The parameters of
indirect speech

Regine Eckardt
Konstanz

Abstract: The language of indirect speech refers to two contexts in parallel: The real utterance context and the context of the utterance reported. The article analyzes how indexicals, tense, speaker oriented emotives and other items are interpreted in indirect speech.

1. Indirect speech

Indirect speech is the mode of speech we use when we want to report what another person said. Imagine that Anna is calling her friend Zelda.

(1)   Anna: *I have arrived at Rome. Luckily the weather is nice.*

Zelda can later report the phone call by using indirect speech.

(2)   Zelda: *Anna said that she had arrived at Rome, and that luckily, the weather was nice.*

The indirect speech report differs from the original wording in several ways. The *pronouns* in (1) are chosen from Anna's perspective whereas pronouns in (2) are chosen from Zelda's: Anna uses *I* to refer to herself, Zelda must use *she*. Likewise the *verb* forms differ. For instance, Anna uses present tense *the weather is (nice)* to refer to the current weather whereas Zelda's report uses *the weather was (nice)*. Finally, indirect speech in (2) is embedded under a matrix clause *Anna said (that…)* whereas direct speech in (1) is not. When talking about indirect speech in the following, I will use the term *narrator* to refer to the speaker who is reporting (i.e., Zelda in (2)) and *protagonist* for the person who's utterance is being reported (i.e., Anna in (2)).

While changed pronouns and verb forms indicate indirect speech in (2), none of them is a necessary feature. Anna reports on the phone call in (1) as in (3).

(3)   Anna: *I said that I had arrived at Rome.*

The choice of pronouns is the same as in direct speech but the verb's tense is changed. If Zelda simultaneously phones and reports to her husband next door, she could say

(4)   Zelda: *Anna says that she has arrived at Rome and that luckily, the weather is nice.*

Likewise the presence of a matrix clause is optional. Zelda can report Anna's utterance as in (5), using so-called free indirect speech.

(5)   Zelda: *Anna called yesterday. She was quite talkative, actually. She had arrived at Rome; luckily the weather was nice …*

We still understand (5) as conveying Anna's utterance. Indirect speech thus seems to be a matter of interpretation, an essentially semantic phenomenon. The present article investigates how sentences in indirect speech can be interpreted in formal semantics.

Different languages use different grammatical clues to indicate indirect speech. In English, the main indicators are *pronouns* and *verb forms*. You might guess that the verb's tenses in (2) are chosen by the narrator Zelda, just like the pronouns. However linguists argue that tense morphemes in English indirect speech are semantically *void*, and we peruse their arguments in section 6. Other languages work differently. Hebrew maintains the tense of the original utterance in indirect speech, as illustrated in (6) (Sharvit 2008: 357).

(6)   *Ken, hi le-lo   safek ohevet et Dan   (, xaSva   Mari).*
        Yes, she definitely <u>love-PRES</u> ACC Dan   think-PAST   Mary
        'Yes, she definitely <u>loved</u> Dan, thought Mary.'

Hebrew uses the present tense of the verb *love* (just like the original thought "I love Dan") whereas English should have *loved,* as shown in the translation. Russian exhibits the same pattern (Sharvit 2008). German provides a special verb paradigm that serves to indicate indirect speech, the *German reportative subjunctive* RS (called *Konjunktiv* in German grammars). This is illustrated in (7)/(8).

(7)   Anna: *Ich bin jetzt in Rom. Gottseidank   regnet es   nicht.*
               I   am now in   Rome. Thank.God   rains   it   not.
        'I am in Rome now. Thank God it doesn't rain.'
(8)   Zelda: *Anna sagte,   dass sie jetzt in   Rom sei.*
        Zelda: Anna say;PAST that she now   in   Rome be-RSUBJ
        Gottseidank   regne   es   nicht.
        Thank God   rain;RS   it   not
        'Zelda: Anna said that she was in Rome now. Thank God it didn't rain.'

GRS marks indirect speech consistently in the verb forms. This makes it particularly suited to investigate indirect speech and it will be used as our model case in sections 4 and 5.

Apart from tense, mood and pronouns, certain indexicals and speaker-oriented expressions, such as emotives, deserve special attention. Consider the meaning of emotive *luckily* and *Gottseidank* in the examples above. In direct speech (1), Anna is the speaker and *luckily* expresses her relief. If Zelda were to utter (1), then *luckily* would express Zelda's relief. Yet, in indirect speech as in (2), (4), (5) and (8), *luckily* / *Gottseidank* do not express Zelda's relief; instead, the emotives still express that Anna is relieved. This is intuitively plausible but it challenges our earlier observation that *Anna* was the speaker in charge in (1) whereas *Zelda* counted as the speaker in charge in indirect speech (2). We will thus have to take a closer look at the way in which *narrator* and *protagonist* are tied to the content of the sentence. Similar observations can be made for temporal expressions (*tomorrow, yesterday*) and locatives (*here,*

nearby). Personal taste predicates likewise can reflect speakers' judgements but will be left aside here (Lasersohn 2005, Stephenson 2007). In summary, the following factors deserve special attention in our exploration of indirect speech:

- pronouns and reference
- tense and reference to time
- other indexicals (emotives, attitudes, temporals, locals)
- subjunctive mood

The article presents a semantic analysis of indirect speech where indirect speech is interpreted relative to two contexts: the narrator's context C and the protagonist's context d. We will proceed in a compositional manner, which means that the meaning of sentences is built up systematically from the meanings of its parts. We will treat English and German pronouns, emotives, attitude expressions, temporal and local adverbials. We will also explore tense in indirect speech by investigating the German subjunctive paradigm, comparing it to the somewhat less transparent grammar of tenses in indirect speech in English.

The article is organized as follows: section 2 discusses utterance context as a factor in semantic interpretation. Indirect speech is characterized by the fact that two utterances – the narrator's and the protagonist's – are bracketed in one sentence, and different types of context-relating expressions play out differently in indirect speech. Section 3 recapitulates some basic ideas about time and tense in natural language before we take a closer look at a particularly orderly system of tenses in indirect speech, the German Reportative Subjunctive RS, in section 4. Section 5 discusses the semantic links between matrix clause and embedded clause in indirect speech. Section 6 explores the use of tense in indirect speech in English. Interpretation of tense appears only minimally restricted in indirect speech but a much clearer pattern emerges when grammar is used as a perspectivizing device in free indirect discourse. Finally, a remark on the balance between data and formal theory. Sections 2, 4 and 5 are each divided into an empirical part and a formal part that spells out the proposed analysis in terms of truth conditional semantics. The formal parts require working knowledge in compositional semantics as provided in Heim & Kratzer (1998), Portner (2005) or Zimmermann & Sternefeld (2013), see also *Compositionality* (this vol.). Novice readers may want to skip these on first reading.

2.   Context dependence

2.1   Two kinds of indexicals

Indexicals are words and expressions that depend on utterance context in their meaning. For instance, the pronoun *I* always denotes the speaker in the utterance context, the pronoun *here* always denotes the place of utterance, and similarly for pronouns like *you, they, we,* or *now*. The utterance context determines speaker, addressee, location and time of the utterance which determine the meaning of these words. Pronouns are usually given as first examples for indexicals but you can find many more context-dependent expressions, once you start thinking about it. Temporal adverbs such as *today, tomorrow, soon, earlier, recently* actually mean *today = the day of the utterance, soon = not much later than the time of utterance, earlier = at some time before the utterance* and so on. Likewise, local expressions such as *nearby,*

far away should be interpreted as *nearby / far away from the place of utterance.* More strikingly are emotive adverbs such as *luckily, sadly* or expressives *oh boy!, man! thank God!* which convey emotions and reactions by the *speaker of the utterance.* Finally, there are particles that refer to the *addressee* of the utterance (Zimmermann 2011). In summary, languages contain a wide range of expressions that refer to the parameters of the context of utterance.

In plain speech and writing there is just one utterance we have to take into account. Matters get more complicated when the narrator's utterance as well as the protagonist's utterance come into play in indirect speech.

(9)   Anna: *Luckily I will meet you tomorrow.*

(10)   Zelda (reporting): *Anna said that luckily, she would meet me tomorrow/the next day.*

Sentence (9) refers to Anna's utterance context. The speaker Anna expresses relief, and the meaning of *tomorrow* can be paraphrased as *the day after the utterance context.* Two contexts come into play in (10), namely the *narrator's context C* where Zelda is speaking and the *protagonist's context d* where Anna is speaking. And it turns out that each one of them is in charge for some of the indexical expressions.

- Zelda's context C is used to determine the reference of *she* and *me*: *me* means: the speaker in C (which is Zelda) and not the speaker in d (which would be Anna). Same so for *she* where nonidentity with speaker and addressee in C has to be ensured.

- Anna's context d is used to determine the experiencer of relief of *luckily* (which is Anna, the speaker of d) as well as the time of utterance: to the extent that you accept the use of *tomorrow* in (10), it is *tomorrow-after-Anna's-utterance.* We will see more examples of this type in sections 5 and 7 where we discuss different kinds of embedding clauses.

- Both contexts appear involved in the choice of the future-in-the-past *would meet* in (10). The prediction was made in the *past* of C (Zelda's context) but in the future of d (Anna's context). We will defer the discussion of tense to Section 6.

Let us introduce some terms to talk about contexts. In indirect speech, the *narrator's context C* is the context of the person who reports speech (Zelda) and the *protagonist's context d* is the context of the person reported on (Anna). We also need names to distinguish different kinds of indexicals. *Rigid indexicals* are indexicals that refer to the narrator's context whereas *shiftable indexicals* are those that refer to the protagonist's context. Hence *I, you, she, me* are rigid indexicals and *Gosh!, thank God, luckily, tomorrow* are shiftable indexicals. The next subsection proposes a formal way to capture these parameters.

2.2   Formalization

We want to spell out how the meanings of indexicals and other expressions rest on contexts – sometimes single contexts, sometimes pairs of contexts. The meaning of an expression α is notated as $[[\ \alpha\ ]]$.[i] Meanings can depend on context parameters. For instance, the meaning of *my hamster* depends on the person who utters *my hamster*.

(11) $[[\ my_x\ hamster\ ]] =$ 'the unique hamster owned by v' where v is the speaker

A useful tool to manage open variables are variable assignments. A variable assignment is a function *g* that maps variables to things/persons. Assignments are commonly notated as in (12) where *v* is supposed to be instantiated by **Anna** (i.e. Anna is speaking).

(12) $[\![\textit{my}_v \textit{ hamster}]\!]^{g:\, v\, \rightarrow\, \textbf{Anna}}$ = 'the unique hamster of Anna'

Now we can extend this notation to capture context dependence in general. When α is uttered in context *C*, then its meaning is written as $[\![\alpha]\!]^C$. We follow the first formal theory of context dependence (Kaplan 1989, Zimmermann 1991, 2012) and assume that contexts give us at least a *speaker, addressee, time* and a *place.* Contexts could be thought of as little snapshots showing an utterance situation. We could also imagine them to be something like little *events* where someone tells something to someone. This latter view will prove useful later (as anticipated in Schlenker 2010: fn. 3). Contexts give us their *time, place, speaker and addressee,* notated also as follows:

$$time(C) = \text{time of c}$$
$$place(C) = \text{place of c}$$
$$sp(C) = \text{speaker in c}$$
$$ad(C) = \text{addressee in c}$$

Kaplan used this system to model the meaning of indexicals like *I, you, she* and *here, now*. The first person pronoun *I* always denotes the speaker of the current utterance context: $[\![I]\!]^C = sp(C)$. Similarly, a simple semantics for present tense could assume that $[\![\textit{present}]\!]^C$ will contribute that the event described in the sentence takes place at *time*(c). He observed that his set of indexicals keep their meaning in indirect speech as well (Kaplan 1989: 553-57) and concluded that indexicality remains unchanged in indirect speech. However, Kaplan never looked at shifting indexicals which is what we will do next.[ii]

2.2.1 Shiftable and rigid indexicals

We assume two kinds of variables to explicate context dependence, V_c and v_c. Both must be instantiated by utterance contexts. If an utterance α is made in direct speech, there is only one context available, the narrator context *C*. The utterance α must be interpreted relative to this context: $[\![\alpha]\!]^C$. In this case, *all* context refering variables V_c, v_c in α are instantiated by *C*.[iii]

Utterances in indirect speech are linked to context in a more complex manner. They must be interpreted relative to two contexts *<C,d>* where *C* is the narrator context and *d* is the protagonist's context. *C* instantiates all uppercase variables V_c. The protagonist's context *d* instantiates all lowercase variables v_c.

   $[\![v_c]\!]^{<C,d>} = d$ $[\![V_c]\!]^{<C,d>} = C$

The lexical meaning of rigid indexicals rests on *C*. For instance, $[\![me]\!] = speaker(V_c)$ with the open parameter V_c. When *me* is used in direct speech, it is interpreted relative

to C: $[[$ *me* $]]^C =$ *speaker*(C). When *me* is used in indirect speech, there are two contexts $<C,d>$ in play but V_c still will be instantiated by C: $[[me]]^{<C,d>} =$ *speaker*(C).

The lexical meaning of shiftable indexicals reacts to the presence of a second context. We use the lowercase variables to capture this. For instance, the emotive *thank heavens* expresses relief of the protagonist (in indirect speech) or the narrator (in direct speech). We can capture this by $[[$ *thank heavens* $]] =$ RELIEVED$($ *speaker*(v_c), *time*$(v_c))$. When *thank heavens* is used in direct speech, we have

(13) $[[$ *thank heavens* $]]^C =$ RELIEF$($ *sp*(C), *time*$(C))$

When *thank heavens* is used in indirect speech, it refers to the protagonist's context *d*:

(14) $[[$ *thank heavens* $]]^{<C,d>} =$ RELIEF$($ *sp*(d), *time*$(d))$

Let me sketch how the system plays out in the example in (15).

(15)   *Thank heavens she was rich, Anna said.*

Let's assume that Anna refers to her own wealth ('*I am rich, thank heavens*'). If (15) is uttered, the embedded clause must be interpreted relative to two contexts *C,d* where *C* reflects the narrator context, *d* is Anna's utterance context. The attitude expressed by *thank heavens* refers to *d* whereas the third person feature of *she* (namely that *she* is not the current speaker) only makes sense in *C*.

(16)   *Thank heavens she was rich.*

insert fig. 1a and fig 1b approximately here

We can assume that the meaning of the words in (16) stay the same, no matter whether they are used in a situation like (2a) or like (2b): the "raw semantics" of the sentence remains the same in either case. What is different is how *C* in (2a) or $<C,d>$ in (2b) work out in the interpretations of *she* and *thank heavens*. The lexical entries are given in (16a) and (16b). (16c) shows the "raw semantics" of (16), adding the semantic parts *tense* (see Sections 3, 5) and the predicate *be rich*. We adopt Reichenbach's (1947) temporal parameters $e =$ event time, $R =$ reference time and utterance time *time*(V_c) which are explained in more detail in Section 3.

(16)   a. $[[$ *she* $]] = x$;

presupposition $x \neq sp(V_c)$ 'whoever *she* refers to but must be different from external speaker'

b. $[[$ *thank heavens* $]] = \lambda p. \lambda w.$RELIEF$(sp(v_c)$, *time*$(v_c)$, p, w $)$
'added to any proposition *p*, states that the internal speaker is relieved about *p*'

c. $[[$ (16) $]] =$
assertion: $\lambda w. \exists e[$ e o R $\wedge$ R$<$*time*$(V_c) \wedge$ RICH(x,e,w)]
'There is a state *e* that overlaps with reference time R and in which *x* is rich.'
presupposition $x \neq sp(V_c)$

6

'x is not the speaker in V_c'
commentary content: $\lambda w.\textsc{relief}(sp(v_c), time(v_c), \mathbf{Q}, w)$
with $\mathbf{Q} \coloneqq \lambda w. \exists e[\, e \circ R \wedge R{<}time(V_c) \wedge \textsc{rich}(x,e,w)\,]$
'the v_c-speaker, at the v_c-time, is relieved that x is rich'

We can now derive the utterance meaning of (16) in direct speech and in indirect speech. Let us first look at a context **C** where Zelda utters (16) about x = Anna (i.e. the pronoun *she* refers to Anna). (17) renders the utterance content of (16) in direct speech. The crucial part is the commentary content which states that the speaker in **C** is relieved.

(17)　$[[\,(16)\,]]^{C} =$
assertion: $\lambda w. \exists e[\, e \circ R \wedge R{<}time(\mathbf{C}) \wedge \textsc{rich}(\mathbf{Anna},e,w)\,]$
'At some reference time R before Zelda's talking, Anna was rich'
presupposition $x \neq sp(\mathbf{C})$
The presupposition "Anna is not Zelda" is satisfied.
commentary content: $\lambda w.\textsc{relief}(sp(\mathbf{C}), time(\mathbf{C}), Q, w)$
with $Q \coloneqq \lambda w. \exists e[\, e \circ R \wedge R{<}time(\mathbf{C}) \wedge \textsc{rich}(\mathbf{Anna},e,w)\,]$
'Zelda is relieved that Anna was rich (at time R before Zelda's talking)'

(18) spells out the utterance content of (16) in indirect speech. Let us assume that Zelda utters (16) about Anna thinking. Zelda is the speaker in **C** whereas Anna is the speaker in **d**. ☞ marks the line which differs from the above interpretation.

(18)　$[[\,(16)\,]]^{<C,d>} =$
assertion: $\lambda w. \exists e[\, e \circ R \wedge R{<}time(\mathbf{C}) \wedge \textsc{rich}(\text{Anna},e,w)\,]$
'At some reference time R before Zelda's talking, Anna was rich'
presupposition $x \neq sp(\mathbf{C})$
The presupposition "Anna is not Zelda" is satisfied.
☞　commentary content: $\lambda w.\textsc{relief}(sp(\mathbf{d}), time(\mathbf{d}), Q, w)$
with $Q \coloneqq \lambda w. \exists e[\, e \circ R \wedge R{<}time(\mathbf{C}) \wedge \textsc{rich}(\text{Anna},e,w)\,]$
'At the time of her thinking, Anna is relieved about the fact that Anna is rich (at time R)'

In this case, commentary content conveys that Anna is relieved about *her* wealth. Zelda does not express any attitude in situation (2b). The shift from Zelda (= $sp(C)$) to Anna (= $sp(d)$) was achieved by making the meaning of *thank heavens* depend on parameter v_c. Similar frameworks, though slightly different in implementation, were proposed by Sharvit (2008), Schlenker (2004, 2010) and Eckardt (2012, 2015).

3.　More on tense and aspect

Indirect speech reports refer to time in sometimes quite complicated ways. We should therefore get some understanding of how tense and aspect are coded in English and other languages. Reichenbach (1947) argued that *three* time points are necessary to understand tense/aspect: event time e, utterance time $time(V_c)$ and reference time R. The first two are quite obvious. Sentences often report events e happening. For example, *Anna arrived at Rome* reports an event e where Anne arrives at Rome.[iv]

Tense helps us to understand whether e happened earlier than the utterance, at the same time or whether e is predicted to happen later. But English can also code viewpoints on the event e which is why we need reference time R. Compare the following two utterances.

(19)   Zelda: *Anna arrived at Rome.*
(20)   Zelda: *Anna had arrived at Rome.*

Using simple past in (19), Zelda reports an arrival e at some time before the utterance time $time(C)$. But with past perfect (20), Zelda can report an arrival e *before* some past time R that she has in mind. Going back to (19) we'd say that the arrival e takes place *at* the time R that Zelda has in mind. Without reference time we can not explain the semantic difference between (19) and (20). Reference time also helps to understand the meaning of the *progressive* and its usefulness has been confirmed in many studies on tense and aspect (Kamp & Reyle 1993, Klein 1994, Ogihara 2007; *The interpretation of tense,* this vol.). It is widely agreed that aspect relates event e and reference time R while tense serves to relate R and utterance time $time(C)$. For example, past tense states that $R < time(C)$ "R is before utterance time" while the present asserts that the times overlap: R **o** $time(C)$. Likewise $e < R$ states that e happened before reference time and e **o** R states overlap (which we use, simplifying, to cover simple and progressive aspect here).

In the computations in (17)/(18) we saw these relations in action. The sentence root (= sentence without tense/aspect) provides a set of events, here "the set of events in which x is rich". Aspect maps these events to *time intervals*. Example (15) does not involve extra aspectual information and our intermediary times are $\lambda t. \exists e[e$ **o** $t \ \wedge$ RICH$(x,e,w)]$ "the times t that overlap with an event where x is rich". Tense, finally, instantiates this t with the reference time R. It adds whether R is before, at or after utterance time $time(V_c)$. The past tense in (15) yields R$<time(V_c)$.

Careful readers may object that the semantic content of indirect speech (15), as given in (18), is too vague. We computed the content of Anna's thought as well as her relief about it. C is Zelda's utterance context and d the context of Anna's thinking but have not explicated the *time-link* between Zelda's utterance and Anna's thought.

(21) $\lambda w.$RELIEF$(sp(d), time(d), Q, w)$ "At $time(d)$, Anna is relieved about Q"
        with $Q:= \lambda w. \exists e[e$ **o** $R \wedge R<time(C) \wedge$ RICH$(Anna,e,w)]$
        "Anna is rich at some time R before the time of Zelda speaking"

Of course we understand that the time of Anna being rich *is the same time* as Anna's thinking. The *time-link* between C and d is one of the most complex problems of indirect speech and we will see several lines of attack in this article. We start with a very simple first solution to the *time-link* question. Doron (1991), working on free indirect discourse, linked up narrator's context and protagonist's context as follows: She suggested that the narrator's reference time R defines the protagonist's context time $time(c)$.

(22)   Doron's Generalization: If $time(v_c) \neq time(V_c)$, then $time(v_c) = R$.

When we apply Doron's Generalization to (18), we state more specifically that:

(a) Anna is rich at R,

(b) Anna is relieved at R about the fact that she is rich (at R),

(c) R is before the time when Zelda is talking.

Doron's generalization offers the correct *time-link* for example (18). Yet, sections 5 and 6 discuss challenges to this simple picture. Before addressing the *time-link* problem in more depth, however, we need to get a feeling of tense and aspect in indirect speech. Section 4 takes a closer look at the German reportative subjunctive where tense/aspect in indirect speech are expressed in a particularly clear and systematic way. Tense in indirect speech in English is a much less rigidly regimented phenomenon as we see in section 6.

4.   The German reportative subjunctive

4.1.   German reportative subjunctive: Data

The German reportative subjunctive (GRS) is a mood for indirect speech (von Roncador 1988). It marks an utterance as authored by some other person (our *protagonist*) and codes tense/aspect. As outlined in Section 3, sentences introduce *events* and GRS expresses how the reported event is located relative to the protagonist's utterance. Let us see how Zelda (fig.2, glossed in 25) reports on Anna's utterances in (23).

(23)   *Anna   sagte* (e_1): *"Hans   liest   ein   Buch* (e_2)."
Anna   said (e_1):   "Hans   reads   a   book (e_2)"

add figure 2 approximately here

In the following, e_1 is always the event of Anna speaking, and e_2 the event of Hans reading a book.

(24)   *Zelda: Anna   sagte, Hans habe   ein   Buch   gelesen.*
Zelda: Anna   said   Hans have:RS;Anterior   a   book   read.
'Zelda: Anna said that Hans read a book.'
anterior: reading e_2 before speaking e_1

(25)   *Zelda: Anna   sagte, Hans lese   ein   Buch.*
Zelda: Anna   said   Hans read:RS;cotemp.   a   book
'Zelda: Anna said that Hans was reading a book.'
cotemporal: reading e_2 at the same time as speaking e_1

(26)   *Zelda: Anna   sagte, Hans werde   ein   Buch   lesen.*
Zelda: Anna   said   Hans be:RS;futurate   a   book   read.
'Zelda: Anna said that Hans is going to read a book.'
futurate: reading e_2 after speaking e_1

As the GRS is a system under diachronic change, synonymous forms abound but the relations **anterior, cotemporal** and **futurate** exhaust the semantic spectrum (see the comprehensive survey (Roncador 1988).[v]

Fabricius-Hansen and Sæbø (2004) proposed the first formal analysis of the GRS in German. They observe that GRS is interpreted as utterance reports, with or without a corresponding matrix clause and suggest that a sentence *S* in GRS always carries the additional meaning '*x said/thought S*' which can be explicitly stated—as in our examples—or not. Fabricius-Hansen and Sæbø suggest that this additional meaning is actually a presupposition triggered by the subjunctive. Their lexical rule for subjunctive states that sentence K is asserted, and adds the presupposition that "there is someone *x* who has stated K". SAY is supposed to be a cover predicate for various ways of uttering sentence K.

(27)   [[*Subjunctive*]] = λK.K; presupposed [*x* | SAY(K, *x*)]
        (Fabricius-Hansen & Sæbø, p.232, simplified and using SAY for their Δ)

Presuppositions are anaphoric to previous discourse and the analysis could be paraphrased as '*s/he* said S; try to find out who *s/he* is!'. When the GRS sentence is embedded under a verb of saying, as in (23) – (26), the discourse overall entails the presupposition. If there is no embedding verb, the hearer understands that "*s/he* said K" and attempts to find a suitable *s/he* in the preceding text.

While Fabricius-Hansen and Sæbø's analysis successfully captures subjunctive as a signal of reported speech, their treatment of the temporal information conveyed by the subjunctive remains sketchy. They do not explicate the event times and offer no systematic way to interpret the temporal information conveyed by the three different tense forms of GRS. What is missing is our systematic reference to two distinct utterance contexts which mediate the temporal information of the clause. Eckardt (2015) discusses in more detail why the proposed analysis can not easily be extended to tense. In terms of the double-context analysis for indirect speech, the contribution of GRS is easy to pinpoint: GRS codes tenses as seen from the protagonist context *d* just like the indicative expresses tense as seen from the narrator context *C*.

4.2   Formalizing tense/aspect in German reportative subjunctive (GRS)

The present section spells out an interpretation of GRS as a mood that is (a) restricted to indirect speech and (b) expresses how the event reported (*e*) relates to the time of the protagonist's utterance *time*(v_c). We assume that the content of the clause, disregarding mood, tense and aspect is represented as a set of events (Kratzer 2003, Davidson 1967). For instance, the content of the sentence root *Hans les- ein Buch* ('Hans read- a book') in (28) is the set of events in (29).

(28)   (*Anna   sagte,*) *Hans   lese   ein Buch.*
        (Anna   said)   Hans   read;RS   a   book.

(29)   λ*e*. ∃*y*(BOOK(*y,w*) ∧ READ(HANS, *e*, *w*))

Temporal adverbs such as *gestern/morgen* ('yesterday', 'tomorrow') are event modifiers and combine with sets of events. The property expressed by *tomorrow/morgen* is λ*e*(*e* ⊂ TOMORROW(*time*(v_c))) 'the set of events *e* that lie in the time interval TOMORROW of utterance context v_c.' This combines with (29) to yield (30).

(30) $\lambda e. \exists y(\text{BOOK}(y,w) \wedge \text{READ}(\text{HANS}, e, w) \wedge e \sqsubset \text{TOMORROW}(\textit{time}(\text{v}_\text{c})))$

The next step in compostion adds the statement that some event e of this kind has happened. This is provided by *aspect* operators that map events to times. I assume a *neutral* aspect for the German subjunctive. Neutral aspect could be viewed as a mere auxiliary operator that translates events into time intervals.[vi] Perfective aspect can be seen in action in the *future perfect* (see . The variable P ranges over sets of events.

$$[[\textit{neutral}]] = \lambda P \lambda t. \exists e(P(e) \wedge \textit{time}(e) = t)$$

Finally, we have to specify the three tense relations that can be expressed in the subjunctive. I propose that they relate the events described by the sentence root to the time of the internal context v_c.

i. $[[\textit{cotemporal}]] = \lambda P. \exists t(P(t) \wedge t \circ \textit{time}(\text{v}_\text{c}))$

ii. $[[\textit{anterior}]] = \lambda P. \exists t(P(t) \wedge t < \textit{time}(\text{v}_\text{c}))$

iii. $[[\textit{futurate}]] = \lambda P. \exists t(P(t) \wedge \textit{time}(\text{v}_\text{c}) < t)$

If the subjunctive forms are interpreted relative to external *and* internal context $<C,d>$, we predict that the temporal anchor point is the time of the internal context $\textit{time}(d)$. Let us see how the analysis captures examples (23) – (26). The crucial parts or the "semantics raw" are given in bold.

(31)   [[[*Hans ein Buch les-*] *neutral*] ***anterior***]
         $\exists t. \exists y(\text{BOOK}(y,w) \wedge \text{READ}(\text{HANS}, e, w) \wedge \boldsymbol{t < \textit{time}(\text{v}_\text{c})})$

(32)   [[[*Hans ein Buch les-*] *neutral*] ***cotemporal***]
         $\exists t. \exists y(\text{BOOK}(y,w) \wedge \text{READ}(\text{HANS}, e, w) \wedge \boldsymbol{t \circ \textit{time}(\text{v}_\text{c})})$

(33)   [[[*Hans ein Buch les-*] *neutral*] ***futurate***]
         $\exists t. \exists y(\text{BOOK}(y,w) \wedge \text{READ}(\text{HANS}, e, w) \wedge \boldsymbol{\textit{time}(\text{v}_\text{c}) < t})$

Turning to context, you will find that the proposed analysis of the GRS is missing one final piece. Nothing in the analysis so far ensures that the reportative subjunctives should *only* occur in indirect speech. The analysis proposed would allow to compute a semantic representation for *Hans habe ein Buch gelesen* in a single (external) context *C*. This is semantically inappropriate. I therefore assume that *anterior, cotemporal* and *futurate* all trigger the presupposition that internal and external context are different. Our system easily allows us to express this presupposition.

(34)   The use of GRS presupposes: $\text{v}_\text{c} \neq \text{V}_\text{c}$

Condition (34) is necessarily false in single context interpretation: $[[\text{v}_\text{c} \neq \text{V}_\text{c}]]^C =$ false because now both v_c and V_c are instantiated with *C*, and *C* is not different to itself. Condition (34) is whenever we interpret sentences in two different contexts *C,d*. $[[\text{v}_\text{c} \neq \text{V}_\text{c}]]^{<C,d>} =$ true where $C \neq d$. The presupposition correctly restricts the use of reportative subjunctive to indirect speech. The analysis combines Fabricius-Hansen & Sæbø's strategy with a comprehensive management of indexicals and indexicality.

Let me summarize what we have so far. We assume that direct speech is linked to one context C whereas indirect speech rests on two contexts $<C,d>$. We devised a system that can explain the behaviour of rigid and shiftable indexicals in direct and indirect speech. Moreover we analysed the German Reporative Subjunctive as tense/aspect in interpretation relative to two contexts $<C,d>$. We finally have a *time-link* between matrix clause and indirect speech by Doron's generalization, so far abstracting away that clauses in embedded indirect speech occur under matrix clauses like *Anna said ..., Anna remarked ..., Anna concluded* etc. Intuitively, these matrix clauses inform us about the protagonist's context d: it is one of Anna saying, remarking or concluding things. Our picture is still missing a link to matrix clauses and we turn to this link in the next section.

5.   Linking indirect speech and matrix clause

5.1   A fine web of links

Matrix clauses of embedded indirect speech serve to describe the utterance situation. This situation is what we called the *protagonist context d* in the two-context approach in Section 2.

(35)   *Anna said that John was reading a book.*

The embedded clause *John be reading a book* is uttered in the context d where Anna is speaking. Speaker-oriented expressions confirm this picture in that they also refer to Anna.[vii]

(36)   *Anna said that luckily, John was reading a book (rather than watching TV).*

We can also quantify over speakers in the matrix clause and thereby report on multiple utterances with multiple instances of individual relief.

(37)   *Every teacher$_i$ confirmed that luckily, her$_i$ students were reading a book.*

(37) can report a situation where every teacher has her own students and thus the content of relief among teachers differ. This confirms that we see true quantification over utterance contexts. Similary, negation in the matrix clause can lead to the assertion that *no* utterance or thought of the reported content took place. (The modal version in b. sounds more natural.)

(38)   a. *No teacher$_i$ reported that her$_i$ students, sadly, had failed the test.*
        b. *No teacher$_i$ had to report that her$_i$ students, sadly, had failed the test.*

The given examples show that the AGENT of the matrix verb is the speaker of the protagonist context d. Similar examples (English or German) demonstrate that the RECIPIENT of the matrix verb is the addressee of d and the place of the saying event is also *place*(d).

What about the temporal links between matrix clause and embedded clause? We take a separate look because the *time-link* problem of indirect speech deserves special attention. According to Doron's generalization, the reference time R of the matrix

clause should coincide with the time of the protagonist context d. This assumption is challenged when we look at narratives with an extended time line and using the past perfect.

(39)   *(Suddendly, Zelda remembered her last phone call with Anna.) Anna had told her that John was reading a book.*

The first sentence in (39) sets R, the time of Zelda remembering. R remains the reference time of the second sentence where e_1, the event of Anna telling Zelda, is before R (due to the past perfect). The event of John's reading e_2 overlaps with e_1 (due to progressive aspect). The example leaves it open whether John is still reading the book when Zelda remembers. It could be so but it need not. Specifically, if the phone call was a long time before R it is unlikely that John is still reading the book at R. In other words: The clause in indirect speech is anchored to the event e_1 and not to reference time R. While simple past matrix clauses blur this difference (and Doron's generalization was correct in these cases) the distinction becomes clear when the matrix clause has distinct times R and e. In summary, the event of someone talking, speaking, reporting … e is a perfect anchor point for the protagonist context d

AGENT of $e = sp(d)$
PATIENT of $e = ad(d)$
time of occurrence of $e = time(d)$
place of occurrence of $e = place(d)$

In all linguistically active respects, the protagonist context and the matrix clause event look very very similar. I thus propose the following modified *time-link* between matrix clauses and embedded clauses in indirect speech (Eckardt 2015a):

Time-link between matrix clauses and embedded clause in indirect speech:
➢ Indirect speech is interpreted relative to a pair of contexts *<C,d>*, where the matrix clause event e is identical to the protagonist context d for indirect speech.

How plausible is this identification? In other words, how similar or dissimilar are contexts and events? Could they ever be the same? Well, sometimes yes. Contexts serve a very specific purpose in linguistic theory. Contexts are entities that determine a speaker, addressee, time, place and possibly a world (Kaplan 1989 and followers). Events, in contrast, have a richer spectrum of properties. Events are described by verbs and verbs define the range of participant roles for each type of event. For instance, events of *reading* have an agent (the person who reads), a patient (the thing read), and perhaps an instrument (like in *read with a magnifying glas*). Morevoer, linguists agree that normally, events can be related to their running time and the place where they happen. Standardly, semanticists assume that every event uniquely defines its participants (*agent, patient, goal, theme, experiencer, source, time, place …, see* Carlson 1984, 1998, Champollion 2010: chap. 2, Landman 2000, Parsons 1990).

This, however, does not exclude that events sometimes might serve very specific purposes, too. Let us focus on events of speaking or thinking. We know that every utterance event uniquely determines the roles speaker (= agent), addressee (= goal), time (*time(e)*), place, and world (Cresswell 1985). This makes them very similar to contexts in the sense of Kaplan. Every event e of someone talking determines a corresponding utterance context c.[viii] Events of *saying, reporting, stating, claiming* are

therefore suited to instantiate v_c, the open parameter that helped us to specify where utterance meanings depend on contexts. Section 5.2 spells out this link in more formal terms.

5.2   Events as contexts: A formalization

This section illustrates how the *link* between matrix clause and indirect speech clause can be made precise. We take with Kaplan's classical theory of indexicals and utterance meaning as our point of departure (Kaplan 1989, García-Carpintero and Macià 2006, *Indexicality*, this vol.). Kaplan defended the claim that the meaning of words and sentences depend on two independent parameters, *context* and *possible worlds*, leading to two-dimensional semantics (see *Indexicality,* this vol.). He coined the term *character* for the utterance-independent meanings of words and sentences.

> The utterance-independent meaning (or *character*) of a sentence *S* is a function that maps contexts *c* to the meaning of *S*-if-uttered in *c*.

Sentence meanings (also called "propositions") are modelled as functions from possible worlds to truth values such that overall two open parameters are in play. For this reason, Kaplan's account is also sometimes referred to as two-dimensional semantics. The use of characters allows us to spell out how meaning depends on context. We adopted this in section 2 when we modelled the meaning of *I, me, you, now* and other rigid indexicals. Schematically the sentence meaning ϕ rests on context V_c and it remains to be seen which context *C* is inserted for V_c.

> context-dependent meaning of sentence *S*: $\phi(V_c)$

We can stress the functional dependence on contexts by highlighting that V_c is an open parameter that *has still to be filled in.*[ix]

> character of sentence *S*: $\lambda V_c.\phi(V_c)$

This basic idea easily extends to our model of context dependency. Section 2 argued that sentences depend on context in two manners, in a shiftable manner and in a rigid manner. These two kinds of context dependence were reflected by two types of variables v_c and V_c, with v_c figuring in shiftable indexcials and V_c in rigid indexicals. We thus see a two-fold dependeny on context(s).

> context-dependent meaning of sentence *S*: $\phi(V_c,v_c)$

This allows us to derive characters in two dimensions. For the purpose of analysing indirect speech, the following function from contexts to intensions is useful. We will call it the *indirect* character.

> *indirect* character of sentence *S*: $\lambda v_c.\phi(V_c,v_c)$
> "try to find a protagonist context *d* and fill it in for v_c!"

When we analyse sentences of embedded speech, the indirect character of the embedded clause is a crucial part in semantic composition. The indirect character gives us access to all points where meaning depends on the internal context, leaving

aside indexcials that refer to the external utterance context. Let me illustrate this for sentence (36).

(36) *Anna said that luckliy, John was reading a book.*

The embedded clause in indirect speech covers the proposition "*John be reading a book*" as well as the emotive comment "*sp(d) is relieved that John is reading a book*". (40) shows the formalization.

(40) assertion:
$\lambda w.\exists t(\exists e \, \exists y(\text{BOOK}(y,w) \wedge \text{READ}(\text{JOHN}, e,w) \wedge time(e) = t \wedge time(v_c) \text{ o } t)$
"John read a book at some time overlapping with $time(v_c)$"
commentary: $\lambda w.\text{RELIEF}(sp(v_c), time(v_c), w, \mathbf{Q})$
        with $\mathbf{Q}$ = asserted content
"The speaker in v_c is relieved about it"

When we combine matrix clause and the embedded clause, we must make sure that the parameter v_c is instantiated by the *event* of the matrix clause verb, namely the saying event e. And here is the trick how. By lambda-abstraction, we ensure that v_c is the next value to be instantiated, which gives us (41).

(41) assertion:
$\lambda v_c \, \lambda w.\exists t(\exists e \, \exists y(\text{BOOK}(y,w) \wedge \text{READ}(\text{JOHN}, e,w)$
            $\wedge \, time(e) = t \wedge time(v_c) \text{ o } t)$
commentary: $\lambda v_c.\lambda w.\text{RELIEF}(sp(v_c), time(v_c), w, \mathbf{Q})$

We should now be able to "grab" the event $\mathbf{e^*}$ of Anna speaking and apply (40) to this event. The best player in a sentence to "grab" events is always the verb. Verbs introduce events and verbs should also code how to combine with their complements. The embedded clause *is* such a complement. It is complement of the matrix clause *say* in (36). It was ideal if we could spell out the meaing of *say* so as to bring together event $\mathbf{e^*}$ and the context parameter v_c in (41). The following lexical entry for *say* does the trick.

(42) $[[\, say \,]] = \lambda P \lambda x \lambda e^*.\text{SAY}(\, x, e^*, w, P(e^*) \,)$

This version of *say* codes the following steps in semantic composition:
1. λP — give me a shiftable character P. That's what I expect from my sentential complement. It's the thing said.
2. λx — give me subject x. x is the person saying P.
3. λe^* — let us talk about event e^*.
    a. e^* is the event of saying that we talk about
    b. e^* is also the context for reported utterance P.

If we use *say* and compute the meaning of (36) the result is (43).

(43) $\exists e^*.\text{SAY}(\text{ANNA}, e^*, w, \Phi(e^*) \,)$
with $\Phi(e^*) = \lambda w.\exists t(\exists e \, \exists y(\text{BOOK}(y,w) \wedge \text{READ}(\text{JOHN}, e,w)$
            $\wedge \, time(e) = t \wedge time(e^*) \text{ o } t)$

commentary: $\lambda w.\text{RELIEF}(\text{ANNA}, time(e^*), w, \Phi(e^*))$

"There is an event e^* where Anna says $\Phi(e^*)$
- $\Phi(e^*)$ = John reads a book at the time while Anna is speaking (e^*)
- Anna is relieved, at her time of speaking, about the fact that John is reading a book"

(44) illustrates the quantificational case. We compute the denotation in (44), using the same steps as in (43).

(44)   *Every teacher said that luckily, John was reading a book.*

(45)   assertion:
$\forall x(\ \text{TEACHER}(x,w) \rightarrow \exists e^*.\text{SAY}(\ x, e^*, w, \Phi(e^*)\ )\ )$
with $\Phi(e^*) = \lambda w.\exists t(\exists e \exists y(\ \text{BOOK}(y,w) \wedge \text{READ}(\text{JOHN}, e,w)$
$\wedge\ time(e) = t \wedge time(e^*) \circ t\ )$
local contribution of commentary:
$\forall x(\ \text{TEACHER}(x,w) \rightarrow \exists e^*.[e^* \neq V_c].\ \text{SAY}(\ x, e^*, w, \Phi(e^*)\ )\ )$;
comment: $[\ \lambda w.\text{RELIEF}(sp(e^*), time(e^*), w, \Phi(e^*)\ )]$

This content consists of the following parts:

- Every teacher utters that John is reading a book (at the time of her utterance).
- Each utterance comes along with the teacher's relief about the content of his/her utterance.[x]

Section 5 took a look at indirect speech in embedded clauses. We established a link between matrix clause and indirect speech clause, argueing that the speech event of the matrix clause provides the local context for indirect speech. This link correctly predicts the meanings of shiftable indexicals as well as the temporal information coded by the German reportative subjunctive GRS. GRS was thus confirmed as special tense/aspect paradigm for indirect speech. Not all languages, however, provide special moods for indirect speech. We have yet to explore how indicative tenses interact with indirect speech. The next section argues that the regimentation of parameters in indirect speech is more or less rigid, depending on grammatical means and speaker's aims. Again, our test languages will be English and German.

6.   Tense in indirect speech and free indirect discourse (FID)

Our account of indirect speech was oversimplified in several ways and it is time to take a look at more mixed data. Section 2 proposed that indirect speech shifts certain indexicals from the narrator context to the protagonist context. Actually, more interpretations are possible. Consider the interpretation of *sadly* in (46) and *morgen* (tomorrow) in (47).

(46)   Zelda: *Anna said that sadly, she won't come.*
reading 1: Zelda's regret
reading 2: Anna's regret.

(47) Zelda: *Anna   sagte,   sie   komme   morgen.*
               Anna   said   she   come;RS   tomorrow
               reading 1: day after Zelda's utterance
               reading 2: day after Anna's utterance

The first systematic survey on mixed orientation of temporal adverbs and emotives in indirect speech in German is Plank (1986). He observes that ambiguities are possible but regimented by rules. For one, all emotives in the clause must refer to the same speaker and likewise, all temporals are interpreted as relative to the same context.[xi] Moreover *if* temporal adverbials are oriented to the protagonist's context *d* then emotives are as well. Keeping these ambiguities in mind, let us turn to tense.

English tenses in indirect speech have been intensely researched as part of the wider phenomenon of tense in embedded clauses (see *Sequence of Tense,* this vol.). Most strikingly, the simple past is semantically flexible and can mean "before *C*" or "before *d*" in indirect speech like (48) (adapted from Stowell 2007).

(48)   *Anna said that Berta was in Boston.*
          reading 1: e_2 before e_1
          reading 2: e_2 and e_1 cotemporal

Whichever reading may be more systematic, the ambiguity shows that the past tense in indirect speech is not uniformely tied to *C* or to *d*. Surprisingly, embedded uses of past tense sometimes fail to refer to *anyone's* past (Abusch 1997, von Stechow 2009).

(49)   *John decided a week ago* (e_1) *that in ten days he would say to his mother* (e_2)
          that they were having their last meal together (e_3).

The third clause uses the PAST tense (*were having*) but refers to e_3 in the future of *C* as well as *d*. This led Abusch to propose that the PAST morpheme in *were having* is semantically void. Void PAST must be dominated by a PAST in the matrix clause whereas PAST embedded under a present or future tense matrix clause is always interpreted.

(50)   *Anna says that Berta was in Boston.*
          reading: e_2 before e_1, e_1 at *C*.
          unavailable: e_2 and e_1 cotemporal

These observations led Abusch (1997), Stowell (2007), and Ogihara (2007 a.o.) to propose that *time(c)* in indirect speech—von Stechow vividly calls it the "now" of the embedded clause—is an anaphor. They assume that "now" of the embedded clause can be identified with any time parameter of a higher clause as long as the restrictions on "now" imposed by tense are met. In case the PAST morpheme is dominated by a higher PAST tense, it remains uninterpreted and imposes no semantic restrictions.

While the resulting account can capture all observed readings, we lost the conceptual insight that indirect speech is a narrator's report on a protagonist's utterance. Tenses in embedded clauses, according to this analysis, are anchored freely to any salient time and do not reflect any speaker's perspective. It is unclear how to integrate

10039 words

Plank's dependencies between emotives and temporal adverbs with free interpretation of "now".

What could be the reason that perfectly systematic speech reports are blurred by mixed interpretations of indexicals and tenses? One might point out that indirect speech itself is not a very clear-cut category, hovering between report of utterance and report of content. Consider the following example.

(51)   *Anna said that she was on vacation in Corsica.*

(51) could be a faithful report of an utterance of Anna: "I was on vacation in Corsica." But equally plausibly (51) could be the speaker's summary of Anna's much longer account of her holiday. And when the narrator chooses her own words there is little reason to align them with Anna's utterance context *d*. As soon as the narrator's aims or grammar commits her to a more faithful rendering of the protagonist's utterance, the interpretation of indexicals is also more regimented. One such means is the German Reportative Subjunctive where each sentence's verb "flags" the fact that this is a speech report. Another rigidly regimented mode of indirect speech is free indirect discourse (FID). This more systematic mode will round out our survey.

English and German both can use nonembedded sentences to convey free indirect discourse.

(52)   *Anna was excited. Oh boy, tomorrow was Christmas!*
(53)   *Anna   freute sich.   Mann, morgen   war   Weihnachten!*
        Anna   rejoyced refl. man,   tomorrow was$_{indicative.past}$ Christmas.

        add figure 3 approximately here

The second sentences are interpreted as Anna's thought. Again, we find an protagonist context *d* (= Anna's) in addition to the narrator context (= Zelda's). The sentences must be interpreted in the *<C,d>* mode and show the characteristics discussed in Section 2. Of particular interest is the future-related adverbial *tomorrow* occuring with PAST tense. Given that Zelda would use the future to refer to the day after *C*, the adverb *tomorrow* must be anchored to *d*. Likewise the speaker's excitement expressed by *oh boy* is Anna's excitement, not Zelda's. Shifting indexicals hence refer to Anna's context *d*. How are tenses used in FID?

The following range of examples explores the use of PAST tense.

(54)   *Anna sighed* (e$_1$). *She killed the budgie* (e$_2$), *alas!*
(55)   *Anna sighed* (e$_1$). *She was doomed* (e$_2$), *alas!*
(56)   *Anna sighed* (e$_1$). *She would tell* (e$_3$) *her mother next week that they were* (e$_2$) *having their last meal together.*

Examples (54) and (55) demonstrate that the simple past can mean 'e$_2$ is before *d*' (the budgie was killed before Anna sighing) but also 'e$_2$ is before *C*' (Anna is doomed at the time of sighing which is before the narrator's *C*). Anna's thought about the dead budgie could also be phrased in the past perfect.

18

(57)   *Anna sighed* (e_1). *She had killed* (e_2) *the budgie!*

If we assume that tenses in FID are interpreted exactly like tenses in normal speech we can account for the examples in (54) – (57). Reference time R is at the time of Anna's sigh. Past perfect reports events before R, simple present reports events at R and the future-in-the-past refers to events after R (but before C, due to pragmatic reasons). The interpretation in (54) poses the only exception in the paradigm and might show that simple PAST can be used as a rigid *or* as a shifting indexcial (see Section 2). The use of simple PAST in (56) ...*they were having their last meal together* can be explained by the fact that the narrator's context C is generally later than the time of the story told and therefore the last meal also takes place (or is envisaged) before C.

The anaphoric theory of sequence of tense can handle (55) and (57) but has problems to explain (54) because the syntactic structure that accounted for the two readings of (48) are not available in FID. Given that there is no matrix clause the syntactic constellation 'be dominated by a *PAST* tense feature' is missing time parameters in higher clauses. In reaction to this problem, Sharvit (2008) postulates a tacit matrix predicate THINK or SAY in free indirect discourse. This matrix predicate can at least provide a PAST tense feature and license the *cotemporal* interpretation.[xii] The account however predicts that the syntax of free indirect discourse in English should be limited to the patterns of embedded clauses in English—and it has been known ever since the first investigation by Banfield (1982) that this prediction is not borne out. Thus, the stipulation of tacit matrix clauses poses severe syntactic problems even though the semantic predictions may be correct.

Other analyses of FID terms of two contexts were proposed by Schlenker (2003, 2004) and Doron (1991), both refering to the classical forerunner Banfield (1982) which was at the time lacking a semantic background theory. Emar Maier explores an alternative strand of research explores FID as a case of mixed quotation (Maier 2014, Bary and Maier 2014). The mixed quotation approach can host any combination of reference to C and d in free indirect discourse. Like tense theories, the larger range of permitted readings goes along with the loss of conceptual clarity, as taking perspective is viewed as a word-by-word affair rather than a systematic pattern of labelling speech reports in indirect and free indirect speech.

German free indirect discourse, termed *Erlebte Rede* in German grammars, once more shows a simpler division of labour. Tenses and pronouns systematically refer to the narrator's context C whereas emotives, exclamations as well as temporal/local adverbials refer to the protagonist's context d. Example (58) reports Anna's thought 'tomorrow <win> lottery' in the PAST tense because the day after Anna's thought is still in the past of the point of narration C. Simple PAST can not report events *before* the time of Anna's thinking; we have to use the past perfect instead.

(58)   *Anna   freute   sich. Sie   gewann   im   Lotto!*
       Anna   rejoiced refl. She   won   in-the lottery!
       winning at or after thinking/speaking
(59)   *Anna   freute   sich. Sie   hatte   im   Lotto   gewonnen!*
       Anna   rejoiced refl. She   had   in-the lottery won
       winning before thinking/speaking

To put it simply, FID as part of past tense narrations uses PAST tense forms because the events in question are before the time of narration. FID in present tense narration (i.e. in the historical present) uses tense exactly in the same manner as plain text. I leave it at this brief survey with more data being covered in Eckardt (2015, 2017).

7. Summary

The present article investigated the parameters of indirect speech. Our starting observation was that indirect speech brackets two utterances, the one made by the speaker C and the one reported about d. We discussed the interpretation of different context-referring expressions in indirect speech and found that *rigid indexicals* stay oriented to the speaker's context C while *shiftable indexicals* re-orient to the protagonist's context d in indirect speech. When indirect speech is embedded under a matrix clause then the speech event in the matrix clause provides the utterance context d for indirect speech. We proposed a formal implementation of this identification.

In actual practice, speech reports show a more mixed orientation of indexical elements. This is particularly striking when we look at the interpretation of tense in English embedded indirect speech. Other languages can use mood to mark indirect speech. German GRS mood offers an example; it is oriented to the protagonist's context and strictly regiments the expression of tense. Some modes of indirect speech likewise force a stricter regiment of indexicals because indexicals serve to convey the protagonist's perspective. This was demonstrated by free indirect discourse in English (with another glance at German) which exhibits more cleanly semantic patterns than indirect speech at large.

10039 words

References:

Abusch, Dorit. 1997. 'Sequence of tenses and temporal 'de re''. *Linguistics and Philosophy* 20, 1-50.

Banfield, Ann. 1982. *Unspeakable Sentences.* Routledge: London.

Bary, Corien, and Emar Maier. 2014. 'Inembedded indirect discourse'. *Proceedings of Sinn und Bedeutung* 18, 77-94.

Carlson, Greg. 1984. 'Thematic roles and their role in semantic interpretation'. *Linguistics* 22, 259-279.

Carlson, Greg. 1998. 'Thematic roles and the individuation of events'. In S. Rothstein (ed.), *Events and grammar.* Dordrecht. 35-51.

Champollion, Lucas. 2010. 'Parts of a Whole. Distributivity as a bridge between aspect and measurement'. PhD dissertation, University of Pennsylvania.

Cresswell, Max. 1985. *Adverbial Modification. Interval semantics and its rivals.* Dordrecht.

Davidson, Donald. 1980[1967]. 'The logical form of action sentences'. In Nicholas Rescher (ed.), *The Logic of Decision and Action.* University of Pittsburgh Press

Doron, Edit. 1991. 'Point of view as a factor of content'. In S. Moore *et al.* (eds.), *Proceedings of the 1st Semantics and Linguistic Theory Conference* (SALT I)*.* Ithaca, NY, 51–64.

Eckardt, Regine. 2012. 'Particles as speaker indexicals in free indirect discourse'. In L. Hogeweg *et al.* (eds.), *Particles.* Special issue of *Sprache und Datenverarbeitung*, 99-119.

Eckardt, Regine. 2015. *The semantics of free indirect discourse. How texts let us read minds and eavesdrop.* Brill: Leiden.

Eckardt, Regine. 2015a. 'Utterance events and indirect speech'. In R. Gergel *et al.* (eds.), *Proceedings of Sinfonija 2014,* Graz. 27-46.

Eckardt, Regine. 2017. 'Perspective and the future-in-the-past'. *Glossa: a journal of general linguistics* 2(1):71, 1-20. DOI: http://doi.org/10.5334/gjgl.199.

Fabricius-Hansen, Cathrine and Kjell Johan Sæbø. 2004. 'In a Mediative Mood: the Semantics of the German Reportive Subjunctive'. *Natural Language Semantics* 12, 213-257.

von Fintel, Kai, and Irene Heim. 2007. 'Intensional semantics'. Lecture notes, spring 2007 edition, MIT. http://semantics.uchicago.edu/kennedy/classes/s08/semantics2/vonfintel+heim07.pdf

García-Carpintero, Manuel & Josep Macià. 2006. *Two-Dimensional Semantics.* Oxford: Oxford University Press.

Gutzmann, Daniel and Eric McCready. 2014. 'Quantification with Pejoratives. Paper presented at Workshop on Pejoration'. *36. Jahrestagung der DGfS.* Marburg.

Heim, Irene & Angelika Kratzer. 1998. *Semantics in Generative Grammar.* Blackell: Malden.

Kamp, Hans and Uwe Reyle. 1993. *From Discourse to Logic.* Kluwer Academic Publishers: Dordrecht.

Kaplan, David. 1989. Demonstratives. In J. Almog *et al.* (eds.), *Themes from Kaplan.* Oxford. 481-563.

Klein, Wolfgang. 1994. *Time in Language.* Routledge: London.

10039 words

Kratzer, Angelika. 2003. *The Event Argument and the Meaning of Verbs*. Book Manuscript, SemanticsArchive.

Landman, Fred. 2000. *Events and plurality: The Jerusalem lectures*. Kluwer: Dordrecht.

Lasersohn, Peter. 2005. 'Context Dependence, Disagreement and Predicates of Personal Taste'. *Linguistics and Philosophy* 28(6), 643-686.

Lewis, David. 1980. 'Index, Context, and Content'. In S. Kanger *et al.* (eds.), *Philosophy and Grammar*. Dordrecht. 79-100.

Maier, Emar. 2014. 'Language shifts in free indirect discourse'. *Journal of Literary Semantics* 43(2), 143-167.

Ogihara, Toshiyuki. 2007. 'Tense and aspect in truth-conditional semantics'. *Lingua* 117, 392-418.

Parsons, Terence. 1990. *Events in the semantics of English*. MIT Press: Cambridge MA.

Plank, Frans. 1986. Über den Personenwechsel und den anderer deiktischer Kategorien in der wiedergegebenen Rede. *Zeitschrift für Germanistische Linguistik* 14, 284-308.

Portner, Paul. 2005. *What is meaning*? Blackwell: Malden.

Reichenbach, Hans. 1947. *Elements of symbolic logic*. Macmillan: New York.

von Roncador, Manfred. 1988. *Zwischen direkter und indirekter Rede*. Niemeyer: Tübingen. Reprinted by de Gruyter, Berlin (2010).

Schlenker, Philippe. 2003. 'A plea for monsters'. *Linguistics and Philosophy* 26(1), 29-120.

Schlenker, Philippe. 2004. 'Context of thought and context of utterance. A note on free indirect discourse and the historical present'. *Mind and Language* 19(3), 279-304.

Schlenker, Philippe. 2010/t.a.. 'Indexicals'. In S. O. Hansson*,* Vincent Hendricks (eds.), *Handbook of Formal Philosophy.*.

Sharvit, Yael. 2008. 'The puzzle of free indirect discourse'. *Linguistics and Philosophy* 31, 353-395.

Stowell, Tim. 2007. 'The syntactic expression of tense'. *Lingua* 117, 437-463.

von Stechow, Arnim. 2009. 'Tenses in Compositional Semantics'. In W. Klein *et al.* (eds.), *The Expression of Time*. Berlin. 129-168.

Stephenson, Tamina. 2007. 'Judge Dependence, Epistemic Modals, and Predicates of Personal Taste'. *Linguistics and Philosophy* (4), 487-525.

Zimmermann, Malte. 2011. 'Discourse particles'. In K. von Heusinger *et al.* (eds.), *Semantics. An international handbook of natural language meaning*. Vol. 2, 2012–2038. De Gruyter: Berlin.

Zimmermann, Thomas (Ede). 1991. 'Kontextabhängigkeit'. In: D. Wunderlich et al. (eds.), *Semantics/Semantik. Ein Internationales Handbuch*. De Gruyter: Berlin.

Zimmermann, Thomas (Ede). 2012. Context dependence. In: K. v. Heusinger et al. (eds.), *Semantics. An International Handbook*. Vol. 3, 2360-2407. De Gruyter: Berlin.

Zimmermann, Thomas (Ede), and Wolfgang Sternefeld. 2013. *Introduction to Semantics.an essential guide to the composition of meaning*. De Gruyter Mouton: Berlin.

Cross references:

Bio note Eckardt:

Regine Eckardt's researches on focus, speech acts, modal particles, tense and aspect and meaning change in language history. Her monograph *The meaning of free indirect discourse* (BRILL 2015) deals with free indirect speech in literary texts. After ten fruitful years at Göttingen University, Regine Eckardt holds a professorship for German and General Linguistics at the University of Konstanz since 2015.

---

[i] For an introduction to formal semantics see Heim & Kratzer (1998), Portner (2005), Zimmermann & Sternefeld (2013); also *Representing Intensionality*, this vol.

[ii] Followers of Kaplan sometimes assume that *indexicals* are a priori rigid. This does not change the fact that some context dependent expressions shift from narrator context to protagonist context in indirect speech, no matter how we call them. The debate was first raised in Schlenker (2003).

[iii] A fully explicit notation $[\![\alpha]\!]^g$ with $g(v_c) = C$, $g(V_c) = C$. Our simpler notation is analogous to the common treatment of world parameters in intensional semantics, see e.g. von Fintel & Heim (2007).

[iv] Semanticists also use the term *eventuality* to cover states as well (*Anna is rich, the weather is nice*) but we stick with the simpler *event* (Davidson 1980).

[v] The future perfect as in *Anna sagte, Hans werde ein Buch gelesen haben* '… Hans would have read a book' will be left aside for now. I thank students in the class *Indirect Speech* (Göttingen 2014) for valuable input.

[vi] In order to capture the perfect futurate, we might add a *perfective* operator:

$[\![\,perfective\,]\!] = \lambda P \lambda t. \exists e(\, P(e) \wedge time(e) < t\,)$. It interacts with the tenses to capture forms like GRS *werde gelesen haben* 'would have read'; see ftn. 5.

[vii] Alternative orientations of *luckily* and other speaker oriented expressions are possible and systematized in Plank (1986). Eckardt (2015: chap.6) argues that orientation to the protagonist is primary; due to space limits the data can not be unfolded here.

[viii] I refrain from the stronger claim that the two domains are identical. The controversial debates on the nature of contexts (Kaplan 1989, Lewis 1980: sect. 6) is still unsettled.

[ix] Lambda notation allows us to track the open parameters of denotations. Read $\lambda V_c. \phi(V_c)$ as „we have to fill in some context C for V_c and get the utterance meaning $\phi(C)$".

[x] See Gutzmann and McCready (2014) for quantification over commentary content.

[xi] The generalization does not address explicit attributions of emotion like *luckily for him but sadly for us*, which are allowed in indirect speech.

[xii] Tacit matrix predicates are more widely used and serve additional semantic functions in various theories (see also Stowell 2007).