The parameters of indirect speech

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1. Indirect speech

Indirect speech is used when we want to report what another person said. Imagine that you overhear a conversation between Anna and Sue. Anna says:

(1) Thank God my classes will be over next week.

When you want to report this incident later, you can use indirect speech to do so.

(2) Anna said that, thank God, her classes were over next week.

Anna’s utterance is slightly changed and embedded under a verb such as say or tell. You can also report Anna’s utterance in free indirect speech.

(3) Anna was talkative and in high spirits. Thank God her classes were over by next week.

In (3), Anna’s utterance is not embedded under a verb of saying. Nevertheless, in suitable circumstances (3) can be understood to report an utterance or thought of Anna. The present article investigates how sentences in indirect speech can be interpreted in formal semantics.

Anna’s original utterance in (1) undergoes a few changes when rendered in indirect speech. The first person pronoun my changes into a third person pronoun her, in match with the fact that Anna is referred to in third person in (2) and (3). Likewise, the future will be in (1) changes into past in (2), (3). Other languages use the subjunctive mood as an additional marker of indirect speech. German is one such language, and a German Anna will say the following:

(4) Gottseidank, nächste Woche sind meine Kurse zu Ende!

‘Thank God, my classes are over next week.’

This turns into the following speech report in indirect speech.

(5) Anna sagte, dass nächste Woche gottseidank ihre Kurse zu Ende seien.

‘Anna said that next week, thank God, her classes were over.’

Like in English, we can ommitt the embedding verb and report Anna’s utterance in free indirect speech.
Finally, German also offers the possibility to render Anna’s thoughts in free indirect discourse, using the indicative (‘normal’) mood. These look very similar to the English examples above, but unlike (4), the sentence in (7) can only be interpreted as Anna thinking.

(7) Anna war erleichtert. Gottseidank waren nächste Woche ihre Kurse zu Ende.

‘Anna was relieved. Thank God her classes were over next week.’

English (free) indirect discourse covers roughly the same semantic space as German (free) indirect speech (in subjunctive) and free indirect thought (in the indicative). We will discuss both systems of coding indirect speech in parallel.

Apart from tense, mood and pronouns, certain indexicals and speaker-oriented words deserve special attention. Consider the meaning of thank God and Gottseidank in the examples above. In direct speech (1), the person who utters the sentence is Anna, and thank God expresses her relief. If some other person X were to utter (1), then thank God would express X’s relief. If this person X utters any of the sentences in indirect speech in (2) - (7), then thank God / Gottseidank does not express X’s relief; instead, the word still expresses that Anna is relieved. Similarly, the temporal adverb next week in (1) refers to the week after Anna’s utterance. In sentences (2) – (7), next week / nächste Woche can still refer to the week after Anna’s utterance. If speaker X said (2) two months after Anna’s original utterance, next week could still be interpreted as “the week after Anna’s utterance”, and not as “the week after X’s utterance”. In this respect, speaker-referring words like thank God and time-referring words such as next week differ from pronouns and tenses that always are interpreted relative to X’s utterance context. We will call these words shiftable indexicals, in contrast to rigid indexicals like pronouns and tense. In summary, the following factors deserve special attention in our exploration of indirect speech.

- pronoun management
- tense management
- shiftable indexicals (speaker, tense, addressee oriented items)
- subjunctive mood

Utterance contexts are crucial in the interpretation of indirect speech. To begin with, let us agree on consistent ways to talk about the multiple contexts in play. Imagine that Zelda utters (2). We will call Zelda the external speaker and Zelda’s utterance situation the external context C. We will call Anna the internal speaker and Anna’s utterance situation the internal context c. Analogously, we will use external and internal time, place and addressee. Finally, it will be useful to refer to the events in
(2). We will call Anna’s saying the *utterance event* $e_1$, and refer to the event of classes being over as the *reported event* $e_2$. This is the overall picture:

This makes it easier to describe the linguistic division of labour in indirect speech. The external context $C$ determines the choice of pronouns and tense. The internal context determines the interpretation of shiftable indexicals such as *thank god* or speaker-oriented *next week* in (2). Moreover, as we will see, the internal context determines the use of verbs in the subjunctive mood in German. In English, linguists have so far assumed that tense in indirect speech is determined by the external context. However, the data require a few extra assumptions in order to explain tense in English indirect speech.

The present article develops a simple semantic system that interprets indirect speech relative to two contexts $C,c$ in a compositional manner. This system allows us to treat English and German pronouns, shiftable indexicals and the German subjunctive in a compositional manner. At the end of the article, we will explore whether the system can also contribute to our understanding of English tenses in indirect speech.

2. Interpretation in contexts

Formal semantics rests on the idea that words and phrases are mapped to meanings in logical space (Heim & Kratzer, 1998, Portner 2005, Zimmermann & Hamm 2014): A word $\alpha$ is mapped to its meaning $[[\alpha]]$. Meanings can depend on open parameters that are managed by variable assignments $g$. For instance, the meaning of *my hamster* should depend on the person who utters *my hamster*.

$$[[\text{my } x \text{ hamster}]] = '\text{the unique hamster owned by } x'$$

where $x$ is the speaker

Variable assignments are commonly notated outside the brackets: $[[ - ]]^g$. If $x$ is supposed to be instantiated by *Zelda*, then we could write this as follows:

$$[[\text{my } x \text{ hamster}]]^g_{x \mapsto \text{Zelda}} = '\text{the unique hamster of } \text{Zelda}'$$

The meaning of an utterance depends on the context in which it is uttered. We will notate this dependence in a similar manner. When $\alpha$ is uttered in context $C$, then its meaning is written as $[[\alpha]]^C$. Following David Kaplan (1989) we assume that contexts are a special kind of entity that determine at least a *speaker, addressee, time, place* and *world*. 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). We will assume that all contexts are in the
domain $D_c$, the set of all contexts. The functions $sp$, $ad$, $time$, $place$ and $world$ map $D_c$ to persons, times, places and worlds respectively. For all contexts $c \in D_c$

\[
\begin{align*}
    time(c) &= \text{time of } c \\
    here(c) &= \text{place of } c \\
    sp(c) &= \text{speaker in } c \\
    ad(c) &= \text{addressee in } c \\
    world(c) &= \text{world in which } c \text{ takes place}
\end{align*}
\]

These basic notions can be used to model context dependence in direct speech. For instance, 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 state that $[\text{present }]_c$ will contribute that the event described in the sentence takes place at $time(c)$.

Kaplan’s treatment of context dependence was simple in that for each utterance, there is one and only one “active” utterance context to which all indexicals refer. In indirect speech, matters are a bit more complex—as our guiding picture in fig.1 suggests. We have to evaluate sentences relative to two contexts: the external context $C$ and internal context $c$. This requires a bit more machinery, to be introduced now.

2.1 Shiftable indexicals

We will assume two kinds of variables that range over $D_c$: Captial letter variables $V_c$, $V'_c$, … and small letter variables $v_c$, $v'_c$. They will be used to explicate context dependence. An utterance $\alpha$ can be interpreted relative to single (external) contexts $C$, written as $[\alpha]_C$. In this case, all context refering variables $V_c, v_c$ in $\alpha$ are instantiated by $C$.\(^1\) If we interpret $\alpha$ relative to one context $C$, we treat it as an utterance in direct speech.

Utterances $\alpha$ can moreover be interpreted relative to two contexts $<C,c>$. In this mode of interpretation, we view $\alpha$ as an instance of indirect speech with external context $C$ and internal context $c$ (see fig.1). The external context $C$ instantiates all uppercase variables $V_c$. The internal context $c$ instantiates all lowercase variables $v_c$.

\[
\begin{align*}
    [v_c]_C^{C,c} &= c \\
    [V_c]_C^{C,c} &= C
\end{align*}
\]

This division of responsibilities for different variables allows us, now, to analyse the different behaviour of rigid and shiftable indexicals. Let us look at an example.

\[(8) \quad \text{Thank heavens she was rich, Anna thought.}\]

Consider the reading of (8) where Anna refers to her own wealth (‘I am rich, thank heavens’). If (8) is uttered, the embedded clause must be interpreted relative to two contexts $C,c$ where $C$ reflects the external context, $c$ is Anna’s internal utterance context. The attitude expressed by thank heavens refers to $c$ whereas the third person

\(^1\) 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.
feature of she only makes sense in C. (9) derives the meaning of the embedded clause in (8). The basic semantic composition leaves it open whether (9) is read as direct or indirect speech. This is appropriate, given that the sentence could be used in either mode (fig. 2a and 2b).

(9) Thank heavens she was rich.

The derivation purposefully leaves it open whether (9) is interpreted in C or in <C,e>. Let us discuss either option, and let us assume that the external context C is one where Zelda utters (9) about x = Ann (i.e. we resolve the pronoun she to Ann).

(10) \[ (9)^C \]

\[
\begin{align*}
\text{assertion: } & \lambda w. \exists e[\tau(e) \circ R \land R<time(C) \land \text{Rich}(Ann,e,w)] \\
\text{presupposition } & x \neq sp(C) \\
\text{commentary content: } & \lambda w. \text{RELIEF}(sp(C), time(C), Q, w) \\
& \text{with } Q = \lambda w. \exists e[\tau(e) \circ R \land R<time(C) \land \text{Rich}(Ann,e,w)] \\
& \text{‘the internal speaker is relieved that Ann was rich’}
\end{align*}
\]

“At some reference time R before Zelda’s talking, Ann was rich”

The presupposition “Ann is not Zelda” is satisfied.

“Zelda is relieved that Ann was rich (at time R before Zelda’s talking)”
This correctly renders the content of (9) as a direct utterance. Yet, more interesting is the interpretation of (9) as indirect speech. Let us assume that Zelda utters (8) where Ann thinks about herself (Ann) and her wealth. Hence the speaker in \( C \) is Zelda, whereas the speaker in \( c \) is Ann. \( \Rightarrow \) marks the line which differs from the above interpretation.

(11) \[ \left[ \left( 9 \right) \right]^{C,c} = \]

\[
\text{assertion: } \lambda w. \exists e [ \tau(e) \circ R \land R<time(C) \land \text{Rich}(\text{Ann},e,w) ]
\]

“At some reference time R before Zelda’s talking, Ann was rich”

\( \Rightarrow \)

The presupposition “Ann is not Zelda” is satisfied.

\[
\text{presupposition content: } \lambda w. \text{RELIEF}(sp(c), time(c), Q, w )
\]

“Ann is relieved, at the time of her thinking, about the fact that Ann was rich (at time R before Zelda’s talking)”

We can correctly predict that in this interpretation, Ann is relieved about her own wealth. Zelda, in contrast, does not express any attitude in the \(<C,c>\)-based reading.

The sample computation in (9) assumes a specific treatment of tense and aspect that will be used throughout this article. The sentence root (= sentence without tense/aspect) is assumed to provide a set of events, here in (9c) “the set of events in which \( x \) is rich”. Aspect maps these events to time intervals. The example in (9) does not involve extra aspectual information and we can assume that (9c) is simply mapped to \( \lambda t. \exists e [ \tau(e) \circ t \land \text{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 \( R \) and adds whether \( R \) is before, at or after utterance time \( \text{time}(V_c) \). (9) uses the past tense, so \( R<time(V_c) \) will be added, which yields (9d). Following Reichenbach (1947), Klein (1997?) we will think of reference time \( R \) as “the time that the speaker currently wants to report about”. (For details see … xx will there be a chapter on tense/aspect?)

We still have to make the temporal informations in indirect speech more specific. The proposition in (11) is very unspecific in that it states that (a) Ann is rich at some time before Zelda is speaking, and (b) that Ann is relieved at some time before Zelda is speaking. (11) wrongly allows that these two times could be completely different. Doron (1991) was the first to suggest that the speaker’s reference time \( R \) and internal context time \( time(c) \) are always identical. We can restate this as

(12) \textbf{Doron’s Generalization: } If \( \text{time}(v_c) \neq \text{time}(V_c) \), then \( \text{time}(v_c) = R \).

When we apply Doron’s Generalization to (11), we state more specifically that

(a) Anne is rich at R,
(b) Ann is relieved at R about the fact that she is rich (at R),
(c) R is before the time when Zelda is talking.
For (9), this is appropriate. More complex temporal patterns emerge later when we investigate tenses in indirect speech in English. Before doing so, however, let us turn to the temporal relations coded in the German subjunctive.

### 3. A brief on German subjunctive: Many forms, few relations

The German reportative subjunctive is a mode reserved for indirect speech. In spite of a proverbially complex range of morphological forms, its meaning is, in fact, very simple. Consider the following utterance situation:

(13) Anna sagte (e₁): “Hansi liest ein Buch (e₂).”
     Anna said (e₁): “Hansi reads a book (e₂)”

In the following, e₁ is always the event of Anna speaking, and e₂ the event of Hansi reading a book. The German subjunctive in indirect speech allows to express the following tense relations between the times of events τ(e₁) and τ(e₂).

<table>
<thead>
<tr>
<th>relation</th>
<th>examples / forms</th>
</tr>
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</table>
| anterior          | τ(e₂) < τ(e₁)  
Anna sagte, er habe ein Buch gelesen  
... er hätte ein Buch gelesen  
??... er würde ein Buch gelesen haben (counterfactual) |
| cotemporal        | τ(e₂) o τ(e₁)  
Anna sagte, er lese ein Buch  
... er läse ein Buch  
... er würde ein Buch lesen |
| futurate          | τ(e₁) < τ(e₂)  
Anna sagte, er werde ein Buch lesen.  
... er lese (morgen) ein Buch.  
... er läse (morgen) ein Buch  
?? ... er würde morgen ein Buch lesen. (counterfactual) |
| future perfect    | τ(e₁) < τ(e₂)  
τ(e₂) < r  
Anna sagte, er werde ein Buch gelesen haben.  
(In saying this, Anna has a certain future time r in mind.) |

The forms marked ?? are possible combinations of auxiliaries and main verb but convey a different (counterfactual) reading, and we will disregard them in the following. At first sight, the paradigm is redundant and puzzling. The subjunctive

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2I’d like to thank the students in the class Indirect Speech at Göttingen, in particular Nicolas Goldmann. They confirmed the paradigm, and also confirmed that many
can be expressed morphologically in two ways ("Konjunktiv I" and "Konjunktiv II") or analytically with the auxiliary würde. Philologists describe subtle differences in style, register or markedness for single forms in specific contexts or genres, and learners of German certainly have a hard time acquiring this mood. For semantic purposes, however, the three temporal relations anterior, co-temporal and futurate are all that really matters. In addition, the future perfect justifies a perfective aspect as part of the paradigm. In spite of the abundance of forms, our semantic job won’t be too hard in the end.

Before we see how these data can be captured in terms of two contexts <C,c>, let me briefly summarize an earlier analysis of the reportative subjunctive in German, proposed in Fabricius Hansen and Sæbø (2004). They start from the observation that German sentences in the subjunctive can be interpreted as utterance reports, no matter whether a verb of saying/thinking is used—as in (5)—or not—as in (6). They point out that a sentence \( S(\text{subjunctive}) \) carries the additional meaning ‘\( x \) said/thought \( S \)’ which can be explicitly stated—as in (5)—or accommodated, like in (6). Fabricius Hansen and Sæbø suggest that this additional meaning is actually a presupposition triggered by the subjunctive: The subjunctive refers to a salient discourse referent \( x \) and presupposes that the content of its host sentence \( S \) is uttered by \( x \).

\[
(14) \quad [[\text{Subjunctive}]] = \lambda K. ^{\Delta} K; \text{presupposed} \ [x | \Delta(\Delta K)(x) ]
\]

(Fabricius Hansen & Sæbø, p.232)

Presuppositions are viewed as anaphoric on previous discourse; the analysis could be paraphrased as ’\( s/he \) said \( S \); try to find out who \( s/he \) is!’ . The presupposition is checked after the literal content of the sentence has been parsed. When the overall sentence states that someone said \( S \)—like in (5)—then the discourse at this point entails the presupposition. When there is no embedding verb—like in (6)—the hearer accommodates “\( s/he \) said “\( K \)” with \( s/he \) to be resolved in context.

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 assume that “the time arguments” of embedded clause and matrix clause are identified, mirroring analyses for indirect speech in English that will be considered in Section 6. Their paper leaves it unclear whether this means \( \tau(e_1) = \tau(e_2) \)—which is certainly inadequate, as our examples show—or whether they propose to identify the utterance time for the embedded clause with the event time of the matrix clause. The latter idea would be semantically adequate, but the analysis in FH & S doesn’t include a systematic treatment of utterance time in particular or context dependence in general. Likewise, the temporal content of different forms of the subjunctive remains untreated and they fail to draw the link between speaker of internal context, time of internal context, addressee of internal context, place of internal context. These tight connections require a general framework for context dependence such as the one in Section 2. The next section combines an adequate treatment of subjunctive tense/aspect with Fabricius Hansen and Sæbø’s slogan of subjunctive as a presupposition trigger.

other combinatorically possible forms are unacceptable or don’t occur in reported speech.
4. **An analysis of tense/aspect in the subjunctive**

Section 2 introduced an analysis of context-dependence that can account for the shifting orientation of words like *thank heavens* or *regrettably* in indirect speech: They refer to the internal speaker. Similarly, certain temporal adverbs (*now, tomorrow*) can shift reference to the internal context’s *time(e)*. The survey over possible meanings of the subjunctive in Section 3 suggests that also verbs in the subjunctive mood refer to the time of the internal context in indirect speech. The subjunctive in reportative sentences is, hence, a second tense/aspect paradigm that serves to refer to internal contexts. The present section formalizes this idea.

The analysis takes the meanings of sentence roots as its starting point. We assume that the content of the clause, disregarding tense and aspect, is represented as a set of events. For instance, the content of the sentence root *Hansi lese ein Buch* (‘Hansi read a book’) in (14) is the set of events in (15).

\[(15) \quad (Anna\ sage\text{d},)\ Hansi\ lese\ ein\ Buch.\]

(Anna said) Hansi read a book.

\[(16) \quad \lambda e. \exists y(\ Book(y, w) \land \text{Read}(Hansi, e, w))\]

Temporal adverbs such as *gestern/morgen* (‘yesterday’, ‘tomorrow’) but also *drei Stunden lang* (‘for three hours’) are event modifiers and combine with sets of events. To give an example, we can analyse *tomorrow/morgen* as \(\lambda e(\ \text{time}(e) \subset \text{TOMORROW}(\ \text{time}(v_c)))\) ‘the set of events e that have a timecourse \(\text{time}(e)\) in the time interval that counts as tomorrow, seen from utterance context \(v_c\).’ This can be combined with (16) to yield (17).

\[(17) \quad \lambda e. \exists y(\ Book(y, w) \land \text{Read}(Hansi, e, w)) \cap \lambda e(\ \text{time}(e) \subset \text{TOMORROW}(\ \text{time}(v_c))) = \lambda e. \exists y(\ Book(y, w) \land \text{Read}(Hansi, e, w) \land \text{time}(e) \subset \text{TOMORROW}(\ \text{time}(v_c)))\]

Next, *aspect* maps events to times (as in the indicative, see xx chap on tense/aspect?). I assume a *neutral* and *perfective* aspect for the German subjunctive. Neutral aspect could be viewed as a mere auxiliary operator that translates events into time intervals. Perfective aspect can be seen in action in the future perfect, as illustrated in the table in Section 3. The variable \(P\) ranges over sets of events.

\[
\text{[[neutral]]} = \lambda P. t. \exists e(\ \text{P}(e) \land \text{time}(e) = t)
\]

\[
\text{[[perfective]]} = \lambda P. t. \exists e(\ \text{P}(e) \land \text{time}(e) \bullet< t)
\]

I use the relation \(\bullet<\) ‘happens directly before’ in the perfective, because the perfective aspect usually entails that some result or effect of the event is still visible at time \(t\). We will not investigate these restrictions in the present article (see Rothstein 2007, Alexiadou 2003 for recent overviews). If we apply the *perfective* to the set of events in (16), we compute the following set of times.
Draft, July 2014. Comments welcome!

(18) $\lambda t. \exists e( \exists y (\text{BOOK}(y,w) \land \text{READ}(\text{HANSI}, e, w) \land \text{time}(e) \cdot\cdot< t))$

‘the set of times that are right after an event in which Hansi reads a book’

(18) is the denotation of sentence root plus perfective aspect of the following clause in indirect speech.

(19) (Anna sagte) Hansi werde ein Buch gelesen haben
(Anna said) Hansi will subj a book read have

‘(Anna said that) Hansi would have read a book’

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. $[[\text{co-temporal}]] = \lambda P. \exists t (P(t) \land t \circ \text{time}(v_c))$

ii. $[[\text{anterior}]] = \lambda P. \exists t (P(t) \land t < \text{time}(v_c))$

iii. $[[\text{futurate}]] = \lambda P. \exists t (P(t) \land \text{time}(v_c) < t)$

If the subjunctive forms are interpreted relative to external and internal context $<C,c>$, we predict that the temporal anchor point is the time of the internal context time($v_c$). This prediction can be illustrated with the content of indirect speech in (19).

(20) [Hansi ein Buch les- ] $\oplus$ perfective $\oplus$ futurate
(21) $\lambda P. \exists t (P(t) \land \text{time}(v_c) < t) [\lambda t. \exists e( \exists y (\text{BOOK}(y,w) \land \text{READ}(\text{HANSI}, e, w) \land \text{time}(e) \cdot\cdot< t))]$

$= \exists t(\exists e( \exists y (\text{BOOK}(y,w) \land \text{READ}(\text{HANSI}, e, w) \land \text{time}(e) \cdot\cdot< t) \land \text{time}(v_c) < t)$

‘There is a time, which is right after an event of Hansi reading a book, and which is later than the time of internal utterance context $v_c$’

If we instantiate $v_c$ by the internal utterance context in example (19), we get the following, more specific content of indirect speech.

(22) ‘There is a time $t$ which is right after Hansi reading a book, and $t$ is moreover later than the time of Anna’s speaking.’

(22) correctly predicts that Anna talked about a future accomplishment of Hansi.

All other combinations of aspects and tenses work in a similar manner. Our system is redundant in that it allows two possible analyses for a sentence such as (23).

(23) (Anna sagte,) Hansi habe ein Buch gelesen.
(Anna said) Hansi had a book read.

‘(Anna said that) Hansi had read a book’

We can either analyse it as neutral aspect, combined with anterior subjunctive tense, or as perfective aspect, combined with co-temporal subjunctive tense. The two analyses differ slightly in that the latter entails that Hansi’s reading of the book has
lasting results or immediately precedes time(v_c). A closer look at the data seems to justify both analyses, but I will not consider the details here.

The present analysis of the subjunctive as a tense paradigm for internal contexts is missing one final piece. Nothing so far ensures that the reportative subjunctives should only occur in indirect speech. In principle, we can compute a semantic representation for Hansi habe ein Buch gelesen in a single (external) context C. This is semantically inappropriate. I therefore assume that anterior, co-temporal and futurate all trigger the presupposition that internal and external context are different. Our system allows us to express this presupposition easily.

(24) Restriction to shifted contexts: v_c ≠ V_c

This condition is necessarily false in single context interpretation:

**contradictory:** \[[ v_c ≠ V_c ]^C = true \text{ iff } C ≠ C\]

The condition can be true whenever we interpret it in two different contexts C,c.

**consistent:** \[[ v_c ≠ V_c ]^{<C,c>} = true \text{ iff } C ≠ c\]

Hence, the presupposition correctly restricts the use of reportative subjunctive to indirect speech. In essence, we adopt Fabricius Hansen & Sæbø’s strategy to delimit the use of reportative subjunctives. However, the richer background system of contexts allows us to integrate their idea into a comprehensive management of indexicals and indexicality.

We have a theory of interpretation in context that can explain the behaviour of rigid and shiftable indexicals, including the reportative subjunctive, on basis of external and internal utterance context. However, we only looked at examples in free indirect speech. In the discussion of (19), for instance, we simply assumed evaluation in two contexts C,c with the internal context c = Anna is talking. We did not spell out how the matrix clause Anna sagte (‘Anna said’) brings about this internal context. At the present point, hence, we have a nice analysis of free indirect speech but lack an account of the basic case, namely indirect speech embedded under a verb of saying or thinking. We will turn to this problem in the next section.

5. Context management: indirect speech in embedded clauses

Consider example (15) again, repeated below.

(15) Anna sagte, Hansi lese ein Buch.

Anna said Hansi read a book

‘Anna said that Hansi was reading a book’

The embedded clause Hansi lese ein Buch refers to the internal context c where Anna is speaking. This is required for the subjunctive (co-temporal) and confirmed when we add speaker-oriented expressions. These can also refer to Anna, the internal speaker.
When we replace *Anna* by a quantified subject DP, we quantify over multiple utterance situations. The following sentence reports on multiple utterances with multiple instances of individual relief.

(26) *Jeder Lehrer sagte, Hansi lese gottlob ein Buch.*

Each teacher said Hansi read subj thank-god a book.
‘Each teacher said that Hansi, thank god, was reading a book.

Each teacher feels his own relief about Hansi’s reading a book. The link between speaker and emotion becomes more prominent in examples where different speakers have different beliefs, such as in (27).

(27) *Jede Lehrerin i sagt, Hansi lese gottlob ihr ihr Buch.*

‘Every female teacher, said that Hansi, thank God, was reading her, book’

This example confirms that we have to assume separate reliefs for different speakers: Each teacher is happy to see Hansi read her book while she may not care about him reading other people’s books. My discussion will be based on the simpler sentence in (26). Summarizing, indirect speech in embedded sentences raises the following problems:

- The matrix clause introduces an utterance event (‘Anna said’) which must serve as the internal context $c$ in the $<C,c>$-based evaluation for the embedded clause. How can we model this?
- Quantification over speakers in the matrix clause (‘Every teacher said’) seems to bind speaker parameters in the embedded clause (‘thank God’). How can we account for this binding?

In order to answer these questions, we must take a closer look at the ontology of contexts. We assume that contexts are entities that determine a speaker, addressee, time, place and world. This renders them similar to another kind of entity, namely events. Events are described by verbs, and verbs define the range of participant roles for events. 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 glass*). Moreover, 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, …*) (Champollion 2010:chap. 2, Carlson 1984, 1998, Parsons 1990, Landman 2000).

If we focus on events of speaking or thinking, we can hence say 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 $c$. In other words, events that are described by verbs
such as say, talk, utter, scream, answer ... belong to the domain $D_c$ of utterance contexts. If we have a function that takes utterance contexts as its arguments, we can therefore instantiate this function with events of type say, talk, utter, scream and so on. My analysis of (25), (26) and (27) rests on this basic idea. In order to put this idea to work, we have to reconsider context dependence in the sense of Kaplan.

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 (García-Carpintero and Macià, 2006). According to Kaplan, the utterance-independent meanings of words and sentences are characters:

Characters are functions that
(a) map contexts $c$ to intensions, where
(b) intensions map possible worlds $w$ to truth values.

The use of characters suggests that we can not only spell out how meaning depends on context:

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

We can also use sets of contexts, or functions that map contexts to intensions:

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

Let us transfer this idea into our richer model of context dependency. Section 2 argued that sentences can depend on context in two manners, in a shiftable manner and in a rigid manner. We analysed these two kinds of context dependence, making use of two types of variables that are instantiated by contexts, $v_c$ and $V_c$. Context-dependent meaning, in terms of this analysis, is two-fold dependent.

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

Hence, we can derive characters in different manners. 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 $S$: $\lambda v_c . \phi(V_c, v_c)$

When we analyse sentences of embedded speech, the indirect character of the embedded clause is a crucial part of the semantic composition. The indirect character gives us access to all points where meaning depends on the internal context, leaving aside indexicals that refer to the external utterance context. Let me illustrate this for sentence (25).

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3 I don’t want to make the stronger claim that the two domains are identical. Kaplan argued that there might be purely hypothetical contexts $c$ that do not correspond to any actual utterance event. Events, in contrast, are always events that actually happen in the world in which they belong.
(25) Anna sagte Hansi lese gottlob ein Buch
   Anna said Hansi readsubj thank-god a book.

The embedded clause conveys the following content.

(28) assertion:
   \( \lambda w. \exists (\exists y (\text{BOOK}(y,w) \land \text{READ}(\text{HANSI}, e,w) \land \text{time}(e) = t \land \text{time}(v_c) = t) \land \text{time}(e) o t) \)

preparation: \( v_c \neq V_c \)

commentary: \( \lambda w. \text{RELIEF}(sp(v_c), \text{time}(v_c), w, Q) \)
   with \( Q = \text{asserted content} \)

The indirect character abstracts over \( v_c \):

(29) assertion:
   \( \lambda v_c \lambda w. \exists (\exists y (\text{BOOK}(y,w) \land \text{READ}(\text{HANSI}, e,w) \land \text{time}(e) = t \land \text{time}(v_c) = t) \land \text{time}(e) o t) \)

preparation: \( \lambda v_c. v_c \neq V_c \)

commentary: \( \lambda v_c. \lambda w. \text{RELIEF}(sp(v_c), \text{time}(v_c), w, Q) \)

The indirect character maps any context \( c \) to the content expressed by \( \text{Hansi lese gottlob ein Buch} \) (‘Hansi, thank heavens, was reading a book’) in \( c \). In particular, the commentary will be attributed to the speaker in \( c \), the time of Hansi’s reading relates to the time of \( c \) and the presupposition tests \( c \) against the external context. In an example like (25), the matrix sentence tells us which internal context we should look at. We should look at the context established by the event \( e \) where Anna is speaking. You can trace this idea in figure 3: We equate Anna’s context \( c \) and the entry of Anna speaking.

The following lexical entry for \textit{verba dicendi} such as \textit{say} ensures this equation.

\[
[[ \text{sag-} ]] = \lambda P \lambda x \lambda e^*. \text{SAY}(x, e^*, w, P(e^*))
\]

“\text{The event } e^* \text{ of saying is the context } e \text{ relative to which } S \text{ is evaluated.}”

\( \Phi \) is the variable that will host the meaning of the embedded sentence. It takes objects of considerable internal complexity: Firstly, it ranges over characters (technically speaking, over functions of type \( \langle c, \langle s, t, v \rangle \rangle \)). Secondly, \( \Phi \) ranges over multi-dimensional meanings \( \langle \text{assertion; presuppositions; commentary} \rangle \). Each dimension requires instantiation with \( e \). While such multi-dimensional semantic composition can be formalized (Gutzmann 2014), I will not burden the present discussion by formal details. Our final lexical entry allows us to compose the meaning of (25) as our first, simplest example. We will first take the indirect character of the embedded clause ‘\text{Hansi lese gottlob ein Buch}’ and combine it with the verb \textit{say}.

(30) \( \lambda x \lambda e^*. \text{SAY}(x, e^*, w, \Phi(e^*)) \)

with \( \Phi(e^*) = \lambda w. \exists (\exists y (\text{BOOK}(y,w) \land \text{READ}(\text{HANSI}, e,w) \land \text{time}(e) = t \land \text{time}(e^*) = t) \land \text{time}(e^*) o t) \)

preparation: \( e^* \neq V_c \)

commentary: \( \lambda w. \text{RELIEF}(sp(e^*), \text{time}(e^*), w, Q) \)
We can now instantiate this complex VP denotation with the subject *Anna* and existentially close the event *e*.

\[
\exists e^*. \text{SAY}(\text{ANNA}, e^*, w, \Phi(e^*))
\]
with \( \Phi(e^*) = \lambda w. \exists \exists y(\text{BOOK}(y, w) \land \text{READ}(\text{HANSI}, e, w) \land \text{time}(e) = t \land \text{time}(e^*) \circ t) \)

presupposition: \( e^* \neq \text{V}_c \)
commentary: \( \lambda w. \text{RELIEF}(\text{ANNA}, \text{time}(e^*), w, \text{Q}) \)

We will assume that presupposition and commentary are in the scope of \( \exists e^* \) to ensure that all talk about the same event *e* (van der Sandt 1992, Geurts 1999). This renders the meaning of (25) as follows:

“There is an event *e* where Anna says \( \Phi(e^*) \), namely …

- Hansi reads a book at the time while Anna is speaking (*e*)
- This speaking is not the same speaking as the one where (25) is uttered
- Anna is relieved, at her time of speaking, about the fact that Hansi is reading a book”

This is appropriate. In particular, all context dependencies are captured correctly.

In the present analysis, the semantic combination of the *verbum dicendi* with its complement clause requires an extra step, the formation of the indirect character as in (29). I assume that this step can be freely applied whenever required by the matrix verb, comparable to intensional abstraction (von Fintel & Heim 2007). A fuller fragment of German and English should cover propositions as well as indirect characters as the arguments of verbs of saying, and must offer the respective versions of verbs such as *say, think, utter* and so on. The present article is however strictly limited to the semantic analysis of indirect speech. To round out the picture, let us look at the example with a quantified subject DP in (26), repeated below.

(26) *Jeder Lehrer sagte, Hansi lese gottlob ein Buch.*

We can re-use the indirect character of the embedded clause, repeated in (32).

\[
[\text{Hansi lese gottlob ein Buch}] = \\
\lambda v_c. \lambda w. \exists t(\exists y(\text{BOOK}(y, w) \land \text{READ}(\text{HANSI}, e, w) \land \text{time}(e) = t \land \text{time}(v_c) \circ t))
\]
with \( Q = \text{assertion} \)

Once again, we have to compose this indirect character with the verb *sagen* (*say*) and compute (33).

\[
\lambda x. \lambda e^*. \text{SAY}(x, e^*, w, \Phi(e^*))
\]
with \( \Phi(e^*) = \lambda w. \exists \exists y(\text{BOOK}(y, w) \land \text{READ}(\text{HANSI}, e, w) \land \text{time}(e^*) = \text{time}(v_c) \circ t) \)

presupposition: \( \lambda v_c. v_c \neq \text{V}_c \)
commentary: \( \lambda v_c. \lambda w. \text{RELIEF}(\text{sp}(v_c), \text{time}(v_c), w, \text{Q}) \)

with \( Q = \text{assertion} \)
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\[ \forall t \left( time(e) = t \land time(e^*) o t \right) \]

presupposition: \( e^* \neq V_c \)

commentary: \( \lambda w. RELIEF(sp(e^*), time(e^*), w, Q) \)

At this point, existential closure of the say-events, and quantification over teachers (TEACHER) takes place.

(34) assertion:
\[
\forall x( TEACHER(x,w) \rightarrow \exists e^*. SAY( x, e^*, w, \Phi(e^*)) )
\]

with \( \Phi(e^*) = \lambda w. \exists y \exists y( BOOK(y,w) \land READ(HANSI, e, w) \land time(e) = t \land time(e^*) o t ) \)

local binding of presupposition in the scope of \textit{every}:
\[
\forall x( TEACHER(x,w) \rightarrow \exists e^*.[e^* \neq V_c]. SAY( x, e^*, w, \Phi(e^*)) )
\]

local contribution of commentary:
\[
\forall x( TEACHER(x,w) \rightarrow \exists e^*. [e^* \neq V_c]. SAY( x, e^*, w, \Phi(e^*)) ;
\text{comment: } [ \lambda w. RELIEF(sp(e^*), time(e^*), w, \Phi(e^*)) ]
\]

This content consists of the following parts:

- Every teacher utters that Hansi is reading a book (at the time of her utterance).
- For each of these utterances, it is presupposed that it is not the external utterance (i.e. the uttering of (26)).
- Each utterance comes along with the teacher’s relief about the content of his/her utterance.

The last step makes use of Gutzmann and McCready (2014) who argue that commentary content can sometimes occur in the scopus of quantifiers; specifically when we quantify over utterances. Our example supports their request for a richer semantics of commentary content in embedded clauses. For the time being, I leave the analysis of quantified commentary content at this intuitive level. If you think that a simpler “soft” analysis could attribute the commentary to an emphatic external speaker, you should be warned that the following examples stand against such a simple analysis.

(35) \textit{Happy day! I had to invite my boring relatives, but now each aunt called and said that unfortunately, she could not come.}

(36) \textit{Niemand rief an und sagte, der Termin sei leider gestrichen.}
Nobody called and said the appointment be\textsubscript{subj} regrettably cancelled

‘Nobody called and said that the appointment had, regrettably, been cancelled’

Sentence (35) can felicitously report regret of the aunts even though the external speaker does not regret the cancelling of the party. Similarly, (36) reports that \textit{nobody} felt regret (not even the speaker). We can simply conclude that quantification over commentary content remains subject for future exploration.
Let us recapitulate the steps that led to the present analysis of indirect speech. Pronouns in indirect speech are managed by the external speaker in the same manner as in direct speech, whereas speaker oriented expressions, emotives, certain temporal adverbials and more are managed by the internal speaker. This led to the insight that indirect speech refers to two utterance contexts \(<C,c>\). Section 2 implemented a specific analysis, making use of variables \(V_c\) for the external context and \(v_c\) for the internal context. Section 3 showed that the analysis of the German subjunctive rests on internal contexts and Section 4 proposed a specific semantic analysis. It turned out that the German subjunctive has tenses (\(\text{anterior, co-temporal and futurate}\)) as well as an aspect (\(\text{perfective}\)) which becomes visible in the \(\text{perfective futurate}\). All forms refer to the internal context via variable \(v_c\). The overall complexity of the subjunctive paradigm stands against simpler analyses that were proposed for English (see summaries in Stowell 2007, Ogihara 2007) and transferred to German (Fabricius Hansen & Sæbø 2004). In the final sections, we take a look at indirect speech in English and contrast it to the German case.

6. Indirect speech in English

Investigations of tenses in indirect speech in English commonly take the following data as their starting point (from Stowell 2007).

(37) \(\text{Sam left (e}_2\).\)
(38) \(\text{Max said (e}_1\) that Sam left (e}_2\).\)
(39) \(\text{Max will say (e}_1\) that Sam left (e}_2\).\)

Example (37) states that event \(e_2\) (Sam leaving) happened before the utterance time. Example (38) states that event \(e_2\) (Sam leaving) happened before \(e_1\) (Max talking). Example (38) likewise states that event \(e_2\) (Sam leaving) happened before \(e_1\). The past tense contributes that the event \(e_2\) described in the sentence happens before \(time(v_c)\)—where \(v_c\) is instantiated by \(C\) in direct speech, but by \(c\) in indirect speech (Section 2). In other words, \(\text{past}\) in English appears to behave like a shiftable indexical.

The paradigm of all possible combinations of tenses in matrix clause and embedded clause confirms that \(\text{tenses and aspects}\) in English behave like shiftable indexicals, with a few exceptions to which we will turn below. For matrix clauses in the present or future tense (\(\text{Max says ... /Max will say that Sam ...}\)), the tenses in English embedded clauses contribute the following meanings. In all cases, \(e_2\) is the reported event, and \(v_c\) refers to \(e_1\) like in the preceding section.

- \(\text{present tense}\) expresses that \(\tau(e_2) \circ time(v_c)\)
- \(\text{past tense}\) expresses that \(\tau(e_2) < time(v_c)\)
- \(\text{future tense}\) expresses that \(time(v_c) < \tau(e_2)\)
- \(\text{present perfect}\) expresses that some result state \(r\) of \(e_2\) overlaps with \(time(v_c)\)

In all these cases, hence, tenses are interpreted relative to the internal context \(c\), exactly like shiftable indexicals do.
At first sight, past tense matrix clauses such as (38) seem to confirm this view. However, the simple picture is challenged by the co-temporal readings of sentences like (40) and (41).

(40) Sam believed \((e_1)\) that Terry was in Boston \((e_2)\).
(41) Max said \((e_1)\) that he was reading a book \((e_2)\).

These examples allow for a reading in which the reported event \(e_2\) happens at the same time as the utterance event \(e_1\). Many speakers report that this is the preferred or even the only reading of the examples. This co-temporal reading (also sometimes called ‘simultaneous’ or ‘concealed present’ reading) poses a challenge to the simple and uniform interpretation of past in embedded clauses.\(^4\)

When linguists attempted to get a systematic overview over the rise of co-temporal readings, they found that it occurs only under past tense matrix clauses. The co-temporal interpretation is unavailable in the following examples.

(42) Sam will believe \((e_1)\) that Terry was in Boston \((e_2)\).
(43) Max says \((e_1)\) that he was reading a book \((e_2)\).

(42) reports a belief by Sam about Terry’s stay in Boston \(e_2\) before \(e_1\). Similarly, (43) states that the reading of the book \(e_2\) was before \(e_1\). Only past-under-past sentences trigger co-temporal interpretations.\(^5\) This led to the proposal that the past tense feature can be deleted when it is “coindexed” with a dominating second past tense feature (Stowell 2007, Sharvit 2008, von Stechow 2009) Such analyses assume that past in (40) and (41) is just a morphological shell without content. The time parameter of the embedded clause is equated with the time parameter of the matrix clause (implementations vary) which leads to a meaning where \(e_1\) and \(e_2\) coincide in time. The idea behind this analysis could be paraphrased as “forget the past morpheme and manage time variables via matrix clause alone”.

The most convincing case in favour of a co-temporal reading can be made on basis of examples like (44), first discussed in Abusch (1997).

(44) 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 \((e_3)\).

In (44), the event \(e_3\) happens in the future of the external context even though the verb where having seems to be in the past progressive. Abusch argues that \(e_3\) is neither in the past of \(e_2\) (interpret past as relative to the local utterance event) nor in the past of \(C\), the external utterance context (interpret past as the past tense of the external speaker). The co-temporal reading for the past tense verb is comparable to the co-temporal forms of subjunctive in German, but unlike in German, the reading is only available in the scope of a higher past tense.

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\(^4\) Stowell reports that anterior and simultaneous readings correlate with the verbal aspect of the embedded sentence. Eventive sentences prefer the anterior reading whereas habitual, progressive or stative sentences prefer the co-temporal interpretation. We will not explore this dependence here.

\(^5\) Of course, present under present embeddings are also „simultaneous“ but that is a logical consequence of the semantics of present tense.
A second peculiarity of English are so-called *double access* readings for sentences such as (45) – (48).

(45)  Sam believed (\(e_1\)) that Terry is in Boston (\(e_2\)).
(46)  Max said (\(e_1\)) that he is reading a book (\(e_2\)).
(47)  Sam believed (\(e_1\)) that Terry will be in Boston (\(e_2\)).
(48)  Max said (\(e_1\)) that he will read a book (\(e_2\)).

When indirect speech in the present tense is embedded under past tense, speakers understand that \(e_2\) overlaps with both the time of \(e_1\) and the time of external context C. Present tense, embedded under past tense, is hence interpreted twice: as *co-temporal* with both internal and external context. If a future tense is embedded under past, speakers understand that \(e_2\) happens after \(e_1\) (= the event of Max speaking or Sam thinking) and also after the external time of utterance. The future tense is interpreted as *futurate* with respect to both internal and external context. In other words, present under past as well as future under past differ from the general pattern in that they refer to C, the external utterance context. All earlier data, in contrast, suggested that tenses in English are shiftable indexicals which only refer to the internal context (of Max speaking, Sam thinking etc.).

The data in English, hence, exhibit a *mixed* system. This is unsurprising, if we take into account that speakers of English have just one mood (indicative) to express everything that languages such as German can sort into two moods (indicative, subjunctive). Forms are most ambiguous in the most frequent kind of examples: reports of utterances and thoughts in the past. ‘Being dominated by a *past* tense feature’ makes a big difference when we interpret embedded tenses in English. This motivates analyses in terms of agreement, deletion of *past* under agreement, or other special operations that only take place in the scope of a higher *past* tense feature. This blurs the link between internal context \(c\) and tense in the embedded sentence. Speaker oriented expressions and temporal adverbials in English are better-behaved. In indirect speech, they are always interpreted relative to the internal context \(c\). The data in support of <\(C,c\)> interpretation in Section 2 are completely parallel for English and German.

English and German exhibit another interesting overlap in free indirect discourse. In both languages, we can render a person’s thoughts in non-embedded sentences in the indicative, as the two following examples illustrate.

(49)  Anna sighed. Tomorrow was Christmas, alas!
(50)  Anna seufzte. Morgen war leider Weihnachten.

In both examples, the second sentence is interpreted as Anna’s thought. Like in indirect speech, we face an internal context \(c\) (= Anna’s) in addition to the external context (= the narrator’s). Like indirect speech, the sentences must be interpreted in the <\(C,c\)> mode, as defined in Section 2. But how does tense in English, tense in German contribute to the meaning of free indirect discourse like in (50), (51)? This will be explored in the final section.
7. Free indirect discourse

Free indirect discourse is a mode of writing, mainly in literary texts, that zooms in on the thinking protagonist. When you read the second sentence in (50), you can virtually see the thought bubble appear over Anna’s head.

All speaker oriented expressions, as well as other shiftable indexicals (tomorrow, morgen) are interpreted relative to the internal context c: free indirect discourse reliably ties all shiftable indexicals to the internal speaker.⁶

In English free indirect discourse, we find that the double access readings for present and future disappear; the forms are simply ungrammatical in free indirect discourse. This is illustrated in the following examples.

(51) Anna sighed. #She will leave tomorrow.
(52) Anna sighed. #She is pregnant.

The # sign indicates that the second sentences in (52) and (53) can not be interpreted as rendering Anna’s thoughts. In other words, these examples do not trigger the thought bubble in figure 4. They can be interpreted in a different way but not as free indirect discourse. The many ways to interpret English past in free indirect discourse (as part of a past tense story) remain available.

(53) Anna sighed (e₁). She killed the budgie (e₂), alas!
(54) Anna sighed (e₁). She was doomed (e₂), alas!
(55) Anna sighed (e₁). She would tell (e₃) her mother next week that this was (e₂) their last supper together.

Example (54) confirms that the anterior reading is available in free indirect discourse: \( \tau(e₂) < \tau(e₁) \). Examples (55)/(56) confirm that the co-temporal interpretation of past remains available in free indirect discourse. The examples pose a severe challenge to theories of indirect speech in English because the syntactic constellation ‘be dominated by a past tense feature’ is no longer visible. In terms of pure semantics, this may be unproblematic. We can always assume that the sentence She killed the budgie, alas! is interpreted in \( \llbracket - \rrbracket^C,c,e \) mode where alas! as well as the tense past are tied to the internal context c. This internal context is the context of Anna thinking just after her sighing. Yet, when we interpret (55) we have to explain why the co-temporal interpretation is available in the first place. As we saw in Section 6, the co-temporal interpretation can sometimes be interpreted with mixed authorship (see Plank 1986)

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⁶ Indirect speech can sometimes be interpreted with mixed authorship (see Plank 1986)
interpretation of was in (55)/(56) has to be licensed by a higher past tense. In embedded indirect speech this past tense is provided by the matrix clause—but there is no overt matrix predicate in (55)/(56). Therefore, 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 co-temporal interpretation. 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 (1978) that this prediction is not true. There is to date no comprehensive analysis of free indirect discourse in English that manages to resolve this conflict.

German free indirect discourse shows a simple division of labour. Tenses and pronouns are managed from the external context C. Speaker oriented expressions and temporal/local adverbials refer to the internal context c. Comparing the two moods in German, we find division of labour, again. Indicative tenses refer to the external context C, whereas subjunctive tenses—as shown in Sections 3/4—refer to the internal context c. The following examples illustrate a range of tenses in free indirect discourse (the exclamation mark serves to add a speaker-oriented exclamative quality).

(56) Anna seufzte. Sie hatte den Sittich umgebracht (e2)!
    ‘Anna sighed. She had killed the budgie!’

(57) Anna seufzte. Er brachte (e2) den Sittich um!
    ‘Anna sighed. He was killing the budgie!’

(58) Anna seufzte. Sie würde den Sittich umbringen (e2)...
    ‘Anna sighed. She would kill the budgie.’

In (57), the killing e2 is before time(c), which is equal to reference time R (= Doron’s generalization). This is exactly the temporal information conveyed by past perfect, anchored to the external utterance time time(C). In (58), the killing e2 takes place while Anna sighs, i.e. at the current reference time R before time(C). This is exactly the temporal information conveyed by simple past, anchored to the external utterance time time(C). No anterior interpretation whatsoever is available. In (59), the killing e2 is after reference time R, the time of Anna’s thinking. This is exactly the temporal information conveyed by a past futurate, anchored to the external utterance time time(C). These examples suggest that indicative tenses in free indirect discourse in German are interpreted exactly in the same manner as tenses in direct speech. Tense in German does not shift to internal contexts. This is a major difference between the tense systems of German and English.

A wider range of data would confirm this diagnosis. For instance, the first sentence in (57) – (59) sets reference time R before utterance time: R<time(C). In a normal use of

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7 Tacit matrix predicates are more widely used and serve additional semantic functions in various theories (see also Stowell 2007).
In summary, I argued that indirect speech in both English and German shows mixed reference to contexts. Pronouns and German (indicative) tense are interpreted relative to the external context. English tenses (mainly), German subjunctive tenses, speaker oriented expressions, temporal adverbials and possibly other expressions are interpreted relative to the internal context. This justifies interpretation of indirect speech in a separate mode $[\cdot - ]^{c,c}$, making internal context available in semantic interpretation. The account systematizes earlier analyses where indexicals and tenses are managed by different semantic mechanisms. More importantly yet, it explicates the recursive nature of indirect speech: utterances that report about utterances.

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8 The usual hedges apply: unless you change topic, unless you leave the narrative mode, unless the author arfully violates the rules of narrative discourse in order to achieve aesthetic effects.
References:


Plank, Frans. 1986. Über den Personenwechsel und den anderer deiktischer Kategorien in der


