u</i> xForce] |

However, the postulation of a force feature raises two questions. First, it presupposes that the illocutionary force of a sentence is syntactically encoded (Rizzi 1997). I do not adopt such an approach to clause typing and illocutionary force assignment here. This is because, as we have seen in Chapter 3, clause type and illocutionary force are independent of each other. Hence the syntactic encoding of illocutionary force cannot be as simple as positing a feature. It would fail to recognize that the form of a clause (its clause-type) is in part independent of its function, i.e. its illocutionary force (cf. Allan 2006, Portner 2004, Zanuttini and Portner 2003). Secondly, each of the DPRTs we have explored was shown to be compatible with a variety of clause types, and with a variety of illocutionary forces (cf. Chapter 4). To see this, consider again *doch*. It can be used with declaratives with assertive force, as well with imperatives. It can, however, not occur with declaratives with question force (triggered by rising intonation).

⁸³ I keep the hypothetical lexical specifications very basic for exposition purposes

- (5)
- | | | | | | | |
|------|-------------|------------|--------------------|------------|---|----------------------------------|
| a. ✓ | <i>Des</i> | <i>is</i> | <i>doch</i> | <i>auf</i> | \ | Declarative with assertion force |
| | DET | is | <i>doch</i> | open | | |
| b. * | <i>Des</i> | <i>is</i> | <i>doch</i> | <i>auf</i> | / | Declarative with question force |
| | DET | is | <i>doch</i> | open | | |
| c. ✓ | <i>Mach</i> | <i>des</i> | <i>doch</i> | <i>auf</i> | \ | Imperative with directive force |
| | make | DET | <i>doch</i> | open | | |

This pattern suggests that *doch* is sensitive to illocutionary force rather than clause-type: it is restricted to directives and assertions. If *doch* were lexically specified, it would have to include features for both directive and assertive force in its lexical entry ([*u* assertive, *u* directive]. Observe, however, that *doch* cannot occur in directives that are based on V1 clauses (6b), or on directives based on V2 clauses (6d).

- (6)
- | | | | | | |
|------|--------------------|---------------|--------------------|--------------------|--------------------|
| a. | <i>Machst</i> | <i>des</i> | <i>auf</i> | \ | |
| | make.you | DET | open | | |
| | “(You) open this!” | | | | |
| b. * | <i>Machst</i> | <i>des</i> | <i>doch</i> | <i>auf</i> | \ |
| | make.you | DET | <i>doch</i> | open | |
| c. | <i>Du</i> | <i>machst</i> | <i>des</i> | <i>(gfälligst)</i> | <i>auf</i> |
| | you | make.you | DET | (kindly) | open |
| | “(You) open this!” | | | | |
| d. * | <i>Du</i> | <i>machst</i> | <i>des</i> | <i>doch</i> | <i>(gfälligst)</i> |
| | you | make.you | DET | <i>doch</i> | (kindly) |
| | | | | | <i>auf</i> |
| | | | | | open |
| | “(You) open this!” | | | | |

This shows that sensitivity to illocutionary force is not the right way to characterize the clause type restriction of *doch* (Thurmair 1993); hence a feature specification for

illocutionary force can also not be on the right track (cf. Struckmeier 2014).

6.2.2 Problem #2: DPRTs are multifunctional

As we have seen, one of the properties of DPRTs that has been widely observed is their pervasive in terms of their categorial status. As in other German varieties, most MB DPRTs have homonyms with other functions, such as discourse markers (*ja, eh*) scalar particles (*bloß*), affirmative particles (*ja, doch*), conjunctions (*aber*), adverbs (*dann, jetzt, scho*) and adjectives (*ruhig*) (e.g. Abraham 1991, Thurmair 1989, Weydt 1969). The notable exceptions are the DPRTs *fei* and *hoid (halt)*, which exclusively have DPRT function (cf. Kwon 2005 for *halt*). The various functions of the DPRTs discussed here were introduced in Chapter 3, and are repeated here for convenience; they range from response particle, to conjunction, adverb and discourse marker.

DPRT	Response particle	Conjunction	Adverb	Discourse marker
ja	✓	✗	✗	✓
doch	✓	✗	✗	✓
fei	✗	✗	✗	✗
eh	✓	✓ (rare)	✗	✗
jetz	✗	✗	✓	✓

Table 34: DPRT multi-functionality

The DPRT function of these UoLs is assumed to diachronically derive from these other functions (e.g. Abraham 1995, 2000; Kwon 2005, Thurmair 1989), via the process of grammaticalization (Lehmann 1995, Traugott 1995, cf. Abraham 1991, 1995) (see Chapter 7 for a discussion of grammaticalization). DPRTs are thus considered diachronically related to their other counterparts. Yet synchronically they are assumed to be lexically specified in different ways. This amounts to saying that there are different lexical entries for these UOLs, depending on their functions.

The pervasiveness of the multi-functionality of DPRTs begs the question however, as to whether multiple lexical entries are really the most economical way to model it. To admit between two and four different lexical entries for every item that also serves as a DPRT would force us to assume a model of the lexicon, which routinely admits multiple lexical entries. Particles like *ja* and *doch* would need minimally three lexical entries, each defined for their specific function.

- (7) ja^1 : DPRT
 ja^2 : response particle
 ja^3 : discourse marker

Furthermore, the pervasiveness of multi-functionality also tells us that we need a model that predicts it, rather than one that can simply deal with it by brute force. Consider in this context the following quote from Leiss (2005: 233) (via Wiltschko 2014):

“Before research into grammaticalization was established, morphemes with identical form were preferably classified as homonyms rather than as motivated polysemy. What was striking about this method is that the postulation of homonymy did not have to be justified whereas postulation of polysemy was not easily accepted. Polysemy not only had to appear plausible, but it had to be proven. In contrast, postulation of homonymy was acceptable even if it was implausible and counter-intuitive. Thus in older works on word formation, one can regularly find claims according to which propositions and form-identical verbal prefixes are homonyms. Such claims were never regarded as unscientific, to the contrary. They were – and still are – considered as an indication of methodical precaution. Many are not aware of this biased burden of proof. It

can be made explicit if we turn the burden of proof around in a thought experiment. Nobody seems to consider this possibility. The reversal of the burden of proof would mean that from now on postulation of homonymy will have to be proven, whereas postulation of polysemy would be considered as an indication of methodical precaution. Current methodology is different: researchers dealing with grammaticalization consider it their task to prove the motivation for polysemy. In contrast, there is no research agenda, which considers it necessary to prove and explain postulated homophony. But the cross-linguistic frequency of homophony requires an explanation. Why is the rich potential for symbolization not utilized? Why do the same forms of inflectional and derivational morphemes recur in different functions? When specific questions are not asked it is an indication that something is axiomatically excluded. What is the axiom, which would conflict with this reversal in the burden of proof the most? It is the axiom of the arbitrariness of linguistic signs.”

(Leiss 2005: 233, translation by Martina Wiltschko)

Recall that I argued in Chapter 5 that the functional range of individual discourse particles is derivable from context; the functional range of a single particle is the multi-functionality problem (polysemy in Leiss’ terms), in a different guise. Considered on a macro-level, multi-functionality can also be derived (cf. Wiltschko 2014). Assuming Wiltschko’s (2014) Universal Spine Hypothesis, which I will introduce in 6.3, allows us to derive multi-functionality as opposed to postulating homonymy; I will therefore adopt this model, and show in 6.4 how the multi-functionality of DPRTs and their S-, A-, and O-orientations are yet another

instantiation of the general idea that the function of a particular form derives from the UoL and the context it appears in ($f = UoL + Cx$).

6.2.3 Problem #3: Orientation correlates with context

A third problem with the lexical hypothesis has to do with the way attitude is expressed.

Expression of S's epistemic state is one of the most common descriptive functions cited for DPRTs (Weydt, 1969 a.o.). Speakers use them to "comment on the status of the information carried by their hosts" (Kaufmann and Kaufmann 2012:209). I showed in Chapter 4 that besides expressing S's epistemicity with regard to the host utterance, DPRTs can also be used to convey S's assessment about the beliefs of A (cf. Zimmermann 2011), as well as express some other participants' belief. The expression of attitude is not unique to DPRTs, however. For example, attitude is also encoded in S(peaker)-oriented adverbs such as *ehrlich* (honestly), *natürlich* ('naturally'), and epistemic adverbs such as *angeblich* (reportedly), *anscheinend* ('seemingly') (Ernst 2009, Frey and Pittner 1998, cf. Krifka 2013, Ross, 1970). The speaker attitude encoded in these adverbs is often assumed to be part of their lexical entry.

If DPRTs encode attitude lexically, as do S-oriented adverbs, we would predict that S-attitude is *always* interpreted as part of the lexical entry, independent of its distribution. If on the other hand S-attitude is conditioned by a particular syntactic context, we expect that S-attitude is dependent on distribution. I show here that DPRTs differ from S-oriented adverbs in that S-adverbs still have their S-oriented meaning when they occur in SpecCP, while DPRTs like *fei* and *ja* either cannot occur in SpecCP at all, or they lose their DPRT interpretation in this context. This is

illustrated with the examples below, which show that the S-adverb *wahrscheinlich* ‘probably’ can occur in SpecC (8b), whereas *fei* and *ja* cannot. Mono-functional *fei* is banned (8d), whereas multifunctional *ja* receives a different function (different from f_{DPRT}) (8f). Only with a specific distribution *ja* has f_{DPRT} (8e).

- (8)
- a. *Ea* _C | *is* ***wahrscheinlich*** *scho* *do*
 he is probably already there
 “He’s probably already there.”
- b. ***Wahrscheinlich*** _C | *is*’a *scho* *do*
 probably is.he already there
 “He’s probably already there.”
- c. *Ea* _C | *is* ***fei*** *scho* *da*
 he is fei already there
 “He’s already there.”
 ‘[I believe that you don’t believe that] he is already there.’
- d. ****Fei*** _C | *is a scho do*
- e. *Ea* _C | *is* ***ja*** *scho* *do*.
 he is ja already there
 “He’s already there.”
 ‘[I believe that] he is already there.’
- f. <*, f_{DPRT} > ***ja*** _C | *is a* *scho* *do*
 ja is.he already there
 “Well, so he’s already here!”

Furthermore, some DPRTs, which I classified as O-oriented, can shift their orientation, in that they are permissible in Cx: form that establishes both S and A commitments, or the commitment of a third person participant to p (e.g. in embedded contexts). This orientation shift then is conditioned by syntactic context: it occurs in certain embedded clauses (Döring 2013) as well as some clause types (cf.

Zimmermann, 2004 for *wohl*). The shifting behavior of O-oriented DPRTs as evidenced by its indiscriminate distribution across S-, A- and O-commitment contexts, is illustrated below based on *jetz*. (9a) shows *jetz* in an embedded context, where the subject is coindexed with S. (9b) shows *jetz* in an embedded context where the subject is coindexed with a third person. (9c) shows *jetz* in a matrix declarative assertion, which by virtue of the Cx: form allows for S and A orientation, whereas (9d) shows *jetz* in a polar interrogative question, committing A to p.

- (9) a. *I glab dass 'ma **jetz** moang east fahrn.*
 I believe that. We **jetzt** tomorrow first drive
 ‘I believe that ‘[it is salient now that] we’re leaving tomorrow.’
- b. *Sie glib dass' **jetz** moang east fahrn*
 she believes that. They **jetzt** tomorrow first drive
 ‘She believes that ‘[it is salient now that] they’re leaving tomorrow.’
- c. *Mia fahrn **jetz** moang east.*
 We drive **jetzt** tomorrow first
 ‘[It is salient now that] we’re leaving tomorrow.’
- d. *Fahr 'ma **jetz** moang east?*
 drive. We **jetzt** tomorrow first
 ‘Are we driving tomorrow [is salient now]’

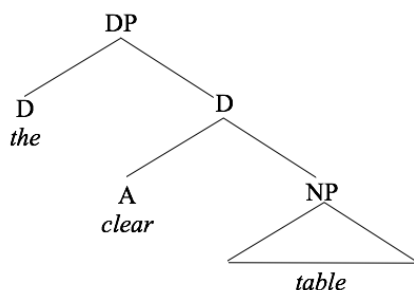
If DPRTs were to lexically encode their contribution with respect to orientation, we would not expect them to be able to shift their orientation, and occur in contexts that express different participants’ commitments the way *jetz* does.

6.2.4 Summary

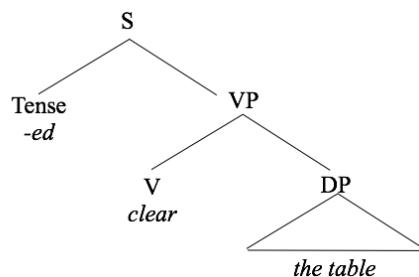
In this subsection, I showed three problems with assuming a lexical hypothesis for the orientations of DPRT.⁸⁴ First, clause-type restrictions cannot be accounted for under the hypothesis that DPRTs have some feature specification for illocutionary force, or for clause type. Secondly, the multi-functionality of DPRTs on the micro level (functional range) was shown to be derivable from assuming a core UoL, as argued in Chapter 5. I propose that it can be approached in the same way on the macro level (multi-functionality with respect to orientations). Third, assuming that DPRTs lexically encode attitude poses a puzzle for their distributional restriction: they only encode attitude if they appear following the finite verb. If DPRT encoded this attitude/orientation lexically, as do S-oriented adverbs, it would be predicted that

⁸⁴ As mentioned previously, although I show some aspects of the multi-functionality across categories of DPRTs, I cannot deal in detail with this aspect here. The focus here is on DPRT orientation, and how the three orientations can be derived from syntax. However, I assume that multi-functionality across categories can be derived via syntax as well. Consider the following example from Wilschko and Heim (2016) taken from the original insight in Hale and Keyser (2002); in adjectival position, the word *clear* denotes a state (ia), while in verbal position, it denotes an event (ib).

(i) a.



b.



(Wilschko and Heim 2016)

DPRT multi-functionality across categories can be derived in a similar fashion, but will have to await more detailed analysis in the future.

attitude is available as interpretation regardless of distribution. This was shown not to be the case.

I now turn to an alternative hypothesis, the syntactic hypothesis.

6.3 Syntactic hypothesis

As an alternative to the *lexical hypothesis* we could assume that the distinct orientations are not intrinsic to the DPRTs, but that they arise due to some other property. In what follows I argue that DPRT orientation, and in fact many of the general properties of DPRTs discussed in Chapter 2, fall out if DPRTs are analyzed as a grammatical category in Wiltschko's (2014) terms (cf. Diewald 2013, Meibauer 1994, Struckmeier 2014). That is, according to the *syntactic hypothesis* the function of a DPRT derives from the UoL in interaction with the syntactic context. I argue that different orientations reflection differences in syntactic contexts (Cx_{SYN}).

To develop this syntactic analysis of DPRTs, I adopt the **Universal Spine Hypothesis** (Wiltschko, 2014) (introduced in 6.3.1). In particular, following Wiltschko's (2014), I assume that the Universal Spine provides dedicated positions, which UoLs associate with. In order to capture the various DPRT orientations established in Chapter 4, I argue for an extension of the Universal Spine to include speech act structure. I further argue that S- and A-oriented DPRTs associate with the ground layer in the extended spine (introduced in 6.3.2), whereas O-oriented DPRTs associate with C. This is based on Wiltscho's diagnostic, which takes the function of a specific lexical item (her UoL) as a valid diagnostic for its structural position. This is summarized in (10).

$$(10) \quad f_{A-orientation} = UoL + Cx:Ground_A$$

$$f_{S-orientation} = UoL + Cx:Ground_S$$

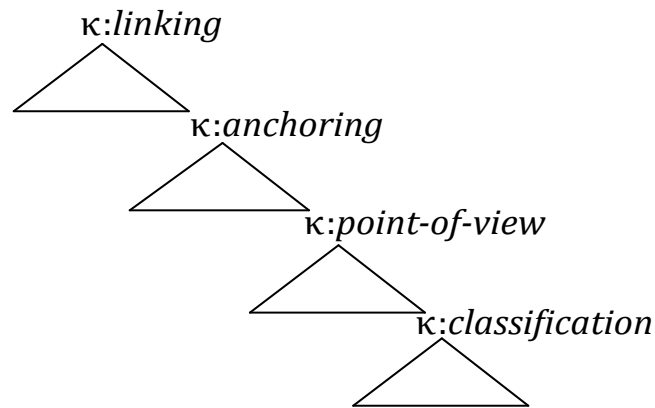
$$f_{O-orientation} = UoL + Cx:CP$$

6.3.1 The Universal spine hypothesis

In what follows I adopt the **Universal Spine Hypothesis** developed by Wiltschko (2014). This syntactic model provides a framework that allows for a principled account for multi-functionality. Whereas Wiltschko shows how it accounts for the multi-functionality of a small set of UoLs (e.g. indexical and “fake” indexical use of pronouns) its empirical domain in principle covers all multi-functionality, e.g. English ‘that’ as complementizer and as demonstrative pronoun. I use it here to account for DPRT multi-functionality.

The Universal Spine, as the name suggests, recognizes a universal syntactic spine, which consists of a series of hierarchically organized, functional categories κ . Each of these functional categories κ fulfills intrinsic abstract grammatical functions, such as *linking*, *anchoring*, introducing a *point of view* and *classifying*. Whereas these specific functions do not play a part in the analysis proposed here, I propose that the grounding function (not part of Wiltschko’s 2014 proposal) does play a role. The abstract functions of the spine are based on general cognitive functions (Ramchand and Svenonius 2014). At the same time this model captures the long observed parallelism between the nominal and verbal domains in that the functions are intrinsically category-neutral but can be instantiated by nominal and verbal categories.

(11) The Universal Spine and its abstract functions



Wiltschko (2014) argues that the interpretation of a particular form (the UoL) is affected by the functional category κ it associates with.⁸⁵ That is, a form with one function f_1 is the result of that form associating with κ_1 , whereas a form with another function f_2 is the result of that form associating with κ_2 .

Hence the relation between a form and meaning is not direct. Syntax, i.e., the Universal Spine mediates this relation. Under this model, a category c is seen as language specific, due to the variation in the substantive content of the UoL that associates with a specific κ in the Universal Spine (Ritter and Wiltschko 2014). Crucially, the USH states that UoLs are not intrinsically (i.e. lexically) specified for categorial information; categorial identity c is derived via syntactic association with the categorizer κ . *Associate* is a technical term in Wiltschko's (2014) framework. She identifies three parameters that define the association relation:

⁸⁵ κ here is understood as a universal categorizing meta-variable over more traditional category labels like IP, CP, etc.

- (i) **Manner of association:** *the way* a UoL associates with these projections (as a head or as modifier)
- (ii) **Place of association:** *where* a UoL associates with a given functional category ($\kappa_1, \kappa_2, \dots$)
- (iii) **Time of association:** *at what time* a UoL associates with the spine (early or late in the syntactic computation)

Whereas all languages are thought to associate UoLs with the fixed set of functional projections in (11), the cross-linguistic variation we can find is due to these three factors.

The second property in particular provides a crucial piece of the puzzle for DPRT analysis. Varying places of association in the spine result in a different interpretation for a given UoL, precisely because κ affects interpretation. The intrinsic function of the spine influences the function of the resulting item c . In this way, the universal spine hypothesis provides us with a principled approach to multi-functionality across categories, as illustrated in Figure 14.

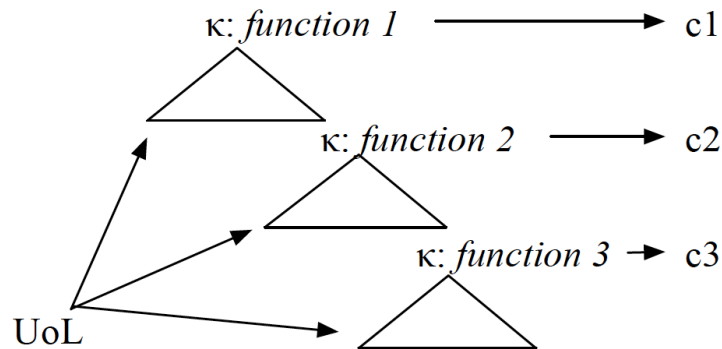


Figure 14: Categorical identity is derived from place of association in the spine

The dissociation of a given UoL from specified function, with function contributed

via the spine, provides a diagnostic for the absolute position of a given UoL in the spine. That is, the place of association can be diagnosed by identifying the function of a UoL, which is independent of its core content (its sound π and its core meaning Σ). In this way, the Universal Spine Hypothesis uses **function as a heuristic** to identify the absolute position of a particular UoL.

6.3.2 Extending the spine

I showed in the previous chapters that DPRTs are intricately tied to the epistemic states of the speech act participants, and are sensitive to the discourse commitments and beliefs expressed in the speech act associated with their host utterance. I therefore will frame this discussion within current theories of the syntax of speech acts and speech act structure. In the following, I introduce an extension of the USH. This, as I show, does not only provide an explanation for the DPRT orientations but also for co-occurrence and ordering restrictions among DPRTs, as well as scope facts. Assuming a syntactic analysis furthermore provides an explanation for the observation that DPRTs are obligatory when used in specific discourse contexts, e.g. for allowing formally subordinated clauses to stand as independent utterances within a discourse context, i.e. as insubordinates (Thurmair, 1989). Obligatoriness is a property expected from grammatical items that interact with syntax; this indicates that DPRTs are an integral part of grammar, and that they belong into the realm of syntax (cf. Diewald 2006).

I start by summarizing previous approaches that advocate for the syntacticization of speech acts, and by reviewing the motivations behind the proposal to extend the clausal syntax to include a speech act layer. Then, based on this, I introduce an

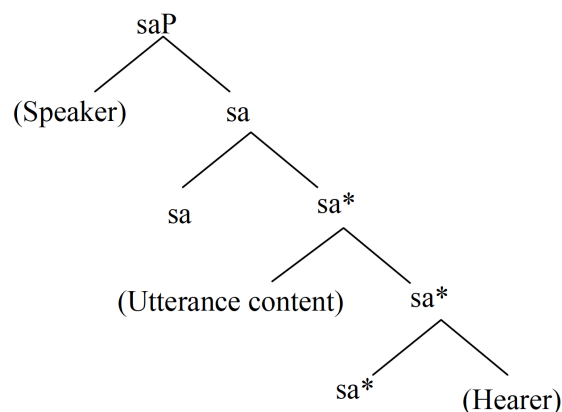
extension of the universal spine.

According to Ross' (1970) every matrix clause is embedded in another, higher clause, which serves to encode the speech act. This is known as the performative hypothesis: even assertions are performative because they are embedded under a speech act phrase, which hosts a whole speech act clause. The latter is interpreted as "*I'm telling you that -p*" but unlike *p*, it is not pronounced. It undergoes deletion as in (12).

(12) [SA phrase ~~I am telling you that~~ [proposition Marinus is going to preschool]]

Based on Ross' (1970) performative hypothesis, Speas and Tenny (2003) (henceforth S&T) propose the existence of three pragmatic roles representing the SA participants speaker (S), addressee (A), and seat of knowledge (my O, and the same as ERP). Crucially, S&T argue in detail for the syntactic representation of all three roles in the left clausal periphery. S&T propose a basic predicative 'Speech Act Phrase' (*sap*), which relates the utterance content to Speaker or Addressee (their Hearer).

(13) Speas and Tenny (2003:320)



Since their seminal work, many authors have revisited Ross' performative hypothesis, or a version of S&T to account for a variety of discourse related phenomena, (e.g. Sigurdsson 2004, Speas 2004, Hill 2007, Giorgi 2010, Zu 2013, Haegeman and Hill 2013, Haegeman 2014, Thoma 2014, Lam 2014, Heim et al 2016, Wiltschko and Heim, 2016, a.o.). Whereas differing in details and implementation, all argue that certain types of contextual information that is related to the discourse participants is syntactically represented in dedicated functional heads in the clausal spine.

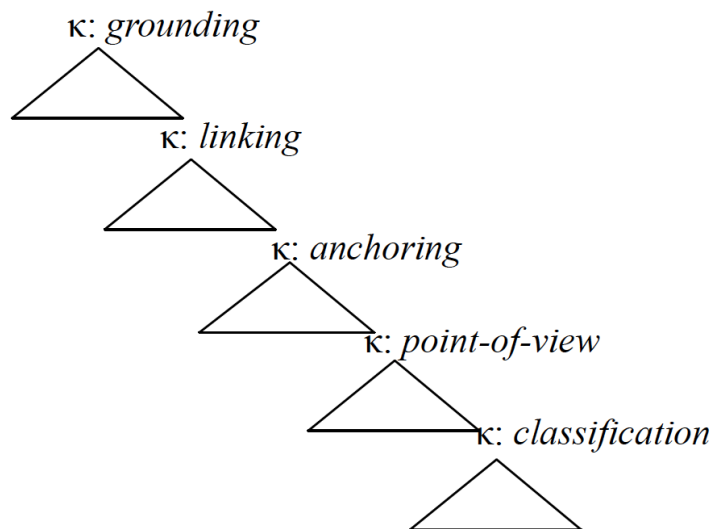
Sigurdsson (2004), for example, considers S (his 'logophoric agent') and A (his 'logophoric patient') to be syntactic arguments of the speech event. Thus speech act roles receive a parallel treatment to thematic roles, which are arguments of verbal predicates (as in S&T). Whereas vP, the event domain, relates the event to the event participants, the speech act phrase relates the utterance (the speech event) to the discourse participants.

The syntactic representation of S has also independently been proposed to be responsible for phenomena such as tense ordering (Giorgi 2010) and long distance anaphor binding (Giorgi and Pianesi 2005, cf. Bianchi 2003).⁸⁶ A has also been proposed as an independently represented discourse entity in syntax. Evidence from e.g. vocatives (Moro 2003, Hill 2007), allocutive agreement in Basque (Miyagawa 2012) or Jingpo (Zu 2013), and from imperatives (Isac 2012, Zanuttini 2008), suggests that features of the addressee must be checked above what is considered the top layer of the left periphery (Rizzi 1997 ForceP). Based on evidence from Romanian and West Flemish sentence final particles, Haegeman and Hill (2013) also adopt S&T's extended speech act structure in (13).

⁸⁶ As we will see immediately below, S in Giorgi's (2010) sense is encoded in C. It is the O in my terms, the seat of knowledge in S&T's terms, and provides the reference point for O oriented DPRTs.

The analysis for DPRTs I develop here builds on the core insight the performative hypothesis. I assume, following Burton et al. (2012) and Wiltschko and Heim (2016), that the Universal Spine extends to include a layer dedicated to the discourse. It contains a representation of the speech act participants S and A; not as a direct representation however, but by proxy of their ground (Ground_S and Ground_A , see 5.3) (Haegeman and Hill 2013, Zhu 2014, Tang 2014, Lam et al. 2012, Heim et al. 2016, Lam, 2014, Heim et al 2016, and Wiltschko and Heim 2016). The highest layer in (14) is responsible for encoding discourse-sensitive notions such as S commitment and A commitment. Thus its core spinal function is *grounding* in the sense of Clark and Brennan (1991) and is therefore referred to as the ***grounding layer*** (GroundP).

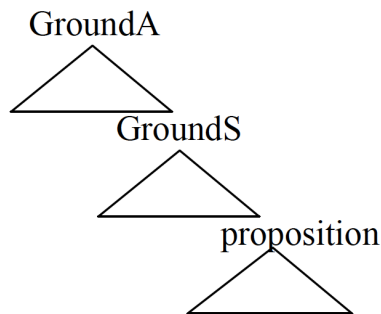
(14) The Extended Universal Spine



This analysis captures the insight that utterances are *grounded* via (moves of) the discourse participants S and A (cf. Clark 1985, Clark and Brennan 1991). It is also based on the fact that speech-act/discourse participants play a vital role in the

construction of the CG. Recall that the CG refers to the set of publicly shared commitments and beliefs of the discourse participants (Stalnaker 2002). This crucially involves S and A and their beliefs. Recall that I adopt a framework, which takes CG as a *construct*, as the intersection of public S beliefs (S's commitments), represented as $\text{Bel}(S,p)$ and public A beliefs (A's commitments) represented as $\text{Bel}(A,p)$. If this is the case, we have to assume that GroundP should be split into the individualized projections Ground_A and Ground_S (see 5.3).

- (15) GroundP is divided into speaker and addressee grounds

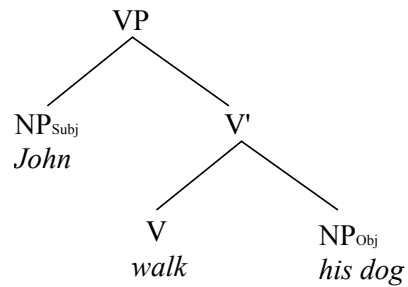


Grounding, then, is related to how speech acts participants relate to the propositional content expressed in an utterance. The grounding layer extends a clause, and allows for the contextualization of that clause.

Note that it is sometimes assumed that pragmatic markers are outside the clause proper (e.g. Ghomeshi 2013). However, it is not immediately clear what it would mean to be “outside the clause”. In particular, the notion of a *clause* does not have a straightforward definition in the first place (see Wiltschko and Heim 2016 for discussion). Minimally, a clause consists of a subject and a predicate. Under the VP-

internal subject hypothesis (Koopman and Sportiche, 1991), this criterion would be fulfilled by VPs, which define a small clause as in (16).

(16) I saw [**John walk his dog**]



(from Wiltschko and Heim 2016)

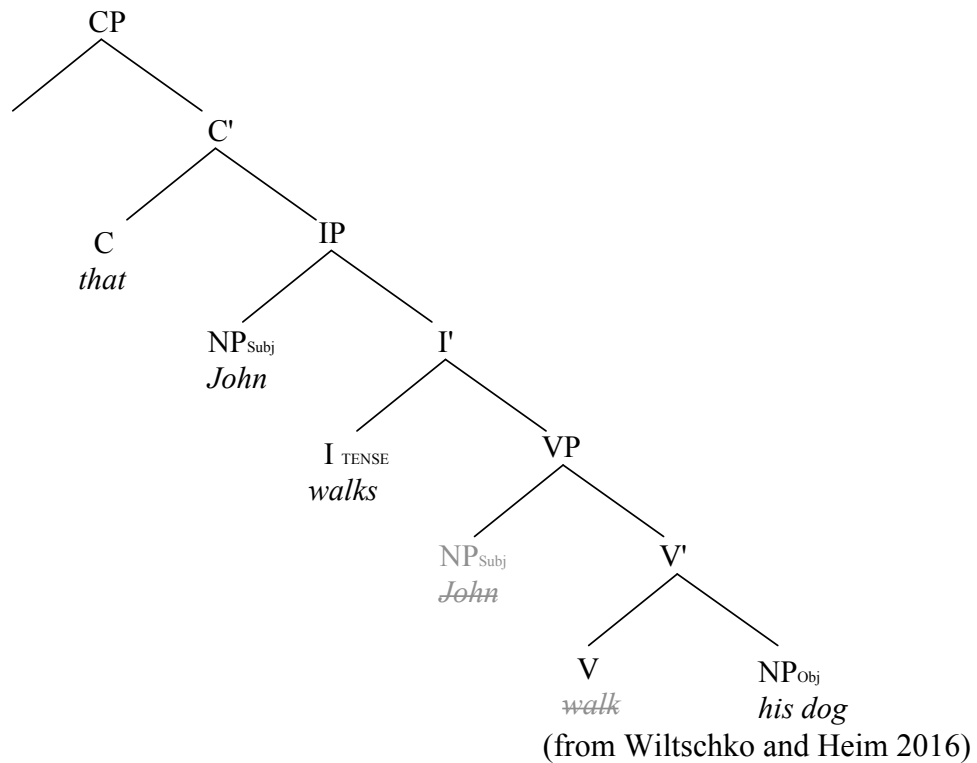
In order to occur as an independent matrix clause, in English, a small clause must be augmented with tense and agreement as shown in (17). In addition, in English, many embedded clauses require a complementizer (as in 17d).

(17) Independent clause:

- a. **John walk his dog*
- b. John **walks** his dog

Embedded clause:

- c. I regret *[*John walks his dog*]
- d. I regret [**that** *John walks his dog*]



Hence, the notion of a clause can be defined as the maximal projection of the **highest functional category associated with** a small clause. Within a discourse context, this has to include a speaker S and addressee A, and this highest functional category is GroundP. That is, the linguistic context determines the size of a “sentence”, and the form of a sentence may change in the context of a conversation. What this amounts to saying is that a clause can differ in size depending on the context. Hence, not all clauses will contain GroundP in the same way, as not all clauses contain CP or IP.

With this assumption in place, we arrive at the final articulation of the universal spine as the extended spine, its associated abstract functions, as well as the syntactic domains of those functions in figure 15 below.

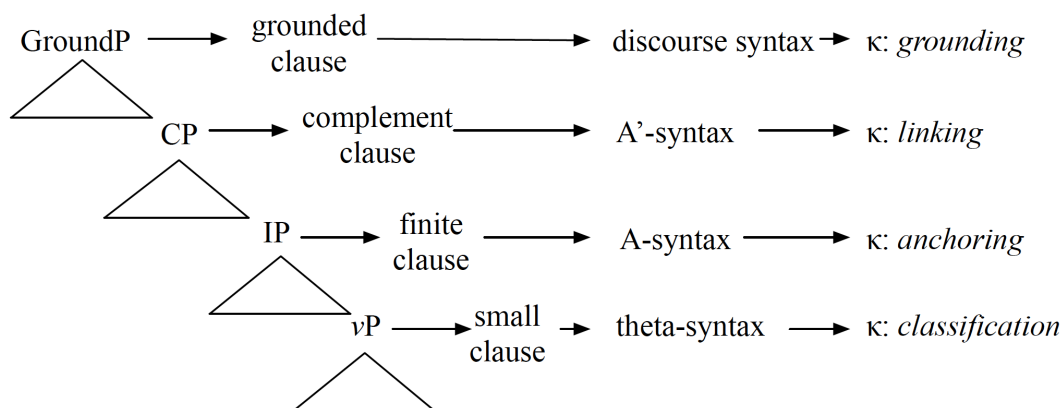


Figure 15: The extended spine, associated domains and abstract functions

In the next section I show several pieces of evidence in support of the syntactic representation of S and A in syntax. I begin with evidence from syntactic agreement with the discourse participants S and A. Data from Thai, Basque, Jingpo and MB serve to corroborate this proposal.

6.3.2.1 Evidence from agreement

The data presented below show independent evidence for the syntactic representation of S and A. A first piece of evidence comes from Thai agreement morphology, which is conditioned by the sex of the discourse participants. Thai S agreement depends on whether a female or a male S utters the sentence, as observed by Miyagawa (2012).

(18) Thai S agreement

- a. *Khaw maa khráp.*
 he come spkr =male

“He is coming.” (uttered by a male speaker)

- b. *Khaw maa kâ.*
 he come spkr=female

“He is coming.” (uttered by a female speaker)

(from Oyharçabal (1993) presented in Miyagawa (2012): ex 5)

Jingpo also offers evidence for the syntactic representation of S; it displays S agreement as well as subject agreement (Zu 2013).⁸⁷

(19) Subject vs. speaker agreement in Jingpo

- a. *Jongma du hkum m̥s-s-āi*
student arrive complete 3PL-COS-DECL
“The students have all arrived.” (Subject agreement, neutral)

- b. *Jongma du hkum s̥-k̥ʔ -ai*
student arrive complete 1PL-COS-DECL
“The students have all arrived.” (Speaker agreement, bonding)

Basque shows A-agreement; depending on the sex of A, a different agreement morpheme is used (Oyharçabal 1993).

(20) Basque A agreement

- a. *Pettek lan egin dik*
Peter work do.PRF aux-2MASC
“Peter worked.” (said to male friend)
- b. *Pettek lan egin din*
Peter work do.PRF aux-2FEM
“Peter worked.” (said to female friend)

(Oyharçabal 1993)

⁸⁷ Zhu (2014) argues that S agreement expresses a ‘bonding’ tone and makes the utterance more familiar, whereas subject agreement keeps the utterance neutral.

The following data from MB corroborate the existence of a head that contains information about the discourse participant A. I show evidence from allocutive agreement, i.e. agreement with A on the confirmational *gä* (cf. Wiltschko and Heim 2016, for the same phenomenon in an Austrian Bavarian variety, cf. Haegeman and Hill 2013 for Romanian). Wiltschko and Heim (2016) argue that with the use of the Austrian Bavarian equivalent *geu*, S requests from A confirmation that the content p expressed in the host utterance is true. The data here shows that the confirmational can carry agreement with A, based on familiarity among the interlocutors.

(21) Allocutive agreement in MB based on familiarity/politeness

- | | | | | |
|----|--------------------------|-----------|---------------|------------------------------------|
| a. | <i>Des</i> | <i>is</i> | <i>schee,</i> | <i>gä?</i> |
| | That | is | beautiful | CONF |
| | “That’s beautiful, eh?” | | | (said to A using familiar address) |
| | | | | |
| b. | <i>Des</i> | <i>is</i> | <i>schee,</i> | <i>gäi-ns?</i> |
| | that | is | beautiful, | CONF.2PL.FORMAL |
| | “That’s beautiful, eh? “ | | | (said to A using formal address) |

Under the assumption that agreement is a syntactic process, triggered by an agreeing head, these data strongly suggest the existence of syntactic heads that relate to the proposition to the speech act participants S and A.

6.3.2.2 Evidence from confirmationals

Wiltschko and Heim (2016) claim that confirmationals such as *gä* associate with the *grounding* layer of the clause, whereas the (rising) intonation often associated with these confirmationals associates with an even higher projection (their response layer).

Using function of a UoL as a heuristic, they show the following data to illustrate the different levels (Ground_S or Ground_A) that various Canadian English confirmational associate with; the confirmational *eh*, *huh* and *right* are sensitive to S's knowledge and therefore associate with Ground_S, whereas *eh* is sensitive to A knowledge and can also associate with Ground_A.

(22) S confirmational and A confirmational

- a. Cx¹: John knows that Mary would like to have a new dog. He hasn't seen her in a long time. And he keeps wondering whether she got a new dog. One day he runs into her while she's walking a new puppy. John utters:

You have a new dog, {eh/huh/right}?
= Confirm that p is true

- b. Cx²: Mary is walking her new dog when she runs into John. She is expecting that he would congratulate her on the new dog, but he's not mentioning it. She isn't sure anymore whether he actually realizes that she has a new dog. So she utters:

*I have a new dog, {eh/*huh/*right}?*
= Confirm that **you** (=A) know that p is true

(Wiltschko and Heim 2016: ex 6 and 7)

6.3.3.3 Evidence from particle order

In this subsection, I provide support for the assumption that Ground_A is structurally higher than Ground_S. Whereas S&T propose S to be ordered over A, Lam (2014) argues that A is the highest projection, as in (15). She presents evidence from Cantonese DPRTs, particularly the S-oriented DPRT *me1*, and the A oriented DPRT *ho2*. Lam claims that S-oriented *me1* is merged in Ground_S (her Force^SP), whereas *ho2* is merged in Ground_A (her Force^AP). She shows that these two particles are

subject to strict linear ordering restrictions, and that *me1* has to precede *ho2*. She takes this as an indication of the hierarchy of the associated syntactic projections.

(23) Cantonese DPRT particle order

- a. Cx: Jimmy is the first of a long taxi queue. A taxi is coming, but someone not from the queue opens the door of the taxi, saying loudly that he is in a hurry. Everyone in the queue is angry. Jimmy says this to the second person in the queue:

daai6	seng1	zau6	dak1	gaa3	laa3	me1	ho2
loud	voice	then	okay	PRT	PRT	me1	ho2

“What, can one get by just by being loud? I assume you’d agree it’s a valid question, right?”

(Lam 2014:64 ex 6)

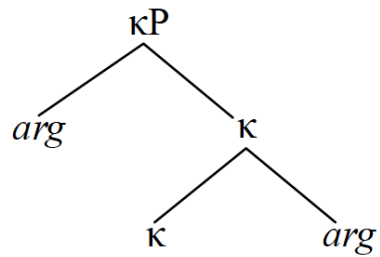
As we will see in section 6.4.3, the same ordering restrictions are found in MB DPRTs consistent with the assumption that Ground_S is above Ground_A .

With these assumptions about the syntacticization of speech acts in mind, we can now turn to deriving the multi-functionality. In particular, I will argue that MB DPRTs, too, associate with the extended layer of the spine, i.e., Ground_P .

6.4 DPRTs and the universal spine

I argue in this section that the three different classes of DPRTs (S-, A-, or O-oriented), arise due to the association of the UoLs with three different functional layers; Ground_A , Ground_S , and CP respectively. I assume here that the architecture of a functional projection is that of a basic predicate, which relates two arguments (Speas 2010, Wiltschko 2014).

(24) The relational property of functional heads



Following Diewald (2006) I adopt the hypothesis that DPRTs have a relational and predicative function, by “relating two items through an indexical procedure, i.e. through a process of linguistic pointing” (Diewald 2006:406). This is consistent with the fact that the term most commonly used to refer to DPRTs in the German literature is *Modalpartikel*, ‘modal particle.’ This follows if we assume that modality introduces a relation between what is known and the proposition. Correspondingly, DPRTs relate the proposition to what is known by each discourse participant (cf. Abraham 2012, cf. Struckmeier 2014), that is, to their epistemicity represented in Ground_S and Ground_A.

Adopting the main tenet of the Universal Spine Hypothesis, we can use the function of DPRTs as a diagnostic to identify their syntactic position. Hence, their function is the primary diagnostic I use here to establishing the place of association of DPRTs within the extended spine. If indeed the extended spine consists of Ground_A and Ground_S, then we have a mechanism in place to ascribe their A- and S-orientation to the syntactic context, respectively. It is simply another instance where the syntactic spine affects the interpretation of a UoL.

Accordingly, A-orientation serves as an indication of association with Ground_A, whereas S-orientation serves as an indication for association with Ground_S. I further argue that O-orientation derives from association with CP. It is the function of CP to

relate the proposition to the utterance situation. The utterance situation encodes the time, location and reference points, i.e. the, S, A and ERP of the utterance (‘seat of knowledge’ in Speas and Tenny 2003, ‘origo in Bühler 1934, ‘point of view holder’ in Waldie 2012, Giorgi 2010, cf. McCready 2007).

$$\begin{array}{lll}
 (25) & \text{UoL} + \text{Ground}_A = & f_{DPRT \text{ A-oriented}} \\
 & \text{UoL} + \text{Ground}_S = & f_{DPRT \text{ S-oriented}} \\
 & \text{UoL} + \text{CP} = & f_{DPRT \text{ O-oriented}}
 \end{array}$$

I now turn to evidence in support of this proposal.

I have discussed in Chapter 2 that one of the core properties of DPRTs is that they are never obligatory (e.g. Gutzmann 2008, Meibauer 1994, Thurmair 1989). Nevertheless, I show now that if an utterance needs to be grounded within a discourse context, GroundP has to be activated (cf. Koopman 1997); in those contexts, DPRTs are one way to activate this projection. The argument here is that DPRTs appear optional, because GroundP is not always projected (see 6.3). The following examples however demonstrate contextual obligatoriness of *fei*, *ja* and *eh*.

In isolation, the proposition *I hob Hunga* ‘I am hungry’ can occur with or without a DPRT. Thus in (26) *fei* appears optional.

- (26) a.

<i>I</i>	<i>hob</i>	<i>fei</i>	<i>Hunga.</i>
I	have	fei	hunger
- “I am hungry.”
 ‘[I believe you don’t believe] I am hungry.’
- b.

<i>I</i>	<i>hob</i>	<i>Hunga.</i>
I	have	hunger
- “I am hungry.”

Once this utterance is considered in context however, the picture changes; the

seeming optionality of *fei* disappears, as the next example illustrates.

(27) Cx: Hanni tells her son that she wasn't planning on cooking anything for dinner. He responds:

- a. <✓, Cx¹> *I* *hob* ***fei*** *Hunga.*
 I have ***fei*** hunger
 "I am hungry."
 '[I believe you don't believe] I am hungry.'
- b. <*, Cx¹> *I* *hob* *Hunga* \
 I have hunger
- c. <✓, Cx¹> *I* *hob* *HUNGA* !
 I have hunga
 "I am hungry."
- d. <✓, Cx¹> *Awa* *I* *hob* *Hunga* \
 but I have hunger
 "But I'm hungry."

It would be an infelicitous exchange to respond to Hanni's announcement in his context with a regular declarative assertion (27)b. This specific context requires an utterance with *fei* (27)a, special extra high polarity focus inducing pitch accent on the predicate (27)c, or the adversative particle *awa* 'but' (27)d. Crucially, a response without any of these strategies is not acceptable in this context. We can conclude then, that the DPRT *fei*, or other means to ground the utterance, such special intonation, or other particles such as *awa*, are obligatory in this context.

The same phenomenon can be shown for *ja*. Whereas in utterances out of context it appears optional, in the context below *ja* is obligatory.

(28) Cx²: Hans and Hanni talk about Ludwig, who according to Hans finally moved away to Bozen, where he had wanted to move to for a long time. Hanni disagrees, saying that she has seen him drive around the village just recently.

Hans: *Da Ludwig is jetza endlich umzogn.*

“Ludwig finally moved.”

Hanni: *Naa, des kann ned sei.*

“No, that’s can’t be.”

Hans: *Joo, wenn’e’s da sog!*

“Yes, I’m telling you!”

Hanni:

a. <✓, Cx²> *Naa, I sig’n ja oiwei fahrn *
 no I see.him **ja** always drive

“No, I definitely always see him drive around.”

‘No, [I believe that] I always see him drive around.’

b. <*, Cx²> *Naa, I sig’n oiwei fahrn *
 no I see.him always drive

“No, I definitely always see him drive around.”

c. <✓, Cx²> *Naa, I sig’n OIWEI FAHRN !*
 no I see.him always drive

“No, certainly not, I ALWAYS see him drive around.”

Again, in this context, either a response with the DPRT *ja* or another means of activating the grounding layer (such as extra high intonation) is necessary. Crucially, a plain declarative (with default nuclear stress accent) is not acceptable in this context.

The same can be shown for *eh*. As soon as an utterance is embedded in a larger discourse context, and not evaluated in a contextless vacuum, the seeming optionality of the DPRT disappears. Whereas *eh* does not directly relate to a speech act participant S or A, it nevertheless serves to relate the proposition to the utterance

situation via a contextually defined discourse participant; this is required in the context below.

- (29) Cx³: Alexander is being accused by his classmates of stealing a special kind of paint. His classmates interrogate him, he denies. At the end, one of them suggests to look into his bag:

Alexander: *Von mir aus...*

“If it's for me...

- a. <✓, Cx³> ...*schaugts* *hoid* *in* *mein* *Schuiranzn...*
 ...look hoid in my school.bag

... *es* *findts* **eh** *nix* \
 ...you.2PL find **eh** nothing

“Go ahead, look into my bag ,you're still not gonna find anything”
 ‘Go ahead, look into my bag ,[it was the case before uttering p that]
 you're not gonna find anything.’

- b. <*, Cx³> ...*schaugts* *hoid* *in* *mein* *Schuiranzn...*
 ...look hoid in my school.bag...

...*es* *findts* *nix* \
 ...you. 2PL find nothing

- c. <✓, Cx³> ...*schaugts* *hoid* *in* *mein* *Schuiranzn...*
 ...look hoid in my school.bag

... *es* *FINDTS* *nix* !
 ...you. 2PL find nothing

“Go ahead, look into my bag ,you're not gonna FIND anything!”

The seeming optionality of DPRTs therefore has to be reevaluated as soon as the discourse context is taken into consideration. Within certain discourse contexts,

DPRTs are (one of the) obligatory UoLs to activate the grounding layer, which relates the utterance to discourse.⁸⁸

6.5 Evidence for propositional scope of DPRTs

I have argued that DPRT associate with the spine in the grounding layer; that is where they are interpreted. Everything else being equal, this clearly predicts that they are linearized in sentence-peripheral position. However, this is not so: DPRTs have to be linearized within the syntactic ‘middle field’ i.e., area between the finite verb in C and the base position of the verb in V (see 2.2.3). Hence there is a mismatch between the overt position of MB DPRTs and the position in which they are interpreted.⁸⁹ If DPRTs do not appear overtly in the position they are interpreted in (GroundP) then they must associate with GroundP via movement (or AGREE) (Lam et al. 2013, cf. Bayer and Obenauer 2011, cf. Coniglio and Zegrean 2012). But where do they initially associate with the spine? What is the position that feeds spell out? The answer to this question is not immediately obvious, since MB, as all German dialects, allows for scrambling. This makes diagnosing the overt DPRT position in relation to scrambled constituents in the middle field difficult.

I argue here that DPRTs associate with the anchoring category (IP). This contrasts with the assumption widely adopted in the literature that DPRTs mark the vP boundary (and hence would associate with the domain associated with classification)

⁸⁸ It is beyond the scope of this dissertation to investigate the role of intonation for grounding utterances. However, see Rett (2013, 2014) for a proposal that intonation, too, is a UoL, which can modify speech acts, i.e. my GroundP.

⁸⁹ I will show in the next Chapter that DPRTs in many other languages do in fact appear overtly at the periphery. Discussion of why this is not the case in MB and other Germanic languages like Dutch, Frisian and Mainland Scandinavian (Abraham, 1991) is delayed until then as well.

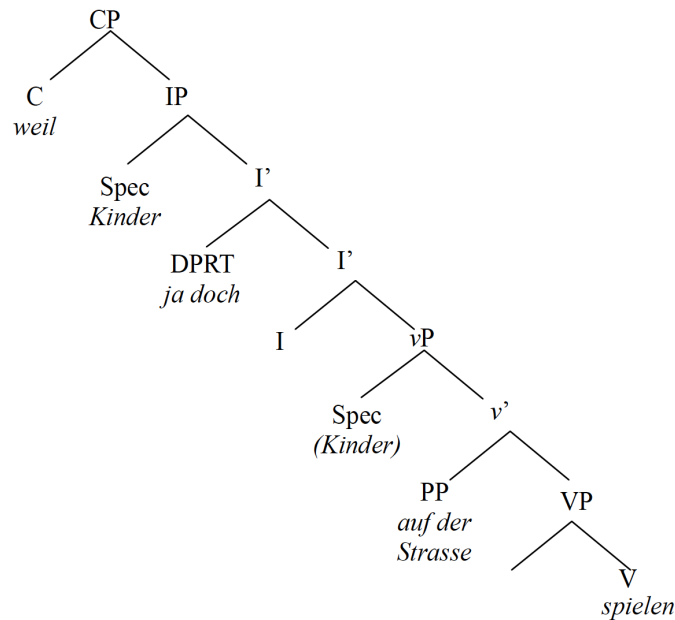
(e.g. Bayer 2012, Bayer and Obenauer 2011). Diesing (1992) for example uses DPRTs as a diagnostics for the vP boundary, to determine the base position of subjects of stage- and individual-level predicates. More recent approaches, however, posit that DPRTs are merged as specifiers of functional projections in the IP domain (Coniglio 2005, 2008, Grosz, 2005, 2007). Unlike other proponents of the assumption that DPRT associate with IP, however, I do not assume that DPRTs are merged as specifiers in a cascade of functional heads. I do, however adopt the idea that IP is the position from where DPRTs associate with GroundP. In what follows I discuss two tests to show that DPRTs are indeed associated with the anchoring domain (henceforth IP), and not with the classifying domain (vP):

- (i) DPRT adverb ordering
- (ii) facts from negative concord.

6.5.1 DPRT and the vP boundary

Diesing (1992) assumes that DPRTs such as *ja* and *doch* mark the vP boundary as in (30) below.

(30) DPRTs as diagnostic for vP boundary



With this assumption in place, Diesing uses DPRTs as a diagnostic to determine where in the structure nominal arguments appear (vP-internally or vP-externally). For example, she claims that subjects may be interpreted existentially or generically depending on their position relative to a DPRT as in (31). In particular, if the subject precedes the DPRT (*ja, doch*) it is interpreted as generic, whereas if the DPRT precedes the subject, it is interpreted as existential.

- (31)
- | | | | | | |
|--------------------|---------------|-----------------------|------------|------------|-----------------------|
| a. ... <i>weil</i> | <i>Kinder</i> | <i>ja doch</i> | <i>auf</i> | <i>der</i> | <i>Straße spielen</i> |
| ... because | kids | ja doch | on | DET | street play' |
- (Kinder interpreted generic)

- | | | | | | |
|-------------------|-----------------------|---------------|------------|------------|-----------------------|
| b.... <i>weil</i> | <i>ja doch</i> | <i>Kinder</i> | <i>auf</i> | <i>der</i> | <i>Straße spielen</i> |
| ... because | ja doch | kids | on | DET | street play |
- (Kinder interpreted existential)

This assumption that DPRTs mark the vP boundary is widely adopted in the literature, for example Bayer and Obenauer (2011). Meibauer (1994) notes that Diesing's account does not take into consideration the effects of focus and accent, and argues that the assumption that DPRTs mark the vP boundary is untenable. Existential and generic readings of the subject DP are independent of the position of the phrase, but arise due to the effects of focus, and the contextual restrictions associated with it. This suggests that using DPRTs as a diagnostic for delineating the vP boundary is confounded by findings from accenting and focus, and should therefore not be considered as a reliable test. Whereas this establishes how *not* to determine DPRT position I now turn to evidence from adverb ordering as a positive indicator for DPRT position.

6.5.2 DPRTs and adverbs

I now show that DPRTs have to be positioned at least as high as IP. Let me start with a brief discussion of my assumptions regarding adverb placement.

Two main proposals exist in the literature as to what determines the order of adverbs within a clause. One theory, proposed by the cartographic enterprise (Cinque, 1999, 2004), suggests that all adverbs are licensed in specifier positions by empty functional heads. The rigid order in which adverbs generally occur is determined by the order of the heads provided by UG, and therefore, the associated adverbs are rigidly ordered in the same way. Under this theory, any number of occurrences of any adverb with distinct interpretations is due to the existence of different heads, which license this interpretation. For example the event scope of ‘often’ is due to a high syntactic head licensing the adverb ‘often’ in (32a). The process scope of ‘often’ is

due to the contribution of a lower head in (32b) (Ernst, 2007).

(32) a. Texans often drink beer.

b. Texans drink beer often.

(Ernst, 2007:1011)

That is, the assumption is that the two instances of ‘often’ in (32a) and (32b) are licensed by two distinct heads (Cinque 1999). Critics of such a syntactic approach argue that this proposal leads to an unconstrained proliferation of syntactic projections, in both the nominal and verbal spine.

In contrast, more semantically based theories as proposed by Ernst (2004, 2007, 2009) or Haider (2004) allow adverbs to adjoin freely to various projections. The potential freedom resulting from this mechanism is constrained by semantic considerations, to yield the actually observed, more rigid distribution of adverbs. Particular orders, which would result in semantically anomalous outcomes, are ruled out by the combination of compositional rules and the individual adverbs' lexical entries (Ernst 2007).

I chose here to adopt a hybrid approach to adverb ordering, which positions itself between the two approaches mentioned above. Frey and Pittner (1998) and Pittner (2000, 2004) identify five base positions in which adverbials in German are base generated. In addition to these five classes of adverbials, a sixth class, speech act adverbs exists (henceforth SA adverbs, aka. discourse adverbs). These include adverbs like *eahlich g'sogt* ‘frankly said’ *unta uns* ‘in confidence’ have to precede all other adverb classes (Cinque 2001, Ernst 2003, Meinunger 2004, 2006). It is assumed that their interpretation is a matter of scope, which is in turn determined by c-command, and hence syntactically conditioned. I make this choice, since the adverb

classes identified by Frey and Pittner (1998) align with the Universal spine, and seem quite compatible with that model of syntax.

DPRTs have to precede all sentence adverbials (Frey and Pittner 1998:fn 36) including the highest adverbs in Frey and Pittner (1998), Pittner (2000) and Pittner (2004). The complex series of tests these authors employ establish that Speaker-oriented adverbs (S-adverbs) c-command the base positions of all arguments, as well as all other adverbs. In effect, they propose that S-adverbs are indicative of the IP boundary, and are linearized preceding other adverbs. DPRTs, in turn, precede them, and by implication, c-command them. SA adverbs are still higher than S-adverbs, however, i.e. are positioned above IP (Ernst 2002, Meinunger 2006), and therefore precede S-adverbs. (33) shows the part of the adverbial hierarchy relevant for the analysis here, as proposed by Frey and Pittner (1998).

(33) DPRTs S-Adv [veridicalAdv_{IP}[Event propertyAdv_{VP}[Event anchoringAdv...]]]

The following data show that A-oriented *fei* and S-oriented *ja* precede S-adverbs such as *leida* 'unfortunately', whereas O-oriented *eh* can occur following *leida*. *Eh*, as *ja* and *fei* still has to precede veridical adverbs, such as *bestimmt* 'surely'.⁹⁰

- (34) a. * *Dea* *muass* *leida* *fei* *in'd* *Uni*
 He must unfortunately **fei** in.DET Uni
- b. ✓ *Dea* *muass* *fei* *leida* *in'd* *Uni*
 He must **fei** unfortunately in. DET Uni
- c. ? *Ea* *war* *leida* *ja* *ledzda*
 he was unfortunately **ja** last

⁹⁰ See Coniglio (2006) who uses adverbs and adverb ordering to situate the DPRTs *ja*, *schon* and *wohl* within the cascade of functional IP projections as proposed by Cinque (1999).

- d. *Ea* *war* **ja** *leida* *ledzda*
 he was **ja** unfortunately last
- e. *I* *muass* *leida* **eh** *in'd* *Uni*
 I must unfortunately **eh** in.DET Uni
- g. **I* *muass* **eh** *leida* *in'd* *Uni*
 I must **eh** unfortunately in.DET Uni

The order which is observed is **fei, ja**>> *leida*>>**eh**.

(35) DPRT (**fei, ja**) [S-Adv [DPRT (**eh**) ...]]

I next establish the linear order with the veridical adverb *bestimmt* ‘surely’.

- (36) a. *Dea* *muass* **fei** *bestimmt* *in'd* *Uni*
 he must **fei** surely in.DET Uni
- b.* *Dea* *muass* *bestimmt* **fei** *in'd* *Uni*
 he must surely **fei** in.DET Uni
- c. *Ea* *war* **ja** *bestimmt* *ledzda*
 he was **ja** surely last
- d.* *Ea* *war* *bestimmt* **ja** *ledzda*
 he was surely **ja** last
- e. *Ea* *muass* *bestimmt* **eh** *in'd* *Uni*
 he must surely **eh** in. DET Uni
- f.* *Ea* *muass* **eh** *bestimmt* *in'd* *Uni*
 he must **eh** surely in. DET Uni

The linear order we see established from the data above is **fei, ja** >>S-
 adverb>>veridical adverb>>**eh**, illustrated in the template below.

(37) DPRT (**fei, ja**) [S-Adv [veridical Adv [DPRT (**eh**) ...]]]

Thus, adverb ordering is consistent with the assumption that the DPRTs *fei* and *ja* are associated with IP. I will discuss the difference between these A- and S-oriented DPRTs, and the slightly different behavior of O-oriented *eh* in section 6.6.3.

To summarize, ordering restrictions relative to (higher) adverbs suggest that *fei* and *ja* associate with IP, as they precede S-adverbs. This is consistent with their function; since DPRTs relate the proposition to GroundP, they have to be able to have scope over propositions. The propositional level is established at the IP-level (Ramchand and Svenonius, 2014; cf. Wiltschko, 2014).

There is yet another piece of evidence, namely the behavior of DPRTs relative to negative concord, to which I will now turn.

6.5.3 DPRTs and negative concord

Negative concord refers to the phenomenon that a weak indefinite DP in the scope of sentential negation also is negated, without triggering a doubly negated reading. Negation in MB, just as in German, can associate variably at different constituent breaks in the clause. However, only negation that associates with vP can be interpreted as sentential negation. In addition, only sentential negation at vP allows for a negative concord reading (Weiss 1998, 2002; Wiltschko 2006). This is illustrated with the data below, showing negation at a vP (38), IP (39) and CP (40). Only (38) allows for a negative concord reading.

- (38) *I woass dass da Bāda koa Buach ned liest* [Neg VP]
 I know that DET Peter NEG.DET book NEG reads

- a. (I know that) ... it is not the case that Peter read a book (negative concord)
- b. (I know that) ... it is not the case that Peter read no book (* double negation)

- (39) *Wenn **ned** da Bäda **koa** Buach liest* [Neg IP]
if NEG DET Peter NEG.DET book reads
- a. If it were not the case that Peter read a book (* negative concord)
- b. If it were not the case that Peter read no book. (double negation)
- (40) ***Ned** dass da Bäda **koa** Buach liest* [Neg CP]
NEG that DET Peter NEG.DET book reads
- a. * It is not the case that Peter read a book (* negative concord)
- b. It is not the case that Peter reads no book. (double negation)
- (data adapted from Wiltschko 2006: 447)

Next, looking at the distribution of DPRTs with respect to negation, we can see that negation always has to follow the DPRTs. I assume this linearization to reflect structural relations, i.e. that DPRTs c-command negation. This is in line with observations made in the literature that propositional negation cannot scope over DPRTs (e.g. Gutzmann 2008, Thurmair 1989, a.o.).

- (41) *I glab dass...*
I think that...
- ... *da Bäda {**fei/ja/jetz/eh**} **koa** Buach {* **fei/ja/jetz/eh** **ned** {* **fei/ja/jetz/eh**} liest*
 ...DET Peter DPRT NEG.DET book DPRT NEG DPRT reads

The negative concord DP *koa Buach* ('no book') in (40) has moved out of vP, where it originally was c-commanded by *ned*. The negation *ned* triggers negative concord on the weak indefinite DP, which is base-generated inside the vP, in the scope of negation.⁹¹ Weiss (1999) suggests that the landing site for the displaced negative

⁹¹ Under the assumption of a version of the NEG criterion (e.g. Zeijlstra 2008), the negative concord DP *koa Buach* is attracted to Spec NegP, which dominates vP. Assuming a NEGphrase, which attracts Neg to its specifier, would presume that NEG is a special head that does not block movement of the

indefinite DPs as in (38) is SpecNegP (which is above vP in his analysis). The negative indefinite DP minimally has to move out of the vP, since it appears higher than NEG (at vP). DPRTs have to occur higher than the negative indefinite (42).

(42) [DPRT [Neg-indef-DP [NEG [vP ~~Neg-indef-DP~~ verb]]]

The data below illustrate this with the negative indefinite DP *koa Glück*. (43b) shows the original place of association for the indefinite DP in vP, and (43c) shows that the DPRT *halt* is ungrammatical if it follows the negative indefinite DP. Whereas the data in the original source contains *halt*, the same observation could be verified for *fei*, *ja* and *eh*.

- (43) a. *Mir ham halt koa Glück ned*
 we have halt NEG.DET luck NEG
 “We don't have the good luck.”
- b. *Mir ham halt koa Glück ned [_{vP}~~koa-Glück ham~~]*
- c. * *Mir ham koa Glück halt ned*
 we have NEG.DET luck halt NEG

(Lena Christ-Rumplhanni)

- (44) a. *Mir ham fei koa Glück ned*
 we have fei NEG.DET luck NEG
 “We don't have the good luck.”
- b. * *Mia ham koa Glück fei ned*
 we have NEG.DET luck fei NEG

finite verb to C. I do not adopt the idea of a NegP here, but I follow Wiltschko (2006) that NEG in German is a modifier, not a head.

- (45) a. *Mia ham ja koa Glück ned*
 we have **ja** NEG.DET luck NEG

“We don't have the good luck.”

- b. * *Mia ham koa Glück ja ned*
 we have NEG.DET luck **ja** NEG

- (46) a. *Mir ham eh koa Glück ned*
 we have **eh** NEG.DET luck NEG

“We don't have the good luck.”

- c. * *Mir ham koa Glück eh ned*
 we have NEG.DET luck **eh** NEG

In conclusion, evidence from negative concord supports the claim that DPRTs are positioned above vP, in a position minimally higher than the landing place for the displaced negative indefinite DP, supporting the finding from adverbs that suggest a place of association at or above IP.

This section presented syntactic evidence for the propositional scope of DPRTs, coming from their overt place of association at IP; this is expected under the assumption that a proposition is established at IP, the clausal level where a proposition is fully established (with all its arguments and temporal relations) (cf. Ramchand and Svenonius 2014). The next section establishes that DPRTs relate to the grounding layer of the extended Universal Spine.

6.6 Evidence for the association of DPRT with GroundP

I argued in 6.4 that DPRTs are relational, and function like a two-place predicate that relates a given propositional content (established at IP) to GroundP. This predicts that

DPRTs have propositional scope. Evidence in 6.5 showed that this prediction is borne out. This analysis also predicts that DPRTs relate to GroundP. I will show in this section that this prediction is borne out with evidence from DPRT co-occurrence and order, scope facts from DPRTs and adverbs and confirmationals, and from accent on DPRTs.

6.6.1 Co-occurrence and ordering restrictions

It is a well-known fact that a single utterance can contain more than one DPRT (Abraham 1995; Coniglio 2007, 2009; Kwon 2005; Thurmair 1989, 1991, 1993; among many others). However, the number of DPRTs in a given utterance is limited. Thurmair (1989:283) considers particle combinations of three possible, but four “exceedingly rare”. In my corpus, I have not been able to find naturally occurring particle combinations of more than two. Although it is not a very large data sample, I do take it to be representative of the naturalness of co-occurring DPRTs. In addition, whereas consultants can make sense of examples with three or more DPRTs such as the constructed example in (47), they report them to be odd, artificial, and difficult to parse.

- (47) *????Kombinieren Sie doch nur ruhig auch mal Modalpartikeln*
 combine you.formal **doch nur ruhig auch mal** modal particles

The sentence above is the title of Thurmair’s (1991) paper on DPRT combinations. It is one of the many constructed example used in the literature, which are consistently judged unnatural by native German speakers. Since generally no contexts are given for these kinds of examples, it is impossible to judge the discourse conditions under

which they could occur.

Under the syntactic hypothesis, where DPRTs of each class associate with a separate functional projection that mediates their function in the utterance, occurrence of more than three is unexpected. This reflects the established groups of A-, S-, and O-oriented DPRTs. In addition, a specific order of DPRTs is expected, reflecting the order of the functional categories they associate with.⁹² This order is predicted based on the assumption we have made about the extended universal spine, repeated below.

- (48) a. [Ground_A [Ground_S [CP...]]]
 b. [A-oriented DPRTs [S-oriented DPRTs [O-oriented]]]

If each DPRT from each class associates with the respective syntactic head of the grounding functional projection, we predict DPRTs from each separate class to co-occur, but not DPRTs from the same class.⁹³ Specifically, we predict A-, S-, and O-, oriented DPRTs to occur with each other, but not within the same class.

This prediction is borne out with A-oriented DPRTs, out as shown in (49): *fei* cannot co-occur with *doch* no matter in which order.

- (49) a. *Des* *is* **fei* *doch* *laar*
 that is **fei** **doch** empty

⁹² Coniglio (2006:80) takes a cartographic account, and deduces the linear order of DPRTs on the order of functional projections in IP. He reports the following generalized linear DPRT order: ja> denn> doch> halt/eben> DOCH> wohl> eh/sowieso/nur> bloß>schon/ruhig> mal/ JA. Note however that these DPRTs are not all licit in the same Cx:form. In addition, whereas linear order may be an indication of their association, scope facts discussed below, propositional scope of DPRTs, as well as their function are all indications of a structurally high place of association.

⁹³ Of course the core contribution of the DPRTs also plays a role. Since *doch* and *fei* contradict each other in their contribution, this restriction could be due to that semantic mismatch between the two.

- b. *Des* *is* **doch fei* *laar*
 that is **doch fei** empty

Surprisingly O-oriented *jetz* and *eh* can co-occur in a fixed order, as the example below shows.

- (50) a. *Moang* *ham* *de* *jetz* *eh* *zua*
 tomorrow have they **jetz** **eh** closed
- b. * *Moang* *ham* *de* *eh jetz* *zua*
 tomorrow have they **eh jetz** closed

This data suggests that O-oriented *jetz* and *eh* have to be further distinguished. I turn to this distinction in section 6.6.3 where I discuss DPRTs and the possibility of accent on DPRTs. I turn to ordering restrictions among DPRTs next.

As we have just seen, DPRTs can co-occur within the same clause. When they do, they are subject to ordering restrictions, as can be observed in the next example, repeated from (29) above.

- (51) ...*findts* *ja eh nix.* (* *eh>> ja*)
 ...find **ja eh** nothing

Several approaches to analyse this restriction have been proposed in the literature. Thurmair (1991) for example entertains the hypothesis that the DPRT with the "least specific" meaning has to appear first. It is not clear how exactly this can be implemented, since there are no accounts which analyze lexically accessible DPRT meanings that would allow one to determine a "specific" or a "less specific" meaning. Abraham (1995, 2001) explains the ordering restrictions on DPRTs by identifying

three classes of DPRTs. This is in the same spirit as the proposal developed here.⁹⁴ However, Abraham motivates his analysis by looking at the lexical counterparts of DPRTs. As I discussed in Chapter 2 and 3, DPRTs are pervasively multifunctional. Abraham considers the lexically contentful function (i.e. the “lexical counterpart”) to be the primary source, hence referring to it as the ‘source lexeme’. He capitalises on the fact that DPRTs derive from other lexical objects via the process of grammaticalization⁹⁵ Abraham specifically looks at DPRTs that derive from conjunctions, which he proposes to associate with three distinct C projections. The relative order of the source lexeme (i.e. conjunction) in the C system, accordingly determines the order of the corresponding DPRTs that derive from it. This proposal glosses over the fact that not all DPRTs have conjunction counterparts. Whereas *doch* can function as a conjunction in SG (but not in MB), many other DPRTs have counterparts as adverbs (*jetz* ‘now’), response particles (*ja* ‘yes’, *doch* ‘yes’) focus sensitive particles (*bloß* ‘bare, only’), or adjectives (*ruhig*, ‘quiet’). The specific order of *ja* > *eh* in (51), and the orders for the other DPRTs, which will be shown further below are not captured under Abraham’s approach.

Other proposals trying to account for the ordering restriction on DPRTs are based on the cartographic framework of Cinque (1999, 2004). Such proposals assume that DPRTs occupy the specifiers of a highly articulated cascade of functional projections in IP (Coniglio 2006, Grosz, 2005, 2007). On this view, the strict ordering of DPRTs follows from the rigid ordering of their licensing heads (Cinque, 1999, 2004). There are several arguments against such an approach. Consider the phenomenon that

⁹⁴ Abraham (1995) does not consider DPRT orientation or association with a particular discourse participant however. But see Abraham 2012 for the idea that DPRTs associate with a speech act layer above CP.

⁹⁵ More on DPRTs and grammaticalization in Chapter 7.

adverbs can change their relative position in a clause (analyzed as adverb scrambling in Frey and Pittner, 1998), whereas DPRTs cannot. In this way DPRTs do not behave like adverbs. This may suggest that they are not modifiers, either, which is in turn consistent with the assumption that their ordering restriction reflects the invariable ordering of the heads they associate with. In addition, we would expect far more DPRT combinations than those observed. Adverbs can co-occur much more freely with each other than DPRTs can; as mentioned, combinations of three are usually considered the maximum. A cartographic approach would predict more co-occurrences, which are not attested (cf. Struckmeier 2014).

Witness below that the DPRT order *fei*>>*eh* is licit, whereas *eh* cannot be ordered before *fei*.

- (52) Alex was running chores all day. When he is home, he realizes he needs chocolate for the cake he is planning on baking.

Alex: *Mei, so a Scheiß- Jetzt muass I nomoi fuat!*
 “Goodness, how crappy, now I gotta go out again.”

Martl: *Du, da Hansi geht fei eh zum Eikaffa*
 you DET Hansi goes **fei** **eh** to.DET shopping
 “Hansi is going shopping anyways.”
 (**eh*>>*fei*)

[I believe you don’t believe that [it was the case already that]] Hansi is going shopping.

...*dea kannt’s da bringa.*
 ...’he could bring it to you.’

The next example, shows the same restriction with *ja* and *eh*; they have to co-occur in the order *ja*>>*eh*.

(53) Regina: *I fahr moang ned zum Eikaffa.*

“I am not going shopping tomorrow.”

Lukas:

Macht nix, mia brauchan ja eh bis Mondog nix.
 makes nothing we need **ja eh** until Monday nothing
 “Nevermind. We don’t need anything until Monday anyways.”

(**eh* > *ja*)

The next datum further shows that A-oriented *doch*, as expected, also is ordered before *eh*.

(54) Cx: Heidi and Hanni are discussing who to call for a get together on the weekend at Hanni’s house

Hanni: *I ruaf an Hans oo, dass'a aa no kimmt.*

“I’m calling Hans, so he’ll also come by.”

Heidi: *Brauchst ned da Hanse woidd doch eh kemma, oda ?*
 need.you not DET Hans wanted **doch eh** come, CONF

“You don’t need to, Hans was going to come anyways, right?”
 [I believe you believe that [it was already the case that] Hans wanted to come. [Confirm that this is true]’

(* *eh* >> *doch*)

This leads to an established order so far as follows:

(55) A-oriented DPRTs [*fei/doch* S-oriented DPRTs [*ja* O-oriented DPRTs [*eh*]]]

The rigid ordering of DPRTs would be unexpected under the lexical hypothesis, assuming that variation in orientation is lexically encoded in the DPRTs themselves;

there is no inherent semantic reason for A-oriented DPRTs to precede S-oriented or O-oriented DPRTs; therefore the syntactic hypothesis, which predicts a specific order of DPRTs among each other due to the hierarchy of heads they associate with, is preferable. This order is illustrated below.

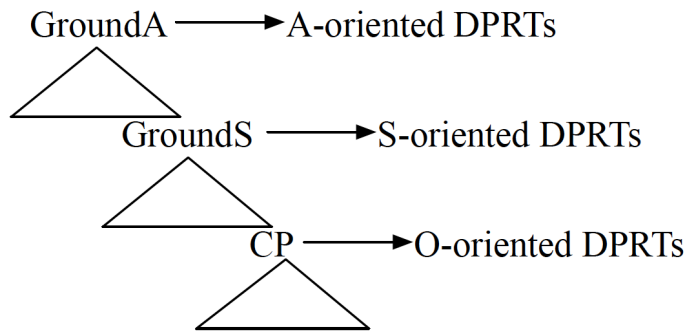


Figure 16: DPRT order based on the order of associating heads

Note that I did not discuss *fei/doch* >> *ja*, which in principle is possible, even predicted. These combinations are not attested in my corpus, and I was also not able to elicit them. This could have two reasons. First, recall that DPRTs are compatible with specific clause types due to their orientation. I showed in Chapter 4 that the basic orientation of a clause type has to be compatible with the orientation of the DPRT. This would predict that DPRTs with two different orientations cannot co-occur, since one of the combination will not be compatible with the clause type it occurs in. This naturally would rule out a combination of these A- and S-oriented DPRTs. Second, the fact that they don't co-occur could be directly related to the idea that A- and S-oriented DPRTs are both about the *speaker's* belief. Whereas A-oriented DPRTs show the speaker's belief about A's beliefs, S oriented DPRTs show the speaker's own belief. Since A belief is still mediated via the speaker, A- and S-oriented DPRTs

cannot co-occur, possibly due to some blocking principle; S belief about A is still S belief, and expressing two different types of S belief is not permissible.

I showed in this section that DPRTs can co-occur. When they do, they follow strict ordering restrictions. I argued here that these are regulated by the order of the associating heads, in essence showing that DPRTs are not interpreted and linearized in a nested manner, but crossed.

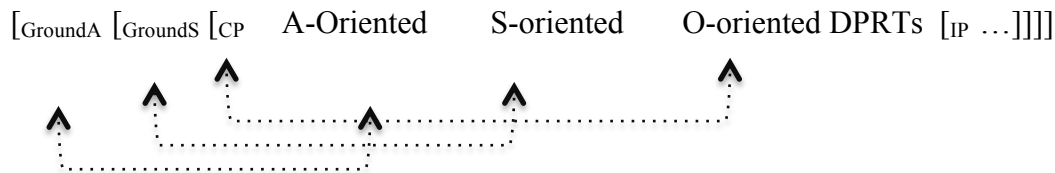


Figure 17: DPRTs surface order and place of interpretation is crossed

To summarize, I discussed in this section that an utterance can contain multiples DPRTs. In that case, these particles cannot occur in free combination. This is predicted by the syntactic hypothesis, but cannot be accounted for under the lexical hypothesis.

As I discussed in this section, linear position in and of itself can be an indication of the relative height of a given UoL, but it is not sufficient to establish it definitively (Wiltschko, 2014). This is why scope also needs to be taken into consideration, which I will do next.

6.6.2 Scope

In this section I show facts about the scope of DPRTs in support of the proposal that S- and A- oriented DPRTs associate with the topmost ground layer. As shown in Gutzmann (2008:33) “[discourse] particles never appear in the scope of any other

operator. This holds for quantifiers, question-forming, conditionalization, and even modals.” This phenomenon is consistent with the proposal that they are structurally high, that is, associate with the grounding layer (Ground_A and Ground_S). Any item associating with this layer is predicted to outscope other elements in the clause. Under the assumption that scope is restricted by c-command, these effects are consistent with, and, in fact, predicted by the syntactic hypothesis.

I now show supporting evidence from *doch*, *fei*, *ja*, *eh* and *jetz* to support this further. I present data evidence from scopal interactions with adverbs and confirmationals.

6.6.2.1 DPRTs and adverbs

Based on the analysis presented here, we predict that A-oriented DPRTs scope outside of sentence adverbs. I now present a more fine-grained state of affairs, however. The data show that the different DPRT classes enter into different scope relations with adverbs. Particularly, I show that speech act (SA) adverbs outscope all DPRTs, a fact previously unnoticed. Further, I show that O-oriented *eh* and *jetz* do not behave uniformly with respect to sentence adverbs.

Sentence adverbs (S-adverbs) convey the speaker’s attitude, evaluation, or some other modes of perception about the proposition expressed in the utterance (Cinque 1999, Ernst 2007, 2009, Jackendoff 1972, Shu 2011, a. o.). This means that they have propositional scope. Syntactically, this propositional scope is reflected in the ordering restrictions observable between S adverbs and lower adverbs, such as the frequency/manner adverb *often* (cf. Frey and Pittner 1998, Pittner 2004). S-adverbs are not homogenous however. They can be further distinguished. Pittner (2004)

suggests the following hierarchically ordered subdivision.⁹⁶

(56) evaluative > evidential > epistemic > subject-oriented

Note that this list does not include speech act (SA) adverbials, which under most accounts are not considered S-adverbs, but are classified as a separate group (e.g. Jackendoff 1972, Meinunger 2004 2006). SA adverbials outscope (and precede) all other adverbs.

I now show that while DPRTs may outscope other operators, SA adverbs are not among them. In the examples below, the SA adverb *éalich gsogt* ‘honestly said’ outscopes the DPRTs *fei*, *ja* and *eh*. Linearly, it can either precede or follow the DPRTs. Consider (57); here the SA adverb has to be interpreted outside of the scope of *fei* (57a), and cannot be interpreted in the scope of *fei* (57b).

(57) Cx: Hanni tells her husband that dinner is ready. He says he’s not hungry. She then turns to her son Hansi:

Hanni: *Mogst DU wenigstens was essn? Jetzt koch I scho seid’a Stund.*

“Do YOU at least want to eat something? I’ve been cooking for an hour now.”

Hansi: *I mog fei éalich gsogt aa nix*
I want **fei** **honestly said** also nothing

- a. ‘[I say honestly that [you don’t believe that]] I am also not hungry.’
- b. * ‘[You don’t believe that [I say honestly that]] I am also not hungry.’

⁹⁶ Depending on the author, these distinctions are made along different lines. The classification presented here is consistent with how I understand the facts.

Similarly, *eahlich gsogt* has to be interpreted outside of the scope of *ja* (58a), and cannot be interpreted in the scope of *ja* (58b).

- (58) Cx: Two friends are having a conversation about vacation time vs. payout of the time. One says he prefers money. The other responds:

<i>I</i>	<i>häd</i>	ja	<i>eahlich gsogt</i>	<i>liaba</i>	<i>mehra</i>	<i>Urlaub</i>	<i>wia</i>	<i>Gäid</i>
I	had	ja	honestly said	rather	more	vacation	than	money

- a. 'I say honestly that [I believe that] I'd rather have more vacation than money.'
b. * '[I believe that] I say honestly that I'd rather have more vacation than money.'

And finally, *eahlich gsogt* has to outscope *eh*.

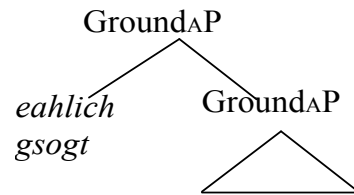
- (59) Cx: Marein tells Lukas that she didn't buy the CD he asked her to bring from her trip to the city. He responds.

<i>Macht nix.</i>	<i>I</i>	<i>hob</i>	<i>eahlich gsogt</i>	eh	<i>koa</i>	<i>Gäid mea.</i>
makes nothing	I	have	honestly said	eh	NEG.DET	money more.

- a. '[I say honestly that [it was the case before that]] I don't have money any more.'
b. * '[It was the case before [I say honestly that]] I dont' have money anymore.'

These examples establish that A-oriented, S-oriented and O-oriented DPRTs scope below the SA adverb *eahlich gsogt*. Adopting the assumption that adverbs are modifiers, I assume that SA adverbs modify the speech act. I equate the SA structure with GroundP, and therefore assume that in the extended spine, *eahlich* modifies the highest projection in this structure, GroundA, as shown below.

(60) SA adverbs modify GroundA



Under this assumption, it is fully expected that all DPRTs scope under SA adverbs, supporting the syntactic hypothesis developed here. The lexical hypothesis has no explanation for this observation, since it is unclear what process or lexical restriction would be invoked to derive these scope effects.

Next I show the scope relations with evaluative adverbs such as *leida* ‘unfortunately’. The set of data are parallel to the findings from above with *fei*, with the crucial difference of O-oriented *eh*. In particular, *doch*, *fei* and *jetz*, as expected, outscope *leida*, whereas *eh* does not, as shown in (61-63). In addition, *leida* has to linearly precede *eh* as shown in (64). This, at first glance is unexpected, but is in line with the co-occurrence and ordering facts established above.

(61) *Am Montag muass’e doch leida in d’Uni*
 DET Monday must.I **doch** **unfortunately** in DET.Uni

- a. * ‘It’s unfortunate that [you believe that] I have to go to Uni on Monday.’
- b. ‘You believe that [it’s unfortunate that]] I have to go to Uni on Monday.’

(62) *Am Montag muass’e ja leida in d’Uni*
 DET Monday must.I **ja** **unfortunately** in DET.Uni

- a. * ‘[It’s unfortunate that [I believe that]] I have to go to Uni on Monday.’
- b. ‘[I believe that [it’s unfortunate that]] I have to go to Uni on Monday.’

(63) *Am Montag muass’e jetzt leida in d’Uni*
 DET Monday must.I **jetz** **unfortunately** in DET.Uni

- a. *'[It's unfortunate that [it's relevant now that]] I have to go to Uni on Monday.'
 b. '[It's relevant now that [it's unfortunate]] I have to go to Uni on Monday.'

(64) *Am Montag muass'e leida eh in d'Uni*
 DET Monday must.I unfortunately eh in DET.Uni

- a. '[It's unfortunate that [it was the case before that]]I have to go to Uni on Monday.'
 b. *'[It was the case before that] it's unfortunate]] I have to go to Uni on Monday.'

I will discuss the difference between O-oriented *jetz* and *eh* in section 6.6.3 and the conclusion to this Chapter. The established scope relations with evaluative adverbs so far can be summarized as follows:

(65) _{ASadv} [*doch, fei, jetz* evaluative [*eh*]]

Next I show the scope relations with evidential adverbs like *bestimmt* 'certainly'; it follows the same pattern as for the evaluative adverb *leida*. As shown in (66), *fei*, *doch*, *ja* and *jetz* scope above *bestimmt*, whereas *eh* scopes below.

(66) *Dea kummt fei bestimmt no*
 he comes **fei** **certainly** still

- a. '[You don't believe [that it is certain that]] he's still coming.'
 b. *'[It is certain[that you don't believe that]] he's still coming.'

(67) *Dea kumt ja bestimmt no*
 he comes **ja** **certainly** still

- a. '[I believe [that it is certain that]] he's still coming.'
 b. *'[It is certain[that I believe that]] he's still coming.'

(68) *Dea kummt jetzt bestimmt nachsts Jahr.*
 he comes **jetz** **certainly** next year

- a. [It's relevant now that [that it is certain that]] he's coming next year
 b. * [It is certain[it's relevant now that]] he's coming next year

(69) *Dea kummt bestimmt eh no*
 he comes surely eh still

- a. * [It was the case before [that it is certain that]] he's still coming

The scope of DPRTs relative to the evidential adverb is summarized as follows:

(70) $ASadv[\textit{doch, fei, jetzt} \text{ evaluative/ evidential } [\textit{eh}]]$

Last I show the scope relations of the DPRTs considered here with the epistemic adverb *wirklich* 'really, truly'. Again, as expected, *doch, fei, ja*, and *jetzt* scope above, whereas *eh* scopes below.

(71) Cx: 6-year-old Elias complains about the kind of toys he has. He tells his grandma that he never gets nice things. Grandma responds:

Zum Geburtsdog host doch wirklich scheene Sachangriagt.
 to.DET birthday have **doch** **really** nice things gotten

- a. '[[You know that] it is true that] you got nice things for your birthday.'
 b. * '[It is true that [you know that]] you got nice things for your birthday.

(72) Cx: Grandma tells Elias how much she admires the toys he got for his birthday:

Zum Geburtsdog host ja wirklich scheene Sachangriagt.
 to.DET birthday have **ja** **really** nice things gotten

- a. [I believe that [it is true that]] you got nice things for your birthday
 b. * [It is true that [I believe that]] you got nice things for your birthday

- (73) Cx: 6-year-old Elias complains about the kind of toys he has. He tells his grandma that he never gets nice things. Grandma responds:

Zum Geburtsdog host jetzt winkle scheene Sachan griagt.
 to.DET birthday have **jetz** **really** nice things gotten

- a. '[It is relevant now that] it is true that]] you got nice things for your birthday.'
 b. * '[It is true that] it is relevant now that]] you got nice things for your birthday.'

- (74) Cx: 6 year old Elias is out shopping with Grandma. He tells his grandma that he wants new toys. Grandma responds:

Du host wirkle eh scho so vui Spuisachan.
 you have **really eh** alreadyso many toys

- a.* '[It was the case before that] it is true that]] you have so many toys already.'
 b. '[It is true that] it was the case before that]] you have so many toys already.'

In summary, the established scope relations are as follows.

- (75) ASadv[**doch, fei, jetz** evaluative/ evidential/epistemic [**eh**]]

These data indicate that first, SA adverbs outscope the DPRTs I discuss in this dissertation. Secondly, *fei*, *doch*, *ja* and *jetz* outscope S-adverbs, particularly evaluative, evidential and epistemic adverbs. *Eh* on the other hand consistently scopes below them. I will discuss the reason for this in 6.6.3.

6.6.2.2 DPRTs and confirmationals

In this section, I show the scope effects of DPRTs with confirmationals, i.e., sentence peripheral particles that are used by S to request confirmation from A. Confirmationals, like DPRTs, also associate with projections in this topmost grounding layer (Heim et al. 2016, Wiltschko and Heim 2016). It is thus expected that DPRTs interact with confirmationals. Crosslinguistically, confirmationals vary in the

object of confirmation: they may be used to request confirmation for A-belief (Canadian *eh*; Heim et al 2016, Wiltschko and Heim 2016), S-belief (Medumba; Keupdjio p.c.) or for the truth of the proposition (Burton et al. 2012; Heim et al. 2016). If a confirmational modifies the speech act (SA), asking A for the validity of the SA in the given situation, it would outscope an A-oriented DPRT like *fei*, which associates with the functional head Ground_AP . This is borne out in (76).

(76) Cx: Hans is about to cross a street at a red stop light. His wife says to him:

<i>Es</i>	<i>is</i>	<i>fei</i>	<i>rot,</i>	<i>gä.</i>
it	is	fei	red	CONF

“It’s red, eh.”

- a. * ‘[You don’t know that you [Confirm that] it’s red.]’
- b. ‘[Confirm that it is a valid SA to say [you don’t know that] it’s red.]’

In contrast, if a confirmational modifies the proposition, asking A to confirm the truth of the propositional content of the utterance, it is expected that a DPRT like *ja* outscores it. This is borne out as shown in in (77).

(77) Cx: I talk to my friend about an upcoming event I plan on attending. I am assuming that our mutual friend is coming as well. I say to her:

<i>De</i>	<i>kummt</i>	<i>ja</i>	<i>aa,</i>	<i>oda?</i>
she	comes	ja	also	CONF

“She is also coming, right?”

- a. ‘[I believe that] she is coming- [Is this true].’
- b. * ‘[Is it true that [I believe that] she is coming.]’

More in-depth research is required to establish the interaction between DPRTs and confirmationals. In particular, since confirmationals vary in the object of confirmation crosslinguistically it may also be the case that the function of confirmationals may differ across languages (see section 7.2 for a tentative hypothesis about the function

of confirmational in MB). However, the data presented here are consistent with the claims made here which derive DPRT function, and their interactions with other elements, via syntax.

6.6.3 Accent on DPRTs

Some DPRT can be accented, but the status of accented DPRTs is debated in the literature. Whereas it is often claimed that DPRTs are unable to receive accent (Thurmair 1989, Weydt 1969) it is undeniable that accented DPRTs exist. Authors who claim that DPRTS cannot be accented argue that when these UoLs are accented they have a different categorical identity, namely that of adverbs (e.g. Helbig 1988, Thurmair 1989, a.o.). Meibauer (1994), one of the first proponents of the view that accented particles are still DPRTs, argues that *ja*, *doch*, *schon*, *denn* and *eh* are among the DPRTS particles which can be accented. For example, *ja* is obligatorily accented in its use in imperatives, as shown in (78).

- (78) a. * Mach **ja** as Fensta zua!
 make **ja** DET window closed
- b. Mach **JA** as Fensta zua!
 make **ja+accent** DET window closed
- “DO close the window!”

Doch can also be accented, as shown in (79).

- (79) Cx: Andreas told me he isn't hungry at diner. Later I catch him at the open
 fridge and ask jokingly what he's doing. He says:
- I hob DOCH an Hunger*
 I have doch+accent DET hunger

“I’m hungry after all.”

Note that if *doch* is accented it can co-occur with *fei* as shown in (80a), whereas it cannot co-occur with *fei* when unaccented (80b).

(80) Cx: After I asserted that I’m not hungry, and I therefore believe that A doesn’t think I’m hungry, I say:

- a. *I hob fei DOCH an Hunger*
I have **fei doch+accent** DET hunger

“I am hungry after all.”

- b. * *I hob’ fei doch an Hunger*

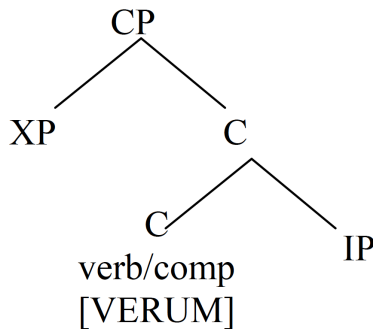
The possibility for *doch* and *fei* to co-occur is not immediately predicted under the present proposal. Since both DPRTs are A-oriented, they should both associate with Ground_A and hence be in complementary distribution. Note that *fei* and *doch* cannot co-occur when *doch* is unaccented (80b).

Building on the proposal in Meibauer (1994), I follow Gutzmann (2010) and Zimmermann and Egg (2011) and do not take *ja* and *JA* (and *doch* and *DOCH*) to be distinct DPRTs, or to belong to different word classes. One can be derived compositionally from the other, by taking seriously the contribution of focus accent on the DPRT. This is in line with general observations about German, which does not distinguish lexical categories based on accent (Cardinaletti 2011, Féry 2012).

Gutzmann (2010) in particular argues that DPRTs, when accented, have a verum, or polarity focus effect, which highlights the proposition and strengthens the illocutionary force associated with it (cf. 80a) Höhle (1992) proposes that polarity semantics is activated by VERUM, an abstract element in CP. It expresses a meaning

along the lines of ‘*It is true that **p***’, or ‘*it is the case that **p***’. An activation of VERUM is achieved by stressing an element occupying that position. Given that VERUM is hosted in C, which is also the syntactic position of the finite verb in matrix clauses, accent on the verb can lead to the associated polarity semantics.

(81) Verum is hosted in C



A phenomenon closely related to verum focus is called force-mood focus in Shu (2011). It arises when elements which are typically not treated as elements of the C-system are accented, leading to propositional emphasis as described by Gutzmann (2010). Crucially, unlike verum focus, force-mood focus does not focus on the truth-value alone. Shu cites the following examples from accented sentence adverbs to support this.

- (82) a. Does John REALLY drink?
 b. Who can we POSSIBLY call at this hour of the night?
 c. I'm SO going to ace that physics exam.

(Shu, 2011:77, ex:110)

None of these examples in (82) emphasize only the truth-value of *p*. In (82a), the accented epistemic adverb is used when asking a positive question with an epistemic

bias (Romero and Han 2004). The accent on the adverb in (82b) has a similar effect. In (82c), accent on the degree epistemic adverb *so* reveals a strong commitment of the speaker to the utterance, according to Shu (2011, citing Irwin 2009).

I take this general observation to be indicative of the fact that accented DPRTs are those which are associated with the C-layer, and not the ground layer. That is, I assume that only O-oriented DPRTs, those DPRTs associated with CP can be accented, as schematized in (83).

(83) GroundA [A-oriented DPRTs GroundS [S-oriented DPRTs CP [**O-ORIENTED**]]]

Note below that when DPRTs co-occur, it is consistently the preceding (i.e. higher) ones that cannot bear accent, as the data in (84) below show.⁹⁷ Thurmair (1989) and Coniglio (2009) establish independently that *JA* occurs lower than *ja*.

- (84) a. **I* *hob* **FEI** **doch** *an* *Hunga*
 I have **fei** **doch** DET hunger
- b. *I* *hob* *fei* **DOCH** *an* *Hunga*
 I have **fei** **doch** DET hunger
- c. *I* *hob* **DOCH** *an* *Hunga*
 I have **doch** DET hunger
- d. *Du* *deafst* ***JA** **doch** *ned* *do* *neigh*
 you may **ja** **doch** NEG there in.go
- e. *Du* *deafst* *ja* **DOCH** *ned* *do* *neigh!*
 you may **ja** **doch** NEG there in.go
- f. *Du* *deafst* *ja* **EH** *ned* *do* *neigh*

⁹⁷ Note that *fei* can never be accented. See the discussion in Chapter 7 on grammaticalization (7.4) for an explanation why this is the case.

(i) **I hob FEI an Hunga*

you may **ja** **eh** NEG there in.go

Several observations arise from these data. First, as mentioned above, if accented, it is the lower DPRT that receives the accent. Second, seemingly incompatible DPRTs such as *fei* and *doch*, which have been shown to not co-occur in the previous section, can in fact co-occur in those circumstances where *doch* is accented. This suggests that in those circumstances, *doch* does not function as an A-oriented DPRT anymore, but as an O-oriented DPRT. That is, DPRTs like *ja* and *doch*, since they are not dedicated as S- or A- oriented DPRTs, can associate with other layers as well. Evidence for this comes from the fact that, like other O-oriented DPRTs, *DOCH* can occur in a variety of clause types with varying orientations, such as S-oriented assertions exemplified by (85a), A-oriented interrogatives, and S-oriented exclamations shown below.

- (85) a. *Kummt da Marinus heia **DOCH** in d'Schui?*
 comes DET Marinus this.year **doch** in DET.school
- b. **Kummt da Marinus heia **doch** in d'Schui*
 comes DET Marinus this.year **doch** in DET.school
- c. *Mei, es is ja **DOCH** scho viare!*
 my it is ja **DOCH** already four
- d. **Mei, es is ja **doch** scho viare!*
 my it is ja **doch** already four

Both the order of accented vs. unaccented DPRT, as well as the fact that *doch* can associate with Ground_A and the C layer is predicted under a syntactic hypothesis, whereas a lexical hypothesis makes no predictions regarding this.

Finally consider again the fact that *eh* and *jetz* can co-occur. We have seen that *eh* is consistently ordered lower than *jetzt* with respect to S adverbs. This pattern receives

a partial explanation when accent is taken into consideration. *eh* is obligatorily accented in every occurrence, whereas *jetz* can never receive an accent.

- (86) a. **Moang* *ham* *de* ***JETZ*** *zua*
 tomorrow have they ***jetz*** closed
- b. *Moang* *ham* *de* ***jetz*** ***EH*** *zua*
 tomorrow have they ***jetz*** ***eh*** closed
- c. *Moang* *ham* *de* ***EH*** *zua*
 tomorrow have they ***eh*** closed

Whereas I cannot provide a full analysis for this phenomenon at the moment, I would like to suggest that the difference could arise from the way both *jetz* and *eh* associate with C. Whereas *eh*, associates as a head (as evidenced by its obligatoriness in discourse context, as shown in 6.4), *jetz* associates as a modifier. Further research is needed to corroborate this hypothesis, however.

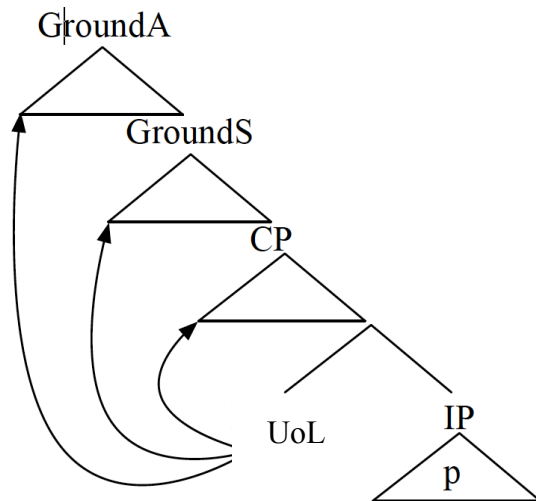
The main argument made in this section comes from the fact that those DPRTs that can be accented (i) are the lowest in the DPRT order, and (ii) have a consistent *force mood focus* (Gutzmann 2011, Shu 2011). In addition, DPRTs such as *DOCH* and *JA* are multifunctional as S-,A-, and O-oriented DPRTs. Note that the syntactic hypothesis pursued here predicts that a given UoL does not associate with only one categorizing head. Accented DPRT indicate that this is indeed the case. I turn to the issue of linearization of DPRTs next.

6.7 The linearization problem

One of the main unresolved issues at this point is the question about the syntactic integration of DPRTs: they do not appear overtly in the position where they are

interpreted in (i.e., GroundP) but instead they are linearized in the Mittelfeld as shown in (65).

(65) The dissociation of position of spell out and position of interpretation



What is responsible for this dissociation between the position of spell out and the position of interpretation for DPRTs?

In this subsection I propose a preliminary analysis to account for this problem. To begin with, consider an insight due to Abraham (1991): *“Languages that cannot identify [a] transitional [middle] field in clearcut syntactic terms do not appear to have developed the category of MP (my DPRT) in such clear contrast with other categorial types.”* (Abraham 1991:205-6).

According to Abraham’s (1991) proposal, there are two necessary ingredients for a language to have DPRTs: (i) V-to-C movement (V2) and (ii) a head-final VP. This defines the middle field.

A quick typological survey makes it clear that Abraham’s conjecture cannot be upheld. On the one hand, we observe that many languages have particles that are

functionally equivalent to the DPRTs of German and its dialects. However, in those languages, DPRTs often appear in the clausal periphery. This is fully predicted under the current proposal. S- and A-oriented DPRTs associate with the peripheral GroundP, and hence we expect to find languages where these particles are spelled out at the sentence-periphery. Such DPRTs are found in Mandarin (Yang and Wiltschko 2016) and Cantonese (Lam, 2014) Chinese, Italian dialects (Romance) (Munaro and Poletto 2004), Japanese (Japonic) (Davis 2011) and West Flemish (Germanic) (Haegeman 1993).

For instance, the Mandarin sentence final particles *a* and *ne* express S attitude and A attitude, respectively. Both these particles occur at the clausal periphery (Li 2006, Yang p.c., Feb.24th, 2016). According to Yang (p.c.), *ne* is used if S conveys information to A, which A does not expect. In contrast, *a* expresses that the information is out of S's expectation.

(66) a. Cx: Two students talking about the end of the semester.

A: *Ni xianzai deng zhe biye le zhen kaixin.*
 you now wait DUR graduate PRT really happy

“How lucky you are! Just waiting to graduate.”

B: *Wo hai dei xie yi pian lunwen ne*
 I still must write one CL thesis **ne**

“I still have a thesis to write. (you may have not expected)”

(Li 2006:11)

b. Cx: Two students talking about the end of the semester.

A: *Ni xianzai deng zhe biye le, jiaoshou...*
 you now wait DUR graduate PRT professor

...*shuo ni hai dei xie yi pian lunwen.*
 say you still must write one CL thesis

“Even though you’re just waiting to graduate, the professor said that you still have a thesis to write.”

B: *Wo hai dei xie yi pian lunwen a*
 I still must write one CL thesis **a**

“I still have a thesis to write. (I have never expected it)”

Cantonese also has a wide variety of sentence final particles, some of which are used for discourse management like the German DPRTs I have explored here. Lam (2014) explores two question particles: S-oriented *me1* and A-oriented *ho3*. She argues that these particles are hosted by two dedicated syntactic left peripheral projections, which correspond to Ground_A and Ground_S , respectively (though Lam uses different labels: Force_A and Force_S). Given that S- and A-oriented particles can co-occur Cantonese provides us with direct evidence that the A-oriented projection is indeed higher than the S-oriented one. In particular, A-oriented *ho3* has to follow S-oriented *me1* suggesting that it is generated higher.

(67) Cx: Jimmy is the first of a long taxi queue. A taxi is coming, but someone not from the queue opens the door of the taxi, saying loudly that he is in a hurry. Everyone in the queue is angry. Jimmy says this to the second person in the queue.

a. *daai6 seng1 zau6 dak1 gaa3 laa3 me1 ho3*
 loud voice then okay PRT PRT **DPRT_Q** **DPRT_Q**

“What, can one get by just by being loud? I assume you’d agree this is a valid question, right?”

b. * *daai6 seng1 zau6 dak1 gaa3 laa3 ho3 me1*
 loud voice then okay PRT PRT **DPRT_Q** **DPRT_Q**

Lam’s (2014) findings are fully consistent with the facts presented in this dissertation.

Recall from section 6.6.1 that we found the same co-occurrence restrictions with MB

DPRTs.⁹⁸

Thus, we have evidence that there is no principled reason as to why DPRTs cannot occur at sentence-peripheral position. It also tells us that V to C movement is not a necessary condition for a language to have DPRTs. Neither Cantonese nor Mandarin is a V2 language.

Moreover, not all V2 languages with DPRTs have to realize them in the Mittelfield either. For example, West Flemish is a V2 language but it has sentence-peripheral particles with a similar function as the DPRTs discussed in this dissertation. Consider the example in (9) from Haegeman (1993)

- (68) Goa-j aweg, **da**?
 go.you away **da**

“Are you leaving, *da*?”

According to Haegeman (2014) this particle associates with an articulated speech act layer above CP. The function of *da* is described as follows: “the role of *da* is to bias the polarity of the question in the case of yes-no questions, for instance is used if a speaker S sees that the hearer is about to leave and finds this surprising. *Da* indicates that S anticipates a positive reply and also suggests that H should provide further explanations.” (Haegeman 1984:42, cited via Haegeman 1993).

In light of this description, I conclude that *da* is an A-oriented DPRT (although further tests would have to be applied to corroborate this). This establishes that V to C movement does not force DPRTs to occur in the Mittelfield.

⁹⁸ Hill (2007) and Haegeman and Hill (2013), basing their proposal on Speas and Tenny (2003) argue for the order S over A, based on co-occurrence restrictions of Romanian and West Flemish peripheral particles. This variation warrants further investigation. It is an empirical question whether languages show variation in the order of these speech act heads on principled grounds.

Now consider the second property that is necessary to create a Mittelfeld: head-finality. For example, like German, Japanese is a head-final language like German its DPRTs appear in sentence peripheral position (Davis 2011) as shown in (69).

- (69) eiga-wa hachi-ji kara da **yo**
 movie-TOP 8-o'clock from be **yo**

“The movie starts at eight yo”

(Davis 2011: ex 8)

Japanese *yo* is very similar in function to the MB DPRT *fei*. *Yo* marks p as new to A, and is infelicitous if A already knows p (Davis 2011:18 and references therein). In contrast, Italian is a head-initial language and yet, it has a sentence-peripheral DPRT.

Regardless of the fine-grained function of West Flemish *da*, or Japanese *yo* in terms of orientation, they all occur at the edge of the clause, and have been analyzed to associate with projections at/above CP. In light of this typological data it seems neither the existence of a middle field, nor the direction of headedness is a determining factor for the linearization properties of MB DPRTs.

Potentially, Abraham’s (1991) insight could be weakened to the claim that iff a language has a middle field, i.e. a strict V2 constraint like the West Continental Germanic languages, then the DPRTs have to associate between IP and C before they associate with the peripheral grounding layer. In what follows, I hypothesize that this might indeed be on the right track. In particular, I suggest that V to C movement may be responsible for closing off the proposition in ways that makes it impossible for a DPRT to modify S’s commitment towards p. Consider why.

First, according to Wechsler (1991) and Truckenbrodt (2006) V to C movement is

a means of establishing illocutionary force. According to Truckenbrodt (2006), this is so because the finiteness features on the verb serve to check features of S (and A) in C. Since finiteness cannot move by itself due to the need to preserve morphological integrity, the verbal base is pied-piped along with the inflectional features on the verb (Bayer 2010). This places V to C into the realm of (narrow) syntax. Second, according to Wiltschko (2014) multi-functionality is the hallmark of early-insertion of UoLs. Given that DPRTs are multi-functional I conclude that they associate with the spine early. Now suppose that V to C movement makes CP inaccessible from above. That is, suppose that V to C movement establishes the CP as a phase in the sense of (Chomsky 1995, 2000).

With these assumptions in place, it is possible to derive the linear position of MB DPRTs. In particular, this assumes that V2 closes off the propositional content of an utterance established at IP for further modification, and making it impossible to modify S's commitment towards it.

A prediction of this hypothesis is that those particles that overtly associate with GroundP in V2 languages do not modify the discourse participants' commitments. Preliminary evidence suggests this is the case for confirmationals such as Swabian *gell* (Heim p.c.), Upper Austrian *geu* (Wiltschko p.c.) and MB *gä*. These confirmationals require a response from the addressee (Heim et al. 2014). Hence it appears that they encode the *Call on Addressee* (in the sense of Beyssade and Marandin, 2006). They do not, however, modify S or A belief. This is different with peripheral particles in non-V2 languages, such as English; a confirmational such as Canadian English '*eh*' does not only call on the addressee for a response, it also encodes a function similar to *doch*; it modifies the commitment towards p. Consider in this context the data from Wiltschko and Heim (2016) which I introduced in

section 6.3. to illustrate the core function of confirmationals. While *eh* can serve both to request confirmation for the truth of p, and A's belief about p, *huh* and *right* can only request confirmation for the truth of p.

- (70) Cx: John knows that Mary would like to have a new dog. He hasn't seen her in a long time. And he keeps wondering whether she got a new dog. One day he runs into her while she's walking a new puppy. John utters:

You have a new dog, {eh/huh/right}?

= Confirm that p is true

- (71) Cx: Mary is walking her new dog when she runs into John. She is expecting that he would congratulate her on the new dog, but he's not mentioning it. She isn't sure anymore whether he actually realizes that she has a new dog. So she utters:

*I have a new dog, {eh/*huh/*right}?*

= Confirm that you know that p is true

Confirmationals in MB and other German dialects do not however serve to confirm A's belief about p. This is fully expected, under the assumption that verb movement to C closes off the possibility to modify A belief.

Now I turn to the second question raised by the syntactic integration of DPRTs, which is: what is the syntactic mechanism responsible for relating the DPRTs with their associating heads long distance? In principle, two mechanisms are available. Following Zimmermann (2004), DPRTs could associate with their respective heads via covert (LF) movement. Another avenue is *agreement*. This has been proposed originally by Bayer (2008), and adopted for a variety of DPRT accounts (e.g. Bayer and Obenauer 2011, Coniglio and Zegrean 2012). As briefly introduced in Chapter 6,

these accounts assume that a given DPRT is specified with a syntactic feature that has to be checked by a probe located in C (or another head in the left periphery). However, an agreement-based analysis that requires DPRT to be endowed with special features is not compatible with the proposal made in this dissertation. I assume here that DPRTs are sound meaning bundles, which carry no special categorial or other features that would allow them to value a feature on a higher head. Instead, I hypothesize following Ritter and Wiltschko (2014) that the substantive content of a UoL itself may serve to value a coincidence feature of the associating syntactic head. Under this hypothesis, the core content of a DPRT values the coincidence feature on Ground_A Ground_S or CP, and thereby establishes an agree-type relationship. I am not able to provide a deeper analysis of the exact mechanism at this point, and will have to leave it up to further research to establish details.

In this section I sketched a very brief outline of how the linearization properties of MB DPRTs might be understood. I also briefly hinted at a mechanism that relies on the substantive content of a UoL to value a coincidence feature on a higher associating head. A detailed analysis will have to await further research, however.

6.8 Conclusion

In this chapter I discussed a syntactic approach to account for the A-, S-, and O-orientation of DPRTs established in Chapter 4. I dismissed the lexical hypothesis, and argued in favor of a syntactic hypothesis, adopting Wiltschko's (2014) Universal Spine Hypothesis as a base for the analysis. I argued for an extension of the Spine to include an articulated grounding layer Ground_P , which allows a proposition to be grounded with the speech act participants S and A.

I argued that DPRTs are predicative, establishing a relation between the proposition and Ground. Furthermore, they can be understood as indexical, in that they receive a specific interpretation via their associating head. Just like certain indexicals require temporal (e.g. ‘now’) or location (e.g. ‘here’) anchors in order to be interpretable, discourse particles are indexical in that they require participant anchors. And just as verbs show agreement with grammatical roles, I showed that clauses (which are in essence part of the larger verbal projection in the sense of Grimshaw 1997), in the right circumstances indicated by the context, show the need to show ‘agreement’ with discourse roles; I argued for their syntactic representation via GroundP in the Extended Universal Spine.

Under the syntactic analysis presented here, DPRTs comprise a *category* in the sense of Wiltschko (2014) (cf. Coniglio 2009, Meibauer 1994, Struckmeier 2014). This captures one of the early insights from Weydt (1969), who described DPRTs as a function class. Their class/categorial status is not lexically encoded, and neither is their specific orientation, as I extensively argued. Both are *derived* from syntax. I do not assume DPRTs are categorized a priori, and do not assume that categorization necessarily is an inherent part of the lexical entry of a UoL. Recall that under the USH, a category *c* is seen as language specific. *c* is the result of a UoL associating with a categorizer κ in the Universal Spine; categorial identity *c* is therefore derived via syntactic association. I presented a proposal, which suggests that the three DPRT classes are the result of the association of UoL with different layers in the extended syntactic spine: Ground_A, Ground_S and CP. I presented evidence in favor of this proposal from DPRT co-occurrence and order, scope facts with DPRTs, adverbs and confirmationals, and from accent on DPRTs.

In Chapter 2 I raised the question regarding the phrasal status of DPRTs as

modifiers or as heads. The association with different heads (Ground_A, Ground_S and C), their predicative function, as well as the obligatoriness of DPRTs (in context) suggests that DPRT behave like heads. However, regarding the question about their overt linearization, I also addressed the initially puzzling question of the high positional scope of DPRTs, which arises regardless of their syntactic integration. I argued that the linear position of DPRTs is at the IP boundary, the overt position from where they can connect the propositional content of an utterance to a discourse participant anchor. This in turn suggests they associate in this IP position as modifiers, since association as heads at IP, assuming the head movement constraint (Travis 1984), would block verb movement to C. DPRTs therefore display a mixed behavior- they associate with syntactic heads in the left periphery, but associate as phrases at the IP boundary.

Regarding the overt linearization of DPRTs at the IP boundary, I suggested a preliminary account based on the verb second phenomenon, without being able to provide a full analysis however. I hypothesized, following a proposal in Ritter and Wiltschko (2014), that the substantive content of the UoLs used as DPRTs values a coincidence feature on the associating syntactic head.

Chapter 7: Conclusion- summary and open questions

*For a large class of cases – though not for all –
in which we employ the word "meaning" it can
be defined thus: the meaning of a word is its
use in the language [. . .].
(Wittgenstein 1953:43)*

7.1 Introduction

In this chapter I summarize the findings of this dissertation. I started out with the observation that DPRTs in MB are pervasively multifunctional. The main thesis developed here is that DPRTs are not intrinsically identified as such, i.e., the very notion of *discourse particle* is derived. In particular, lexical elements like a discourse particle are often taken to be an unstructured bundle comprised of sound π , meaning Σ , and a categorical identity c . Following Wiltschko's (2014) approach towards multifunctionality, I have argued that in MB, the categorical identity of DPRTs is a function derived from a unit of language (UoL), which in turn consists of sound and meaning alone $\langle \pi, \Sigma \rangle$. Following the approach in Hentschel (1986), I attempted to provide a very basic synchronic core meaning for each UoL, based on diachronic meaning. Used within a specific syntactic context κ , this UoL may receive a discourse function (provided by the intrinsic function provided by the categorizer κ) (cf. Thurmair 1989, who speaks of 'discourse particle function'). The (perception of a) category c is the end result of the derived function of the UoL within the syntactic context. That is, categories c are always language specific, and can be derived; they are not necessarily primitives (Wiltschko 2014).⁹⁹ This is summarized below:

⁹⁹ This does not mean that we wouldn't ever find categorized UoLs crosslinguistically. In fact, we expect to find UoLs that are categorized, since a π, Σ, κ triplet can be bundled in a variety of ways. See Armoskaite (2008) for discussion.

- (1) a. Traditional view: DPRTs $\rightarrow \langle \pi, \Sigma, c \rangle$
 b. Approach in this dissertation: DPRT (=c) $\rightarrow \langle \langle \pi, \Sigma, \kappa \rangle \rangle$

Generalizing over the tri-member bundle in (1) a can lead to a variety of problems with attempts at categorization and analysis, as observable in the case of MB DPRTs. Recall from Chapter 2 that many of the widely observed properties ascribed to DPRTs do not constitute necessary and sufficient conditions to identify DPRTs as a category. The reason for this is that generalizations are made over $\langle \pi, \Sigma, c \rangle$, yielding descriptively adequate results, but lacking in analytical and predictive strength. I showed in this dissertation that many of the properties discussed in Chapter 2 fall out from the proposal made here. I will recap these properties now and summarize how the analysis provided here addresses them in 7.2. I also address DPRT grammaticalization (7.3), their lexicalization patterns (7.4), and finally address the status of conversation vs. sentences as object of formal investigation (7.5), before I uncover avenues for future research and conclude in 7.6.

7.2 DPRT properties revisited

Many of the issues and questions raised associated with DPRT properties raised in Chapter 2 can receive at least a partial answer under the analysis developed here. In particular, the questions I addressed include the following:

- i) DPRTs are multifunctional (7.2.1)
- ii) DPRTs are (seemingly) optional (7.2.2)
- iii) the categorial status of DPRTs is hard to determine (7.3.3)
- iv) DPRTs have propositional scope (7.2.4)

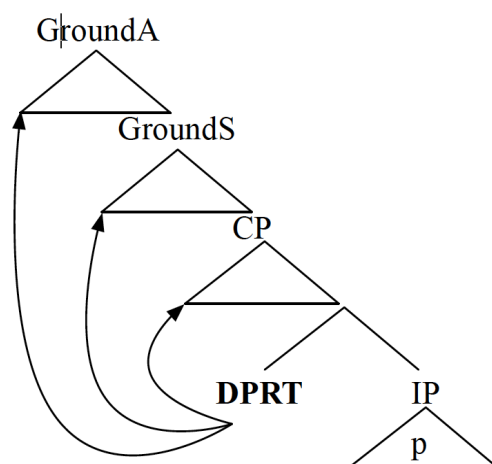
- v) DPRTs show sentence type restriction (7.2.5) and
- vi) the contribution of DPRTs to the utterance is hard to pin down (7.2.6).

7.2.1 Multifunctionality: orientations and functional range

I showed that DPRTs are multi-functional in two ways: (i) a UoL that is used as a DPRT can be used with other categorial identities (multi-functionality across categories) and (ii) DPRTs have a functional range. I endeavored to account for the second property in this thesis.

I also showed that DPRTs have varying orientations. We have seen evidence that DPRTs need to be classified into three types, rendering three types of DPRT functions; that of indicating the epistemicity of addressee, that of the speaker, and of other, respectively. I showed that the latter two, functional range and orientation, are the result of the association of a UoL with three distinct functional projections, Ground_A , Ground_S , and CP in the extended Universal Spine, as illustrated below. However, although I haven't shown an analysis in this dissertation, I also assume that multi-functionality across categories is derived via varying association in the Spine.

- (2) DPRTs are derived from associating a UoL with a functional layer



Regarding the functional range of DPRTs, I showed that DPRTs can receive a variety of interpretations, depending on the context. Context includes the immediate discourse, the situation in which the discourse occurs, as well as the world-knowledge shared by all discourse participants.

$$(3) \quad f_{DPRT} + Cx_{Disc,Sit,World} \rightarrow \text{functional range}$$

I conducted in-depth case studies deriving the functional range of three MB DPRTs: *ja*, *doch* and *fei*. Each of them can fulfill a variety of functions, determined by their core contribution as DPRT, and the discourse context they occur in. In particular, epistemicity matrices, which show the epistemic states of the speech act participants in a specific context independently of the DPRTs, proved to be useful; they show that an individual DPRT may be compatible with certain contexts, but that the DPRT does not have to encode fine-grained contextual information itself; it follows that the most economical approach to achieve the widest range of functions should be adopted.

I argued that the notion of *UoL in context* was the simplest way to derive both types of multi-functionality, DPRT orientation, and functional range. It was shown to be the narrower (syntactic) context for the former, and wider (discourse, situation) context for the latter that was able to derive the observed functions.

7.2.2 Optionality

DPRT are often considered optional in a sentence. However, I showed that the notion of a clause can be defined as the maximal projection of the highest functional category associated with a small clause. I argued that within a discourse context, this has to include the discourse participants S and A, and this highest functional category

is GroundP. That is, the linguistic context determines the size of a “sentence”, and the form of a sentence may change in the context of a conversation. This means, a clause can differ in size depending on the context. I showed that whereas DPRTs are indeed optional with sentences in isolation, this seeming optionality disappears in some discourse contexts, namely in those where grounding of a sentence via GroundP has to occur. This grounds a sentence in the ongoing discourse.

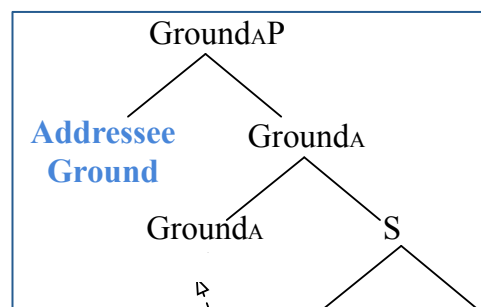
7.2.3 Categorical status

DPRTs are a *category* in the sense of Wiltschko (2014). Their categorial status is not lexically encoded, however, but syntactically *derived*, by association of a UoL (a sound meaning bundle) with a syntactic categorizer κ , the head of a functional projection.

$$(4) \quad \text{DPRT } (=c) \rightarrow \langle \langle \pi, \Sigma, \rangle \kappa \rangle$$

The analysis developed here allows us to understand the dual status of DPRTs. On the one hand they associate with the spine at the IP level as phrases. Subsequently however, they associate with a higher head at the left periphery. This is exemplified here with the DPRT *fei*.

$$(5) \quad \textit{fei} \text{ associates with the categorizing head } \text{Ground}_A$$



Fei, in (5) associates as a phrasal modifier and subsequently values Ground_A from its low syntactic position within the propositional structure. Since I don't rely on features here, for example on specific feature specification of DPRTs themselves, such as a clause type feature which would allow them to value a clause type features on a higher syntactic head, the exact valuation/agree mechanism between DPRTs and the grounding layer needs to be further investigated and is an open issue. For now I suggest, following Ritter and Wiltschko, (2014) that it is the core lexical content Σ itself that values a coincidence feature in the sense of Hale (1986).

In sum, since DPRTs associate as phrasal modifiers but can simultaneously associate with a higher head they show properties of both heads and phrases.

7.2.4 Propositional scope

DPRTs have scope over the proposition, yet they overtly occur within the propositional structure. Moreover, DPRTs outscope sentence level operators such as modals and quantifiers (Gutzmann 2008). Under the assumption that scope is assigned under c-command (e.g. Hinzen 2006), and given their overt position, the propositional scope of DPRT is puzzling.

The syntactic model proposed here again accounts for this particular property. Whereas DPRTs do not overtly occur in the peripheral layer (GroundP and CP), they *associate* with this layer via an agree-type mechanism based on a coincidence feature on the head to be valued by the core content of the UoL (Ritter and Wiltschko 2014). Hence they are interpreted above the propositional structure deriving the semantic scope over other sentence level operators.

7.2.5 Sentence type restriction

I argued that DPRTs are sensitive to the epistemic states of the interlocutors. I also showed in Chapter 3 that the form of an utterance, i.e. its clause type and associated intonation contour, establishes a particular epistemic stance of a discourse participant toward p. I suggested that the interaction of DPRTs with different forms is based on the compatibility between the epistemic stance expressed with the DPRT, and the epistemic stance (via commitment) expressed in a form. That is, if a form expresses A commitment (and by proxy, A belief), we predict it to be compatible with a DPRT which expresses A epistemicity. Similarly, if a form expresses S commitment, it is predicted to be compatible with S oriented DPRTs, those that express S epistemicity. This was shown to be borne out in 4.4.

Therefore I claim that the clause type dependency of DPRTs is not based on a direct (syntactic or formal semantic) dependency between features hosted in the clause and features encoded in DPRTs, but is mediated indirectly via the compatibility of epistemic stances expressed with each. In short, the sentence type dependency of DPRTs is not directly mediated by syntax.

7.2.6 Contribution to an utterance

There has been a debate in the literature as to the semantic contribution of DPRTs. They are clearly considered to lack truth-conditional import, but rather influence the use-conditions of an utterance. I have shown that the DPRTs under consideration in this dissertation are UoLs that modify speech acts. Specifically, the main function of DPRTs is to express A-, S-, and or O attitude by amending the default commitments of the speech act participants (A, S), or of the epistemic reference point (O). Furthermore, A-oriented *doch*, as well as *ja*, appear to have presuppositional effects,

in that they are compatible with contexts which refer to mutually shared knowledge between S and A. However, shown in Chapter 5, these effects derive indirectly from the interaction between the discourse context, the host utterance, and the core semantic contribution of the UoL. Particularly the fact that the contribution of DPRTs cannot always be accommodated suggests that DPRTs are not coupled with presuppositions.

7.3 Grammaticalization

The multi-functionality of DPRTs is traditionally framed within the context of grammaticalization theory (e.g. Abraham 1991, 2001; Bayer 2012; Diewald 2008; Hentschel 1986; a.o.).

Grammaticalization is defined as the change from lexical to functional categories (van Gelderen 1993, Lehmann 1995, Abraham 2001). Traugott (2003:645) defines it as “the process whereby lexical material in highly constrained pragmatic and morphosyntactic contexts is assigned grammatical function, and once grammatical, is assigned increasingly grammatical, operator-like function”

Grammaticalization processes are characterized by a host of accompanying characteristics (Lehmann 1995). These include phonological reduction and loss of semantic substance, often referred to as phonological attrition and semantic bleaching, respectively.¹⁰⁰ Related to phonological reduction is coalescence, which refers to the observation that grammaticalization generally proceeds from free (lexical) forms to bound forms. Another characteristic includes a decrease, or reduction of structural

¹⁰⁰ See Bayer (2012) for a discussion of the development of Bavarian *denn* to the clitic ‘*n*. In the MB dialect, grammaticalization has not proceeded as far as what Bayer reports. He analyzes ‘*n* as an obligatory interrogative marker in Bavarian.

scope of grammaticalized items, and a decrease of syntactic freedom. If we apply these well-established principles to DPRTs, a diachronic grammaticalization theory for DPRTs seems plausible in some respects, but implausible in others. DPRTs don't behave like other grammaticalized items such as case marking (Wegener 1998). Especially the property of reduced scope does not fit the functional description of DPRTs. Their scope is not reduced; rather DPRTs increase their scope to the propositional level. A common grammaticalization path for DPRTs is proposed by Abraham (1991).

(6) LOCALISTIC > TEMPORAL > LOGICAL > ILLOCUTIVE / DISCOURSE FUNCTIONAL

This grammaticalization path does not have to be understood as exclusively diachronic, however. Roberts and Roussou (2003) define grammaticalization as the upward reanalysis of a given lexical item or feature: “Successive upward reanalysis along the functional hierarchy is [...] how we define grammaticalisation paths” (Roberts and Roussou 2003:202); the functional hierarchy maps straightforwardly onto the Universal Spine. Under the framework assumed here then, grammaticalization proceeds from low to high in the spine.

The fact that DPRTs encode attitude also leads to the proposal of processes separate from grammaticalization, referred to as subjectification and intersubjectification or pragmaticalization (e.g. Diewald 2011, Traugott 1995, cf. Brinton 1996). However, the concepts of inter/subjectification and pragmaticalization can be understood in the context of the extended spine as well, where pragmaticalization can be understood as the grammaticalization of discourse functions (Diewald 2011). If an item associates with Grounds, we can understand this as

instantiating subjectification; S attitude is added to the interpretation of the associating UoL. If association is with Ground_A, we can understand this as intersubjectification; A attitude (as assessed by S) is now part of the interpretation of the associating UoL. Both can be seen as pragmaticalization, which can be understood as moving away from “core” (i.e. CP-level) grammatical function to discourse functional (i.e. Ground-level) grammatical function. In this light, we can see grammaticalization, inter/subjectification and pragmaticalization approaches to DPRTs as the result of upward categorial reanalysis.

In addition to the points made above, arguments that exclusively defer to diachrony in the analysis of DPRTs fail to capture important synchronic patterns; they do not address the great heterogeneity of “source” UoLs that can serve as DPRTs. These cut across the lexical-function class. A grammaticalization cline as proposed in (6) may be able to capture DPRTs, which derive from temporal adverbs such as *jetz*. They cannot, however, account for DPRTs such as *ja* and *doch*, whose lexical counterparts are affirmative response particles. They also do not capture the observation that very specific meaning components are shifted in DPRT use, but are synchronically present in the other uses.¹⁰¹ This (deixis) shift and reanalysis are not unconstrained however. Not every UoL can associate with GroundP and express a DPRT function. This leads us to the question as to why ‘Heather’ is not a discourse particle.¹⁰²

¹⁰¹ This shift in meaning is referred to as deixis shift in Hentschel (1986) leading to her concept of metacommunicative deixis.

¹⁰² This question is due to Hotze Rullmann, who asked very early on in my research about the way we can constrain what kinds of lexical items (here: UoLs) grammaticalize into DPRTs.

7.4 Lexicalization patterns

If DPRTs do indeed associate with GroundP, and if it is their lexical content that serves to activate it, then they have to be based on UoLs whose content is compatible with GroundP. Is there a principled way to predict what this content may be?

There is a close connection between epistemicity as discussed here on the one hand, and epistemic modality, and evidentiality on the other (de Haan 2001, Zimmermann 2011). The connection is the following: a basic definition of deixis usually stresses the grounding of an event in time or space. This grounding can occur via the commitments and beliefs of the discourse participants, as it became obvious from the discussion in this dissertation. It is also possible to ground an event in discourse according to its source, the interpretation then is one of evidentiality. In the words of de Haan (2001:201) evidentiality (also referred to as epistemic modality) refers to “the marking of the source of the information of the statement”, whereas epistemicity refers to “the degree of confidence the speaker has in his or her statement.”

This connection, I hypothesize, could be related to the way various aspects of the utterance situation and the way its contextual variables are modified. It has been proposed independently by a variety of authors that aspects of the utterance situation are encoded in CP as a contextual index (Truckenbrodt 2006), the spatio-temporal coordinates of the speaker (Giorgi 2010), or a generally more abstract context variable including minimally the discourse participants S and A, time, and location (McCready 2007, cf. Kaplan 1989). The analysis I provided here in essence proposes to distribute this context index across several syntactic heads (cf. Giorgi and Pianesi's 1997 feature scattering). It is predicted then that we could find DPRTs which relate the proposition

to each of these aspects represented in the context variable, including time, place, manner, EPR, S and A. This seems to be borne out indeed. I showed that DPRTs exist which relate to (the functional content of) speaker, addressee and other (=epistemic center, or EPR).¹⁰³ I also showed that there are DPRTs that relate to the temporal component (*jetz* and *eh*).

We therefore expect that lexicalization patterns follow from UoLs which express content that is compatible with the content expressed in the context variable. If the context index encodes *time, place speaker, addressee, point of reference, source of evidence, manner* we expect to find DPRTs, which relate the proposition to these aspects of the context index. This is the reason that referential UoLs (such as ‘Heather’) are not expected to be used with DPRT functions. The core content of the UoL has to be consistent with an aspect of the context index.

It is a matter of further research to corroborate this claim. However, the claims made here so far fall out from this proposal. Also note that the ‘lower’ DPRTs relate to time (*eh, jetz,*), whereas higher DPRTs relate to S, A belief, also consistent with the idea that the *speaker* and *addressee* aspects of the context index are represented separately in higher syntactic projections, as proposed in the Extended Universal Spine.

¹⁰³ I follow Thurmair (1989) with the assumption that the ‘ethical dative’ is a discourse particle, directly spelling out the person features of the related discourse participant (cf. Gutzmann 2007 for arguments against this). Ethical datives are theta free, thematically unbound (i.e. free) dative: can co-occur with real dative (i)b. It spells out pronominal features of the speaker ‘to me’, resulting in an ‘affected’ interpretation (cf. Horn 2008)

- (i) a. DU bist **ma** awa a Gauner!
 you are **me** DPRT DET Bandit
 “Aren’t you quite the bandit’ (affectionate)
- b. Ziag **ma** de Kinda wos warms oo!
 put.imp **me** DET_{DAT} children_{DAT} something warm on
 “(I care that you) Dress the kids warm!”

7.5 Conversation as the basic setting

I showed that the extension of the Universal Spine accounts for the DPRT orientations. It is also a crucial factor for our understanding of the apparent optionality of DPRTs. Once discourse context is taken into consideration, the concept of ‘clause’ has to include the grounding layer and its functional representation of the speech act participants S and A; DPRT optionality, under this wider definition of clause, disappears. DPRTs are not, in fact, optional when considered within a larger discourse context. It is not surprising at all to find an obligatory activation of a speech act, discourse level layer such as GroundP, under the assumption formulated in Clark (1996). Clark builds his theory of language use, some of which was adopted in this dissertation, on the following premise:

“The basic setting for language use is face-to-face conversation. For most people conversation is the commonest setting of language use, and for many, it is the only setting. The world’s languages have evolved almost entirely in spoken settings. Conversation is also the cradle for children learning their first language. It makes no sense to adopt an approach to language use that cannot account for face-to face conversation, yet many theorists appear to have done just this. And if conversation is basic, then other settings are derivative in one respect or another.” (Clark 1996:24).

With this premise, Clark turns a basic assumption of generative grammar on its head, namely that the basic unit of analysis is a sentence, or clause. A ‘clause’, as I already discussed in 6.3.2, is not necessarily a clearly defined unit; its definition depends on the syntactic context. It is generally accepted that ‘clause’ is mapped onto CP, with CP as the boundary of phenomena that are considered ‘grammatical’. Elements such as parentheticals, discourse markers, vocatives, interjections, left-

dislocands, formulae of social exchange, etc. are then considered extra-clausal, operating outside the confines of sentence grammar.¹⁰⁴ However, taking conversation, as the basic unit of analysis, it would be a matter of course to include a notion of the speech act layer. This understanding for the need to extend our concept of grammar, breaking out from the traditional confines of CP syntax, is programmatic, and opens the door to understanding many other discourse/speech act-level phenomena, as evidenced by the emerging body of literature on this topic presented in Chapter 6.

7.6 Further research

The analysis pursued here opens a variety of avenues for further research on DPRTs, within German and its dialects, but also crosslinguistically. Regarding the sentence type restriction observable with MB DPRTs, I showed that it is not based on a dependence on syntactic or semantic features, but falls out from the syntactic approach; each form (clause type and intonation) expresses a discourse participant's epistemicity (via commitment expressed in the form, commonly seen as the illocutionary force of that form). DPRTs themselves via (syntactically) associating with a discourse participant, also express a discourse participant's epistemicity. Both, the epistemicity expressed in the form, and the epistemicity expressed with the DPRT have to be compatible with each other. The unique core semantic content of a DPRT serves to amend the commitment, i.e. illocutionary force expressed in an utterance (cf. Jacobs 1986). It is an empirical matter left for future research of showing the full range of data this type of proposal predicts for MB.

¹⁰⁴ A recent call for a conference on elements 'Outside the Clause', with a resulting publication with the same title included all of these listed elements as belonging to the group of "extra-clausal constituents". (Gunther Kaltenböck, Evelien Keizer and Arne Lohmann (eds.). 2016. *Outside the Clause. Form and function of extra-clausal constituents*. John Benjamins)

The system of indicating the epistemic states of discourse participants, as I established it in Chapters 4 and 5, also allows for the crosslinguistic investigation of DPRTs; it makes predictions about possible particles, within the parameters set out. These include the center of epistemicity (who believes what), and the timing (before the time of utterance, at the time of utterance). In addition, given the hypothesis in 7.4 about the lexicalization patterns of DPRTs, the analysis presented here predicts specific semantic content to be amenable for DPRT function.

We would predict, for example an S-oriented DPRT that expresses that S *does not* believe p at the time of utterance. A potential candidate in MB could be the negative particle *ned*. Not considered a DPRT under most accounts, some researchers, e.g. Thurmair (1989) and Weiss (2002) consider *ned* (SG *nicht*) as a DPRT. Consider the example below, containing an instance of this so-called ‘expletive negation’ referring to the fact that *ned* does not introduce a negative reading.

- (7) *Wos hod’a eam ned oiss vasprocha!*
 what has.he him **ned** all promised

“Oh all the things he promised!”

(Weiss 2002, ex: 40)

Furthermore, assuming a basic parallelism of the nominal and verbal spines, the theoretical claim in this dissertation predicts that we would expect to find the corresponding function to grounding in the nominal spine, in essence, a way of grounding DPs with a discourse participant. Suggestive that this is borne out is the fact that some DPRTs can occur with DPs, as shown below.

- (8) Cx: 11-year-old Sebastian is wondering how to become immortal. Sepp suggests that if he had children, he'd leave an indirect immortal legacy through his genes. Sebastian is unclear about the process of procreation, and further inquires how it works. Sepp explains:

Sepp: *Oiso, do brauchst ois ersts amoi an sauban Hosn.*¹⁰⁵
 well there need.you when first once DET clean bunny

“Well, for starters, you’ll need an attractive girl.”

Sebastian: *Mia ham aba koane Hosn mehr!*
 we have but NEG.DET bunnies more

“But we don’t have bunnies anymore!”

Sepp: *A doch ned an soichan, Depp...*
 PRT doch NEG DET such.one idiot,

...a saubas Madl hoid ganz einfach!
 ...DET clean girl halt whole PRT

“Not a bunny like that, you idiot, simply an attractive girl!”

It is again a matter of further research to analyze these instances of DPRTs, as well as to uncover the functional equivalent of DPRT function at the DP level, should it exist. Given that the three primitives sound, meaning and category are independent, it is expected that Universal Grammar makes use of different combinatorial possibilities. For example, we might expect to find *dedicated* DPRTs, UoLs that directly encode attitude in their lexical entry.¹⁰⁶ These UoLs are predicted to have very different distributional behavior from the types of UoLs with DPRT function discussed here, since function is not tied to their place of association in the Universal Spine. Whether these predictions are borne out will have to be seen. For now, however, I have presented a principled system for analysis of DPRTs, and have identified variables

¹⁰⁵ ‘*a saubana Hos*’ is (one of the many) not very politically correct Bavarian equivalents to an ‘attractive girl’

¹⁰⁶ *Fei* might in fact be a DPRT that is underway to incorporate the attitudinal element in its lexical entry: it is mono-functional as DPRT and cannot receive another interpretation.

that allow us to approach and analyze other DPRTs, not only in MB, but also cross-linguistically.

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