

Particles as Speaker Indexicals in Free Indirect Discourse

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Abstract:

Free indirect discourse (FID) is one of the many varieties of reported speech. It is commonly agreed that passages in FID have to be interpreted relative to two context parameters <C,c>, the narrator context C and the context of speech/thought of the protagonist c. While temporal and local shifting indexicals have received ample discussion in the literature, shiftable reference to the speaker is a largely neglected phenomenon, to the exception of Sharvit (2008). I offer an analysis of German speaker oriented particles as a shifting indexicals which reveals how particles can be used to indicate speaker shifts in free indirect discourse.

1. Free Indirect Discourse in English and German

Reports in free indirect discourse are characterized by a specific use of tenses, grammar and speaker oriented indexicals. The following shows an English example.

- (0.) (a) *Tom woke up, sweating.* (b) *Tomorrow was Christmas, and he had completely forgotten to send his wishlist to Santa Claus.*
(adapted from E. Zimmermann, 1991)

The (b.) sentence seems in part worded by the external narrator and in part by Tom, who is understood to be the speaker or thinker of (b.). For instance, (0.b) uses *he* to refer to Tom and the simple past *was* to talk about a day that is characterized as *tomorrow* from Tom's point of view. English shows this mixed use of indexicals in indirect speech. (0.b) is however not an instance of ordinary indirect speech because it is not embedded under a *verbum dicendi* (*said, worried, cried ...*), there is no parenthetical phrase with such a verb (*..., worried Tom, ...*) and the passage is understood as a thought, not an utterance by Tom. Such reports of speech and thought are called *free indirect speech* in English.

Free indirect speech is characterized by shifted uses of indexicals. The present article investigates the function of German particles as shiftable indexicals. Specifically, we will take a look at some German particles that serve to convey information about the speaker, and the speaker-addressee relationship. Before turning to the topic of the paper, let me briefly outline some basic facts about German free indirect speech and thought.

Reports of indirect speech and thought in German systematically occur in two versions. Indirect speech (embedded or non-embedded) is normally presented in a Konjunktiv form with Konjunktiv I and II being used pretty interchangeably, see Fabricius Hansen and Sæbøe (2004). If a protagonist's mental contents are conveyed in the indicative mood in German, the passage is unambiguously interpreted as free indirect **thought** ('erlebte Rede'). The following passage is nicely explicating this, because it is explicitly stated at the end that Kluffinger isn't *talking* but only *thinking*.

- (1.) (*Schönmanger berichtet Kommissar Kluftinger über frühere Schwierigkeiten in einem Milchwerk; direkte Rede.*) “... Und Wachter verlor damals seinen Job.” — *Das war also der geheimnisumwitterte Skandal, von dem so viele redeten. Aber wie war Wachter nach seiner Entlassung nach Krugzell gekommen? Kluftinger musste nicht nachfragen, denn Schönmanger erzählte von sich aus weiter. ...*
 [Schönmanger, talking to Kluftinger:] “... and at that time, Wachter lost his job.”—**So this was the mysterious scandal of which so many were talking. But how had Wachter come to Krugzell after getting sacked?** Kluftinger didn’t have to ask, as Schönmanger went on talking by himself.
 (Klüpfel+Kobr, Milchgeld. p. 157)

The verbs of the second and third sentence are in indicative mood, and the sentences report the thoughts of Kluftinger. The final sentence “*Kluftinger didn’t have to ask ...*” confirms that the preceding sentences reflected his thoughts. In English, Free Indirect Discourse does not indicate by mood whether the passage is intended to report **speech or thought**. The following passage translates a German original which was worded in the Konjunktiv, and is hence a passage of Gauss *talking*.

- (2.) *But the laws of probability, Gauss went on, pressing both hands against his aching back, weren’t conclusive. They were not part of the laws of nature, and there could be exceptions. Take an intellect like his own, for example, or a win at a game of chance, which any simpleton could pull off at any time. ...*
 (Kehlmann, Measuring the world. p. 8)

The English version in (2.) could, however, equally well be interpreted as a passage of Gauss *thinking* (disregarding the disambiguating parenthetical “*Gauss went on...*” at the beginning of the passage). In survey, indirect reports in English and German relate as follows:

English	German
free indirect discourse = <i>speech or thought</i>	Konjunktiv = <i>speech</i>
shifted indexicals	shifted indexicals, other indicators
other indicators	indicative = <i>thought</i> (‘erlebte Rede’)
morphological indicative	shifted indexicals, other indicators

Given the lack of a mood distinction, free indirect thought (‘erlebte Rede’) in German as well as FID in English use other means to indicate that there is a speaker shift from the narrator to some protagonist. Among the indicators for who is speaking/ thinking, narratologists list indicating devices like the use of *temporal indexicals* (consistent time line), the use of speaker-oriented particles like *ja, wohl, doch, also* (in German) the use of reliably speaker oriented evaluative adverbials (German ‘*leider*’), the use of *questions* (who could be asking this?), the use of *exclamatives* and more indicating devices. The present paper focuses on particles in German free indirect discourse in indicative mood. I will use “free indirect discourse” (FID) in a somewhat loose sense to refer to this mode of writing, and indeed many results carry over to English speaker oriented particles like *alas* or *behold*. The structure of the paper is as follows: In section 2, I define a semantics for free indirect discourse which rests on the

use of two context parameters for semantic evaluation. Section 3 surveys several particles and their use in free indirect discourse. Section 4 discusses the status of the information conveyed by the particles and offers preliminary criteria to classify informations as speaker belief, fact reports, presuppositions, or conventionally implicated content. Section 5 discusses the interaction of shifted speaker indexicals and shifted temporal/local indexicals and argues that *now/here* have a deictic use which is independent of any speaker's contexts. Section 6 summarizes the results of the paper.

2. The Interpretation of free indirect discourse

In this section, I define an interpretation for free indirect discourse (English) and erlebte Rede (German). These modes of writing are characterized by the fact that responsibility for the choice of words seems to shift between narrator and the "speaker" of the thought or utterance. I will refer to the latter as the **protagonist**, given that this speaker will always be a character in the narration which is at that moment particularly salient. Following earlier proposals (Schlenker, 2004, Sharvit 2008) I assume that such sentences are evaluated relative to two utterance contexts $\langle C, c \rangle$ where C stands for the narrator's context and c represents the protagonist's context. The underlying idea can be illustrated with the following example.

- (3.) *Peter war unruhig. Vorhin hatte er wohl leider etwas Dummes gemacht.*
'Peter was worried. Earlier, he had wohl unfortunately done something stupid'

In the second sentence in (3.), the choice of the third person pronoun *er/he* as well as the use of the past perfect rests on C : It is from the narrator's perspective that the referent of *he* is not the speaker, and it is from his perspective that the act of doing something stupid is before reference time R . The choice of *vorhin* (*earlier*), *leider* (*unfortunately*) and *wohl* (epistemic particle) rests on c : It is Peter who thinks of the time of the action as perspectival *vorhin*, he expresses regret, and also epistemic uncertainty. In fact, it has been repeatedly established both in narratology and linguistic literature that context-referring words systematically divide up in shiftable vs. non-shifting indexicals:

- Pronoun interpretation, tense interpretation rests on external contexts C .
- Interpretation of speaker-related predicates, temporal adverbials, addressee-related predicates can occur relative to internal contexts c .

We will use a semantic interpretation format that uses a logical Ty2 language L to refer to those logical objects that are the denotations of words, phrases and sentences (see von Stechow xx). L is defined in the common manner, based on types e, s, t and with infinitely many variables for each type. In addition, the set of variables of L comprises a finite number of distinguished variables which serve a special purpose in semantic interpretation.

SP, sp are variables of type e which will be instantiated by the speaker
 AD, ad are variables of type e which will be instantiated by the addressee
 NOW, now are variables of type e which will be instantiated by the time of utterance

HERE, here are variables of type *e* which will be instantiated by the place of utterance

WORLD, world are variables of type *s* which will be instantiated by the world of utterance

Readers who prefer to use letters *x, y, ...* as variables are free to replace *SP* by x_{SP} , *ad* by x_{ad} etc. but in order to improve legibility, I will stick with the notation above.

Contexts are represented as variable assignments which are defined on $\{SP, sp, AD, ad, NOW, now, \dots\}$ or subsets thereof. For instance, a context where **Peter** talks to **Ann** on **12.4.2011/1pm** at **Göttingen** is modelled by an assignment *C* with

$C: \{SP, HERE, NOW, AD\} \rightarrow D_e$
 $C(SP) = \mathbf{Peter}$
 $C(AD) = \mathbf{Ann}$
 $C(HERE) = \mathbf{NikolausbergerWeg}$
 $C(NOW) = \mathbf{12.4.2011/1pm}$

External and internal contexts

The capital letter series of variables will be used in the meaning of nonshifting indexicals whereas the small letter series of variables will be used in a way that their reference can shift from narrator to protagonist contexts. This is ensured by the following definitions:

An external context *C* is an assignment function that is defined on $\{SP, sp, AD, ad, NOW, now, HERE, here, WORLD, world\}$. *C* is consistent in the sense that *SP* and *sp*, *AD* and *ad*, etc are mapped to identical values:
 $C(SP) = C(sp)$, $C(AD) = C(ad)$, $C(NOW) = C(now)$, $C(HERE) = C(here)$
 $C(WORLD) = C(world)$

An internal context *c* is an assignment function that is defined on $\{sp, ad, here, now, world\}$.

We will use *C, C', C** for external contexts (narrator contexts, Schlenker's ν) and *c, c', d, ...* for internal contexts (inner monologue, protagonist contexts, Schlenker's θ). I will now define two ways to interpret terms in *L*, one which rests on a single context and one which rests on two contexts. Depending on the mode of narration, the hearer/reader has to decide how s/he computes the denotation of Ty2 terms in a given model and, consequently, the meaning of words and sentences.

A term ϕ is interpreted in a model *M*, relative to a variable assignment *g* and a single context *C* as follows: In $\llbracket \phi \rrbracket^{M,g,C}$, all atomic terms (constants, normal variables) will be interpreted in the usual Ty2 manner. The variable assignment *g* takes care of all except the distinguished variables. These are instantiated by *C*:

$\llbracket SP \rrbracket^{M,g,C} = \llbracket sp \rrbracket^{M,g,C} = C(SP) = C(sp)$
 $\llbracket AD \rrbracket^{M,g,C} = \llbracket ad \rrbracket^{M,g,C} = C(AD) = C(ad)$
 $\llbracket NOW \rrbracket^{M,g,C} = \llbracket now \rrbracket^{M,g,C} = C(NOW) = C(now)$
... etc. ...

Complex terms are interpreted making use of the normal recursive definitions. Context dependence is hence strictly limited to the context parameters SP, AD, \dots . The external context takes care of all indexical variables, and variables for the ‘same thing’ are assigned the same value. Here are some examples.¹ The two-step interpretation translates words of English or German into Ty2 terms $\llbracket \cdot \rrbracket$ which are then interpreted in a model M .

$$\llbracket past \rrbracket = \lambda P. (P(R) \wedge R < NOW)$$

interpreted in a given model M , assignment g :

$$\llbracket \lambda P. (P(R) \wedge R < NOW) \rrbracket^{M,g,C}$$

‘things that happen at $g(R)$ before $C(NOW)$ ’

$$\begin{aligned} \llbracket ich \rrbracket &= SP \\ \llbracket SP \rrbracket^{M,g,C} &= C(SP) \end{aligned}$$

$$\llbracket morgen \rrbracket = \lambda e. \tau(e) \subset \text{it.DAY-AFTER}(t, now)$$

$\llbracket \lambda e. \tau(e) \subset \text{it.DAY-AFTER}(t, now) \rrbracket^{M,g,C}$ = the set of events that are located in the unique interval that counts as the day after $C(now)$

A term ϕ is interpreted in a model M , relative to a variable assignment g and a double context $\langle C, d \rangle$ as follows:² In $\llbracket \phi \rrbracket^{M,g,\langle C,d \rangle}$ the special-purpose variables are interpreted as follows:

$$\begin{aligned} \llbracket SP \rrbracket^{M,g,\langle C,d \rangle} &= C(SP) (= \llbracket SP \rrbracket^{M,g,C}) \\ \llbracket sp \rrbracket^{M,g,\langle C,d \rangle} &= d(sp) (= \llbracket sp \rrbracket^{M,g,d}) \end{aligned}$$

$$\begin{aligned} \llbracket AD \rrbracket^{M,g,\langle C,d \rangle} &= C(AD) (= \llbracket AD \rrbracket^{M,g,C}) \\ \llbracket ad \rrbracket^{M,g,\langle C,d \rangle} &= d(ad) (= \llbracket ad \rrbracket^{M,g,d}) \\ \llbracket HERE \rrbracket^{M,g,\langle C,d \rangle} &= C(HERE) (= \llbracket HERE \rrbracket^{M,g,C}) \\ \llbracket here \rrbracket^{M,g,\langle C,d \rangle} &= d(here) (= \llbracket here \rrbracket^{M,g,d}) \\ \llbracket NOW \rrbracket^{M,g,\langle C,d \rangle} &= C(NOW) (= \llbracket NOW \rrbracket^{M,g,C}) \\ \llbracket now \rrbracket^{M,g,\langle C,d \rangle} &= d(now) (= \llbracket now \rrbracket^{M,g,d}) \\ \llbracket WORLD \rrbracket^{M,g,\langle C,d \rangle} &= C(WORLD) (= \llbracket WORLD \rrbracket^{M,g,C}) \\ \llbracket world \rrbracket^{M,g,\langle C,d \rangle} &= d(world) (= \llbracket world \rrbracket^{M,g,d}) \end{aligned}$$

For all other atomic terms ϕ of Ty2, $\llbracket \phi \rrbracket^{M,g,\langle C,d \rangle} = \llbracket \phi \rrbracket^{M,g}$ as usual and the denotations of complex terms is, as before, determined following the recursive interpretation rules of Ty2 languages. To see the effect, let us compare the denotation of *morgen* (*tomorrow*) relative to two contexts with the simple denotation above.

$$\llbracket morgen \rrbracket = \lambda e. \tau(e) \subset \text{it.DAY-AFTER}(t, now)$$

$\llbracket \lambda e. \tau(e) \subset \text{it.DAY-AFTER}(t, now) \rrbracket^{M,g,\langle C,d \rangle}$ = the set of events that are located in the unique interval that counts as the day after $d(now)$

¹ R is another distinguished variable for reference time which is managed by the general assignment and guided by general assumptions about deictic parameters. Details of the tense/aspect system are summarized in an appendix.

² I use d for the internal context to facilitate reading.

The formalism rests on the observation that indexicality rests on few, known parameters. Moreover, we have ensured that all indexicals can be used in single contexts as well as in double contexts. The formalism, finally, predicts that all shiftable indexicals always shift together, and to the same protagonist context. We will discuss the empirical evidence and challenges to this prediction in later sections.

Before moving on, let me list earlier theories which are similar in spirit, although different in technical implementation. **Doron (1991)** renders $\langle C, c \rangle$ as l, p in a situation based account. She mainly discusses shifting temporal adverbials (*now, yesterday*) and was the first to demonstrate that a full Reichenbachian tense+aspect system is required to do justice to the data. However, the situation theoretic framework does not connect easily with existing semantic analysis of particles. In contrast, **Schlenker (2004)** defines a Heim/Kratzer (1998) compatible account. He models the shifted use of *now, here; yesterday* as well as the historical present (which we will ignore here), but the system is restricted to the simple *past-present* distinction and needs to be extended in coverage by at least an account for futurate aspect, and past perfect, two important aspects in FID data. A related account was given by **Sharvit (2008)** who is mainly interested in modeling the deontic background for definite descriptions (*'the man with the Martini'* definites) and pronouns (gender error situations). Apart from technical shortcomings which are beyond the range of the present paper, both implementations are tedious to use in the analysis of new shifting indexicals because they require two separate interpretation rules for each single lexical item, one for ordinary contexts and one for FID use. The present format separates the mechanics of context shift from the lexical meaning of single words, which will be convenient when we explore new shifting indexicals.

How are the values of the protagonist's c tied to the preceding story? I assume that the parameters $c(sp)$, $c(now)$, $c(here)$ are anaphoric on the preceding context.

$c(sp)$: highly salient discourse referent

$c(now)$ = currently active reference time R

$c(here)$ = location of sp , current "reference" location of narrative

The value of $c(ad)$ is harder to delineate. Sometimes, it is the fictitious addressee of monologue (German: indicative mood), but it can also be a salient addressee in the story (German: subjunctive mood). English FID systematically should leave both options open. The assumption that $c(now) = g(R)$ forces a system where the protagonist starts thinking at the time where the narrative is stuck. This was first proposed by (Doron, 1991) and is warranted by data. The system moreover predicts that the speaker of inner monologue is normally referred to with a pronoun because the referent is highly salient. General theories of discourse structure show that such highly salient referents are preferably referred to with pronouns whereas proper names or definite descriptions are reserved for less salient referents.

3. Speaker oriented words and constructions

Now that we possess a working theory to interpret speaker shift, we can turn to a particular kind of speaker-oriented words which convey emotive and epistemic content. I discuss *leider, wohl, ja, doch, and eben* as examples of such words, and propose how their meaning can be integrated in the semantics of section 2.

- (4.) *Antje seufzte. Sie hatte leider ein blödes Kleid gekauft.*
Antje sighed. She had unfortunately bought a stupid dress.

The word *leider* is an adverb close in meaning to English ‘unfortunately’ with the sole difference that the word always expresses the speaker’s regret. The passage in (4.) is ambiguous in that either Antje or the narrator could regret Antje’s stupid dress. If we understand Antje as the author of the second sentence, then we understand that she regrets the stupid dress. The effect is confirmed if we add a temporal adverbial.

- (5.) *Antje seufzte. Sie hatte leider gestern ein blödes Kleid gekauft.*
Antje sighed. Unfortunately, she had bought a stupid dress yesterday.

If the overall story makes it clear that “yesterday” is a day before Antje sighs, and that this can not be the narrator’s yesterday, then we also invariably understand that Antje (the thinker of *gestern*) is the one who uses the regretting *leider*. These facts can be predicted correctly if we assume that *leider* contributes a commentary $\text{REGRET}(sp, now, w, p)$ to the content of the core sentence p . Hence, semantic composition is as follows:

$$\begin{aligned} & \| \textit{Sie hatte leider ein blödes Kleid gekauft} \| \\ & = \| ((\textit{Sie kauf- ein blödes Kleid}) \textit{perfect past}) \textit{leider} \| \\ & = [[[[\lambda e. \exists x (\textit{STUPID-DRESS}_w(x) \wedge \textit{BUY}_w(\textit{ANTJE}, x, e))] \\ & \quad \oplus \lambda P \lambda t. \exists e (\tau(e) < t \wedge \textit{POST-PHASE}_w(e, t) \wedge P(e))] \quad (\textit{perfect}) \\ & \quad \oplus \lambda P. (P(R) \wedge R < \textit{NOW})] \quad (\textit{past}) \\ & \quad \oplus \lambda p [p(w') \wedge \textit{REGRET}(sp, p)(w')] \quad (\textit{leider})^3] \\ & = \exists e (\tau(e) < R \wedge \textit{POST-PHASE}_{w'}(e, R) \wedge \exists x (\textit{STUPID-DRESS}_w(x) \\ & \quad \wedge \textit{BUY}_w(\textit{ANTJE}, x, e)) \wedge R < \textit{NOW}) \wedge \textit{REGRET}_{w'}(sp, \mathbf{q}) \quad (*) \end{aligned}$$

with $\mathbf{q} = \lambda w. \exists e (\tau(e) < R \wedge \textit{POST-PHASE}_w(e, R) \wedge \exists x (\textit{STUPID-DRESS}_w(x) \wedge \textit{BUY}_w(\textit{ANTJE}, x, e)) \wedge R < \textit{NOW})$
‘ R is in the post-phase of Antje having bought a stupid dress’

If the term in (*) is evaluated relative to one context C , then $C(sp) =$ is the narrator and we witness the narrator’s regret. If the term in (*) is evaluated in two contexts $\langle C, c \rangle$ with $c(sp) = \textit{Antje}$, then we learn about the protagonist *Antje’s* regret. For the time being, the statement of regret is added as a conjunct to the propositional content of the sentence. This eventually is too simple and should be replaced by a representation as non-at-issue content (see Liu, 2011 on evaluative adverbs in general). Particles also differ from propositional content in terms of the speaker’s trustworthiness, as we will see in the next section.

³ Eventually, speaker’s regret will be treated as a commentary rather than at-issue content; see section 4.

3.2 The particle *ja*

Following Zimmermann (2010) and earlier literature, the particle *ja* conveys that the speaker believes that the hearer might already know the content of the sentence. It can easily be checked that *ja* can refer to the shifted speaker in free indirect thought. Consider the following example, taken from Dostojewski's *Crime and Punitishment*. Raskolnikov has just killed two old women and discovers that the door has been unlocked during the killings.

- (6.) *Schloß und Riegel waren die ganze Zeit über offen gewesen! Die Alte hatte, wohl aus Vorsicht, hinter ihm nicht abgesperrt. Aber mein Gott! Er hatte ja auch Lisaweta gesehen und konnte sich doch denken, daß sie irgendwie hereingekommen war! Sie hatte ja nicht durch die Wand eintreten können!*⁴
No lock, no bolt, all the time, all that time! The old woman had not shut it after him perhaps as a precaution. But, good God! **Why**, he had seen Lizaveta afterwards! And how could he, how could he have failed to reflect that she must have come in somehow! She could not have come through the wall!

[[*ja* [*Er hatte Lisaweta gesehen*]]]

The particle *ja* expresses that the speaker believes that the addressee might already know the content of the sentence (Zimmermann (2010/t.a.), Kratzer (20xx)). If *ja* is used in indirect speech, we interpret that this is the protagonist's belief, not the narrator's belief. This shift is captured in the following definition:

[[*ja* *S*]]

presupposition: $\lambda w. \text{BELIEF}_w(sp, now, \lambda w'. \Diamond \text{KNOW}(ad, \llbracket S \rrbracket, w'))$
assertion: $\llbracket S \rrbracket$

Anecdotic surveys in literary texts suggest that *ja* can often serve to indicate that a passage is intended as free indirect thought. Surprisingly, the mere presupposition above usually does not suffice to explain the indicative value of *ja*. Very often, the narrator can believe—with high plausibility—that the reader already knows the content of *S* as well as the respective protagonist could believe that some fictitious addressee does. What may so far have been underrepresented is the functional value of *ja*. I will use the present example to illustrate this claim.

The passage in (6.) was preceded by a paragraph which reports that Raskolnikov observed Lisaveta enter the house. The narrator in (6.) has reason to believe that the reader already knows this, and hence, a narrator based use of *ja* would be possible. The question at this point is then why the reader inevitably understands that Raskolnikov, not the narrator, is the author of the thought and hence the user of *ja*. Two interpretations should be possible. If we interpret the underlined sentences in (6.) against a single context, we should understand that the narrator assumes that the reader might already know that Raskolnikov has seen Lisaveta. This is a warranted presupposition because it was mentioned in the story. If we interpret (6.) against a double context, we should understand that Raskolnikov is reasoning with himself. In this case, the addressee of Raskolnikov's monologue is the fictitious other, and Raskolnikov's thought, somewhat

⁴ Dostojewski, Fjodor: Verbrechen und Strafe. Potsdam 1924, p.104. Zeno.org.

redundantly, expresses that Raskolnikov thinks that it is possible that his fictitious addressee might know certain things. While either of these two readings should make sense, the (German) reader has a strong preference for the double-context reading with Raskolnikov thinking.

The particle *ja* signals that the speaker is risking to be redundant. It is crucial to ask *why* speakers would care to assert information that they suspect to be known by the addressee. One typical reason to utter *ja S* is because the speaker intends to use the content of *S* as part of a wider rhetorical structure, for instance as evidence in favour of another claim. In such a case, it makes sense to remind the addressee of known facts even at the risk of being redundant. In the above passage, it is very plausible to assume that *ja* is motivated because Raskolnikov is reminding himself of other evidence that could have told him that the door has been open (and there might be witnesses of his murders). Both *ja*- clauses can serve this function. On the other hand, it is not clear what the *narrator* could want to argue for. There are no claims by the narrator at this point, and in particular no claims that could be supported by the fact that Raskolnikov has seen Lisaweta enter the house.

The indicative value of *ja* is hence motivated by function rather than by truth conditional content. When readers interpret a passage as voiced by some speaker *X*, they answer the question “who said this?” taking the ancillary question “Why could that person have said this?” into account. The most plausible interpretation of *ja* is one where it indicates Raskolnikov’s reasoning. The passage can not be coherently understood as the narrator reasoning. It may be interesting to note that the English translation likewise reflects that the quoted passage is argumentative in nature. In English, Raskolnikov’s opening *why, ...* and the doubled *how could he, how could he have failed ...* reflect his frustration and his dawning insight that he could have known earlier that the door had not been locked. The free indirect discourse reading in German is further supported by the use of exclamation marks, but the content and form of the passage alone would also be sufficient to force a FID interpretation.

3.3 The particle *also*

The word *also* in German can be used as a causal sentence connective which corresponds to English *therefore, hence*. It has, however, a second use in which it can be more faithfully translated by English *so*. I will concentrate on examples where *also* co-occurs with a focus, like in (7.).

- (7.) *DAS_F war also der geheimnisumwitterte Skandal, von dem so viele redeten.*
This_F was **also** the mysterious scandal of which so many talked
‘So THIS was the mysterious scandal that was so much talked about’

I will first and briefly discuss criteria to distinguish the two uses of *also*. We will then confirm that *also* in the particle sense refers to the shiftable speaker, and finally implement this insight in its analysis.

The passage in (7.) nicely illustrates all relevant factors in the use of particle *also*. “*also S*” serves to rephrase a salient piece of information as an answer to a question. Focus serves to indicate what question that is, and we understand that the question has been on the speaker’s mind for some time. I will therefore call *also* in this sense the “question

under debate” QuD *also*. Causal and QuD *also* can be distinguished mainly by two tests, a syntactic and a semantic one. In syntax, a sentence with causal *also* can always be rephrased so as to show *also* in the Vorfeld (preceding the finite verb). QuD *also* is not possible in this position. If we rephrase (7.) as “*Also war DAS_F der geheimnisvolle Skandal...*”, we change its meaning and turn it into a true causal statement: ‘It follows from <something> that this was the scandal’. This leads to the second criterion to distinguish the two *also*. In terms of meaning, causal *also* links two different propositions *p* and *q* and states that one can be inferred from the other. QuD *also* names a new insight of the speaker which is *not* motivated as a logical consequence of another proposition. (7.) as well as the dialogue in (8.) illustrate this.

- (8.) A: *May I introduce you to Louise, my wife?*
 B: *Oh, DAS ist also Ihre Gattin.*
 ‘*Oh, so THIS is your wife.*’

B’s statement does not express that B logically infers anything from A’s utterance. In fact, B is pretty uninformative in that he simply repeats part of the overall information content of A’s utterance. However, B communicates an interest in the question *Who is A’s wife?* Depending on the overall situation, this can signal politeness. I propose to capture the pragmatic content of QuD *also* as a presupposition. For the sake of simplicity, I phrase the interpretation rule for *also* as sister of *S* even though the surface sentence never contains QuD *also* in this position.

[[*also S*]] with focus in *S*
 presuppositions:
 [[*S*]]^f coheres with question **Q**
 $\lambda w. \exists t(t < now \wedge WONDER_w(sp, t, \mathbf{Q}))$
 assertion: [[*S*]]

The actual gain in information is often restricted to presupposition accommodation when the hearer learns that the speaker was wondering about a question which is *now* being answered by *S*. I will not spell out the relation between [[*S*]]^f and a coherent antecedent question **Q** here. In the simplest account, both [[*S*]]^f and **Q** denote sets of propositions which must be suitably similar (one subset of the other, depending on the specific assumptions about focus and question semantics; however Krifka (20xx) argues that only a structured account of questions and focus semantics can eventually capture the restrictions between antecedent question and prosodically coherent answers).

In summary, *also* offers information about the doxastic state of the speaker of a sentence, including the speaker’s needs for information. It can be observed that a plausible need for information is often a conclusive clue for a shift from the narrator speaking to a protagonist speaking. Narrators typically (though not necessarily) tell, and don’t wonder. Protagonists, on the other hand, often wonder and lack information. Therefore, particles that indicate lack of information or imperfect information will often serve as indicators or conformation of a context shift. The following two denotations of the crucial sentence in (7.) illustrate this:

- [[*Das war also der g. Skandal*]]^{M,C} with *C* context of narration, implies: “narrator has been asking himself what might be the mysterious scandal”.

- $\llbracket \text{Das war also der g. Skandal} \rrbracket^{M, \langle C, c \rangle}$ with $c(sp) = \text{Kluftinger}$, implies:
“Kluftinger had been asking himself what might be the mysterious scandal”.

It is easy to see that Kluftinger, the ever-curious investigator, is the more plausible holder of that question.

3.4 The particle *wohl*

Another particle which offers information about the speaker’s epistemic state is *wohl*. Intuitively, *wohl S* is uttered when the speaker wants to assert *S* but at the same time indicates that he only has unreliable evidence for *S*. In contrast to modal statements like “*perhaps S*” or “*probably S*” the speaker will take *S* as true but the hearer is warned about the sources (see also Zimmermann 2010/t.a.).

- (8.) (...) *Und er (= Weldein, RE) ging in ein kleines Wirtshaus, ließ sich eine Speise auftragen und trank Wein dazu. Er aß langsam; er wartete von Bissen zu Bissen. Über der Eingangstür war eine Uhr ... sie war wohl stehengeblieben ...*
‘Above the door was a clock ... it had **wohl** stopped’
A. Schnitzler, *Reichtum*. p.55.

In the given passage, the underlined sentence asserts that the clock stopped and implicates that the speaker has imperfect evidence for this claim. Logically, this could be either an utterance by the narrator or by the protagonist, Weldein.⁵ The overall narration however suggests that the narrator at the point of telling the story has perfect knowledge. Hence, it is plausible that the signal of imperfect evidence relates to Weldein’s knowledge state.

Thinking in terms of information updates, it makes little sense to utter *p* with the presupposition that you don’t have good evidence for *p*. I will therefore deviate from Zimmermann (2010/t.a.) and assume that uncertain evidence is a conventional implicature of *wohl* rather than a presupposition (Potts, 2005). Not much hinges on this decision for the main purpose of this paper. $\llbracket \text{wohl } S \rrbracket$ has the CI content $\lambda w. \text{UNCERTAIN-EVIDENCE}_w(sp, \llbracket S \rrbracket, \text{now})$ and asserts $\llbracket S \rrbracket$. This analysis ensures that the holder of the epistemic state can shift with the context. Like in the preceding case, uncertainty often only makes sense for a protagonist, not for the narrator. Hence, *wohl* can be a reliable clue for a shift in context. The following is a sample derivation of the content of the example in (8.).

$\llbracket \text{wohl} [\text{sie war stehengeblieben}_{\text{PAST.PERFECT}}] \rrbracket$
CI content: $\lambda w. \text{UNCERTAIN-EVIDENCE}_w(sp, \mathbf{p}, \text{now})$

⁵ Narrators can indicate their uncertainty. R. Musil, *Die Verwirrungen des Zöglings Törleß* (p. 17) offers: „Törleß beteiligte sich nicht an dieser übermütigen, frühreifen Männlichkeit seiner Freunde. Der Grund hiezu lag **wohl** teilweise in einer gewissen Schüchternheit in geschlechtlichen Sachen, wie sie fast allen einzigen Kindern eigentümlich ist, zum größeren Teile jedoch in der ihm besonderen Art der sinnlichen Veranlagung, welche verborgener, mächtiger und dunkler gefärbt war als die seiner Freunde und sich schwerer äußerte.”—The novel describes the homoerotic experiences of Törleß which are, however, never stated explicitly but are left for the reader to guess from the novel. It is therefore very consistent that the narrator *persona* offers hypotheses, rather than diagnoses, for the sexual preferences of the main protagonist.

$p = \lambda w'. \exists e(\tau(e) < R \wedge \text{STANDSTILL}(w', e, \iota.\text{CLOCK}(w', x)) \wedge R < \text{NOW})$
 Asserted content: **p**.

$\llbracket \text{wohl [sie war stehengeblieben] } \rrbracket^{\text{M,C}}$ implicates that the narrator has unreliable evidence for whether the clock stood still.

$\llbracket \text{wohl [sie war stehengeblieben] } \rrbracket^{\text{M,<C,c>}}$ with $c(sp) = \mathbf{Weldein}$ implicates that Weldein has unreliable evidence for whether the clock stood still.

3.5. The particle *doch*

The last particle that will receive an analysis as a shifting indexical is the word *doch*. The particle has raised some interest in the literature because it can be used in a stressed and an unstressed variant which to date evade a clear and consistent analysis in terms of one item with/without focus. I will not enter in this debate here and concentrate on *doch* in its unstressed version. It has been shown (Egg 2010, Zimmermann 2011, Grosz 2010) that *doch* indicates a possible conflict between the content of its host sentence *S* and an antecedent proposition *q*. I adopt Egg's terminology who proposes that *doch S* presupposes that *S* denotes an impediment for an antecedent proposition *q*. Impediment in the extreme case can be a logical contradiction to *q*, but more often only a state of affairs that is unlikely to co-occur with *q*.

Interestingly, the data evidence that "impediment" relies on subjective speaker's judgements rather than on objective fact. The judgement can be one by the speaker/narrator but also one by a protagonist in free indirect speech. Consider the following passage.

- (9.) *Auch wußte die Barbel gar nicht, warum der Alte von allen Leuten im Dörfli der Alm-Öhi genannt wurde, er konnte **doch** nicht der wirkliche Oheim von den sämtlichen Bewohnern sein; da aber alle ihn so nannten, tat sie es auch und nannte den Alten nie anders als Öhi (...)*
 'Barbel also didn't know why the old man was called 'Alm Uncle' by all villagers, he could **doch** impossibly be the true uncle of all its inhabitants; but as everyone called him so, she did the same and never called him anything but 'Öhi'
 J. Spyri. *Heidis Lehr- und Wanderjahre*, p. 14/15.

In the given example, we have the clear intuition that 'being called Alm-uncle' and 'not be the true uncle of everyone' only contradict each other for a somewhat naïve mind. An adult speaker, and certainly the narrator, will understand that the former relational noun *Öhi* has turned into part of the name of a person, a convention which is by no means uncommon. *Impediments* in the sense of Egg are hence impediments relative to the epistemic background of the speaker, and the speaker can shift. This suggests the following amendment of Egg's analysis of *doch*:

$\llbracket \text{doch } S \rrbracket$

presuppositions:

sp believes that $\llbracket S \rrbracket$ is an impediment to *r*, where *r* is a fact that is salient for the speaker *sp* at the time of speaking *now*.

sp believes that $\llbracket S \rrbracket$ is part of the common ground

(I take over the second, givenness presupposition from earlier proposals although it will not play a prominent role in the following.) In our example from above, we predict the following two readings for single and double contexts:

(10.) $\llbracket \text{doch [er konnte nicht der wirkliche Oheim von den sämtlichen Bewohnern sein]} \rrbracket$

The salient antecedent proposition is most likely $r =$ ‘the old man is called *uncle* by everyone in the village’. The content of the sentence $\llbracket S \rrbracket =$ ‘the old man can not be the uncle of everyone in the village’ is asserted. In a single context C , we predict the presupposition of $\llbracket S \rrbracket^{M,C}$ to be ‘narrator believes that S is known and in conflict to r .’ In a double context with **Barbel** as a speaker $c(sp) =$ **Barbel**, we predict the presupposition of $\llbracket S \rrbracket^{M,<C,c>}$ to be ‘Barbel believes that S is known and in conflict to r ’. The latter fits the overall story more plausibly.

In summary, particles convey presuppositions and CI content that relates to the speaker. All particles that we looked at can systematically give rise to two possible readings of sentences.

- In normal narrative passages, they offer information about the epistemic background of the narrator.
- In passages of (free) indirect speech, they offer information about the epistemic background of a protagonist.

We can hence conclude that the particles discussed here, as well as all other particles with similar shift behaviour, are shiftable context indexicals. Their lexical content refers to the shiftable speaker parameter sp and other shiftable indexicals (e.g. *now*, *ad*). This behaviour has been implemented in the lexical analysis of the particles in the present section.

4. Reliability, trustworthiness, and the content of particles

The semantic interpretation mechanism in Section 2. allows us to derive the correct propositional content of sentences in free indirect discourse. What has not been specified so far is how this propositional content adds to the overall story. Likewise, the treatment of particle meanings was oversimplified in that I did not systematically distinguish between at-issue and non-at-issue content. While this article will not offer a fully specified formalism from sentence content to story content, I will list some observations which delimit possible formalizations.

Sentences in free indirect discourse are used (by the true author) to convey the thought of a protagonist. What the protagonist is thinking / saying can be true, but the protagonist can also be severely misconceived about matters and the thought can be used to inform the reader about the false beliefs of the person. Depending on what else we know about the story, we will take the content of the thought at face value, or will read it as evidence for an erring mind. This is in fact how we interpret *all* utterances by other speakers: In a first step, we understand that the speaker holds a certain belief and in a second step, depending on whether this sounds plausible, we update our own beliefs

with the proposition in question. These are the three basic epistemic constellations that we can face:

- the speaker asserts S and is trustworthy
- the speaker asserts S, believes S, but we have reason to doubt S
- the speaker asserts S but does not believe it: s/he is lying

In self-directed free indirect discourse, it is rare that persons lie. If one talks to oneself, it only rarely makes sense to belie oneself and I will purposefully ignore such cases for the time being. Mistaken belief is a much more common constellation in free indirect speech */erlebte Rede*. Some periods of literary writing are even famous for the experimental use of modes of indirect speech to offer readers access to the disturbed minds of mentally insane protagonists. However, the status of information conveyed by particles is special. Not only is the content contributed by particles not an at-issue content, *the speaker also can not err about the content of the particle*. The speaker can not be mistaken about his own earlier beliefs. Consider a simple example like the following:

- (11.) *Das war also Herrn Hubers Gattin.*
So this was Mr. Huber's wife.

The speaker can be wrong about the fact that some person is the wife of Mr. Huber. However, the speaker can not erroneously express that s/he was concerned with the question “*who is the wife of Mr. Huber?*” for some time and now, finally, has found an answer. Particles offer us a faithful doxastic record of the speaker, disregarding the fact whether the doxastic alternatives of the speaker are close to the real world or not.⁶ Doxastic record is used in a loose sense and covers not only earlier and current beliefs but also the subjective evaluation of beliefs (like *doch*, *leider*) and in part the origin of belief (reliable vs. guesswork *wohl*).

The content conveyed by particles such as those under discussion is hence side-tracked in two senses. First, it is not at-issue content in the sense of Potts (2005). It is currently open whether it is CI content, presupposed content, or otherwise non-at-issue.⁷ In addition, however, it is trustworthy content. This aspect of particle meanings becomes prominent only in a setting where the trustworthiness of assertions in general has to be questioned routinely. German particles enable and force the speaker to reveal their doxastic track record. As this is highly speaker-specific, particles are good clues to indicate free indirect speech.

5. Temporal and speaker oriented indexicals

The present account to interpret free indirect discourse, like other frameworks, assumes that in a context shift, all contextual parameters shift together and it is not possible that

⁶ Mind that this does not exclude the case that the speaker is purposefully *lying*. The speaker of (11.) can *pretend* to have an interest in someone's wife, a speaker of *leider* can pretend to regret something, and the speaker of *wohl* can pretend to be uncertain although he possesses reliable knowledge. I will leave it open whether such uses are lies in the classical sense or whether the speaker “adopts a rhetorical pose”—a term that would require further investigation. However, the speaker can not express false beliefs with particles.

⁷ as discussions at the host workshop on Particles at ESSLI 2011 confirmed

some shiftable indexicals retain the value of the narrator context C whereas others are instantiated by the local context c . In the final section of the paper, we will put this assumption to test and check the behaviour of various shiftable indexicals when put in the same sentence. Our result will be that practically all temporal and local indexicals shift together, and to the same protagonist context c as the speaker value. The only notable exception to this rule are *now/jetzt* and *hier/here* which can shift reference freely.

5.1 *now/jetzt* are unreliable c evidence

When investigating the interaction of shifted temporal indexicals, and shifted speaker, we find that the two seem not tied reliably. Not every shifted indexical creates a free indirect discourse in the sense discussed so far.

- (12.) *Napoleon wurde 1815 auf die Insel Sankt Helena verbannt. Jetzt war er nicht mehr so beliebt.*
 ‘Napoleon was banned to St Helena in 1815. Now he wasn’t so popular any more’

The second sentence in (12.) does not constitute free indirect discourse in the classical sense of a speaker shift. It is still the narrator who reports a fact, and not Napoleon (see also Hunter, 2010, Recanati 2004 (possibly add Lee, under review, and Hunter, under review)). It would be technically easy to model these examples with defective inner contexts which only shift the value for *now* but take over all other parameters from the narrator context C . Yet, before making any proposals in this direction we should survey more evidence on favour—or against—such a move. For instance, we can now combine *now/here* with other shiftable indexicals like particles. If a particle is likewise time dependent, and if shifted *now* is interpreted relative to c , then particle and *now* should refer to the same point in time.

Most among the particles that were discussed earlier do not anchor to time in a testable manner. However, the contrast particle *doch* is one with clear reference to time. When a speaker uses *doch S* to express astonishment about the coincidence of S and some other fact r , the speaker at the moment of utterance has to believe that S and r are both true. This temporal anchoring makes it possible to construct examples where the time of utterance of *doch* (by speaker \mathbf{A}) can be narrowed down to a specific point in time. Consider the following utterance of the detective in a situation where the detective has just found Müller’s body and reconstructed that Müller, being dead, had not seen his murderer arrive at the time of attack.

- (13.) *Ich verstehe nicht, wieso Müller den Angreifer nicht kommen sah. Er hatte doch jetzt die Taschenlampe dabei.*
 ‘I don’t understand why Müller did not see the attacker come. He had **doch now** a torch with him’

The temporal adverb *jetzt* refers to the time of Müller being attacked. The particle *doch* however refers to the present utterance situation of the detective. The detective has just found out about r = ‘that Müller did not see the murderer’. Hence, he can only now express surprise about the coincidence of r and S = ‘Müller carried a torch (at the time

of attack)’. If both *jetzt* and *doch* were interpreted relative to the same context *c*, then *c(now)* would have to provide two values, which is not possible.

This observation seems to pose a severe challenge to all known theories of context shift. The example in (13.), taken in isolation, suggests that we might need several sets of shifting parameters which can shift independently. However, a second look at a wider range of data reveals that independent shifts are restricted to *here* and *now*. All other temporal and local adverbials shift together with other speaker related indexicals, and all into the same protagonist context. This distribution of data suggest that not the theory of context shift is defective but that the spectrum of meanings of the two most frequent indexicals, *now* and *here*, is richer than that of other indexical words. The crucial data will be discussed in the next subsection.

5.2. Other temporal indexicals are more reliable

Let us consider shifted uses of words like *gestern* (*yesterday*), *morgen* (*tomorrow*), *nacher* (*later-than-now*), *vorhin* (*just-before-now*) in past tense sentences. They can routinely refer to the current reference time *R* and are used in the sense ‘the day before *R*’, ‘the day after *R*’ and so on. What we have to find out is whether these shifted uses can be combined with particles which refer to the narrator’s utterance time (or, worse, some completely different time). I use the following timeline as test setup in examples.

- i. *gestern* (*yesterday*) as a temporal indexical in a shifted sense with the following timeline:



- ii. *doch* as a particle. *doch* refers to the time when the speaker learns about two conflicting propositions.

Consider the example in (14.) against the timeline given above.

- (14.) **Gestern** war Peter/er **doch** extra zum Friseur gegangen.
 ‘Peter had **doch** been at the hairdressers **yesterday**’

This sentence can easily be used in free indirect discourse where **Peter**, on Sunday, is thinking about the hair dresser on Saturday. **Peter** is the speaker of *gestern* as well as the speaker for *doch*, and his amazement is located at Sunday, his time of thinking. The following surrounding story could be told on Thursday:

- (15.) *On Sunday, Peter took Sue to the movies. Unfortunately, things didn’t go well, and he failed to impress Sue. On Sunday night, he was sitting in the kitchen and thinking about his failure. Strange.*
Gestern war er doch extra zum Friseur gegangen.
 Yesterday, he had doch (extra) been at the hairdresser’s

The following interpretation in contexts C = narrator's context and c = situation on Sunday where Peter is thinking yields the correct propositions:

$\ll gestern \gg = \ll \lambda e. \tau(e) \subset \text{it.DAY-BEFORE}(t, \text{now}) \gg^{\text{M.g.,} \langle C, c \rangle}$
 = events that took place on Saturday
 $\ll doch \gg$: sp = Peter expresses surprise about
 r = failure to impress Sue, though
 s = visit at hairdresser's on Saturday
 expressed at now = Sunday.

The existence of a FID use of (14.) is unsurprising. All other data would lead us to expect such a reading, and this is confirmed by the data in (14.). This interpretation also shows that the proposed time line, and the use of *gestern* and *doch* together in this sentence is logically possible and semantically interpretable. The more interesting question is whether we can force a second reading where *gestern* still refers to Saturday on the time line, but *doch* is authored by the external narrator. (16.) shows an attempt.

- (16.) A talking to B about Peter, on Thursday.
 A: *Did you know? Peter took Sue to the movies on Sunday. Unfortunately things didn't go so well, and he failed to impress Sue.*
 B: **Strange. Gestern war er doch extra zum Friseur gegangen.*
 *'Yesterday, he had doch (extra) been at the hairdressers'

B's response in (16.) can not be interpreted. The overall context prohibits a free indirect discourse passage.⁸ B's use of *doch* must refer to his utterance time, given that B just learned about two conflicting facts ('Peter not impressing Sue' vs. 'Peter having been at the hair dresser'). The temporal *gestern* needs to be interpreted relative to R = Sunday because B intends to talk about the day before Sunday, not the day before Thursday. This is just empirically impossible.⁹ If we leave out the temporal adverb *gestern*, the sentence becomes acceptable. This shows that B can take up the reference time R of speaker A (which licenses the use of past perfect). The problem in (16.) is that speaker B tries to use two speaker indexicals (*doch*, *gestern*) which need two different contexts. We can conclude that the temporal anchor point *now* of *gestern* and *doch* have to coincide. Unlike *jetzt*, *gestern* can not shift reference on its own.

Analogous examples confirm that *vorhin*, *morgen*, *neulich* and *damals* also coincide in their temporal reference with *doch*. For other speaker oriented particles like *wohl*, *ja*, *also* it is harder to construct examples which locate the time of utterance. Hence, they do not offer the basis for examples which demonstrate as clearly as (16.) that the particle's temporal anchor coincides with the one of the temporal adverbial. However, no example challenges the hypothesis that the two refer to the same context. (17.) shows just one example for illustration.

⁸ Making this claim, I am aware of the fact that a general theory of dialogue, assertion and response, and joint narration is lacking which would substantiate it. Nevertheless, I will take this intuition as a given.

⁹ Given that the sentence is not „ungrammatical“, the non-German reader might wonder what happens. To my intuition, one prominent but senseless interpretation of (16.) is the one where B uses *gestern* to refer to Wednesday. This makes the use of *doch* hard to interpret, and the use of past perfect is not warranted either. All in all, the sentence is just pretty senseless.

- (17.) *Vorhin hatte Susanne wohl Kuchen gegessen.*
'earlier had Susanne *wohl* cake eaten'

The most plausible reading for (17.) is one where a protagonist thinks at *now=R* about Sue having had cake somewhat earlier. The external narrator can not be responsible for *wohl*. We understand that the person thinking at *R* expresses uncertain evidence for the claim that Sue had had cake. The sentence is evaluated relative to $\langle C, c \rangle$ and both *vorhin* and *wohl* refer to *c*. Native speakers of German will usually get a second reading where temporal adverb and particle are both authored by the external speaker of *C*. These require some effort in the surrounding story to warrant the use of past perfect, and I will not enter into a systematic discussion of the combinatorics of *R*, *NOW* and *now* at this point.

6. Summary

In the first part of the paper, I argued that German particles are shiftable indexicals. In free indirect discourse, they express propositional attitudes of the protagonist. I proposed a semantic analysis for free indirect discourse, and lexical entries for particles, which taken together predict exactly this semantic behaviour. Interpretation of free indirect discourse $[[S]]$ ^{M,g,<C,c>} rests on the assumption of Coherent Contexts of Narration: If one shiftable indexical refers to the protagonist's context of thought *c*, then all shiftable indexicals do.

While several temporal indexicals rarely co-occur in one sentence, the Coherent Context assumption can be put to test by combining speaker oriented particles and temporal indexicals in the same sentence. Data show that various combinations of indexicals confirm a Coherent Context of Narration. Specifically, the majority of temporal indexicals (*gestern, vorhin, neulich, yesterday, damals, morgen, ...*) and particles are always interpreted relative to the same context. It could be added that other combinations, including particle plus particle, particles plus questions, exclamatives plus temporal indexicals likewise confirm a Coherent Context of Narration. These combinations were not explicitly discussed in this paper.

The indexicals "*jetzt*" / "*now*" as well as "*hier*" / "*here*" do not observe Coherent Context of Narration. Specifically, they can be used in a shifted sense while particles in the same sentence still refer to the narrator's external context, including the narrator's time of utterance. This phenomenon seems to be strictly limited to these two indexicals. The data hence offer no argument to revise the semantic interpretation of free indirect discourse but should be captured by a deictic interpretation of "*now*" and "*here*". This result challenges recent proposals to capture all shifted uses of *now* by context shift (Lee 2011) which, as an overall strategy, leads to an inconsistent notion of context, as the present paper has shown.

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Appendix: A Mini Tense and Aspect System

The following interpretive rules for tense and aspect were assumed throughout the paper.

$$\| S_{\text{root}} \| = \lambda e. \Phi_w(e) \text{ is a property (concept) of events}$$

For instance,

$$\| \textit{Antje shopp- in Paris} \| = \lambda e. \text{SHOP}_w(\text{ANTJE}, e) \wedge \text{IN}_w(e, \text{PARIS})$$

$$\| \textit{Antje kauf- ein Kleid} \| = \lambda e. \exists x(\text{DRESS}_w(x) \wedge \text{BUY}_w(\text{ANTJE}, x, e))$$

Aspects:

$$\| \textit{simple} \| = \lambda P \lambda t. \exists e (\tau(e) \subset t \wedge P(e))$$

$$\| \textit{perfect} \| = \lambda P \lambda t. \exists e (\tau(e) < t \wedge \text{POST-PHASE}_w(e, t) \wedge P(e))$$

$$\| \textit{prospective} \| = \lambda P \lambda t. \exists e (t < \tau(e) \wedge \tau(e) < \textit{NOW} \wedge P(e))^{10}$$

Tenses:

$$\| \textit{present} \| = \lambda P. (P(R) \wedge R \circ \textit{NOW}) \text{ (o = overlap)}$$

$$\| \textit{past} \| = \lambda P. (P(R) \wedge R < \textit{NOW})$$

Some temporal adverbials:

$$\| \textit{gestern} \| = \lambda e. \tau(e) \subset \textit{t.DAY-BEFORE}(\textit{t}, \textit{now})$$

$$\| \textit{morgen} \| = \lambda e. \tau(e) \subset \textit{t.DAY-AFTER}(\textit{t}, \textit{now})$$

$$\| \textit{vorhin} \| = \lambda e. \tau(e) \subset I \wedge I <_{\text{shortly}} \textit{now}$$

$$\| \textit{neulich} \| = \lambda e. \tau(e) \subset I \wedge I <_{\text{midrange}} \textit{now}$$

$$\| \textit{damals} \| = \lambda e. \tau(e) \subset I \wedge I <_{\text{long}} \textit{now} \text{ , with I time intervall anaphor.}$$

$$\| \textit{jetzt} \| = \lambda e. \tau(e) \circ \textit{now}$$

(I assume that *jetzt* is ambiguous between an indexical and deictic reading)

An example computation (\oplus = ‘suitably compose with’; FA, IFA; intersection)

- (18.) *Tom erwachte schweisssgebadet. Morgen war Weihnachten, und er hatte völlig vergessen, dem Weihnachtsmann seine Geschenkeliste zu schicken.*
 ‘Tom woke up sweating. Tomorrow was Christmas, and he had totally forgotten to send his wishlist to Santa Claus.’
 (Zimmermann, 1991)

¹⁰ Prospective aspect is needed to treat *morgen, nacher* in past-in-future reference. Prospective competes with real future tenses which are preferred when *e* takes place after the time of utterance. A similar proposal was made by Kratzer (2011) in ... which independently confirms the need for this aspect.

$$\begin{aligned}
& \parallel \text{Morgen war Weihnachten} \parallel \\
& = \parallel ((\text{sei- Weihnachten}) \text{ morgen}) \text{ prospective past} \parallel \\
& = [[[[\lambda e. (X\text{-MAS}_w(e))] \\
& \quad \oplus \lambda e. \tau(e) \subset \text{it.DAY-AFTER}(t, \text{now})] \quad (\text{morgen}) \\
& \quad \oplus \lambda P \lambda t. \exists e (t < \tau(e) \wedge \tau(e) < \text{NOW} \wedge P(e)) \quad (\text{prospective}) \\
& \quad \oplus \lambda P. (P(R) \wedge R < \text{NOW})] \quad (\text{past}) \\
& = [[[\lambda e. (X\text{-MAS}_w(e) \wedge \tau(e) \subset \text{it.DAY-AFTER}(t, \text{now}))] \\
& \quad \oplus \lambda P \lambda t. \exists e (t < \tau(e) \wedge \tau(e) < \text{NOW} \wedge P(e)) \\
& \quad \oplus \lambda P. (P(R) \wedge R < \text{NOW})] \\
& = [[\lambda t. \exists e (t < \tau(e) \wedge \tau(e) < \text{NOW} \wedge X\text{-MAS}_w(e) \wedge \tau(e) \subset \text{it.DAY-AFTER}(t, \text{now}))] \\
& \quad \oplus \lambda P. (P(R) \wedge R < \text{NOW})] \\
& = [\exists e (R < \tau(e) \wedge \tau(e) < \text{NOW} \wedge X\text{-MAS}_w(e) \wedge \tau(e) \subset \text{it.DAY-AFTER}(t, \text{now}) \\
& \quad \wedge R < \text{NOW})]
\end{aligned}$$

$$\begin{aligned}
& \parallel S \parallel^{\text{M.g.C.}}: C(\text{now}) = C(\text{NOW}) \\
& \quad \text{tomorrow} = e \text{ in the day after now/NOW} \\
& \quad \text{past} + \text{prospective} = e \text{ before NOW}
\end{aligned}$$

In this reading, the sentence would state that X-mas is both before and after *NOW*, which is inconsistent.

$$\begin{aligned}
& \parallel S \parallel^{\text{M.g.} \langle \text{C}, \text{c} \rangle}: \\
& \quad c(\text{now}) = R \text{ before } C(\text{NOW}); \\
& \quad e \text{ after } R, \text{ before } \text{NOW}; \\
& \quad e \text{ in the day after now} = \text{possibly before } \text{NOW}
\end{aligned}$$

Interpretation as free indirect discourse leads to a consistent reading.