

Characterizing illocutionary content*

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Abstract There are at least two semantic distinctions made in the literature: the (not-)at-issue distinction, and the distinction between descriptive and illocutionary or use-conditional content (Kaplan 1997; Horn 2013; Rett 2021b). Two phenomena that have traditionally been characterized as illocutionary are illocutionary mood and illocutionary modifiers (e.g. *frankly*). Most treatments of not-at-issue content don't differentiate between illocutionary content and descriptive not-at-issue content, like that encoded in appositives or conventional implicature. Those that do can't model both illocutionary mood and illocutionary modifiers, or require additional formal apparatuses to do so. The goal of this paper is to present a unified and natural account of illocutionary content. I argue that all illocutionary content has in common that it is discourse-anaphoric to the speech event. As a result, we can model all of these types of content as (different kinds of) Common Ground update, in the Stalnakerian sense. I provide a formal account of this model, and argue that it makes certain novel and correct predictions about how encoders of illocutionary content behave, and how they're encoded.

Keywords: illocutionary mood, illocutionary content, mirativity, discourse anaphora, speech acts, goat update

1 Introduction

I'll begin by differentiating terminologically between the syntactic, semantic, and pragmatic properties that contribute to the thrust of a given utterance. An utterance's syntax is its **clause type**, the difference between a sentence, a question, or a subject-less clause (in the case of e.g. English imperatives). Clause types are linguistically specified and limited, or finite. In addition to its content, an utterance is semantically associated with **illocutionary mood** or **illocutionary force**. Illocutionary mood, too, is linguistically specified (morphologically, prosodically, or both) and there are

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only three types, cross-linguistically (Portner 2018): declarative, interrogative, and imperative. That utterances have both clause type and illocutionary mood conventionally specified independently is evident in the fact that we can get mismatches between the two, as shown in 1.

- (1) a. That's a persimmon? *rising declarative*, Gunlogson (2001)
 b. Does he even care. *rhetorical question*, Han (2002)

On the other hand, there are pragmatic or contextual considerations shaping the type of **speech act** associated with an utterance. These are not linguistically specified – an utterance like *I wouldn't do that if I were you* could be an assertion, a warning, or a threat – and are innumerable. There are restrictions on which sorts of clause types can carry which sorts of mood marking, but arguably no restrictions on which clause types and illocutionary mood can associate with which speech acts.

Since clause types and illocutionary mood are linguistically specified – syntactically, morphologically, and prosodically – I consider them to be within the purview of compositional semantic analyses. Since speech acts are not linguistically or even conventionally specified, they are outside the purview of compositional semantics. When I talk about illocutionary content, then, I talk only about compositionally encoded semantic meaning that pertains to the thrust of the utterance.

There are (roughly) two types of distinctions of semantic content in the literature. Recent and quite influential has been the distinction between at-issue and not-at-issue content (Potts 2012; Tonhauser, Beaver, Roberts & Simons 2013); meaning is at-issue iff it is targetable by truth-conditional operators (like negation or the conditional) and directly deniable in discourse, otherwise it is not-at-issue. Traditional examples of not-at-issue content, conventionally encoded, include conventional implicature (e.g. the oppositional flavor of *but*, Potts 2005) and the content encoded in appositives (AnderBois, Brasoveanu & Henderson 2010; Murray 2014).

A second distinction is more entrenched but less precise: the distinction between descriptive and illocutionary or use-conditional content Searle & Vanderveken (1985); Kaplan (1997). Intuitively, descriptive content is about the world(s), while illocutionary content is about the utterance. But since this distinction has traditionally been more intuitive than formal, the class of illocutionary content has included a wide variety of phenomena, and disagreement.

1.1 Illocutionary content

Illocutionary mood is arguably universally marked (Portner 2018), prosodically in English and morphologically in languages like Cheyenne (Murray 2010). It seems to semantically classify an utterance, into three and only three varieties (Portner 2018): declarative, interrogative, and imperative. (Other conventionally-encoded

utterance types, like exclamation, appear to be secondary.) Illocutionary mood displays several properties (*ibid.*): it's not iterable; it can't scope under negation; and it has here-and-now ('origo') anchoring.

Illocutionary modifiers are the second sort of phenomenon that has traditionally been considered illocutionary. Candidates for illocutionary modifiers have generally been morphologically encoded (as opposed to prosodically), and they seem to subclassify an utterance. Some examples include illocutionary adverbs, as in 2 (Potts 2003; Ernst 2009; Woods 2014) and explanatory modifiers, as in 3 (Extepare 1997; Mittwoch 1977; Asher & Lascarides 2003).

- (2) a. Frankly, Rochester is nicer than Los Angeles.
b. Briefly, I am no longer assigned administrative duties.
- (3) a. Peter has gone to Florida, in case you want to know.
b. What's for dinner? because I'm starving.

Other phenomena that have been characterized as illocutionary modifiers include: emotive markers, like *alas* or *fortunately* (Rett 2021b); expressives, like *damn* (Rett 2021a); evidentials (in Cuzco Quechua, Faller 2002); superlatives (Cohen & Krifka 2014); epistemic adverbs like *probably* (Greenberg & Wolf 2017); modal particles like the German *ja* (Gutzmann 2015); and temporal expressions like *still* (Beck 2016) and temporal adverbs like *currently*, *now* (Hunter 2010; Altshuler 2014).

This list is a morphological mixed bag, arguably because (in contrast to e.g. sentence particles) the phenomenon of illocutionary modifiers is characterized semantically, in terms of something that seems to modify the illocutionary content of an utterance. In this sense, there is no real distinction between illocutionary mood and illocutionary modifiers, in that illocutionary mood could be construed as a subtype of illocutionary modifier. They have in common that they all seem to restrict or categorize what sort of utterance it is, i.e., they all have in common that they encode illocutionary meaning.

In contrast to (not-)at-issue content, there have been relatively few diagnostics proffered in the literature for the descriptive/illocutionary distinction. There is widespread consensus that illocutionary or use-conditional content is not-at-issue (see e.g. Gutzmann 2015), but I've argued that there are a few additional diagnostics for the descriptive/illocutionary distinction (Rett 2021b). Principle among them, adapted from Murray (2010), is that, when descriptive content is denied by the speaker, the result is contradiction; whereas with illocutionary content, the result is insincerity, (something Moores-Paradoxical).

Murray used this to demonstrate the different semantic properties of the Cheyenne mirative evidential; she reported that denial of the evidential reading in 4 resulted in something her consultants characterized as contradiction, while denial of the

mirative reading in 5 resulted in something her consultants equated with Moore's Paradox (the classic *#It's raining but I don't believe it's raining*).

- (4) #_⊥ É-hó'táheva-sèstse Aénohe naa oha hovánee'e é-sáa-nè-hé-he-∅.
3-win-RPT.3SG Hawk but nobody 3-NEG-that-say-MOD_A-DIR
'Hawk won, it's said, but nobody said that.'
- (5) # É-hoo'kóhó-**neho**! Ná-něšè-héne'ena tsé-to'sè-hešè-hoo'kohó.
3-rain-nar.sg.inan 1-continue-know.s.t CNJ-going.to-how-rain
'It's raining! ... # I *knew* it was going to rain.'

In Rett (2021b), I extended these tests to the difference between e.g. *allegedly* and *unfortunately* (descriptive vs. illocutionary content, respectively), and adopted insights from Yalcin (2007) to shore up the distinction in a consistency judgment of embedded clauses.

- (6) a. Suppose that, unfortunately, Jane lost the race, but that I do not find it unfortunate that she did.
b. # Suppose that, allegedly, Jane lost the race, but that no one alleged that she did.

This distinction is related to another apparent difference: that descriptive adverbs in sentence-final position scope wide, while illocutionary adverbs can be associated with an embedded clause.

- (7) a. It's possible that it will rain, reportedly. *unambiguously matrix*
b. It's possible that it will rain, unfortunately. *ambiguous*

In 7a, the descriptive (evidential) adverb *reportedly* can only scope over the possibility modal; this sentence can only be interpreted to mean that the report is of possible rain. In contrast, the illocutionary adverb *unfortunately* in 7b can be used to lament the rain or the possibility of rain.

A final distinction is that illocutionary content can be discriminating with respect to which illocutionary mood(s) it can cooccur with, while descriptive content isn't. Rett (2021b) presents illocutionary adverbs that are unnatural outside of e.g. declarative mood.

1.2 Semantic theories of illocutionary content

There are roughly three accounts of illocutionary mood: 1) classic, operator-based accounts of "speech acts" (Ross 1970; Sadock 1974), in which all utterances are analyzed as involving a null 'Illocutionary-Force-Indicating Device (IFID)', equivalent

to e.g. *I hereby assert to you that...*; 2) a dynamic version of these accounts, also in which “speech acts” are treated as operators (Krifka 2014, 2023); and 3) dynamic accounts that construe mood as specifying the nature of Stalnakerian update (Gazdar 1976; Farkas & Bruce 2010; Murray 2014; Murray & Starr 2021).

It is relatively easy to model illocutionary modifiers in operator-based approaches as just that: modifying illocutionary mood (Searle & Vanderveken 1985; Fallor 2002; Rett 2011). But these operator-based approaches have other notable flaws, detailed in Starr & Murray (2019). In contrast, it’s hard to imagine how to model illocutionary modification in dynamic approaches, which treat illocutionary mood as specifying which type of context update the utterance calls for (e.g. Murray 2014).

One possibility is to maintain a dynamic approach to illocutionary mood, and to just deny that illocutionary content is a natural class, i.e. to deny that illocutionary modifiers are doing a similar sort of thing as illocutionary mood. I proposed a second option in Rett 2021b, based on the update framework in Farkas & Bruce (2010): namely, that all illocutionary mood modifies the speaker’s Discourse Commitments (Gunlogson 2001), potentially in addition to the Common Ground. And while e.g. declarative mood (on a clause denoting a proposition p) adds to the speaker’s DC Set the belief that p , illocutionary modifiers like *unfortunately* add other epistemic commitments, like *is-disappointed*(p). This is illustrated in 8 for a sentence with *alas* (for sentence S , author a , and input context K_i).

- (8) $\llbracket \text{Alas, Jane lost the race} \rrbracket = \mathbf{D}(\mathbf{A}(S, a, K_i)) = K_o$ such that
- a. $DC_{a,o} = \{DC_{a,i} \cup \{\text{is-disappointed}_a(\text{Jane lost the race})\}\} \cup \{\text{believes}_a(\text{Jane lost the race})\}$
 - b. $T_o = \text{push}(\langle S; \{\text{Jane lost the race}\} \rangle, T_i)$
 - c. $ps_o = ps_i \bar{\cup} \{\text{Jane lost the race}\}$

In sum, there are, historically, a few ways of modeling not-at-issue content, represented in Table 1.

	at-issue <i>(entailments)</i>	descriptive NAI <i>(presupps, appositives)</i>	illocutionary NAI <i>(emotives, expressives)</i>
multi-dimensional semantics <i>Potts (2005); McCready (2010)</i>	Tier 1 composition	Tier 2 composition	
descriptive dynamic update <i>Murray (2010, 2014)</i> <i>AnderBois et al. (2010); Koev (2012)</i>	proposal to update CG	direct update to CG	N/A
illocutionary dynamic update <i>Farkas & Bruce (2010); Rett (2021b)</i>	proposal to update CG	direct update to CG	update to DC

Table 1 Formal semantic treatments of not-at-issue content

This paper starts with the premise that the way these theories address the descriptive/illocutionary distinction is less than attractive; they either ignore or can't model the distinction, or treat illocutionary not-at-issue content in a different dimension or with a different theoretical mechanism than descriptive not-at-issue content. Because illocutionary content is necessarily not-at-issue content, and behaves accordingly, we would ideally have a model of illocutionary content that predicts, rather than merely models, this behavior. That is the goal of the rest of this paper, and it was inspired by a rhetorical question posed in [Starr & Murray \(2019\)](#): “What is lost by moving from ‘speech act modifier’ to ‘utterance event modifier’?”

2 Dynamic anaphora to the speech event

The main argument to be advanced in §3 is that (all) illocutionary content is anaphoric to the speech event (either the event itself or indirectly, to the agent of the speech event). I will model this using three independently motivated tools: event semantics; dynamic anaphora to events; and, less well-known, a start-up update that introduces the present speech event into the anaphoric record whenever someone starts speaking or using language.

2.1 Event anaphora

The core proponents of the Performative Hypothesis ([Ross 1970](#); [Sadock 1974](#)) addressed the phenomenon of illocutionary content by positing a null main verb (and subject and object) in syntactic Deep Structure, corresponding to something like ‘I hereby assert to you that...’. There were a lot of problems immediately raised against this approach, including its inability to predict important differences in truth conditions (between e.g. *The earth is flat* and *I hereby declare that the earth is flat*, [Boër & Lycan 1980](#)) and differences in clause typing ([Lewis 1970](#)).

Notably [Extepare \(1997\)](#), in his treatment of illocutionary phenomena like *frankly* in 2 and *in case* in 3, rebooted the Performative Hypothesis to make it more event-focused: he argued that the null *say* verb contributed to the syntax a (null) speech event, to which other things can be anaphoric. This is essentially the core of the present proposal, but rather than building strata of null elements in the syntax, I will lean on dynamic-semantic treatments of cross-sentential anaphora to model speech-event anaphora in the semantics.

Since the Performative Hypothesis was originally proposed, the field of semantics has discovered event(uality)s as a semantic object ([Davidson 1967](#); [Laserson 1983](#); [Parsons 1990](#)).¹ The idea is that (among other things), with events as a basic

¹ I follow convention in using ‘eventuality’ as a cover term for events and states; I follow sloppy practice in using ‘event’ as the same cover term where the distinction doesn’t matter.

semantic entity, we can use the same mechanisms to explain iterative modification in the individual modification sentence in 9a as we can in the event modification sentence in 9b.

- (9) a. Monique is a young, short, quirky American architect dressed in a suit.
 b. Monique quickly dug a hole in the ground with a shovel in the rain at night.

Around the same time, dynamic semanticists began examining and modeling cross-sentential anaphora, or discourse anaphora, which was ripe for a non-traditional account because its anaphoric relations are clearly not dependent on syntactic relations. These accounts allow for proforms to refer to entities introduced in a previous sentence (or elsewhere), subject to a number of systematic discourse restrictions (Karttunen 1976; Kehler, Kertz, Rohde & Elman 2008).²

- (10) a. I doubt that Xiao has [a car]ⁱ. *Bo has seen it_i.
 b. Bo doubts that Xiao has [a car]ⁱ. I have seen it_i.

Combining these two innovations, we get cross-sentential or discourse event anaphora, used to model sentences like those in 11.

- (11) a. [The selection of our new CEO]^e was a long process. It_e took all year.
 b. We [selected a new CEO]^e. It_e took all year.

There are a variety of (arguably equivalent) dynamic-semantic approaches to modeling this discourse anaphora; for this paper, I'll adopt the formalism of CDRT (Compositional Discourse Representation Theory, Muskens 1995).³ Just as in DRT, any utterance in CDRT is modeled as a pair consisting of the discourse referents (drefs) the utterance has introduced and the descriptive conditions on those and any other discourse referents the utterance has introduced, represented linearly as [{drefs} | {descriptive conditions}], as illustrated in 12.

example	<i>A dog bit a cat</i>
formalism	$[x_1, x_2, e, p \mid \text{dog}(x_1), \text{cat}(x_2), \text{bit}(e, x_1, x_2),$ $p = \exists e, x_1, x_2 [\text{bit}(e, x_1, x_2)] \quad]$

In 12, each indefinite introduces an individual dref (x_1 and x_2 , respectively); each verb introduces a verbal event (e), and the clause introduces a proposition p into the discourse record (Snider 2017).

² I follow convention in using superscripted indices to mark the introduction of a semantic entity into a discourse, and subscripted co-indices to mark anaphora to that entity.

³ I don't need dynamic semantics here, in fact it isn't great for modeling the indexicality I'm after. But it's useful for modeling discourse effects like salience or recency, and requires fewer syntactic commitments than static compositional theories, so I will stick with CDRT for perspicuousness.

2.2 Speech-event anaphora

Contemporaneous to investigations of cross-sentential anaphora were Stalnaker’s observations that discourse anaphora can occur even in the absence of a previous phrase or sentence linguistically introducing the entity into the discourse record. He said (1978:86), rather famously:

“If a goat walked into the room, it would normally be presupposed, from that point, that there was a goat in the room. And the fact that this was presupposed might be exploited in the conversation, as when someone asks, *How did that thing get in here?*, assuming that others know what he is talking about. In the same way, when I speak, I presuppose that others know I am speaking, even if I do not assume that anyone knew I was going to speak before I did. This fact, too, can be exploited in the conversation, as when Daniels says *I am bald*, taking it for granted that his audience can figure out who is being said to be bald.”

It is a compelling observation that has raised interesting questions about whether – if we need to model non-linguistic ways to manipulate the discourse record – it makes sense to model linguistic discourse analysis separately (Egan & Sundell 2022).

Most important for present purposes is the insight that a speech act is sufficient to make salient the event of one’s speaking.⁴ This has been seized upon by various semanticists to address a wide variety of phenomena, in addition to the syntactic proposal in Extepare (1997): Zeevat (2000) uses speech-event anaphora to model demonstratives like *here*, and Eckardt (2012) uses speech-event modification to model *hereby*; and a wide variety of tense semanticists have been using it to model tense (Bittner 2007, 2008; Koev 2017) as well as temporal adverbs like *currently* (Hunter 2010, 2012; Altshuler 2014).

Formally, many of these theories are anchored in Bittner’s (2007, 2008) dynamic treatment of tense (and ϕ -features and mood) in polysynthetic languages like Kalaallisut. In pursuing a speech-event-based account of tense, Bittner explicitly adapted Stalnaker’s insight into a formal innovation she called a **start-up update**: “As soon as somebody begins to speak, this very fact is noted, focusing the attention on three default topics” (2007:10): (i) the speech world w_0 ; (ii) the speech event e_0 (with its dependent variable, the speaker, or agent of the speech event); and (iii) the speech time t_0 . Effectively, for Bittner, this start-up update is the semantic root of all indexical expressions.

⁴ I have tried to translate this discussion into a modality-broad characterization that doesn’t marginalize signed languages. I could say, for instance, “A languaging act is sufficient to make salient the event of one’s languaging”, and I hope to be able to soon. But there is currently enough confusion about speech acts and speech events that I feel forced to toe the conventional line, for now.

Here is a simplified, CDRT version of Bittner’s start-up update. I assume an initial context of [|], and that the start-up update is initiated as soon as the speaker starts speaking (or as soon as the language-user starts languaging). The start-up update is as in 13; I follow Muskens (1995) in modeling indexicality in DRT by introducing **constant** drefs **bolded in green** in addition to variable ones. In particular, e_0 is a dref that is constantly mapped to the present speech event across assignment functions. Following Bittner, I will derive reference to the speaker indirectly, via reference to the speech event.

(13) the start-up update: [e_0, x_0 | agent(x_0, e_0)]

Incorporating the start-up update into our previous example, we get the representation in 14.

example	<i>A dog bit a cat</i>
start-up update	[e_0, x_0 agent(x_0, e_0)]
update with CP	[$e_0, x_0, x_1, x_2, e_1, p$ agent(x_0, e_0), dog(x_1), cat(x_2), bit(e_1)(x_1, x_2), $p = \exists e_1, x_1, x_2$ [bit(x_1, x_2)]]

According to 14, an utterance of the sentence *A dog bit the cat* makes salient two event drefs: e_0 , which the speech event indexical, and e_1 , introduced by the verb and corresponding to the biting event. Thanks to the start-up update, it also adds a third individual dref into the discourse model (in addition to the dog x_1 and the cat x_2): the speaker x_0 , defined in terms of its role as the agent of the speech event.

In what follows, I’ll use this start-up update to model illocutionary content. But I will pause briefly to mention a few recent proposals that can be seen as Goat-Update-adjacent, i.e. semantic proposals that make use of speech events in a less centralized way. While they don’t contend with anaphora to the matrix speech event, Anand & Hacquard (2009, 2014) argue that “assertive attitude” verbs like *argue*, *claim*, *imply*, *say* refer to “the worlds of the context set that match the goals of the discourse move event” (2014:77), and gesture towards a model of this reference in the dynamic framework proposed in Farkas & Bruce (2010). ? review a variety of strategies for reporting speech (e.g. reportative mood vs. reportative evidentials), and argue that, among other differences, “[o]nly some types of reporting introduce a speech event into the discourse record” (p3). While the empirical goal of this work is (arguably) distinct, the idea that speech events have been introduced into such a broad variety of semantic accounts for such diverse reasons is, I think, extra motivation for utilizing them for present purposes.

3 The proposal

Informally, the proposal advanced in this paper is that all illocutionary content is content about the speech event, and that that explains its idiosyncratic semantic behavior. Illocutionary mood is necessarily anaphoric to the speech event; illocutionary adverbs, like *frankly*, are potentially anaphoric to the speech event; and emotive markers like *alas* are anaphoric to the speaker qua the agent of the speech event.

From this perspective, illocutionary content is self-referential, and its properties are self-evident. Because it is content about the speech event, a speaker denying illocutionary content results not in (descriptive) contradiction, but in something like insincerity, or Moore’s Paradox (Murray 2010; Rett 2021b). And also because it is content about the speech event, illocutionary content cannot be directly denied using standard propositional anaphors like *no*, as in B’ below.

- (15) A: Briefly, she left in suboptimal circumstances when her Daily Efficiency Rating was determined to be below standard expected performance.
 B: #No(, that wasn’t brief)!
 B’: That_{e₀} wasn’t brief!

But, as B’ shows, because the speech event e_0 has been entered into the discourse record, interlocutors can still refer to it using event proforms; in this case, the proximal event pronominal *that*.

3.1 Accounting for illocutionary modifiers

In the present account, adverbs take events as semantic arguments, and illocutionary adverbs are anaphoric to the most salient event. This explains what might have been thought of as the polysemy of illocutionary adverbs, but in this account is just standard context-sensitivity.

I use x_{\top} to refer to the most salient x (on the top of the stack), for any type x , and analyze the illocutionary modifier *briefly* as in 16.

- (16) $\llbracket \text{briefly} \rrbracket = [\mid \text{brief}(e_{\top})]$

Consider the sentences in 17. The position of the adverb totally conditions its interpretation; the sentence-initial use in 17a can only be used to characterize the speech event, while the sentence-final use in 17b can only be used to characterize the topic eventuality, the state introduced by the verb. These sentences are modeled easily by this approach in 18 and 19 respectively.

- (17) a. Briefly, she was the president. *speech event only*
 b. She was the president briefly. *topic event only*

	example		stack	top
	<i>Briefly, she was president</i>			
(18)	start-up update	[e_0, x_0 agent(x_0, e_0)]	$\langle e_0, \dots \rangle$	$e_{\top} = e_0$
	update with <i>briefly</i>	[e_0, x_0 agent(x_0, e_0), brief(e_0)]	$\langle e_0, \dots \rangle$	$e_{\top} = e_0$
	update with CP	[e_0, x_0, e_1, x_1 agent(x_0, e_0), brief(e_0), agent(x_1, e_1), president(e_1)]	$\langle e_1, e_0, \dots \rangle$	$e_{\top} = e_1$

In 18, the *briefly* update immediately follows the start-up update, so *briefly* is interpreted as modifying the speech event. In 19, in contrast, *briefly* is interpreted immediately after the CP, so it is interpreted as modifying the topic event e_1 .

	example		stack	top
	<i>She was the president briefly</i>			
(19)	start-up update	[e_0, x_0 agent(x_0, e_0)]	$\langle e_0, \dots \rangle$	$e_{\top} = e_0$
	update with CP	[e_0, x_0, e_1, x_1 agent(x_0, e_0), agent(x_1, e_1), president(e_1)]	$\langle e_1, e_0, \dots \rangle$	$e_{\top} = e_1$
	update with <i>briefly</i>	[e_0, x_0, e_1, x_1 agent(x_0, e_0), agent(x_1, e_1), president(e_1), brief(e_1)]	$\langle e_1, e_0, \dots \rangle$	$e_{\top} = e_1$

With additional considerations, we can capture even more subtle differences in the interpretation of illocutionary adverbs in different positions. Sentence-medial illocutionary adverbs differ in their interpretation based on whether or not they precede the main verb, and whether or not they are offset by comma intonation, as demonstrated in 20 and 21.

- (20) a. She was briefly the president. *topic event only*
 b. She was, briefly, the president. *ambiguous*
- (21) a. She briefly was the president. *topic event only*
 b. She, briefly, was the president. *speech event only*

The relevant generalization is that sentence-medial illocutionary modifiers modify the topic event, unless they're offset by comma intonation, in which case they can modify the speech event. Accounting for this variation requires a theory of comma intonation that allows for a parentheticalized modifier to have a broader range of anaphoric options. Such an account has been recently proposed in Truckenbrodt (2015), so it seems quite achievable, but it would take me too far afield to try to accomplish something like that here.

I'll just highlight that illocutionary modifiers like *briefly* are, in some accounts, forced into being characterized as polysemous between an illocutionary and descriptive reading (e.g. Ernst 2009), because they cannot be both at once. This is not at

all ideal, because it fails to predict universality, and in some cases fails to predict the syntactic- or order-sensitivity of the conditioning of these two interpretations. The present proposal has the very happy consequence of treating both readings – the illocutionary and descriptive – on a par, as a dynamic restriction on some salient event. The difference in what sort of event it is – self-evident or not – explains the difference in the behavior of the two interpretations. But this is accomplished via indexicality, not via polysemy.

3.2 Accounting for emotive markers

According to Rett (2021b), emotive markers encode the speaker’s emotions in non-truth-conditional content (cf. *I am disappointed that...*). Examples include *alas* and *(un)fortunately* (Searle & Vanderveken 1985), but arguably also exclamation intonation (Rett & Sturman 2021) and expressives (Rett 2021a). They differ in their semantic behavior from descriptive adverbs (even not-at-issue ones like *allegedly*) in that they are subject to Moore’s Paradox, and that they scope differently (see §1.1).

In the present approach, emotive markers are illocutionary by virtual of their anaphora to the speaker (qua the holder of the emotion, qua agent of the speech event), as opposed to some other individual. We can define *alas* as in 22, and derive the meaning of sentences with emotive markers as in 23.

$$(22) \quad \llbracket \text{alas} \rrbracket = [\mid \text{disappointed}(x_0, p_{\top})]$$

	example	<i>Alas, she won</i>
	start-up update	$[e_0, x_0 \mid \text{agent}(x_0, e_0)]$
(23)	update with <i>alas</i>	$[e_0, x_0 \mid \text{agent}(x_0, e_0), \text{disappointed}(x_0, p_{\top})]$
	update with CP	$[e_0, x_0, e_1, x_1, p \mid \text{agent}(x_0, e_0), \text{won}(e_1)(x_1), p = \exists x_1 [\text{won}(x_1)], \text{disappointed}(x_0, p)]$

In 22, *alas* does not introduce any drefs, but introduces a descriptive condition that the agent of the speech event, x_0 , is disappointed in the most salient proposition. In 23, this ends up being the prejacent proposition. It is of course possible for emotive markers to occur sentence-medially and -finally, in which case the prejacent is likely still the most salient proposition. But there are occasional cases of sentence-initial occurrences of *alas* and other emotive markers that are cataphoric, or emotive markers in questions that are salient to a highlighted proposition. See Rett (2021b) for discussion; I will also return to discuss a bit of these data in §4.1.

3.3 Accounting for illocutionary mood

Current dynamic accounts of illocutionary mood (Farkas & Bruce 2010; Murray 2010; Murray & Starr 2021; Starr 2020) model mood as manipulating the Stack/Table (the record of salience) as well as: proposing to update the Common Ground (declarative mood); partitioning the CG (interrogative mood); or partitioning/updating preferences or to-do lists (imperative mood). In these accounts, the only here-and-now or origo anchoring is in DC sets (marking the at-issue proposition as in the speaker’s Discourse Commitment set, in the case of declarative mood).

I suggest that mood markers are illocutionary by virtue of the fact that they classify the present speech event (loosely following the ‘illocutionary modifier’ approach in Searle & Vanderveken 1985).⁵

$$(24) \quad \llbracket \text{DECL} \rrbracket = [\mid p_{\top}, \text{assertion}(e_{\top}, p_{\top})] \quad \text{declarative mood}$$

$$(25) \quad \llbracket \text{INT} \rrbracket = [\mid \text{question}(e_{\top}, \{p_{\top}, \neg p_{\top}\})] \quad \text{polar question mood}$$

Here, illocutionary mood markers are anaphoric to the most salient event and the most salient proposition, specifying the relation between the two. As is, there are two things anchoring illocutionary mood to the speech event and the preadjacent proposition: 1) their position in the sentence; and 2) the plausible assumption that only one salient event will qualify as an assertion (or a question), and it will relate in that way to only one salient proposition. But we could rework 24 and 25 to be indexical to the speech event e_0 specifically if there are worries about overprediction (or if we would like to use these definitions to explain the syntactic or morphologic distribution of mood markers, as opposed to the other way around, see §4.3).

There are two other ways we could reconfigure 24; one is by eliminating the update ‘ p_{\top} ’, instead relying on its contribution to be inferred from the ‘ $\text{assertion}(e_{\top}, p_{\top})$ ’ update. Another is to model speech-act-theoretic speaker epistemic commitments explicitly by adding a ‘ $\wedge \text{believe}(x_0, p_{\top})$ ’ clause. Neither of these changes would affect the core proposal.

3.4 Interim summary

In sum, we have a semantic account that distinguishes formally between illocutionary content and descriptive not-at-issue content without introducing any new formal apparatus. I claim that illocutionary content is just content that is indexed to the present speech event (directly or indirectly, via the speaker), and that this explains its semantic properties. Illocutionary content is not-at-issue, but it seems intrinsically not-at-issue in a way descriptive content isn’t, and it seems to differ in subtle ways

⁵ I omit an analysis of the imperative, as deciding between approaches would take us too far afield.

from descriptive not-at-issue content. This proposal is rooted in some combination of standard dynamic semantics; standard event semantics; and a recent spate of accounts that have innovated anaphora to the speech event to model traditionally indexical features like present tense.

4 Empirical predictions

This account makes several happy predictions that I believe are unique to it. Some we've already seen, but are worth revisiting briefly.

- (26) **anaphoric variability**
 - a. illocutionary modifiers can associate with other salient non-speech events
 - b. illocutionary modifiers can associate with other salient speech events
- (27) **flexible semantic status**: whether a modifier is anaphoric to the speech event or the topic event affects its descriptive/illocutionary status, and thereby its semantic properties
- (28) **salience sensitivity**: the argument of an event-anaphoric modifier is conditioned by its order in the utterance, not (necessarily) its location on the spine
- (29) **a predictive typology**: for a given sememe (unit of meaning, e.g. mirativity), we might be able to tell what type of meaning it encodes based on how it is encoded (prosodically, lexically; as an adverb, verbal particle, etc.)

I'll address each of these in turn, and will take up the discussion of other possible extensions of the account in §5.

4.1 Anaphoric variability

There are two ways in which illocutionary modifiers can exhibit anaphoric variability (corresponding to 26a and 26b above). We have already seen 26a, the way in which event adverbs like *briefly* can associate with the speech event (as in 18) or the topic event(uality) (as in 19). In the rest of this subsection, I'll address 26b.

Some illocutionary modifiers are anaphoric to any speech event (not just the present speech event). This is true of *frankly*, as in 30.

- (30) a. Frankly, it doesn't cut the mustard.
- b. He told me frankly that it doesn't cut the mustard.

But there is also evidence that speech-event modifiers like *frankly* don't have to be embedded to modify a speech event other than the present speech event. Illocutionary adverbs can be apparently ambiguous in questions between a question use and an answer use (Woods 2014).⁶

- (31) a. Frankly, who was wrong?
 b. Seriously, did Jane get kicked out of the program?

Both of the illocutionary modifiers in 31 have two interpretations: a speaker-oriented one, in which the modifier associates with the question (i.e. 'I frankly ask, who was wrong?'); and a hearer-oriented one, in which the modifier associates with the answer (i.e. 'Answer me frankly, who was wrong?').

We can derive this indexicality by modeling interrogative mood as additionally making salient an answer event, as well as a question event, as in 32.⁷

- (32) $[[\text{INT}]] = [e_1 \mid \text{QUESTION}(e_T, \{p_T, \neg p_T\}), \text{ANSWER}(e_1, e_T)]$

This predicts that the speech event e_0 , is categorized as a question, but it also adds a second event, e_1 , associated with the expected answer. We could derive the two meanings above either by manipulating the scope of the illocutionary modifier and illocutionary mood, as many scope-based accounts do, or by somewhat relaxing our formal notion of salience so that e_0 and the answer event e_1 are equally salient in these constructions.⁸ That said, we would predict that the question-oriented reading is less available for non-sentence-initial modifiers, and that is in fact what we see:

- (33) a. Who, frankly, was wrong?
 b. Did Jane get kicked out of the program, seriously?

In both the sentence-medial case in 33a and the sentence-final case in 33b, the adverbs are unambiguously associated with the answer. In this account, the explanation for these interpretive restrictions is that the adverbs are too far from the start-up update for the speech event to be available anaphorically.

4.2 Flexible semantic status

This account predicts that event-anaphoric modifiers will encode illocutionary content when they're anaphoric to the speech event, and descriptive content when they're anaphoric to the topic event. And this is indeed what we see.

⁶ This is crucially in contrast to the behavior of descriptive modifiers like evidential adverbs (e.g. *allegedly*; Woods 2014).

⁷ I am making things easier on myself by modeling only polar interrogative mood.

⁸ It should be clear that I have not offered a formal account of salience here; I recommend Stojnić, Stone & Lepore (2017).

- (34) A: Briefly, Pia couldn't come because she was an employee at...
 B: #That's not true, that wasn't a brief explanation!
 B': Well that wasn't brief.
- (35) A: Pia couldn't come because she was briefly an employee at...
 B: That's not true, she wasn't (merely) briefly an employee!
 B': #Well that wasn't brief.

The sentence-initial *briefly* in 34 is anaphoric to the speech event, which is what we predict given the account in §3.1. As such, it has not-at-issue status: it cannot be targeted by direct denial, as illustrated by the infelicity of the response in B. (The response in B' shows that its content can be addressed, just not directly.) In contrast, the sentence-medial *briefly* in 35 is anaphoric to the topic event; as such, it has at-issue content that is directly deniable, as evidenced by the response in B.

This variability in (not-)at-issue status is not captured or predicted by any account I'm aware of, including the speech-act-modifier accounts (Searle & Vanderveken 1985) or my own recent proposal (Rett 2021b). But it is notably in harmony with now-canonical approaches that model projection and access to truth-conditional operators as discourse-dynamic (e.g. Roberts, Simons, Beaver & Tonhauser 2009).

4.3 Salience sensitivity

Despite the fact that the start-up update is introduced contextually (i.e. as Stalnakerian Goat Update) as opposed to syntactically, the present proposal predicts certain salience effects that are reminiscent of classic top-of-the-spine effects (Cinque 1999). One prediction is that clause-initialness – as opposed to top-of-the-spine – conditions interpretation. We expect event modifiers to have their variable interpretations conditioned by linear proximity to the start of the utterance, and we would predict this even in left-branching or head-final languages. The data reviewed here for English do not tease apart clause-initialness and syntactic height, so more would need to be done to confirm or deny this prediction.

Related are Cinque-Hierarchical effects with respect to the relative positioning of various adverbs. Depending on our theory of diachrony or linguistic processing, we might expect phrases that encode certain meanings to require certain proximity to the start of the utterance. And this is what we see:

- (36) a. Frankly, unfortunately, apparently Sonia died.
 b. *Apparently, unfortunately, frankly Sonia died.
 c. *Unfortunately, frankly, apparently Sonia died.

These adverbs have a fixed relative order, and there's a small sense in which the present proposal provides insight into why: *frankly* is the only one of the three

- (39) a. present-tense interpretation (**present tense**, **direct evidence**):

$$\tau(e_T) \circ \tau(e_S) \wedge e_T \circ e_L$$

- b. past-tense interpretation (**past tense**, **indirect evidence**):

$$\tau(e_T) < \tau(e_S) \wedge e_T \triangle e_L$$

In what follows, I will adopt Koev's event-based analysis.

Possibly universally (Rett & Murray 2013), tense evidentials are co-opted to mark mirativity, or surprise or unexpectedness on the part of the speaker.

- (40) Maria piše -la kniga. *Bulgarian* (Smirnova 2013)
 Maria write -EVID book
 'Maria was writing a book (indirect).' or 'Maria is writing a book!'

These constructions are ambiguous: the evidential interpretation is not mirative, and carries a present-tense requirement. The mirative interpretation is not evidential, and does not carry a present-tense requirement.

In terms of how these readings are contextually conditioned, there is a lot of evidence that the mirative interpretation is most natural in (or only available in): present-tense contexts; with second-person orientation (i.e. for statements about the hearer); and with imperfect aspect (DeLancey 2001). Rett & Murray (2013) observed an effect they dubbed the 'Recency Restriction' in mirative evidentials: a construction containing a mirative evidential is felicitous iff it is uttered close to the learning event. This hints at the nature of the observed close relationship between mirativity and relative tense markers, although none of the present learning-event analyses if tense evidentials have extended their accounts to the mirative readings.¹⁰

Based on the present discussion, we have an easy way of reconceptualizing mirativity so that it falls into this pattern.¹¹ My proposal is that, in mirative contexts, the evidential morpheme relates the **speech** and learning events, instead of the topic and learning events, as depicted in 41 (with **tense**, **evidentiality**, and **mirativity**)



from events) and spatiotemporal overlap when it relates events; < requires temporal precedence, and \triangle requires spatiotemporal disjointness between events, i.e. distance.

¹⁰ For instance, Koev (2017) says, "I will not try to offer an account of the Bulgarian evidential that also captures its mirative uses. Such an account is not easy to come up with, since it would need to reconcile the distancing effect of evidential uses with the compatibility of mirative uses with a direct information source."

¹¹ Note that Koev (2017) (and of course other Reichenbachians) explicitly use the speech event for present-tense indexicality, so the inclusion of e_S into the formalism isn't new to my proposal; what's new is my using it for mirativity in addition to present-tense interpretations.

Formally, the three readings would look as in 42, with each conjunction of restrictions contributed by the same morpheme (the tense/mirative evidential), but interpreted with respect to different events, depending on context.

(42) a. present-tense interpretation (**present tense**, **direct evidence**):

$$\underline{\tau(e_T) \circ \tau(e_S)} \wedge \underline{e_T \circ e_L}$$

b. past-tense interpretation (**past tense**, **indirect evidence**):

$$\underline{\tau(e_T) < \tau(e_S)} \wedge \underline{e_T \triangle e_L}$$

c. mirative interpretation (**present tense**, **recency restriction**):

$$\underline{\tau(e_T) \circ \tau(e_S)} \wedge \underline{e_S \circ e_L}$$

This account actually predicts the flexible semantic status witnessed between the evidential and mirative interpretations of these morphemes (Rett & Murray 2013); here, it varies with which event the relative tense is anaphoric to. The evidential interpretation, which is about the topic event, is descriptive not-at-issue. While the mirative interpretation, about the speech event, is illocutionary not-at-issue.

Notably, this account generates mirativity from the Recency Restriction imposed by the relative tense operator, it doesn't hard-wire in the speaker's surprise or counter-expectational expression. This is consistent with the idea that the mirativity is a multi-faceted semantic property (Table 2), that includes information about event relations as well as information about speaker surprise. It predicts that Bulgarian mirative evidentials encode sudden realization but not surprise; this is directly testable using the diagnostics carefully curated in AnderBois (2023).

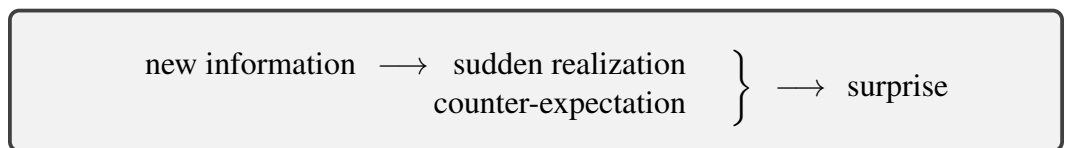


Table 2 Flavors of mirativity (Aikhenvald 2012; AnderBois 2023)

Which brings me back around to discussion of a predictive typology. Mirativity appears to be multi-faceted, and the different flavors of mirativity have different semantic profiles. New information and sudden realization are event relations, and we can now model these event relations using standard 'learning-event' tense evidential accounts. Counter-expectation is an epistemic restriction, modal-like. And speaker surprise is expressive – and illocutionary – in just the same way that exclamation intonation is expressive. They have in common that they license an

inference that the speaker considers the at-issue proposition to be noteworthy, but for a subtle variety of different reasons (it's new, it's unexpected, it's both new and unexpected).

This paper has discussed a variety of different types of expressive or illocutionary meaning, and this account predicts that these types of meanings need to be encoded in a strategy that has anaphoric access to the speech event. Illocutionary content tends to be encoded in adverbs, sentence particles, and intonation; it feels like we're slightly closer to an explanation of that fact. Since tense evidentials are encoded at the verbal level, as tense or aspect marking, we can expect that the mirativity they exhibit is topic-event-based, i.e. only of the new information or sudden realization variety. Miratives encoded in prosody or sentence particles are not so restricted, and can have a wider variety of meanings, which seems to be the case (AnderBois 2018).

All of this is to try to emphasize the empirical utility – not just the theoretical attractiveness – of analyzing illocutionary content a) separately from descriptive content but yet b) on the same level or with the same means as descriptive content. We predict not just the polysemy (or, in my account, the indexical flexibility) of adverbs that we see, but we expect a connection between how a given meaning is encoded and what its semantic properties are. I've offered a sort of test case for what this might look like, but it remains to be seen how broad and fruitful this explanatory semantics can be.

5 Conclusions and extensions

In sum, I've proposed a semantic account of illocutionary content. It's an age-old label that I've defined as content about the utterance instead of the world. And I've argued that, if we adopt extant accounts that use dynamic-semantic event anaphora to model the start-up update (a Stalnakerian conceptualization of indexicality), we can model what illocutionary content means and how it behaves by characterizing it as anaphoric to the speech event (or, indirectly, to the speaker). As a result, we only need one semantic dimension to model illocutionary content (cf. Gutzmann 2015, and we don't need Discourse Commitments to do so (cf. Rett 2021b), see Table 3.

I've provided formal analyses of some representative illocutionary markers, and I've listed several ways in which this account is superior from an empirical point of view, not just a theoretical one: 1) it predicts that illocutionary content can, in principle, be anaphoric to other speech events too; 2) it predicts that illocutionary markers can have descriptive readings, even when unembedded (e.g. illocutionary adverbs like *briefly*); 3) it predicts that these two interpretations differ in their semantic properties (i.e. it reinforces and predicts the idea that the (not-)at-issue distinction isn't conventionalized, but rather contextualized); and 4) it makes interesting (as yet imprecise) predictions about the relationship between the semantic nature of a unit

	at-issue (<i>entailments</i>)	descriptive NAI (<i>presupps, appositives</i>)	illocutionary NAI (<i>emotives, expressives</i>)
multi-dimensional semantics <i>Potts (2005); McCready (2010)</i>	Tier 1 composition	Tier 2 composition	
descriptive dynamic update <i>Murray (2010, 2014)</i> <i>AnderBois et al. (2010); Koev (2012)</i>	proposal to update CG	direct update to CG	N/A
illocutionary dynamic update <i>Farkas & Bruce (2010); Rett (2021b)</i>	proposal to update CG	direct update to CG	update to DC
speech event dyn. update <i>present proposal</i>	proposal to update CG	direct update to CG (<i>anaphoricity to speech event or not</i>)	

Table 3 Formal semantic treatments of not-at-issue content (updated)

of meaning and how/where it is encoded (and vice-versa, for the Cinque Hierarchy).

There is a perspective on this work in which it is just yet another extension of Bittner’s (and those preliminary proposals before her) speech-event-anaphoric account of other phenomena. In that sense, I follow in the footsteps of Hunter (2010), Altshuler (2014), Beck (2016) and Koev (2017). But there are still a lot of other constructions that are ripe for this treatment, especially judging from recent work that seems adjacent to mine: performatives (like *hereby*, Eckardt 2012 and indirect-speech connectives (i.e., the fact that the direct *Shut the door!* and the indirect *I would like you to shut the door* can be modified with *because* clauses that appear to have the exact same meaning, Asher & Lascarides 2001). Cruschina & Remberger (2018) provide a syntactic account of speaker-oriented complementizer constructions (e.g. *Claro que sí!*), but a semantic account seems well-served by speech-event anaphora, in light of the discussion here.

And I’m particularly interested in investigating the relationship between certain higher-level emphasis strategies – so-called ‘verum focus’ – and their relation to (other) illocutionary content. Beltrama (2018) provides an analysis of intensifiers like *really*, *totally* and their ability to modify the speaker’s commitment to the utterance; it seems relatively easy to turn that into speaker indexicality, as we did with *frankly* in §3.1. Zimmermann (2018) does the same thing for the German *schön* (‘already’), which has a discourse use that looks a lot like verum focus. The present proposal makes it trivially easy to account for these dual uses, which seem, frankly, rife in natural language.

There is a related question posed by this account which is: If content is illocutionary due to its reference to the speech event, is everything we think of as indexical illocutionary? I have in mind pure indexicals like (first-)person features on e.g. pronouns (we need to know who’s talking); (present-)tense marking on e.g. verbs (we need to know when the utterance is taking place); and verbal mood (we need to know in what worlds the utterance is being made).

I've defined illocutionary content as content about the speech event, but crucially, (pure) indexicals are expressions, and can contribute to any type of content. So it's hard to run tests on the semantic properties of indexicals that doesn't misattribute their behavior to the construction as a whole. That said, demonstratives can refer to speech events, as in *That was rude* (see also 15 and 34). And there's evidence that indexicals, too, can be variably anaphoric on the speech event. Nunberg (1993) observes that first-person isn't always speaker-oriented, as in 43:

(43) (*said by a condemned prisoner*): I am traditionally allowed to order whatever I like for my last meal.

And, infamously, present-tense, too, isn't always utterance-time-oriented, it participates in embedding phenomena (just like *frankly!*) like double access, while temporal adverbs like *currently* do not:

(44) I asked whether he would currently judge them to be fact.

Hunter (2010) and Altshuler (2014) focus on these differences between present-tense and temporal adverbs, and there are clear ways for modeling this empirical distinction in their accounts, on which the present proposal builds, in a way.

I'll end by discussing the fate of Discourse Commitments. DC sets were originally proposed to model speaker commitment in rising declaratives (Gunlogson 2001); tag questions (Malamud & Stephenson 2014); and discourse particles like *ló* in Singaporean English (Henderson & Ngui 2020) and other languages. Their collective proposal is that we, as language-users, keep track of three things (instead of the standard dynamic two): 1) the Stack/Table, to model salience; 2) the Common Ground, to model information; and 3) interlocutors' Discourse Commitments, to model the propositions everyone has publicly committed to over the course of the interaction.

There is a trick, in these accounts, regarding what happens to DCs once they're introduced; there is evidence that we want them to remain separate from content encoded in the CG (e.g. if A utters p but B utters $\neg p$), but there is also evidence that we want Discourse Commitments added to the CG eventually, because B can presuppose that A thinks/asserted that p . Farkas & Bruce (2010) propose that epistemic commitments can get moved from a DC set to the CG after a while, but it's not clear how or when this should happen. And it's not clear, in this approach, how to model markers that seem to modify hearer's commitments or goals. (Should I be able to modify your DC set?)

The present proposal offers an alternative to Discourse Commitments that skirt these sticky issues while also not adding a level of formal machinery. Just like I was suggesting for verum focus above, we could consider any intonation or morpheme that addresses speaker commitment to be modifying the speech event (or the speaker,

qua agent of the speech event). What is a Discourse Commitment set, if not a record of speech events? If we can keep this record using standard event semantics and dynamic anaphora, arguably we should.

A straightforward application of DC sets is tentative speaker commitment. This could be modeled in the present with the definition of declarative mood in 24, which characterizes it as something that both proposes p and modifies the speech event; we could characterize e.g. rising declarative intonation as additionally modifying the speaker or speech event (see Rudin 2022: for empirical reasons why we'd want to leave some flexibility built in here). A less straightforward application of DC sets is to modify other interlocutors' (projected) discourse commitments (Malamud & Stephenson 2014; Henderson & Ngui 2020). This, too, is translatable; a particle could modify the speech event so that it is additionally an assumption that the speaker agrees (or disagrees, etc.).

So it seems possible that speech-event anaphora can do all of the empirical work that DCs do (namely, track public, asymmetric, non-assertoric content), but it has the benefit of doing it in line with the treatment of other phenomena; with no additional levels of formalism; with an intrinsic (instead of stipulated) connection between content and discourse effect; and without the need to define metasemantic rules moderating the relationship between DC sets and the CG.

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