

Dear Ede!**Semantics and Pragmatics of Vocatives**Regine Eckardt***1 Vocatives: Some Data**

Vocatives such as in (1) can be used as a parenthetical element in sentences. At first sight, they serve to ensure the correct addressee. (1) is directed to Ede.

(1) Ede, the pizza is ready.

To date, there is little research on the vocative in formal semantics and pragmatics. This may be due to the simple syntactic structure and pragmatic function of the construction in direct speech. When we turn to indirect speech, however, data are more interesting. Surprisingly, languages like English and German do not allow vocatives in reported and indirect speech. Hence, sentences like those in (2a) are judged ungrammatical.

- (2) a. *Luigi said that, Ede, pizza was ready.
 b. *Luigi sagte, Ede, die Pizza sei fertig.
 Luigi said Ede.VOC the pizza be.SUBJ ready

The present paper addresses this observation. In section 1, I review possible forms of vocatives and propose a syntactic structure that offers my basis for interpretation. More examples confirm that vocatives are prohibited in indirect discourse. Section 2 discusses Predelli's (2008) analysis of vocatives and argues that this analysis is not suited to explain the data in (2a). Section 3 introduces some basic notions to interpret indirect and free indirect discourse, based on Eckardt (2012), Schlenker (2004) and Sharvit (2008). Section 4 presents the main claim of the paper. I assume that the vocative not only conveys a

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property of the addressee of the utterance, but also implicates that the literal content of the utterance is intended as a message by the speaker to that specific addressee. This implicature is trivially met in direct speech situations. It is however necessarily false in passages of indirect speech or thought, no matter who the interacting parties happen to be. The final section proposes possible extensions to other constructions that are prohibited in indirect speech.

1.1 *Form and Content of Vocatives*

The most typical form of vocative phrases are proper names. However, vocative phrases occur in greater variety, as the following list of examples shows.

- (3) Dinner is ready, *dear friend/guest/fellow*.
- (4) *My brother*, I have to leave.
- (5) *Du*, das Essen ist fertig.
you the dinner is ready
- (6) It's the economy, *(you) stupid*.
- (7) *Lucky winner*, we congratulate you to 1 Mio. \$.
- (8) *Citizens, fellows, gentlemen*, this is a scandal.

Vocative phrases can consist in referring expressions like names and second person pronouns, as well as NPs with or without adjectival modifiers, and finally of a combination of both, like in *you idiot* or Germ. *Sie alte Knalltüte* (lit. 'you old bang-bag'). Zwicky (1974) surveys how different patterns in English correlate with different attitudes of the speaker. For instance, the pattern *you*+NP commonly conveys a negative attitude towards the addressee whereas the pattern Adj+Name transports a friendly or neutral attitude. I will not investigate these micro-patterns here.

Simple tests confirm that vocatives do not contribute to the asserted content of the utterance. For instance, the addressee cannot use negations such as *No!*, or *That's false* in order to deny that he is Ede, a dear citizen, a lucky winner or an idiot. Hence, Predelli (2008) treats vocative phrases as presupposition triggers. Alternatively, the content of vocative phrases could be analyzed as commentary content ("conventional implicature" in the sense of Potts 2005, "use-conditional content" in terms of Gutzmann 2012, 2013).

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The projection behavior of vocatives supports the latter view. While presuppositions as well as non-at-issue content project from many embedded contexts, only presuppositions can be blocked from projecting. Let us first test the projection in (9)–(11).

(9) Luigi believed that, Ede, the pizza is/was ready.

(10) Luigi said that Ede, pizza is/was ready.

(11) It is not the case that, Ede, the pizza is ready.

These examples can only be used in the sense that the *actual* speaker addresses Ede. They are only acceptable in a context where someone utters them towards Ede. They can not be interpreted as vocatives by Luigi to Ede. With a detailed analysis still missing, the examples show that vocatives “project” and tend to be interpreted at the root level.

Projection is shared by presuppositions and commentary content, but unlike presuppositions, commentaries defy blocking. Potts (2005) illustrates this with examples such as (12) where it is not possible to counterfactually assume a different attitude that would allow a specific way to phrase the assertion “Kresge has arrived”.

(12) #If I hated Kresge, then that bastard Kresge had arrived.

Similarly, it is not possible to counterfactually assume a property of the addressee and phrase one’s assertion with a matching vocative. The judgment in (13) does not depend on the fact whether dinner is actually ready, or would (mysteriously) only be ready if the addressee were the speaker’s brother.

(13) #If you were my brother then, my brother, dinner would be/is ready.

Testing such data is complicated by the fact that we can issue conditional speech acts. Hence, the following example is acceptable in a situation where the speaker does not know whether the addressee is the winner or not.¹ It is crucial for the acceptability of (14) that the speaker would not ask the question at all, in case the person turned out not to be the winner.

¹ I thank my reviewer for pointing out the example, and making me think about this additional complication.

(14) If you have won, then, lucky winner, do you want the money all at once?

In addition to their projection behavior, vocatives pattern with other commentary items in other ways. Potts (2005) proposes that commentary content is typically new information, not presupposed information. This second criterion also classes vocatives as commentary content. Vocatives convey that the person who fits the description given by the vocative is the addressee of the message. For instance, the vocative in (1) conveys that the pizza is ready, and that this message is addressed to Ede. The latter is contributed by the vocative, and it is not information that can reasonably be taken as generally known. Neither is it self-evident that the speaker always and only talks to Ede, nor is it a given that information about pizza is always information where Ede is the addressee. Unsurprisingly, most vocatives use known information about the addressee in order to single him out. This should not be mistaken as evidence that vocative content is presupposed content.

It is hard to justify the newness of vocatives in terms of a formal theory of common ground update. Most theories take the utterance context as a given, and hence speaker and addressee are indeed “known” (e.g., Stalnaker 2002). The use of vocatives requires a theory of common ground that can model context changes and the shift from one speaker/addressee to another. Only then could we account for the newness of vocative content. I will therefore leave it at plausibility considerations and tentatively assume that the content of vocative phrases should be captured as commentary content (Gutzmann 2012; Potts 2005). As far as I see, however, the main ideas of the paper could be rephrased in a presuppositional analysis of vocative phrases.

1.2 *A Proposal for a Syntax-semantics Interface*

The examples in (3) to (9) show that vocative phrases minimally contain a referring expression (i.e. an expression that denotes an object of type e), but can also contain syntactic material that denotes a property (type $\langle e, t \rangle$). Determiners are banned from vocative phrases.

(15) *Dinner is ready, most friends/ the guest/ some brothers.

Plural determiners like *all* pose an exception, but it has been observed before that DPs of the form *all NP* can be reinterpreted as referring expressions.² The examples support the following internal structure of vocative phrases.

² German possesses an archaic use of definite DPs in vocatives: *Das Essen ist serviert, die*

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(16) $[_{\text{VocP}} [_{\text{Voc0}} \{you, Du, Sie, \emptyset\text{-}you\}] NP_{\text{voc}}]$

The content of NP_{voc} is predicated of the referent of *you* or $\emptyset\text{-}you$, a silent second-person pronoun. NP_{voc} can be a normal NP (of type $\langle e, t \rangle$) or a proper name. Proper names will be interpreted as type-shifted (Partee & Rooth 1983). For concreteness, I assume the operator $\lambda x_e \lambda y_e (x = y)$ that turns the denotation of the name into the property of being identical to its bearer. The vocative phrase *dear Ede!* will hence receive the following analysis.

(17) $[_{\text{VocP}} [_{\text{Voc0}} \emptyset\text{-}you] dear [\lambda x_e \lambda y_e (x = y) Ede]]$

(18) a. $\llbracket Ede \rrbracket = \mathbf{Ede}$
 b. $\llbracket \lambda x_e \lambda y_e (x = y) Ede \rrbracket = \lambda y_e (y_e = \mathbf{Ede})$
 c. $\llbracket dear \rrbracket = \lambda y_e \lambda w. \text{DEAR}_w(y_e)^3$
 d. $\llbracket [_{\text{VocP}} [_{\text{Voc0}} \emptyset\text{-}you] dear [\lambda x_e \lambda y_e (x = y) Ede]] \rrbracket$
 $= \lambda y_e \lambda w (\text{DEAR}_w(y_e) \wedge y_e = \mathbf{Ede})(\text{ADDRESSEE})$
 $= \lambda w (\text{DEAR}_w(\text{ADDRESSEE}) \wedge \text{ADDRESSEE} = \mathbf{Ede})$

The propositional content is identical to the meaning of “you are Ede, and dear (to me)”. This appears appropriate. However, we will see that the pragmatic function of a vocative is more complex and will revise the meaning of vocatives in section 4.

Before moving on, let me briefly comment on one peculiar case in German. German can use *Du* in isolation as a vocative phrase (see (5)). This use does not convey that the speaker states the self-identity of the addressee. Rather, *Du* is used as a deictic device that singles out a specific person (you, the person I point at). I therefore assume that the isolated *Du* in examples such as (5) does not instantiate Voc^0 but is treated analogously to proper names. It supplies a referent that leads to a property by type shift.

In this equation, $\llbracket \emptyset\text{-}you \rrbracket$ is instantiated on basis of the utterance context: it refers to the current addressee, as illustrated in (18). The referent of $\llbracket Du \rrbracket$ is determined by deixis. Deixis does not entail that the person is actually talked to. We will return to this subtle difference when we discuss the eventual semantics of vocatives in Section 4. The content of (5) should be paraphrased as “the intended addressee is identical to the person that I point at and alert by calling him *Du*”.

Herrschaften. (approximately ‘Dinner is served, the Lordships’). I will not treat such isolated usages.

3 DEAR possibly relates to the speaker, too: “dear to the speaker”.

1.3 *Vocatives in Speech and Thought Reports*

Vocatives can straightforwardly be used in quoted speech reports.

(19) Luigi said: Ede, dinner is ready.

They are prohibited in all indirect modes to report speech or thought (unless we interpret them as the speaker of (20) addressing Ede).

- (20) a. *Luigi said that, Ede, dinner was ready.
 b. *Ede, dinner was ready, said Luigi.
 c. Luigi turned to Ede. *Dinner was ready, Ede. Would he mind to come?

Generally, vocatives can not be used in sentences *S* in indirect speech/thought where the referent of *I* no longer refers to the speaker of that sentence, and where the referent of *you* does not refer to the addressee of *S*. For instance, in the examples in (20) Luigi speaks to Ede, but a use of *I* in this context would refer to the person who utters (20), and a use of *you* in this context would refer to the person that this speaker talks to.

While this should be taken into account in the semantic analysis of vocatives, we have to keep in mind that the words *I/you* are not banned from indirect speech or thought. In a first person narrative, *I* refers to the narrator, and *I/me* can occur in indirect speech. Likewise, narrations can use *you* to refer to a fictitious reader, such as in an epistolary novel. The following (made-up) story illustrates this. Assume a novel of letters, addressed from Caroline to Ede, where she describes her first encounter with Luigi. This could be a passage.

- (21) Let me write you about my first encounter with your Italian friend Luigi. He eyed me with suspicion and I could sense his fear. Obviously, I was the dangerous woman in your life! Fortunately, you had told him about my sole weakness: my crave for pralines. ...

The last passage can be interpreted as Caroline mind-reading Luigi's thoughts on their first encounter. The passage illustrates that *I* and *you* can be used with their usual meaning in (free) indirect discourse, in this case a passage of indirect thought. The same constellations can be created for indirect speech in English and indirect thought and speech in German. Hence, there is no *a priori* reason to exclude a clause like [\emptyset -*you* [*my friend*]_{NP}]_{VOC} from interpretation in indirect discourse. If \emptyset -*you* is just a tacit version of the pronoun *you*, then it can be semantically interpreted in indirect speech and thought reports. The mere use of \emptyset -*you* is not what renders vocatives ungrammatical in indirect speech.

2 Earlier Analyses

Vocatives have not received much interest in the formal semantic literature to the exception of Predelli (2008) who offers a formal interpretation of vocatives. Predelli did not consider interpretation of indirect speech and therefore did not attempt to model the ban on vocatives in indirect speech. Zimmermann (1997) treats a related phenomenon, the choice of politeness forms of pronouns, and we will later make use of one of his core ideas.

2.1 Predelli (2008)

Predelli restricts attention to proper names, used in vocatives. According to Predelli, VocP takes Kaplanian contexts as its argument. Its main function is to ensure that the host sentence can only be sensibly uttered in a limited class of contexts, namely those where the addressee is of the right kind. For proper names—Predelli’s main case—this amounts to “being the right person”. Consider his example in (22).

(22) Amanda, the sky is on fire.

He observes that it can only be legitimately uttered in a context c where the addressee in c is Amanda. A vocative use of *Amanda* hence introduces the presupposition that *the addressee-in-c* = $\llbracket \text{Amanda} \rrbracket^c$.⁴

At the level of asserting, VocP leaves the propositional content of the host sentence unchanged. Predelli therefore assumes that, at the level of assertions, VocP denotes the identity function on propositions. If we adopt the notation $[\langle \text{assertion} \rangle; \langle \text{presupposition} \rangle]$ for the content of linguistic items in general, Predelli’s analysis for proper names such as (22) can be summarized as follows.⁵

Predelli Analysis of vocatives

$$\llbracket [\text{VocP} \langle \text{Name} \rangle] \rrbracket^c = \lambda p [p; \text{ADDRESSEE}(c) = \llbracket \text{Name} \rrbracket^c]$$

In combination with a sentence S , the vocative phrase ensures that *VocP S* can only be felicitously uttered/interpreted in contexts with a suitable addressee.

⁴ Predelli (2008: 102, clause (c)).

⁵ I am using a more explicated version of syntax-semantics interface than Predelli. His distinction between VocP and syntactic material as part of the VocP is not very clear.

Predelli's analysis can be combined with the more elaborate VocP structure and semantics in Section 1.2. According to my analysis, VocP generally attribute a property to the referent of \emptyset -*you* or *you*, ranging from a simple "you are Amanda" to "you are the lucky winner". All these can be computed as the meanings of VocP. Hence, the following generalization of Predelli's proposal seems justified.

Generalized Predelli analysis

$$\llbracket \text{VocP } S \rrbracket^s = [\llbracket S \rrbracket^c; \llbracket \text{VocP} \rrbracket^c]$$

I leave it open whether the second component in the two-dimensional meaning is a presupposition (as claimed by Predelli) or commentary content (as preliminary testing in Section 1 suggests). Interpretation happens relative to an utterance context c . This utterance context specifies the addressee as follows: $\llbracket \emptyset\text{-you} \rrbracket^c = \text{ADDRESSEE}(c)$.

Predelli's generalized analysis allows to treat vocatives such as "Dear friend". It predicts that the vocative $[\text{VocP } \emptyset\text{-you } [\textit{dear friend}]]$, used in "S, dear friend" can only be felicitously uttered in a context c where the addressee in c has the property of being a dear friend of the speaker. In such a context, the utterance asserts S .

2.2 A Problem

Predelli's analysis is designed to restrict the possible utterance contexts for vocatives. We'd hence expect that the prohibition of vocatives from indirect speech/thought can be derived on basis of the fact that the respective utterance contexts never meet the content of vocatives. This, however, is not the actual result of Predelli's analysis.

Let us introduce a few terms to talk about utterance contexts. Every utterance is made in an external (real) utterance context C . This context determines speaker, addressee, time, place and world of the utterance (Kaplan 1989). If a sentence contains reported speech, we face a second, internal context d , the one where some protagonist in the story is talking.

(23) Luigi said to Ede that the pizza was ready to eat.

(23) refers to the internal context d where Luigi is the speaker and Ede is the addressee. If Caroline utters (23) towards Tom, then the external context of the utterance is C where Caroline is the speaker and Tom the addressee. (23) explicitly refers to an event of talking, but there are also indirect modes of conveying speech and thought.

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(24) Luigi went to alert the guests. The pizza was ready to eat!

The second sentence in (24) can be interpreted as free indirect speech by Luigi. We'd again say that it refers to an internal context d' with Luigi as the speaker, and the guests as addressees. The external context C is provided by the situation where (24) is uttered. In summary, indirect speech and thought reports always refer to an internal context in addition to the external context C .

My explication of Predelli's analysis rests on the tacit pronoun \emptyset -*you* that is interpreted in the utterance context. We can assume that, like overt pronouns, \emptyset -*you* always refers to the external context C . This seems to make sense, given that vocatives can not be used in a shifted interpretation. Still, the content of a vocative in indirect speech could be true accidentally. Vocatives should therefore be occasionally permissible, assuming that the surrounding story is of the right kind. This is, however, never the case.

Consider the a continuation of the epistolary novel between Caroline and Ede. Let us assume that Caroline and Luigi, Ede and Luigi and Caroline and Ede have all become good friends in the meantime. The following passage—part of a letter from Caroline to Ede—establishes the external context C where Caroline talks to Ede, and the internal context d where Luigi talks to Caroline.

(25) Yesterday, Luigi welcomed my warmly. Today was his lucky day, *dear friend.

The generalized Predelli analysis predicts that the assertion "Today is [Luigi's] lucky day" must be made in a context c where the addressee in c is a friend (of the speaker in c). If we assume that the internal context d is used to instantiate addressee and speaker, then Predelli's presupposition requires that Caroline is a dear friend of Luigi. This is the case. Hence, reference to internal contexts does not predict the data in (25). If we assume that the external context C is what instantiates addressee and speaker of the vocative, then Predelli predicts that we need a context where Ede is a dear friend of Caroline. This is, again, true. Hence, reference to external contexts does not predict the data in (25) either. No matter which context is responsible for the interpretation of \emptyset -*you*, the example should be acceptable.

3 Content and Update in Indirect Speech

I will pursue the hypothesis that vocatives do more than ensuring the correct kind of addressee. They moreover express that the content of the host sentence

S is intended as a message from the actual speaker to the actual addressee (as specified in the vocative phrase). This requires a treatment of indirect and free indirect discourse that specifies more precisely which propositions are expressed by what sentence, and which propositions are conveyed from which speaker to which addressee.

3.1 *Interpreting Free Indirect Discourse*

In the following, I will use a format to interpret free indirect discourse that was first proposed in Eckardt (2012) and has been disseminated in various talks. Semantic interpretation of words and clauses occurs relative to an utterance context C , or relative to two contexts $\langle C, d \rangle$ where C represents the external context (e.g. narrator- reader context) and d represents an utterance situation that is understood to be part of the story told. For instance, the free indirect discourse passages in (21) above would be interpreted relative to the pair of contexts $\langle C, d \rangle$ with

- (26) C : Caroline writes a letter to Ede,
 d : Luigi talks to himself as part of the story

Natural language expressions can depend on a limited number of contextual parameters. For concreteness sake, let us assume that these comprise the following:

- v_{SP} = the speaker
- v_{AD} = the addressee
- v_{NOW} = the time of utterance
- v_{HERE} = the place of utterance
- v_W = the world where the utterance is made

We will view contexts as variable assignments that instantiate each of these parameters. However, in order to account for shiftability as well as non-shiftability of indexicals, we have to design the system a bit more complex. We will assume that there are two versions of each contextual parameter.

- v_{SP}, v_{sp} = the speaker
- v_{AD}, v_{ad} = the addressee
- v_{NOW}, v_{now} = the time of utterance
- v_{HERE}, v_{here} = the place of utterance
- v_W, v_w = the world where the utterance is made

The idea is that all capital letter parameters are used for non-shiftable indexicals whereas the small letter parameters are used for indexical reference that can shift, e.g., in indirect speech or free indirect thought. Among those will be speaker dependent subjective predicates, shiftable temporal and local adverbials, modal particles, and more (see Eckardt 2012; Sharvit 2008).

Contexts likewise come in two varieties. External contexts C are assignments that are defined on all contextual parameters.

$$C : \{v_{SP}, v_{sp}, v_{AD}, v_{ad}, v_{HERE}, v_{here}, v_{NOW}, v_{now}, v_{WORLD}, v_{world}\} \rightarrow D_e \cup D_s^6$$

They have to be consistent in the sense that $C(v_{SP}) = C(v_{sp})$, $C(v_{AD}) = C(v_{ad})$, etc. Internal contexts d are assignments that are restricted to small-letter parameters:

$$d : \{v_{sp}, v_{ad}, v_{now}, v_{here}, v_{world}\} \rightarrow D_e \cup D_s$$

The meanings of certain expressions in natural languages depend on context parameters. We will indicate this dependency by using the appropriate parameters v_{SP} , v_{ad} , etc. in the lexical meanings of words. Crucially, the mode of speaking / writing determines the kind of context dependency of words. If we interpret sentences relative to a single context C , we read it as part of direct speech. If we interpret it relative to two contexts $\langle C, d \rangle$, we understand it in the “indirect speech” mode.

The simple interpretation of terms follows the usual recursive definition of meaning, with the proviso that all indexical parameters are instantiated by C , the one and only external context.

$$\begin{aligned} \llbracket v_{SP} \rrbracket^C &= \llbracket v_{sp} \rrbracket^C := C(v_{SP}) \\ \llbracket v_{AD} \rrbracket^C &= \llbracket v_{ad} \rrbracket^C := C(v_{AD}) \\ &\dots \end{aligned}$$

In (free) indirect discourse, each word and phrase in the sentence is interpreted relative to a pair of contexts $\langle C, d \rangle$ with an external context C and an internal context d . The non-shiftable parameters v_{SP} , v_{AD} , v_{NOW} , v_{HERE} , v_W are still instantiated by the external context C . Shiftable parameters v_{sp} , v_{ad} , v_{now} are now instantiated by assignment d , i.e. the internal context.

⁶ D_s is required to instantiate w , W .

$$\begin{aligned}
\llbracket v_{SP} \rrbracket^{(C,d)} &:= C(v_{SP}) \\
\llbracket v_{AD} \rrbracket^{(C,d)} &:= C(v_{AD}) \\
\llbracket v_{sp} \rrbracket^{(C,d)} &:= d(v_{sp}) \\
\llbracket v_{ad} \rrbracket^{(C,d)} &:= d(v_{ad}) \\
&\dots
\end{aligned}$$

This system allows for arbitrary words and constructions to render a semantic representation that captures both rigid and shiftable indexical elements. For instance, the word *I* in English is a rigid indexical. Hence, its meaning must be captured by v_{SP} : $\llbracket I \rrbracket := v_{SP}$. This parameter is always assigned a value by external context C . Its reference never shifts. An expression like English *alas!*, in contrast, expresses regret by the currently understood speaker. If *alas!* is used in indirect or free indirect discourse, we understand that the thinking protagonist is expressing her regret, not the narrator. Hence, $\llbracket alas S \rrbracket := \text{REGRET}(v_{sp}, \llbracket S \rrbracket)$ is a suitable semantic interpretation for this word.

Given suitable semantic entries for words and expressions of English, this system can successfully be used to compute the correct and intended propositional content of sentences in both direct and (free) indirect speech (see Eckardt 2012, 2014). Specifically, tenses and pronouns are always interpreted from the narrator's perspective. Hence, their meaning must be captured in terms of non-shiftable indexical parameters $v_{SP}, v_{AD}, v_{NOW}, v_{HERE} \dots$

The analysis shares basic mechanisms with Schlenker's (2004) distinction of contexts of utterance v and contexts of thought θ . Likewise, there are similarities to Sharvit's (2008) system of two-context interpretation. Unlike these systems, however, the present set-up allows us for each semantic entry to read its indexicality properties off its sleeves. In the next section, I will discuss how information update must proceed in such a multi-dimensional system of semantic interpretation.

3.2 *Updating Free Indirect Discourse*

I use of Stalnaker's (1978; 2002) notion of common ground update in order to model the content of stories. Given that we will mainly be concerned with story interpretation where the flow of information is unidirectional from author/narrator to reader, we will base our consideration on the beliefs of the addressee AD . The addressee interprets language—be it utterance or story sentences—against a certain background. Informative discourse updates the addressee's beliefs, whereas a story is interpreted against the set of possible worlds that the story could plausibly be about. In all cases, the addressee maintains the relevant set of possible worlds CG_n that represents his current information state or fiction content. After parsing sentence S_n in discourse, the addressee will

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have computed a proposition p as the denotation of S_n . Under normal circumstances where the speaker is trustworthy and the content of S_n is plausible, the addressee will update her beliefs by p . This happens by intersecting CG_n with p .

$$CG(AD)_{n+1} := CG(AD)_n \cap p$$

This classical notion of information update is designed to work in ordinary utterance situations where there is just one speaker (be it the “true” interlocutor or a narrator in a story). In terms of the semantic formalism in the previous section, this update yields correct results whenever a sentence was interpreted in the $\llbracket \cdot \rrbracket^C$ mode, relative to one single context C where $C(SP)$ relates news to $C(AD)$. However, the form of update changes when the addressee interprets a sentence relative to two contexts $\langle C, d \rangle$. Let us look at an example.

(27) Tom sighed. Alas, he was the smallest pupil in class!

The first sentence is part of the frame story, told by an narrator to some reader. It has to be interpreted in the $\llbracket \cdot \rrbracket^C$ mode of interpretation and will yield the proposition

$$p = \{w \mid w \text{ is world where } \text{SIGH}(w, \text{Tom}, \text{NOW}) \text{ is true in } C\}$$

The second sentence must be interpreted in the $\llbracket \cdot \rrbracket^{(C,d)}$ mode of interpretation with $d =$ context where Tom talks to himself. The pronoun *he* is interpreted relative to C . The third person feature ensures that the referent of *he* is not identical to $C(v_{sp})$. Given that Tom is not the narrating instance, this requirement is met when *he* refers to Tom. The phrase *be the smallest pupil in class* is not dependent on context and hence unproblematic. Past tense is interpreted relative to $C(v_{NOW})$, which means that Tom’s state of being small held before the time of utterance. Finally *Alas!* reports that *sp* regrets the content of the host clause “*Tom is the smallest in class at some time before now*”. In $\langle C, d \rangle$ mode, the parameter *sp* is instantiated by d . The context d represents the utterance situation that is part of the story. Hence, $d(v_{sp}) = \text{Tom}$. Overall, the second sentence denotes the following information package:

$$\begin{aligned} q &= \text{‘Tom was the smallest in class’} \\ r &= \text{‘Tom regretted } q \text{’} \end{aligned}$$

Yet, the propositional content of the sentence is not all there is in the story at this point. When the reader interprets the second sentence as part of the story in (27), she will understand that q, r are the content of Tom's thoughts. Her careful information update will hence be

$$p \cap \{w \mid \text{in } w, \text{THINK}(w, \text{Tom}, q \wedge r) \text{ holds true}\}$$

Only if she decides that the protagonist Tom is moreover trustworthy will she enrich her information base by assuming, in addition, that the content of Tom's thoughts is true in the story.

$$p \cap \{w \mid \text{in } w, \text{THINK}(w, \text{Tom}, q \wedge r) \text{ holds true}\} \cap (q \wedge r)$$

In summary, if a sentence S is interpreted in the direct mode $\llbracket S \rrbracket^C = q$, this leads the addressee to update her beliefs by q . If a sentence S is interpreted in the indirect mode $\llbracket S \rrbracket^{(C,d)} = r$, this leads the addressee to update her beliefs by the proposition ' $d(v_{sp})$ thinks/ says r '. The resulting theory of information update extends Stalnaker's original account in that the content of update depends on the mode of interpretation.

One might object that the content of sentences should not depend on our mode of interpretation. An alternative analysis could assume that the "thinking" must be represented in some way at LF, for instance by an operator that makes it clear who utters S , and towards whom. The analysis by Sharvit (2008) offers an implementation of this idea. Schematically, we could propose the following LF.

(28) Tom sighed. *OP* (Alas, he was the smallest pupil in class!)

We might assume that *OP* (Alas, he was the smallest pupil in class!) is interpreted relative to C and only *OP* effects a context shift from C to $\langle C, d \rangle$. We could then use *OP* in some way or other to not only code the locus of context shift, but also to contribute the information that it is $d(sp)$ who thinks *Alas, he was the smallest pupil in class*. This strategy makes the speech act as well as the speaker explicit at the syntax-semantics interface.

However, we will see that this option leads into wrong predictions about the use of vocatives and other addressee-oriented parts of sentences in indirect speech. This will be discussed in section 4.2. where I argue that the analysis *without* an extra operator is the only feasible one.

3.3 Modes of Indirect Discourse

The framework in section 3.1. was introduced on basis of examples in free indirect discourse. This mode of writing depends particularly on the use of shifting indexicals in order to give clues about the (intended) speaker of the passage. However, the ban on vocative is more far-reaching than free indirect discourse. Vocatives are prohibited in all modes of indirect speech in both German and English. If we want to use the framework in section 3.1. to account for this fact, we should briefly check whether it is suited to model indirect speech in general. While the present paper is too limited to offer a full discussion of indirect speech, I will use the present section to sketch how such an analysis can look like. In section 4, we turn to the analysis of vocatives in terms of context dependency and explain the ban. Readers who are willing to take a full analysis of indirect speech for granted can move on to section 4 without losses.

The survey of modes of indirect speech starts from German. German possesses two forms of indirect discourse. So-called “erlebte Rede” is presented in the indicative mood. Indexicals show the typical patterns of indirect speech. All tense and aspect forms refer to the narrator’s “now” = $C(v_{NOW})$, and likewise all pronouns. For instance, *ich* refers to the narrator $C(v_{SP})$ and *Du* to the addressee $C(v_{AD})$ like in direct speech. Shiftable indexicals, however, are interpreted relative to the internal context of thought d , i.e. relative to the thinking protagonist $d(v_{SP})$. Among these are temporal adverbials (*gestern, morgen*), expressives (*glücklicherweise, leider*), modal particles (*ja, wohl*), expressive constructions (exclamatives, optatives), and questions. Hence, the meanings of all these must be analyzed in terms of v_{SP}, v_{AD}, v_{NOW} etc. to allow the internal context of thought d to instantiate the respective parameter. All shiftable speaker-oriented expressions shift together, and to the same context of thought.

The second major mode of indirect discourse in German is indicated by the use of subjunctive mood. It can occur in embedded clauses but also in free clauses, as illustrated below.

(29) *Peter sagte, er sei krank.*
Peter said, he be.SUBJ ill

(30) *Peter lehnte ab. Er sei krank. Er habe Fieber.*
Peter refused. He be.SUBJ ill. He have.SUBJ fever

In the unembedded case, we typically understand that the protagonist is talking loudly to himself or others. Under verbs of propositional attitude, however, subjunctive sentences can report both speech and thought. All indirect discourse in the subjunctive must be interpreted relative to two contexts $\langle C, d \rangle$.

Again, pronouns are interpreted relative to the external context C . For instance, *er* in (29) shows third person features. This indicates that the referent of *er* is different from $C(v_{sp})$, the speaker of the external context. It doesn't indicate that *er* is different from the talking protagonist—indeed, *er* in (29) and (30) does refer to Peter.

Tense and aspect in the subjunctive mood follow their own paradigms. They can not be simply equated with the morphologically related indicative forms. Their semantics can best be captured if we understand them as tense/aspect forms that refer to the protagonist's speech time v_{now} instead of the narrator's speech time v_{NOW} . In essence, subjunctive forms code three temporal relations between v_{now} and the event time:

- (31) **Co-temporality:** Event and speech time v_{now} overlap.
Forms: subjunctive I or II of main verb
 a. Peter sagte, er fühle sich schlecht.
 Peter said he feel.SUBJ.I himself sick.
 b. Peter sagte, er würde sich schlecht fühlen.
 Peter said he feel.SUBJ.II himself sick.
Meaning: time of saying, and time of sickness overlap.
- (32) **Anteriority:** Event occurred before speech time v_{now} .
Forms: subjunctive I or II of auxiliary, + past participle
 a. Peter sagte, er habe sich schlecht gefühlt.
 Peter said he have.SUBJ.I himself sick felt
 b. Peter sagte, er hätte sich schlecht gefühlt.
 Peter said he have.SUBJ.II himself sick felt.
Meaning: time of sickness is before time of saying.
- (33) **Futurity:** Event occurs after speech time v_{now} .
Forms: subjunctive I of *werden* + infinitive⁷
 Peter sagte, er werde sich schlecht fühlen.
 Peter said he become.SUBJ.I himself sick feel
Meaning: time of (expected) sickness is after time of saying.

7 In fact, the form *würde* + infinitive also occurs in a future sense. At this point, the co-temporality paradigm and the futurity paradigm overlap. I simplify the system for the present purposes.

The observations carry over to non-embedded indirect speech in the subjunctive. Data strongly suggest that subjunctive mood forms denote temporal relations between event time $\tau(e)$ and the protagonist's speech time v_{now} . I won't develop a full-fledged tense-aspect system here; a first attempt at a working system can be found in Eckardt (2014:chapter 9).

We will assume that all passages of indirect discourse can be interpreted relative to a pair of contexts $\langle C, d \rangle$ that manage non-shiftable and shiftable indexicals. Subjunctive mood in German necessitates this shift, whereas the indicative leaves it optional. Interpretation moves from single-context interpretation $[\cdot]^C$ to double-context interpretation $[\cdot]^{\langle C, d \rangle}$ whenever the content of a sentence S or passage in the text suggests this. Beyond mood, a shift can be indicated by temporal adverbs and speaker-oriented constructions that would create implausible content, if interpreted relative to the narrator's context (see e.g. Banfield 1978; Fludernik 1993 for comprehensive lists of indicators). Shift can also be lexically triggered when sentences are embedded under verbs of saying or thinking, mostly when the embedded sentence moreover is in subjunctive mood. However, I do not assume a syntactic operator **OP** that effects the shift.

In practice, the distinction between indirect speech and reported propositional attitude content can be vague, but I will restrict attention to clear cases in the course of this paper. My assessment of data is in line with the study by Fabricius Hansen & Sæbø (2004). However, they propose to capture shifting indexicals by an elaborate mechanism of presuppositions and anaphoric references in discourse and do not make systematic use of Kaplanian contexts. While I agree with their assumption that internal contexts d are eventually anaphorically linked to the preceding story, the mechanics of context dependency that are proposed here differ substantially from Fabricius Hansen & Sæbø's more conservative account.

In English, (free) indirect discourse can not make use of subjunctive to indicate context shift. Following Schlenker (2004), Sharvit (2008) and others, we will assume that English sentences in the indicative can be understood as utterances by a protagonist. In such cases, they will—like German *erlebte Rede*—be interpreted relative to two contexts $\langle C, d \rangle$ and understood as the mental content of protagonist $d(v_{sp})$. This can happen in embedded as well as non-embedded clauses, as illustrated below. I use brackets to informally indicate the span of $\langle C, d \rangle$ interpretation.

- (34) Tom sighed. [Tomorrow was Christmas, alas!] ^{$\langle C, d \rangle$}
 [Luckily, tomorrow was a holiday] ^{$\langle C, d \rangle$} , Tom remarked.

Complements of verbs of saying can in principle be interpreted in the C mode or in the $\langle C, d \rangle$ mode. In the following example, the temporal adverb tomorrow consequentially can be interpreted as “Tom’s tomorrow” or “the narrator’s tomorrow”.

- (35) a. Tom said [I was invited tomorrow.] ^{$\langle C, d \rangle$}
 = Tom’s tomorrow
 b. [Tom said I was invited tomorrow] ^{C}
 = speaker’s tomorrow; time of state of being-invited = speaker’s past
 (state of being invited plausibly extends to speech time v_{NOW})
 b. [Tom said I am invited tomorrow] ^{C}
 = speaker’s tomorrow; time of being-invited = speaker’s present

A comprehensive treatment of English embedded speech in terms of the present framework must include a detailed comparison with theories of sequence-of-tense phenomena in embedded sentences (see Abusch 1997; Ogihara 1995, 2007; von Stechow 2008; Stowell 2007) which I can not provide here. The following discussion will tentatively include examples like those in (35).

In this section, I presented a general framework to interpret indirect discourse. I proposed how the propositional content of sentences in indirect discourse add to our information state by information update. Finally, I outlined how $\langle C, d \rangle$ interpretation is tied to various grammatical forms of indicating indirect speech in German and English. In the next section we return to the meaning of vocatives and investigate them in the present semantic framework of indirect speech.

4 The Content of Vocative Phrases

The present section revises the generalized Predelli semantics of vocative phrases that was given in Section 2.2. Vocative phrases take their host clause S as argument. They relate to the external context C and state that the intended addressee is the named person or has the named properties. Moreover, they express that the literal content of S is the intended message from the speaker in C to the addressee in C . This constellation is trivially met in direct modes of speech. In indirect modes of speech, however, the same requirement is necessarily violated. The formal implementation is presented in 4.1. Section 4.2. combines this new semantics with sentence meanings in indirect discourse. The analysis correctly predicts that vocatives are prohibited in indirect discourse.

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4.1 *The Logical Type of VocP and Voc⁰*

Let us return to some examples where the vocative is used in direct speech.

(36) Ede, the champaign has been served.

(37) Ede, where is the pizza?

(38) Ede, have some more wine!

More than in the case of assertions (36), we see in (37) and (38) that the presence of Ede as the addressee of the utterance has consequences for Ede's behavior—or at least for the behavior that the speaker expects. The vocative in (37) ensures that Ede is the addressee in utterance context C_{37} . As a consequence, the speaker expects Ede to react to his utterance and provide an answer to the question. In (38), the speaker states that Ede is the indented addressee. He expects that Ede reacts to the request and takes some more wine. In the assertion case in (36), the speaker's expectation is least pronounced. Yet, an assertion is made by the speaker with the expectation that the Ede will update his belief state by the propositional content of the host clause *that the champaign has been served*.

I will adopt two new relations $\text{MESSAGE}_{a/q}$. MESSAGE_a is designed for the use of vocatives with assertions, and is of type $\langle e, \langle e, \langle \langle s, t \rangle, t \rangle \rangle \rangle$. MESSAGE_q is designed for the use of vocatives with questions, and is of type $\langle e, \langle e, \langle \langle \langle s, t \rangle, t \rangle, t \rangle \rangle \rangle$. MESSAGE are assumed to obey the following restrictions:

- (i) For humans A, B , and propositions p :
 $\text{MESSAGE}_a(A, B, p)$ is true in context C iff $A = C(v_{SP})$ and $B = C(v_{AD})$ and A intends for B to take message p and act accordingly.
- (ii) For humans A, B , sets of propositions Q and contexts C :
 $\text{MESSAGE}_q(A, B, Q)$ is true in context C iff $A = C(v_{SP})$ and $B = C(v_{AD})$ and A intends for B to acknowledge question Q and act accordingly.

I will subsume imperatives as a special case of assertion, following M. Kaufmann's (2012) assumption that imperatives denote a specific kind of modal proposition. Depending on the reader's favorite ontology of speech acts, more objects that serve as messages could be added. Yet, the present proposal is not intended as a comprehensive model of linguistic messages and the way we can react to them. What I do intend to model, however, is the fact that every speaker, in every utterance, has the intention that the addressee perceives and

deciphers the message and reacts in an appropriate manner. This is what MESSAGE is supposed to state.⁸

Let us return to the semantic content of vocatives. In section 2.2, I presented the generalized Predelli semantics of vocatives which, in the present notation, can be rephrased as follows.

(39) **Predelli semantics, old version**

- a. $\llbracket VocP \rrbracket = \llbracket NP \rrbracket(\llbracket you \rrbracket)$
 $= \Phi(v_{AD})$, where Φ is the term denoted by NP.
 b. $\llbracket [VocP S]_S \rrbracket = [assert\llbracket S \rrbracket; presuppose\llbracket VocP \rrbracket]$

The content of VocP consisted in a simple proposition. It didn't reflect the fact that the VocP serves to modify a sentential argument.⁹ This is what we need to revise when we want to analyze vocatives as expressions of speaker intentions about the content of S. The following definition captures this idea.¹⁰

(40) **Revised semantics of vocatives**

- $Voc^0 = \{you_{voc}, \emptyset\text{-}you\}$
 $\llbracket you_{voc} \rrbracket := \lambda P_{\langle e,t \rangle} \lambda q_{\langle s,t \rangle} [q; P(v_{AD}) \wedge MESSAGE_a(v_{SP}, v_{AD}, q)]$
 $\llbracket \emptyset\text{-}you \rrbracket := \lambda P_{\langle e,t \rangle} \lambda q_{\langle s,t \rangle} [q; P(v_{AD}) \wedge MESSAGE_a(v_{SP}, v_{AD}, q)]$

(40) assumes that the head of the vocative phrase Voc^0 expects as its first argument $P_{\langle e,t \rangle}$ the meaning of its noun complement. Moreover, it takes an argument $q_{\langle s,t \rangle}$ that is provided by the host clause. The following example illustrates semantic composition.

8 One refinement might be necessary in the long run. Our MESSAGE relation does not depend on time. A more precise version should include v_{NOW} as a further argument. This ensures that the speaker has an intention at the correct time. I omitted this step in order to improve legibility.

9 I will restrict the discussion to the case of assertions. The respective definitions for the case of questions can easily be added.

10 I maintain the two-dimensional representation of contents as [asserted content; additional content]. As indicated in section 1, the additional content of vocatives, like other indexicals, should best be classed as conventional implicature in the sense of Potts (2005). The notation leaves this aspect underspecified.

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- (41) [_{VocP} [_{Voc0} \emptyset -you] dear [$\lambda x_e \lambda y_e (x = y) \text{Ede}$]], *the champaign has been served*.
- (i) $\llbracket \emptyset\text{-you} \rrbracket^C = \lambda P_{\langle e,t \rangle} \lambda q_{\langle s,t \rangle} [q; P(C(v_{AD})) \wedge \text{MESSAGE}_a(C(v_{SP}), C(v_{AD}), q)]$
- (ii) $\llbracket \text{dear} \rrbracket^C [\lambda x_e \lambda y_e (x = y) \text{Ede}] = \lambda y_e (\text{Ede} = y_e \wedge \text{DEAR}(\text{Ede}))$
- (i)+(ii): $\lambda q_{\langle s,t \rangle} [q; \text{Ede} = C(v_{AD}) \wedge \text{DEAR}(\text{Ede}) \wedge \text{MESSAGE}_a(C(v_{SP}), C(v_{AD}), q)]$
- (iii) $\llbracket \text{the champaign has been served} \rrbracket^C = \lambda w. [\text{CHAMPAIGN-SERVED in } w]$
- ((i)+(ii)+(iii)) [assertion: $\lambda w. [\text{CHAMPAIGN-SERVED in } w]$; commentary: $\text{Ede} = C(v_{AD}) \wedge \text{DEAR}(\text{Ede}) \wedge \text{MESSAGE}_a(C(v_{SP}), \text{Ede}, \lambda w. [\text{CHAMPAIGN-SERVED in } w])$]

This captures that the speaker in C expects to have the addressee **Ede**, and that he wants **Ede** to believe that they are in a world where the champaign has been served. I left reference to utterance time to be spelled out. The context C will eventually specify *when* the speaker wants to inform **Ede**, that the champaign was served before the utterance time of C , and that the result—champaign in the glass of **Ede**—still holds.

In the next section, we will see how this meaning excludes vocatives from indirect discourse.

4.2 Deriving the Ban

Let us first take a look at an example of embedded speech. We don't have an explicit framework to treat embedded speech, but the particulars of embedded speech are orthogonal to the present analysis.

- (42) *Luigi said that, **Ede**, the pizza was ready.

I assume that **Ede** is syntactically analyzed as part of the embedded clause. The denotation of the embedded clause **Ede**, the pizza was ready is given in (43).

- (43) [$\lambda w. \text{PIZZA-READY}(w)$;
 $\text{Ede} = C(v_{AD}) \wedge \text{MESSAGE}_a(C(v_{SP}), \text{Ede}, \lambda w. [\text{PIZZA-READY in } w])$]

Commentary content is propagated from embedded levels to the matrix level (Potts 2005), whereas the asserted content can feed higher operators, such as the matrix verb. Therefore, the denotation of (41) is the following.

- (44) [$\lambda w. \text{SAY}(\text{Luigi}, w', \lambda w. \text{PIZZA-READY}(w))$;
 $\text{Ede} = C(v_{AD}) \wedge \text{MESSAGE}_a(C(v_{SP}), \text{Ede}, \lambda w. [\text{PIZZA-READY in } w])$]

The asserted content describes an utterance by Luigi, addressed to Ede. If the vocative was interpreted relative to this context, its content would be appropriate. According to our analysis, however, the external context C specifies the parameters of the vocative. The commentary content in (44) hence states that **Ede** is the addressee in C , and that the speaker in C aims to literally convey to Ede the message that the pizza is ready. This content can fail to be met for various reasons. If (42) is uttered to someone who is not **Ede**, the commentary content is not met. But if (42) happens to be uttered to **Ede**, the commentary likewise fails to hold. The utterance in C literally informs the addressee that Luigi said something to Ede, not that the pizza is ready. Therefore our enriched content of the Vocative predicts that (42) is ill-formed in this case as well. Obviously, this prediction hinges on the lexical content of MESSAGE_a . It must narrowly capture the intention behind the assertion. The property should not extend to indirect ways in which a speaker can inform the hearer by making an utterance, such as when Caroline tells Ede “Luigi said that the pizza was ready” with the serious intention to let Ede know that the pizza is ready. In such cases, the information is conveyed indirectly as an entailment of the utterance (plus world knowledge that Luigi is a reliable source of information regarding pizza). Such indirect acts of informing are not covered by MESSAGE_a .

I will leave it at this preliminary paraphrase of the content of MESSAGE_a . A more detailed investigation of the intentions behind the act of asserting is beyond the limits of this paper, and probably a topic that requires input from more disciplines such as psychology and evolutionary anthropology. Let us instead turn to the use of vocatives in free indirect discourse. Consider first the appropriate case of free indirect discourse in (45) with the underlined sentence embedded in a story.

- (45) Luigi waved at his favorite guest. The pizza was ready. Did Ede want to taste it?

The most natural interpretation of the underlined sentence is one in $\langle C, d \rangle$ with internal context d where Luigi talks to Ede. If we include a vocative, the example becomes ungrammatical.

- (46) Luigi waved at his guest. *Ede, the pizza was ready.

In this case, there is no matrix clause that contributes to the denotation of the underlined sentence. We will make use of the assumed update content of free indirect discourse, discussed in Section 3. This is the meaning of (46) according to the present analysis.

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- a. $\llbracket [\emptyset\text{-you Ede}]_{\text{VocP}} [\text{the pizza was ready}]_S \rrbracket^{(C,d)}$
 $= \llbracket [\emptyset\text{-you Ede}]_{\text{VocP}} \rrbracket^{(C,d)} \oplus \llbracket [\text{the pizza was ready}]_S \rrbracket^{(C,d)}$
- b. $\llbracket [\text{the pizza was ready}]_S \rrbracket^{(C,d)}$
 $= [\lambda w. \exists e(\text{DONE}(\text{PIZZA}, e, w) \wedge \tau(e) < v_{\text{NOW}}); -] \text{ in } \langle C, d \rangle$
- c. $\llbracket [\emptyset\text{-you Ede}]_{\text{VocP}} \rrbracket^{(C,d)}$
 $= \llbracket [\emptyset\text{-you}] \rrbracket^{(C,d)} (\llbracket [\text{Ede}]_{\text{Voc}} \rrbracket^{(C,d)})$
 $= \lambda P_{\langle e,t \rangle} \lambda q_{\langle s,t \rangle} [q; P(v_{AD}) \wedge \text{MESSAGE}(v_{SP}, v_{AD}, q)] (\lambda y. y = \text{Ede})$
 $= \lambda q_{\langle s,t \rangle} [q; (v_{AD} = \text{Ede}) \wedge \text{MESSAGE}(v_{SP}, v_{AD}, q)] \text{ in } \langle C, d \rangle$
- d. $\llbracket [\text{VocP S}] \rrbracket^{(C,d)}$
 $= \lambda q_{\langle s,t \rangle} [q; (v_{AD} = \text{Ede}) \wedge \text{MESSAGE}(v_{SP}, v_{AD}, q)]$
 combined with
 $[\lambda w. \exists e(\text{DONE}(\text{PIZZA}, e, w) \wedge \tau(e) < v_{\text{NOW}}); -]$

With Potts, we assume that only the asserted part of content contributes to the meaning of higher operators. The commentary contents are projected upward. This is the result.

$$(47) [\lambda w. \exists e(\text{DONE}(\text{PIZZA}, e, w) \wedge \tau(e) < v_{\text{NOW}}); \\ (v_{AD} = \text{Ede}) \wedge \text{MESSAGE}_a(v_{SP}, v_{AD}, \lambda w. \exists e(\text{DONE}(\text{PIZZA}, e, w) \wedge \tau(e) < v_{\text{NOW}}))] \text{ in } \langle C, d \rangle$$

An update of the common ground with (47) takes into account that the passage was in free indirect discourse. Hence, the update is not by The pizza is ready but by the following information.¹¹

$$(48) d(v_{sp}) \text{ thought/said that THE-PIZZA-IS-DONE at } d(v_{now}) \\ d(v_{sp}) = \text{Luigi}, d(v_{now}) = \text{reference time of the story}$$

By uttering or writing (46) in the given context, $C(v_{sp})$ literally conveys to $C(v_{AD})$ the proposition in (48). Like in the earlier example, we can show that the commentary content of (46) is never met. If (46) is uttered in a context C where the reader/addressee is not **Ede**, then the commentary content in (47)

¹¹ Note that the analysis of FID presented here does not include treatment of tense in FID in English. The proposition in (48) assumes that the morphological past in (46) is resolved as a concealed present (Stowell 2007) or omitted (Ogihara 1995, 2007).

fails to hold true. Likewise, if Ede happens to read the sentence in (46), the author of (46) does not literally inform Ede that the pizza is ready, but makes the assertion in (48). Therefore, as in the earlier example, the content of the vocative can never be true in any utterance context C of (46). This explains why vocatives are not permitted in free indirect discourse.

The present semantics of vocatives, combined with a specific proposal how to interpret indirect discourse, offers the basis to explain the observations that we started from. It was crucial to assume that free indirect discourse is a mode of semantic interpretation that influences the way in which a sentence updates the common ground. In Section 3, a potential alternative account was briefly mentioned under the term “traditionalist view”. The traditionalist view attributes the enriched update to an operator **OP** at LF that changes the message from p to ‘ v_{sp} thinks that p ’. Does this analysis offer a viable alternative for our case?

If we make use of an indirect speech operator **OP** at LF, our example has the following structure at LF.

(49) [[\emptyset -you Ede]_{VocP} [**OP** [*the pizza is ready*]_S]_{XP}]

The constituent labeled **XP** serves as the argument of the vocative phrase and contributes the proposition for belief update: ‘ v_{sp} says that the pizza is ready’. Given the internal context d in the example, this is instantiated to ‘Luigi says that the pizza is ready’. This yields a fully coherent content for the vocative: The sentence commented on is **XP**. **XP** triggers an update with ‘Luigi says that the pizza is ready’. The vocative states that the content of **XP** is the intended message by the speaker to Ede. Which it is—this is the content of the common ground update triggered by the utterance, according to this analysis. Hence, this type of analysis predicts that vocatives in indirect discourse should be permitted. I do not see any simple way out of this false prediction of an **OP** based analysis.¹²

5 Summary and Outlook

The present paper investigated the semantics of vocatives, including the observation that vocatives can not be used in indirect discourse. I proposed a simple

¹² The alternative structure with wide scope **OP** will yield the obviously impossible reading that a protagonist in the story believes that the speaker is presently talking to Ede.

syntactic backbone for vocative phrases and recast the vocative analysis by Predelli (2008) in terms of this syntax-semantics interface. The resulting analysis wrongly predicted that vocatives in certain kinds of indirect discourse should be possible. This prediction followed generally, without making use of specific assumptions about the meaning of indirect discourse. Section 3 introduced a specific framework for the interpretation of indirect discourse that rests on two contexts $\langle C, d \rangle$. I sketched the treatment of shiftable and rigid indexicals as well as the information update that takes place in this mode of writing and reading. The framework covers the fact that rigid indexicals like *I* and *you* can be used in indirect discourse. The reason for the ban on vocatives hence can not be a general ban on the use of *you*. In Section 4, I proposed that vocatives not only specify the addressee but moreover express that the content of the sentence is intended as a message from the speaker to that addressee. This second part of the meaning of vocatives is more or less redundant in direct speech. In indirect speech, however, the propositional content of the sentence is no longer the message that the author conveys to the addressee. Hence, there is a systematic mismatch between the message sent, and the message commented on in the vocative. Therefore, vocatives can not be used in indirect discourse.

There are a few other constructions that cannot be rendered in this mode (Banfield 1978). Most prominently, free indirect speech and thought can not contain sentences in the imperative mood. This poses a challenge for theories of the imperative that are based on propositions. Many semantic analyses assume that imperatives denote properties that are attributed to the addressee v_{AD} . An imperative like *Come!* yields the proposition $\lambda w.COME(v_{AD}, w)$ that describes what the addressee should make true. According to such theories, the meaning of imperatives is addressee-oriented in a similar way as the vocative. We could propose that the imperative mood, like the vocative, contains a second meaning component that states that the message sent is intended as a message for the person addressed, at the time of sending the message. Searle's analysis of speech acts anticipates this component in terms of the "essential condition" that ensures that the speaker actually wants to perform the act in question by making the utterance. The essential condition of an imperative could be coded as a COMMAND relation between v_{SP} and v_{AD} in analogy to the MESSAGE relation for assertions. Again, this relation ensures that imperatives in embedded speech are prohibited. Indirect speech offers an interesting and promising testing ground for speech act related parts of meaning that elsewhere evade detailed analyses.

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