The semantics of emotive markers and other illocutionary content*

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Abstract

I coin the term 'emotive markers' to describe words like *fortunately* and *alas* which encode not-at-issue information about the speaker's emotive attitude towards the content of the utterances they occur in. I argue that there are important differences emotive markers and other encoders of not-at-issue content, in particular utterance modifiers like *frankly* or evidential adverbs like *apparently*. In contrast to these, emotive markers can result in Moore's Paradox and always range over their local argument. I conclude that the contribution of emotive markers should be treated as 'illocutionary content', on par with the speaker's other Discourse Commitments (Gunlogson, 2001), and I model this analysis in the dynamic sub-sentential update framework in Farkas and Bruce (2010).

1 Introduction

This paper lies at the intersection of two traditions of meaning distinction. The first – characterized by Speech Act Theorists like Stenius (1967) and Searle (1969) as well as recent dynamic adaptations like Farkas and Bruce (2010) and Murray (2014) – distinguishes between the denotation of a sentence (i.e. its propositional content) and how the denotation affects the context of utterance (i.e. the contribution of its illocutionary mood).[1] The second – characterized by Potts (2005) and Simons et al. (2010) but also recent dynamic adaptations like

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[1]Following e.g. Hausser (1980), I will use the term **illocutionary mood** to refer to the morphosyntactic category marking sentence type. When necessary, I will use the term **illocu-**

Murray (2010) and AnderBois et al. (2010) – distinguishes between the at-issue or non-projective content of a sentence and its not-at-issue or projective content (e.g. conventional implicatures and some presuppositions).

The goal of this paper is to argue that both of these distinctions are useful. Specifically, there are two types of content that qualify as not-at-issue: the first type, what we canonically think of as not-at-issue content (encoded in appositives, Pottsian expressives like *bastard*, evidential adverbs, and utterance modifiers like *frankly*), is part of the descriptive content of the sentence, the part describing the world (Searle's (1985) word-to-world direction of fit). The second type, which I refer to as 'illocutionary content,' is also semantically encoded and not-at-issue, but it instead pertains to how the speaker is using the utterance in context.

SEMANTIC CONTENT

(descriptive) at-issue   not-at-issue
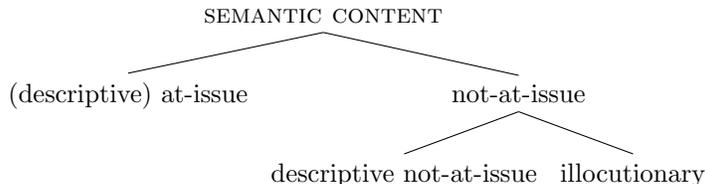
descriptive not-at-issue   illocutionary

Figure 1: proposed distinctions in semantic content

This distinction loosely parallels one made in Kaplan (1997) (and underscored in Kratzer, 1999), regarding words like *ouch* and *oops*: "A descriptive is an expression which describes something which either is or is not the case. . . . [A]n expressive. . . expresses or displays something which either is or is not the case". Kaplan illustrates the distinction by contrasting the descriptive expression *I am in pain* with the expressive expression *Ouch*. (McCready 2012 makes a similar distinction.)[2]

Emotive markers, the empirical focus of this paper (to be discussed in detail in the next section), are morphemes or prosody that mark a speaker's emotive attitude towards some descriptive content. The sentence in (1-a) does not contain an emotive marker; the sentences in (1-b) and (1-c) do.

(1) a. Jane lost the race.
     b. Unfortunately, Jane lost the race.
     c. (Wow,) Jane lost the race!

An utterance of (1-b), with the emotive marker *unfortunately*, indicates that the speaker is disappointed that Jane lost the race. (1-c), uttered with exclamation

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tionary force to refer to the category of speech act these sentences are used in. To illustrate: Some languages morphologically mark imperative mood; because grammar underdetermines speech acts, imperative mood is consistent with a variety of illocutionary forces, including commands, suggestions, advice, etc.

[2]Or (more whimsically), to quote the musician Robbie Basho in a 1974 interview with the radio station KPFA: "I spent years on the road singing folk songs that had no meaning, you know, just emoting these things."

intonation (signified by the exclamation point and encouraged by particles like *wow*), indicates that the speaker is surprised that Jane lost the race.

The semantic contribution of these emotive markers is decidedly not-at-issue: their meaning cannot be targeted by truth-conditional operators, denied in discourse, or used to address the Question Under Discussion, as I will demonstrate below. But emotive markers differ in some notable ways from canonical encoders of not-at-issue content, like utterance modifiers, evidential adverbials, Pottsian expressives and appositives: they can result in Moore's Paradox; they must take narrow scope in certain contexts; and they have an idiosyncratic interpretation when they occur in non-declarative utterances.

In this paper, I'll argue that emotive markers form a natural subclass of encoders of not-at-issue content, evidenced by the kind of meaning they encode (i.e. the speaker's emotive attitude) and their linguistic behavior. Emotive markers behave the way they do because a) they (necessarily) target propositional content (in contrast to sub-propositional content); and b) the information they encode pertains to the speaker's emotive attitude. Consequently, emotive markers quite naturally encode their meaning at an illocutionary, rather than descriptive, level: they contribute to the speaker's Discourse Commitments (Gunlogson, 2001), rather than the Common Ground. Others (Searle and Vanderveken, 1985; Vanderveken, 1990) have proposed a similar treatment, pertaining to sincerity conditions; I attempt to better substantiate the claim, and formulate the analysis in a dynamic update semantics, which allows for a particularly natural compositional account of illocutionary mood and related content.

In what follows, I argue that the existence and behavior of emotive attitude markers requires a particular typology of semantic content, one that differentiates formally between two types of not-at-issue content: descriptive content, which amounts to what is said, and illocutionary content, which pertains to how the speaker is using the utterance in context. While the narrow goal of this paper is a characterization and explanatory compositional account of emotive markers, I believe the discussion here sheds light on a few larger issues. It addresses and attempts to delineate – for the first time, to my knowledge – the oft-implied intuition that there is a level of illocutionary content separate from canonical not-at-issue content like conventional implicature (see Frege, 1956; Potts, 2003b; Rett and Murray, 2013, for mentions of such a distinction).

2   A profile of emotive markers

I define an emotive marker as a morpheme, syntax, or prosody that encodes the speaker's emotive attitude towards some proposition made salient by the utterance in which it occurs, and does so in backgrounded, not-at-issue content. To illustrate this, I focus initially on the emotive markers *alas* and *fortunately* in English because they are lexical (as opposed to prosodic) and unambiguously target propositions (Bellert, 1977, has referred to words like *fortunately*

as 'evaluative adverbs'). I then turn to prosodically encoded emotive markers.[3]

First, a note about what constitutes an 'emotive attitude': I take emotive attitudes to be a strict subset of epistemic attitudes which characterize the speaker's emotion towards a proposition in addition to their epistemic relation to that proposition. I borrow the term from the literature on propositional attitude verbs, in which propositional attitudes can be cognitive (e.g. *know/discover/realize*); evidential (e.g. *see, hear*); or emotive (e.g. *love, regret*). These differences have been independently observed to correlate with other grammatical and semantic attributes: emotive factive verbs license some polarity items (Giannakidou, 2006) and presuppose not just the truth of their complement but the attitude holder's belief in the complement (Anand and Hacquard, 2014).

Second, I'll briefly address what it means to encode *the speaker's* emotive attitude in particular, or to be speaker-oriented more generally. Speaker-oriented expressions are those that are best understood as semantically encoding the speaker's perspective. In the context of emotive markers, this means that an utterance like *Alas, Jane won the race* is naturally interpreted as reflecting the speaker's disappointment.

Of course, this doesn't mean that speaker-oriented expressions necessarily and only reflect the speaker's perspective. As Harris and Potts (2009) argue, speaker-oriented expressions have the pragmatic capacity, in certain constructions and contexts of utterance, to represent other perspectives: a general or community perspective in contexts in which the speaker's attitude is understood to be representative of her interlocutors; or that of a third party in empathetic contexts. This happens with explicitly speaker-oriented expressions – like the pronouns *I* and *we* – as well as implicitly speaker-oriented ones, such as appositives or Pottsian expressives.[4] It is also possible with emotive markers. In a context in which A, an LA Dodgers fan and a fan of Puig, is clearly expressing empathy for B, a Detroit Tigers fan, A can utter any of the sentences in (2).

(2)   a.   Uh-oh, that bastard Puig batting next.   *Pottsian expressive*
       b.   Unfortunately, Puig is batting next!   *emotive marker*

In other words, it appears to be a general phenomenon that implicitly speaker-oriented constructions – like appositives, expressives, or emotive markers – can come to represent a broader or non-speaker perspective. I will assume, following Harris and Potts (2009), that this is part of what it means to be speaker-oriented, and that such utterances do not constitute a counter-example to the empirical generalization that emotive markers are speaker-oriented. I follow Harris and Potts (2009) in assuming that the mechanism by which implicitly speaker-oriented constructions like emotive markers come to have some other orientation is a pragmatic one, but like them, I do not offer a formal account of

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[3]There are a number of other emotive adverbs in English, of course; one reviewer suggests *oh no* and *holy crap*.

[4]One of their examples is of the subject-oriented expressive *friggin* in *Well, in fact Monty said to me this very morning that he hates to mow the friggin lawn.* In Rett (2021), I have more to say about the relationship between emotive markers and Pottsian expressives.

this pragmatic mechanism.

Getting back to the phenomenon of emotive markers: I take the minimal pair in (3), repeated from (1), to illustrate the semantic contribution of an emotive marker (in this case, *alas*):

(3) a. Jane lost the race.
     b. Unfortunately, Jane lost the race.

(4) Fortunately, Jane lost the race.

While both utterances amount to an assertion that Jane lost the race, in (3-b) the speaker additionally conveys that she is upset or dismayed that Jane lost the race. *Fortunately* in (4) is the antonym of *unfortunately*; it's used to express that the speaker is pleased or relieved at the descriptive content of the utterance.

Emotive markers do not contribute to the at-issue content of the utterance: their content cannot be targeted by truth-conditional operators (5) and cannot be denied in discourse via reference to truth or inaccuracy (6).

(5) a. Unfortunately, Jane did not lose the race.
     b. Unfortunately, it is not the case that Jane lost the race.
     c. It is not the case that Jane lost the race, unfortunately.

(6) A: Unfortunately, Jane lost the race.
     B: That's not true, she won!
     C: #That's not true, you're glad she did!

(5) shows different ways of negating the sentence in (3-b); none can negate the contribution of *unfortunately*: they cannot be used to express that the speaker does not regret that Jane did not lose the race. In (6), Speaker B's protest that Speaker A's utterance is not true can be justified by the claim that Jane won; in contrast, Speaker C's protest cannot be justified by the claim that Speaker A was glad that Jane lost the race.

In contrast, the content encoded in emotive verbs like *be disappointed* or *be surprised* is targetable by truth-conditional operators (e.g. *I am not surprised that Jane won the race*), and is therefore at-issue. In the rest of this section, I will provide some additional examples of emotive markers, all of which pattern like *alas* and *fortunately* in tests for not-at-issueness. In the following section, I will show how emotive markers form a distinct class from canonical markers of not-at-issue content.

Instead of disappointment or relief, many emotive markers indicate that the speaker is surprised by (or had not expected) the descriptive content of the utterance. This phenomenon is, in some traditions, referred to as 'mirativity' (DeLancey, 1997, 2001).[5] In English, speaker surprise can be marked intonation-

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[5]Some mirative constructions have a 'recency restriction' (Rett and Murray 2013): they "are licensed only when the speaker has recently learned the at-issue proposition p" (p459). AnderBois (2018) used the same concept – characterized as 'sudden discovery' or 'revelation' – to characterize mirativity in Yucatec Mayan. This suggests that the natural-language notion of mirativity cannot be reduced to the epistemic notion of surprisal as a previously assigned a low epistemic possibility. If at time t-1 I thought that the probability of p was .1, and I find

ally, by a prosodic emotive marker. This is illustrated by the difference between the assertion in (7-a) and the exclamation in (7-b) (Sadock, 1974; Cruttenden, 1986; Michaelis, 2001; Merin and Nikolaeva, 2008). I take the exclamation point in these examples to model a particular prosody or intonation in English: an L+H* contour plus extra prominence markers and an expanded pitch range (Sturman and Rett, 2019). This intonation is brought out especially well by discourse particles like *wow*, although such discourse particles should not be confused with the emotive marker (the intonation) itself: they are optional in exclamations, and can occur on their own, without descriptive content (Rett, 2009, 2008, 2011; Sturman and Rett, 2019).

(7)   a.   Jane arrived on time.
         b.   (Wow,) Jane arrived on time!

The difference in meaning between (7-a) and (7-b) is the expression of the speaker's emotive attitude: both utterances convey the same descriptive content, but (7-b) additionally expresses that the speaker is surprised by (or had not expected) the descriptive content of the utterance.[6]

Like *alas*, the content encoded in exclamation intonation is not-at-issue. It can't be denied in discourse via reference to truth or inaccuracy (8) or targeted by negation: (9) cannot mean 'The speaker is not surprised that Jane lost the race.'

(8)   A: (Wow,) Jane lost the race!
         B: That's not true, she won.
         C: #That's not true, you knew she would lose.

(9)   (Wow,) Jane did not lose the race!

While English encodes speaker surprise or mirativity prosodically, other languages encode the meaning lexically. In Finnish, for example, the sentence particle *-pä* expresses speaker surprise (Karlsson, 1999, 20).[7] Like the pair in (7),

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out at time t that p is true, this state of affairs is permanent; it will always be the case that there was some prior time (namely, t-1) at which I thought p was improbable. But it doesn't follow that it will always be the case that I am surprised that p. It was true in 2016 that I was surprised that Trump got elected (in 2016), but in 2021 it is not true that I **am** surprised that Trump got elected. Other emotive attitudes, in contrast, qualify as 'stable attitudes' in Lauer's (2013) terminology; if in 2016 I am disappointed that Trump got elected, it seems natural that I would still be disappointed in 2021. It also seems possible to me that this difference would be less obscured in a language that more plainly marks the eventive/stative distinction.

   [6]As discussed in Rett (2011), the result of this contribution is that exclamations – or any expression of exceeded expectation – can be interpreted as a compliment or an insult, depending on the situation or the recipient. Specifically, if I walk into Jane's apartment and say, *Wow, your apartment is amazing!*, Jane might assume I had normal expectations about her apartment, and be flattered by the fact that they were exceeded; or she might decide I had low expectations about her apartment, and be consequently insulted. Because these two interpretations are available across constructions and are cross-linguistically available, they seem to be a matter of underspecification or polysemy, rather than ambiguity.

   [7]Thanks to Peter Sutton (p.c.) for drawing my attention to *pä*, and to Tuomo Tiisala (p.c.) for his judgments.

the pair in (10) differ only in that (10-b) additionally encodes that the speaker finds the propositional content (that there are lots of flowers) surprising. They do not differ in intonation.

(10) a. Täällä on   paljon kukk-ia.
          here   be-3RD.SG a.lot   flower-PRT.INDF.PL
          'There are lots of flowers here.'
      b. Täällä-pä on   paljon kukk-ia.
          here-PA   be-3RD.SG a.lot   flower-PRT.INDF.PL
          '(Wow,) There are lots of flowers here!'

Like exclamation intonation, the content encoded by *pä* cannot be directly denied in discourse, and cannot be targeted by negation.

Wu (2008) reports two sentential adverbs in Mandarin that seem to count as emotive markers. As shown in (11), *jingran* is a mirative marker, and the adverb *guoran* is its antonym, used to express that the asserted content was expected by the speaker.

(11) Zhangsan guoran /jingran lai   le.
      Zhangsan GUORAN /JINGRAN come PST
      'Zhangsan came (as expected/not expected by the speaker).'

As detailed in Rett and Murray (2013) and elsewhere, there is a robust crosslinguistic tendency for indirect evidential markers to double as mirative markers. I'll briefly introduce the phenomenon of evidentials and then illustrate mirative evidentials from Tsafiki, a Barbacoan language spoken in Ecuador, as reported in Dickinson (2000).

Tsafiki is an evidential language, which means that all grammatical sentences contain an evidential marker that specifies the speaker's type of evidence for the sentence's descriptive content (Aikhenvald, 2004). Tsafiki's is a three-way evidential system; it distinguishes between direct physical evidence (12-a), information inferred from direct physical evidence (12-b), and information inferred from general knowledge (12-c) (from Dickinson, 2000, 407–8).[8]

(12) a. Manuel ano fi-e.
          M   food eat-DECL
          'Manuel ate.' (The speaker saw him.)
      b. Manuel anno fi-nu-e.
          M   food eat-INF1-DECL
          'Manuel ate.' (The speaker sees the dirty dishes.)
      c. Manuel anno fi-n-ki-e.
          M   food eat-NOM-INF2-DECL
          'Manuel must have eaten.' (He always eats at 8:00; it's now 9:00.)

However, in certain contexts, the indirect evidential *nu* marks mirativity

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[8]DECL labels the declarative marker, which encodes declarative mood. The direct evidential is null in Tsafiki. I've labelled the second evidential INF1 for 'inference from direct physical evidence' and the third INF2 for 'inference from general knowledge'.

instead of indirect evidence. Dickinson (p411) describes (13) as ambiguous.

(13)   Moto   jo-nu-e.
        motorcycle be-IND-DECL
        'It is a motorcycle.' (The speaker hears a motor.)
        'It's a motorcycle!'

In a context in which the speaker has indirect evidence for the proposition – for instance, that she hears rather than sees a motorcycle – the indirect evidential in (13) is licensed. However, it is also licensed in contexts in which the speaker sees the motorcycle, i.e. has direct evidence for the motorcycle, in which case that same evidential functions instead as a mirativity marker, in which case (13) conveys that the speaker is surprised that it is a motorcycle, but not that the speaker has indirect evidence of the proposition.

The polysemy illustrated in (13) – the repurposing of indirect evidentials as mirative markers – happens across languages and language families: for instance in Turkish (Slobin and Aksu, 1982), Tibetan (DeLancey, 1997), and Cheyenne (Rett and Murray, 2013). Important here is the observation that, when these morphemes receive a mirative interpretation, they are acting as emotive markers. In the next section, I will argue that emotive markers behave differently in principled ways from other encoders of not-at-issue content, including evidentials, meaning that mirative evidentials encode two different types of meaning (evidential, mirative) that constitute two different types of content (descriptive, illocutionary).

Finally, it also appears as though mirativity can be encoded syntactically; Cruschina (2012, 2019) argues that this is the contribution of focus fronting in Spanish as illustrated in (14).

(14)   ¡Imagínate!   ¡Con el director quería   hablar!
        imagine.IMP.2SG with the director want.IMPF.3SG talk.INF
        'Guess what! The director he wanted to talk to!'

The phenomenon is also addressed in other languages in Trotzke (2017) and Destruel et al. (2019).

3   What distinguishes emotive markers

Kaplan (1997) characterized emotive content as displaying "something about a state or attitude of the speaker" (26:14). In this section, I'll first discuss what doesn't qualify as an emotive marker, and then show that emotive markers behave as a distinct subclass of encoders of not-at-issue content.

3.1   What emotive markers aren't

There are a number of canonical encoders of not-at-issue content: presupposition triggers; and evidential adverbs. These are illustrated in (15); (16) demonstrate

that their meanings, too, cannot be targeted by truth-conditional operators like negation.

(15) a.   Jane's sisters live in Melbourne.   *presupposition trigger*
      b.   Apparently, Jane owns a horse.   *evidential adverb*
      c.   Frankly, Jane won the race.   *utterance modifier*

(16) a.   It's not the case that Jane's sisters live in Melbourne.
           not negated: Jane has sisters
      b.   It's not the case that Jane owns a horse, apparently.
           not negated: The speaker has indirect evidence that Jane owns a horse.
      c.   It's not the case that Jane owns a horse, frankly.
           not negated: The speaker is speaking frankly about Jane's horse-ownership.

Non-presupposed, lexically encoded not-at-issue content is generally characterized as conventional implicature (Potts 2005, though see Bach 1999). Conventional implicature is typically analyzed semantically in one of two ways: statically, on a different tier from at-issue content (Potts, 2003a,b, 2005, 2007; McCready, 2010; Gutzmann, 2015); or dynamically, as an automatic common-ground update (Murray, 2010, 2011, 2014; AnderBois et al., 2010, 2013). I'll argue that these approaches do not make sufficient distinctions to account for the idiosyncratic behavior of emotive markers.

Recall that I define an emotive marker as a morpheme, syntax, or prosody that encodes the speaker's emotive attitude towards some proposition made salient by the utterance in which it occurs, and does so in backgrounded, not-at-issue content. Many encoders of not-at-issue content target propositions but do not encode the speaker's emotive attitude: evidentials encode the speaker's type of evidence for the descriptive content of an utterance, and speaker certainty markers like *of course* encode the speaker's level of credence in it (see also Ettinger and Malamud, 2015). Utterance modifiers like *frankly* appear to modify the speech act itself, causing Potts (2003b) to analyze them (along with Japanese performative honorifics) as denoting not-at-issue content associated with a null verb *utter*.

Pottsian expressives, like *bastard*, express the speaker's emotive attitude, but tend to target individuals, not propositions. However there are some – like *damn* – that can range over either propositions or individuals (thanks to Kai von Fintel, p.c., for this observation).[9] While I define emotive markers as ranging over propositions for the purpose of this paper, in Rett (2021) I argue that the empirical generalizations made here about emotive markers like *alas* quite naturally extend to Pottsian expressives, and so the present analysis should, too.

In §2 I showed that emotive markers are not manifested in any one particular way. It's also worth noting that there doesn't appear to be a single strategy

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[9]Interestingly, in terms of expressiveness, Kaplan explicity equated the sentences *That damn Kaplan was promoted* and *Alas, Kaplan was promoted* (30:54).

uniquely dedicated to emotive markers, at least not cross-linguistically. Discourse particles (e.g. English *too, even, indeed*, German *toch, doch*) come close, but the term actually refers to a semantically heterogenous class (see Waltereit, 2001, for related discussion). Zimmermann (2011) defines the class of discourse particles as follows (p2012): "Discourse particles in the narrow sense are used in order to organize the discourse by expressing the speaker's epistemic attitude towards the propositional content of an utterance, or to express a speaker's assumptions about the epistemic states of his or her interlocutors concerning a particular proposition." Particles that satisfy this first disjunct, like the Finnish *pä*, might qualify as emotive markers, but those that satisfy the second do not.

I've characterized the class of emotive markers as encoders of not-at-issue content about the speaker's emotive attitude towards some proposition made salient by the utterance. In this section, I'll argue that they form a natural subclass of not-at-issue content: emotive markers, but not other encoders of not-at-issue content, can result in Moore's Paradox. And emotive markers, but not other encoders of not-at-issue content, always scope over their local clausal complement.

3.2   One difference: Moore's Paradox

Denying the content of emotive markers results in Moore's Paradox, while denying the content of other not-at-issue meaning results in something more like a contradiction.

Moore's Paradox occurs when the assertion of a proposition is coupled with the speaker's denial that she believes the proposition. The paradoxical result is the judgment of unacceptability, exemplified in (17).

(17)   #It's raining, but I don't believe it's raining.

The source of this unacceptability has been the cause of a great deal of debate; in the next section, I will side with Searle (1969) in assuming that Moore's Paradox occurs when the second conjunct denies something like a sincerity condition encoded in the illocutionary content of the first.

Murray (2010) used Moore's Paradox to differentiate between just the same two types of not-at-issue content I'm proposing here. In particular, she developed a Moore's Paradox test to argue that while the mirative interpretation of Cheyenne mirative evidentials does contribute illocutionary content – and thus is susceptible to Moore's Paradox – its evidential interpretation contributes canonical not-at-issue content, and therefore results in an unacceptability distinct from Moore's Paradox. (The context of this discussion was Faller's (2002) claim that some evidentials in Cuzco Quechua contribute illocutionary content, or function as speech-act modifiers).

Murray presented consultants with a pair of conjoined sentences; the first conjunct in each contained the mirative evidential, the second conjunct denied the content of the mirative evidential. In the first sentence, in (18), the mirative evidential has an evidential interpretation (in Cheyenne, a narrative reading). In

the second sentence, (19), the mirative evidential has a mirative interpretation.

(18) $\#_{\perp}$É-hó′tàheva-sèstse Aénohe naa oha hovánee′e
           3-win-RPT.3SG   Hawk but   nobody
           é-sáa-nè-hé-he-$\emptyset$.
           3-NEG-that-say-MOD$_A$-DIR
           Intended: 'Hawk won, it's said, but nobody said that.'

(19)   #É-hoo′kòhó-**neho**! Ná-nèšè-héne′ena   tsé-to′sè-hešè-hoo′koho.
           3-rain-<u>nar</u>.sg.inan 1-continue-know.s.t CNJ-going.to-how-rain
           Intended: 'It's raining! ... # I *knew* it was going to rain.'

Both sentences sounded unacceptable to Murray's consultants, but consultants reported a difference in the unacceptability. They claimed that the mirative Moorean sentence in (19) was infelicitous (marked with #), in just the same way they judged traditional Moorean sentences to be. But the evidential Moore's Paradox sentence in (18) was **contradictory** (marked $\#_{\perp}$), distinct from the infelicity of traditional cases like (17) and the mirative construction in (19). Murray interpreted this as evidence that mirative content differed in kind from evidential content, and in particular that the former patterned with the sincerity conditions of an utterance (and were thus better characterized as illocutionary content than the evidential interpretation of Cheyenne mirative evidentials).

The distinction between two different types of infelicity is appreciably subtle. A perhaps more reliable test involves the embedding of Moorean sentences in certain epistemic contexts. Standard Moorean sentences become acceptable when embedded in the antecedent of a conditional or under the verb *suppose*, as in (20) (Yalcin 2007, although see Roberts 2015 for a dissenting view).

(20)   a.   Suppose that it is raining, but that I do not believe that it is raining.
          b.   If it is raining but I don't believe it, then there is something I do not believe.

Section §3.3 discusses complications presented by emotive markers in conditional antecedents, so I focus on the *suppose* test in (21).

(21)   a.   Suppose that, unfortunately, Jane lost the race, but that I'm not disappointed she did.
          b. #Suppose that, allegedly, Jane lost the race, but that no one alleged that she did.

These sentences illustrate a contrast, arguably similar to the one reported by Murray for Cheyenne: denying the content encoded in emotive markers like *unfortunately* results in Moore's Paradox, which is obviated under *suppose*. As a result, (21-a) is reported to be acceptable, just like (20-a). In contrast, denial of the content of the evidential *allegedly* in (21-b) is relatively unacceptable. Following Murray's conclusions about Cheyenne evidentiality and mirativity,

this is plausibly because the evidential adverb *allegedly* encodes a different kind of not-at-issue content than the emotive marker *unfortunately*.

These tests illustrate one way in which the content encoded in emotive markers seems to differ semantically from canonical not-at-issue content, like that encoded in utterance modifiers, evidentials, and some expressives: the content encoded in emotive markers behaves just like the sincerity conditions of declarative utterances in Moorean sentences, while canonical not-at-issue content behaves like other descriptive content in that it leads to contradiction when denied by the speaker. This supports the distinction I characterized in §1 between descriptive and illocutionary content, and the conclusions in Murray (2010) regarding Cheyenne mirative evidentials: illocutionary content, encoded in emotive markers, is on par with information traditionally associated with the illocutionary mood of an utterance. A speaker's direct negation of descriptive content results in contradiction, while a speaker's direct negation of illoctionary content results in Moore's Paradox.

3.3 Another difference: Scope-taking

Emotive markers scope over a single proposition associated with the clause they occur in. In this respect, they behave differently from canonical encoders of not-at-issue content: evidential adverbs like *apparently* and utterance modifiers like *frankly*. I'll demonstrate this claim by examining the behavior of each of these types of elements with respect to propositional operators like conditionals and modals (§3.3.1) and with respect to illocutionary mood (§3.3.2).

3.3.1 Scope interactions with non-illocutionary content

Canonical encoders of not-at-issue content can occur in the antecedents of conditionals as well as sentence-initially. When they do, they must range over the conditional as a whole.[10] This is illustrated in (22) for the utterance modifier *frankly* and in (23) for the evidential adverb *apparently*.

(22) a. Frankly, if the mayor is convicted, she must resign from office.
      b. If, frankly, the mayor is convicted, she must resign from office.

(23) a. Apparently, if the mayor is convicted, she must resign from office.
      b. If, apparently, the mayor is convicted, she must resign from office.

The (a) sentences are paraphrasable as the (b) sentences; specifically, in neither can the adverb range over just the antecedent. In (23-b), for instance, this would result in a reading compatible with a situation in which it is apparent

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[10]Canonical encoders of not-at-issue content and emotive markers can both occur in consequents, as well, and when they do, they both range locally over the consequent.

(i) a. If the mayor is convicted, she must apparently resign from office.
     b. If the mayor is convicted, she must unfortunately resign from office.

that the mayor will be convicted, but it is not apparent that she will have to resign from office as a result. This reading is not available.

This claim is illustrated more clearly in (24). In these sentences, the antecedent is the sort of thing about which a speaker would typically have indirect evidence, but the consequent is not. Specifically, it is unusual for a speaker to only have indirect evidence for a plan that she herself has (namely, running for office). This means that the only reading compatible (under the usual circumstances) with the content encoded in the evidential adverb is one in which *apparently* scopes over only the antecedent; since this reading is not available, both sentences can only have a reading requiring that the speaker has indirect evidence of her own plans (marked with ??, indicating its implausibility).

(24)   a. ??Apparently, if the mayor is convicted, I will run for office.
         b. ??If, apparently, the mayor is convicted, I will run for office.

Lexically encoded emotive markers have the same syntactic distribution in conditionals, but they receive a different interpretation when embedded in antecedents: they take narrow scope, ranging over only the antecedent. This is illustrated below with *unfortunately*.

(25)   a.   Unfortunately, if the mayor is convicted, she must resign from office.
         b.   If, unfortunately, the mayor is convicted, she must resign from office.

In (25-a), *unfortunately* can range over the entire conditional, as do the not-at-issue encoders in (22)–(23). But in (25-b), when *unfortunately* is in the antecedent of the conditional, it can only range over the antecedent, it can't range over the meaning of the whole conditional. This point is illustrated more clearly by the contrast in (26), a conditional in which the consequent is a proposition the speaker would (in a neutral context) not be dismayed by.

(26)   a. ??Unfortunately, if the mayor is convicted, at least we'll have the chance of getting a better one.
         b.   If, unfortunately, the mayor is convicted, at least we'll have a chance of getting a better one.

Because the content encoded in *unfortunately* is at odds with one's typical disposition towards the prospect of getting a better mayor, and because the sentence-initial *alas* in (26-a) must range over the conditional as a whole, the conditional in (26-a) is unacceptable. In contrast, since *alas* only ranges over the antecedent when it is embedded in the antecedent, (26-b) is acceptable. This pair forms a direct contrast with the pair in (24).

Other lexical emotive markers, like *fortunately* and *alas*, behave the same way. The relevant generalization is that emotive markers scope over the content of the clause they occur in; other encoders of not-at-issue content, like utterance modifiers and evidential adverbs, scope outside of their clause in certain

configurations.[11] This generalization is bolstered by the interaction of these encoders of not-at-issue content and epistemic modals. In (28), each phrase occurs sentence initially, and is thus unambiguously associated with the content of the matrix clause.

(28)   a.   Reportedly, it's possible that it's raining.
        b.   Frankly, it's possible that it's raining.
        c.   Unfortunately, it's possible that it's raining.

In all of these sentences, the content encoded in the adverbial scopes over the possibility modal. The sentence with the emotive marker, for instance (28-c), is interpreted as reflecting the speaker's dismay that there's a non-trivial possibility of rain. (This sentence is natural in a context in which it's clear that the speaker hates carrying an umbrella, but feels compelled to when there's a chance of rain.)

In contrast, when the adverbs are sentence-final, they can modify the embedded clause (or the matrix clause). Here, too, the behavior of emotive markers differs from the other encoders of not-at-issue content. In (29-a) the evidential adverb can only range over the matrix clause: it can be used to inform someone about a report that it's possibly raining, but not about a possible raining report. In other words, (29-a) cannot be paraphrased as 'It's possible that it's reportedly raining.' The same goes for (29-b); the utterance modifier can only range over the matrix clause.

(29)   a.   It's possible that it's raining, reportedly.
        b.   It's possible that it's raining, frankly.
        c.   It's possible that it's raining, unfortunately.

In contrast, the emotive marker in (29-c) can scope over either the matrix proposition or the embedded proposition, arguably depending on which clause it modifies. It can be used to lament the possibility of rain (appropriate in the umbrella scenario I mentioned in regards to (28-c)), but it can also be used to lament the rainy weather, if it does eventualize.

In sum, there's something different about emotive markers: they scope locally, unlike canonical encoders of not-at-issue content. This generalization applies to all lexically-encoded emotive markers, as these are the only ones that can be embedded.[12]

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[11]Interestingly, emotive markers must syntactically precede these other sentential modifiers, demonstrated by the contrast in (27) (Cinque, 1999).

(27)   a.   Unfortunately, apparently John died.
        b.   *Apparently, unfortunately John died.

Neither seems to be able to apply to the other's content, however; (27-a) cannot mean the speaker is disappointed that it's apparent that John died.

[12]A reviewer wonders about the orientation of emotive markers when they are embedded under propositional attitude verbs, as in (i):

(i)   ??Jane thinks that unfortunately I won the race.

3.3.2 Scope with illocutionary mood

Emotive markers scope under illocutionary mood. In questions, when acceptable, they still associate with a single proposition made salient by the question: its prejacent (or its 'highlighted alternative,' Roelofsen and Van Gool 2010), or its existential presupposition. In this respect, they contrast clearly with utterance modifiers and evidential adverbs, which scope above illocutionary mood.

The fact that emotive markers associate with the prejacent or existential presupposition of a question often makes them unnatural when uttered out of the blue. As a result, a wide variety of miratives and emotive markers are reported to be unacceptable in questions. English exclamation intonation is unacceptable in questions (although this is plausibly for phonological reasons, since questions in English are marked in part prosodically). But the Finnish mirativity marker *pä* is also reported to be unacceptable in questions, despite being a lexically encoded emotive marker.

Mirative evidentials in Cheyenne are also unacceptable in questions. Recall that mirative evidentials mark evidentiality in some contexts and mirativity (or speaker surprise) in others. In the latter cases, they count as emotive markers. And, as shown in Rett and Murray (2013), this difference in interpretation affects their ability to occur in questions. When the Cheyenne mirative evidential (glossed as NAR for 'narrative') occurs in questions, as in (30), it can only receive an evidential interpretation, not a mirative interpretation. (The unavailability of the intended interpretation in (30-b) is marked by %.)

(30)   a.   Mó=é-x-hó′ táhevá-**hoo′o**   Aénohe?
          y/n=3-REM.PST-win-<u>NAR</u>.3SG Hawk
          'Given the stories you heard, did Hawk win?'
     b. %Mó=é-hó′ táhevá-**hoo′o** Aénohe?
          y/n=3-win-<u>NAR</u>.3SG   Hawk
          Intended: 'Given your surprise, did Hawk win?' / 'Did Hawk really win?!'

The English lexical emotive markers I've been focusing on vary in their acceptability in questions. They are quite unnatural sentence-initially in *wh*-questions, as in (31).

(31)   a. *Alas/Unfortunately, who did Jane meet?
     b. ??Who did Jane meet, alas/unfortunately?

But the acceptability of emotive markers in *wh*-questions are improved when there is a clear (single) proposition, associated with the *wh*-clause, that the

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Given the natural assumption that the speaker is not disappointed she won the race, the only natural interpretation of (i), assuming it's acceptable, is that the emotive marker *unfortunately* is reflecting Jane's attitude. According to Harris and Potts (2009), and as discussed in §2, these speaker-oriented emotive markers can in certain contexts orient towards someone other than the speaker, in this case the subject of the sentence. But there is a difference between the scope or range of an emotive marker – the proposition the emotive marker associates with – and its orientation. (i) cannot be used to lament the fact that Jane thinks I won the race.

speaker is plausibly disappointed about.

(32)   a.   Alas/Unfortunately, who got kicked out of the program?
           b.   When did the doctor's office close, unfortunately?

In (32), intuitively, the emotive marker ranges over the questions' existential presuppositions: that someone got kicked out of the program, and that the doctor's office closed (at some point).

English lexical emotive markers are relatively acceptable in polar questions.[13] The question in (33-a), with an utterance-initial emotive marker, sounds relatively unnatural out of the blue, but the sentence-final version in (33-b) is more acceptable. In it, the emotive markers associate with the prejacent of the polar question, the proposition that Jane got kicked out of the program.

(33)   a.   ?Alas/Unfortunately, did Jane get kicked out of the program?
           b.   Did Jane get kicked out of the program, alas/?unfortunately?

Tag questions, which have very salient prejacents or speaker bias, improve the acceptability of sentence-initial emotive markers in polar questions (Romero, 2005):

(34)   Alas/Unfortunately, Jane got kicked out of the program, didn't she?

Also associated with salient prejacents and speaker bias are negated polar questions (Romero and Han, 2004; Romero, 2006; AnderBois, 2011), which also improve the acceptability of sentence-initial emotive markers.

(35)   Alas/Unfortunately, didn't Jane get kicked out of the program?

But speaker bias and a question's prejacent, or highlighted alternative, are not always correlated[14], and when they diverge, emotive markers track the prejacent. I take a question's prejacent to correspond to the form of the question radical (Roelofsen and Van Gool, 2010; Farkas, 2010; Roelofsen and Farkas, 2015); these are the alternatives that function as propositional discourse referents for anaphoric answer particles (e.g. *yes, no*). The question in (36) is an instance of a question whose prejacent and speaker bias differ.

(36)   *context:* We are in an affluent hippy neighborhood.
           Q: Is there no vegetarian restaurant around here (either)?[15]
           A: No, there isn't.

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[13]*Alas* is slightly more acceptable than *fortunately/unfortunately* in questions. I have no explanation for this difference, but I suspect it might be tracking the relative grammaticization of *alas*; specifically, that *alas* is more distantly related to its adjectival or adverbial roots than *unfortunately* (e.g. *It was unfortunate/*alas that Jane lost the race*).

[14]Thanks to an anonymous *Journal of Semantics* reviewer for patiently pressing me on this point.

[15]I include *either* as a PPI, argued to be a marker of 'inner negation' negative questions, which have been argued to have readings in which the prejacent and speaker bias are contradictories (Ladd, 1981).

In (36), the question's prejacent is 'There is no vegetarian restaurant around here' (p). But the speaker's bias, made clear by the context, is $\neg p$ 'There is a vegetarian restaurant around here'.

When emotive markers that can occur in questions are placed in these contexts, the emotive marker appears to track the prejacent, rather than the bias. This is exemplified in (37) for English.

(37)   *context:* We are in an affluent hippy neighborhood.
        Q: Alas/Unfortunately, is there no vegetarian restaurant around here (either)?
        A: No, there isn't.

The same point can be made by combining the inner-negation question in (36) with reverse-polarity tags:

(38)   Alas/Unfortunately, there is no vegetarian restaurant around here, is there?

In (37) and (38), the question's prejacent is p, and this is what the emotive marker ranges over: (37) and (38) express on the part of the speaker a disappointment that there is no vegetarian restaurant in the neighborhood.

To summarize, emotive markers are not particularly natural in out-of-the-blue questions. But they seem to be licensed whenever a question can be easily associated with a single salient proposition – an existential presupposition or the question's prejacent, when it's salient – rather than the question itself. In contrast is the behavior of canonical encoders of not-at-issue content in questions. In this context, utterance modifiers and evidential adverbs behave slightly differently, but both distinctly from emotive markers.

Utterance modifiers must occur sentence-initially (Giorgi, 2010; Woods, 2014). When they occur in questions, they associate with the question itself, in one of two ways.

(39)   a.   Frankly, who was wrong?   (Giorgi, 2010, 94)
       b.   Seriously, did Jane get kicked out of the program?

They can orient to the speaker, in which case they are paraphrasable as as "I frankly ask you, Who was wrong?" or "I seriously ask you, did Jane get kicked out of the program?". Or they can orient to the hearer, in an instance of interrogative flip, in which case they are paraphrasable as "Answer me frankly, Who was wrong?" or "Answer me seriously, Did Jane get kicked out of the program?" Utterance modifiers therefore behave precisely as their label suggests: as modifiers of utterances, including interrogative utterances. Unlike emotive markers, they cannot associate with the existential presupposition of a *wh*-question, or the prejacent of a polar question.

Another canonical encoder of not-at-issue content, evidential adverbs, can only occur in questions utterance-finally (Giorgi, 2010; Woods, 2014).

(40)   a.   Who was responsible for the computer hack, allegedly?

          b.   How much does the dean make, reportedly?

Like utterance modifiers, evidential adverbs seem to range over the question itself, instead of a single proposition associated with the question. This means that the questions in (40) can be paraphrased as "Tell me who was responsible, according to the allegations you've heard" and "Tell me how much the dean makes, according to the reports you've read". This is the interrogative flip familiar from the utterance modifiers in (39) (as well as evidentials, Speas and Tenny, 2003).

I'll end by noting that emotive markers are unacceptable with other non-declarative moods as well (for instance, in imperatives, (41)).

(41)   a. #Alas/Unfortunately, clean up your room!
        b. #Fortunately, get a job!

This is also true for Finnish *pä* (and English exclamation intonation, again for plausibly phonological reasons).

3.4   Interim summary

I've delineated a class of linguistic markers based on the meaning they encode (a 'sememe'): the speaker's emotive attitude towards some salient proposition, in backgrounded content. This groups together words like *unfortunately* with prosodic markers like exclamation intonation; it also includes some discourse particles like the Finnish *pä*, and the mirative interpretation of mirative evidentials. And it excludes many other linguistic elements that are prima facie similar: evidentials, utterance modifiers like *frankly*, expressives, appositives, and speaker certainty markers.

Like these other elements, emotive markers encode not-at-issue content: their semantic contribution cannot be targeted by truth-conditional operators, be denied in discourse, or used to address the Question Under Discussion. But I've argued here that emotive markers don't behave like other encoders of not-at-issue content in several respects.

First, denying the content of an emotive marker results in Moore's Paradox, while denying the content of other encoders of not-at-issue content does not. The case is clearest in the comparison of emotive markers and evidentials in (21): embedding an emotive marker and its denial under *suppose* removes the sense of Moore's Paradox, while embedding an evidential and its denial does not.

Second, emotive markers scope differently than other proposition-targeting encoders of not-at-issue content. In the case of propositional operators like conditionals and modals, emotive markers scope locally (in the clause they occur in), while utterance modifiers and evidential adverbs associate with the matrix proposition. In the case of illocutionary mood, emotive markers range over a single proposition associated with the question: its prejacent or its existential presupposition. In contrast, utterance modifiers and evidential adverbs both

seem to scope over the interrogative mood, or associate with a set of propositions; when they occur in questions, they range over the question itself, rather than a salient single proposition associated with the question.

In what follows, I propose an account of emotive markers in which they restrict the speaker's commitments at the same level as illocutionary mood does. I formalize the analysis compositionally in a dynamic update semantics – based on Farkas and Bruce (2010) but drawing on similar adaptations in Murray (2010, 2014) and Ettinger and Malamud (2015) – and model illocutionary content as meaning that is added to the speaker's set of Discourse Commitments (Gunlogson, 2001), rather than the Common Ground (as descriptive not-at-issue content does).

I will argue that this treatment of emotive markers as modeling illocutionary content successfully accounts for the semantic differences observed in this section between emotive markers and other encoders of not-at-issue content. It is, additionally, a satisfying model of the persistent intuition – dating at least back to Frege – that emotive markers belong more to the realm of illocution than description.[16]

4 Modeling illocutionary content

In the present analysis, emotive markers behave differently from other propositional encoders of descriptive not-at-issue content in two respects: emotive markers add to the speaker's Discourse Commitments, instead of directly to the Common Ground; and emotive markers range over the most salient proposition in their update, rather than the proposition(s) being added to the Common Ground in the utterance. I will argue that emotive markers behave the way they do because they encode *speaker-oriented, emotive, propositional attitudes*: not-at-issue content about the speaker (relative to some salient proposition) rather than the world.

4.1 A formal foundation

The compositional semantics developed below distinguishes between at-issue content, not-at-issue content, and illocutionary content, and represents salience in a way that can include focus alternatives and not-at-issue content. While the proposal is consistent in principle with a number of different formal semantics for illocutionary mood (including Gazdar, 1976; Asher and Lascarides, 2003; Lascarides and Asher, 2009; Krifka, 2001, 2014; Murray, 2014; Murray and Starr, 2016; Portner, 2016), I adopt the framework proposed in Farkas and Bruce (2010) as a foundation, largely because it is flexible enough to be easily supplementable.

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[16]Frege (1956, 295) says, "An indicative sentence often contains, as well as a thought and the assertion, a third component over which the assertion does not extend. This is often said to act on the feelings, the mood of the hearer or to arouse his imagination. Words like *alas* or *thank God* belong here."

4.1.1 The Farkas and Bruce framework

Farkas and Bruce (2010) define speech acts as functions from input discourse structures K_i to output discourse structures K_o; a subcomponent of any discourse structure is a (possibly empty) set of propositions that are under consideration for addition to the CG. This set is called a projected set, and an assertion that p adds p to the input ps. They specify that interrogative mood differs from declarative mood in that the former adds a non-singleton set of propositions to the ps, while the latter adds and projects only one proposition (p.88). They use the notion of a stack (a Table T) to model salience in discourse (Ginzburg, 1996; Roberts, 1996). In addition to affecting the common ground, utterances can also raise propositional discourse referents ("drefs") to salience, and they do so in this theory by pushing the drefs to the top of the Table.

Gunlogson (2001) defined the CG in terms of the participants' commitment sets; specifically, as the union of the discourse commitments of the participants. But one other important innovation of Farkas and Bruce's approach is the separation of the CG and Discourse Commitment sets. They say: "The discourse commitment set of a participant A at a time t in a conversation c contains those propositions A has publicly committed to in the course of c up to t and which have not (yet) become mutual commitments. The CG, on the other hand, is that set of propositions that have been agreed upon by all participants in c at t together with the propositions that represent the shared background knowledge of the discourse participants" (p.85). Among other things, this allows for participants to negotiate the CG independently of their own public beliefs.

To summarize, the theory in Farkas and Bruce (2010) relies on characterizing several different subcomponents of a given discourse structure K:

1. the **common ground** (CG), the set of propositions all the discourse participants are committed to (for the purpose of the conversation);

2. sets of **discourse commitments** (DC): for each participant x, the set of propositions x has publicly committed to during the conversation;

3. the **Table** T, modeling discourse salience;

4. the **projected set** (ps), the set of propositions that are being considered for addition into the CG.

Farkas and Bruce (2010) adopt from Krifka (2001) a particular formulation of illocutionary mood in which it takes a sentence as its argument and outputs a function from input to output context states. The declarative mood D is defined over an indicative sentence S_p, a speaker or author a and a discourse structure K_i; its output is a discourse structure K_o such that K_o is restricted as in (42) (Farkas and Bruce, 2010, 92). (42) has been modified slightly for terminological consistency, and I've labeled it "to be revised" because I will amend it in (44) to explicitly differentiate between at-issue and not-at-issue content.

(42)   *Declarative operator* (i.e. **D**), for sentences S_p with at-issue content p:
         $\mathbf{D}(S_p, a, K_i) = K_o$ such that   *(to be revised)*

(i) $DC_{a,o} = DC_{a,i} \cup \{p\}$

(ii) $T_o = \text{push}(\langle S_p; \{p\}\rangle, T_i)$

(iii) $ps_o = ps_i \,\overline{\cup}\, \{p\}$

Step (i) in (42) models the addition of the at-issue content p (the propositional content of the sentence S_p) to the set of propositions representing the speaker's discourse commitments: those propositions the speaker has publicly committed to during the conversation. Step (ii) in (42) represents that the utterance of S_p makes salient the proposition p; it defines the output stack T_o as the input stack T_i with p pushed on top. Step (iii) represents the illocutionary content of assertion, using the notion of an input (ps_i) and output (ps_o) projected set.[17] These propositions can then be added to the CG or eliminated throughout the discourse.

Farkas and Bruce's polar question operator **PQ** takes an interrogative sentence $S_{p?}$ and a discourse structure K_i as its arguments. It raises the issue of whether p by adding p and $\neg p$ to the stack, in (43) (i). It proposes, in (ii), that the interlocutors accept either that p or that $\neg p$ (Farkas and Bruce, 2010, 95).

(43)   *Polar question operator* (i.e. **PQ**)   *(to be revised)*
            $\mathbf{PQ}(S_{p?}, K_i) = K_o$ such that

            (i) $T_o = \text{push}(\langle S_{p?}; \{p, \neg p\}\rangle, T_i)$

            (ii) $ps_o = ps_i \,\overline{\cup}\, \{p, \neg p\}$

The relevant difference between the two illocutionary moods is that declarative mood introduces a singleton set of propositions, while the polar question introduces a non-singleton. These illocutionary moods, as they're defined, make predictions about the sort of content an utterance makes salient and the sort of effect that utterance has on the common ground, by virtue of what it adds to the projected set. This allows Farkas and Bruce to model discourse anaphora to propositions, as many dynamic accounts do, as well as the discourse effect of question responses (which can result, in part, in the acceptance of projected set propositions to the common ground).

One adaptation I will make to the Farkas and Bruce framework is to incorporate long-standing arguments that differentiating between at-issue and not-at-issue content requires differentiating between a proposal to update the Common Ground, and a direct update of the Common Ground.

The claim that assertions effectively *propose* to update the CG (instead of directly updating it) comes, as far as I can tell, from Clark 1992 and Ginzburg 1996, and is motivated by the observation that assertions can be denied in discourse in a way that not-at-issue content cannot.[18] As a result, several recent theories have distinguished between at-issue and not-at-issue content by treating the latter as directly updating the Common Ground.

Murray (2010, 2014) argued that Cheyenne evidentials introduce not-at-

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[17]$\overline{\cup}$ represents set union minus the elimination of inconsistent propositions (p.90).

[18]Another motivation is the intuition that, in asserting that p, a speaker cannot force their addressee to commit to p (Malamud and Stephenson, 2014).

issue content; her semantic theory analyzed not-at-issue content as a direct CG update. (See Portner, 2006; AnderBois et al., 2010, 2013, for similar proposals.) We can supplement Farkas and Bruce's illocutionary mood operators in (42) and (43) with Murray's treatment of not-at-issue content by adding a requirement that a not-at-issue proposition q directly updates the CG.

(44)   *Declarative operator* (i.e. **D**), for sentences S_p with at-issue content p and not-at-issue content q: *(to be revised)*
      $\mathbf{D}(S_p, a, K_i) = K_o$ such that
      (i) $DC_{a,o} = DC_{a,i} \cup \{p\}$
      (ii) $T_o = \text{push}(\langle S_p; \{p\} \rangle, T_i)$
      (iii) $ps_o = ps_i \mathbin{\overline{\cup}} \{p\}$
      (iv) $CG_o = CG_i \cup \{q\}$

(45)   *Polar question operator* (i.e. **PQ**), for an interrogative sentence $S_{p?}$ with at-issue content $p, \neg p$ and not-at-issue content q:
      $\mathbf{PQ}(S_{p?}, K_i) = K_o$ such that
      (i) $T_o = \text{push}(\langle S_{p?}; \{p, \neg p\} \rangle, T_i)$
      (ii) $ps_o = ps_i \mathbin{\overline{\cup}} \{p, \neg p\}$
      (iii) $CG_o = CG_i \cup \{q\}$

From this perspective, encoders of descriptive not-at-issue content – like the evidential adverb *apparently* – add a not-at-issue proposition q to the discourse, and that proposition directly updates the common ground.[19] This is parallel to the treatment of Cheyenne evidentials in Murray (2010), and is exemplified in (46).

(46)   Apparently, Jane won the race.
      results in the output discourse structure K_o such that:
      (i) $DC_{a,o} = DC_{a,i} \cup \{\text{Jane won the race}\}$
      (ii) $T_o = \text{push}(\langle \text{'Jane won the race'}; \{\text{Jane won the race}\} \rangle, T_i)$
      (iii) $ps_o = ps_i \mathbin{\overline{\cup}} \{\text{Jane won the race}\}$
      (iv) $CG_o = CG_i \cup \{$Speaker has (only) indirect evidence that Jane won the race$\}$

In sum, I've adopted the semantic treatment of illocutionary mood in Farkas and Bruce (2010) to form the foundation of the account. It encodes illocutionary mood – at least for declaratives and polar questions – and additionally models salience and discourse commitments, which I'll take advantage of for the formal proposal in §4.2. But while Farkas and Bruce characterize at-issue content as proposals to update the common ground, they do not include an explicit and direct treatment of canonical or descriptive not-at-issue content. I've adapted their account, following Murray (2010), to treat descriptive not-at-issue content as direct common ground update.

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[19]This innovation means that the 'Common ground increasing operation' M' in Farkas and Bruce (2010) no longer applies, in my adaptation, to not-at-issue content like appositives. I think this is a more direct and perspicuous way of treating not-at-issue content.

This covers the first two desiderata outlined above: we have a theory that represents illocutionary mood and distinguishes between at-issue and descriptive not-at-issue content. In what follows, I'll supplement this theory further, to accommodate illocutionary content (and thereby to model the meaning of emotive markers).

4.2   Illocutionary content as Discourse Commitments

Farkas and Bruce (2010) foresee the need to expand their analysis:

> "For the matters we discuss here, further additions to context structure such as the agendas of participants or representations of their private doxastic states are not necessary. The model we provide is consistent with expansion in these directions, as well as with additions of finer-grained structures for dealing with anaphoric relations." (Farkas and Bruce, 2010, 89)

The goal of this section is to expand Farkas and Bruce's framework in just this way. I'll begin by discussing how we can use their formalism to model speakers' emotive attitudes; I'll expand the notion of Discourse Commitments to account for the sorts of content emotive markers can apply to.

Vanderveken (1990) argue that *alas* expresses "the sincerity condition that the speaker is unhappy with the existence of that state of affairs" (p.128). The intuition that emotive markers modify an utterance's sincerity conditions is compatible with several empirical observations: that a sentence with an emotive marker can be uttered insincerely, as in uses of exclamations that do not in fact reflect genuine speaker surprise (e.g. *How ridiculously small these seats are!*, uttered on a plane by a seasoned traveler, Rett 2011); that claims inconsistent with the contribution of an emotive marker result in Moore's Paradox (§3.2); and the ability of an emotive marker to affect the essential conditions of an utterance (Searle, 1969), in a way that seems on par with Kaplan's (1997) notion of expressive content.

However, to my knowledge, there is no existing treatment of illocutionary mood that explicitly semantically represents sincerity conditions. It seems possible that Searle's sincerity condition on assertion – that the speaker believes the descriptive content of the utterance – is derivable pragmatically, using Gricean maxims. But I will argue in what follows that what are typically thought of as sincerity conditions – or at least the contribution of illocutionary mood and emotive markers on the essential conditions of an utterance – need to be modeled in a compositional semantics, and can be modeled using the notion of Discourse Commitments (Gunlogson, 2001).[20]

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[20]Such an approach offers a compositional account of illocutionary mood in a way that still allows it to not fully determine illocutionary force. This perspective has the benefit of treating illocutionary mood and emotive markers compositionally, while still allowing for a many-to-many relationship between illocutionary mood and illocutionary force (see, among others, Harnish, 2005). In particular, from this perspective, an utterance of the declarative sentence

Discourse commitments were initially proposed to address speaker bias in rising declaratives (Gunlogson, 2001). The original characterization of discourse commitments is in terms of the beliefs that each participant is publicly committed to: "public in the sense that the participant is mutually recognized as committed to them" (p.42).

(47)   **Discourse Commitments**   *(to be revised)*
        Let DC_a and DC_b be sets of propositions representing the public beliefs of a and b, respectively, with respect to a discourse in which a and b are the participants, where:

   a. p is a public belief of a iff 'a believes p' is a mutual belief of a and b
   b. p is a public belief of b iff 'b believes p' is a mutual belief of a and b

Harnish (2005) reviews a number of objections to *reducing* illocutionary force to commitments – as Krifka (2014) does in analyzing speech acts as "commitment change potentials" – but the division of labor proposed here side-steps most of these problems. The idea is that what Searle thought of as the speaker's belief in p is in fact part of the speaker's Discourse Commitments: in addition to its effect on the Common Ground, an act of assertion that p publicly commits the speaker to p. There are, technically speaking, differences between Searle's sincerity condition on assertion (the requirement that the speaker believe that p) and the Gunlogson/Farkas/Bruce characterization of an assertion adding p to the speaker's set of discourse commitments. This is because publicly committing to a proposition p doesn't reduce to believing that p (and vice versa).

However, a speaker's belief that p and her public commitment to p are closely enough related that we can treat public commitment as a proxy for belief – for the purposes of modeling conversation – and additionally use DCs to encode the contribution of emotive markers. Specifically, a speaker's Discourse Commitments are things that the speaker is committed to treating, for the purposes of the conversation, as if she did believe them. In other words: in contexts in which the speaker is being sincere (or in which the hearer assumes the speaker is sincere), the speaker's publicly committing to p amounts to the speaker's assurance she believes that p. If this is right, then the assertion operator proposed by Farkas and Bruce (2010) in (44) represents, albeit indirectly, Searle's sincerity condition on assertion.[21]

Your behavior has, alas, made me angry can count as a threat when contextual information about the context of utterance supplements the illocutionary content it encodes semantically: namely, that it updates the common ground with the proposition 'Your behavior has made me angry' (a contribution of its illocutionary mood); and that its use is licensed when, and thereby signifies that, the speaker is dismayed by that proposition (the contribution of the emotive marker).

[21]The equivalence is not a perfect one: it's easy to imagine a situation in which each discourse participant believes that p, and knows the others believe that p, but in which no one wants to publicly commit to p: say, a situation in which the boss has some toilet paper stuck to their shoe. Of course, it's possible that Discourse Commitments model the sincerity conditions on assertion more accurately than Searle does, in which case the differences between public commitment and belief are unproblematic. Arguments to this effect can be found in

Recall that Gunlogson defines Discourse Commitments in terms of beliefs: "p is a public belief of a iff 'a believes p' is a mutual belief of a and b" (p42). This is intended to be an exhaustive list, but would need to be supplemented if other emotive markers are found to encode (lexically or otherwise) other emotive attitudes.

(48) **Discourse Commitments** *(final)*

Let DC_a be sets of propositions of the form $\mathsf{believes}_a(p)$, $\mathsf{is\text{-}pleased}_a(p)$, $\mathsf{is\text{-}disappointed}_a(p)$, $\mathsf{is\text{-}surprised}_a(p)$, or $\mathsf{is\text{-}not\text{-}surprised}_a(p)$, representing the public commitments of a with respect to a discourse in which a and b are the participants, where:

a. $\mathsf{believes}_a(p)$ is a public commitment of a iff 'a believes p' is a mutual belief of a and b;

b. $\mathsf{is\text{-}disappointed}_a(p)$ is a public commitment of a iff 'a is disappointed that p' is a mutual belief of a and b;

c. $\mathsf{is\text{-}pleased}_a(p)$ is a public commitment of a iff 'a is pleased that p' is a mutual belief of a and b;

d. $\mathsf{is\text{-}surprised}_a(p)$ is a public commitment of a iff 'a is surprised that p' is a mutual belief of a and b; and

e. $\mathsf{is\text{-}not\text{-}surprised}_a(p)$ is a public commitment of a iff 'a is not surprised that p' is a mutual belief of a and b.

This switch to 'flavored' discourse commitments – DCs that reflect attitudes other than belief – is reminiscent of a similar innovation proposed in Portner (2006). Portner proposes an account of speaker certainty markers wherein the set of propositions representing the Common Ground is subdivided into those mutually agreed to be true (the traditional Common Ground) and those reported to be true, conjectured to be true, etc. This is an evidential version of the emotive adaptation in (48). It also has parallels to the treatment of imperatives in Condoravdi and Lauer (2012), which differentiates between preferential attitudes and doxastic attitudes towards a proposition.

There are additional proposals to modify update-semantic theories like Farkas and Bruce's in order to track other components of discourse. In their analysis of the Mandarin discourse particle *ba*, Ettinger and Malamud (2015) model a request for hearer involvement by introducing different sub-parts of Table to designate different levels of speaker commitment to the proposed CG update. And in his recent theory of the semantics of imperatives and modal particles, Portner (2016) supplements this sort of account with a list of priorities. He says (p.14): "just as we must maintain both the common ground and individual commitment slates in our discourse model, we also must keep track of the shared to-do list function and individual participants' understanding of what priorities each participant is committed to."

Because the content encoded in the DC set are still propositions, much of the definitions in Farkas and Bruce (2010) still apply. For instance, they define the

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Asher and Lascarides (2003, 2008); Lascarides and Asher (2009), whose specific approach I do not adopt because, like Krifka (2014), they do not distinguish between force and mood.

'total discourse commitment' of a participant x as $\text{DC}_x \times$ CG; and they define the CG in terms of all participants's DC sets. The one intriguing difference is that the propositions that enter into the CG via CG update – either via direct CG update encoded in not-at-issue meaning, or via the projection set – can be of any form, while the propositions that enter the CG via DC sets must be of the form 'x has attitude ϵ toward p'. I discuss this in more detail in §4.4.

4.3 The analysis

4.3.1 The formal treatment of emotive markers

Tracking this change in the characterization of Discourse Commitments requires an amendment of the formulation of the sincerity conditions encoded in declarative mood **D** to include pairs in the DC requirement in (i) (from (44)):

(49)   *Declarative operator* (i.e. **D**), for sentences S with at-issue content p
        and not-at-issue content q: *(final)*
        $\mathbf{D}(S, a, K_i) = K_o$ such that
        (i) $DC_{a,o} = DC_{a,i} \cup \{\mathsf{believes}_a(p)\}$
        (ii) $T_o = \text{push}(\langle S; \{p\}\rangle, T_i)$
        (iii) $ps_o = ps_i \mathbin{\overline{\cup}} \{p\}$
        (iv) $CG_o = CG_i \cup \{q\}$

The final component of the analysis is the treatment of emotive markers themselves. I'll model this account on *alas*, but intend it to be generalizable to other emotive markers. I define *alas* over the same input as illocutionary mood in Farkas and Bruce (2010) – an ordered triple of a sentence S, author a, and input context K_i – but whereas illocutionary mood has a single output context K_o as its output, emotive markers are modifiers, returning the same sort of semantic object they operate on.

(50)   *Alas* (i.e. **A**), for sentences S with content p:
        $\mathbf{A}(S, a, K_i) = (S, a, K_o)$ such that
        (i) $DC_{a,o} = DC_{a,i} \cup \{\mathsf{is\text{-}disppointed}_a(p)\}$
        (ii) $T_o = \text{push}(\langle S; \{p\}\rangle, T_i)$

In combination with a sentence's mood – e.g. the declarative mood **D** in (49) – the meaning of an utterance containing an emotive marker like *alas* (**A**) is exemplified as follows.

(51) $[\![\text{Alas, Jane lost the race}]\!] = \mathbf{D}(\mathbf{A}(S, a, K_i)) = K_o$ such that
        (i) $DC_{a,o} = \{DC_{a,i} \cup \{\mathsf{is\text{-}disappointed}_a(\text{Jane lost the race})\}\}$
              $\cup \{\mathsf{believes}_a(\text{Jane lost the race})\}$
        (ii) $T_o = \text{push}(\langle S; \{\text{Jane lost the race}\}\rangle, T_i)$
        (iii) $ps_o = ps_i \mathbin{\overline{\cup}} \{\text{Jane lost the race}\}$

In (51), both the declarative operator and the emotive marker perform the same operation on the stack, namely both push the proposition 'Jane lost the

race' to the top of the stack. Because the second iteration of this operation is redundant, I represent them as a single step in (ii). A case in which there is no such redundancy is discussed in (57).

The emotive marker and declarative operator also both update the speaker's Discourse Commitments in (i), but they do so with different propositions, in successive unionization: first, the emotive marker $\mathbf{A}$ updates the speaker's input $DC_{a,i}$ with the emotive proposition that the speaker is disappointed that Jane lost the race; then the declarative operator $\mathbf{D}$ then updates that with the epistemic proposition that the speaker believes that Jane lost the race.

There are several ways in which the definition of an emotive marker in (50) differs from that of declarative mood in (49) or other encoders of not-at-issue content, as in (46). First, unlike declarative mood, *alas* does not update the projected set *ps*, which is how this approach models the assertoric component of declarative mood, or the raising of an issue. It does push the propositional content of a declarative sentence to the top of the stack – in Step (ii) – which allows for that proposition to be accessible to anaphora (see Snider, 2017, for discussion of the distinction between at-issueness and anaphoric salience).

Second, *alas* in (50) does not directly update the Common Ground, which is how this approach models not-at-issue content (cf. (46)). Third, (50) restricts the speaker's DC set with an emotive attitude (e.g. is-disappointed), not believe. These last two characteristics represent how emotive markers differ importantly from canonical, descriptive not-at-issue content: they update the speaker's Discourse Commitments, rather than the Common Ground.[22]

Each emotive marker contributes its own Discourse Commitment, and the nature of that Discourse Commitment (whether it involves exceeded expectation, disappointment, etc.) is encoded in the lexical or prosodic entry for that emotive marker. The extent to which Discourse Commitments involve propositional attitudes other than belief is constrained lexically (or prosodically. In this paper, I discuss emotive markers that encode disappointment (e.g. *alas*) and surprise (e.g. mirativity markers); there is also evidence, given the discussion in §2, that the antonyms of both emotive attitudes must be included.

Encoding the content of an emotive marker in a speaker's Discourse Commitments gives us a way of preserving its not-at-issue status while addressing its difference in meaning from that of encoders of canonical or descriptive not-at-issue content. I've argued that DC sets are appropriate for modeling the sincerity conditions of an utterance because they represent the speaker's public commitments, and to be insincere is to falsely commit oneself to something publicly. Searle (1969) and others have argued that the unacceptability of Moorean sentences is best attributed to the conflict of one claim with the sincerity conditions of another; in this framework, according to that perspective, Moore's Paradox results when one claim contradicts that speaker's Discourse Commitments. Since emotive markers behave like classical Moore's Paradox cases in

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[22]As in other analyses that invoke Discourse Commitments, there is an indirect path from Discourse Commitments to Common Ground update. Specifically, there are reasons to think that Discourse Commitments ultimately update the Common Ground. I discuss this component of the framework in more detail in §4.4.

this respect, their content should receive the same formal treatment as (other) sincerity conditions.

Specifically, as (51) shows, the utterance of the sentence *Alas, Jane lost the race* publicly commits the speaker to being disappointed that Jane lost the race. In a similar vein, the utterance of the sentence *(But) I'm not disappointed that she did* commits the speaker to the belief that she is not disappointed that Jane lost the race, as in (52).

(52) $[\![$I'm not disappointed that she did$]\!] = \mathbf{D}(S, a, K_i) = K_o$ such that
   (i) $DC_{a,o} = DC_{a,i} \cup \{\mathsf{believes}_a(\text{I am not disappointed Jane lost the race})\}$
   (ii) $T_o = \text{push}(\langle S; \{\text{I am not disappointed Jane lost the race}\}\rangle, T_i)$
   (iii) $ps_o = ps_i \mathbin{\overline{\cup}} \{\text{I am not disappointed Jane lost the race}\}$

These two commitments are incompatible, but they happen at distinct levels of content. If two incompatible propositions p and $\neg p$ were both added to the Common Ground (or to the projected set), the result would be a literal contradiction, what Murray (2010) would characterize as contradictory ($\#_\perp$). But instead, updating a context with (51) and then (52) results in something not literally contradictory: a public commitment that p and an assertion that $\neg p$. This is what Murray characterizes as infelicitous ($\#$), her term for consultants' judgments of Moore's Paradox. In this analysis, the distinction is clear: contradiction results from an empty projection set (since $\overline{\cup}$ eliminates inconsistent propositions), while Moore's Paradox results when an assertion is incompatible with one of the speaker's Discourse Commitments. In the cases like (21), in which the emotive marker is embedded under *suppose*, the inconsistency disappears, as will be discussed in more detail in the next section: the content of the emotive marker – that the speaker is disappointed in the antecedent – 'projects' because it is encoded in the speaker's Discourse Commitments, while the proposition that the speaker is not disappointed, encoded in the consequent, remains embedded under *suppose*.

There is one other relevant issue that arises in simple, unembedded cases of emotive markers. While (50) defines emotive markers as taking sentences (with content p) as complements, some lexical emotive markers – *alas* in particular – can occur on their own, as in (53).

(53)   A: Jane lost the race.
        B: Alas!

In exchanges like these, it's clear the emotive marker is still ranging over the most salient proposition – the content of the previous utterance – and is thus anaphoric to A's discourse move (Snider, 2017). From this perspective, emotive markers seem to function much more like discourse anaphors than sentential operators. (And, as discussed in the next section, the definition in (50) needs to be redefined to reference clauses instead of sentences, anyway.) This would require shifting the original Farkas and Bruce (2010) framework away from reference to syntactic complements and to the characterization of semantic complements.

Alternatively, we could treat B's response as involving ellipsis, in which case the sentential complement of the emotive marker would be present, but phonologically null.

4.3.2 Embedded emotive markers

The formal treatment of emotive markers in the previous subsection allows for the confluence of two semantic properties that are seemingly at odds with each other: it provides a characterization of emotive markers as encoding illocutionary content – thus potentially leading to Moore's Paradox – while at least in principle allowing for emotive markers to range over embedded content, or to operate at a non-matrix level (which, presumably, illocutionary mood itself cannot, although see Krifka 2001 for a dissenting view). According to this account, emotive markers and illocutionary mood have in common that they introduce illocutionary content because they both restrict a speaker's Discourse Commitments; this explains the Moorean effects. But they differ in that only illocutionary mood modifies the projected set, which is what best corresponds to the illocutionary force of a declarative.

Recall that the declarative operator, too, pushes a salient proposition to the top of the stack (from (49)):

(54)   *Declarative operator* (i.e. **D**), for sentences S with at-issue content p and not-at-issue content q:
   $\mathbf{D}(S, a, K_i) = K_o$ such that
   (i) $DC_{a,o} = DC_{a,i} \cup \{\mathsf{believes}_a(\mathrm{p})\}$
   (ii) $T_o = \mathrm{push}(\langle S; \{p\}\rangle, T_i)$
   (iii) $ps_o = ps_i \mathbin{\overline{\cup}} \{p\}$
   (iv) $CG_o = CG_i \cup \{q\}$

This analysis, then, predicts that a sentence could contain a declarative mood marker and an emotive marker which each introduce distinct salient propositions. This would happen in just the sort of configuration in which the emotive marker occurs in an appositive, as in *Jane, who alas lost the race, won the lottery.* In order to do that, the S argument of emotive markers as exemplified in (50) (repeated in (55)) must be interpreted as ranging over clauses, rather than sentences. This accounts for the ability of emotive markers to range over propositions encoded in non-matrix CPs.

(55)   *Alas* (i.e. **A**), for sentences S with content p:
   $\mathbf{A}(S, a, K_i) = (S, a, K_o)$ such that
   (i) $DC_{a,o} = DC_{a,i} \cup \{\mathsf{is\text{-}disappointed}_a(p)\}$
   (ii) $T_o = \mathrm{push}(\langle S; \{p\}\rangle, T_i)$

The meaning of this utterance as a whole is thus composed first when *alas* applies to the appositive clause t_i *lost the race*, as in (56), as a sub-sentential update.

(56) $[\![\text{alas } t_i \text{ lost the race}]\!] = \mathbf{A}(S_1, a, K_i) = (S_1, a, K_{o_1})$ such that

  (i) $DC_{a,o_1} = DC_{a,i} \cup \{\text{is-disappointed}_a(\text{Jane lost the race})\}$
  (ii) $T_{o_1} = \text{push}(\langle S; \{\text{Jane lost the race}\}\rangle, T_i)$

When the matrix sentence is interpreted, the declarative operator modifies the DC and the stack as well, with different propositions. This is illustrated in (57) as successive unionization (for the DC set) and a successive push operation (for the stack).

(57) $[\![\text{Jane, who alas lost the race, won the lottery}]\!]$
       $= \mathbf{D}(S_2, a, K_{o_1}) = K_{o_2}$ such that

  (i) $DC_{a,o_2} = DC_{a,o_1} \cup \{\text{believes}_a(\text{Jane won the lottery})\}$
  (ii) $T_{o_2} = \text{push}(\langle S_2; \{\text{Jane won the lottery}\}\rangle, T_{o_1})$
  (iii) $ps_o = ps_i \; \overline{\cup} \; \{\text{Jane won the lottery}\}$
  (iv) $CG_o = CG_i \cup \{\text{Jane lost the race}\}$

The sub-sentential update in (56) goes from the input context K_i to an intermediate output context, which I've labeled K_{o_1} (and its subcomponents DC_{a,o_1}, etc). When that clause is embedded in a matrix sentence, in (57), the components of the matrix sentence – including its declarative mood – operate as relations between this intermediate output context K_{o_1} and the final output context of the sentence, K_{o_2}. The last two steps in (57) – the modification of the projected set and the Common Ground – are contributed by the matrix declarative mood and the not-at-issue status of the appositive, respectively.

The first two steps in (57) reflect two modifications by the declarative marker to the DC set and the stack, respectively. In Step (ii), $\mathbf{D}$ adds the at-issue content of the matrix sentence – the matrix proposition, that Jane won the lottery – to the intermediate output stack T_{o_1}, which was itself formed in (56) when the emotive marker pushed the content of the appositive to the top of the input stack T_i. In Step (i), the declarative operator $\mathbf{D}$ adds the epistemic proposition that the speaker believes the matrix proposition – the at-issue content of the matrix sentence – to the intermediate output DC set DC_{a,o_1} (which was itself formed in (56) when the emotive marker added the emotive proposition, that the speaker is disappointed that Jane lost the race, to the input DC set $DC_{a,i}$).

While the proposition that Jane lost the race is pushed to the top of the stack in the embedded update for the appositive clause, it is no longer at the top of the stack after the utterance of the sentence as a whole. This results from the definition of *alas* in (50) as it ties the emotive marker to the most salient proposition (the one added to the Table) in the dynamic update the emotive marker participates in. Emotive markers contribute their own restriction to the speaker's DC set, which (in the case of embedded clauses) requires a sub-sentential dynamic update.

The analysis – and this distinction between embedded and matrix updates – carries over to the conditional and modal data discussed in §3.3.1. The derivation for (28-c), repeated below in (58), parallels that in (51) quite closely.

(58) $[\![$Alas, it's possible that it's raining$]\!] = \mathbf{D}(\mathbf{A}(S, a, K_i)) = K_o$ such that

    (i) $DC_{a,o} = \{DC_{a,i} \cup \{\mathsf{is\text{-}disappointed}_a(\text{It's possible it's raining})\}\}$
        $\cup \{\mathsf{believes}_a(\text{It's possible it's raining})\}$
    (ii) $T_o = \text{push}(\langle S; \text{It's possible it's raining}\rangle, T_i)$
    (iii) $ps_o = ps_i \ \overline{\cup} \ \{\text{It's possible it's raining}\}$

When the emotive marker is utterance-final, there are two possible inter-pretations: one in which it ranges over the matrix sentence, and one in which it ranges over the modal's prejacent. A derivation of the former would look just like the one in (58). The local interpretation of this sentence, in which *alas* scopes under the possibility modal, would require a subsentential dynamic update along the lines of (56) and (57), as shown in (59) and (60).

(59) $[\![$it's raining alas$]\!] = \mathbf{A}(S, a, K_i) = (S_1, a, K_{o_1})$ such that

    (i) $DC_{a,o_1} = DC_{a,i} \cup \{\mathsf{is\text{-}disappointed}_a(\text{It's raining})\}$
    (ii) $T_{o_1} = \text{push}(\langle S_1; \{\text{It's raining}\}\rangle, T_i)$

(60) $[\![$It's possible that it's raining, alas$]\!] = \mathbf{D}(S_2, a, K_{o_1})) = K_{o_2}$ such that

    (i) $DC_{a,o_2} = DC_{a,o_1} \cup \{\mathsf{believes}_a(\text{It's possible it's raining})\}$
    (ii) $T_{o_2} = \text{push}(\langle S_2; \{\text{It's possible it's raining}\}\rangle, T_{o_1})$
    (iii) $ps_o = ps_i \ \overline{\cup} \ \{\text{It's possible it's raining}\}$
    (iv) $CG_o = CG_i$

The account in (60) predicts that emotive markers take scope locally because they are interpreted in the clause they occur in. This is modeled in (50) by the fact that the scope of the emotive marker is the same as the most salient proposition in that local update. Its scope is local, but its content – the speaker's attitude towards that proposition – projects by virtue of its being added to the Discourse Commitments. Judging from the fact that emotive markers differ in this respect from e.g. evidential adverbs (see e.g. (23) and (24)), we can infer that evidential adverbs scope over something else; in particular, the proposition added by the declarative mood to the projection set *ps*.

4.3.3   Emotive markers and non-declaratives

The characterization of emotive markers in (50) accounts for the fact that emotive markers don't scope over a question (like utterance modifiers do), or participate in interrogative flip (like evidential adverbs do). It also accounts for their incompatibility with any sentence that can't be associated with a single salient proposition. (50) is defined only over proposition-denoting clauses; while the descriptive content of a declarative sentence is a proposition p, the descriptive content of a question is a set of propositions (Hamblin, 1971) and, arguably, an imperative denotes a property or some other non-propositional content (Hausser, 1980; Portner, 2004; Murray and Starr, 2016).

This definition predicts that emotive markers are not compatible with a (matrix) question or imperative.[23] It also correctly predicts that emotive markers

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[23]Recall that the data in (41) show that English lexical emotive markers are unaccept-

can range over clauses embedded in questions, as (61) shows.

(61)   What does Sue, who alas couldn't be here today, think about the pro-
        posal?

This aspect of the account is not, I believe, stipulative: other aspects of natural language suggest that it is not possible to express an emotive attitude towards a set of propositions or anything non-propositional. As I've argued, emotive markers implicitly encode (i.e. in not-at-issue content) the speaker's emotive propositional attitude. The explicit equivalents cannot take question complements, as demonstrated below; given the parallel behavior of emotive markers, this seems like a semantic rather than a syntactic prohibition.[24]

(62)   a. *Has Jane arrived on time, which disappointed me?
        b. *Who won the race, which surprised me / which I hadn't expected?

There is additional empirical support for an analysis in which emotive markers can only range over single propositions. Recent work in alternative semantics (Alonso-Ovalle, 2006, among others) and inquisitive semantics (Groenendijk, 2009, among others) have proposed treating certain cases of disjunction as similar to polar questions in just this respect. Alonso-Ovalle (2006), for instance, adopts a Hamblin semantics in which, in certain contexts, disjunctive sentences denote a set of propositions (i.e. multiple alternatives). If these approaches are right, (50) predicts that e.g. *alas* is unacceptable in alternative-projecting disjunctive sentences for just the same reason they're unacceptable in polar questions. And this seems to be the case:

(63)   a. #(Wow,) John rode his bike or arrived on time!
        b. #Alas, John rode his bike or arrived on time.

This is not to say that emotive markers are ungrammatical in any sentence that includes a disjunction, just in those in which the disjunction introduces multiple alternatives. It's possible, of course, to be disappointed at a single proposition that just happens to be disjunctive: in a situation in which you learn that John's family is no longer a two-income family, it is perfectly acceptable to lament *Alas, John lost his job or Mary lost hers.* These sentences differ intonationally in English, and involve distinct lexical items in languages like Egyptian Arabic (Winans, 2019).

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able in imperatives; the same is true for Finnish *pä*. By explaining these facts in terms of a requirement that emotive markers associate with a single proposition, I am indirectly committing myself to an analysis of imperatives in which they are non-propositional. This is by no means a consensus view, as a reviewer points out: some recent analyses treat imperatives as proposition-denoting (statements of necessity) (Condoravdi and Lauer, 2012; Kaufmann, 2012).

[24] A reviewer suggests that a possible explanation for the unacceptability of (62), as well as the behavior of emotive markers in questions, is due to the factivity of these emotive attitudes, rather than a requirement that they only range over a single proposition. Since all emotive attitudes are factive, it is hard to disentangle these explanations in their case; but there are, of course, factive verbs like *know* which can take either sentence or question complements.

This component of the analysis in (50) – that emotive markers must scope over a single, salient proposition – thus ensures that the distribution of emotive markers is restricted to only those constructions that make salient a single proposition. However, they can occur in some (matrix) questions, as discussed in §3.3.2; in particular, *wh*-questions (when it's clear from context that the question carries an existential presupposition) and in polar questions (when there is a salient prejacent, or highlighted alternative).

On the one hand, standard semantics of questions don't treat these propositions as the denotation of the question: both are seen, roughly, as denoting properties, or sets of propositions. But on the other hand, there is independent evidence that polar questions need to be associated at some level with their speaker bias or highlighted alternative (Romero and Han, 2004; Reese, 2008; Malamud and Stephenson, 2014; Roelofsen and Farkas, 2015; Jeong, 2018), and *wh*-questions need to be associated at some level with their existential presupposition.

First, when they are used as rhetorical questions, this is exactly how they are interpreted: as negations that p, where p corresponds to the speaker bias, for polar questions, and the existential presupposition, for *wh*-questions (Sadock, 1974; Han, 2002).

(64) Did I tell you that writing a dissertation was easy?
amounts to an assertion that
It's not the case that I told you that writing a dissertation was easy

(65) Didn't I tell you that writing a dissertation was easy?
amounts to an assertion that
It's not the case that I told you that writing a dissertation was not easy

(66) (After all,) Who helped Mary?
amounts to an assertion that
It's not the case that someone helped Mary

Second, the fact that emotive markers can range over a salient proposition associated with questions is in line with their ability to operate on the speaker's Discourse Commitments. To model this effect, we'd need to adapt the polar question operator from Farkas and Bruce (2010) in (45), to incorporate Gunlogson's DC update.

(67) *Polar question operator* (i.e. **PQ**), for an interrogative sentence S with bias or highlighted alternative p; at-issue content $\{p, \neg p\}$; and not-at-issue content q:
PQ$(S, K_i) = K_o$ such that
(i) $DC_{a,o} = DC_{a,i} \cup \{\mathsf{believes}_a(p)\}$
(ii) $T_o = \mathrm{push}(\langle S; \{p, \neg p\}\rangle, T_i)$
(iii) $ps_o = ps_i \,\overline{\cup}\, \{p, \neg p\}$
(iv) $CG_o = CG_i \cup \{q\}$

The derivation of a polar question with an acceptable emotive marker, as in

(33-b), would look like this:

(68) $\llbracket$Did Jane lose the race, alas?$\rrbracket = \mathbf{PQ}(\mathbf{A}(S, a, K_i)) = K_o$ such that
    (i) $DC_{a,o} = \{DC_{a,i} \cup \{\textsf{is-disappointed}_a(\text{Jane lost the race})\}\}$
          $\cup \{\textsf{believes}_a(\text{Jane lost the race})\}$
    (ii) $T_o = \text{push}(\langle S; \{\text{Jane lost the race, Jane did not lose the race}\}\rangle, T_i)$
    (iii) $ps_o = ps_i \mathbin{\overline{\cup}} \{\text{Jane lost the race, Jane did not lose the race}\}$
    (iv) $CG_o = CG_i$

A similar modification would need to be made to any *wh*-question operator.

It is clear, given the discussion in §3.3.2, that some polar questions are associated with a single salient proposition representing a question's prejacent or existential presupposition. Crucially, however, as the question data in §3.3.2 show, this salient proposition needs to be made available in the semantics independently of the question's denotation, which is a set of propositions. While I assume that this proposition is accessible to the compositional semantics in (67), I do not have a proposal for how such a thing is possible; such an effort might require a more sophisticated compositional semantic framework, like Inquisitive Semantics (Roelofsen and Farkas, 2015). So, while the original Farkas and Bruce (2010) framework is a convenient one for showing the benefits of analyzing illocutionary content as Discourse Commitments in assertions, extending the account to questions is likely to require a more fine-grained and sophisticated formalism.

4.4 Discussion

This paper began with the claim that emotive markers form a natural class within the larger group of encoders of not-at-issue content by virtue of the meaning they encode: in particular, that they behave differently from other encoders of not-at-issue content because they mean what they mean. Emotive markers behave the way they do because they encode not-at-issue information about the speaker's propositional attitude toward a salient proposition. Because the information is about the speaker's *propositional* attitude, it ranges over a (single) proposition, and so is incompatible with any construction that can't proffer a single, salient proposition. And because the information is about *the speaker's* propositional attitudes, it is represented as her public commitment, instead of being automatically introduced into the Common Ground. This is, arguably, an intuitive way of modeling the apparent differences between descriptive and illocutionary content.

This formal system, as it's borrowed from Farkas and Bruce (2010) and amended in §4.1, provides three ways for a proposition to get admitted into the common ground: 1) by direct update (the effect of a descriptive not-at-issue proposition q); 2) when a proposal to add to the common ground is accepted from the projected set by participants (the eventual effect of the utterance of most declarative sentences with at-issue content p); and 3) via the speaker's DC set. This third route is discussed only briefly in Farkas and Bruce (2010), but

it's especially significant for the present analysis.

If, in the course of a conversation, a asserts that p, an interlocutor b can later presuppose that a believes p. This suggests that a's belief in p (here, the proposition $\mathsf{believes}_a(p)$), has at some point been admitted into the CG. Farkas and Bruce refer to this as a "secondary effect" (p.93) and differentiate qualitatively between it and the other two methods of addition to the CG. The same story can, of course, be told for utterances involving emotive markers. If a asserts that *unfortunately* p, the proposition $\mathsf{is\text{-}disappointed}_a(p)$ is initially added to DC_a, but it must ultimately end up in the CG, because interlocutor b can later presuppose that a is disappointed that p. In this same way, the analysis must allow for discourse commitments encoded in emotive markers to be admitted into the common ground.

Recall that, in the original Farkas and Bruce (2010) framework, the declarative mood of a sentence S denoting the proposition p contributes to the speaker a's DC set the proposition that p. Farkas and Bruce develop a path for this Discourse Commitment to enter into the Common Ground by stipulating default agreement for assertions: the speaker a is doxastically committed to p in some primary sense, and the addressee b becomes doxastically committed to a's belief in p – and then gains belief in p herself, secondarily – by virtue of the stipulation in default agreement, effectively that the addressee takes on the speaker's Discourse Commitments.

Adapting this 'default agreement' path from DC sets to the CG is slightly more complicated for the present proposal. There are two varieties of commitment to keep track of: doxastic commitments (of the form $\mathsf{believes}_x(p)$, introduced by mood markers like the declarative operator (49)); and emotive commitments (e.g. of the form $\mathsf{is\text{-}surprised}_x(p)$, introduced by emotive markers). The secondary effect associated with doxastic beliefs is effectively the same for the present account as it is for Farkas and Bruce. b's commitment that a believes p turns into b's commitment that b believes p, which allows p to enter into the CG. So if the speaker is doxastically committed to p, the addressee comes to believe that p.

When the public commitment comes from an emotive marker, the relation between the interlocutor and the proposition is something other than belief, so default agreement doesn't apply. After uttering a sentence with an emotive marker – say, a mirative construction with content p – a publicly commits to being surprised that p. The proposition $\mathsf{is\text{-}surprised}_a(p)$ can then, under the right circumstances, enter into b's DC set. But agreeing with a doesn't require that b be surprised that p, so nothing in the framework can or should convert $\mathsf{is\text{-}surprised}_a(p)$ into $\mathsf{is\text{-}surprised}_b(p)$. But if both interlocutors have $\mathsf{is\text{-}surprised}_a(p)$ in their DC sets, it can enter into the CG, allowing it to be presupposed in the conversations that follow. This seems like a natural interpretation of Gunlogson's Discourse Commitments qua public commitments recognized by all, and is reminiscent of the formalization of illocutionary-level commitments in Lauer (2013).

5 Conclusions

I've delineated a class of elements called 'emotive markers': morphemes or prosody that encode a) the speaker's emotive attitude; b) towards some proposition made salient by the utterance in which they occur; c) in backgrounded, not-at-issue content. I've used emotive markers as a case study for better examining the traditional divide between descriptive and illocutionary (or expressive, in the sense of Kaplan, 1997) content. While descriptive content amounts to what is said, illocutionary content pertains to how the speaker is using the utterance in context. The meaning encoded in emotive markers, while clearly not-at-issue, differs in several ways from descriptive not-at-issue content, encoded in utterance modifiers, evidential adverbs, appositives, etc.: emotive markers can result in Moore's Paradox; can only range over single propositions; and must scope locally over the clause they occur in.

I've presented a formal account of emotive markers in which the content they apply to is added to the speaker's Discourse Commitments in the form of what I've called a 'flavored' commitment, is-disappointed$_a(p)$. Emotive markers therefore differ from encoders of descriptive not-at-issue content in that the information they encode updates the DC set instead of directly modifying the Common Ground. And while illocutionary mood restricts the DC set as well, emotive markers differ from mood in this analysis because mood also alters the projected set (Farkas and Bruce, 2010).

I've defined the class of emotive markers based on the sort of meaning they encode, but I've demonstrated that they behave as a natural class semantically, as well, and that this behavior holds of emotive markers across languages. As a result, I've suggested that emotive markers behave the way they do *because of* the sort of meaning they encode. Because they encode propositional attitudes, they must range over (single) propositions, and in particular, they must range over the most salient proposition encoded in the utterance. And because emotive markers encode *the speaker's* propositional attitude, they add information to the speaker's Discourse Commitments rather than the Common Ground.

In making these arguments, I've drawn in part from the phenomenon of mirative evidentials: morphemes that have an evidential interpretation in some contexts and a mirative interpretation in others (in which case they count as emotive markers). When Cheyenne mirative evidentials act as evidentials, they can occur with non-declarative mood (Murray, 2010; Rett and Murray, 2013). When they act as miratives, however, they cannot. There is currently a debate in the evidentials literature about how to classify evidentials, and this debate is complicated by observations that the compatibility of evidentials with non-declarative mood appears to vary cross-linguistically: in languages like Abkhaz, Baniwa, and Jarawara, evidentials, too, are unacceptable in questions (Aikhenvald, 2004). While there are open questions about what evidentials are and what they contribute to a sentence, the discussion here offers one possibility of reconciling the observed cross-linguistic differences with respect to compatibility with illocutionary mood. It's possible that, while evidentials in some languages are classified as encoding descriptive not-at-issue content, and thereby directly up-

date the Common Ground (as they do in Cheyenne; Murray, 2010), evidentials in other languages are classified as encoding illocutionary content about speakers' doxastic states, and thereby update the DC set (as they do, with some important differences, in the account of Cuzco Quechua evidentials in Faller, 2002). In other words, while it's clear that certain aspects of meaning (like the speaker's attitude towards the descriptive content of an utterance) is best encoded as illocutionary content, languages might differ on how other aspects of meaning (like evidence type, or speaker certainty) should be encoded, suggesting that the class of illocutionary content might be to some extent cross-linguistically variable.

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