Eventive and evidential speech reports[*]

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Abstract We argue for a fundamental semantic distinction between two types of speech reporting. In eventive speech reports the main contribution is the existence of a speech event with certain properties. Direct and free indirect speech reports belong to this class. In evidential speech reports, the fact that something was said is not at issue, their primary function is to signal that the reported content is based on hearsay evidence. Reportative evidentials in Quechua, Gitksan, and Cheyenne, as well as, in English, certain speech act adverbials (*allegedly*) and slifting reports (*I hear*, *they say*) belong to this class. Indirect discourse constructions are ambiguous, allowing both an eventive and an evidential reading.

keywords: reported speech, evidentiality, direct/indirect speech, free indirect speech, events, not-at-issue content

Contents

1 Introduction

There are many ways to report what someone said. Most work in philosophy and linguistics has traditionally focused on indirect and direct discourse:

(1)   a.   Mary said that you're brilliant
        b.   Mary said, "She's brilliant".

Indirect discourse is typically analyzed as a species of attitude report, i.e., formally, as an intensional operator. Direct discourse is treated as involving quotation, i.e. reference to a linguistic object. But in recent years attention has shifted to non-canonical cases, like free indirect discourse and reportative evidentials. Consider for instance the following examples, all in some sense reporting what someone said:

(2)   a.   Someone was yelling at me. What the hell did I think I was doing!
        b.   Mary looked up and then turned to John. "Watch out," she whispered, "here he comes…"
        c.   {Allegedly/According to Mary}, John is depressed.

d. sin-hun=gat   John ky'oots
   *hunt-fish=*REP *John yesterday*
   'John went fishing yesterday, I'm told.'   [Gitksan, Peterson 2010][1]
e. Trump zou   een pathologische leugenaar zijn.
   Trump would a   pathological   liar   be
   'Reportedly, Trump is a pathological liar.'   [Dutch]

The question arises whether we can give a fully uniform semantics for all of the canonical and non-canonical forms of reporting exemplified in (1) and (2). Our answer is no. There is a fundamental split between (i) what we call eventive reports ((1b) and (2a,b)), which describe a speech event with certain properties like a spatiotemporal location, an agent, and a linguistic form, and (ii) evidential reports (2c,d,e), which express a not-at-issue reportative meaning component to provide evidence for the main proposition expressed.

In sections 2 and 3 we propose distinct semantic analyses of our two types of reporting. In section 4 we apply the resulting framework in a number of case studies, viz. so-called quotative evidentials (which we analyze as eventive rather than evidential), and canonical and inverted variants of indirect discourse in English (which we analyze as allowing both eventive and evidential readings).

2   The semantics of eventive reports

We start our investigation with the traditional forms of direct and indirect discourse exemplified in (1) above. A natural way to think of canonical report constructions is as asserting the existence of a speech event with certain properties (Brasoveanu & Farkas 2007, Davidson 2015, Maier forthcoming). A direct speech report says that there was a saying event whose linguistic form is given by the quoted phrase.

(3)   Mary said "I'm crazy"
        $\rightsquigarrow \exists e \in E[say(e) \wedge agent(e) = mary \wedge form(e) = \ulcorner\text{I'm crazy}\urcorner]$

In words: (3) says that there is an event e, part of a contextually salient conversation E, that is a saying event with Mary as agent, and with a phonological surface form approximated by the sequence of letters *I'm crazy*.

An indirect speech report, typically, also introduces a saying event but specifies its propositional content rather than its form (note: $^\wedge\varphi$ denotes the

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1 We have adapted the spelling (Peterson has e.g. *kat* rather than *gat* for the reportative marker) and some of the glosses.

proposition that φ, see 2.1 below):

(4)   Mary said that I'm crazy
        $\rightsquigarrow \exists e \in E[say(e) \wedge agent(e) = mary \wedge content(e) = {}^{\wedge}[crazy(i)]]$

Before we make this precise, let's just highlight some of the advantages of the event-based account over the classic approach where direct speech is just pure quotation and indirect speech an intensional operator: (i) we capture the anaphoricity of speech reporting by restricting the quantification over speech events to a contextually salient conversation; (ii) we can straightforwardly analyze modifiers in the reporting clause as expressing additional properties of the speech event; (iii) we get a uniform, compositional analysis of direct and indirect speech; (iv) with minor extensions we can analyze inverted/parenthetical direct speech, free indirect speech, role shift, and quotatives. We'll discuss these four points in more detail in the following subsections, after some general clarification about the formal framework and notations we'll be using.

2.1   Notes on the formal framework

Throughout the paper we'll be using a rather traditional, two-stage setup, where natural language expressions are translated into formulas, which in turn can be interpreted in a model and/or used to update the common ground. For the formal language we use a standard higher-order, intensional, typed lambda calculus, with indexicals. Basic types are e (entities), v (eventualities), s (possible worlds), and t (times). We'll use explicit quantification over individuals, events, and times, but not possible worlds – for intensional constructions we use ${}^{\wedge}\varphi$ to denote the possible worlds proposition expressed by φ.

   We'll denote the translation of a natural language into formal language with $\rightsquigarrow$ or $\mathbb{T}$, as in, $\mathbb{T}(\text{happy}) = happy_{et}$. Subscripts indicate the type of an expression, but are typically omitted. Expressions in the formal language are model-theoretically interpreted relative to a context c (an agent–world–time triple), an index w (world–time pair), and an assigment function f: $[\![happy(i)]\!]_w^{c,f} = 1$ iff $[\![i]\!]_w^{c,f} \in [\![happy]\!]_w^{c,f}$ iff $agent(c) \in \{x \mid x \text{ is happy in } w\}$.

   For quotation we need a way to refer to a linguistic form (and/or demonstration, depending on your basic theory of quotation). In our formal language we introduce a new type u (à la Potts 2007) and use Quine hooks as the formal counterpart of (pure) quotation, i.e.:

(5)   If σ is a string of letters (or signs, or phonemes), then $\ulcorner\sigma\urcorner$ is an

expression of type u and $[\![\ulcorner \sigma \urcorner]\!] = \sigma$.

Note that strings of letters are now part of our ontology and our formal language. We assume that each natural language expression corresponds to such a string.

2.2 Anaphoricity of reporting

Brasoveanu & Farkas (2007) point out that the traditional intensional operator approach to indirect discourse fails to capture the anaphoricity of speech reports. The argument is analogous to Partee's (1973) classic argument for the anaphoricity of the simple past (*I didn't turn off the stove*). That is, consider a speech report embedded under negation:

(6)   John didn't say that Mary is stupid.

(6) doesn't mean (i) that there is no utterance time or event whatsoever in which John said that Mary is stupid, nor (ii) that there is some (unspecified) utterance time or event in which John did not say that Mary is stupid. Instead, Brasoveanu & Farkas (2007) argue, (6) presupposes a specific, salient past conversation involving John and then states that in that conversation there was no utterance event of John saying that Mary is stupid.[2]

We model this in our framework by means of a free variable E, denoting a contextually salient conversation (formally just a sequence of utterance events).

(7) $\neg\exists e \in E[say(e) \wedge agent(e) = john \wedge content(e) = {}^{\wedge}[stupid(mary)]]$

The argument applies to indirect and direct speech reports alike, so we'll assume that it's the verb of saying itself that introduces this anaphoric element into the logical form (cf. section 2.4 below for details on composition).

2.3 Modification

Another benefit of using speech events like this is that we can straightforwardly account for tense, adverbial and other modifiers in the reporting clause, as well as optional indirect objects of the saying verb, and other verbs of saying. We analyze all these as event modifiers, i.e., expressing various

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2 Brasoveanu & Farkas (2007) argue that presupposing only the contextually salient time interval corresponding to the previous conversation fails to make the right predictions in cases where the reported speaker has multiple simultaneous conversations.

additional properties of the speech event:

(8)   Two days ago John whispered to Mary, in his deep voice, that it was
        over.
        $\exists e \in E[agent(e) = john \wedge addressee(e) = mary \wedge whisper(e) \wedge$
        $deep.voice(e) \wedge time(e) < n \wedge time(e) = two\ days\ before\ n \wedge$
        $content(e) = {}^{\wedge}over]$

This potential for modification afforded by event semantics will be one of
the crucial differences between eventive and evidential reports. In the next
subsection we demonstrate how a standard composition rule like predicate
modification (Heim & Kratzer 1998) allows us to formalize event modification
fully compositionally.

2.4   Compositionality

Now it's time to get more precise about the compositional derivation of
our putative logical forms. We'll start with a review of the basics of Neo-
Davidsonian event semantics (Parsons 1990), and then apply it to direct and
indirect speech reports.

    In event semantics, clauses and adverbial modifiers alike express prop-
erties of events, which can be combined via the predicate modification rule
(i.e., we can combine $\lambda x[P(x)]$ and $\lambda y[Q(y)]$ into $\lambda x[P(x) \wedge Q(x)]$, cf. Heim &
Kratzer 1998):

(9)   a. $\mathbb{T}(\text{John walks}) = \lambda e[walk(e) \wedge agent(e) = john]$
        b. $\mathbb{T}(\text{clumsily}) = \lambda e[clumsy(e)]$
        c. $\mathbb{T}(\text{John walks clumsily}) = \lambda e[walk(e) \wedge agent(e) = john \wedge clumsy(e)]$

In fact, according to some versions of the Neo-Davidsonian paradigm even
the standard arguments of the verb (agent, theme, etc) are introduced via
(covert) thematic role operators in the syntax (which we'll tend to leave out
of our syntactic representations):

(10)   a. $\mathbb{T}(\text{AGENT}) = \lambda x \lambda e[agent(e) = x]$
        b. $\mathbb{T}(\text{walk}) = \lambda e[walk(e)]$
        c. $\mathbb{T}([\text{AGENT John}]\ \text{walks}) = \lambda e[walk(e) \wedge agent(e) = john]$

At the end of the translation of a clause we apply existential closure to turn
an event property into an event quantification, of type t:

(11)   (9) $\rightsquigarrow \exists e[walk(e) \wedge agent(e) = john \wedge clumsy(e)]$

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To deal with intensionality we assume a rule like Heim & Kratzer's (1998) intensional functional application: we may feed an extensional argument to a function with an intensional argument slot (something of type $(s\alpha)\beta$) by inserting a suitable $^\wedge$.

(12)   a. $\mathbb{T}(\text{Necessarily}) = \square_{(st)t}$
       b. $\mathbb{T}(\text{Necessarily John walks clumsily}) =$
            $\square^\wedge \exists e[walk(e) \wedge agent(e) = john \wedge clumsy(e)]$

Applied to speech reports, we assume that indirect and direct discourse complements are modifiers of the verb of saying, introduced by dedicated operators on a par with AGENT above. For indirect discourse, we posit the operator CONTENT, relating an event and its propositional content:[3]

(13) $\mathbb{T}(\text{CONTENT}) = \lambda p_{st}\lambda e[content(e) = p]$

The lexical entry for saying verbs introduces the anaphoric dependency on conversations:

(14) $\mathbb{T}(\text{say}) = \lambda e \in E[say(e)]$

The syntactic Logical Form (LF) for our indirect discourse example then is (15). We can think of the complementizer *that* as the overt realization of CONTENT:

(15)   [AGENT John] said [CONTENT [it's raining]]

       a. $\mathbb{T}(\text{it's raining}) = rain$
       b. $\mathbb{T}(\text{CONTENT [it's raining]}) = \lambda e[content(e) = {}^\wedge rain]$
       c. $\mathbb{T}(\text{say [CONTENT [it's raining]]}) =$
            $\lambda e \in E[say(e) \wedge content(e) = {}^\wedge rain]$

For quotation we need a different operator, QUOT, relating an event and its form (given as an expression of type u).

(16) $\mathbb{T}(\text{QUOT}) = \lambda q_u \lambda e[form(e) = q]$

Just as we treat indirect discourse *that* as the overt realization of CONTENT, we could say that prosodic or orthographic quotation marking is the overt realization of QUOT. Using Sudo's (2013) quotational analogue of intensional function application, we coerce the argument of QUOT into a type u term by

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3 Cf. Kratzer (2016) and Moulton (2009) for a detailed syntactic/semantic implementation and defense of such a CP-as-modifier approach.

putting its phonetic surface realization in Quine hooks $\ulcorner$ $\urcorner$.[4] The Logical Form of our direct speech example then is:

(17)   [AGENT John] said [QUOT [it's raining]]

    a. $\mathbb{T}$ (it's raining) = *rain*
    b. $\mathbb{T}$ (QUOT [it's raining]) = $\lambda e[form(e) = \ulcorner$It's raining$\urcorner]$
    c. $\mathbb{T}$ (say [QUOT [it's raining]]) =
       $\lambda e \in E[say(e) \wedge form(e) = \ulcorner$It's raining$\urcorner]$

2.5   Non-canonical eventive speech reports

Direct discourse does not always have the form in (3), with an overt saying verb followed by a quotation. In narratives it is quite common to start with the quoted material, and insert the saying verb parenthetically (or even suppress it):

(18)   'Would you tell me, please, which way I ought to go from here?'
'That depends a good deal on where you want to get to,' said the Cat.
'I don't much care where –' said Alice.
'Then it doesn't matter which way you go,' said the Cat.
'– so long as I get SOMEWHERE,' Alice added as an explanation.
'Oh, you're sure to do that,' said the Cat, 'if you only walk long enough.'   [Lewis Carroll *Alice in Wonderland*, ch. vi]

We assign these varieties the same syntactic structure (LF) and logical forms (lf) as canonical direct speech:

(19)   'Then it doesn't matter which way you go,' said the Cat.

    LF: [QUOT [Then it doesn't matter which way you go]] said [AGENT [the Cat]]
    lf: $\exists e \in E[say(e) \wedge agent(e) = c \wedge time(e) < n \wedge$
              $form(e) = \ulcorner$Then it doesn't matter which way you go$\urcorner]$

Another much discussed device for reporting speech in narratives is so-called free indirect discourse, or more precisely, free indirect speech:

(20)   Didn't she realize, I asked, no less humorously, that I was asking

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in a humorous tone of voice? No, she didn't, she said. Well, I was,
I assured her. So, she replied, it wasn't a serious question? Yes, I
confirmed, it was a very serious question indeed – it was a serious
question asked in a humorous tone of voice.

<div align="right">[Michael Frayn (2013) The trick of it. London: Faber & Faber]</div>

Like (inverted) direct speech, free indirect speech presents the speech of a
character in the story without the syntactic characteristics of subordination
under a verb of saying. For instance, in the passage above we see a lot of
'root phenomena', like question marks, and sentence initial *No*, *Well*, *So*, and
Yes in the clauses describing what was said. But whereas in (inverted) direct
speech, utterances are quoted in their entirety, in free indirect speech certain
pronouns and tenses are adjusted to fit the reporting narrator's context –
much like in indirect speech. For instance, the literal dialogue reported in (20)
would have started thus: "Don't you realize ...". Descriptively, free indirect
speech is like direct discourse but with tenses and pronouns as in indirect
discourse (Banfield 1982, Schlenker 2004). We follow Maier (2015) and
analyze free indirect speech semantically as direct speech with occasionally
unquoted tenses and pronouns.

The interpretation can then be represented as in (21), where the curly
brackets indicate 'unquotation':

(21)   a.   Didn't she realize, I asked, no less humorously, that I was asking
            in a humorous tone of voice?
       b.   [QUOT {Did}n't {she} realize that I was asking in a humorous
            tone of voice?] [I asked no less humorously]

In an event-based semantics, we can model unquoted expressions as spec-
ifications of content, while the surrounding quotation is a specification of
form. Skipping over thorny issues involving the internal composition of quota-
tions with unquoted elements,[5] an event-based semantics of unquotation will
look like this (using $^\cap$ to denote string concatenation at the level of phonetic
realization and $e' \sqsubset e$ to denote that e' is a subevent of e):

(22) $\mathbb{T}(\text{QUOT } [\alpha_1\{\beta\}\alpha_2]) = \lambda e \exists e' \sqsubset e[\textit{form}(e) = \ulcorner\alpha_1\urcorner{}^\cap\textit{form}(e')^\cap\ulcorner\alpha_2\urcorner \wedge$
       $^\vee\textit{content}(e') = \mathbb{T}(\beta)]$

Applied to our free indirect speech example, this means that we're ascribing
to the current speaker (i.e., the narrator) a past speech event with a linguistic
form containing two unknowns, expressions used by the original speaker to

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5 Cf. Maier (2014) and Koev 2016 for details on dealing with unquotation compositionally.

refer to what the reporter referred to with *did* and *she*. More precisely, the logical translation of our report looks something like this:[6]

(23) $\exists e \in E[say(e) \wedge agent(e) = i \wedge time(e) < n \ \wedge \exists e', e'' \sqsubseteq e$
$[form(e) = form(e')^{\cap \ulcorner} \text{n't} \ulcorner \urcorner^{\cap} form(e'')^{\cap \ulcorner} \text{realize that I was…voice?}^{\urcorner}$
$\wedge^{\vee} content(e') = \mathbb{T}(\text{did}) \wedge^{\vee} content(e'') = \mathbb{T}(\text{she})]$

Summing up, the speech reports we encountered in this section are eventive in the sense that they all introduce a speech event with certain properties. In the next section we will look at forms of reporting whose main purpose is not to describe speech events, but to support or hedge a claim by indicating that it is based on hearsay evidence. We compare the two classes and look at some more challenging cases in section 4.

3   The semantics of evidential reports

As a first, rough approximation, evidential reports are report constructions that contribute a (non-reportative) proposition p as the main point, with a reportative supplement offering the fact that someone said that p as evidence for p. In this section we will review the various constructions that have been argued to be evidential (section 3.1), evaluate the arguments for their characteristic information structure (3.2), and sketch a two-dimensional semantics (section 3.3). The central idea, based on an emerging consensus in the fast growing semantics literature on evidentiality, is that the so-called scope proposition p and the reportative proposition (someone said that p) live on two separate meaning dimensions, which update the common ground in different ways. We will see that the resulting semantics of evidential reports is fundamentally different from the semantics for eventive speech reports in the previous section.

3.1   Overview of evidential reporting constructions

Evidentiality is typically associated with languages like Cuzco Quechua or Cheyenne where a speaker can mark what evidence she has for her assertion with a verbal inflection. In (24a) for instance the speaker indicates that

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6 We made two simplifications in (23). First, it is actually only the past tense of *did* and the person feature of *she* that are unquoted, but to formalize that we'd need to be much more explicit about morphosyntactic matters, see Maier (2014) for some of the details. Second, if Sharvit's (2008) judgments about mistaken identity scenarios are right, the unquoted tenses and pronouns are not actually interpreted with respect to the actual world/time of the narrator, but *de se*, i.e., as if embedded under an indirect discourse operator.

she has direct perceptual evidence that it is raining, whereas in (24b) she indicates that she merely has it on hearsay evidence.

(24)　a.　Para-sha-n-mi.
　　　　　RAIN-PROG-3-DIR
　　　　　'It is raining(, I see).'
　　　b.　Para-sha-n-si.
　　　　　RAIN-PROG-3-REP
　　　　　'It is raining, I am told.'　　　　　　　[Cuzco Quechua, Faller 2002: 3]

From now on we restrict attention to the expression of hearsay or reportative evidentiality. In languages like English, Dutch, or German we lack such dedicated evidential verbal morphology, so we have to resort to other means of marking the evidential status of a given assertion, such as various modals (e.g., *schijnen/moeten* in Dutch; *sollen/wollen* in German), adverbs (*allegedly*, *reportedly*), prepositions (*according to*), and slifting parentheticals (especially present tense interjections like *I hear*, *they say*, *she says*).[7]

(25)　a.　Trump is, allegedly, corrupt.
　　　b.　According to CNN, Hillary will win.
　　　c.　That movie is really good, I hear.
　　　d.　That movie is supposed to be really good.
　　　e.　Der Film　soll　　　sehr gut　sein. (German)
　　　　　That movie must.REP very　good be
　　　　　'That movie is very good, I hear.'
　　　f.　Anna will　　　in Berlin gewesen sein. (German)
　　　　　Anna want.REP in Berlin have　　been
　　　　　'Anna was in Berlin, she says.'
　　　g.　Hillary schijnt　　ook corrupt te zijn. (Dutch)
　　　　　Hillary seems.REP also corrupt to be
　　　　　'Hillary is also corrupt, reportedly.'

3.2　Reportative evidence is not-at-issue

One of the key characteristics that sets these types of reporting apart from the canonical eventive reports we encountered in the previous section is their information structure: in evidential reports the reporting is backgrounded. For ease of presentation we'll use the following labels for the distinct meaning

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7 In fact, slifting reports, or parenthetical/inverted indirect discourse, often allow both an eventive and an evidential interpretation. We return to this matter at length in section 4.2.

components in evidential constructions: that someone said/heard that *p* is called the *reportative proposition*, while *p* itself is called the *scope proposition*. What we show in this subsection is that, in examples like (24) – (25), the reportative proposition is backgrounded or not-at-issue, while the scope proposition provides the main point of the assertion. We'll go through three standard diagnostics for teasing apart at-issue and not-at-issue contents.

3.2.1 Diagnostic I: Projection

There are various diagnostics for establishing that something is not-at-issue (Tonhauser 2012, Simons et al. 2011). The most obvious would be projection behavior. Not-at-issue entailments of a sentence should be preserved when we embed it under negation and other logical operators. We see the test at work in (26) which only has the reading in (a) with the evidential proposition outscoping the negation:

(26)   Trump schijnt niet corrupt te zijn.
       Trump seems   not corrupt to be
       a.   It is said that Trump is not corrupt
       b. #It is not said that Trump is corrupt

Unfortunately, the projection test doesn't help in cases where the report construction cannot be easily embedded for syntactic reasons, as with parenthetical constructions:

(27)   ??It's not the case that [the movie is very good, I hear].

Koev (2017) provides additional evidence that projection alone is not a very good test for not-at-issueness, so we turn to another diagnostic.

3.2.2 Diagnostic II: Challenging the report

In canonical, eventive direct and indirect discourse the reporting itself is easily challenged by another discourse participant. In fact, when responding to a canonical report we can in principle challenge either that such a saying event took place, as in B, or we can challenge the embedded proposition, B':

(28)   A: She said {"I'm innocent"/ that she was innocent}
       B: Nonsense, she may be innocent, but she would never say that.
       B': Nonsense, she's guilty, regardless of what she told you.

By contrast, for evidential reports a denial targeting only the reportative

proposition is impossible, or at least much more difficult. This is illustrated for the Gitksan reportative enclitic *gat* in (29).[8]

(29) A: sin-hun=gat   John ky'oots
          hunt-fish=REP *John yesterday*
          'John went fishing yesterday, I'm told.'
      B: nee=dii   hogya̲x-t.   nee=dii   sin-hun=t   ky'oots.
          NEG=FOC *correct*-3.II NEG=FOC *hunt-fish*=DM *yesterday*
          'That's not true. He didn't go fishing yesterday.'
      B': #nee=dii   hogya̲x-t.   gya'a-n   win   sin-hun=s   John
          NEG=FOC *correct*-3.II *see*.2SG.II COMP *hunt-fish*=PN *John*
          ky'oots.
          yesterday
          'That's not true. You saw John fishing yesterday.'

Similar observations have been made about Cuzco Quechua (Faller 2014), Cheyenne (Murray 2009), and on Turkish and Bulgarian (Korotkova 2016). The pattern seems to extend to other varieties of evidential reporting exemplified in (25). For instance, with the Dutch reportative *schijnen* an interlocutor may challenge the scope, as in B's objection in (30), but not just the reporting, as in B':

(30) A: Anne schijnt ziek te zijn.
          'Anne is ill, reportedly.'
      B: Onzin. Ik weet niet wat je gehoord hebt, maar ze is kerngezond.
          'Nonsense. I don't know what you heard, but she's very healthy.'
      B': #Onzin. Niemand heeft dat beweerd, ook al is ze misschien wel
          ziek.
          'Nonsense, nobody said that, though she might be sick.'

Two English examples to make the same point:

(31) A: Allegedly, Mary is ill / Mary is ill, I hear
      B: #That's false, even if she were, I'm sure you wouldn't have heard
          about it.

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8 Gitksan is a First Nations language of northwestern British Columbia, Canada. The consultants were first asked to translate the individual English sentences into Gitksan and were then given the dialogues in (29) and asked whether these were ok. As for B', where the evidential proposition is targeted, a consultant remarked 'It's fine but you're just contradicting yourself.' Abbreviations: COMP = complementizer, DM = determinate marker, DUR = durative, FOC = focus, NEG = negation, PN = proper noun connective, REP = reportative.

Unfortunately, with *according to*, it does seem marginally possible to deny only the reportative proposition:

(32)   A: According to John, Mary is ill
        B: (?) That's not true. She is indeed ill, but John would never say that.

As a matter of fact, the challengeability test for detecting not-at-issue status in evidential reports has recently been criticized on empirical and conceptual grounds. Based partly on empirical findings by Syrett & Koev (2014), Koev (to appear) suggests that what direct responses with *That's not true* are really probing for is anaphoric accessibility of propositional anaphors, which happens to correlate roughly with the at-issue/not-at-issue distinction. In addition, Korotkova (2016) suggests that the infelicity of denying the reportative component of an evidential report is the result of the subjectivity of the evidence, rather than its not-at-issueness – you cannot usually deny that I heard something, just like you cannot deny that I'm in pain, simply because I tend to be in a much better position to judge such subjective facts about my own mental states.

We conclude that so far, the data, though suggestive, are not robust enough to establish that the reportative propositions in evidential reports are not-at-issue. In the next subsection we'll probe for not-at-issueness by considering what questions can be felicitously addressed with an evidential report.

3.2.3   Diagnostic III: Answering questions under discussion

Simons (2007) uses question–answer pairs to bring out the 'main point status' of the scope proposition in some evidential report constructions. The idea behind this diagnostic is that in a felicitous discourse the Question under Discussion (QUD) must be addressed by a discourse move that is at-issue. Thus, B's answer in (33) is felicitous because its main, or at-issue contribution, that Mary is ill, gives a partial answer to the question why Mary and Sue aren't here. B"s answer is infelicitous because the information that would answer the question is conveyed by an appositive relative clause, which marks it as not-at-issue, while the main clause content, which is at-issue, doesn't answer the question.

(33)   A: Why are Mary and Sue not here?
        B: Mary, who likes to come to these meetings, is ill.
        B': #Mary, who is ill, likes to come to these meetings.

Let's now apply this to evidential speech reports. The dialogues in (34) are all felicitous, meaning that the at-issue content of the answers addresses the QUD. Since in these contexts it's the scope proposition rather than the reportative proposition that provides a (partial) answer to the QUD, the scope proposition must be at-issue.

(34)   A: Why are Mary and Sue not at the meeting?
        B: a.   Allegedly, Mary is ill
            b.   According to John, Mary is ill.
            c.   Mary is ill, I hear.
            d.   Marie schijnt ziek te zijn.
                'Marie seems.REP to be ill'

By contrast, if speaker A asks B explicitly about her evidence, and makes this the QUD, this would require an answer in which the reportative rather than the scope proposition is at-issue. As expected, our evidential reports are infelicitous, even though they entail that someone said that Mary is ill, which would in principle answer the QUD:

(35)   A: What makes you think that Mary is ill?
        B: a. #Allegedly, she's ill.
            b. #According to John, she's ill.
            c. #She's ill, I hear.
            d. #Ze schijnt ziek te zijn.
                'She seems.REP to be ill.'

We confirmed this pattern for Gitksan. (36B), can be used as an answer to (36A), which requires that the scope proposition is at-issue, but not to (36A'), which requires an at-issue reportative proposition.[9]

(36)   A: gu   gan wil=hl   nee=dii di-t'aa=s   John ky'oots?
              what REAS COMP=CN NEG=FOC DUR-*sit*=PN *John yesterday*
              'Why was John not at home yesterday?'
        A': #gu   gan ha'niigood-in win sin-hun=s   John ky'oots?
              what REAS *think.*2SG.II   COMP *hunt-fish*=PN *John yesterday*
              'Why do you think John went fishing yesterday?' / 'What's your evidence to think that John went fishing yesterday?'
        B: sin-hun=gat   John ky'oots.
              hunt-fish=REP *John yesterday*

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9 According to our consultant, felicitous answers to A' would be sentences like *he packed his net, he shouldered his gaffhook, he carried his rod and reel.*

'John went fishing yesterday, I'm told.'

All in all, we believe that there is good reason to treat the reportative proposition as belonging to a separate, not-at-issue dimension. We'll work this out in the next section.

3.3 Semantics

3.3.1 2D logical forms

The distinction between at-issue and not-at-issue content is often cashed out in terms of multiple meaning dimensions (Bach 1999, Potts 2005, Geurts & Maier 2013). We have seen in the previous subsection that evidential reports have such a two-part information structure. The starting point of our analysis is to put the scope proposition on the first dimension and the reportative proposition on the second.

(37)   Allegedly, Mary is pregnant
$$\approx \left\langle \begin{array}{c} \text{Mary is pregnant} \\ \text{I've been told that Mary is pregnant} \end{array} \right\rangle$$

There is an ongoing debate over exactly what type of not-at-issue meaning the reportative proposition really falls under (i.e. a presupposition (e.g. Schwager 2010), conventional implicature (e.g. Kierstead 2015), or speech act modifier (e.g. Faller 2002). Rather than reconstructing and settling this debate, we'll provide a simple, relatively noncommittal two-dimensional semantics.

Compositionally, the evidential morpheme, adverb, modal, mood, or parenthetical will be analyzed as a sentential operator introducing a split into two dimensions. Let's start with the evidential adverb *allegedly*, which we'll treat as an indicator that the speaker has hearsay evidence for the scope proposition:

(38)   a. $\mathbb{T}\,(\text{allegedly}) = \lambda p_{st} \left\langle \begin{array}{c} p \\ hearsay(p,x) \end{array} \right\rangle$

b. $\mathbb{T}\,(\text{Allegedly, Mary is pregnant}) = \left\langle \begin{array}{c} {}^{\wedge}pregnant(m) \\ hearsay({}^{\wedge}pregnant(m),x) \end{array} \right\rangle$

A couple of remarks about (38). First, the free variable x indicates the source of the evidence. If no salient source is given in the context we'll accommodate and interpret it via existential closure. Second, the predicate *hearsay* in the evidential dimension is a traditional Hintikka-style propositional attitude, indicating that the actual speaker has hearsay evidence for a proposition from

16

some source:

(39) $\langle p, x \rangle \in [\![hearsay]\!]_w^{f,c}$ iff for all w' compatible with the information the agent of c heard from source x in w, $w' \in p$

Note the absence of event variables which are characteristic of eventive reports. We return to the difference between propositional attitude hearsay and eventive saying in section 4 below. Note also that, as argument of hearsay, p in (38) and (39) is a variable over propositions, of type st. We do not extensionalize this proposition to get a regular assertive sentence contribution (of type t) in the first dimension. In section 3.3.3 we'll return to this point.

We can straightforwardly apply this analysis to most of the other types of evidential reporting. Although the evidential marking in Cheyenne or Cuzco Quechua, or the Dutch modal raising verb *schijnen* are not sentence initial on the surface, they are standardly assumed to take scope over the clause at LF, so we can interpret them as sentential operators with the same hearsay semantics as proposed for *allegedly* above.

(40) Marie schijnt ziek te zijn.
      'Mary is ill, reportedly.'
      LF: schijnt [Marie ziek te zijn]

$$\mathbb{T}(\text{schijnt}) = \lambda p \left\langle \begin{array}{c} p \\ hearsay(p,x) \end{array} \right\rangle$$

In English, we saw, hearsay evidence can also be expressed parenthetically, e.g., with a slifting parenthetical *I hear*. Syntactically, we assume that the host clause serves as argument to the parenthetical (Giorgi 2016). Skipping over the syntactic/semantic details of composition we treat *I hear* as a single chunk realization of our reportative evidential operator.

(41) Mary is ill, I hear
      LF: [Mary is ill] [I hear]

$$\mathbb{T}(\text{I hear}) = \lambda p \left\langle \begin{array}{c} p \\ hearsay(p,x) \end{array} \right\rangle$$

So far, we've considered genuine hearsay evidentials, where the source of the reportative evidence is not specified. There are also evidentials where the original speaker must be marked (see e.g. Krawczyk 2012). Examples are *according to* in English and evidential *wollen* 'want' in German.

(42) a. [According to John] Mary is ill

      b. $\mathbb{T}(\text{according to}) = \lambda x \lambda p \left\langle \begin{array}{c} p \\ hearsay(p,x) \end{array} \right\rangle$

(43) a. Anna will   in Berlin gewesen sein.
          Anna want in Berlin been   have
          'Anne claims she was in Berlin'

   b. $\mathbb{T}(\text{will}) = \lambda P \lambda x \left\langle \begin{array}{c} {}^{\wedge}P(x) \\ hearsay({}^{\wedge}P(x),x) \end{array} \right\rangle$

3.3.2 Pragmatics

Let's now specify how two-dimensional logical forms of evidential reports update the common ground. We follow a recently popular idea about the interpretation of appositives and evidentials, viz. that they impose a non-negotiable, forced "pre-update" of the common ground (Murray 2009, Koev 2013, Anderbois et al. 2015, Griffiths 2015). Following ideas from Farkas & Bruce (2009), Inquisitive Semantics (Groenendijk & Roelofsen 2009), and going back to Stalnaker (2002), at-issue content is analyzed as an "update proposal", that can be accepted or rejected by other discourse participants.

   The interpretation of a sentence with an appositive or evidential is thus analyzed as a three-step process: (i) the appositive/evidential content directly updates the common ground; (ii) an additional at-issue update, addressing the QUD, is proposed; and then, (iii), unless the proposal is challenged at the next turn in the dialogue, it is accepted ("grounded") and used to further update the common ground.

   For the first two steps we propose the following update rule:

(44) $c + \left\langle \begin{array}{c} \varphi \\ \psi \end{array} \right\rangle = (c +_1 \psi) +_2 \varphi$

In this formula, c is the context set (i.e., a set of worlds), representing the common ground; $+_1$ is a standard, intersective update; and $+_2$ is meant to capture the idea of an update proposal, to be made precise.[10] Let's illustrate with a concrete example.

(45) a. Allegedly, the company is bankrupt.

   b. $\left\langle \begin{array}{c} {}^{\wedge}bankrupt(comp) \\ hearsay({}^{\wedge}bankrupt(comp),x) \end{array} \right\rangle$

By (44), the dynamic interpretation of (45) in context starts by updating c with the reportative proposition, i.e. throwing out possibilities from c where

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10 Note that simple one-dimensional assertions (*it is raining*) will be effectively treated as two-dimensional ones with a trivial second dimension and an extensional first dimension, of type t.

the speaker didn't hear that the company is bankrupt. As we've seen, the scope proposition, at the first dimension, i.e., the proposition that the company is bankrupt, is open for discussion, so this shouldn't be an automatic update of the common ground. We can think of $+_2$ as a proposal to update, which only becomes an actual update when it's accepted by the interlocutors.

Following Maier & Bary 2015, proposing that φ just means adding it to the queue of proposals, i.e. we create a new pair consisting of our unupdated context and φ. To capture the characteristic behavior of at-issue versus not-at-issue content in question–answer pairs (cf. Diagnostic II, 3.2.3), we require here that a felicitous proposal must address the QUD, on pains of discourse infelicity:

(46) $c +_2 \varphi := \langle c, \varphi \rangle$, if $^{\vee}\varphi$ answers QUD (otherwise undefined)

Applied to our example:

(47) $c + (45) = c +_1 hearsay(^{\wedge}bankrupt(comp), x) +_2 {}^{\wedge}bankrupt(comp) =$
      $= \langle c +_1 hearsay(^{\wedge}bankrupt(comp), x), {}^{\wedge}bankrupt(comp) \rangle$

When a proposal is thus on the table it can be negotiated. A dialogue participant may either reject or accept the proposal. As a first approximation we could describe this with the following two operators:

(48) a. $Accept(\langle c, \varphi \rangle) = c +_1 {}^{\vee}\varphi$ (to be revised, see (51))
      b. $Reject(\langle c, \varphi \rangle) = c +_2 \neg\varphi$

We may require that at the start of the turn following a proposal, the proposal is automatically accepted, unless explicitly denied. Applied to our example:

(49) $Accept((47)) = c +_1 hearsay(^{\wedge}bankrupt(comp), x) +_1 bankrupt(comp)$

That is, unless there are explicit objections, interpretation of (45) leads to an update of the context with the information that the speaker has hearsay evidence for the fact that the company is bankrupt, and the information that the company is in fact bankrupt.

3.3.3 Complication: reportative exceptionality

We essentially predict that the speaker herself is proposing to update with $^{\vee}\varphi$, i.e. asserting the truth of the scope proposition. In other words, the speaker is committed to the truth of the scope proposition. But this is too strong. Despite its apparent foregrounding, the speaker of an evidential report need not

always be fully committed to the truth of the scope proposition. In fact, one of the reasons for using an adverb like *allegedly* rather than a plain assertion of its scope is too weaken one's commitments to its truth. We see this weakened commitment most clearly in examples like (50a)–(50b) where the reporter herself explicitly denies the scope proposition:[11]

(50)   a.   Dadating daw siya sa isang oras, pero hindo talaga.
              will.come REP he in one hour but not really
              'He says he will come in an hour, but in fact he won't.'

                                                              [Tagalog, Schwager 2010]

        b.   Anneloes schijnt thuis te zijn, maar ik geloof er
              Anneloes seems.REP at-home to be, but I believe there
              niets van.
              nothing of
              'Anneloes is at home, I am told, but I don't believe it.'

                                                                 [Dutch, Koring 2013]

The apparent lack of commitment in some reportative evidential constructions is dubbed 'reportative exceptionality' in the evidentiality literature (cf. AnderBois 2014 for a detailed overview), referring to the fact that this pattern is not found in any other types of evidentiality marking.[12]

The crucial puzzle then consists in reconciling this behavior with the information structuring brought out with denials and question-answer-pairs above: If the main point of a report is the scope proposition, how come the speaker is not committed to that?

Existing accounts differ on whether or not speaker commitment to the scope proposition is built into the semantics. On the one side, we have AnderBois (2014) who argues that scope commitment is part of the semantics of evidentials, analyzing exceptions in terms of a pragmatic perspective shift

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[11] Matthewson et al. (2007) and Matthewson (2010) note that some reportative evidentials, such as *ku7* in St'át'imcets, do not allow this.

[12] In direct (i) and inferential (ii) evidentials, the speaker does appear to be committed to the scope proposition:

(i)   # E-hotaheva-∅ Floyd naa+oha e-saa-hotaheva-he-∅.
          3-win-DIR Floyd but 3-NEG-win–DIR
        'Floyd won, I'm sure, but I'm certain he didn't.'   [Cheyenne, Murray 2009:327]

(ii)   # Aya-llru-llini-uq   . . . Aya-ksaite-llru-yuk-aa.
          leave-past-inf-ind.3sg leave-neg-past-think.that-ind.1sg.subj -3sg.obj
        'Evidently she left . . . [but] I don't think that she left.'   [Yup'ik, Krawczyk 2012:22]

of the sort proposed by Harris & Potts (2010). On the opposite side, Faller (2002) argues that the reported content is not proposed to be added to the common ground at all: it is merely presented rather than asserted. Yet another solution is that of Murray (2014), who makes a distinction between what is on the table for discussion (viz. the plain proposition p), and what updates the common ground (viz. a suitably modalized version of p).

Without offering a full solution to this puzzle, let us say a few things about the dynamics of interpreting evidential speech reports. The speaker herself initially only *presents*, as Faller puts it, the reported content as an issue, represented as a propositional variable on the first dimension of the logical form. During her turn she may still modify it herself and thereby weaken her eventual commitments. If unchallenged, at the end of her turn the presented issue becomes a proposal to update. The proposition is now on the table for discussion. Then, only when accepted, either explicitly or implicitly, by the interlocutors does it enter the common ground and thereby commit the dialogue participants to the reported content.

Although this seems to us a natural way to look at what's going on, the ultimate analysis will be more complex. In addition to the reactions by both the speaker herself and the interlocutors, other factors play a role in determining in what way the scope proposition p at the first dimension enters the common ground: $^{\vee}p$, as if it was asserted; $?p$, i.e., 'it is an issue whether p is true,' explicitly introducing a new QUD; $\diamond p$, i.e. ' it is possible that p'. These factors may even include subtle factors such as the confidence that the actual speaker and his interlocutors have in the reported speaker as regards the scope proposition (cf. Davis et al. 2007, Koev to appear). Working this out in a formal dialogue system would be a paper on its own, so we leave it at this. We have provided a minimal semantics in which the first dimension only contains the proposition p and leave open which factors contribute in which way to the eventual update in specific situations. Concretely, in order to accommodate so-called reportative exceptionality we just need to replace (48) from 3.3.2 with something weaker like (51):

(51) $Accept(\langle c, \varphi \rangle) = c +_1 MOD\ \varphi$,
        where MOD is one of $^{\vee}$, $?$, $\diamond$, ..., depending on the context

4   Applications

The semantics for evidential speech reports that we have seen in section 3 is very different from that of eventive ones in section 2. Let's summarize the differences we have come across. Eventive reports are anaphoric: they carry

the requirement with them to be placed in a particular conversational setting. There certainly is variation within this class: we have versions that specify the form (direct discourse) and ones that specify the content (indirect discourse), and mixtures (free indirect discourse). But they have a uniform semantics in the sense that these are specifications of a feature of a *speech act*, represented as events. The semantics of evidential reports does not involve reference to events. Such reports do not refer back to a specific conversational setting, nor do they specify the form, or other aspects of a speech event. This means that we can stick with the traditional intensional analysis for the built-in reportative hearsay predicate. A second difference is that evidential, but not eventive reports are multidimensional: they have a lexically marked at-issue and a non-at-issue component, which update the common ground in different ways.

In this section we apply this eventive–evidential distinction and the semantic equipment we developed for it to three species of speech reports: quotatives (4.1), canonical indirect speech (4.2.1 and 4.2.2), and parenthetical indirect speech (4.2.4). In our discussion of indirect speech we'll highlight a third difference between eventive and evidential reports, in addition to the two differences mentioned above: eventive reports impose a stricter requirement on the relation between the content of the report and what was actually said than evidential reports.

4.1   Quotatives

One species of speech reports may at first sight seem a counterexample to our split between eventive and evidential reports and therefore deserves our attention. Recall that we claim that specifying the form of a speech act (i.e. direct discourse) is a feature of eventive reports only. Evidential speech reports don't specify forms: they have a different semantics, a two-dimensional one in which the reporting component is modeled in terms of an intensional operator, without reference to a speech event. According to the evidentiality literature, however, there are also reportative evidentials that involve a direct quote, the so-called *quotatives*.[13] At first sight they seem to undermine the

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13 To avoid confusion: this is not the only use of the term *quotative* in the evidential literature. The term is also often used as a synonym for the whole class of reportative evidentials (e.g. in Waldie 2012) and for reportative evidentials that specify the source of the report as in English *according to* (Krawczyk 2012). Aikhenvald's (2004) standard book on evidentials itself uses the word *quotative* in multiple ways (as reportatives that specify the source (p. 25), as reportatives that involve direct quotation (p. 423), and sometimes both criteria are required to be a quotative (p. 64)). When we conclude that quotatives are not evidentials in

split since evidential speech reports have no event of which they can specify the form. A closer look at a sample of the languages that are said to have such quotative evidentials however strongly suggests that they are purely eventive speech reports, without any evidential component.

Let's start with Plains Cree, an Algonquian language, spoken mostly in Saskatchewan and Alberta (Canada). Plains Cree is said to have a quotative evidential marker *itwê* in addition to reportative, nonfactual and dubitative ones (Blain & Déchaine 2007). An example is given in (52) (Kâ-Nîpitêhtêw (1998: 52, line 14); via Blain & Déchaine (2007)):

(52)   "â, namôy," itwêw, "môy êwako ê-wî-atoskâtamân,"   itwêw.
         well NEG   QUO   NEG *that* CONJ-FUT-*engage.in(1)* QUO
         '..., "Well, no," he said, "I am not going to engage in that," he said.'
                                                                        [Plains Cree]

However, when we look at the larger context in which the example occurs, it becomes clear that we're really dealing not with an evidential but with a description of a speech event, including reference to a specific source, time, and conversation:

(53)   Today, for example, when I spoke to this one [in the audience], I
         asked him about these six things, whether he was going to engage
         in them; and when I asked him the first time, for example, he said
         "Well, no, I am not going to engage in that" (Kâ-Nîpitêhtêw 1998:
         52)

In no sense does the actual speaker use *itwê* to provide evidence for a scope proposition (given by the reported words). What's more, morphosyntactically, the quotative is the odd one out in this language: whereas the other evidentials in this language are particles, *itwê* is a verb (Blain & Déchaine 2007: 261): it can be inflected for first-, second-, or third-person subject agreement, and it occurs with tense/aspect (Blain & Déchaine 2007: 262). It also seems to be the only one that allows recursive embedding (*John said: 'Mary said '...''*). We take these facts to suggest that we're not really dealing with an evidential, but with a purely eventive construction, with the person, tense and quote each specifying features of a reported speech event – on a par with the English direct speech construction.

Also in languages where the quotative marker is not a verb but a clitic or particle we find strong evidence that these are not evidentials in our semantic sense. Among such evidential markers, quotatives are the only ones that can

the semantic sense, this primarily concerns ones that specify the form (i.e. involve quotation).

23

occur with imperatives (see Boye 2012:204-206 on West Greenlandic and Kannada, and Korotkova 2017). The impossiblity of combining evidentials and imperatives is expected since the notion of providing evidence to a scope proposition is not applicable in the case of non-propositional speech acts. An eventive analysis, by contrast, allows quotatives in any speech act types, just as we can quote questions and imperatives in direct speech in English.

On the basis of these data we conclude that quotatives are not evidentials in the semantic sense. This is in line with Boye's (2012) considerations to exclude quotatives as evidential markers, and with Korotkova's (2017) analysis of quotative evidentials as "the only true cases of illocutionary evidentials", likewise setting them apart from other evidentials and actually arguing that they are more closely related to other, non-evidential quotative particles and other (eventive) speech report constructions. So-called quotative evidentials thus actually corroborate the split that we argue for. As soon as one specifies the form of a speech event, the contribution to the discourse can no longer be an evidential one: instead of providing evidence for the scope proposition, the speaker is describing a speech event.

4.2   Indirect speech

In section 2 we developed an eventive semantics for indirect speech. As we'll see in this section, this eventive semantics does not replace the traditional intensional-operator semantics entirely. Indirect discourse is ambiguous between an eventive and an evidential reading and, as with the unambiguously evidential constructions like *allegedly* that we have seen in section 3, the semantics for the latter has a traditional intensional hearsay operator without events. In light of this ambiguity, it is not surprising that the eventive analysis and the more traditional intensional operator one have existed side by side: there is simply some truth in both, albeit for different uses of the report construction.

In this section we will take a closer look at this ambiguity, giving the respective logical forms in section 4.2.1 and identifying factors that point into either direction in section 4.2.2. We'll investigate the case of syntactically parenthetical reports, where we find the same ambiguity, in section 4.2.4.

4.2.1   An ambiguity in canonical indirect speech

Let's illustrate the ambiguity on the basis of the QUD test used in section 3.2.3. We saw there that evidential reports, where the content of the report is at issue, are felicitous as answers to questions that require exactly such

answers (54A), but not to questions that require an at-issue speech event, like (55A):

(54) A: Why are Mary and Sue not at the meeting?
      B: Allegedly, Mary is pregnant.

(55) A: What makes you think that Mary is pregnant? / What happened next?
      B: #Allegedly, Mary is pregnant.

As (56) and (57) show, indirect speech, by contrast, can be used in both cases, indicating that both the content of the report and the speech event can be at issue, depending on the context:

(56) A: Why are Mary and Sue not at the meeting?
      B: John said that Mary is pregnant.

(57) A: What makes you think that Mary is pregnant? / What happened next?
      B: John said that Mary is pregnant.

The natural habitat of the evidential reading is the dialogue. Whereas the eventive reading can also be found there, as (57) illustrates, it is typically found in narratives, because descriptions of speech events are an important tool to liven up a story:

(58) Carol and Sue were walking down the street. They were exchanging new gossip about their classmates. Carol suggested that Tom's mother was in jail. Sue said that Mary was pregnant.

Given our analysis, the contrast between (56) on the one hand and (57) and (58) on the other constitutes a genuine ambiguity at the syntax–semantics interface. The two readings have different logical forms, with two dimensions and a hearsay operator for the evidential reading (59), and an anaphoric event semantics for the eventive one (60):

(59) John said that Mary is pregnant
$$\left\langle \begin{array}{c} pregnant(mary) \\ hearsay(^\wedge pregnant(mary), john) \end{array} \right\rangle$$

(60) John said that Mary is pregnant
$$\exists e \in E[say(e) \wedge agent(e) = john \wedge time(e) < n \\ \wedge\ content(e) = {}^\wedge pregnant(mary)]$$

(61) and (62) give the respective derivations, where we assume that the

ambiguity derives from two different verbs of saying, 'say$_{event}$' and 'say$_{evid}$'.

(61) LF: say$_{evid}$ [Mary is pregnant]

    a. $\mathbb{T}$(Mary is pregnant) $= pregnant(mary)$

    b. $\mathbb{T}$(say$_{evid}$) $=$

$$\lambda p \lambda x \left\langle \begin{array}{c} p \\ hearsay(p,x) \end{array} \right\rangle$$

    c. $\mathbb{T}$(say$_{evid}$ [Mary is pregnant]) $=$

$$\lambda x \left\langle \begin{array}{c} {}^{\wedge}pregnant(mary) \\ hearsay({}^{\wedge}pregnant(mary),x) \end{array} \right\rangle$$

(62) LF: say$_{event}$ CONTENT [Mary is pregnant]

    a. $\mathbb{T}$(CONTENT [Mary is pregnant]]) $=$
    $\lambda e[content(e) = {}^{\wedge}pregnant(mary)]$

    b. $\mathbb{T}$(say$_{event}$) $= \lambda e \in E[say(e)]$

    c. $\mathbb{T}$(say$_{event}$ CONTENT [Mary is pregnant]) $=$
    $\lambda e \in E[say(e) \wedge content(e) = {}^{\wedge}pregnant(mary)]$

4.2.2 Distinguishing eventive and evidential readings

Although the indirect speech construction is now ambiguous between an eventive and evidential reading, this ambiguity will typically be resolved in context. We've already seen how a specific QUD forces either and eventive or evidential reading. But our analysis predicts several other grammatical and discourse factors to bring out one or the other interpretation.

Speech act modifiers (*loudly*, *in the kitchen*, (63)) and descriptive say-verbs (*whisper*, (64)) are only compatible with an eventive reading since they require a speech event to be modified:

(63) Tracy said loudly that Richard had started it.

(64) John whispered to Mary that he was wearing his new underwear.

Similarly, anti-evidential say-verbs (*lie*, (65)) are only compatible with an eventive reading, since 'lying that φ' can't very well count as evidence for φ:

(65) John lied that he had done his homework.

On the other hand, present tense reports (*CNN says*, *they say*) favor an evidential reading (since speech acts are eventive and hence don't admit a habitual/generic interpretation):

(66)   {They say/I hear/John always says} that Mary is happy.

More generally, the less specific information is given about the speech event, the more likely it is that the report is evidential. If we look at the full spectrum of speech reports we have on the one end *allegedly* and the morphological evidential markers, which specify nothing apart from that the speaker has hearsay evidence, and on the other end Free Indirect Discourse and direct discourse, where the surrounding context or the report itself typically provides a vivid conversational setting, a speaker, an addressee, a time, a mode of saying and the literal form (see (20)).

4.2.3 Zimmermann & Von Stechow's ambiguity and the flexibility of indirect reports

On our analysis the evidential reading of an indirect speech report relies on a traditional intensional semantics of the hearsay predicate in (39), repeated here as (67).

(67) $\langle p, x \rangle \in [\![hearsay]\!]_w^{f,c}$ iff for all w' compatible with the information the agent of c heard from source x in w, $w' \in p$

This semantics grants the reporter considerable freedom when presenting evidence: the complement of the report does not need to express the very same proposition as the original utterance, but only some entailment of it.[14] This corresponds, roughly, to the semantics of indirect speech proposed by Schlenker (2003), Brasoveanu & Farkas (2007), and Sæbø (2013). This type of flexibility in indirect reporting is corroborated by examples like (68), where Bill's unambiguously evidential answers to Mary in (68b) and (68b') are felicitous despite the fact that the scope proposition deviates significantly from the more general statement originally expressed by his source, John.

(68)   Original utterance: John, talking about Sue's company to Bill: 'Everybody in that company drives a brand new BMW'

    a.   Mary to Bill: Does Sue need a ride?
    b.   Bill: According to John Sue has a car.
    b'.   Bill: Allegedly, Sue has a car.

As it stands, our semantics for eventive reports predicts less freedom. The

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14 As Brasoveanu & Farkas (2007) and others point out, it's not really just an entailment of the original alone, but an entailment that can be drawn with the aid of some relevant background knowledge in the common ground between reporter and addressee. We won't formalize this.

complement of an indirect report is required to be propositionally equivalent to the original proposition rather than just a contextual entailment of it (cf. '*content*$(e) = \ldots$', in (60)). In this respect our semantics for eventive indirect reports is entirely parallel to the semantics we proposed for direct speech ('*form*$(e) = \ldots$'), and resembles Kaplan's (1989) rather than say Schlenker's (2003) semantics for indirect speech.

This leads to an interesting prediction: the two readings of indirect speech reports allow different amounts of faithfulness in representing the content of the original speech act. We can put this to the test by disambiguating the readings with QUDs and comparing them with an original statement that is being reported:

(69)   Original utterance: John, talking about Sue's company to Bill: 'Everybody in that company drives a brand new BMW.'

      a.   Mary: Does Mary need a ride?
      b.   Bill: John says Sue owns a car.

      a'.   Mary: What happened yesterday at lunch?
      b'.   Bill: ??John said that Sue owns a car.

As predicted, reporting only an entailment of an original speech act, as in (69), becomes less acceptable when we force an eventive reading.

We can use some of the other ways of forcing an eventive reading to further prove our prediction correct. For instance, observe that when we add some modifiers, a report with a non-faithful entailment of John's original utterance about BMWs becomes quite degraded.

(70)   ??John said yesterday after lunch in his thick New York accent that Sue has a car.

Relating the difference in faithfulness requirements to the eventive/evidential ambiguity allows us to make sense of an ambiguity observed by von Stechow & Zimmermann (2005) in a different context:

> according to [Kaplan], an indirect speech report reports the exact content of the reported speech act. There may be a reading of English *say* for which this kind of exactness is adequate. However, normally the indirect report is understood as specifying a contextual consequence of the original content, i.e. a proposition it implies, given some background knowledge. [von Stechow & Zimmermann 2005: footnote 18]

In our framework, this "exact" reading would correspond to an eventive reading, while the more flexible entailment-based reading corresponds to the evidential reading.

Interestingly, the quote also suggests that evidential readings are the default ("normally"). But that really depends on the genre. In everyday conversation, for instance, evidential reporting can be a useful strategy for hedging your own commitment, by indicating that you have something only on hearsay evidence, and offloading some of your responsibility to your sources. So we might expect that in corpora of natural conversation we find more evidential than eventive readings of indirect speech. But in narrative fiction the narrator rarely needs to indicate to her reader where she gets her information from. She will typically be more interested in vividly representing her characters' speech acts. Hence, we predict that eventive readings will be the default in a corpus of fictional texts.

4.2.4 Parenthetical indirect speech

In section 2.5 we discussed parenthetical direct speech and free indirect discourse, both of which are essentially forms of quotation and hence strictly eventive. Regular indirect discourse also has a parenthetical variant, sometimes referred to as inverted indirect discourse (Leech & Short 1981) or a slifting parenthetical report (Koev to appear).

(71)   Mary wasn't at the party, Jill said.

Given our discussion of indirect discourse above, the question then arises, are these also ambiguous between an eventive and an evidential reading?

In her classification of naturally occurring instances of parenthetical indirect speech, Hunter (2016) distinguishes two distinct types. The first type involves an author extending a previous canonical indirect (or direct) report, as in (72).

(72)   An association spokeswoman, Elinore Boeke, said travelers should check with public health officials about destinations they planned to visit and cited the C.D.C.'s current travel advisories, which suggest only that all visitors avoid mosquito bites by using repellent and long clothes.
Cruise ships publish daily fliers on health and safety and instruct passengers on how to avoid bites, Ms. Boeke added. [Hunter 2016:(31)]

On Hunter's analysis this extension-use of parenthetical indirect speech is

literally just a way to extend the scope of the previous indirect speech operator. On the current analysis, we can capture this continuation effect if we treat *added* as an eventive reporting verb, triggering a presuppositional dependency on a previous discourse, which in this case will be the conversation between Ms. Boeke and the reporter, also referred to in the first, canonical, eventive report.

Hunter introduces a second type of parenthetical indirect speech as follows:

> syntactic parentheticals are commonly used, in newspaper texts at least, to express factual reports in which full author commitment to the content of the slifted clause is inferred. [(73)], an illustration of a factual report, is taken from an article on the Ebola virus, the most recent outbreak of which was coming to an end at the time the article was written.

(73)   But in a statement released in Geneva, Ms. Chan added that "our work is not done, and vigilance is needed to prevent new outbreaks." The immediate threat stems from persistence of the virus in body fluids, notably in the semen of male survivors, up to a year after they are free of the disease and show no symptoms, said Rick Brennan.

[Hunter 2016]

If Hunter's interpretation of this example is correct, we must be dealing with an evidential reading. The main point of this passage is that there is still an immediate threat etc, and the author is mentioning her source, Rick Brennan, merely to support this main point. In sum, Hunter's data show that parenthetical indirect speech exhibits exactly the same ambiguity as canonical indirect speech.

One last observation involves the information structural effects of parentheticalization. In general, as we saw with non-reportative appositives in 3.2, parentheticalization marks something as not-at-issue. Hence, in a parenthetical direct or indirect report, the reportative meaning component is backgrounded, independently of the eventive–evidential distinction. This explains why a parenthetical eventive report is ill-suited to directly answer a question about a saying event (de Vries 2006):

(74)   A: What happened next? Did anyone dare say anything?
        B: Mary said in her thick New York accent that John did it.
        B: ??{John did it/"John did it"}, Mary said in her thick New York accent

A test for distinguishing eventives and evidentials based on information structure alone would fail here. In such cases, it's the modifiers, or the quotation marks in the direct speech variant, that disambiguate. Eventive parenthetical reports thus have a two-dimensional semantics with an at-issue and a non-at-issue dimension, just like evidential reports. On the second dimension, however, they have an eventive semantics.

To make the picture complete, note that there may be yet other sources of not-at-issueness in speech reports. Consider for instance the Ancient Greek optative mood, a common reportative marker, in examples like the following:

(75)   Μετὰ ταῦτα ἐδίδοτο λέγειν τῷ βουλομένῳ· καὶ ἔλεγον πολλοὶ ... ὅτι παντὸς ἄξια <u>λέγοι</u> Σεύθης· χειμὼν γὰρ <u>εἴη</u> καὶ οὔτε οἴκαδε ἀποπλεῖν τῷ τοῦτο βουλομένῳ δυνατὸν <u>εἴη</u>, ...
After this the opportunity to speak was offered to any one who desired it; many said ... that what Seuthes <u>said</u> was of supreme importance; for the season <u>was</u> winter, and it <u>was</u> impossible to sail back home, ...

In (75), the optative (the underlined verb forms) is clearly used to mark the continuation of a report of a specific speech event (introduced by the verb of saying ἔλεγον), which is placed in a particular conversation. In other words, it's eventive rather than evidential. Still, the reportative information is backgrounded.[15] In line with the analyses proposed by Bary & Maier (2014) and Solberg (2017) we suggest that in this case the source of the backgrounding is that the reportative meaning is presupposed (cf. also Fabricius-Hansen & Sæbø 2004).[16] We don't offer a full analysis of this phenomenon here but refer the interested reader to Solberg (2017) for an event-based account.

5 Conclusion

We often refer to what other people have said. And we do so for different reasons. When we're telling a story we might want to vividly describe certain aspects of the speech event itself, e.g. focusing on the actual words, the

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15 Tests for not-at-issueness are difficult to apply to a dead language. In German, however, the reportative subjunctive (Konjunktiv) in many respects resembles the Greek optative and we see here for example that *Sie habe blaue Augen* with the reportative use of the subjunctive cannot be used as an answer to the question *What happened next?*

16 In addition to the linking to an event mentioned in a previous sentence, other indications for the presuppositional status are the fact that in complements the reportative information binds to the event expressed by the matrix verb, and that the reportative information escapes from negation.

manner of speaking, or just the content. In such cases we'll want to use an eventive report construction, such as direct or free indirect speech. In other situations we only refer to the fact that something was said by someone as a way of indicating the evidential source of some other, primary content we wish to convey. In such cases we'll want to use an evidential report construction, like a reportative mood or modal.

In this paper we have argued that these two types of reporting warrant fundamentally different semantic analyses. Eventive reports refer to a speech event, presupposing a particular conversational setting. We propose a compositional, Neo-Davidsonian semantics in which speech events can have a content and a form, expressed by a complement clause or quotation, respectively, as well as various other properties expressed by arguments and modifiers. Evidential reports do not introduce a speech event but have a multidimensional semantics: the scope proposition is at-issue (which we modeled as a proposal to update the common ground), while the reportative proposition is backgrounded (which we modeled as a non-negotiable pre-update).

Failure to distinguish the two types of reporting has led to confusion in the literature. For instance, despite what the label suggests, 'quotative evidentials' turn out to be eventive – not evidential. Our distinction also sheds new light on current debates about the semantics of indirect speech, in that, according to our tests, indirect speech in English is actually ambiguous between an eventive and an evidential reading.

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