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„Function and Meaning of German Modal Particles by their Japanese Correspondents“

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Contents

List of abbreviations

ACC	accusative
C	complementizer
COND	conditional
CONT	continuation form
COP	copula
FN	functional noun
FOC	focus
NEG	negation
NOM	nominative
NMLZ	nominalizer
NPST	non-past
P	pre-/postposition
POSS	possessive particle
PROG	progressive
PRT	particle
PST	past
Q	question/interrogative marker
RES	resultative
SFP	sentence-final particle
TOP	topic

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1 Introduction

This thesis is divided into four chapters. In the present introductory part, the methodology for determining which elements can be considered correspondents of MPs will briefly discussed in section 1.1. In section 1.2, two previous contrastive approaches on MPs and their Japanese correspondents will be summarized. The second chapter summarizes a number of previous analyses of German MPs and Japanese expressions which will be discussed in the subsequent third chapter, where correspondents for *wohl* and *doch* will be identified, aiming to find a common meaning core for the examined MPs and their Japanese correspondents. In the fourth and final chapter, the main findings will be briefly summarized and possible topics for further research will be addressed.

The goal of this work is to contribute to the understanding of the function and meaning of the German modal particles (henceforth MPs) *wohl* and *doch* (and, to some extent, *ja*) by analyzing correspondence relations between them and Japanese expressions, building on previous analyses for both the MPs and their correspondents. Zimmermann (2011) gives the general meaning of MPs as:

> Discourse particles provide the discourse participants not with descriptions of particular states of affairs, but rather with clues as to which propositions count as mutually accepted, as controversial, or as uncertain.
> Zimmermann (2011:2013)

The term 'discourse' (rather than 'modal') particles is preferred by Zimmermann to account for their function of "organiz[ing] the discourse by expressing the speaker's epistemic attitude towards the propositional content of an utterance" (2011:2012) and to set them apart from other modal expressions which, in contrast to MPs, add to the descriptive meaning of an utterance. In this thesis, the term 'Modal Particles' is used one the one hand since it is widely used in the German literature, on the other hand to differentiate MPs from discourse structuring elements such as conjunctions or connectives in general. The claim that utterances with MPs are comments on the epistemic status of their propositions, which will be made in the latter parts of this thesis, is in principle compatible with Zimmermann's characterization, but does not take their function of organizing the discourse to be a primary one. Alternatively, the term 'epistemic particles' could be used in line with this central claim, which would have the advantage of making the distinction between modals and MPs more obvious.

1.1 Correspondence vs. equivalence

The aim of this introductory section is to show how Japanese correspondents of German MPs can be identified for the purposes of this thesis. Previous contrastive work on German MPs can be roughly divided into two groups: one the one hand, MPs have been approached as a problem for (literary) translation and/or L2-teaching, mainly by philologists. On the other hand, there have been attempts to identify elements in languages other than German which correspond to MPs, or classes of such elements. The first group could be called 'equivalence approaches' as their foremost subject matter are expressions containing MPs and their translations which are equivalent in the sense of the communicative effect they achieve. The second group could consequently be dubbed 'correspondence approaches' in that their foremost goal is to identify elements in a language other than German which correspond to MPs in the sense of making the same (or, at least, a similar) minimal contribution to the utterance meaning within a given utterance context. A subgroup within these correspondence approaches are those which try to identify a class of elements in languages other than German which share syntactic, morphological, semantic and/or pragmatic properties with the class of MPs. This thesis is following the correspondence approach in seeking to find minimally corresponding pairs, and in that the approach is rather a theoretical one aiming at the identification of correspondents which make the same semantic contribution even if their actual uses might differ significantly in other than the discussed contexts (this would be of primary interest for an equivalence approach). In addition to minimal pairs, analyses for both MPs and their correspondents will be compared in order to explain how correspondence comes about in concrete utterance contexts considering the basic contributions of the respective elements.

Correspondence between an MP and a Japanese element X (and *vice versa*) holds iff a German utterance A is equivalent to a Japanese utterance A′ and a version A+MP of the German utterance is equivalent to a version A′+X of the Japanese utterance. Such straightforward correspondents are often hard to come by when MPs are involved[1], and the Japanese correspondents of MPs are expected to vary depending on their use in the specific utterance context. Also, we will encounter a number of cases in which an MP has more than one Japanese correspondent in otherwise similar utterances. When, for example, an utterance A+MP has two Japanese equivalents such as A′+X+Y and A′+X+Z, X will be considered a 'core' correspondent of the MP, while Y and Z are

[1]For examples, *cf.* Burkhardt (1995) for Italian, French, and English; Feyrer (1998) for French, Beerbom (1992) and Ferrer Mora (2000) for Spanish; the summary of Werner (1998) in section 1.2.1 for Japanese.

(however integral) parts of the corresponding elements, suggesting that a finer grained analysis of the correspondence relation is necessary. Furthermore, there is the possibility of a conventionalized use which is only possible with an MP, but not its Japanese correspondent, or *vice versa*. When this can be explained by pragmatic reasoning, it does not necessarily mean that correspondence does not hold, and has to be distinguished from cases in which there is a difference in meaning, rather than usage, between an MP and its correspondent.

In chapter 3, previous analyses for both MPs and their correspondents will be compared in order to determine which core semantic and pragmatic properties both share. In the ideal case, parallels in the analyses can independently motivate the correspondence relation identified through minimal pairs, and thus explain the nature of the correspondence relation as well as its limitations.

1.2 Previous correspondence approaches

While there has been a number of contrastive approaches to MPs and their correspondents in Indo-European languages, few exist for Japanese correspondents. In this section, two approaches making connections between Japanese elements and MPs will be summarized.

1.2.1 Werner (1998): Translating MPs into Japanese

The main focus of Werner's work is whether a class of elements similar to that of MPs can be identified in Japanese (1998:7). She concludes that sentence-final particles (henceforth SFPs) are a likely candidate for such a class: "[...T]he functions of German Modal Particles [...are] mainly covered by SFPs and some *Fukushi* (adverbs) in Japanese" (1998:146–147). In this section, the results of Werner's empirical work will be summarized and an example for a Japanese adverb corresponding with an MP will be discussed.

In the empirical part of Werner (1998), informants (all native speakers of Japanese with an "excellent command of German") were requested to translate versions of a polite request "Please open the window" into Japanese. The context for the translation task was given as the speaker entering a room in which one or more acquainted persons are present, asking them to open the window. The variations of the German utterance included the addition of the MPs *mal* and/or *doch*, but also the addition of *bitte* ("please") either in adverb position or fronted. Some of the strategies employed by the informants to translate these variations into Japanese are summarized in table 1.[2]
Four of the strategies employed for equivalence in the informants' translations are shown. First, syntactic variation by adding a question particle and optionally negating the light verb of giving or taking (which typically occurs in polite requests. Second, morphological variation by conditional morphology on the main verb (denoting the act of opening the window), which can be paraphrased on the lines of "[What if we] would open the window", making the request an indirect speech act. Third and fourth, the sentence-final particle *yo* and the adverb *chotto*.

[2]Note that co-occurrence of two strategies means that each of them was employed in at least one Japanese translation, but not that all of the strategies were employed in a single translation. For example, the SFP *yo* can not occur after conditional morphology, but some informants chose the SFP, others a morphological strategy to achieve equivalence when all of *bitte*, *mal* and *doch* were added in the German version. Check marks in brackets indicate that the respective strategy has only been employed by one informant.

Table 1: Selected results adapted from Werner (1998:179–190)

base data			translations			
bitte	*doch*	*mal*			*yo*	*chotto*
("please")	MP	MP	Q(+NEG)	COND	SFP	ADV
✓	–	–	–	–	(✓)	–
–	✓	–	–	✓	✓	–
–	✓	✓	–	✓	✓	(✓)
✓	✓	✓	✓	✓	✓	✓
✓fronted	✓	–	✓	✓	✓	✓
✓fronted	–	✓	✓	–	✓	✓

Syntactic variation was only attested when the German versions were relatively marked compared to the basic utterance by addition (and fronting) of *bitte* and addition of MPs, which presumably was perceived as more polite. Although all of the versions of the German utterance considered for this table were declaratives, some of the informants translated them as interrogatives. This shows that the results in this point can not be taken to directly reflect correspondence relations, as such a relation between MPs and *bitte* on the one hand and interrogatives on the other is not likely.

There is a correlation between occurrence of conditional morphology and *doch*. Karagjosova (2004:169) analyzes *doch* in its function to make requests more polite as indicating the common knowledge that the addressee's bringing about the propositional content (here: "open the window") would be reasonable in the utterance situation, but the addressee might have forgotten about that. Conditional morphology, on the other hand, is unlikely to encode such a common-knowledge presupposition, but rather presents the request as a suggestion in an indirect speech-act. Such a strategy is also available in German (and English), where an utterance on the lines of "How about opening the window" has a similar effect, and is more likely to correspond to conditional morphology than *doch*, as this correspondence relation holds in cases other than (polite) requests as well. That is, the communicative effect of conditional morphology in polite requests is similar to that of *doch*, but it arises from unrelated basic meanings. Thus, the correlation observed here is of more interest for an equivalence than for a correspondence approach.

The SFP *yo* occurred in many of the translations, as did other SFPs. As noted above, Werner considers SFPs to be indispensable for translating MP-utterances into Japanese. However, as the distribution of *yo* in the translation task suggests, there are (to my knowledge) no one-to-one correspondence relations between SFPs and MPs. Sentence-final elements in general (sometimes containing SFPs), however, do often correspond

to MPs, as will be shown in chapter 3.

Another possible MP-correspondent is the adverb *chotto*. Its distribution in the translations is similar to that of interrogatives,[3] this because it serves to weaken requests and thus has an affinity to (more indirect) interrogatives as opposed to (more direct) declarative requests. Its intuitive contribution being roughly that the speaker deems the request to be easily fulfilled makes it a likely correspondent for *mal*, and while the latter is not an MP of primary interest for this thesis, it shows that not only sentence-final elements, but also adverbs can cover the function of MPs in Japanese. Just like *mal*, *chotto* can either be an adverb meaning "to a small/low degree" as in (1)a, but has an MP-like use as in (1)b.

(1) a. Mado-o chotto ake.te.
Window-ACC a little open.CONT

b. Chotto mado-o ake.te.
a little window-ACC open.CONT

(1)′ a. Mach das Fenster ein bisschen auf
"Open the window a little"

b. Mach mal das Fenster auf
"Open *mal* the window"

In (1)a, *chotto* is adjacent to the predicate "open" in linear order, which is its canonical position as an adverb. As in the German translation in (1)′a and its English paraphrase, this modifies the degree of the action denoted in the predicate, that is the speaker asks the addressee either to crack the window open or to open it for a relatively short period of time. In (1)b, on the other hand, *chotto* occurs on the left periphery of the clause. While this still allows for an interpretation as in (1)a if *chotto* is phonologically prominent (indicating focus), the interpretation with neutral intonation is equivalent to that of (1)′b. There is no direct English translation for this utterance. Instead of modifying the degree of the action denoted in the predicate, *chotto* and *mal* weaken the request. This could be an instance of weakening the strength of directive force, in parallel to *wohl* weakening the strength of assertive force (*cf.* the summary of Zimmermann (2008), in section 2.1.1).

[3]The distribution of *chotto* differs from that of *mal* most likely because without the inclusion of *bitte* in the German original, the utterance is not polite enough to warrant a translation with *chotto*.

1.2.2 Kosaka (1989): Sentence Nominalization and MPs

Kosaka (1989) argues for a correspondence relation between MPs and Japanese sentence nominalization, that is a nominalizer *no* attaching to the predicate, connecting the MP *denn* (which only occurs in questions) with sentence nominalization. Kosaka proposes that by uttering a question with *denn* or with corresponding *no*, the speaker asks "whether the assumed or presupposed proposition is true or not" Kosaka (1989:162–163). That is, *denn*- and *no*-questions indicate that the speaker assumes that the positive question alternative holds, and utters the question to confirm this with the addressee. Consider the following example of a negative polar question for correspondence between *denn* and *no*:

(2) A: "I'm buying a house"
B: Kane-wa aru no ka?
money-TOP exist NMLZ Q
"Do you have money [for that] *no*?"

(2)′ B: Hast du denn Geld dazu?
"Do you *denn* have money for that?"

adapted from Kosaka (1989:169)

A's utterance in (2) leads B to assume that A has money, as this is a prerequisite for buying a house. The existence of this (provisional) belief is what triggers the use of *no* in B's utterance. The alternatives in the question set denoted by B's utterance are roughly "You have money" and "You don't have money". Kosaka argues that *denn* and *no* in positive polar questions indicate that the speaker assumes that the first, positive, alternative holds. Next, another property shared by *no* and *denn* is that they disambiguate negative polar questions towards inner (or internal), as opposed to outer (or external) negation, as in this example:

(3) a. Eiga-ni ika.nai ka?
Movies-P go.NEG Q
≈"Aren't you going to the movies?"
b. Eiga-ni ikanai no ka?
Movies-P not.go NMLZ Q
≈"Are you not going to the movies?"

(3)′ a. Gehst du nicht ins Kino?
b. Gehst du denn nicht ins Kino?
"Are you (*denn*) not going to the movies?"

adapted from Kosaka (1989:165)

While the contrast comes out somewhat better in Japanese, an outer-negation reading is

out in the versions with *no* / *denn* as indicated by the lack of contraction ("Aren't you" vs. "Are you not") in the English paraphrase. While the versions in (3)a and (3)′a could roughly be paraphrased as "Is it not the case that you are going to the movies?", those with *no* and *denn* respectively would read "Is it the case that you are not going to the movies" — that is, as in positive polar questions, *no* and *denn* indicate that the speaker assumes the propositional content to be true, similar to check-questions.

Kosaka makes another interesting observation, namely that equivalents to sentence including the MP *etwa* (also occurring in questions) include both *no* and some additional element *demo*. His explanation is that *no* marks a presupposed fact in the *denn*-corresponding case, but an assumption in the *etwa*-corresponding case. This is illustrated in (4).

(in response to: "I'm buying an apartment")

(4) a. Kane-wa aru no kai
money-TOP exist NMLZ Q
≈"Do you have money [for that]?"

b. Takarakuji-demo atat.ta no kai
lottery ticket-*demo* win.PST NMLZ Q
≈"Is it that you perhaps won the lottery?"

(4)′ a. Hast du denn Geld dazu?
"Do you *denn* have money for that?"

b. Hast du etwa im Lotto gewonnen?
"Did you *etwa* win the lottery?"

adapted from Kosaka (1989:169)

In (4)a. and its German counterpart, *no* and *denn* respectively indicate that the sepaker has evidence (namely the preceding utterance) that p is true, and wants to confirm this with the addressee. In (4)′b., on the other hand, *etwa* indicates that while the speaker again has evidence for p, it presupposes "one of several propositions which seem unlikely to the addressee" (Kosaka 1989:168), and the relative unlikeliness of p has to be expressed overtly with *demo* in (4)b.

From Kosaka's observations, two functions of sentence nominalization can be derived. First, it can indicate that the speaker already believes one of the alternatives of a polar question to hold, much like in check-questions. Second, it can serve to make negation external. The relation between MPs, external negation, check-questions, and their Japanese correspondents will be discussed in more detail in chapter 3. In the remainder of this thesis, we will see that sentence nominalization with *no*, in connection

with a copula *da*, but also with *daroo*, plays an important role in the correspondents of MPs. There is thus the possibility, open for further research, that sentence nominalization can contribute to the understanding on the connections between *denn*, *etwa* and the MPs discussed in this thesis.

2 Previous analyses

In this chapter, analyses for the MPs *wohl* and *doch*, the latter together with analyses for *ja* as some consider the meaning of *doch* to be a subset of the meaning of *ja*, and for the Japanese elements *daroo* and *no.da* will be summarized. In the following chapter, *daroo* will be argued to partially correspond to *wohl*, and *no.da* together with additional elements to *doch*.

2.1 Analyses of *wohl*

Below, two analyses for *wohl* are summarized. Intuitively, *wohl* in assertions indicates that the speaker is not entirely sure whether its proposition holds or not. The analyses differ in their explanations of how this effect comes about. The approach in Zimmermann (2008) (section 2.1.1) analyzes *wohl* as a modifier on illocutionary type, the analysis of *wohl* in interrogatives therein has been extended to its (partial) Japanese correspondent *daroo* [4] in Hara (2006a) (summarized in section 2.3.2). The proposal in Gast (2008) (section 2.1.2) accounts for *wohl*, *ja* and *doch* within the same framework and is thus of interest for the hypothesis that there is a common meaning core to all three elements, which will be put forward in chapter 3.

2.1.1 Zimmermann (2008): Modifier of illocutionary force

Zimmermann (2008) argues that *wohl* is best analyzed as a modifier of sentence force which is base-generated in an adverb position but moves to SpecForceP in LF (assuming a layered CP as in Rizzi (1997)). He gives its basic meaning as:

(5) $[\![wohl_x]\!]$(p)=ASSUME(x,p)

Zimmermann (2011:2018)

That is, *wohl* indicates "a certain degree of epistemic insecurity about the proposition of the clause it occurs in" (Zimmermann 2008:201). *Wohl* only occurs in interrogatives and declaratives, but not in imperatives. Zimmermann argues that this is because it operates on the modal base of what can be known, that is an epistemic (as opposed to a factual, or deontic) modal base (2008:203)[5]. Within a Stalnakerian model of the common-ground (CG), this means that uttering a proposition p updates the CG with

[4] *cf.* section 3.1 for details on the correspondence relation

[5] Zimmermann explains the fact that in some cases, *wohl* appears to transform a syntactic question into an illocutionary imperative is explained via conversational implicature

p, making it incompatible with worlds in which $\neg p$ holds, while uttering *wohl*(p) updates the CG with an assumption that p, maintaining its compatibility with the possible worlds in which $\neg p$ holds. In this view, the communicational purpose of utterances including *wohl* is not to assert a proposition but to inform about the speaker's epistemic state (2008:216). The difference between the contributions of *wohl* in declaratives and interrogatives lies in the "epistemic reference point", which is inherited from that of the sentence type: in declaratives, the epistemic insecurity expressed by *wohl* is on the part of the speaker, in interrogatives, on the part of the addressee or both the speaker and the addressee (2008:204).

Thus, interrogatives with *wohl* are not licit in "expert contexts", in which the addressee is considered an expert in the sense that no epistemic uncertainty regarding the truth of the proposition in question is possible on their part (*cf.* Gunlogson 2003:92–93). (6) is an example for such a context.

(to an airline official:)

(6) #Geht der Flug *wohl* um sieben Uhr?
"Does the flight *wohl* leave at seven?"

(teacher to student:)

(7) Was ist wohl die Wurzel aus 9?
"What is *wohl* the square root of 9?"

both adapted from Zimmermann (2011:2024)

An airline official is considered to be an expert in regard to the departure times of flights, thus indicating epistemic uncertainty on their part as in (6) is not felicitous. In cases where there is no epistemic uncertainty on part of the speaker, as in (7) where the teacher needs to be considered an expert, *wohl* in questions is felicitous if the speaker wants to indicate that the addressee might not know the answer, thus epistemic uncertainty on their part must be assumed.

Zimmermann further argues that the semantic contribution of *wohl* scopes higher than the question operator. This is illustrated in the two possible interpretations of the *wohl*-question in (8), of which (8)b is the correct one.

(8) a. ?{ASSUME(addressee,p),$\neg$ASSUME(addressee,p)}
≈"Tell me whether you assume that p or $\neg p$"

b. ?ASSUME{p,$\neg p$}
≈"Tell me (granted a degree of uncertainty) whether p or $\neg p$"

adapted from Zimmermann (2008:206)

This means that the set of question alternatives is the same for a question with and without *wohl*, and that it enters the derivation after question-formation, thus supporting the assumption of covert movement to a position higher than the question operator in LF. It also suggests that *wohl* is not part of the propositional content of the utterance. A possible alternative approach would be analyizing *wohl* as an implicature trigger, which in the case of interrogatives would give rise to an implicature on the lines of "the hearer is not sure about the proposition". Zimmermann argues against this based on the observation that *wohl* can not scope out of embedded contexts (which is possible for implicature triggers such as *auch* ("also")), thus does not contribute an expressive meaning independent of the descriptive one. That is, the expressive meaning of *wohl* does not contribute anything semantically, but rather modifies the strength of commitment to the descriptive meaning. In addition to the Split-CP hypothesis as of Rizzi (1997), Zimmermann makes the assumption that the strength of commitment is modified by an element in SpecForceP, in this case *wohl*. The base generation of *wohl* occurs at the edge of VP as it has not lost its syntactic status as an adverb, and moves to SpecForceP in LF. He further draws a parallel to sentence-final tags in English (in German tags such as *oder* = "or"), which express a lower degree of speaker commitment to the assertion similar to *wohl*, also occur in peripheral positions, possibly adjoined to ForceP (2008:222).

As for the classification of *wohl* and other discourse particles such as *ja* and *doch*, Zimmermann argues following Jacobs (1991) that *ja* does not modify illocutionary force, but the speech-act operator ASSERT, thus taking scope over *wohl* (2008:226). Observations in favor of this view are that (a) *ja* takes (surface) syntactic as well as semantic scope over *wohl*, that (b) *ja*, in contrast to *wohl*, is ungrammatical in restrictive relative clauses, and finally that (c) by uttering $ja(p)$, p is added to the CG together with some added semantic value (but is distinct from implicature triggers in that it can not scope out of, or even occur in, embedded contexts). Thus, *ja* has distinct semantic functions in distinct syntactic (LF-)positions from *wohl*.

A factor distinguishing *ja* and *doch* on one side from *wohl* on the other is that the latter does not add (expressive) information to the utterance, but rather modifies the degree of comminment. As a result, *wohl p*, but not *ja p* or *doch p* is consistent with$\neg p$ (Zimmermann 2008:2022) Next, building on Kratzer's (1999) claim that *ja*, unlike *doch* and *wohl* can not occur in embedded contexts other than reported speech, Zimmermann argues that the former should be analyzed as a modifier on illocutionary operators, while the latter should be analyzed as modifying sentence-types (2008:2032). That is, in his view, the semantics of *ja* can not be a proper subset of the semantics of *doch*. Any

theory arguing in favor of this will thus eventually have to find ways to account for the at least limited embedability of *ja*.

2.1.2 Gast (2008): Operations on context I

The analysis proposed by Gast (2008) builds on a proposal for the application of relevance theory to MPs in König (1997). Building on König's work, Gast outlines a dynamic approach to discourse particles based on the epistemic status 'Hypothesis' and 'Fact'. The former indicate that "the speaker considers that either p or $\neg p$ may be true" (2008:7), which can be turned into a fact by eliminating one of the possibilities via judgment. They are typically expressed by questions, but also by declaratives with *wohl*, in which the MP functions as a marker for a particular type of CG-update, dubbed 'trivial hypothesis' by Gast (2008:15–16) . That is, a *wohl*-utterance with the propositional content p maps a context set containing a hypothesis $p \vee \neg p$ to an output context set also containing this hypothesis. As Gast argues that Hypotheses are normally expressed in questions, in this approach *wohl*-interrogatives would be the default case. By uttering them, the speaker indicates that a Hypothesis is part of the context set, prompting the addressee to react (and replace the hypothesis with a fact). Thus, *wohl*-utterances are only informative in the sense that they point out the existence of a hypothesis in the context set (Gast 2008:16).

Gast furthermore classifies the MPs *ja*, *doch* and *etwa*, along with *wohl*, by two bivalent features specifying the type of operation they perform on context. First, facticity, which distinguishes MPs marking Hypotheses ('non-factive') from those marking Facts ('factive'), and second, context-consistency, which distinguishes MPs indicating a trivial update ("context-consistent), in which the Hypothesis or Fact expressed by the utterance's propositional content is already part of the context set, from MPs indicating a non-trivial update, in which the Hypothesis or Fact is not previously part of the context set. The categorization of the four MPs by these features is shown in Table 2.

Table 2 MPs by interaction with context

	context-consistent	non-context-consistent
factive	*ja*	*doch*
non-factive	*wohl*	*etwa*

adapted from Gast (2008:5)

In the case of *wohl*, its 'non-facticity' accounts for epistemic uncertainty, or the epistemic modal base it operates on, while the notion of 'context-consistency' distinguishes

it from Zimmermann's (2008) approach. Whether or not this additional meaning can be accounted for in assertions would be rather hard to determine, as the minimal counterpart of *wohl* on the consistency-dimension is *etwa*, an MP which only occurs in questions. If we take the "context-consistency" of *wohl* to mean that it is not felicitous when the existence of a Fact obliterating the Hypothesis within the context set has to be assumed, this part of Gast's analysis can account for the badness of *wohl* in expert contexts.

Gast's analysis is interesting for the present thesis for three reasons: first, it accounts for *ja* and *doch* in the same framework as for *wohl*, which could explain overlaps in their Japanese correspondents. Second, it connects them to *etwa*, which is interesting in the light of Kosaka's (1989) claim that there is a relation between sentence nominalization by *no* and the MPs *etwa* and *denn* (*cf.* section 1.2.2). Third, Najima (2002) (*cf.* the summary below) analyses *no.da*, an element occurring in alleged Japanese correspondents of MPs, in a similar, thus comparable, framework.

2.2 Analyses of *doch*

In this sections analyses of *doch* will be summarized. Although not the primary focus of this thesis, analyses of *ja* are also included as it is often analyzed alongside *doch* and as some analyses propose a meaning for *doch* which is a proper subset of the meaning of *ja*. Most analyses describe the contribution of *ja* as indicating the 'givenness' ('facticity' in some analyses) of the proposition it occurs with, and the meaning of *doch* as indicating 'contrast' ('adversativity' in some analyses). The analyses summarized in this chapter differ in their implementation of contrast, which is considered part of the core meaning of *doch* in all of them, and in whether or not givenness is considered part of the meaning of *doch* or arises by pragmatical inference. Zimmermann's (2011) and Gast's (2008) proposals, summarized in section 2.2.1 and section 2.2.2, do not consider givenness part of *doch*'s core meaning, although Gast's is at least compatible with a notion of givenness (*cf.* page 84). In the remainder of the proposals summarized here, givenness is considered part of the meaning of *doch*, but implemented in different ways. Karagjosova (2004), summarized in section 2.2.3, takes *doch* to indicate that the proposition of its utterance is common knowledge, as does *ja*. Egg (2010, 2011), summarized in section 2.2.4, uses the notion of 'defeasible entailment from context' to account for givenness. While he does not mention *ja*, it seems plausible that this notion can also be applied to it. Finally, Grosz (2010, 2011) takes both *ja* and *doch* to indicate that the speaker considers the propositions of their utterances 'firmly established' in the utterance context.

As for contrast, the analyses can be roughly divided into two groups: Those which take *doch* to indicate contrast between the proposition of its utterance and some contextually salient proposition, and those which account for contrast in a different way. Examples for the latter are Zimmermann (2011), who argues that a *doch*-utterance indicates the non-activation of its proposition, and Karagjosova (2004), who argues that a *doch*-utterance conveys that its proposition is common knowledge (just as *ja*), which may however have become inactive. In the other group taking *doch* to encode contrast between the proposition of its utterance and a contextually salient proposition, an early formalization of *doch*'s meaning has been proposed in Ormelius-Sandblom (1997:82–83) based on her account of *ja*, in which an utterance "*ja* p" expresses the facticity of proposition p, this facticity being derivable from the utterance situation[6] which *doch* does, too. The latter in addition expresses that there exists a further proposition q in the

[6]In Ormelius-Sandblom (1997), the facticity can be derived from *Sachverhalt*, which translates to "state of affairs" but in a much broader sense than that of a propositional content.

context which conventionally implicates $\neg p$. Arguing that the contextual activation of $\neg p$ is to strong a notion to hold in all cases, Bárány (2009:81) modifies Ormelius' proposal to: "*doch* p expresses that there exists an alternative proposition q in the context, so that if $p = 1$ then $q = 0$". This is in line with the observation that *doch*-utterances in reaction to a preceding utterance point out some conflict or contradiction within the context between the proposition that *doch* attaches to and some other proposition which can not be true at the same time (if this other propostion is $\neg p$, this yields $p = 1$, then $\neg p = 0$, which trivially holds). The proposals in Egg (2010) and Grosz (2010) attempt to formally derive what q can be, and how it relates to the propositional content of the *doch*-utterance.

2.2.1 Zimmermann (2011): Indicating non-activation

Zimmermann gives the meaning of *ja* as in (9), where p is the proposition of the clause *ja* occurs in.

(9) $[\![ja]\!](p)$ = p is true and the speaker believes p uncontroversial

Zimmermann (2011:2016)

This meaning reflects an "informal agreement" that *ja* "establish[es] or reconfirm[s] a proposition p as part of the Common Ground, often based on perceivable contextual evidence: By adding *ja*[...], a speaker indicates that he thinks p to be uncontroversial at the utterance time t_u, i.e. that there is no proposition q[7] activated at t_u that would contradict p" (Zimmermann (2011:2016), *cf.* also Lindner (1991:173,178)). A proposition is uncontroversial when it is either part of the CG or when the speaker considers the addressee to be in a position to judge it true, given the evidence available.

The meaning of *doch* is given as follows: "indicat[ing] that p is not under discussion or entertained at the time of utterance" (Zimmermann (2011:2017), *cf.* also Lindner's (1991:190) "common core" of *doch*). Making reference to activation of a proposition in the CG, Zimmermann gives the meaning of *doch* as in (10).

(10) $[\![doch]\!](p)$ = p is true and the speaker assumes p not to be activated at the current stage in the discourse

Zimmermann (2011:2016)

Note that only 'contrast' but not 'givenness' is included in this version of *doch*'s meaning. This is because Zimmermann (2011:2018) claims that the 'givenness' often

[7] Although this is not explicitly mentioned, it seems that in almost all cases $q = \neg p$.

observed with *doch* is an information-structural epiphenomenon not rooted in its lexical meaning, as *doch*-utterances can be felicitous while they are new to the addressee.[8] According to Zimmermann, the affinity of *doch* to concessive clauses as in (11) is evidence for this claim.

(11) Er fährt, und doch trinkt er.
"He drives, and yet he drinks."

Lerner (1987), as quoted byZimmermann (2011:2018)

The clause "he drives" pragmatically implicates that $\neg p$ ("He doesn't drink"), so p ("He drinks") is uttered with *doch* added, indicating the non-activation of p. The utterance in (11) is not degraded when the addressee is in no position to know whether p holds or not. Not all authors, however, take such instances of a conjunct adverb to be relevant for discussions of the MP *doch*. Karagjosova (2009) provides an interesting proposal for stressed *doch*, analyzing it as the stressed version of a "conjunct adverb" *doch*. The status of *doch* as a conjunct adverb is argued, among others, by its properties of occupying the *Vorfeld* and functioning as a connective between two utterances, this latter connection being an adversative or concessive one in that the second proposition would not usually be expected given the first. Note that *doch* as a conjunct adverb is distinct not only from the MP *doch*, but also from the conjunction *doch*, and from the (accented) adverbial *doch* (Karagjosova 2009:132). It can be distinguished from other uses (other than by the obligatory accent it bears) by the fact that it only occurs toghether with *und* ("and") as part of a "bipartite connector" *und doch* (Karagjosova 2009:133).

Although *doch* can arguably remain unstressed in (11), it can just as well be stressed as in the version of this example given in (12).

(12) Er fährt, und DOCH trinkt er.
"He drives, and *DOCH* he drinks."

The semantics of stressed *doch* are quite straightforward compared to its unstressed counterpart: contrary to an expectation that a proposition p is true or false, the opposite is the case — in (12), this is exactly what happens. Although this may be a first step towards a meaning core for both stressed and unstressed *doch*, it seems to me that there is not sufficient evidence to consider (11) an instance of the MP *doch* considering that being unstressed is part of the definition for the class of MPs and there is no significant

[8]He claims this for declarative rejections as well, which Karagjosova (2004), amog others, argue against. Thus, Zimmermann does not touch the question whether *doch* indicates that p is (defeasibly) entailed from CG or there are restrictions on knowledge states, and also regards the contrast that most other approaches take to be part of *doch*'s meaning as a secondary effect.

change in meaning to (12). However, taking a maximalist position it is desirable to derive the meaning of *doch* in a general enough way to account for such cases. Conversely, more specific versions of the semantics of *doch* are in order when only the (unstressed) MP *doch* is to be covered.

In regard to *ja* expressing surprise, *doch* expressing "exasperation" in requests and *wohl* making requests more polite, Zimmermann (2011:2027) argues that they arise because of a compatibility of their meanings with the respective contexts, but the effects are primarily created by intonation. For example, *doch* can express that the speaker feels that the addressee should know that they are supposed to do p, but do not act accordingly, and *wohl* in polite requests takes the burden of giving a clear answer off the addresse as it indicates epistemic uncertainty on part of the speaker[9].

2.2.2 Gast (2008): Operations on context II

Gast analyzes *doch* and *ja* in the same framework as *wohl* (*cf.* table 2 on page 13). In contrast to *wohl*, *doch* and *ja* operate on Facts rather than Hypotheses within the context set. This reflects that they operate on a deontic rather than an epistemic modal base (*cf.* page 10). They differ on the dimension of "context-consistency": On the one hand, *ja* maps a context set containing a proposition p to a context set containing the same proposition in a "trivial update".[10] On the other, *doch* maps a (defective) context containing both p and $\neg p$ to one containing only p in a "contradiction-resolving update" (Gast 2008:23).

On how it would be possible for a context to contain such a contradiction, Gast argues that both p and $\neg p$ can form part of the intersection of the hearer's and the speaker's active knowledge, but with a difference in epistemic states — while the speaker only believes that p, the hearer seems to believe both p and $\neg p$ but is not aware of the contradiction, that is "s/he does not work out the consequences of this for her/his inferential system" (2008:14). The presence of both a proposition and its negation in the context set is possible because "the notion of 'context' that [Gast uses] is a very general one and encompasses basically everything that is contextually salient and in the interlocutors' awareness" (*ibid.*).

[9] On susprise-*ja*, Zimmermann does not go into detail.

[10] Gast does not rule out the possibility of accomodation in cases where "the speaker knows more than the hearer", which is an assumption also made in Karagjosova (2004)

Reminding *doch*, as analyzed by Gast (2008) building on Hentschel (1986), is an instance where the adversative meaning component is not easily recoverable, as in the example in (13).

(13) Da war doch neulich der schwere Unfall auf unserer Straße. [...]
"There has *doch* recently been a serious accident on our street lately."

Hentschel (1986:133), as quoted byGast (2008:12)

An English paraphrase for (13) roughly approximating the contribution of reminding *doch* would be on the lines of "There's been that accident on our street lately, right?", where the deictic element *that* and the question tag both indicate that the speaker supposes the addressee to be aware of the fact that the accident has happened. For the utterance in (13), adding a tag "...*nicht*" would also be possible, showing the strong affinity of reminding *doch* to tag questions. The function of *doch* in this case is to mark that the propositional content is already known to the addresse, the speaker reminding (thus "reminding" *doch*) the addresse of the fact in question thus setting the background for whatever she will say next. Gast argues that by using *doch* in this case, "the speaker anticipates an objection" and "[...] makes it clear that the hearer *does* have the necessary information [...], and that s/he merely has to find it in his/her memory" (Gast 2008:12).

2.2.3 Karagjosova (2004): Common-belief assumptions

Karagjosova (2004) proposes a unified formalization for *doch* and *ja* in terms of speaker, hearer and common beliefs and operations thereon, and shows its application to various utterance contexts some of which will be discussed in this section.

The model of belief states employed for the formalization is that of Wassermann (2000). In it, a distinction between active, explicit, and implicit beliefs is made. In a nutshell, explicit beliefs are the basis on which reasoning takes place, from which the set of implicit beliefs is derived by an inference function. Crucially, a rational agent has limited resources, thus actually inferring all explicit beliefs at a given point in time is not possible (Wassermann 2000:40–42). In order for a belief to be accepted, rejected, or be a premise for any kind of reasoning, it needs to become active.[11] The meaning of *ja* is given as in (14).

[11] In addition to explicit and implicit beliefs, the set of active beliefs can contain provisional beliefs, for example those acquired through linguistic input, for which the agent needs to decide whether to reject or to accept them.

(14) The basic meaning of *ja*:
($ja\varphi$)$_{i;j}$ conventionally indicates $B_{Ai}C_{A\{i,j\}}\varphi$

Karagjosova (2004:192)

Read: *ja p* indicates the active believe of the speaker i that the propositional content p is an active belief of both i and the addressee j. Below, I will briefly summarize Karagjosova's analysis of *doch*, and its application to specific utterances in some detail. In the definition above, being an active belief thus roughly means the same as "the speaker believes that p is an active part of the context set". The operator C stands for "common knowledge", that is both i and j know that φ, which can alternatively be expressed by a knowledge operator K, which differs from B in that what is known is necessarily true, which is not the case for what is believed (Karagjosova 2004:95). Note that this encodes the part "p is true and…" in Zimmermann's basic meaning for *ja* (and *doch*).

Another notion Karagjosova employs, which is crucial for her analysis of *doch*, is that of defeasible modus ponens [12] (henceforth DMP). The formal notation of DMP makes use of two symbols, a nonmonotonic modal connective > and $\mid\!\sim$ for a nonmonotonic consequence relation. A "default axiom" $A > B$ can be paraphrased as "If A, then normally B" (Asher and Lascarides 2003:185), on which the inference pattern of DMP can be performed, so that the formulas given in (15) hold.

(15) $A, A > B \quad \mid\!\sim B$
$A, A > B, \neg B \mid\!\not\sim B$

Asher and Lascarides (2003:190)

For this formalization, Karagjosova gives the following paraphrase for the purposes of application to inference processes related to *doch*-utterances:

(16) Defeasible Modus Ponens:
from φ and $\varphi > \psi$ infer ψ unless $\neg\psi$ already holds

Karagjosova (2004:98)

This rule also holds when φ and ψ refer to epistemic states of an interlocutor, such as $K_i(\varphi)$ (="interlocutor i knows that φ) (Karagjosova 2004:98).

The gist of Karagjosova's proposal for the meaning of *doch* is that it indicates that the speaker beliefs the proposition of the clause it occurs in to be explicit, but possibly not active common knowledge. Roughly, this means that the speaker believes that the

[12] *cf.* also the summary of Egg's (2010) in section 2.2.4 which rely on this notion

proposition is true and has been previously accepted by both herself and the addressee, but (for whichever reason) believes that the addressee is not considering it. Its basic meaning is given as:

(17) The basic meaning of *doch*:
($doch\varphi$)$_{i;j}$ conventionally indicates $B_{Ai}C_{E\{i,j\}}\varphi \wedge \neg B_{Ai}C_{A\{i,j\}}\varphi$

Karagjosova (2004:143)

Read: "[*doch* indicates] the active and explicit belief of the *doch*-speaker i that the propositional content φ in the scope of *doch* is explicit but not active common knowledge of i and the interlocutor j" (Karagjosova 2004:143). To show how MP-assertions differ from plain ones, Karagjosova compares their conveyed meanings (henceforth CMs), that is the set of their entailments, presuppositions and implicatures (2004:110). Below, the CMs of a plain assertion and that of a *doch*-assertion are given where p denotes the proposition of the respective utterance.

(18) a. CM of assertion: $\{B_{Ai}p, B_{Ai}K_{Ei}p, \mathbf{B_{Ai}}\neg\mathbf{C_{E\{i,j\}}p}\}$
b. CM of *doch*-assertion: $\{B_{Ai}p, B_{Ai}K_{Ei}p, \mathbf{B_{Ai}C_{E\{i,j\}}p} \wedge \neg B_{Ai}C_{A\{i,j\}}p\}$

adapted from Karagjosova 2004:165, boldface in original

The conveyed meaning of an assertion is that the speaker actively believes its proposition to be true[13], and that it is not a common belief of speaker and addressee. Conversely, a *doch*-assertion conveys the speaker's belief that its propositional content *is* a common belief, accounting for 'givenness'. In addition to this, a *doch*-assertion conveys that the speaker does not actively believe that the proposition is active common knowledge, thus accounting for 'contrast'.

DECLARATIVES The types of declaratives Karagjosova differentiates are (i) declarative rejections, (ii) declarative acceptances, (iii) declaratives with turn holding, and (iv) dialogue initial, forward-looking declaratives (comparable to reminding *doch* as analyzed by Hentschel (1986); Gast (2008), *cf.* section 2.2.2). Evidence for the 'givenness' encoded in both *doch* and *ja*, as both indicate that the proposition of the clause they occur in is common knowledge, is that a continuation on the lines of "...but you did not know that before" is not felicitous after either *ja*- or *doch*-declarative utterances. The only notion of 'contrast' present in all *doch*-utterances is that between active and explicit common knowledge, which Karagjosova labels 'speech-act level contrast'.

[13] And the speaker believes to know that the proposition is true, which will not be relevant for the following discussion as both plain assertions and *doch*-assertions share this meaning component.

'Propositional-level contrast', on the other hand, which is considered a core property of *doch* in other analyses, is only present in some cases (Karagjosova 2004:153). Below, examples for the four type of declarative utterances will be discussed.

(I) DECLARATIVE REJECTIONS (19) is an example of a declarative rejection, in which the *doch* speaker B rejects a proposition asserted by the other interlocutor A. Concretely, B rejects A's claim that "Mary is coming along" on the grounds that "Mary has left", indicating that the latter is common knowledge, but A is not considering it.

(19) A: Maria kommt auch mit.
"Mary is also coming along."
B: Sie ist *doch* verreist.
"But she has *doch* left."

adapted from Karagjosova (2004:150)

In this example, propositional-level contrast is involved, that is a contradiction between the proposition of the *doch*-utterance and that of the preceding utterance. Making use of defeasible entailment, this contrast can be formalized as follows: be p the proposition of the *doch*-utterance ("Mary has left") and q the propositional content of the preceding utterance ("Mary is coming along"), then the relation between them is one of defeasible implication, that is $p > \neg q$.[14] This leads to a rejection of the preceeding utterance by the *doch*-speaker, reasoning leading to the *doch*-utterance goes as follows:

- Upon hearing A uttering q, B's implicit belief that $\neg q$ becomes active (by DMP: p, $p > \neg q \mathrel{|\!\sim} \neg q$).
- As B actively believes that both p and $p > \neg q$ are common knowledge, B implicitly believes that $\neg q$ is common knowledge (again, by DMP).
- However, A has uttered q, thus must actively believe q.
- B resolves this contradiction by assuming that A is cooperative, concluding that A has not activated p.[15]

adapted from Karagjosova 2004:155–156

At this point, the *doch*-speaker believes that p is explicit common knowledge (that is, part of the CG) but not active common knowledge, and indicates this by adding *doch*.

[14]This can be thought of as a general rule of inference "If someone has left, they are normally not coming along"

[15]How this conclusion from a cooperativity assumption could be formalized is left open, *cf.* Karagjosova 2004:156. Note that there is the theoretical possibility that A cannot access the defeasible implication $p > \neg q$ which would explain A's utterance just as well as inaccessability of p.

(II) DECLARATIVE ACCEPTANCES

(20) A: Peter sieht schlecht aus.
"Peter looks bad."
B: Er war doch lange krank.
"He was *doch* sick for a long time."

adapted from Karagjosova (2004:152)

In this example, no propositional-level contrast involved, that is, instead of believing $p > \neg q$ as in rejections, B in (20) believes $p > q$ (something on the lines of: "when someone is sick for a long time, they are expected to look bad"). A's uttering q then activates B's beliefs p (="Peter has been sick for a long time") and $p > q$, which (again by DMP) yield the inferential belief that q must hold. Under a common-belief assumption for both premises, it also follows that q is common knowledge, which A is expected to believe as well. A, however, has asserted q, which implicates the contrary (*cf.* the conveyed meaning of an assertion given above), namely that A does not believe q to be common knowledge (Karagjosova 2004:158–159).

The major difference between rejections and acceptances is that in the former, the *doch*-speaker reaches the conclusion that p is not active common knowledge as the addressee asserts a proposition q which can not hold considering that p and $p > \neg q$. In acceptances, the *doch*-speaker reaches this conclusion as the addressee, by asserting q, conveys that q is new to the *doch*-speaker[16], which can not be the case as p and $p > q$, thus also q, are common knowledge.[17].

(III) TURN-HOLDING AND PROPOSTIONAL-LEVEL CONTRAST In contrast to acceptances and rejections, which are uttered in reaction to an utterance of the other interlocutor, there are cases of turn holding in which the *doch*-speaker indicates contrast between two of his/her own utterances. In example (21) on the following page, propositional-level contrast is thus involved, concretely between "have a cold again" = q and "live reasonably"= p.

[16] *cf.* the conveyed meaning of a plain assertion given above

[17] In parallel to the rejection-example, it would also be possible that A in (20) has forgotten that $p > q$ is common knowledge. In order to include this possibility in Karagjosova's model, however, it would be necessary to abstract a general implicational relation over $p > \neg q$ and $p > q$. In addition, it seems possible to me to assume that A has forgotten that p, rather than that p is common knowledge, which would allow for a more uniform analysis of rejections and acceptances, leaving the rejection of a propositional belief versus an implicational belief as the only difference.

(21) A: Du hast wieder Schnupfen.
"You have a cold again."
A: Dabei lebst du doch ganz vernünftig
"Although you live *doch* quite reasonably."

adapted from Karagjosova (2004:153)

There is no preceding utterance to react to as the first utterance indicates that A has just observed q[18]. The second utterance then indicates that A also believes p and (indicated by *dabei*) $p > \neg q$. While from this A could infer $\neg q$ via DMP, this is blocked as A already believes q (recall the definition of DMP on page 20). Under common-knowledge assumptions for both premises, A can conclude that the same inference process goes for the addressee. While Karagjosova maintains that one reason for using *doch* is to point out the speakers surprise about the newly learned fact that q and "invites or tries to elicit, a similar reaction from the hearer", she argues that what actually triggers the use of *doch* in an assumption that the addressee may be unaware of p, which however does not follow from her model as it stands. While in principle, (21) could also be self-talk rather than directed at an interlocutor, this can not be captured by a model formalizing hearer beliefs, but only explained by "conventionalisation of the use of *doch*" (Karagjosova 2004:164).

(IV) DIALOG INITIAL FORWARD-LOOKING DECLARATIVES The final class of *doch*-declaratives Karagjosova identifies is similar to reminding *doch*. Here, neither contrast is involved, nor is there an external trigger for the *doch*-speaker to believe that p is not common knowledge. As in cases of turn-holding, "*doch* is triggered by [an] internal motivation for believing that the common knowledge may be inactive" (Karagjosova 2004:164), that is the speaker assumes that the hearer might have forgotten p.[19].

Summarizing Karajsosova's analysis of *doch* in declaratives, it incorporates a notion of 'givenness' in that *doch*, much like *ja*, indicates that the speaker believes the proposi-

[18]Note that this is not entirely compatible with the conveyed meaning given for assertions, as the addressee is expected to already know q (after all, he is the one with the cold). As this can be resolved by intonation (or even surprise-*ja*) indicating surprise, however, it should not harm the application of the analysis.

[19]It could be argued that this would be a sufficient condition for the use of *doch* in any case. Admittedly, this would however trivialize Karagjosova's proposal as then no notion of contrast or any implicational relation between two propositions would be necessary to license *doch*. The idea that internal motives, that is the assumption that p might not be salient enough for the hearer to remember, could be the sole condition for the use of *doch* that holds in all cases, still seems somewhat attractive. Unfortunately, as all analyses making reference to belief states, this does not account for cases where *doch* corresponds to *no.ni* in self-talk, which simply express that there is a *dabei*-relation in that the speaker observed an unexpected (and usually undesirable) outcome.

tion of the clause it occurs in to be common knowledge. The motivation for using *doch* instead of *ja* is indicating 'contrast', in that the speaker assumes that both interlocutors in principle believe that the proposition of the *doch*-utterance holds, but this may have slipped the addressee's mind. This assumption can be motivated by reasoning in reaction to a previous utterance of the addressee, as in acceptances and rejections, or motivated by other factors, as in turn-holding and dialog-initial cases. Self-talk uses of *doch* can not be directly captured by this proposal and have to be considered 'conventionalized", that is derived from its uses within discourses.

IMPERATIVES Similar to declaratives, that *doch* in imperatives indicates that the propositional contet is common knowledge can be verified by preposing "You don't know what to do", which is not licit. Karagjosova distinguishes two kinds of imperative utterances: Backward-looking turn-taking imperatives and Forward-looking imperatives. The conveyed meaning of *doch*-imperatives is similar to that of *doch*-assertions, with the addition of an *ought*-operator $On(p)$, indicating that an action p describes is plausible or desirable to be brought about by n in the given situation[20] *Doch* modifies this speech act as in declaratives, but adding the speaker belief that $\neg p$, that is, the addressee has not performed the action described (Karagjosova 2004:172).

CM of imperative: $\{B_{Ai}O_jp, \mathbf{B_{Ai}}\neg\mathbf{C_{E\{i,j\}}O_{jp}}, B_{Ai}\neg p\}$

CM of *doch*-imperative: $\{B_{Ai}O_jp, \mathbf{B_{Ai}C_{E\{i,j\}}O_{jp}} \wedge \neg B_{Ai}C_{A\{i,j\}}Oj_p, B_{Ai}\neg p\}$

Karagjosova (2004:172), boldface in original

Read: an imperative conveys that the speaker believes it to be desirable or plausible for the hearer to bring about p, that this is not a common belief and that the hearer does not bring about p. A *doch* imperative conveys the same, except that the speaker believes that the speaker should bring about p is a common belief, which is however not active.

First, an example for a backward-looking imperative, which is uttered in reaction to a preceding utterance.

(22) A: Ich habe schreckliche Schmerzen.
"I am in terrible pain."

B: Geh doch zum Arzt
"Go *doch* see a doctor."

Karagjosova (2004:168)

[20]This is roughly equivant to $should(n, p)$.

In (22), *doch* indicates that B believes that A that he should go to the doctor when he is in pain to be a common belief. However, A's utterances suggests that he has not brought about p, from which B concludes that A is not aware of this common belief. The conditions for utternig *doch* are thus satisfied: B believes $O_j p$ to be explicit, but not active common knowledge. Note that there is no propositional-level contrast involved (as $q > O_j p$), but there is speech-act level contrast between the actual state of affairs and what should be brought about by the hearer.
Next, a forward-looking imperative which can occur discourse-initially.

(23) Setzen sie sich doch.
"Sit *doch* down."

Karagjosova (2004:169)

Similar to declaratives (iii) and (iv), Karagjosova claims that in (23) the crucial speaker belief that the hearer might not be aware of $O_j p$ is internally motivated. Speech-act level contrast is involved between the assumption that the hearer believes $O_j p$ but might not be aware of this. Note that in cases where the speaker does not really believe that this is the case, which Karagjosova dubs manipulative uses, *doch* "makes his offer sound more convincing" (Karagjosova 2004:171).

QUESTIONS *Doch* is not licit in illocutionary questions, but only in deliberative questions (vii) and check-questions (viii). Deliberative questions indicate that the speaker knows the answer, but is not able to access it, while in check-questions, the speaker expects the propositional content to hold, but wants to verify this with the hearer. As for common knowledge, Karagjosova argues that *doch* strengthens deliberative questions in that it indicates that not only the speaker, but also the hearer does, in princpile, know the answer. In check-questions, adding *doch* indicates that the speaker does not want to check whether the propostional content holds, but whether it is (still) common knowledge or not.

(VII) DELIBERATIVE QUESTIONS (24) is an example for a deliberative question. That is, the speaker believes that both she and the addressee in principle know the name of the person in question, but (at least) she is not able to access it.

(24) Wie war doch sein Name?
"What was *doch* his name?"

Karagjosova (2004:174)

(24) would not be felicitious when directed to an addressee who is in no position to have ever known the name of the person in question, most likely leading to a response

on the lines of "How should I know?".[21]. What *doch* adds to the conveyed meaning of a deliberative question is thus (just as in declaratives) that p be explicit, but possibly not active common knowledge.

(VIII) CHECK-QUESTIONS As the difference between check-questions with and without *doch* is rather subtle, an example with both versions is given in (25).

(25) a. Du kommst doch mit (... oder)?
"You are *doch* coming along (... aren't you)?"
b. Du kommst mit, oder?
"You are coming along, aren't you?"

Karagjosova (2004:176)

The utterance in (25)a is felicitous when there has been a previous agreement that the addresse come along, of which the speaker wants to check whether this holds. (25)b, in contrast, is felicitous without such an agreement, as the speaker only conveys expecting the proposition to hold, prompting the hearer to confirm (or dismiss) this expectation. That is, (25)b is equivalent a tag-question in English, while (25)a could be paraphrased on the lines of "We do (still) agree that you are coming along, don't we?", or a check-question with prosodic accent on the auxiliary verb indicating focus, and possibly fronted *but*, in which case the question tag can be omitted, just as in German.[22] Intuitively, the speaker in (25)a has some evidence that the agreement is not valied anymore, which seems to contradict Karagjosova's claim that *doch* expresses that the speaker is certain that p holds. This could, however, be explained as an effect of the common knowledge assumption from which follows that the speaker of 25a is sure that there has been an agreement about the hearer's coming — there would be no reason for uttering (25)a, then, if not some evidence that this agreement does not hold anymore, while the only condition for uttering (25)b is that the speaker not be sure whether p holds or not.

That check-quesitons (viii) have a great affinity to discourse-initial forward-looking declaratives (iv) becomes evident when (25)a is uttered with canonical declarative intonation and the question-tag is left out, in which case it can be used discourse-initially.

[21]Note that *doch* in (24) can be replaced by the adverb *nochmal*, which straightforwardly corresponds to English "again", yielding a deliberative question with the same felicity condition. However, a deliberative question including *doch*, but not *nochmal*, is felicitious as a rethorical question when the speaker does remember the answer, but wants to convey that the addresse is in a position to know it as well, *cf. Wie sagte doch Goethe so passend?* = "How did *doch* Goethe put it so aptly?"

[22]While this would also be a possibility in German, as in *Aber du* KOMMST *mit (, oder?)* = "But you ARE coming along (, aint' you?)", in this case adding *doch* does still bring about a nuance on the lines of "We have agreed on that before".

Even adding the question tag *oder* does not make this impossible, if it does not receive the rising pitch contour typical of interrogatives. The only difference between (iv) and (viii) seems to be that the speaker does not consider the possibility of the propositional content not holding (anymore) in the former.

Wh-EXCLAMATIVES The contrast between *wh*-exclamatives with and without *doch* is relatively subtle. Exclamatives indicate "that the speaker has just added a new belief to his belief system" (Karagjosova 2004:178), in this expressing surprise, in (26) about the degree of cleverness observed:

(26) Wie klug er doch ist!
"How smart he *doch* is!"

Karagjosova (2004:179)

Karagjosova observes that utterances such as (26) are made when both speaker and addressee can make the surprising observaion, therefore a trace of an expression of common knowledge could be argued for. As for contrast, although neither propositional-level nor speech-act contrast can be observed, there is a contrast between the previously held belief of the speaker and the actual one. However, since neither the common knowledge component nor the contrast component are transparent, and retrieval of common knowledge can not be attested for, Karagjosova concludes that "the appropriateness of the use of *doch* can only be explained by its conventionalised nature" (Karagjosova 2004:179).

Note that there are parallels, however, to "surprise-*ja*" and the discourse particle *aber*, as well as to stressed *doch*. While surprise-*ja* is the default in non-*wh*-exclamatives, *aber* can serve a similar purpose in non-*wh*-exclamatives, as in (26)′, a variation of (26) in which surprise over the degree of smartness is expressed without the need for fronted *wie* (="how") to indicate this[23].

(26)′ Er IST aber klug!
"He IS *aber* smart!"

OPTATIVES Although there is a notion of contrast between the wish the speaker expresses in optatives and the actual state of affairs, no reference to common knowledge can be reconstructed, so in Karagjosova's view, *doch* in optatives can only be explained by its conventionalized nature. For an alternative analysis of *doch* in optatives and and examples, see Grosz (2011).

[23]Contrastive focus is also obligatory, but can be on ER ("he") as well, indicating that not only the degree of smartness in general, but also such a degree observed from the person in question is surprising

2.2.4 Egg (2010, 2011): Non-propositional arguments

The analysis of *doch* in Egg (2010) attempts to account for a wider range of data, such as instances of *doch* in self-talk, reminding *doch* and cases of turn-holding, by introducing two new concepts: reference to felicity conditions and defeasible entailment from context. In principle, his analysis is comparable to proposals making reference to a contextually salient proposition which contradicts that of the *doch*-utterance. In addition to propositions however, *doch* can take felicity conditions as arguments. For this, Egg differentiates between the arguments of *doch* he labels p and q, the utterance it occurs in, and a possible preceding utterance in reaction to which the *doch*-utterance is made. Be the utterance *doch* occurs in the p(article)-utterance and the preceding utterance the a(ntecedent)-utterance, then p can be the proposition or a felicity condition of the p-utterance, and q the proposition or a felicity condition of the a-utterance.[24]

As for defeasible entailment from context, if the context defeasibly entails some α, this can be paraphrased as "The context entails that normally, α holds", where α can be a proposition or a function, such as a defeasible implicational relation between the arguments of *doch*. The basic meaning of *doch* is given as in (27)[25], where $C \mathrel{|\!\sim} \alpha$ denotes that α is defeasibly entailed from context C.

(27) $[\![\textit{doch}]\!](p)(q)$ holds iff $C \mathrel{|\!\sim} p \wedge C \mathrel{|\!\sim} [p > \neg q]$

adapted from Egg (2010:134)

Read: *doch* takes two arguments p and q and holds iff both p and a relation of defeasible implication between p and $\neg p$ are defeasibly entailed from context. The utterance *doch* occurs in being the p(article)-utterance and an optional preceding a(ntecedent)-utterance, p and q can refer to their propositions or other concepts (Egg 2010:133), three cases of which will be discussed below. First, cases where p and q are the propositional contents of the p- and a-utterances, respectively. Second, cases where p is the propositional content of the p-utterance, but q is a felicity condition of the a-utterance. Third, cases where there is no a-utterance, p refers to the fact that the p-utterance has been made, and q to a felicity condition of the p-utterance.

[24] A third case, in which p is the fact that the p-utterance has been made, and q a felicity condition of the p-utterance, which is assumed by Egg to account for cases of non-declarative p-utterances, will also be discussed below.

[25] The symbols for the proposition combining with *doch* (originally q) and the additional proposition in context (originally p, both by Japanese convention) were changed to match the notation used in the remainder of this thesis. Egg (2011) also uses the notation I have settled for.

The first case does not crucially differ from other proposals making direct reference to instances of *doch* utterances with proposition-level contrast. Two examples from parallel to those in Karagjosova (2004) given above as (19) and (21) are given (English paraphrases only) in (28) and (29). The latter example is here given as self-talk, which can not be directly explained in Karagjosova's approach, but can be accounted for within the framework of Egg's proposal.

(28) A: "Peter will come along, too."
B: "But he is *doch* ill."

(29) A: "I have a cold again."
A: "But I live *doch* quite reasonably."

In both examples, p and q refer to the propositional contents of the *doch*-utterance and the preceding utterance, respectively. In (28), being ill (p) is a "potential impediment" for coming along (q). By DMP it follows from the premises that Peter is ill and that who is ill normally does not come along that Peter does not come along.[26]. In (29), a similar relation holds between living reasonably and having a cold. As no reference to hearer beliefs is made in Egg's formalization, the felicity of *doch* can be accounted for without a problem in this instance of self-talk.

Next, the second case when there is an a-utterance in reaction to which the p-utterance (with *doch*) is uttered, but q corresponds to one of its felicity conditions rather than its propositional content, in the example to follow as the a-utterance is a question rather than an assertion:

(30) A: Since when do you have the *Zauberberg*?
B: You gave it *doch* to me two years ago.

adapted from Egg (2010:133)

Egg argues that in (30), the semantic arguments of *doch* are the propositional content of B's utterance (= p) and the first preparatory condition for A's utterance (= q), namely that A not know the answer to the question. What *doch* expresses is that the CG entails that p and $p > \neg q$, and by DMP that a felicity condition for A's utterance is not met.

[26]The inference that Peter does indeed not come along is, however, blocked as q already holds, this being the source of "tension" between p and q, *cf.* Egg 2011:3

The same analysis is applicable when the a-utterance is a request:

(31) A: Please translate this letter for me.
B: But I know *doch* no Basque.

adapted from Egg (2010:135)

In (31), p is again the propositional content of B's utterance, q the first preparatory condition for A's utterance, here that B be able to fulfil the request, and *doch* expresses the same as above.

Finally, in the third case there is no preceding utterance at all, and the *doch*-utterance is not declarative, thus p can not be its proposition. An example for this is the imperative in (32).

(32) Sue me *doch*!

adapted from Egg (2010:135)

Doch indicates tension between the fact that the utterance in (32) has been made and one of its felicity conditions not being met. What *doch* indicates is "that the first preparatory condition for the request (the speaker believes that the hearer can do it) does not hold, even though this condition follows defeasibly from the fact that the request was made" (Egg 2010:136). Let p be the fact that the utterance in (32) has been made, and q its preparatory condition that the request expressed can be fulfilled. As the request has been uttered, it is part of the context set, thus $C \mid\!\sim p$. The derivation of the second condition for the *doch* utterance $p > \neg q$ depends on its interpretation by the addressee, *doch* "trigger[ing] a search for a suitable proposition [q] which negates a felicity condition of the utterance". A necessary premise for this is that in absence of a previously made a-utterance in reaction to which the *doch*-utterance is made, q in Egg's formalization is by default assumed to be a felicity condition of the *doch*-utterance itself.

Egg proposes similar analyses for *doch* in other non-declarative utterances, such as check- and deliberative questions, and for discourse-initial declaratives with *doch*. In the latter case, the felicity condition violated is the preparatory condition for an assertion that its proposition not be previously known to the hearer (Egg 2010:137). In this view, the givenness meaning component of *doch* has to be considered a pragmatical epiphenomenon in discourse-initial declaratives (in parallel to **?**, *cf.* section 2.1.1). In declaratives with propositional-level contrast, however, where Egg argues that the first argument of *doch* is the proposition of the utterance it occurs in, givenness is part of *doch*'s contribution as p is (defeasibly) entailed from context.

In Egg (2011), the analysis is further expanded to declarative acceptances where q is a felicity condition of the a-utterance, although both the p- and the a-utterance are declarative as in this example parallel to (20) discussed in the summary of Karagjosova (2004):

(33) A: Peter doesn't look healthy.
B: He has *doch* been in the hospital for a long time.

adapted from Egg (2010:135)

The relation between the two utterances in (33) is the opposite of contrast, as the propositional content of the *doch* utterance explains the fact that Peter doesn't look too well, that is, Egg's analysis does not work when p and q are taken to be the propositional contents of the two utterances. A is expressing surprise, a preparatory condition for this being that Peter's not looking healthy be considered extraordinary. This condition is taken to be q, p the propositional content of B's utterance, and from p an $p > \neg q$ follows by DMP that condition q for A's utterance is not being met (Egg 2011:4).

2.2.5 Grosz (2010, 2011): Association with focus

Grosz' analysis implements both givenness and propositional-level contrast in the basic meaning of *doch*, the former shared with *ja*, the most salient difference to other proposals being that the contextual proposition is required to be a focus alternative of the element in the scope of focus *doch* associates with. The definition for the meaning of *doch* is given in Grosz (2011)[27] as in (34).

(34) For any proposition p used in a speech act φ, *doch p* indicates that:
a. the speaker considers p to be established
as part of the context set targeted by φ
b. there is a contextually salient proposition p such that:
i. q is a focus alternative of p
ii. the common ground entails $\neg[p \wedge q]$

adapted from Grosz (2010:1–2) and Grosz (2011:279)[28]

The paraphrase in (34)a is in a similar vein of the implicational relations in Ormelius-Sandblom (1997), Bárány (2009) and Egg (2010), with the difference that there is no inference relation, but the utterance context entails that the two focus alternatives p and

[27]The version in Grosz (2010) gives a. and b. as presuppositions with the continuation for a. "[...] and therefore assumes that it is safe to discard $\neg p$ as a possible answer to the question of whether p or $\neg p$ holds in w_c" and b. including "utterance context" instead of "common ground". This has been modified in order to be applicable to the analysis of *doch* in optatives summarized below. Also, what reads q in this version is given as r in Grosz (2011), which has been modified to the notation used in the remainder of this thesis.

q can not both hold at the same time. Reference to felicity conditions of utterances as in Egg (2010) is also possible. Below some examples from Grosz (2010) for the application of this analysis.

First, an example similar to Karagjosova's (2004) declarative rejections[29]:

(35) Jan muss nicht kochen. Er hat doch abgewaschen.
"Jan doesn't need to cook. He has *doch* done the dishes."

adapted from Grosz (2010:2)

In (35), a rule on the lines of "Either you have to do the dishes, or you have to cook" is presupposed. The scope focus is such that the alternatives are p "He has done the dishes" and q "He has to cook". *Doch* indicates that not both can hold at the same time, and as p holds, q can not hold. The focus alternative to the proposition of the *doch*-utterance can also be contextually derived, as in (36).

(The speaker wakes up from the neighbors drilling)
(36) Heute ist doch Sonntag!
"Today is *doch* sunday."

adapted from Grosz (2010:3)

Here, the focus alternatives can be described by a question "What is the case (today)?", p being "Today it's Sunday", q "today it's okay to drill". Grosz calls this "wide sentence focus"2010:3. The advantage of replacing the indication that a proposition is part of the CG with the notion of being "firmly established" shows in examples where the *doch*-speaker knows the hearer to believe that $\neg p$, as in the following example.

(37) A: Schau mal! Diese Blumen sind so hässlich.
"Look! These flowers are so ugly."
B: Was hast du denn! Die sind *doch* schön!
"What's wrong with you! They are *doch* beautiful!"

adapted from Grosz (2010:3)

In this case, the focus alternative for p in the B's is "These flowers are ugly", for which the context trivially entails that it can not be true at the same time as q. While q is not part of the CG, as it is obviously not accepted by A, it is an established fact "in the sense that the *doch*-speaker considers it obvious or evident" (Grosz 2010:2). Also in cases where it is clear from context that the addressee can not know the propositional content of the utterance *doch*, as well as *ja*, are licit. This has also been observed by

[29]The overt rejection of a proposition "Jan needs to cook" being the first part of the utterance, leaving which out does not hurt the goodness of *doch* in the subsequent part

Karagjosova (2004) who maintains that these cases constitute a "manipulative use" of the MPs, but the speaker can still derive by reasoning that p is not an active belief of the hearer.

Furthermore, *doch*, just like *ja*, can be used in surprise contexts as in (38) which Grosz takes as evidence that *doch*, just as *ja*, imposes no restrictions on speaker or hearer knowledge, as in surprise uses, the fact denoted by their proposition has just come to the speaker's attention.

(Speaker and hearer both believe that Hans is abroad, but then the speaker sees Hans.)

(38) Das ist ja/doch der Hans! Was macht der denn hier?
"That is *ja*/*doch* Hans! What is he doing here?"

adapted from Grosz (2010:6)

Surprise uses of *doch* and *ja* as above are thus problematic for theories assuming that they impose restrictions on knowledge states. This point will not be discussed in detail in this thesis, but see section 3.2.3 for a brief discussion of surprise-*ja* and its Japanese correspondent. The analysis is extended to reminding *doch*, which Grosz observes is interchangeable with *ja* in most cases. The former needs to be used whenever the speaker choses to make a focus alternative (such as "p is not the case" or "you do not know about p") salient and *doch* associates with wide sentential focus, which can be described by the question "What is the case?" (Grosz 2010:7).

A crucial difference to other proposals is that the 'context set' can not only be the CG, but also the speaker's ideal list,[30] which makes it possible to account for *doch* in optatives. In this view, a *doch*-optative utterance indicates that its proposition is firmly established as part of the speaker's ideal list. The scope focus takes indicates "which aspect of reality the speaker would like to change" (Grosz 2011:280). In (39) different focused elements thus correspond to different aspects of reality.

(39) a. Dass *doch* [OTTO]$_{\text{FOC}}$ die Nachtschicht mit Anna geteilt hätte!
"If only it had been OTTO who shared the night shift with Anna!"

b. Dass Otto *doch* [die NACHTschicht]$_{\text{FOC}}$ mit Anna geteilt hätte!
"If only it had been THE NIGHT SHIFT that Otto shared with Anna!"

c. Dass Otto die Nachtschicht *doch* [mit ANNA]$_{\text{FOC}}$ geteilt hätte!
"If only it had been ANNA that Otto shared the night shift with!"

Grosz (2011:280)

[30] "subsuming [the speaker's] wishes, [...] goals, [...] and laws that [the speaker] abides to" Grosz (2011:277)

There is a contrast or tension between the actual state of affairs q (in (39): someone other than Otto, the day shift, someone other than Anna) and what is part of the speaker's wish-list. I assume that also in parallel to non-optative utterances, *doch* in optatives can also associate with wide sentence focus when no prosodically prominent phrase to be associated with narrow focus is present. Grosz also remarks that optatives are licit without *doch* as well, but that at least in out-of-the-blue contexts it is necessary to ensure that the utterance not be interpreted as a fragmentary subordinate clause or antecedent of a conditional.

On a side note, *nur* ("only") works just like *doch* in respect to association with focus in (39), with the likely difference that it does not indicate the wish to be established in the speakers ideal list (how exactly this could be implemented has to remain unclear as it is not the primary concern of this thesis). Consequently, *doch* can co-occur with *nur* in optatives. Note that one could expect *ja* to appear in optatives as well, considering that the meaning component a. of *doch* is equal to the meaning of *ja*. A possible explanation for this would be that *ja* does not indroduce a contradiction between the focus alternative (that is, the actual state of affairs) and thus is not compatible with optatives.

2.3 Analyses of *daroo*

Daroo is a sentence-final element which has been analyzed as indicating results of inference, epistemic uncertainty, and as an evidential expression indicating lack of evidence. A declarative utterance "p *daroo*", but not an interrogative counterpart, is compatible with adverbs expressing a relatively high degree of epistemic certainty, that is probability of p being true, such as *tabun*, *kitto* and *osoraku* (roughly "probably", "certainly" and "maybe"). Conversely, an interrogative "p *daroo-ka*" (where *-ka* is the interrogative marker), but not a declarative counterpart, is compatible with adverbs expressing a relatively low degree of certainty, such as *moshikashite*, *moshikashitara* and *moshikasuruto* (all roughly "perhaps" or "maybe") (*cf.* Miyazaki 2002a:141, Hara 2006a:126–127). Furthermore, interrogatives with *daroo* can not be uttered with a final high boundary tone (typical of interrogatives) but only with final low boundary tone (typical of declaratives) indicating a self-addressed question, while *daroo*-declaratives with final rising intonation have the properties of *daroo* in requests for confirmation (Hara 2006b:50,52;Miyazaki 2002b:214; see also section 2.4.4).

The analyses summarized below are Miyazaki (2002a) in section 2.3.1, in which *daroo* is analyzed as indicating the result of an inference process and related to other elements used to mark different stages in such a process, Hara (2006a) in section 2.3.2, proposes a modal and an evidential meaning component for *daroo*, and Ono (2006) in section 2.3.3, which connects *daroo* to *no.da*, the topic of the subsequent section.

2.3.1 Miyazaki (2002a): The structure of epistemic judgment

This section gives a summary of the analysis of *daroo* in Miyazaki (2002a), which takes the position that *daroo* is an epistemic modal which marks results of internal cognizance, from which an effect of weaker speaker commitment to the assertion arises. Miyazaki gives the basic meaning of *daroo* as "[...] expressing that [the speaker] is judging the propositional content to be true as a result of indirect cognizance such as imagination or thought" (2002a:124, my translation). *Daroo* does not indicate 'suspension of judgement'[31] (as has been previously proposed), but that the speaker has judged the proposition of the *daroo*-utterance to be true under epistemic uncertainty (Miyazaki

[31] What is here given as "judgment" is a translation of *dantei* in the Japanese original, which conveniently translates to both "conclusion" or "decision" and "assertion" — as it is used to describe the result of a decision on the truth value of the proposition, I have settled for "suspension of judgment" over "suspension of assertion".

2002a:121). Miyazaki argues that suspension of judgment is indicated by *daroo-ka* (*daroo* with a question particle *ka*), as illustrated in the example dialog in (40).

(40) A: "Let me hear your opinion. . . "
. . . Ano-hito-wa Hayakawa-o aishi.teiru daroo-ka?
that-person-TOP Hayakawa-ACC love.PROG *daroo*-Q
". . . Does that person love Hayakawa *daroo*?"
(≈ I wonder whether he/she loves Hayakawa)

B: Mada aishi.teiru wa i.nai daroo.
yet love.PROG FOC be.NEG *daroo*
"Love [him/her], [he/she] doesn't yet *daroo*."
(≈ Love him/her, I would say/I think he/she doesn't yet)

adapted from Miyazaki (2002a:135)

In (40) A indicates suspension of judgment as to whether p or $\neg p$, that is, no judgment has been made yet. This can be paraphrased as "I wonder whether p or $\neg p$ holds". In reaction to this, although not directly prompted by A to do so, B makes an utterance with *daroo*, indicating the result of judgment under epistemic uncertainty, i.e. without observable evidence. Thus, Miyazaki argues that while a plain interrogative is a request for the hearer's judgment, an utterance "p *daroo-ka*" expresses that the speaker has not judged whether p is true or not, which can prompt the hearer for an evaluation in an indirect speech act (Miyazaki 2002a:136–137).

Both *daroo* and *daroo-ka* thus correspond to a certain stage in the speaker's epistemic judgement process, namely suspension of judgment and result of judgment. In addition to this, Miyazaki introduces a third sentence-final expression *no.dewanai-ka*[32], indicating an intermediate stage of the speaker judgment process under epistemic uncertainty. This expression can be used interchangeably with *daroo-ka* in many cases and shares its property of being used in self-addressed questions (Miyazaki 2002a:137). The three elements correspond to distinct stages in the speaker's judgment process under epistemic uncertainty as shown in table 3 on the following page. This proposal is backed up by the felicity of *no.dewanai-ka* in combination with either of adverbs expressing high probability or low probability, thus sharing properties of *daroo* and *daroo-ka*, and by the types of interrogatives[33] the three elements can occur in, as summarized in table 4 on the following page.

[32] =NMLZ.COP.NEG Q; structurally similar to polar questions with external negation as in "Isn't it [the case] that p?", the nominalizer *no* separating the copula which is negated from the predicate, which appears in its adnominal form (except for the contracted form of the copula *da*, which changes to *na*, the adnominal form gets the same spellout as nonpast).

[33] This means syntactical questions not necessarily of interrogative force, as Miyazaki argues that *daroo-ka*-utterances, and in many cases *no.dewanai-ka*-utterances, are not canonical questions

Table 3 Expressions for stages in the epistemic judgment process

p daroo-ka > *p no-dewa.nai-ka* > *p daroo*
(inital stage of judgement > tendency towards p > p judged as true)

adapted from Miyazaki (2002a:139–141)

Table 4 Felicity of *daroo-ka*, *no.dewanai-ka* and *daroo* in interrogatives

	daroo-ka	*no.dewanai-ka*	*daroo*
wh- and alternative questions	✓	#	#
polar questions (self-addressed)	✓	✓	#
requests for confirmation	#	✓	✓

adapted from Miyazaki (2002a:142)

The felicity of *no.dewanai-ka* and *daroo-ka* in contexts where the speaker is clearly biased towards either the proposition holding or not holding is further evidence for the claim that they indicate distinct stages in a judgment process. In (41) and (42), two examples for polar questions are given to illustrate this point.

(41) Moshikashitara kono-keiji-wa jibun-no-koto-o
perhaps this-detective-TOP self-POSS-FN-ACC
utagat.teiru no[34] {daroo-ka / dewanai-ka}
doubt.PROG NMLZ {*daroo-ka* / *dewanai-ka*}
"Is this detective perhaps suspecting me *daroo-ka*/*no.dewanai-ka*?"

adapted from Miyazaki (2002a:138)

(42) Kanojo-wa boku-no it.tei.ta-koto-o
she-TOP i-*poss* say.PROG.PST-FN-ACC
hatashite rikaishi.tei.ta no[34] {daroo-ka / #dewanai-ka}
after-all understand.PROG.PST NMLZ {*darooka* / *dewanaika*}
"Did she understand what I was saying after all *daroo-ka*/*no.dewanai-ka*?"

adapted from Miyazaki (2002a:139)

In (42), the content of the utterance (and the adverb *hatashite* ≈"after all") suggests that the speaker is motivated by a possibility of the person in question not understanding what was said, as opposed to (41) where the motivation is a possibility of the proposition to hold (Miyazaki 2002a:139)[35]. Miyazaki's proposal, in which *daroo-ka* indicates suspension of judgement, but *no.dewanai-ka* a tendency towards p, can account

[34]The presence of the nominalizer *no* also before *daroo-ka* points to a connection between *daroo(-ka)* and *no.da*, *cf.* the summary of Ono (2006) in section 2.3.3 below for more on this.

[35]From this one might infer that the speaker is actually tending to believe that she was not understood, which would be an apparent contradiction to the notion of neutrality as to whether a proposition is true of false that Miyazaki ascribes to *daroo-ka*. However, this neutrality only means that the speaker has not yet judged, nor is in the process of judging, p as true or false. If now, as in the examples at hand,

for this straigtforwardly. Another point of interest for the contrastive analysis will be the relation between polar questions with outer negation and *no.dewanai-ka* as it connects the Japanese correspondents of *wohl* to those of *doch* in check-questions. The version of (41) with *daroo-ka* can be paraphrased as "I wonder whether p", that with *no.dewanai-ka* with "Isn't it the case that p?"[36]. For (42), on the other hand, the paraphrase for *daroo-ka* would be "I wonder whether she understood me after all", that for *no.dewanai-ka* "Isn't it the case that she understood me after all?", respectively. The contrast carries over to English: the polar question with external negation is bad if the speaker tends towards believing that $\neg p$.

2.3.2 Hara (2006a): Marking lack of evidence

Hara analyzes *daroo* as an "evidential marker in the sense that it makes reference to the speaker's lack of evidence" (2006a:121) that is also "a modal expression in the sense that it involves a quantification over possible worlds" (*ibid.*). To illustrate the evidential meaning component of *daroo*, table 5 shows the felicity of the *daroo*-utterance in (43) in the contexts shown in (44), which differ in regard to the kind of evidence available to the *daroo* speaker. *Daroo* is only licit in context (44)c, where the speaker has no perceptual evidence in favor of the truth of the proposition, but infelicitous in contexts (44)a, as the speaker has directly witnessed the event denoted by the proposition, and (44)b, as the speaker has indirect, but still observable (perceptual) evidence.

(43) Kinoo John-wa wain-o takusan non.da daroo.
yesterday John-TOP wine-ACC a-lot drink.PST *daroo*
"John drank a lot of wine yesterday *daroo*"

table 5 Acceptability of (43) in Contexts (44)a-c:

(44)	a.	The speaker saw John drinking the night before: #
	b.	There are a lot of wine bottles in John's room: #
	c.	John likes wine very much: ✓

adapted from Hara (2006a:123–124)

the possibility of p or $\neg p$ holding motivates the speaker to initiate an epistemic judgement process is secondary as it does not influence which stage of the process the speaker is in, to indicate which is the function of the elements discussed here.

[36] Alternative paraphrases in the spirit of Miyazaki's proposal could be "The speaker is wondering whether p or $\neg p$ holds", as opposed to "the speaker tends to believe that $\neg p$, and is wonderig whether this is the case", which is possibly more intuitive in regard to felicity, but would be a paraphrase of a polar question with outer negation in English as well, which seems excessively complex for exposition.

To be sure, not judging from observable evidence does not mean that the judgment can not be based on what the speaker has observed in the past, as the following example demonstrates, in which *daroo* is felicitous in the consequent of an inference relation, the antecedent of which expresses observable evidence:

(45) (As they said they would come on Saturday. . .)
. . . kon'ya kuru deshoo.
tonight come *daroo*
". . . [they] will come tonight *daroo*"

adapted from Miyazaki (2002a:134)

As for the epistemic uncertainty encoded in *daroo*, Hara argues this means a probability greater than 50% for p to hold, following from the fact that *daroo* can not co-occur with low-probability adverbs. She further argues that *daroo* does not express epistemic uncertainty *per se* — the intuition that an utterance "*daroo* p" without a probability adverb seems to indicate uncertainty as compared to a plain assertion can be explained by pragmatic inference, in which the indication of the speaker merely being biased towards believing a proposition implicates that it is not an actual belief (2006a:126–127). Furthermore, Hara observes that the the "agent of bias" (or epistemic reference point) of *daroo* is restricted to the agent of the local speech act (2006a:130). This claim is based on data on the embedability of *daroo* as in (46).

(46) a Boku-wa ame-ga furu daroo kara kasa-o mot.te-it.ta.
I-TOP rain-NOM fall *daroo* because umbrella-ACC take.CONT-go.PST
≈"Because I believe it will rain, I took an umbrella."

b. ??John-wa ame-ga furu daroo kara kasa-o motte-itta.
≈#"Because I believe it will rain, John took an umbrella."

c. John-wa ame-ga furu daroo kara to omotte kasa-o motte-itta.
"Because he thinks it will rain, John took an umbrella."

adapted from Hara (2006a:129–130)

(46)a shows *daroo* embedded under *kara* ("because"), with the agent of epistemic bias and the speaker coreferring. In order to make the agent of bias distinct from the speaker, an attitude predicate *to-omotte* ("thinking that") has to be added as in (c), otherwise the utterance is infelicitous as in (b), as the speakers bias that it will (probably) rain can not cause John to take an umbrella.

In order to solve the puzzle that *daroo* can not co-occur with low-probability adverbs such as *moshikasuturo* ("maybe") but with expressions such as *kanoosei-ga hikui*

("the probability is low") Hara proposes that probability adverbs like the former[37], just as *daroo*, contribute to the non-propositional, expressive meaning, while the latter becomes part of the propositional meaning of an utterance (Hara 2006a:149). Evidence from this comes from embedding under negation and under questions, the test for the latter taken from Zimmermann's analysis of *wohl*. Example (47) evidences that interrogatives with *daroo* do not ask about the degree of certainty, but about the truth of falsity of the propositional content, just as Zimmermann observes for *wohl*.

(47) Ashita John-ga kuru daroo-ka
"Is John coming tomorrow *daroo*?"

a. Un, kuru.
"Yes, he's coming."

b. Iya, konai daroo.
"No, he's not coming *daroo*"

c. #Iya, kitto/moshikasuruto kuru.
"No he is certainly/maybe coming."

adapted from Hara (2006a:147)

In response to an interrogative with *daroo*[38], a plain affirmative answer as in (47)a is good, as is an answer with *daroo* as in (47)b. A negative answer as in (47)c, however, in which the degree of certainty encoded in *daroo* is negated, is not felicitious. Hara takes this as evidence that *daroo* takes scope over the question operator, thus not contributing to the propositional meaning. Hara concludes that the badness of *moshikasuruto* ("maybe") with *daroo* arises because the levels of certainty they express are not compatible and they serve the same function, if in different surface positions (Hara 2006a:150). As, on the other hand *tabun* ("probably") expresses high probability which is compatible with the condition or threshold introduced by *daroo* that the likelyhood of p be greater than that of $\neg p$, they can felicitously co-occur.

Taken together, the observations summarized in this section motivate Hara's version of the modal meaning of *daroo*:

The modal meaning of p-*daroo* in context c:

a. Quantificational Domain: possible worlds which are compatible with the non-observable reasoning of the speaker of context c

b. Quantificational Force: more than 50% ($p >_{likelihood} \neg p$)

Hara (2006a:136)

[37] But not *kanarazu* (given in Hara (2006a) as "certainly", also paraphrasable as "necessarily", "without fail") which I assume is due to different syntactic positions

[38] Which Miyazaki (2002a) analyzes as expressions of doubt, see above.

2.3.3 Ono (2006): Connections to *no.da*

Ono (2006) applies Hiraiwa and Ishihara's (2002) analysis of *no* as heading FinP and *da* as a focus particle heading FocP (summarized from page 45 below) to *daroo*-exclamatives. He analyzes *daroo* as consisting of the focus particle *da* and a morpheme *-roo* heading Mood Phrase (henceforth MoodP) which is located above FocP (2006:24). Thus, Ono proposes that occurrences of *daroo* directly adjacent to verbal stems can be explained as a reduced form of *no.da-roo*, as support for which he argues that there is no semantic difference between (48) with or without *no*. Further evidence for this comes from wh-exclamatives, in which *no* is always obligatory, as in (49).

(48) John-wa osoraku hon-o kau (no) daroo
John-TOP probably book-ACC buy NMLZ *daroo*
"John will probably buy a book (*no*) *daroo*"

(49) John-wa *wh*-mante atsui hon-o yomu *(no) daroo!
John-TOP *wh*-EXCL thick book-ACC read NMLZ *daroo*
"What a thick book John reads!"

both from Ono (2006:26)

While (*no*)*daroo* shares most of the syntactic properties of *no.da* as described in Hiraiwa and Ishihara (2002), they differ in that it's complex form *de-ar-oo* has an adnominal form when adjacent to a verbal form as in (50), but not when adjacent to a copula as in (51).

(50) John-wa kaetta de-ar-oo koto
John-TOP go home.PST *de-ar-oo* FN
"That John went home *de-ar-oo*"

(51) John-wa gakusei (*na no) de-ar-oo koto
John-TOP student COP *no* *de-ar-oo* FN
"That John (*is) a student (**no*)*de-ar-oo*"

adapted from Ono (2006:28–29)

To account for these observations, Ono suggests the application of the analysis proposed by Hiraiwa (2000:84) that this "predicate-adnominal" form is licensed through syntactic head amalgamation of the V, v, T, and C heads, which the nominalizer *no* in the *no.da* focus construction prevents. In (51), this becomes visible as amalgamation becomes possible without a nominalizer *no* blocking it in the head position of FinP. In this view, *de-ar* is a focus particle occupying the head position of FocP, amalgamating into an adnominal form of *daroo* together with the lower syntactic heads (Ono 2006:29). If this

is on the right track, it means that the contracted form *da* of the focus particle(s) *de-ar* only occurs together with the FinP-head *no*. Note that it is the absence of *no*, but not necessarily the copula preceding it that makes amalgamation into the adnominal form possible, as this example found on Google evidences:

(52) Soo kantan janai de-ar-oo koto-wa soozoo-ga-tsukimasu
that simple COP.NEG *de-ar-oo* FN-TOP imagination-NOM-perceive
"One can imagine that it isn't that simple *de-aroo*"

adapted from http://dabo.dtiblog.com/?i&no=1338

To illustrate Ono's take on the agent of epistemic bias, an example on the embeddability of interrogatives with *daroo*:

(53) John-wa Mary-ga dare-ni at.ta no daroo ka *(to) kiita.
John-TOP Mary-NOM who-P meet.PST *no daroo* Q C asked
≈"John asked *(that) who Mary met *no-daroo*"

adapted from Ono 2006:33

The verb *kiku* ("ask") can optionally embed questions with or without the complementizer[39] *to*. When the embedded question contains (*no*)*daroo-ka*, as in (53), however, embedding with *to* becomes obligatory (Ono 2006:34). Furthermore, while *to omou* ("think that") can not embed interrogative clauses, it can embed interrogatives with *daroo-ka*[40]. Ono explains these phenomena by proposing that *daroo* contains a pronoun referring to the speaker (2006:30) and that *to* heads a subordinate phrase (henceforth SubP) above the CP containing *daroo*. In SpecSubP, an operator binding the pronoun in *daroo* is base-generated. The speaker can then take the perspective of the Matrix subject by operator movement to a position at the root of the representation[41](2006:36). Applying this to (53), the subject of the matrix clause (John) becomes the agent of bias by the presence of *to* and the operator generated in the specifier position of the phrase it projects binding the pronoun contained in *daroo*. Then, the speaker takes John's perspective by operator raising to a position at the root of the matrix clause, thus *to* becomes obligatory. Recall Hara's observation that the agent of bias expressed by *daroo* be the agent of the local speech act, and inserting *to omou* makes it possible for the agent of bias (the matrix subject) and the agent of the local speech act to differ. This can be explained within Ono's proposal by shifting the perspective of embedded *daroo*

[39]The particle *to* also functions as a citation marker for reported speech or to make thoughts explicit. In such cases, it can occur after elements which are not full clauses, such as *mata* ("again") in the example from Noda (1997) on page 51.

[40]Miyazaki 2002a uses this as a test to distinguish empistemic modals from evidentials

[41]This being postulated as Perspective Phrase by Ono, which I omit here in order to keep the description of technical details to a minimum

from the agent of the local speech act to the matrix clause subject by variable binding of the operator introduced by *to*. Operator movement then allows for the speaker to take the perspective of the matrix subject. In short, the complementizer *to* can shift the agent of bias introduced by *daroo* from the default (agent of the local speech act) to someone else (subject of the matrix clause).

2.4 Analyses of *no.da* (+α)

In chapter 3, *no.da* will be argued to occur in correspondents for *doch*, *wohl*, and *ja*. Hiraiwa and Ishihara (2002) (section 2.4.1) propose an analysis for *no.da* as a focus construction from which clefts are derived. Next, Noda (1997) distinguishes between '*no.da* of scope', which among other functions serves to make negation external, and '*no.da* of mood', the function of which is further broken down into 'ad-personal' and 'factual' uses. Her analysis, together with her observations on compound expressions consisting of *no.da* and conjunctions, will be summarized in section 2.4.2. sentence-final instances of such compound expressions will be discussed separately by the example of *no.da-kara*, as they are likely correspondents for MPs. Najima's (2002), in which *no.da* is analyzed within a relevance-theoretic framework, is summarized in section 2.4.3, his observations on surprise-uses of *no.da* being of interest for their correspondence relation with such uses of *ja*. Finally, in section 2.4.4, Miyazaki's (2002b) analysis of *no.da*, *daroo* and related expressions in requests for confirmation will be summarized.

2.4.1 Hiraiwa and Ishihara (2002): Focus and clefts

Hiraiwa and Ishihara argue that there is a derivational link between clefts and what they dub the '*no.da* in-situ focus construction', giving the basic example for the latter as in (54).

(54) Taro-ga kono-ringo-o tabe.ta no da
Taro-NOM this-apple-ACC eat.PST NMLZ COP
"It is that Taro ate these apples"

Hiraiwa and Ishihara (2002:38)

In (54), *no.da* is argued to be a focus construction, as "any phrase in the nominalized CP that has phonological prominence receives a narrow focus interpretation" (Hiraiwa and Ishihara 2002:38). A corresponding cleft construction assuming that there is narrow focus on "these apples" is shown in (55)a on the following page. This has to be differentiated from pseudo-cleft constructions as in (55)b, which differs in a number of properties from clefts, the only overt difference being the presence or absence of the accusative marker *o* on the DP "this apple".

(55) a. Taro-ga tabeta no-wa kono-ringo**-o** da.
Taro-NOM eat.PST NMLZ-TOP this-apple-ACC COP
b. Taro-ga tabe.ta no-wa kono-ringo da.
Taro-NOM eat.PST NMLZ-TOP this-apple COP
"It is these apples that Taro ate"

Hiraiwa and Ishihara (2002:36)

Assuming an articulated CP-structure as in Rizzi (1997), the derivation of (54) from (55) goes as shown in figure 1 on page 47. The two elements of the *no.da* focus construction, the CP-head *no* and the focus particle *da* heading FocP, are shown in their base generated positions in step one. In it, whichever element is in the scope of narrow focus undergoes focus movement to SpecFocP. The remnant CP with an empty category where the focus-moved XP was base-generated undergoes topicalization in step two, moving to SpecTopP along with its head *no*. This results in a cleft construction, in which the topic-marker *wa* attaches to the topicalized remnant CP. Hiraiwa and Ishihara thus analyze the copula *da* in the *no.da* in-situ focus construction as a grammaticalized focus particle/marker heading FocP.

However, there are instances of *no.da* which can co-occur with the focus construction above, as in (56) taken from Noda (1997). In (57), a cleft-construction derived from (56)b following Hiraiwa and Ishihara's (2002) analysis is given.

(in reply to: "Are you asking me?")

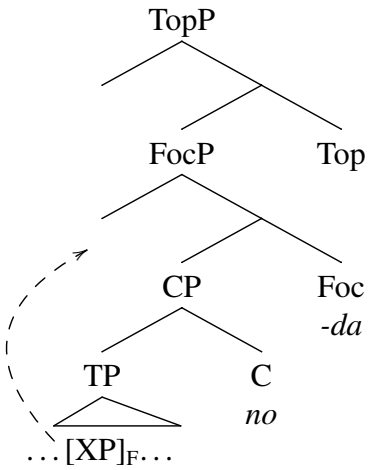
(56) a Iya, [omae-ni]$_{FOC}$ kii-te.iru n-janai.
no you-P ask.PROG NMLZ-COP.NEG
b Iya, [omae-ni]$_{FOC}$ kii-te.iru n-janai n.da.
no you-P ask.PROG NMLZ-COP.NEG NMLZ.COP
"No, I'm not asking YOU."

adapted from Noda (1997:201)

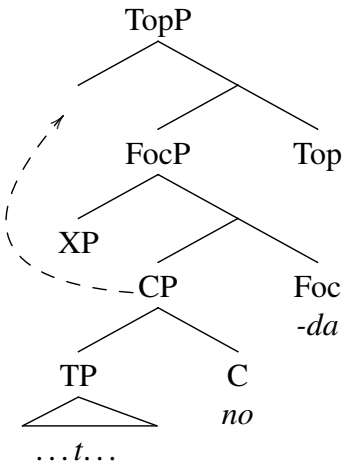
(57) Kii.teiru no-wa [omae-ni]$_{FOC}$ janai n.da.
question-do.PROG NMLZ-TOP you-P COP.NEG NMLZ.COP
"It's that I'm not asking YOU."

Noda argues that in (56)a. above, *n.janai* (a contracted form of *no.dewanai*) serves to place focus on *omae-ni* ("you", *ni* marking it as the goal of "ask"). The additional instance of *no.da* in (56)b. connects its proposition to another state of affairs such as "[The speaker] is saying something in a loud voice" (Noda 1997:201, my translation). Noda further argues that in cases where the focus-enabling version of *no.da* appears in its non-negated form, both functions of *no.da* are realized in a single spell-out (1997:202).

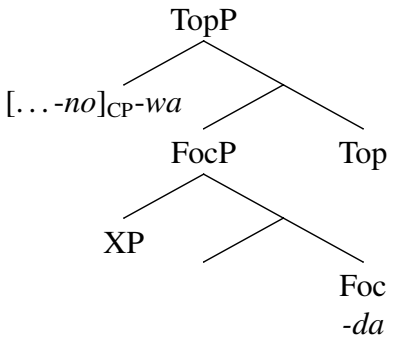
Figure 1 The derivational of clefts from the *no.da* in-situ focus construction



step one: focus movement



step two: remnant CP topicalization



result: cleft construction

adapted from Hiraiwa and Ishihara (2002:43)

Double occurrences of *no.da* in clefts are also possible with non-negated of sentence-final *no.da*, where focus-*no.da* is separated into *no* and *da*, and sentence-final *no.da* occurs after *da* (here in its adnomnial form *na*) as in example (57), found on Google.

(57) Watashi-ga donat.teiru no-wa oya-ni na n.da
I-NOM yell-at.PROG NMLZ-TOP parents-P COP NMLZ.COP
"It is my parents that I am yelling at."

adapted from: http://ameblo.jp/mky-daisuke-azuki-yuzuki/entry-11211747836.html

The status of the additional instance of *no.da* in these examples for clefts is not entirely clear. If we assume that these examples are clefts, which the presence of the thematic marker *ni* on the focused elements suggests, rather than pseudo-clefts, the sec-

ond instance of *no.da* can not be considered an instance of the in-situ focus construction assuming that it can only occur once. This would mean that there is an instance of *no.da* which does not have a syntactical function as the one described by Hiraiwa and Ishihara and is located higher in the syntax as evidenced by its position to the right of *da* heading TopP. Ono (2006), however, argues for an assimilated version of the *no.da* in-situ focus construction as an obligatory part of *daroo*. This seems incompatible with the data above, as *daroo* would be grammatical after the negated copula in (56), and *no.daroo* would be grammatical in *no.da*'s stead in (57). Thus, there are either two instances of the *no.da* in-situ focus construction in these examples, or they are not clefts derived from such a construction, or the syntax of *no.da* is more complex than assumed here. While these questions go beyond the scope of this paper, they show the importance of considering the possibility of functionally (and structurally) distinct instances of the string *no.da*.

2.4.2 Noda (1997): Classification, compound expressions

The basic idea in Noda (1997) is to differentiate between '*no.da* of scope' and '*no.da* of mood'. These correspond to the first, scope-adjusting instance of *no.da* appearing in its negated form in (56)b on page 46, and the second instance of *no.da* in the same example, which appears to have no syntactic function. In this section, examples for both instances will be given, a subclassification of *no.da* of mood will be summarized, and Noda's observations on compound expressions consisting of *no.da* and additional elements will be discussed.

In parallel to the data discussed by Hiraiwa and Ishihara (2002), Noda gives (58) as an example for *no.da* of scope:

(58) Atashi, kanashii kara nai.ta n janai no yo ...
I[-TOP] be sad because cry.PST NMLZ COP.NEG NMLZ SFP
... ureshii kara nai.ta no yo
be.happy because cry.PST NMLZ SFP
"I didn't cry of SADness [...] I cried out of HAPPYness"

adapted from Noda (1997:32)

The function of *no* in (58) is to widen the scope of negation from the predicate ("cry") to the entire preceding clause ("cry out of sandness") — instead of attaching to the verbal stem *nak*, the negation morpheme *nai* attaches to the copula *de.aru* (here as *ja*, resulting in *ja.nai*) thereby taking scope over the entire clause. This version of *no.da* is obligatory in most cases of contrastive focus and negation with scope over parts of the

clause other than the predicate verb (Noda 1997:40).[42], which cases prosodical focus alone suffices. Also in parallel to Hiraiwa and Ishihara (2002), Noda notes that a cleft construction as in this example is semantically similar to (58):

(59) Nai.ta no-wa kanashii kara dewa.nai
cry.PST NMLZ-TOP be sad because COP.NEG
"That I cried wasn't because I am sad."

adapted from Noda (1997:33)

The general function of *no.da* of mood is to "express the speaker's mental attitude" towards the proposition (Noda 1997:66, my translation). Building on previous research, she gives the semantic core of *no.da* of mood as *kiteisei* (henceforth also "settledness", although in a broader sense than e.g. in Asher and Lascarides 2003:361pp). This means that *no.da* indicates that the proposition of its utterance is considered to be "something already settled", or a given fact by the speaker. Among others, Noda points out two issues around the notion of *kiteisei*: First, this property holds not only for *no.da* of mood, but also for *no.da* of scope[43] and sentence nominalization in general (*cf.* Kosaka's (1989) observations summarized in section 1.2.2). Second, the notion of *kiteisei* is quite vague Noda (1997:65–66). In order to better describe the functions of *no.da* of moods, Noda gives a finer grained analysis along two dimensions, resulting in the quadripartite classification of its contribution shown in table 6.

Table 6 Noda (1997) categorization of "*no.da* of mood"

	non-connective	connective
ad-personal	S points out p to H	... as the meaning or circumstance of q
factual	S grasps p	

adpted from Noda (1997:67)

The two axes of categorization are 'ad-personal' (*taijinteki*, lit.: "against [a] person") and 'factual' (*taijiteki*, lit.: "against [a] thing"), and 'connective' (*kankeizuke*, lit.: "making [a] connection") and 'non-connective' (*hi-kankeizuke*). In the table, p is the

[42]It is optional when the connection of the focused part with the predicate is stronger, for instance when they form a set phrase. An example for this would be *Kanojo-ga isshookenmei hatarak.anakat.ta* ≈ "She didn't work with utmost effort", in which the focus of negation is "with utmost effort", rather than the negated predicate "work". According to Noda, this is because *isshookenmei hataraku* is close to being a set phrase. Note that an alternative reading on the lines of "She didn't work. She did this with utmost effort." is rather implausible, favoring the intended interpretation.

[43]This is not surprising if we assume with Hiraiwa and Ishihara (2002) that the remnant CP moves to SpecTopP in clefts and can hence be considered the information-structural background. The crucial question is whether and how the 'settledness' of the remnant CP's proposition and that of an entire utterance with *no.da* of mood can be distinguished.

propositional content of "p *no.da*", and q some contextually salient proposition (often the preceding utterance)[44].

Two types of expressions with *no.da* of mood are of interest for correspondence with MPs. First, the surprise-use of factual, non-connective *no.da* corresponds to surprise-*ja* (*cf.* section 3.2.3). Second, compound expressions of the form *no.da*+α correspond to *doch* in some cases (*cf.* sections 3.2.4 and 3.2.5). In the remainder of this section, Noda's analysis of *no.da-kara* and *no.da-kedo* will be discussed. These expressions consist of *no.da* of mood and conjunctions, of which *kedo* ("but") is adversative, *kara* ("because") causal. They have connective and sentence-final[45] (non-connective) uses, both instances of *no.da* are ad-personal. Noda distinguishes sentence-final uses of *no.da-kara* not only from connective uses, but also cases in which the sequence of the subordinate and the main clause is reversed, and from instances in which the main clause can be considered to have been elided. (60) shows an instance of matrix-subordinate reversal.

"You don't need to worry about money."...

(60) ... anata-no-tokoro-wa okaasan-ga sugoku kasei.deiru n.da-kara
you-POSS-place-TOP mother-NOM extremely earn money.PROG NMLZ.COP-because

...."Your mother earns really well *no.da-kara*."

adapted from Noda (1997:187)

While the utterance in (60) appears to be an independent clause with sentence-final *no.da-kara*, Noda argues that the order of matrix and subordinate clause reversed. Examples for elided main clauses are similar to (60), with the difference that the main clause is simply not uttered instead of its position inverted. In both cases, the alleged subordinate clause is prosodically independent, and in the case of elided main clauses, the distinction to sentence-final uses of *no.da-kara* is not clear-cut, their distinguishing feature being how "easily imaginable" the elided main clause is (Noda 1997:188). I assume that the sentence-final use of *no.da-kara* (and other compound expressions with *no.da*) has developed from their connective use, thus the categories overlap.

[44] I have changed the original labeling used by Noda for uniformity throughout the thesis. Following the Japanese convention, she gives the contextual proposition as P, and the propositional content of the *no.da* utterance as Q.

[45] The contribution of these sentence-final uses is parallel to that of (always sentence-final) *no.da-yo*, which is the default case of ad-personal, non-connective *no.da* of mood. For space, it is not discussed in the remainder of this thesis.

There are two main aspects of the contribution of sentence-final *no.da-kara*. First, while not retaining the functions of the conjunction *kara*, sentence-final *no.da-kara* is consistent with its connective counterpart in that it prompts the addressee to draw an inference base on the utterance's proposition. Second, it imposes restriction on previous hearer knowledge of the utterance's proposition, which will be discussed alongside *doch* in section 3.2.4. For the first aspect, consider the example in (61).

(61) A: *That again!*

B: Mata-to-wa nani yo.
again-PRT-TOP what SFP
Koredemo chanto ie-ni kaet.te,
even like this properly home-P return.CONT
kigae.te denaoshi.te-ki.ta n.da-kara.
change.CONT go out.CONT-come.PST NMLZ.COP-because
≈"What do you mean, again!
It's that this is what I properly went home again to change into!"

adapted from Noda (1997:188)

Speaker B in (61) uses *no.da-kara* to prompt the addressee for a reaction Noda (1997:189). Note that although this is a sentence-final instance of *no.da-kara*, an elided main clause could be something on the lines of "...so change your attitude towards me". Intuitively, the speaker urges the addressee to acknowledge the proposition of the *no.da-kara*-utterance and make some inference based on it, the exact nature of this inference being inferred by the addressee based on the utterance context. If this is on the right track, the causal meaning of *kara* is recoverable in the causal link between the proposition of the *no.da-kara* utterance and the result of the inference. When the additional element of the compound expression is the *kedo* instead of *kara*, the settledness meaning component remains, but the causal meaning component is replaced by an adversative one.

In its connective use, *no.da-kedo* [46] in the subordinate clause indicates tension between its proposition and that of the matrix clause (which follows the subordinate clause in linear order). This is due to a pragmatic inference from the *no.da-kara*-clause which is contradicted by the proposition of the matrix clause. It also has a sentence-final use as shown in (62) on the following page.

[46] *Kedo* is a reduced version of *keredo* which in turn is a reduced version of *keredomo* (all roughly "but", or "however" when used utterance-initially).

(62) A: (calls B's name)
B: "I'm not going!"
A: Mada nani.mo i.tte nai n.desu kedo.
yet nothing have-said NEG NO.DA but
"But I haven't said anything yet *no.da*"

adapted from Noda (1997:170)

In A's reaction to B's utterance in (62), *n(o).da-kedo* "expresses dissatisfaction towards the hearer's not being sufficiently aware of [p]" (Noda 1997:170, my translation). The speaker of the *no.da-kedo*-utterance thus indicates its proposition as a settled fact and points this fact out to the addressee. While there is no clause to which *no.da-kedo* connects the proposition of this utterance, its adversative meaning is recoverable in that the speaker indicates that there is tension between B's reaction and the fact that A "has not said anything yet". While the contrast to sentence-final *no.da-kara* is rather subtle, *no.da-kedo* does not prompt the addressee to react (e.g. by making an inference), but merely points out the tension between the proposition of the clause it occurs in and some contextual factor, such as B's reaction in (62).

2.4.3 Najima (2002): Relevant contextual propositions

Najima (2002) is a critique of the notion of "settledness" (*kiteisei*) as the central pillar of analyses of *no.da* as which it has been used by many preceding works, has been only vaguely defined (*cf.*Noda (1997) on settledness as a possible core meaning of *no.da* of mood). Also, Najima points out that it can be hard to maintain that *no.da* has such a function as other elements in the utterance may also express *kiteisei*, such as tense. He gives, among others, the following example:

(cake saved for later has vanished)
(63) Dare-ga tabeta n.da!
Who-NOM eat.PST NMLZ.COP
≈"Who ate [the cake]!"

adapted from Najima (2002:94)

In this example, the *kiteisei* of the proposition "[someone] ate the cake" is clear from the presence of past tense, and yet there is an intuitive difference between (63) and a counterpart without *no.da*. For Najima, there are three possible explanations: (1) *no.da* does not express *kiteisei*, (2) *no.da* does not only express *kiteisei*, (3) *no.da* and past tense express different kinds of *kiteisei*. Just as in some analyses of MPs, Najima turns to relevance theory for an explanation. He proposes that there are three ways in which

no.da can relate a proposition to the context, thereby making it relevant: strengthening, revision, or contextual implication.

An utterance "*p no.da*" can express that the proposition p, which the speaker has just perceived (*cf.* Noda's "factual *no.da*"), has lead to a revision of some other proposition q within the context. In the examples Najima quotes, this other proposition is invariably $\neg p$, as in this example:

(stepping outside)

(64) A'! Ame-ga fut-te.iru n.da!
(interjection) Rain-NOM fall.PROG NMLZ.COP
≈"Oh! It's raining!"

adapted from Najima (2002:95)

Najima argues that the speaker of (64) had "activated" the proposition $\neg p$ = "It is not raining". (64) can only felicitously uttered when the speaker didn't expect it to rain, as *no.da* here maps a context containing $\neg p$ to one containing p. Najima observes that there are three kinds of elements to which *no.da* can attach: the newly perceived fact replacing some element of context (=expectation) as in (64), which he labels P, some element within the context which he labels C, and finally the result of a context update (which is, of course, also an element of the context), which he labels Q. All three of these possible cases have *kiteisei* in common, but as an epiphenomenon accoording to Najima: in the case of P as the truth value of the proposition is decided[47], in the case of C and Q as they are already part of the context (or CG), while in the case of Q a combination of *no.da* and *daroo* is licit, in which case the speaker signals that judgment (whether the replacement is correct, I assume) is suspended.

Summarizing his analysis, Najima concludes that facticity and *kiteisei* are two different phenomena — *no.da* is used to signal to the hearer that the speaker is not asserting a proposition p, but rather expressing her thoughts on or evaluation of p.

[47]This clearly departs from the notion of settledness in Asher and Lascarides, and seems as vague as he criticizes the notion of *kiteisei* to be

2.4.4 Miyazaki (2002b): Requests for confirmation

In Miyazaki (2002b), the uses of *no.dewanai-ka* and *daroo* in requests for confirmation are argued to have developed from their basic meaning as expressions of doubt. Requests for confirmation are made when the speaker believes a proposition to hold, and directs the addressee to confirm (or correct) this belief, which is roughly the contribution of check-questions in English. Table 7 shows the felicity of *no.dewanai-ka* and *daroo* depends on whether there is epistemic uncertainty on the speaker's side, on the hearer's side, or combinations thereof.

Table 7 Epistemic certainty conditions on *daroo* and *no.dewanai-ka*

epistemic uncertainty	*daroo*	*no.dewanai-ka*
speaker only	✓	✓
hearer only	#	#
both	#	✓
none	✓	#

adapted from Miyazaki (2002b:214)

This is to say that *daroo* and *no.dewanai-ka* can be used interchangeably in the standard case, where the speaker is uncertain whether a proposition actually holds, but deems the addressee in a position to judge this with more certainty. Cases where only *no.dewanai-ka* or *daroo* can be used are more specific.

First, when neither the speaker nor the addressee can judge the truth of a proposition under certainty, only *no.dewanai-ka* is licit, as in example (65).

(65) Toosui-kakuritsu-ga 50% da kara
tomorrow-TOP rain-NOM fall NMLZ COP.NEG-Q
ashita-wa ame-ga furu no dewa.nai-ka
rainfall-probability-NOM 50% COP because
≈"The probability of rain is 50%, so won't it rain tomorrow?"

The utterance in (65) closely resembles an expression of doubt with *no.dewanai-ka*, with the difference that it is made to elicit a reply from the addressee. As Miyazaki notes, it also shares the property of indicating the speaker's tendency to believe that "It will rain tomorrow" holds with a negative polar question without *no.dewanai-ka*, but this tendency comes out stronger with it (2002b:206–207). Furthermore, Miyazaki considers the confirmation-reading of *no.dewanai-ka* pragmatically derived from its doubt-reading, in that the speaker "by showing the addressee that he/she is in the process of making a judgment, indirectly requests a contribution from the addressee" (Miyazaki 2002b:215, my translation).

Next, when there is epistemic uncertainty neither on the speaker's nor on the hearer's side, only *daroo* is felicitous, as in (66).

(66) [sono] ojoosan-to issho-ni odot.ta daroo — are-ga maachan yo
that young lady-P together dance.PST *daroo* that-NOM Maa SFP
≈"You have danced with that girl, right — That's Maa."

adapted from Miyazaki (2002b:213)

The context for (66) is such that the speaker is sure that "You have danced with that girl" holds and that the addressee knows this. The utterance is made not to confirm whether the speaker's belief is correct or not, but "to make the addressee aware of the existence of that state of affairs" (Miyazaki 2002b:214, my translation). In other words, the speaker wants to make sure that the addressee recalls having danced with a specific girl and thus interpret the subsequent utterance "That's Maa" in the right context. The English paraphrase roughly captures this communicative effect, under the premise that it is uttered with 'neutral' intonation, that is without prosodic focus on any element in the clause or the question tag.

Another point which will be of particular interest for the contrastive analysis regarding correspondence with *doch* is the distinction Miyazaki makes between *no.dewanai-ka* and *dewanai-ka*. While the former still retains properties of a question, as evidenced by its use in check-questions, the latter is used to "force the epistemic state of the speaker upon the hearer [...] and has no longer the function of a proper question" (Miyazaki 2002b:207, my translation). (67) shows an example for *dewanai-ka* with this contribution.

(67) Sonna koto, dekiru wake nai janai ka
such thing be-able-to-do reason exist.NEG COP.NEG Q
"Such a thing can not be done *janai-ka*"

adapted from Miyazaki (2002b:204)

As *dewanai-ka* (in a phonologically reduced form *janai-ka*) directly attaches the negated copula *nai* here, it can not be an instance of doubt-indicating *no.dewanai-ka*, in which the nominalizer *no* is obligatory when adjacent to a verbal predicate. The only possible reading is one where the speaker is convinced that the utterance's proposition holds and want the addressee to accept this proposition. Neither doubt as to whether the proposition holds or not nor a request for confirmation from the addressee are conveyed by *dewanai-ka*.

3 Contrastive analysis

Considering the previous analyses summarized in chapter 2, there is one striking similarity between *no.da* in sentence-final expressions and MPs. Both in Najima (2002) and Noda (1997), the general function of sentence-final *no.da* is analyzed as "expressing the speaker's mental attitudes" towards the state of affairs denoted by the proposition of the clause marked with *no* (Noda 1997:66) and as expressing the speaker's thoughts on or evaluation of a proposition rather than asserting it. In parallel to this, Zimmermann argues that utterances with *wohl* differ from plain assertions in that they "inform about the speaker's epistemic state" (2008:216). His generalization on MPs that they "provide [...] clues as to which propositions count as mutually accepted, as controversial, or as uncertain" (2011:2013) is also compatible with this, but more specific, in that this description corresponds to the contributions of *ja*, *doch*, and *wohl*, respectively. This chapter is divided into two main sections. In section 3.1, the correspondence relation between *wohl* and *daroo* and its limitations will be discussed. In section 3.2, various correspondents for *doch* will be identified and discussed.

3.1 *Daroo* as a correspondent for *wohl*

In this section, *wohl* will be compared to *daroo*. It will be shown that in declaratives, *wohl* is compatible with *daroo* in that both express a certain degree of epistemic uncertainty. In addition to this, *daroo* indicates that the proposition of its clause is a belief of the speaker as the result of an inference process. Its evidential meaning component restricts the felicity of *daroo*-utterances in respect to the kinds of evidence this inference is based upon. In this point, *wohl* and *daroo* differ, which will be illustrated in section 3.1.1.

In section 3.1.2, the relation between the auxiliary *werden*, *wohl* and *daroo* will be analyzed. The proposal is that the two elements each cover part of *daroo*'s contribution: *wohl* indicates epistemic uncertainty, while *werden* is ambiguous between a reading indicating results of inference and a plain futurate reading. By adding *wohl*, *werden* can be disambiguated towards a result of inference reading. The felicity of *daroo*, *wohl*, *werden* and the combination of the latter will be used as evidence for a correspondence relation between *werden* and *wohl* on one side, and *daroo* on the other, except for cases of declaratives where the kind of evidence available to the speaker makes *daroo*, but not its German correspondents, infelicitous due to its evidential meaning.

Making no further reference to *werden*, the behavior of *wohl* and *daroo* in questions will be discussed in section 3.1.3. From previous analyses, at least two possible views on *daroo*-interrogatives can be derived. The first possibility is an analysis parallel to *wohl*-interrogatives, the second taking *daroo*-interrogatives as expressions of doubt rather than canonical questions. Following this latter possibility, *daroo*-interrogatives will be argued to correspond to *wohl*-interrogatives with fronted *ob*, which are also expressions of doubt.

Next, in section 3.1.4 the relation of *no.dewanai-ka*, connecting *daroo* in declaratives and interrogatives as an indicator of an intermediate stage in the speaker's judgment process under epistemic uncertainty, and *wohl* will be discussed. It will be argued that *no.dewanai-ka* basically corresponds to German negative polar questions with outer negation, which can receive a reading similar to that of *no.dewanai-ka* when *wohl* is added. The syntactic status of the sentence nominalization morpheme *no* as part of *no.dewanai-ka* will be contrasted with that of the assimilated *no*-morpheme in (*no*)-*daroo*. Distinct syntactic positions will be argued for as a basis for the subsequent discussion in which distinct semantic contributions will be argued for.

3.1.1 Evidentiality and *wohl*

Recall the definition Zimmermann (2008) gives for the basic meaning of *wohl*: it "indicates a certain degree of epistemic insecurity about the proposition of the clause it occurs in". This is compatible with the second part of the modal meaning of *daroo* as given by Hara (2006a), which can be paraphrased as "*daroo* indicates that the speaker deems it more likely than not that the proposition of the clause it occurs in holds". Although the two analyses differ in their formal implementation in that Hara takes *daroo* to be a modal quantifying over possible worlds and Zimmermann takes *wohl* to be an operator on illocutionary force, the effect of expressing epistemic uncertainty arises from both.

A fundamental difference between *wohl* and *daroo* lies in the evidential meaning component of the latter, indicating that the speaker has no direct evidence for the truth of the proposition of the respective clause. This difference is illustrated by the felicity of example (68) and its German translation in (68)′ in the contexts shown in (69) on the following page, repeated from page 39.

(68) Kinoo John-wa wain-o takusan non.da daroo.
yesterday John-TOP wine-ACC a-lot drink.PST *daroo*
"John drank a lot of wine yesterday *daroo*"

(68)′ Hans hat gestern wohl viel Wein getrunken.
"John has *wohl* drunk a lot of wine yesterday"

Table 8 Acceptability of (68) and (68)′ in Contexts (69)a-c:

			(69)	(69)′
(69)	a.	The speaker saw John drinking the night before:	#	#
	b.	There are a lot of wine bottles in John's room:	#	✓
	c.	John likes wine very much:	✓	✓

Both (68) and (68)′ indicate epistemic uncertainty, that is the speaker is not sure whether the proposition "John drank a lot of wine yesterday" holds but tends to believe so, but differ in felicity depending on the kind of evidence the speaker has for this tentative belief. Both are out when the speaker has directly observed the action denoted by the proposition as in context (69)a. Both are good when the speaker's belief that the proposition holds is not based on any observable evidence as in context (69)c.[48] In context (69)b, on the other hand, there is a clear contrast. When the speaker has observable evidence, here the empty wine bottles in John's room, for the truth of the proposition *daroo* is marked, but *wohl* is good. In summary, the modal meaning component of *daroo* makes it compatible with *wohl*, while its evidential meaning component restricts the set of cases in which the two elements can correspond.

3.1.2 (*Wohl*+)*werden* and *daroo*

Miyazaki (2002b) analyzes the meaning of *daroo* from another angle, namely its function as a marker for results of speaker inference, henceforth the 'result-of-inference reading'. This aspect is closely related to its evidential meaning component as proposed by Hara (2006a): When there is no observable evidence, the only source for judging the truth of a proposition is inference on previously held beliefs. Result of inference does not, however, account for the differences in distribution observed between *wohl* and *daroo* above[49]: even if there is observable evidence, judging the truth of a proposition can involve inference based on this evidence. A German element which

[48] Out of the blue, the utterances would be bad in context (69)c as well to my intuition. This would be the case when, for instance, what John has done the night before is not under discussion. When this is the case, however, as in a situation where for instance John is misteriously absent in the morning and the speaker infers from John's frequent consuming large quantities of wine that this might be an explanation for his absence, both *wohl* and *daroo* are licit, and even preferred.

[49] Miyazaki does mention that *daroo* marks results of the speakers "internal thought process" as opposed to "direct observation"

is likely to indicate inference is the auxiliary *werden*. Although, just as *wohl*, it does not share the evidential meaning of *daroo*, it comes closer to Miyazaki's version of the meaning of *daroo* in that it not only indicates epistemic uncertainty like *wohl*, but also marks the assertion as a result of the speaker's inference process. Thus, a translation with *werden* is an additional option for the Japanese example in (68), repeated here.

(70) Kinoo John-wa wain-o takusan non.da daroo.
yesterday John-TOP wine-ACC a-lot drink.PST *daroo*
"John drank a lot of wine yesterday *daroo*"

(70)′ Hans wird gestern (wohl) viel Wein getrunken haben.
"John will (*wohl*) have drunk a lot of wine yesterday"

Note that in the German translation in (70)′ with *werden*, *wohl* can be added without a significant change in meaning. As a working hypothesis, while *wohl* indicates epistemic uncertainty, *werden* does so indirectly by marking the speaker's belief that John drank a lot of wine as the result of an inference process rather than an account of direct observation. From the speaker's choosing to make the utterance in (70)′ with *werden* rather than a plain assertion, the hearer can pragmatically derive epistemic uncertainty, which can optionally be marked with *wohl*.

An additional property *werden* shares with *daroo* is its futurate use. Examples for this use are shown in (71) and its German translations (71)′a and b.

(71) Ashita-wa ame-ga furu *daroo*.
tomorrow-TOP rain-NOM fall.NPST *daroo*
≈"It will (presumably) rain tomorrow."

(71)′ a. Morgen wird es regnen.
"It will rain tomorrow."

b. Morgen wird es *wohl* regnen.
≈"It will presumably rain tomorrow."

The Japanese example in (71) shows an assertion "It rains tomorrow" in non-past. For such an utterance, *daroo* is obligatory[50] as there can be no direct perceptual evidence for tomorrow's weather. Two possible German translations for (71) are the one in (71)′a, an utterance "It rains tomorrow" with *werden*, and a version where *wohl* is additionally added in (71)′b. The Japanese original is thus ambiguous between readings corresponding to (71)′a and b, respectively. As with non-futurate *werden* in (70), adding *wohl* does

[50]This holds at least under most circumstances, such as in weather forecasts where *daroo* is invariably used. If we imagine an utterance context where the speaker knows the next day's weather from direct perceptual evidence, in which the utterance would be felicitous without *daroo*.

not change the utterance's meaning significantly when *werden* receives its result-of-inference reading.

However, the German utterance in (71)′a is ambiguous itself, namely between a reading with epistemic uncertainty and a plain futurate one. As noted in Diewald (2005:25), *werden* does not unambiguously receive a plain futurate reading, but such a reading needs to be disambiguated by contextual factors (such as the temporal adverb "tomorrow" in the example at hand) or conversational implicature. Thus, there is the additional possibility of translating the Japanese utterance with a German utterance without *werden*, that is a plain non-past utterance as shown in (71)′c.

(71)′ c. Morgen regnet es.
≈"It will rain tomorrow."

Assuming an overlap in meaning between *daroo* and *werden* in that both mark the result of an inference process rather than an account of direct observation, their futurate readings can be considered conventionalized uses. In contrast to *werden*, *daroo* does not have a plain futurate reading without epistemic uncertainty, and is obligatory in futurate utterances under (a certain degree of) epistemic uncertainty. In such cases, *wohl* alone is licit when the utterance context disambiguates towards a futurate reading, and a combination of *wohl* and *werden* directly corresponds to *daroo*. Conversely, in contexts without epistemic uncertainty on part of the speaker, *daroo* and *wohl*, but not *werden*, are infelicitous.

There are at least two distinct groups of such contexts: first, those in which the speaker makes the inference that a proposition holds based on direct perceptual evidence, as discussed with examples (68) and (69), and second, contexts in which the speaker has to be considered an expert for judging the truth value of the proposition in question (expert-contexts, *cf.* page 11), or where the speaker has full control over the action denoted by the predicate. (72) is an example for the latter case, as the speaker of an utterance "I will call you tonight" has full control over whether this will be brought about or not. If it is uncertain to the speaker herself whether she will actually perform this action or not, this lower degree of probability has to be encoded with a modal *kamoshirenai*, as in (72)a, while *daroo*, as in (72)b, is clearly degraded. In the German translations in (72)′, on the other hand, *werden* together with *vielleicht* is fine, as it receive its futurate-only reading. If *wohl* is added instead of *vielleicht* as in (72)′b, the utterance becomes degraded.

(72) a. Konban kimi-ni denwa-suru kamoshirenai.
tonight you-P phone-do possibly
≈"I might call you tonight."

b. Konban kimi-ni denwa-suru ??daroo.
tonight you-P phone-do *daroo*
"I will call you tonight ??*daroo*"

(72)′ a. Ich werde dich heute Abend vielleicht anrufen.
≈"I might call you tonight"

b. ??Ich werde dich heute Abend wohl anrufen.
??"I will *wohl* call you tonight."

adapted from Miyazaki (2002a:147)

Werden is not obligatory in (72)′: Plain present (or non-past) tense versions of the two German translations behave exactly like the versions given here, with no major change in meaning. This is evidence that not *werden* itself, but rather the result-of-inference reading of *werden*, towards which the addition of *wohl* disambiguates, corresponds to *daroo* in the example at hand, and that the futurate reading of *werden* does not have a direct Japanese correspondent. We can tentatively conclude that both *werden* and *wohl* overlap in meaning with *daroo*. To reiterate this point, consider example (73), where *daroo* can not receive a futurate reading due to progressive tense on the predicate, and again two possible German translations in (73)′a and b.

(73) Ima-wa Ame-ga fut.teiru daroo.
now-TOP rain-NOM fall.PROG *daroo*
≈"Presumably, it's raining now."

(73)′ a. Es regnet jetzt wohl.
"It rains *wohl* now."

b. Es wird jetzt (wohl) regnen.
"It will (*wohl*) rain now."

≈"Presumably, it's raining now."

From the translation in (73)′a, an utterance "It's raining now" with *wohl* added, it seems that *wohl* and *daroo* correspond. Both express epistemic uncertainty, and would be licit in utterance contexts where the speaker, for one reason or the other, is not entirely sure whether or not it is actually raining, but assumes that this is the case. However, (73)′b shows that the same utterance with *werden*, here unambiguously in a non-futurate reading as the proposition refers to an event taking place at utterance time, can be a suitable translation for the Japanese example with *daroo*, and adding *wohl* becomes optional when *werden* is present.[51] Thus, *daroo* encodes the meanings of both *wohl*, that is epis-

[51] Arguably, a version of (73′b with *wohl* is more natural, as its presence blocks a futurate-only reading

temic uncertainty, and result-of-inference *werden*, that is marking the belief expressed in the proposition as a result of speaker inference. *Daroo* and *werden* are distinct, however, in two aspects. First, *werden* does not have an evidential meaning component which would rule out direct perceptual evidence as a premise for the speaker's reasoning, and second, *daroo* in its futurate use is only licit iff there is epistemic uncertainty on part of the speaker regarding the future event, while *werden* in its futurate-only reading is good without epistemic uncertainty, or at least with degrees of epistemic uncertainty significantly lower than those required to license the use of *daroo*.

Table 9 Felicity of *wohl*, *werden*, and *daroo* under uncertainty and in futurate utterances

	werden	*wohl*	*werden+wohl*	*daroo*
uncertainty	✓	✓	✓	✓
uncertainty, observable evidence	✓	✓	✓	#
futurate	✓	#	#	#
futurate, uncertainty	?✓	?✓	✓	✓

Table 9 summarizes the readings for *werden*, *wohl* and *daroo*. As the distinction between result-of-inference readings and epistemic uncertainty readings does not appear to be clear-cut, 'uncertainty' is used to refer to all utterance contexts in which the speaker has, for instance, not directly witnessed the state of affairs denoted by the proposition of the clause. First, under epistemic uncertainty without observable evidence, all of (result-of-inference) *werden*, *wohl*, a combination of both, and *daroo* are, in principle, licit, as in example (73). Next, when there is observable evidence for the truth of the respective proposition, *daroo* becomes infelicitous, as in example (68). Third, cases of plain futurate readings without epistemic uncertainty, only (plain futurate) *werden* is licit, as in example (72). In such cases, *werden* is optional, and a plain non-past utterance is felicitous as well[52]. Finally, in the case of futurate readings with epistemic uncertainty, both *daroo* and a combination of *wohl* and *werden* are licit. *Werden* only is somewhat less preferred, this most likely because ambiguity between a plain futurate reading without uncertainty arises. *Wohl* only is also worse than *werden* and *wohl* together, this in turn as ambiguity between a non-futurate and a futurate reading arises. In summary, the result-of-inference reading of *werden*, which is forced when *wohl* is present, as well as *wohl* by itself, correspond with *daroo* in the examples

of *werden*, which in the example at hand would be pragmatically bad.

[52]For a discussion on the difference between German non-past, or present-tense, utterances and *werden*-utterances referring to future events, *cf.* Diewald (2005:25-26)

discussed so far, with the difference that *daroo* is specified in regard to what kind of evidence is licit as the grounds for this inference.

Even though the discussion so far suggests only a partial correspondence relation between *wohl* and *daroo*, in the remainder of this chapter *werden* will not be discussed in more detail. On the one hand, this is because the topic of this theses are MPs, of which *werden* is not an element, on the other hand there are some similarities between *wohl* and *daroo* which *werden* does not share. First, there is the similar behavior of *wohl* and *daroo* in questions which has already been pointed out in Hara (2006a), and second the property of both elements to inform about the speaker's (or ask about the hearer's) epistemic state, which is not the primary function of *werden*. The Japanese correspondents of both MPs furthermore contain the sentence-final element *no.da* (in the case of *daroo* following Ono (2006)), previous analyses of which will be discussed to gain some insight on their meaning from a contrastive perspective.

3.1.3 *Wohl* and *daroo* in questions

This section discusses how utterances with *daroo* and an interrogative particle *ka* relate to *wohl*-interrogatives. Considering the observations from the previous section, it would be expected that there are some differences in their distribution due to the evidential meaning component of *daroo* not being shared by *wohl*. As far as the result-of-inference meaning component *daroo* arguably shares with *werden* is concerned, it is less prominent in interrogatives as no assertion is made. Rather, the speaker of a *wohl*-question prompts the addressee to make an assertion under epistemic uncertainty. Previous analyses of *daro* make divergent predictions on its behavior in interrogatives. On the one hand, there is Hara's (2006a) analysis of *daroo* in questions as semantically scoping over a question operator just like *wohl* does. That is, interrogatives with both *wohl* and *daroo* can be paraphrased as "tell me (granted a degree of uncertainty) whether p or $\neg p$" (from Zimmermann 2008:206). Miyazaki (2002a), on the other hand, argues that *daroo-ka* is best analyzed as an element marking a certain stage in the spekear's judgment process of the truth of a proposition, namely the first stage in which there is no tendency towards one or the other option yet. From this follows that utterances with *daroo-ka* are not questions in the narrow sense, but can be used to prompt the addressee for their judgment in an indirect speech act. That *daroo-ka* utterances are at least not canonical interrogatives is also evidenced by Hara's (2006b) observation that they can not bear the final rising pitch contour typical of questions.[53]

[53] Plain *daroo*-utterances, on the other hand, can, but are then interpreted as check-questions.

Example (74) shows the same utterance as in (73) ("It's raining now *daroo*") with the question particle *ka* added and two possible German translations. Versions with *werden* are not given, in part because *werden* is not of primary interest for this thesis, but also because translations with *werden*, but without *wohl*, are intuitively somewhat odd.[54] First, (74)′a shows a plain interrogative clause "Is it raining now?" with *wohl* added, with a meaning as in Zimmermann's paraphrase quoted above. Second, (74)′b shows an interrogative clause with fronted *ob* ("If it's raining now?") which receives a doubt- rather than a question-reading on the lines of "I wonder if it's raining".

(74) Ima-wa Ame-ga fu-tte.iru daroo-ka.
now-TOP rain-NOM fall-PROG *daroo*-Q

(74)′ a. Regnet es jetzt wohl?
"Does it *wohl* rain now?"
≈"What do you think — is it raining now?"

b. Ob es jetzt wohl regnet?
"If it *wohl* rains now?"
≈"I wonder if it's raining now."

From a theoretical viewpoint, (74)′a follows from Hara's proposal being an interrogative version of an assertion "It's raining" with *wohl*. (74)′b on the other hand follows from Miyazaki's analysis in that it is not a direct question, but expresses that the speaker is wondering whether "It's raining" holds. This will henceforth be referred to as the 'doubt-reading' of fronted-*ob* interrogatives. Its question-like usage, that is its use as a directive prompting the addressee for their evaluation of the proposition, constitutes an indirect speech act. In either case, *wohl* is the crucial element to achieve equivalence with the Japanese original. Without *wohl*, the plain interrogative translation in (74)′a would not be possible. The interrogative with fronted *ob* in (74)′b would be at least degraded without *wohl*, as the utterance would then become ambiguous between the intended reading and an echo-question on the lines of "[Are you asking me] if it's raining right now?".

[54] Assuming the partial correspondence relations between *wohl*/*werden* and *daroo* argued for in section 3.1, this can be explained within both Hara's (2006a) and Miyazaki's (2002a) analyses. If *daroo-ka* utterances are canonical interrogatives based on *daroo*-assertions, the speaker prompts the addressee to make an inference (possibly without observable evidence), but does not make an assertion. If, on the other hand, *daroo-ka* indicates that the speaker is at an early stage in her epistemic judgment process, no judgment has taken place yet. In either case, the result-of-inference meaning component of *daroo* is weakened as no inference has been made yet, thus there is no such result. In this way, the epistemic uncertainty that is either assumed on part of the addressee (Hara's version) or indicated at least on part of the speaker (Miyazaki's version) needs to be obligatorily expressed, thus a German translation with *werden* only is marked as it does not indicate epistemic uncertainty directly.

While the Japanese utterance in (74) is thus ambiguous between readings corresponding to the two possible translations (that is, a question- and a doubt-reading), in Japanese there is another possibility to express the self-directed utterance of doubt in (74)′b. (75) shows a plain question "Is it raining now?" with a SFP *na* added. In combination with the interrogative particle *ka*, *na* marks self-directed questions, that is by adding *na* to a question, the speaker indicates that she is wondering whether the proposition of the clause holds.

(75) Ima-wa Ame-ga fu-tteiru ka-na.
now-TOP rain-NOM fall-PROG Q-SFP
"Is it raining now *na*."

(75)′ Ob es jetzt ?(wohl) regnet.
"[I wonder] if it's ?(*wohl*) raining now."

Even though *daroo* is not present in the Japanese original, the German translation in (75)′, again a fronted-*ob* interrogative, would be rather bad without *wohl*. Correspondence between the epistemic uncertainty meaning component of *daroo* and *wohl* is not directly affected by this evidence, however, if we assume *wohl* also serves to disambiguate between a doubt-reading and an echo-question reading of *ob*-interrogatives, which is the sole function of *na* in examples like (75). Indeed there are examples in which *daroo* and *ka-na* co-occur as shown in (76) found on Google.

(76) Kookoku-wa mookaru daroo-ka-na?
advertising-TOP make-money *daroo*-Q-SFP

(76)′ Ob man wohl mit Werbung Geld machen kann?
"If one can *wohl* make money with advertising?"

The contrast between *daroo-ka-na* and plain *ka-na* is rather subtle. In (76), *daroo* indicates a higher degree of epistemic uncertainty than a plain *ka-na* utterance would, thus *wohl* can not be left out in an equivalent German translation. This contrast comes out more clearly when adding material disambiguating towards a doubt-reading of an *ob*-interrogative is added. Adding "I wonder" to either of (75)′ can achieve this, as then *wohl* could be felicitously left out in the former, but not in the latter if equivalence with the respective Japanese utterances is to be achieved.

3.1.4 Epistemic bias, ONPQs, and *wohl*

In this section, *wohl* will be contrasted with *no.dewanai-ka*, the element linking *daroo-ka* and *daroo* in Miyazaki's (2002a) analysis, where each corresponds to a distinct stage in the speaker's epistemic judgment process. Following Ono (2006), *daroo* can be broken down into three distinct morphemes: an assimilated nominalizer *no*, a version of the copula *de-ar*, and a suffix *-oo*. At face value, *no.dewanai-ka* also contains the nominalizer *no* and a (negated) version of the copula *dewanai*. It will be argued that these morphemes occur in distinct syntactic positions in *daroo* and *no.dewanai-ka* and thus differ in their contribution to the utterance. The German correspondent to *no.dewanai-ka* will be identified as outer negation, which can co-occur with *wohl* in questions. In Japanese, *no.dewanai-ka* and (*no.*)*daroo* can also co-occur in the same clause, which points to distinct syntactic positions for the two instances of *no*.

Table 9 Expressions for stages in the epistemic judgment process

p daroo-ka > *p no-dewa.nai-ka* > *p daroo*
(inital stage of judgement > tendency towards p > p judged as true)

The three elements in table 10, repeated from page 37, indicate distinct stages in a process of judgment under epistemic uncertainty, thus also different degrees of epistemic (un)certainty. The data from the previous sections has shown that *wohl* in assertions (together with *werden*) marks epistemic uncertainty of the same degree that *daroo* does, and *wohl* in interrogatives with fronted *ob* corresponds to *daroo-ka*. Below, the contextual conditions regarding the speaker's epistemic bias under which *no.dewanai-ka* is licit will be compared to those on the felicity of *wohl*. (77) and (78) show English glosses of two examples with *daroo-ka* and *no.dewanai-ka*, repeated from page 38, with two German translations each: an interrogative and a declarative utterance with *wohl*[55]

(77) "Is this detective suspecting me {*darooka* / *no.dewanai-ka*}?"

(77)′ a. "Verdächtigt mich der Inspektor wohl?"
b. "Der Inspektor verdächtigt mich wohl"

(78) "Did she really understand what I was saying {*daroo-ka* / **no.dewanai-ka*}?"

(78)′ a. "Hat sie mich wohl wirklich verstanden?"
b. #"Sie hat mich wohl wirklich verstanden"

These examples show that the conditions for felicitously uttering *no.dewanai-ka* in terms of the speakers tendency towards believing that a proposition is true are the same

[55] An interrogative clause with fronted *ob* would also be possible, but has been left out as its felicity conditions do not differ from the *wohl*-interrogative given here.

as for *wohl* in declaratives. In (78), the pragmatically preferred reading of the utterance is that the speaker tends to believe that the proposition of the clause does not hold. In such a case, *no.dewanai-ka* is not licit as it necessarily indicates epistemic bias towards the alternative that the proposition holds. As for the felicity of *wohl*, the same restriction holds, which can be traced back to its function of modifying the degree of speaker commitment: A *wohl*-declarative is, after all, an assertion, and when the speaker asserts a proposition, it follows from pragmatical principles that she believes it to be true. Thus, the degree of epistemic uncertainty indicated by *no.dewanai-ka* is compatible with that indicated by *wohl* in declaratives.

This does not necessarily mean, however, that *wohl* in interrogatives and *no.dewanai-ka* do actually correspond. Rather, *no.dewanai-ka* is likely to correspond to German polar questions with outer negation (henceforth ONPQs), as they are structurally similar. Both *no.dewanai-ka* and ONPQs contain an element of negation, namely the negation particle *nicht* ("not") and the negated copula *dewanai*, respectively. Also, in both negation is realized in a syntactically higher position than its canonical one. In Japanese, the canonical position is the main verb, while *no* in *no.dewanai-ka* attaches directly to the main verb[56] and negation is realized on the copula. In German, the higher realization of negation becomes visible when the negated element is an indefinite DP, in which case negation is realizes with a particle *nicht* rather than morphologically on the indefinite article. (79) shows the English gloss of a *no.dewanai-ka* utterance, (79)′a to c three possible German translations. (79)′a shows a plain ONPQ, (79)′b an ONPQ with fronted *ob*, and (79)′c a *wohl*-interrogative with fronted *ob*. Without further context given, all three are in principle compatible with (79).

(79) Motto betsu-no-riyuu-ga at.ta no.dewanai-ka
more other-POSS-reason-NOM exist.pst *no.dewanai-ka*
"Was there yet another reason *no.dewanai-ka*?"

(79)′ a. Gab es nicht noch einen anderen Grund?
"Wasn't there yet another reason?"

b. Ob es nicht noch einen anderen Grund gab?
"[I wonder…] If there wasn't yet another reason?"

c. Ob es wohl noch einen anderen Grund gab?
"[I wonder…] If there was *wohl* yet another reason?"

Miyazaki (2002a:138)

[56]Negation of the predicate in addition to external negation is always possible in Japanese, but only in some cases in German

There are two relevant readings to (79) reflected in the possible translations. The premise for their following description is that the utterances are self-directed[57]. First, the speaker could try to remember another reason, certain that such a reason exists. Second, the speaker could be considering the possibility that there might be another reason. Only the latter reading is possible for (79)′a, only the former for (79)′b and c. Miyazaki explains this ambiguity of *no.dewanai-ka* by assuming an additional element *dewanai-ka*, which only has a reading as in (79)′a, that is, the speaker is either trying to recall a reason of which she is certain that it exists, or prompts the addressee to recall this reason. That is, an ONPQ presupposes the truth of its proposition and indicates doubt whether it actually holds. Just like ONPQs, *no.dewanai-ka* in the relevant reading does not encode an epistemic bias *per se*, but rather indicates that the speaker wants to double-check p in parallel to Ladd's (1981) analysis of polar questions with outer negation. Other than not having an evidential meaning component, this is a point in which *no.dewanai-ka* crucially differs from the other two elements in Miyazaki's hierarchy of epistemic bias.

Recall that Ono (2006) analyzes *daroo* as being a reduced form of *no-de.ar-oo*, where *de-ar* is a morphological variant of the copula *da*. In the light of Miyazaki's claim that *daroo* and *daroo-ka* are in the same class of markers for an epistemic judgment process, this begs the question whether the nominalizer *no* makes the same contribution in all three elements. As has been argued above, however, the two elements including *daroo* differ from *no.dewanai-ka* in that the latter is structurally equivalent to ONPQs (thus does not directly indicate epistemic uncertainty). Assuming the syntactic status of *no-daroo* as in Ono's (2006) analysis, a structure for *no-daroo-ka* as in (80)a follows.

(80) a. *no* *de-ar* *oo* *ka*
NMLZ(FIN) COP(FOC) MOOD Q

b. *no* *dewa.nai* *ka*
NMLZ COP.NEG Q

The glosses FIN and FOC indicate that *no* and *da*[58] occupy the head positions of FinP and FocP, respectively, following Hiraiwa and Ishihara (2002) and Ono (2006). Following the latter, *-oo* is glossed as MOOD to indicate the head-position of MoodP. Only the syntactic positions of nominalizer and copula are relevant for our argument. In (80)b, a gloss for *no.dewanai-ka* without reference to the syntactic positions of the morphemes is given. At first sight, it seems that *no.dewanai* and *no.daroo* occupy the same syntactic

[57] To my intuition, they do not behave significantly different when directed at an addressee.
[58] given here in its complex form *de-ar* for positioning of the /ɽ/-phoneme

position, but a string *no.dewanai-no.daroo-ka*, is possible[59], while a string in reverse sequence **no.daroo-no.dewanai-ka* is out. This is what motivates the assumption that a string *nmlz-cop* has a distinct syntactic location from a string *fin-foc* (*cf.* Hiraiwa and Ishihara 2002), which is realized with the same morphemes. Thus, a structure of *no.dewanai-daroo-ka* as in (81) is likely.[60]

(81) no dewa.nai (no) de-ar oo ka
NMLZ COP.NEG NMLZ(FIN) NMLZ(FOC) MOOD Q

From the correspondence relations proposed so far, a likely German correspondent for the string in (81) is a *wohl*-interrogative with fronted *ob* (for *daroo-ka*) and outer negation (for *no.dewanai*). In (82) a version of (79) with the string *no.dewanai-(no.)daroo-ka* is given, a German translation on these premises in (82)′.

(82) Kono-keiji-wa jibun-no-koto-o utagatteiru no-dewanai-daroo-ka.
"Is this detective perhaps suspecting me *no.dewanai-daroo*?"

(82)′ Ob mich dieser Inspektor nicht wohl verdächtigt.
"If this inspector isn't *wohl* suspecting me."

Whether (82)′ is indeed equivalent to (82) is a very subtle judgment call, which I will not attempt to settle here for space[61]. They seem, however, sufficiently close to conclude that the actual German correspondent of *no.dewanai-ka* are polar questions with outer negation. The conventionalized use of *no.dewanai-ka* as an expression of doubt places it between *daroo* and *daroo-ka* on Miyazaki's hierarchy of stages in the epistemic judgment process, all elements of which are sentence-final elements. In German, on the other hand, where the default expression of epistemic uncertainty *wohl* is base generated as an adverb, external negation in questions is realized in a completely different way syntactically, which is a likely cause for the lack of a conventionalized use of ONPQs directly corresponding to that of *no.dewanai-ka* as an expression of doubt.

[59]In a footnote, Miyazaki (2002b:142, fn.23) notes that *no.dewanai-daroo-ka* is not a combination of *no.dewanai-ka* and *daroo-ka*, but a version of the former which can only receive a doubt-reading. This is confirmed when considering the interpretation of a German equivalent construction "Ob nicht wohl p", but does not harm the observation that there are actually two distinct syntactical positions for sentence negation and *no.da*-focus / *daroo*

[60]Note that the optionality of *no* is fully expected, since, as Ono (2006) has observed, this is the case in all instances of *(no)-daroo*.

[61]The German utterance does, to my intuition express a higher degree of epistemic uncertainty than the Japanese one, which is most likely because of the realization as an *if*-question, which would correspond to the SFP *na* in Japanese. A direct comparison is not possible however, since external negation and *wohl* are quite bad together in non-*if*-questions, the reasons for which remain for further research.

3.2 Correspondents of *doch* and sentence-final *no.da*

The claim presented in this chapter is that *doch*- (and *ja*)-utterances are comments on the epistemic status of their proposition, and that sentence-final *no.da* also has the function of marking such comments. Reminding *doch* and its Japanese correspondent reminding *daroo* will be compared in section 3.2.1. These elements are similar to requests for confirmation in that their purpose is to confirm a proposition as part of the common ground, but different in that they do not indicate doubt as to whether the proposition holds or not. In section 3.2.2, sentence-final elements in Japanese requests for confirmation will be contrasted with *doch*. In requests for confirmation, the speaker indicates that they believe a proposition to be true and want the addressee to confirm that this is actually the case. It will be argued that there are two groups of Japanese correspondents to *doch* in such cases: Those which indicate epistemic uncertainty directly, and those which do not. Further exploring what the common meaning core of *doch* and *no.da*, if any, could be, similarities between surprise-uses of *ja* and *no.da* will be discussed in section 3.2.3, and the felicity of *doch*-correspondent *no.da* depending on hearer beliefs in section 3.2.4. Finally, the contributions of *no.da* and *doch* in declarative acceptances and rejections will be compared in section 3.2.5.

3.2.1 Reminding uses of *doch* and *daroo*

The reminding use of *daroo* (henceforth 'reminding *daroo*) differs from its use in requests for confirmation in the narrow sense in that it indicates that there is no epistemic uncertainty as to whether the proposition holds or not, and in that the speaker believes that the addressee has accepted the proposition. Its function is thus to 'remind' the addressee of a state of affairs, as it is usually followed by an utterance the comprehension of which depends on this state of affairs. In (83), an example for reminding *daroo* is given, in (83)′ a German translation with its correspondent, reminding *doch*.

(83) [sono] ojoosan-to issho-ni odot.ta daroo — are-ga maachan yo
that young lady-P together dance.PST *daroo* that-NOM Maa SFP

(83)′ Du hast doch mit diesem Mädchen getanzt. Das war Maa.
"You have *doch* danced with that girl. That was Maa."

The intended reading for *daroo* in (83) is one without the epistemic uncertainty that it indicates in other cases, and only a translation with *doch* as in (83)′, but not one with *wohl* is possible. What does this mean for the correspondence relation between *wohl* and *daroo*? The consequences are not fatal, as *wohl* also has conventionalized

uses *daroo* does not. Also, the interpretation of reminding *daroo* can be argued for by pragmatic inference. If the previous analyses of *daroo* are on the right track, a conventionalized use has to be assumed in the reminding case. Preconditions for a reminding interpretation are that the addressee is aware that the speaker has evidence for the truth of the *daroo*-utterances proposition, and that the addressee is aware that the speaker considers the proposition to be common knowledge. In (83), the former condition can be contextually derived, and the latter follows from the proposition denoting an action over which the addressee has full control. The reasoning leading to a reminding interpretation of *daroo* can be spelled out based on cooperativity: As epistemic uncertainty is highly implausible, the utterance has to be interpreted as the speaker marking that p is retrieved from memory, prompting the hearer to do likewise. No response is thus necessary, in contrast to a confirmation reading. Upon hearing the utterance in (83), the addressees reasoning could go as follows:

a. the speaker has uttered p *daroo*, indicating that he has no direct evidence for p, but believes p to holds as the result of inference

b. the speaker can safely assume that I know that p

c. circumstance suggests that the belief that p has been derived from direct evidence (he saw us dancing)

d. a. contradicts b., violating relevance, but assuming that the speaker is cooperative, he might want me to confirm whether or not p holds

e. the lack of question intonation together with c. suggest that the speaker is sure that p holds, so d. can not be the case $\Rightarrow$ the speaker is prompting me to activate p from memory

The hybrid status of *daroo* in that it can correspond to both *wohl*- and *doch*-utterances can thus explained by differences in usage conventions. Reminding *daroo* is a conventionalized use as the basic meaning of *daroo* indicating a belief of the speaker as the result of an inference without direct perceptual evidence is not active. Such a use has not developed for *wohl*, most likely because it lacks the evidential and result-of-inference meaning components of *daroo* and is thus reserved for cases in which there is actually epistemic uncertainty on part of the speaker, and because the speech-act level contrast encoded in *doch* makes it an obvious candidate for reminding uses. The reminding use if *daroo* also supports Hara's (2006a) assumption that *daroo* does not indicate epistemic uncertainty *per se*, but that this is derived by pragmatic inference (*cf.* page 40).

3.2.2 Confirmation-readings and *doch*

The scope of this section is the correspondence relation between *doch* on the one side and *dewanai-ka* and *daroo* in requests for confirmation based on observations in Miyazaki (2002b). Another element which can be used in similar contexts is *no.dewanai-ka*, which will be argued to correspond to German ONPQs in requests for confirmation as well. The difference between requests for confirmation with the *doch*-corresponding elements and those with *no.dewanai-ka* is that in the former, the speaker indicates that their proposition is common knowledge, hence they correspond to *doch*.

One typical way to express a request for confirmation are check-questions. In Japanese, the SFP *ne* makes roughly the same contribution as a question tag in German or English, hence requests for confirmation with *daroo* typically include this element. An example for this case is given in (84).

(84) Kimi, shukudai-o yatteiru daroo-ne
you homework have.done *daroo-ne*
≈"You have done your homework, haven't you?"

(84)′ Du hast doch die Hausübung gemacht (. . . oder?)
"You HAVE *doch* done your Homework (. . . haven't you?)"

Miyazaki (2002b:221)

The intended utterance situation is one where the teacher utters (84) to a student, thus an expectation that the proposition "you have done your homework" holds can be derived from context. Miyazaki paraphrases the utterance as "Was the homework, which naturally had to be done, actually done?" (Miyazaki 2002b:221, my translation). This is parallel to Karagjosova's (2004) analysis of *doch* in check-questions. There is a slight difference however, between cases where *doch* corresponds to *daroo* and such where a sequence of SFPs *yo-ne*, often together with *no.da*, is preferred. Consider Karagjosova's example from page 27 for a check-question with *doch* in (85) repeated from page 27, along with a Japanese translation.

(85) Du kommst doch mit (. . . oder)?
≈"You are *doch* coming along (. . . aren't you)?"

(85)′ Kimi-mo kuru (n.da) yo.ne?
you-also come *no.da* *yo-ne*
≈"You ARE coming along (. . . aren't you)?"

The translation in (85)′ is based on the premise that there is a previous agreement between the speaker and the addressee rather than more general contextual factors from

which the truth of the proposition could be derived as in the previous example. The intuition is that a student doing their homework is a more general rule than a specific person coming along. While the the question of how details of this contrast could be characterized goes beyond the scope of this thesis, the two examples given above provide evidence for the claim that *daroo* includes an assimilated version of *no.da*, which overlaps in meaning with *doch* in indicating the givenness of the proposition. The correspondence of *daroo* to both reminding *doch* and *doch* in check-questions also shows that they are closely related.

Apart from strings with *ne*, Miyazaki analyzes reminding *daroo*, which has been discussed in the previous section, and *dewanai-ka* as belonging to the category of expressions for requests of confirmation. Roughly, *dewanai-ka* can be regarded as a version of *no.dewanai-ka* without speaker uncertainty. (86) shows an example for *dewanai-ka* repeated from page 55, where it attaches to a verbal stem without a nominalizer *no*, thus not being ambiguous with *no.dewanai-ka*.

(86) Sonna koto, dekiru wake nai janai ka
Such thing be-able-to reason exist.NEG COP.NEG Q
"Such a thing can not be done *janai-ka*"

(86)′ So etwas ist doch nicht möglich.
"Such a thing is *doch* not possible."

The *dewanai-ka*-utterance in (86) is not a request for confirmation in the narrow sense, as the speaker's intention is for the addressee to accept the truth of the proposition. In other words, the motivation for making the utterance is not doubt as to whether the proposition actually holds, but rather doubt as to whether the addressee has accepted it. The approach that most readily captures the contribution of *doch* in the *janai-ka*-corresponding case is that in Karagjosova (2004): The speaker indicates that it is an explicit belief of addressee as well as the speaker that "such a thing is not possible", but the addressee does not consider this fact sufficiently. (86)′ is likely to be a case of a manipulative use of *doch* as the utterance would fit well into an argument where the addressee tends to believe that its proposition does not hold. By making a *doch*-utterance indicating that its proposition is common knowledge which the addressee is merely not considering, the speaker tries to invoke an air of 'obviousness'.

The contrast between *no.dewanai-ka* and *dewanai-ka* as described by Miyazaki becomes apparent in the German correspondents: *no.dewanai-ka* corresponds to OP-NQs, *dewanai-ka* to *doch*-assertions as in (86)′. From correspondence between all of

dewanai-ka, *daroo* and *no.da-yo* on the one side and *doch* on the other, the presence of assimilated *no* in *dewanai-ka* can be inferred. The difference between this *doch*-corresponding instance of *no* and that in *no.dewanai-ka* is that the latter serves to make negation external, while the former marks that the utterance is a comment on the epistemic status of its proposition.

In section 3.1.4, it has been argued that *no.dewanai-ka* corresponds to German polar questions with outer negation. Requests for confirmation where *no.dewanai-ka* is licit, but *daroo* is not have a strong affinity to this reading, as in the following example:

(87) Tabun, ame-ga mada futteiru no.dewanai-ka?
probably rain-ACC still *no.dewanai-ka*?
"It's probably still raining *no.dewanai-ka*?"

(87)′ Regnet es nicht wahrscheinlich noch?
"Isn't it probably still raining?"

adapted from Miyazaki (2002b:206)

Just like *no.dewanai-ka*, ONPQs[62] are compatible with adverbs expressing a relatively high degree of certainty, here *wahrscheinlich* ("probably"). In (87), reminding *daroo* would not be felicitous, as epistemic uncertainty on the part of the addressee is very likely. Consequently, reminding *doch* would not be licit in (87)′ as well. What about the correspondence relation in cases where both *no.dewanai-ka* and *daroo* are in principle felicitous in their confirmation-reading? In these, *daroo* corresponds not to reminding *doch*, but to *doch* in check-questions, the question-tag being optional in German, while *no.dewanai-ka* still corresponds to an ONPQ. I argue that the conditions regarding epistemic uncertainty are the same for OPNQ as for *no.dewanai-ka* and those for *doch* (with an optional question tag) are the same as for *daroo* in its confirmation reading. This is summarized in table 11.

Table 11 Epistemic certainty conditions on *daroo* and *no.dewanai-ka* vs. ONPQs and *doch*.

uncertainty:	*daroo*	*no.dewanai-ka*	*doch*	ONPQ
speaker only	✓	✓	✓	✓
hearer only	#	#	#	#
both	#	✓	#	✓
none	✓	#	✓	#

These felicity conditions only hold for *doch* in the intended confirmation-reading. *Doch* can, for example, be used when there is hearer insecurity only, but not in a check-question or reminding reading, which consequently does not correspond to *daroo*.

[62](87)′ is unambiguously external negation, as the internal negation version can not include the PPI *noch* ("still"), but would be "Regnet es vielleicht nicht mehr?" ("Is is possibly not raining anymore"), with the NPI *mehr* corresponding to *anymore*.

3.2.3 Surprise-*ja*

In this section, *ja* and *no.da* in their use expressing the speaker's surprise that the proposition of the utterance they occur in holds will be compared. The basis for this are the observations on *no.da* in Najima (2002). As noted in Grosz (2010), *doch* can also express surprise in some cases. This, together with correspondence of expressions containing *no.da* and other instances of *doch*, strengthens the case for a common meaning component of *ja* and *doch* which is similar to the contribution of *no.da*. However, direct correspondence between *no.da* and *ja* is limited to expressions of surprise.

Surprise-*ja* differs from other occurrences of *ja* in that it does not indicate that the proposition of its clause has been previously known to the discourse participants. Recall that Zimmermann gives the meaning of *ja* as "*establishing* or reconfirming a proposition as part of the common ground, often based on perceivable contextual evidence" (Zimmermann (2011:2016), emphasis my own). The function of both surprise-*ja* and its Japanese correspondent 'surprise-*no.da*' is to establish, rather than reconfirm, a proposition as part of the CG. An example for this use from Najima (2002) is given in (88), repeated from page 53. The utterance context is that the speaker looks out for the first time on the day of utterance time and sees that it's raining, expressing surprise over this fact.

(stepping outside)

(88) A'! Ame-ga fut-te.iru n.da!
INT Rain-NOM fall.PROG NMLZ.COP
"Oh! It's raining *no.da*!"

(88)′ Oh! Es regnet es ja!
"Oh! It's *ja* raining!"

The correspondence relation between *no.da* and *ja* is straightforward in the example at hand. Without either of these elements, the two utterances neither convey surprise nor would they be marked when the addressee could not access the perceptual evidence that "it is raining" holds.

Even in their surprise use, *no.da* and *ja* do not correspond in all cases. (89) is an example for a case where the correspondence relation does not hold.

(89) #A'! Inu-ga shinde-iru n da!
Oh! dog-NOM dead-be NMLZ COP
Da liegt ja ein toter Hund!
"There lies *ja* a dead dog!"

adapted from Najima (2002:95)

According to Najima (2002), the infelicity of (89) is due to the speaker not having a previous belief that there is no dead dog in the street. To license surprise-*no.da*, however, it is necessary that the context[63] contain a proposition which is replaced by that of the clause *no.da* occurs in. In the case of (88), the speaker must previously believe some proposition like "It is not raining" or "It is sunny" in order to be surprised by the fact that it is raining. In (89), on the other hand, the fact that there is a dead dog is arguably still surprising when the speaker has not previously believed the proposition "There is no dead dog in the street", still surprise-*no.da* is not licit in this case while surprise-*ja* is. This contrast could be explained by a difference in usage conventions between the two expressions, or by a more fundamental difference in the nature of the givenness encoded in *no.da* and *ja*, respectively. For the purposes of this thesis, I will leave this question for further research and take their surprise uses as a possible starting point for exploring the connection between *no.da* and *ja*.

3.2.4 *No.da* and hearer beliefs

Another area where there is a connection between the contribution of *no.da* and an MP regarding the epistemic status of a proposition are the restrictions both *doch* and compound expressions with *no.da* impose on hearer beliefs. In this section, Noda's (1997) observations on *no.da-kara* in regard to restrictions on hearer belief states will be discussed. It will be argued that there are similar restrictions on the felicity of utterances with *doch* and *ja*, which provides evidence for a connection between *no.da* and the common knowledge assumption the two MPs indicate following Karagjosova (2004), among others. Noda summarizes the restriction on subordinate clauses with *no.da-kara* as follows:

> 'Nodakara' is licit when the speaker deems the hearer to not be sufficiently aware of a proposition he is expected to know, and once again presents a state of affairs [...] in order to make the hearer sufficiently aware of it. (Noda 1997:182, my translation)

That is, the *no.da-kara*-speaker expresses that the she believes the proposition of the utterance p to be mutual knowledge which the hearer is however not aware of, the purpose of the utterance being to make the hearer aware of (or activate) p. This is parallel to the definition of the basic meaning of *doch p* in Karagjosova (2004), namely that

[63] Similar to Gast's (2008) use of the term, Najima's notion of context is a very broad one, including all propositions which can be considered contextually salient

the speaker believes p to be explicit, but not active common knowledge. Similarly, it is parallel to asserting something already known to the addressee violating the utterances own felicity conditions, as of Egg (2010)'s proposal. Noda argues that *no.da-kara* is in principle not licit when the propositional content is not known to the addressee at all. There are however, counterexamples, in which the *no.da-kara*-speaker has no reason to assume that the utterance's proposition is common knowledge. Noda notes that in these cases, the utterance has an air of arrogance (1997:178). Such examples are similar to a manipulative use of *doch* (*cf.* Karagjosova (2004)), in which the hearer can either accommodate p as common knowledge, or object to the speaker's common belief assumption indicated by *doch*. With *ja*, such uses are possible as well (*cf.* Gast (2008)). In (90), one of Noda's examples for such a manipulative use is repeated from page 51.

(90) A: *That again!*

B: Mata-to-wa nani yo.
again-PRT-TOP what SFP
Koredemo chanto ie-ni kaet.te,
even like this properly home-P return.CONT
kigae.te denaoshi.te-ki.ta n.da-kara.
change.CONT go out.CONT-come.PST NMLZ.COP-because
≈"What do you mean, again!
It's that this is what I properly went home again to change into!"

The point is that B's *no.da-kara* utterance is good even when A does not know that B "went home to change". This is the case with sentence-final, but not with connective *no.da-kara*. Thus, the sentence-final version in (90) "has lost its property of making the hearer sufficiently aware of a state of affairs *he should be aware of*, but retains the property of making the hearer sufficiently aware" (Noda 1997:188, emphasis mine). To my intuition, the *no.da-kara*-speaker B in (90) is indeed insinuating that A is in a position to know if not the exact circumstances then at least that B is not wearing the same clothes as some time before, which can be assumed to have been criticized by A from the context given. An obvious argument for this intuition is that *doch* is perfectly licit in the German translation equivalent in (90)′ and indeed seems to correspond to *no.da-kara*, considering that leaving them out strips the second parts of B's utterance of its accusing nuance, making them somewhat odd in the example at hand. Also, *no.da-kara* could be replaced by *no.ni* in (90), in which case B's utterance would express resignation rather than objection to A's utterance, and a similar effect arises when *dabei* and falling sentence intonation is added to the German translation (note that in these cases, the second part of B's utterance does become worse alongside its first part, as the latter

already anticipates B's objection, an entirely expected effect). In summary, I disagree with Noda's observation that *no.da-kara* here does not express that the hearer is in a position to know the propositional content under its scope, although this might be a case of a (somewhat) manipulative use of *no.da-kara* and, in the German translation, *doch*, in that B insinuates that A is in a position to know p, which A can then reject or accommodate.

Next, an example in which Noda takes *no.da-kara* to be closer to its connective counterpart in that the proposition of its utterance is clearly reasserted in order to convince the addressee of it, where correspondence to *doch* is also given[64]:

(91) A: "She has nothing to do with it, you got that wrong. I told you many times."

B: "And I heard you many times."

A: Kedo, jissai soo na n.da-kara
but really like-that COP NMLZ-COP-because
"But it's the truth, you know!"

(91)′ A: Aber es ist doch wirklich so!
"But it is *doch* actually so!"

adapted from Noda (1997:188)

Although this example seems relatively straightforward, it is interesting in that the propositional content p in the scope of *no.da-kara* and *doch* is on the lines of "p' is true", p' being A's previous utterance which B has rejected. Noda's proposal, where *no.da-kara* minimally serves to make the addressee "sufficiently aware" of p, is flexible enough to capture this example where B is aware of p, but "the speaker regards the hearer to not be aware of the state of affairs *to a satisfactory degree*" (Noda 1997:188, my translation and emphasis). Karagjosova (2004)'s conditions for the use of *doch* also hold, in that the speaker deems p to be common explicit, but possibly not active knowledge, having in mind that this also holds when the addresse actively believes that $\neg p$, and, as it can be assumed that interlocutor A is aware of B's rejection of p, analyzing (91) as a case of a manipulative use of *doch*, then serving to convince the addressee of a proposition that the speaker deems to be true. Out of the four different cases of declarative utterances that Karagjosova (2004) differentiates in her analysis, (91) can only be classified as a declarative rejection, with the difference that the hearer is clearly aware of the speaker's belief that p, but opts not accept it.

[64] in the original example, the first utterance of A also contains instances of *no.da-kara* which I have omitted for space

3.2.5 *Doch* in declaratives and *no.da*

One function of *no.ni* in Japanese is that of a concessive conjunction, which connects two clauses indicating contrast between their propositions. Other than this connective use, there are instance of *no.ni*-utterances without a second clause, henceforth the sentence-final use of *no.ni*. In this section, it will be argued that in both uses, *no.ni* either corresponds to *doch* or German conjunctions such as *obwohl* ("although") and *dabei* (roughly "even though"). In cases of declarative acceptances and rejections where *doch* corresponds to *no.ni*, these conjunctions can occur alongside *doch* without a significant change in meaning. This will be taken as evidence that *no.ni* has two readings: a plain adversative connective reading and a *doch*-corresponding reading additionally encoding 'givenness' and 'contrast'. Examples for the two cases are given in (92) and (93), along with two possible German translations each.

(92) a. Kanojo-wa kanemochi na no.ni fukoo-da
she-TOP rich.person COP *no.ni* unhappiness-COP
"She is rich *no.ni*, she is unhappy"

(92)′ a. Obwohl sie (doch) reich ist, ist sie unglücklich.
"Although she is (*doch*) rich, she is unhappy."

b. Sie ist reich, doch/aber sie ist unglücklich.
"She is rich, *doch*/*aber* she is unhappy."

(93) A: Kanojo-wa fukoo-da.
B: Kanemochi na no.ni!

(93)′ a. A: Sie ist unglücklich.
B: Dabei ist sie ?(doch) reich!
"*Dabei* is she ?(*doch*) rich!"

b. A: Sie ist unglücklich.
B: Sie ist #(doch) reich!
"[But] she is #(*doch*) rich!"

(93) is a case of connective *no.ni* in which it functions as a conjunction indicating contrast between the two propositions "She is rich" and "She is unhappy". (94) shows a dialog containing the same two propositions, where *no.ni* is used sentence-finally indicating the same contrast. The German translations in (92)′ show *no.ni* corresponding to a conjunction *obwohl* ("although"), and to *doch* used as a conjunction (or conjunct adverb). In (92)′a, *doch* can optionally be added depending on whether we assume the utterance to indicate that the speaker deems "She is rich" to be common knowledge or not. In (92)′b, on the other hand, *doch* is used as a connective element and encodes no such common knowledge assumption, but intuitively still encodes a stronger con-

trast than an alternative translation with a conjunction *aber* (“but”). Whether *no.ni* in its connective use as in (92)′ can actually encode givenness and thus correspond to a version of (92)′a with *doch* is not entirely clear at this point but will be claimed based on other possible correspondents of *doch*, thus this option is included in the example at hand.

Example (93) supports the case for correspondence between the MP *doch* and *no.ni*. The German translation in (93)′a includes the conjunction *dabei* as an overt correspondent for *no.ni*. Because this overt correspondent is available, the translation is still good without *doch* in parallel to (92)′a. However, there is also the possibility of a translation as in (93)′b, a plain assertion with *doch*. In this case, *doch* is not optional, as there is no other possible correspondent for *no.ni*. The reading of (93) this translation with obligatory *doch* corresponds to is one in which the speaker considers the fact that “She is rich” to be common knowledge. This shows that sentence-final *no.ni* is at least compatible with a *doch*-corresponding reading, although different utterance contexts are the only way to distinguish between this reading and one only indicating contrast between the preceding proposition and that of the clause *no.ni* occurs in. Using examples for other Japanese correspondents of *doch*, it will be argued that the *doch*-corresponding version of *no.ni* is likely to contain *no.da*, which however receives no spell-out, similar to *no* in *(no)-daroo*.

The restrictions *no.da-kara* imposes on hearer beliefs has been discussed in section 3.2.4, and its correspondence relation with *doch* in declaratives has been shown. There is another usage of *no.da-kara* which is close to its connective use but shares the felicity conditions dependent on hearer belief states with sentence-final *no.da-kara*. An example for this is given in (94), where a declarative utterance with *no.da-kara* is followed by an imperative utterance.

(94) Kodomo janai n.da-kara, moo chotto chanto yatte-kudasai-yo.
Child COP.NEG *n.da-kara* some-more seriously do-please-SFP

(94)′ Du bist doch kein Kind, also mach noch etwas ernsthaft weiter.
“You are ??(*doch*) not a child, so keep trying some more. [. . .]”

Noda (1997:179)

Here, *no.da-kara* appears as a connective (this is a function that all of *no.ni*, *no.da-kedo* and *no.da-kara* share), but *doch* can nevertheless not be left out easily in the German translation. This is likely because the utterance content is implausble not to be a given for the hearer (as usually everyone knows whether or not they are a child). There is, however, a connective counterpart to *kara*, namely *also* (“so”). While *kara* is often

translated as *weil* ("because") "p *kara* q" can express both the cause p of an action q or the grounds p for a conclusion q[65] (Takubo 1987 as quoted by Noda 1997:176). As Noda observes, in *no.da-kara*, only the latter reading is available. If this were the only reason for combining *kara* with *no.da*, however, one could assume that there are no occurrences of the second kind of *kara* without a trigger (which there are) and that *no.da-kara* in (94) would be ambiguous between a givenness and a non-givenness reading, which it isn't as the German translation suggests and as Noda notes that there is a restriction that the propositional content of *p no.da-kara* be known to the addressee.

Another possible correspondent for *doch* is *no.da-kedo*, which is closely related to *no.ni* in example (95), repeated from page 52, as what the speaker conveys could intuitively be described as dissatisfaction with some state of affairs:

(95) A: (calls B's name)
B: "I'm not going!"
A: Mada nanimo it.te.nai n.desu-kedo
yet anything say.RES.NEG *no.da-kedo*
"I haven't said anything yet *no.da-kedo*"

(95)′ [...]
A: Aber ich hab' *doch* noch gar nichts gesagt!
"But I have *doch* not said anything yet!"

Here, the *doch* utterance expresses dissatisfaction with B's utterance. In the German translation, *aber* ("but") can also be left out, but is perfectly natural and is shown here to illustrate the contrast to *no.ni*- and *no.da-kara*-corresponding *doch*, respectively. Replacing *no.da-kedo* with *no.ni* in (95) does not harm equivalence to a *doch*-utterance, but with a slightly different nuance, thus making a translation with *dabei* possible :

(96) [...]
A: Mada nanimo it.te.nai no.ni
"I haven't said anything yet *no.ni*"

(96)′ [...]
A: Dabei hab' ich ?(*doch*) noch gar nichts gesagt!
"*Dabei* have I *doch* not said anything yet!"

In the case of (96), the nuance is one of resignation, just as in a version of (94) with *no.ni*. That is, while (95) is an utterance directed at the other interlocutor, prompting them to show a reaction, (96) somewhat resembles a self-addressed utterance. This connects *no.da-kedo* to *no.da-kara*, as both seem to demand a reaction from the addressee,

[65] In the latter case, *daroo* usually serves to disambiguate between the two readings

the latter more strongly as the causal meaning of *kara* indicates that the speaker wants the addressee to make an inference based on the utterance's proposition, rather than just pointing out contrast. Both of them do have a givenness meaning component, which is overt in (95) by the presence of *no.da* — a version with *kedo* only would correspond to "But I haven't said anything yet", or in German "Aber…". In the utterance context at hand, this would be somewhat unnatural, as it is implausible that the addressee of the *doch*-utterance not know that the speaker has not said anything yet.

3.2.6 Section summary

In table 12, the correspondents for *doch* proposed in this section are summarized.

Table 12 Japanese correspondents of *doch*

reminding	*daroo*	(83)
check-questions	*daroo-ne*	(84)
	no.da-yo-ne	(85)
rejections	*no.da-kara*	(90) (91)
	no.da-kedo	(96)
acceptances	*no.ni*	(93)
manipulative	*dewanai-ka*	(86)

Reminding uses of *doch* and its use in check-questions basically correspond to *daroo*. This can be explained assuming that the motivation for making such utterances is doubt as to whether the addressee still remembers the proposition (reminding) or as to whether the proposition still holds (check-questions). In the latter case, the distinction between the truth of the proposition following from a previous agreement between speaker and addressee (the *no.da-yo-ne*-corresponding case) and from more generalized, contextually salient rules (the *daroo-ne*-corresponding case) becomes apparent in the Japanese correspondents. The correspondents in declaratives are compound expressions with *no.da*, with the possible exception of *dewanai-ka* and *no.ni*, which will be discussed in the conclusion. The common core of the correspondents is thus likely to be *no.da*, an element underspecified in regard to the discourse relations it can encode. In the Japanese correspondence, these discourse relations can be encoded with conjunctions such as *kara*, *kedo*, and *no.ni*.[66] In many cases, the discourse relation encoded in the connective elements can be overtly expressed in the *doch* utterance by adding a corresponding German connective without a (significant) change in meaning. There are cases, however, in which the contextual proposition to with which the discourse relation holds is not easily recoverable, such as the use of *no.da-kara* in (90), where the speaker prompts the addressee to change their attitude, but this request is not overt. Still in other cases, the intention of the speaker is to make the addressee accept the truth of the utterance's proposition, but there is no direct relation to another, contextually salient utterance. In these cases, *doch* and *no.dewanai-ka* correspond.

[66] Although it has not been discussed in this thesis, I assume that the SFP *yo*, as in the check-question correspondent for *doch* shown in (84), can serve to fill the space of conjunctions in a string *no.da-*α when the proposition of the utterance it occurs in is not in a specific relation to a preceding utterance, and when the speaker does not expect the addressee to resist acceptance of the proposition, in which case *dewanai-ka* would be more appropriate.

4 Conclusion and outlook

The hypothesis I derive from the data and analyses discussed in this thesis is that *doch* and *wohl* (and possibly *ja*) can be considered epistemic particles in that they mark comments on the epistemic status of a proposition, and that they share this function with sentence-final *no.da*. In cases where there is no overt instance of *no*, but there is some variation of a copula, one way of determining if there is an assimilated instance of *no* is whether the copula can occur directly after a verbal predicate in linear order, following Ono's (2006) analyses of *(no.)daroo*. Apart from *daroo*, this is possible for *dewanai-ka*. Although this element contains the interrogative marker *-ka*[67], utterances with it correspond to *doch*-declaratives. In declarative rejections and acceptances, *doch* has been shown to correspond to Japanese utterances with conjunctions encoding the discourse relation to the previous utterance and *no.da*. Apart from *no.da-kara* ("*no.da*-because") and *no.da-kedo* ("*no.da*-but"), where overt *no.da* is present, *no.ni* can correspond to *doch*. This makes it likely that *no.ni* has a *doch*-corresponding and a plain connective version. The *doch*-corresponding version would have to contain an assimilated version not only of *no*, in parallel to *daroo* and *dewanai-ka*, but also of the copula. As for the givenness encoded in *no.da*, it would have to be found in both of *doch* and *wohl*. *Doch* is straightforward if we consider it as part of its core meaning, either indicating common knowledge, firm establishment, or (defeasible) entailment from context (see below for the question whether the givenness encoded in *doch* is an epiphenomenon). Considering *wohl*, in the light of Gast's (2008) analysis a givenness meaning component seems possible. Recall that Gast analyzes *wohl* as being 'context-consistent', that is the hypothesis indicated by a *wohl*-utterance has to be part of the context set at utterance time. In the same framework, *doch* is not context consistent, but as it resolves a defective context in which both the proposition of its utterance and the negation of this proposition are (apparently) present, a givenness meaning component can be argued for as well.

From the correspondents of *doch* in declarative rejections and acceptances, it can be concluded that the givenness encoded in *doch* includes not only givenness in regard to the proposition of the utterance, but also in regard to discourse relations. This is because the conjunctions occurring in the correspondents alongside *no.da* can also be included in the respective *doch*-utterances without a significant change in meaning. That the conjunctions are optional in German, but not in Japanese, can also be explained as *doch* is much more specific than *no.da* in that it marks certain kinds of comments on the

[67] In the phonetically reduced variants *janai* and *jan* it can be omitted

epistemic status of a proposition and is so frequently used in declarative rejections and acceptances that the additional indication of an (otherwise obvious) discourse relation is not necessary. For the analysis of *doch*, this means that propositional level contrast does not need to be included in its meaning, which is usually done to account for such cases. Speech-act level contrast, on the other hand, is still necessary to distinguish *doch* from *ja*.

The question whether givenness indicated *doch* is a core component of its meaning or an epiphenomenon can not be conclusively answered based on the discussion in this thesis. Parallels in the restrictions on the felicity of both utterances with *doch* and with elements containing sentence-final *no.da* in terms of hearer belief states suggest that whichever the solution, it applies to both *doch* and its Japanese correspondents. Two possible ways of capturing givenness as a part of *doch*'s meaning from previous analyses are Karagjosova's (2004) proposal in which *doch* indicates the proposition of its utterance to be common explicit (givenness) but not active (contrast) knowledge, and the notion of defeasible entailment from context as proposed in Egg (2010) and Grosz (2010), which is applied to the inferential relation between the two semantic arguments of *doch* in both proposals. While we have argued that there is no necessity to include proposition level contrast in the definition of *doch*, the notion of defeasible entailment from context could be applied not only to the propositional content of the *doch*-utterance, but also to its relation to a previous utterance in declarative acceptances and rejections. This would be a compositional approach to the contribution of *doch* in such cases, as the discourse relation which can be overtly encoded in conjunctions would enter the composition before defeasible entailment from context as contributed by the MP. The advantage of such an analysis is that propositional level contrast, or any relation between two semantic arguments, would not have to be included in the meaning of *doch*, while it can still account for its contribution to declarative rejections and acceptances. Speech-act level contrast as proposed by Karagjosova, which is parallel to the basic meaning of *doch* as proposed by Zimmermann (2011) and **?**, could also be covered by defeasible entailment from context. From the indication that something is *defeasibly* entailed from context, it follows pragmatically that it does not necessarily hold (as defeasible entailment allows for exceptions to the rule). Thus, the motivation for making a *doch*-utterance can be doubt about whether any of the arguments of *doch*, and thus any part of the utterance, is actually entailed from context, that is whether it is actually common knowledge. In other cases, a *doch*-utterance could indicate that a general rule (that is, a defeasible inference relation) does not apply in the utterance situation, or that the rule itself does not hold.

As for topics for further research, there is the question of how exactly this contribution of sentence-final *no.da* comes about, and by extension that common to the MPs *wohl*, *doch*, and possibly *ja*. It appears that *no.da* lets sentence-final expressions take higher semantic scope than that of the propositional content of the utterance. This is visible in the difference between *no.dewanai-ka* and *dewanai-ka*, of which the former contributes to the propositional content of the utterance much like a question tag, but the latter does not, having lost the properties of a question marker. Negation is external in the former, but does not seem to connect to the proposition in the latter — a polar question with outer negation conveys the possibility that its proposition does not hold, while in a *dewanai-ka*-utterance, the speaker does not consider this possibility, but rather indicates that the negation of the proposition is contextually salient. The notion of a level of meaning higher than the propositional level is elusive, and further research on the specific contributions of elements containing sentence-final *no.da* could contribute to its understanding. As for the meaning of MPs, a common functional core could be explored based on correspondence with sentence-final-*no.da*. Conversely, a finer grained analysis of the Japanese right periphery could be informed by the differences between MPs and how these differences are reflected in the relations between their Japanese correspondents.

Next, the syntactic status of sentence-final *no.da* is not entirely clear. On the one hand, it can be differentiated from *no.da* as an element making negation external. On the other hand, it has been linked to the *no.da* in-situ focus construction as proposed by Hiraiwa and Ishihara (2002), but can also occur in cleft sentences, which suggests that there might be three syntactical positions in which *no.da* can occur. An interesting question in this respect would be whether sentences including a topicalized clause ending with *no* and a final string *no.dewanai-(no.)daroo-ka* are clefts or pseudo-clefts, and in the former case where the focus particle *da* is located. From a cross-linguistic perspective, a differentiation of instances of *no.da* which correspond to syntactically similar constructions such as English *it's that* or Spanish *es que* and those which correspond to MPs would be interesting, and could lead to a finer grained classification of instances of *no.da* in Japanese.

Furthermore, the interaction of prosody and MPs has not been discussed in detail in this thesis. Prosodic prominence as an indicator for the information structure of a utterance could be used to differentiate between different instances of MPs. From this perspective, reminding *doch* can be considered the unmarked case, as adding *doch* to a declarative utterance with neutral intonation intuitively favors a reminding reading.

Examples for marked cases are prosodic stress on the main verb, with which a reminding reading is not possible, and a check-question reading favored, specific intonational patterns typically occurring with declarative acceptances (that is *no.ni*-correspondent readings), among others. Whether or not this differentiation carries over to correspondent Japanese utterances would be another intriguing topic for a contrastive analysis.

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A Abstract (German)

Das Ziel dieser Arbeit ist, zum Verständnis deutscher Modalpartikeln (MPen) aus kontrastiver Perspektive beizutragen, indem sie mit ihren japanischen Korrespondenten verglichen werden. Im ersten Kapitel wird die Frage diskutiert, wie solche Korrespondenten bestimmt werden können, und zwei Arbeiten hierzu zusammengefasst. Aus diesen wird abgeleitet, dass satzfinale Elemente und Satznominalisierung mit dem Element *no* im Japanischen manche der Funktionen von Modalpartikeln abdecken.

In Kapitel zwei werden bisherige Analysen der Modalpartikeln *wohl* und *doch* (Abschnitte 2.1 and 2.2) und der satzfinalen Elemente *daroo* und *no.da* (Abschnitte 2.3 and 2.4) zusammengefasst und diskutiert. Den bisherigen Analysen folgend zeigt *wohl* epistemische Unsicherheit an, der Beitrag von *doch* kann unter 'Kontrast' und 'Gegebenheit' subsummiert werden. Verschiedene Implementierungen von Kontrast werden vorgestellt, und die Notwendigkeit, Gegebenheit als Teil der Kernbedeutung von *doch* anzunehmen, wird diskutiert. Wichtige Punkte aus den Analysen der Japanischen Ausdrücke sind, dass *daroo* nicht nur epistemische Unsicherheit anzeigt, sondern auch einen evidentiellen Bedeutungsteil hat und Ergebnisse des Inferenzprozesses des Sprechers markiert, sowie dass mindestens zwei Fälle von *no.da* funktional unterscheidbar sind. Im ersten Fall dient *no.da* dazu, den Skopus von Elementen wie äußerer Negation zu bestimmen, im zweiten Fall markiert *no.da* die Äußerung als Information über die epistemische Haltung des Sprechers ihrer Proposition gegenüber, was eine Parallele zu MPen darstellt.

Korrespodenzbeziehungen zwischen *wohl*, *doch* und Japanischen Ausdrücken werden in Kapitel 3 unter Berücksichtigung bestehender Analysen diskutiert. In Abschnitt 3.1 wird teilweise Korrespondenz zwischen *wohl* und *daroo* postuliert, die beide epistemische Unsicherheit anzeigen, während die Funktion von *daroo*, Ergebnisse von Inferezprozessen zu markieren vom deutschen Auxiliar *werden* abgedeckt wird und kein deutscher Korrespondent für die evientielle Bedeutung von *daroo* existiert. Interrogative mit *daroo* sind keine kanonischen Fragen, sondern drücken Zweifel aus und korrespondieren mit *wohl* in Interrogativen mit vorangestelltem *ob*. Weiters werden die Beziehungen zwischen *wohl*, *daroo* und polaren Fragen mit äußerer Negation diskutiert, mit der Schlussfolgerung, dass sie die Annahme einer satzfinalen Variante von *no.da* unterstützen, die sich von der in äußerer Negation vorkommenden Variante unterscheiden lässt. In Abschnitt 3.2 werden mehrere Korrespondenten für *doch* abhängig von seiner Verwendung und dem Äußerungskontext identifiziert. *Daroo* korrespondiert mit erinnderndem *doch*, was mit einer konventionalisierten Verwendung von *daroo* er-

klärt wird, und in manchen Fällen mit *doch* in rückbestätigenden Fragen, was die enge Verwandschaft der beiden Verwendungen von *doch* unterstreicht. Als Korrespondenten für *doch* in seiner diskursstrukturierenden Funktion werden zusammengesetzte Ausdrücke aus *no.da* und Konjunktionen identifiziert, in denen das zusätzliche Element die Art der Beziehung zwischen der Proposition der Äußerung und einer salienten Proposition im Kontext, häufig der Proposition einer vorhergehenden Äußerung, spezifiziert. Wird *doch* verwendet, um den Addressaten dazu aufzufordern, die Proposition der Äußerung als wahr anzunehmen, korrespondiert es mit *dewanai-ka*, einem Element dass mit äußerer Negation in polaren Fragen verwandt ist.

Die in Kapitel vier vorgestellte Konklusio ist, dass das verbindende Element in allen identifizierten Korrespondenten von *doch* und *wohl* satzfinales *no.da* ist. Dieses zeigt an, dass die Äußerung über die epistemische Einstellung des Sprechers ihrer Proposition gegenüber informiert, während Elemente, die auf es folgen, diese Information spezifizieren. Im Hinblick auf die Frage, ob Gegebenheit als Teil der Grundbedeutung von *doch* angesehen werden muss, wird keine endgültige Schlussfolgerung gezogen, es wird jedoch argumentiert, dass der Status der in *no.da* ausgedrückten Gegebenheit parallel zu jener in *doch* ausgedrückten analysiert werden kann. Die Implementierung von Gegebenheit in den bisherigen Analysen von *doch* wird kurz auf dem Hintergrund seiner japanischen Korrespondenten besprochen, und mögliche Themen für zukünftige Forschung werden vorgeschlagen.

B Abstract (English)

The aim of this thesis is to contribute to a crosslinguistic understanding of German Modal Particles (MPs) by comparing them to their Japanese correspondents. In the first chapter, the question of how to determine these correspondents is discussed, and two previous approaches to this are summarized, from which sentence-final elements and sentence nominalization with the element *no* are derived as expressions likely to cover some of the functions of MPs in Japanese.

In chapter two, previous analyses for the MPs *wohl* and *doch* (sections 2.1 and 2.2) and the Japanese sentence-final expressions *daroo* and *no.da* (sections 2.3 and 2.4) are summarized and discussed. From the previous analyses, *wohl* indicates epistemic uncertainty, *doch* indicates what can be subsumed under 'contrast' and 'givenness'. Several theoretical implementations of contrast are shown, and the necessity of including givenness into the basic meaning of *doch* is discussed. Key points from analyses of the Japanese elements are that *daroo* indicates not only epistemic uncertainty but also has an evidential meaning component and marks results of the speakers inference process, and that there are at least two functionally distinct instances of *no.da*, one serving to adjust the scope of elements such as outer negation, the other marking information on the speaker's epistemic attitudes, much like MPs.

Correspondence relations between *wohl*, *doch* and Japanese expressions are discussed in chapter three in light of the previous analyses. In section 3.1, *wohl* is argued to be a partial correspondent of *daroo* as both indicate epistemic uncertainty, while *daroo*'s function of marking results of inference is covered by the auxiliary *werden* in German and its evidential meaning component has no German correspondent. In interrogatives, *daroo* corresponds to *wohl* in interrogatives with fronted *ob*, expressing doubt rather than being canonical questions. The relation between *wohl*, *daroo* and polar questions with outer negation is also discussed, concluding that they provide evidence for the existence of a sentence-final instance of *no.da* distinct from instances in outer negation. In section 3.2, a number of correspondents for *doch*, depending on its use and the utterance context, are identified. *Daroo* corresponds to *doch* in reminding uses, which is argued to be due to a conventionalized use of the former, and to some instances of *doch* in check-questions, which evidences the close proximity of the two uses of *doch*. In its discourse-structuring function, *doch* is argued to correspond to compound expressions with *no.da* and conjunctions specifying the type of relation between the proposition of their utterance and a contextually salient proposition, often that of a preceding utterance. When *doch* is used to prompt the addressee to accept the proposi-

tion of the clause it occurs in, it corresponds to *dewanai-ka*, an element related to outer negation in polar questions.

The conclusion given in chapter four is that the connecting element in all correspondents identified for *doch* and *wohl* is sentence-final *no.da*, which indicates that the utterance informs about the speaker's epistemic attitude towards the proposition of the clause it occurs in, elements following it specifying this information. In regard to whether givenness needs to be considered part of the core meaning of *doch* no final conclusion is offered, but it is argued that the status of givenness in *no.da* is best analyzed in parallel to that in *doch*. The implementation of this notion in previous analyses of *doch* is briefly reviewed in light of the discussion of its Japanese correspondents, and some topics for further research are proposed.

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