

Mood and contextual commitment*

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Abstract Many recent analyses of mood selection in Romance and Balkan rely on the idea that subjunctive is triggered by a modal predicate whose meaning is comparative. We work out a precise version of this idea, which we call the *proto-standard theory*, and show that it runs into problems with a variety of indicative-selecting predicates in French. We then develop and argue in favor of an alternative account based on individuals being *contextually committed* towards the modal parameters used to give the meaning of the predicate.

Keywords: mood, modality, context, propositional attitudes

1 Overview

This paper concerns the semantic and pragmatic factors that are behind verbal mood marking – the contrast between indicative and subjunctive seen in (1)-(2) – in the complements of propositional attitude predicates. We focus on cases in which choice of mood depends on the attitude expressed by the embedding predicate,¹ and we limit our attention here to data from French.²

- (1) Pierre croit que Marie est heureuse.
Pierre believes that Marie is.IND happy
- (2) Pierre veut que Marie soit heureuse.
Pierre wants that Marie is.SBJV happy

How is the mood selection of attitude predicates determined? When we review much of the recent formal work on mood, we find a common intuition that mood selection is sensitive to the semantics of comparison. Attitudes of desire, like ‘want’, are said to be comparative because they describe a preference for one alternative over others.

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1 Other factors which may affect mood selection are not discussed here.

2 All French data without citation were provided by our consultant, Delphine Kanyandekwe.

Belief, on the other hand, is seen as not being comparative in this way. We present this approach below in its distilled form as the *proto-standard analysis* of mood.

While the proto-standard analysis carries important insights and succeeds in predicting the mood selection of a wide range of attitude predicates, we show that it runs into problems with some of the predicates that have not previously been studied in detail. There exist a number of predicates (e.g., *espérer* ‘hope’, *promettre* ‘promise’, *probable* ‘probable’) that have a preference-based comparative semantics despite selecting for indicative complements. We will argue in favor of a different analysis of mood selection in French which is based on the concept of *contextual commitment* to modal (conversational) backgrounds. We associate indicative mood with a presupposition of commitment: a presupposition that relevant individuals are prepared to defend the modal background of the attitude as being reasonable and appropriate. This analysis leaves room for attitude predicates that select for the indicative despite having a semantics involving comparison.

Our paper is organized as follows. In Section 2, we lay out the proto-standard analysis in detail and point out some problems for it. In Section 3, we argue that the concept of contextual commitment is helpful in explaining mood selection in the cases that are problematic for the proto-standard view. Contextual commitment is made more precise in Section 4, where we also propose a presuppositional analysis of mood morphemes and apply it to the key examples. Section 5 compares our proposal to others in the literature, and Section 6 summarizes our main contributions.

2 The Proto-Standard Analysis

In this section, we develop what we call the PROTO-STANDARD ANALYSIS of verbal mood. We first bring out what we see as the core idea shared by much recent semantically oriented work on verbal mood, and we give a formal version which highlights the shared central idea. We call it a “proto” standard, and not simply the “standard”, both because the similarities among various previous approaches have not been fully acknowledged in the literature, and also because we do not wish to hide the fact that there are many differences among them. By focusing on what is shared, we will be able to drive new insights into the nature of verbal mood.

MOOD SELECTION refers to the case where the verbal mood form in an embedded clause is determined by a matrix predicate which takes that clause as a semantic argument. Such predicates always have a modal semantics, broadly construed. For example, on the classical approach of Hintikka (1961), propositional attitude predicates like *believe* are a type of strong modal, expressing universal quantification over a set of accessible worlds determined by the predicate and its arguments (i.e., a \Box in modal logic). More recently, scholars interested in explaining mood selection have developed analyses based on more sophisticated theories of modality, in particular

the framework of Kratzer (1981, 1991, 2012). Crucially, they follow Kratzer in assuming that the semantics of modal elements makes use of two parameters in place of the accessibility relation of modal logic. These parameters, the modal base and ordering source, are each a function from worlds to sets of propositions, and their semantic roles may be described as follows:

- The modal base specified by the predicate P , f_P , determines the set of possible worlds relevant to the truth conditions of a clause headed by P .
- The ordering source specified by the predicate P , g_P , ranks the worlds relevant according to f_P , establishing a partial pre-order which contributes to the truth conditions of a clause headed by P .

Kratzer defines various modal operators using these two parameters. Two that have been used in the analysis of attitude predicates are *necessity* in (3) (simplified from the original definition), and *weak necessity*, in (4) (Kratzer 1991):

(3) $\llbracket P_N q \rrbracket = \text{True in } w \text{ iff } q \text{ is true in all worlds compatible with } f_P(w) \text{ that are best according to } g_P(w)$.

(4) $\llbracket P_{WN} q \rrbracket = \text{True in } w \text{ iff } q \text{ is better than } \neg q \text{ according to } f_P(w) \text{ and } g_P(w)$.

As pointed out by von Stechow & Iatridou (2008), these definitions are very close and may be indistinguishable under the Limit Assumption. We base our discussion on (4), because it is closer to the definitions of subjunctive-selecting predicates used in the literature on mood, and because it more directly reflects the intuition behind the proto-standard analysis.

Following Stalnaker (1984); Heim (1992); Giorgi & Pianesi (1997); von Stechow (1999); Villalta (2008), we can treat ‘want’ as using a doxastic modal base ($DOX(a, w)$, what the subject believes) and buletic ordering source ($BUL(a, w)$, what he desires). A sentence like *John wants Fido to get a rabies shot* is true, according to (4), if among the worlds compatible with what John believes, the worlds in which Fido gets a rabies shot are more desired by John than the ones in which he does not (in light of the priority that Fido is not quarantined).

Note that, although the general form of truth conditions for strong modals and propositional attitude predicates is as in (3)-(4), nothing requires that the ordering source play a significant role. If g_P happens to be empty, (4) reduces to (5),³ Kratzer’s *simple necessity*, which is equivalent to the classical modal logic definition of \Box :

(5) $\llbracket P_{SN} q \rrbracket = \text{True in } w \text{ iff } q \text{ is entailed by } f_P(w)$.

The majority of recent semantic analyses of verbal mood make use of this general picture of the semantics of propositional attitude predicates, and based on it, they

³ This is also the case if $g_P(w)$ is trivial, e.g., if it is a subset of $f_P(w)$. We assume that non-empty ordering sources are not trivial in what follows.

propose, in essence, that a predicate P selects the subjunctive if its ordering source g_P is not empty. Put less formally, they say that a predicate selects the subjunctive if it has a COMPARATIVE semantics, and the indicative otherwise. Assume that *vouloir* ‘want’ and *croire* ‘believe’ have meanings as follows:

- (6) $\llbracket a \textit{ vouloir } q \rrbracket = \text{True in } w \text{ iff } q \text{ is better than } \neg q \text{ according to } DOX(a, w) \text{ and } BUL(a, w).$
- (7) $\llbracket a \textit{ croire } q \rrbracket = \text{True in } w \text{ iff } q \text{ is entailed by } DOX(a, w).$

Here we represent plainly the idea that *vouloir* has a comparative semantics, while *croire* does not. Given this, *vouloir* is predicted to select the subjunctive and *croire* the indicative. As we saw in (1)-(2), this is correct for French.

We can state the “proto-standard analysis” informally as follows:

- (8) PROTO-STANDARD ANALYSIS OF MOOD: A predicate P selects the subjunctive iff its ordering source, g_P , is not empty, leading to a comparative semantics.

Many scholars have worked with the idea that a comparative semantics or non-null ordering source is a factor which triggers subjunctive (including Anand & Hacquard 2012; Farkas 1992, 2003; Giannakidou 1994, 1995, 1997, 1999; Giorgi & Pianesi 1997; Smirnova 2011; Villalta 2000, 2006, 2008). For some of these a comparative semantics is only one factor among several affecting mood selection (e.g., Farkas; Giorgi & Pianesi), and for some importance of this factor is only apparent upon close examination (e.g., Giannakidou; Smirnova). Our formalization draws most directly on the work of Giorgi & Pianesi and Villalta. We will briefly discuss how some of these works relate to our own proposal in Section 5.

2.1 Formalizing the proto-standard analysis

In order to make the analysis more precise, we need to provide a general characterization of what it is for a modal or attitude predicate to have a comparative semantics. Doing so requires many details to be filled in, including the precise definition of “better than”, what it means for an ordering source to be (non) empty, and the role of the individual arguments in the semantics. In (9) we formalize the proto-standard theory in terms of the most standard and well-known version of the ordering-based approach to modality, that of Kratzer (1981, 1991, 2012). We do not wish to dismiss other ways of thinking about the relevant predicates; in particular, important ideas about the nature of comparison have been put forth by Heim (1992); Villalta (2008); Levinson (2003); Lassiter (2011), but integrating them would not make a difference to the points we make. Because it aims to be general, our definition does not include

a number of presuppositions discussed in the literature for specific attitudes, for example that f_{want} is compatible with both q and $\neg q$ (Heim 1992).⁴

(9) THE PROTO-STANDARD ANALYSIS OF MOOD (formal version)

(a) The Subjunctive

For any propositional attitude predicate P with complement argument S , P selects the subjunctive form of S iff

- i. P has a comparative semantics: $\llbracket P \rrbracket = \lambda q \langle \lambda y \lambda x \rangle \lambda w [\forall w' \in \cap f_P \langle (x)(y) \rangle (w) \cap (W - \llbracket q \rrbracket), \exists w'' \in \cap f_P \langle (x)(y) \rangle (w) \cap \llbracket q \rrbracket \text{ such that } w'' \leq_{g_P \langle (x)(y) \rangle (w)} w'; \text{ and not vice versa}]$; and
- ii. P places requirements on g_P implying that, for any x , y , and w for which $g_P \langle (x)(y) \rangle (w)$ is defined, $g_P \langle (x)(y) \rangle (w) \neq \emptyset$.

(b) The Indicative

For any propositional attitude predicate P with complement argument S , P selects the indicative form of S iff the conditions for P selecting the subjunctive form of S are not met.

Having now given a precise version of the proto-standard theory, we will summarize its major advantages (Section 2.2), point out a few open issues (Section 2.3), and lay out a number of problems (Section 2.4).

2.2 Where the proto-standard analysis works well

Subjunctives which work well

The following important classes of subjunctive-selecting predicates are accounted for by the proto-standard theory:

- Verbs of desire (like *vouloir* ‘want’ above).
- *Regretter* ‘regret’ and other emotive factive predicates.
- *Ordonner* ‘order’ and other directives.

We already have discussed *vouloir* above. Emotive factives also select subjunctive in French, as seen in (10):

- (10) Je regrette qu’il ait plu.
I regret that it has.SBJV rained

⁴ In (9a), we make provision for the fact that predicates take varying numbers of individual arguments: $\langle \lambda y \lambda x \rangle$ indicates the possibility that P takes a subject and object argument, and $\langle (x)(y) \rangle$ shows where they will be taken as argument by f_P and g_P within the definition.

The “emotive” component of meaning can be accounted for in terms of a comparative semantics; for example, the meaning of *regretter* involves the assertion that the subject disprefers the complement proposition, as compared to its negation. An ordering source derived from a buletic one by negating the component propositions can represent this aspect of its meaning.

Directives also select subjunctive:

- (11) J’ordonne qu’il vienne.
I order that he come.SBJV

Here too the semantics is naturally thought of as comparative. The sentence asserts that the complement is ranked higher than its negation in terms of requirements (represented with a deontic ordering source) imposed by the subject.

Indicatives which work well

The proto-standard theory also accounts for a number of classes of indicative-selecting predicates:

- Positive verbs of mental judgment (like *croire* ‘believe’ above).
- *Dire* ‘say’ and other verbs of assertion.
- *Rêver* ‘dream’ and other verbs of fiction and imagination.
- *Sûr* ‘sure’ and other predicates of certainty.

We have already discussed *croire* above. Assuming that its meaning only requires a doxastic modal base, and no ordering source, the fact that it selects indicative in French is accounted for. Similarly, there is no reason to suspect that the next two classes, verbs of assertion and fiction verbs, would require an ordering source. Verbs of assertion make use of a modal base corresponding to the common ground of a reported conversation, as in (12):

- (12) Je dis que le temps est beau.
I say that the weather is.IND pretty

Fiction/imagination verbs’ modal bases encode the facts in the fictive landscape:

- (13) J’ai rêvé qu’il était président.
I dreamed that he was.IND president

Predicates of certainty, which also take the indicative as in (14), work out if we think of them as using a modal base containing propositions of which the subject is sure.

- (14) Je suis sûr qu’il est bon étudiant.
I am sure that he is.IND good student

There is, however, an intuition that *sûr* expresses a subjective feeling on the part of the subject, and it would be natural to encode this via an ordering source, parallel to the “emotive” meaning of emotive factives. We will not pursue this point further, however, because we wish to be conservative in our judgment of what constitutes a problem for the proto-standard view.⁵

2.3 Open issues for the proto-standard analysis: subjunctives

The classic modal adjectives *possible* and *nécessaire* select the subjunctive in French, and this fact raises issues for the proto-standard theory. Beginning with *possible*, the first thing to point out is that, because the modal force is not necessity, it doesn’t fit into the definition of a subjunctive-selecting predicate in (9a). Thus, the analysis should be reformulated so as to leave open the modal force of the predicate. More significant is the fact that it is not clear that *possible* always involves comparison.

(15) Il est possible que cet échantillon soit dissout dans l’eau.
 it is possible that this sample is.SBJV dissolved in the water

(15) can be seen as expressing pure circumstantial modality; it states that the sample being dissolved is compatible with a set of relevant facts, with no additional ordering source information involved. If this is the case, *possible* does not fit with the analysis of subjunctive under the proto-standard theory. We can, however, think of a number of reasonable things that a proponent of that theory could say about these cases based on the fact that other uses of *possible*, for example deontic ones, clearly do involve an ordering source. One option would be to reformulate (9a) so that all it requires is that g_P be sometimes non-empty; this might prove too weak for other predicates, however. Another would be to say that, because *possible* uses an ordering source on some of its readings, it has been grammaticalized as taking subjunctive on all uses. While this move would take us away from a pure semantically-based theory of mood selection, it is likely that we will need to invoke grammaticalization at some point in our analysis of mood in any case.

If we were to assume that *nécessaire* can be analyzed as a simple, modal-logic style \Box , it too would be expected not to take subjunctive (at least on some uses). However, ‘necessary’ always seems to involve a priority (often, teleological) interpretation (Rubinstein 2012):⁶

(16) Il est nécessaire que cet échantillon soit dissout dans l’eau.
 it is necessary that this sample is.SBJV dissolved in the water

⁵ We believe that our own approach is able to account for the mood selection in this case, even on the assumption that ‘sure’ has an ordering source.

⁶ We are setting aside any technical philosophical uses of ‘necessary’, but if there are some uses which do not require an ordering source, we would argue that subjunctive mood is grammaticalized, as with ‘possible’.

Example (16) has a teleological meaning: the sample dissolving is necessary in light of some goal. Thus, *nécessaire* works correctly under the proto-standard theory.

2.4 Problems for the proto-standard analysis: indicatives

Finally we turn to the significant problems which arise for the proto-standard analysis. These problems have to do with a number of predicates which take the indicative, despite having meanings which clearly involve a component which will be represented via an ordering source within the ordering semantics framework assumed by the proto-standard theory. The crucial predicates we will discuss are the following:

- *Espérer* ‘hope’ (compare to *vouloir* ‘want’).
- *Promettre* ‘promise’ (compare to *ordonner* ‘order’).
- *Probable* ‘probable’ (compare to *possible* ‘possible’).

We begin with a number of examples showing that *espérer* takes the indicative:

- (17) (a) Jean espère toujours que Marie va venir.
 Jean hopes always that Marie go.IND come.INF
- (b) J’espère que tu fais l’effort d’écouter tes parents.
 I hope that you make.IND the effort to listen your parents

While some speakers prefer subjunctive with *espérer* (Anand & Hacquard 2012), many speakers only allow indicative. The use of indicative is robustly attested by published sources ((17a) is from Schlenker 2005; see also Farkas 1992; Achard 1996), speakers such as our consultant, and texts.

Because *espérer* is a desire predicate, the most natural approach is to treat it similarly to *vouloir*. This implies that it has a buletic ordering source, and so it should take the subjunctive under the proto-standard theory. The only real option for the advocate of the proto-standard theory is to deny that it uses an ordering source, in other words, to give it a non-comparative semantics. This is the approach of Portner (1997) and Schlenker (2005), who propose a semantics along the lines of (18):

- (18) $\llbracket a \text{ espérer } q \rrbracket = \text{True in } w \text{ iff } q \text{ is entailed by } BUL(a, w).$

However, allowing a non-comparative semantics for ‘hope’ would weaken the proto-standard analysis considerably. The first problem is that, if a non-comparative analysis is available for ‘hope’, why should languages not choose this as their sole desire predicate? But instead, a subjunctive-selecting desire predicate seems to be the norm, with an indicative-selecting desire predicate being somewhat marked. Second, if it is possible to recast the semantics of a desire predicate into a non-comparative form in order to predict indicative, we must deal with the fact that almost any non-comparative semantics can be rewritten in a comparative way. For

instance, we can give a comparative meaning for ‘believe’, as follows, dividing $DOX(a, w)$ into a modal base consisting of the propositions true in w and an ordering source consisting of those which are not:

- (19) $\llbracket a \text{ believes } q \rrbracket = \text{True in } w \text{ iff } q \text{ is better than } \neg q \text{ according to } \{p \in DOX(a, w) : w \in p\} \text{ and } \{p \in DOX(a, w) : w \notin p\}.$

This semantics is equivalent to the one given in (7). Hence, *espérer* poses a serious problem for the proto-standard theory.

The next problem concerns *promettre*; it always selects indicative:⁷

- (20) Marie a promis à Bill qu’elle amènerait le dessert à la fête.
Marie has promised to Bill that she bring.COND.IND the dessert to the party

Promettre reports the creation of an obligation, and in this way is similar to directives (as pointed out by Zanuttini, Pak & Portner 2012). Its semantics must be comparative, with an ordering source representing the kinds of worlds which the subject is committed to bringing about (the To-do List of Portner 2004):

- (21) $\llbracket a \text{ promettre } b \text{ } q \rrbracket = \text{True in } w \text{ iff } a \text{ says something to } b \text{ in } w \text{ which makes it the case that } q \text{ is better than } \neg q \text{ according to } DOX(a, w) \text{ and } TO-DO(a, w).$

It is difficult to see how to account for *promettre* within the proto-standard theory.

The third problem concerns *probable*. This adjective is a modal predicate, similar to ‘possible’, but takes the indicative in some cases:⁸

- (22) Il est probable que nous avons là un état plus ou moins pur de ϵ .
it is probable that we have.IND there a case more or less pure of ϵ
(Dominique Barthélemy, *Critique Textuelle de l’Ancien Testament*, 1992)
- (23) Saint-Loup a raison et il est probable que le prochain *Service en*
Saint-Loup has reason and it is probable that the next *Service en*
Campagne portera la trace de cette évolution, dit mon voisin.
Campagne carry.FUT.IND the trace of the evolution said my neighbor
‘Saint-Loup is right and it is probable that the next *Service en Campagne* will
show a trace of this evolution, said my neighbor.’
(Proust, *Le Coté de Guermantes*, 1920/1921)

Probable is analyzed within the ordering semantics framework as expressing weak necessity (i.e., (4)), and so it should always select subjunctive. Yet it does not. The comparison with *possible* is revealing: *possible* seems to sometimes express pure

⁷ Iatridou (2000: §6.2) argues that the conditional is a form of the indicative. If one thinks of it as a third mood, it is nevertheless a problem for the proto-standard theory. Note that *promettre* also takes (indicative) future; see footnote 11.

⁸ These examples were accessed via the Google N-gram viewer.

circumstantial possibility, a meaning which can be represented in terms of an empty ordering source, and so *possible* should be more compatible with the indicative than *probable*. But it's the other way around: *probable*, which always has a non-empty ordering source, is the one which can, under certain circumstances, take indicative. This contrast is hard to explain within the proto-standard approach.

3 Contextual Commitment

Our strategy for understanding why the problematical predicates from Section 2.4 select for the indicative will be to explore how they differ from similar predicates which select for the subjunctive. We compare 'hope' to 'want', and 'promise' to 'order', showing that the indicative-taking attitude in each pair comes with a requirement of *contextual commitment*: a requirement that the modal backgrounds of the predicate, the facts and preferences it is based on, be conversationally defensible. We argue that contextual commitment also characterizes the "objective" epistemic modality that is conveyed by indicative-taking *probable*.

In this section we keep the discussion at an informal level. A more precise account is provided in Section 4.

3.1 The difference between 'want' and 'hope'

Both 'want' and 'hope' are attitudes of desire, but there are subtle differences in the desires they describe. The differences emerge in scenarios like (24) and (25), where the wishes of an individual are considered unreasonable or unacceptable in the context.

(24) [You are at your doctor's office for an annual checkup. He has just told you what bad shape your lungs are in. If you continue to smoke, you will soon die.]

(a) O mon Dieu! Avec tout ce stress, je veux vraiment fumer une
O my God with all this stress I want truly smoke.INF a
cigarette dès que je sortirai.
cigarette from that I leave

'Oh gosh, Doctor, with all this stress I really want to have a cigarette as soon as I leave!'

(b) ??O mon Dieu! Avec tout ce stress, j'espère vraiment fumer
O my God with all this stress I hope truly smoke.INF
une cigarette dès que je sortirai.
a cigarette from that I leave

‘??Oh gosh, Doctor, with all this stress, I really hope to have a cigarette as soon as I leave!’

If the patient were to use ‘hope’ in this context, in either French or English, she would indicate that she is committed to the preference for a cigarette, in the sense that she believes that it is reasonable and is willing to defend it to the doctor. These commitments clash with the contextual assumptions in the scenario. In contrast, one does not need to defend the kind of preferences described by ‘want’. It expresses a visceral desire, and “I can’t help it” is valid as an explanation for the statement in (24a). To use Bolinger’s (1974: 468-469) evocative terminology, ‘want’ expresses a “glandular” preference, and ‘hope’ an “intellectual” one.

The same kind of contrast is visible with a finite complement in French:

(25) [The king is being bothered by an uppity bishop and makes his annoyance known to some knights. These knights go and kill the bishop, and when the king hears about it, he is angry because it makes him look bad with the church. The knights respond with (a) or (b).]

(a) Mais vous vouliez qu’il soit tué!
but you wanted that he be.SBJV killed
‘But you wanted him to be killed!’

(b) ??Mais vous espérez qu’il serait/est tué!
but you hoped that he be.COND.IND/is.IND killed
‘??But you hoped for him to be killed!’

Again, we have a case of visceral desire, where the king is not contextually committed to his preference. ‘Want’ is acceptable in this context, whereas ‘hope’ is not.^{9,10}

Another aspect of the difference between ‘hope’ and ‘want’ is shown by (26):

(26) He doesn’t fully realize it yet, but Ron wants/??hopes to date Hermione.

It seems one must be cognizant of preferences one hopes for, but not necessarily of those one wants. This difference makes sense on the assumption that commitment

9 Interestingly, our consultant suggested that the subjunctive would be better than the indicative in the complement of (25b) in this context, but still not as natural as (25a). In general, this speaker strongly prefers indicative with *espérer*. This fact suggests to us that the subjunctive can be chosen by a speaker in an attempt to downplay the aspect of *espérer*’s meaning which is causing problems in this context.

10 Another kind of infelicity with ‘hope’ is shown in (i).

(i) [Whispered to your friend:] I really want/??hope to have a cigarette after the talk ends.

We suggest that ‘hope’ is odd here because of a clash between the notion of commitment and the ease with which the preadjacent can be achieved. We thank Alexander Williams for this example.

to a preference, in the relevant sense, requires being aware of it. Likewise, since it is impossible to be committed to inconsistent preferences, conjunctions of ‘hope’ statements are expected to be infelicitous when one conjunct is based on a preference that conflicts with the preference of the other conjunct. This is indeed the case, as we see in (27b). Corresponding ‘want’ conjunctions are perfectly felicitous.

- (27) (a) I want to marry Alice and I want to marry Sue.
 (b) ??I hope to marry Alice and I hope to marry Sue.

Our explanation of the difference between these predicates is superior to one that has been proposed by Portner (1992); Achard (1996); Anand & Hacquard (2012). According to these authors, ‘hope’, but not ‘want’, requires the subject to believe that the complement is possible. This view is supported by examples like (28):

- (28) I want/??hope to build a perpetual motion machine.

(Of course, (28) with ‘hope’ is fine if spoken by someone who believes building a perpetual motion machine is possible.) While the view that ‘hope’ presupposes possibility may explain this example, it does not fully capture the difference between the two predicates. In (24b), (25b), (26) and (27b), the attitude holder believes each complement to be possible, yet the sentences with ‘hope’ are infelicitous. Importantly, contextual commitment can explain (28) on the assumption that the speaker would not be committed to its modal base because it is compatible with doing something he knows to be impossible. Thus, the commitment approach captures the intuition behind the idea that ‘hope’ requires that its complement be possible.

3.2 The difference between ‘promise’ and ‘order’

While promising and ordering are similar in that both create a priority for some agent to undertake an action in the future, there are key differences between them which are relevant to mood selection. We can illustrate the differences with (29)-(30).

- (29) Marie a promis à Bill qu’elle amènerait le dessert à la fête.
 Marie has promised to Bill that she bring.COND.IND the dessert to the party
 ‘Mary promised Bill to bring dessert to the party.’
- (30) Marie a demandé à Bill qu’il amène/fasse le dessert à la fête.
 Marie has demanded to Bill that he bring/make.SBJV the dessert to the party
 ‘Mary ordered Bill to bring dessert to the party.’

These are the first cases of mood selection we have discussed with both a subject and an object individual argument. Notice that ‘promise’ reports an event where

the subject places an obligation on herself, while ‘demand/order’ describes an event where the subject attempts to place an obligation on the object. (This difference corresponds to subject vs. object control when the complement is an infinitive, as in the English translations.) This basic contrast between promising and ordering connects with two other relevant differences. First, when a promise is made, it is automatically in effect, while an order requires some kind of uptake.¹¹ And second, both the promiser and promisee must see the thing promised as preferable, as pointed out by Searle (1965), while in contrast, the person ordered need not think that what they are ordered to do is preferable.

All of these differences can be explained in terms of whether or not both of the interlocutors are committed to the priority introduced by the predicate.¹² Our hypothesis is that, in order for indicative to be licensed, both (i.e., both the subject and object) must be prepared to defend the priorities. With ‘promise’, this is the case. The subject proposes to bind himself with a priority, and the object has no grounds for disputing this. With ‘order’, in contrast, the priority may be controversial, and while the subject proposes that it guide the object’s actions, this is not automatic and the object may dispute it.

3.3 Differences among the modal adjectives

In the preceding subsections, we discussed the mood selection properties of verbs in terms of whether the individual arguments of the verb would defend the modal backgrounds associated with the verb. That is, with ‘want’, what we care about is whether the subject is committed to his desires (not necessarily), and with ‘promise’

¹¹ This difference in uptake can be seen in the following:

- (i) A to B: Je promets que je t’amènerai le dessert.
I promise that I bring.FUT.IND the dessert
- C to A: ?Qu’est ce que tu vas faire? Est-ce que tu vas amener le dessert?
what you go do.INF? Q you go bring.INF the dessert?
- A to C: Huh?
- (ii) A to B: J’ordonne que tu amènes le dessert.
I order that you bring.SBJV the dessert.
- C to B: Qu’est ce que tu vas faire? Est-ce que tu vas amener le dessert?
What you go do.INF? Q you go bring.INF the dessert?
- B to C: Non, je ne vais pas le faire. Ce n’est pas lui qui décide.
No I neg go neg it do.INF it neg is neg he who decides

¹² Note that Farkas (1992) has the related idea that ‘promise’ selects indicative because the subject is committed to the truth of the complement.

it's whether both the subject and object are committed to the priorities (they must be). In this section, we look at the modal adjectives 'probable', 'possible', and 'necessary', which have no individual arguments. Thus, the question arises of whose commitment would be relevant to mood selection. Our idea is that the speaker and addressee play this role, so that indicative will be selected if they are both prepared to defend the modal backgrounds, and subjunctive will be selected otherwise.

'Probable' is a modal that can be used to express an "objective" type of epistemic/evidential modality. This aspect of its meaning is brought out in the following examples by Kratzer (1981: 57-58, examples renumbered):¹³

Imagine that Lenz, who often has bad luck, is going to leave the Old World by boat, today, on Friday thirteenth. On hearing about this, someone might utter one of the following sentences:

- (31) Wahrscheinlich sinkt das Schiff.
Probably sinks the boat.
'Probably, the boat will sink.'
- (32) Es ist warscheinlich, daß das Schiff sinkt.
It is probable that the boat sinks.
'It is probable that the boat will sink.'

Kratzer says, "In uttering [(31)], I make a more subjective claim than in uttering [(32)]. I may be rather superstitious. I couldn't defend my claim on objective grounds. But I would have to do so if I uttered [(32)]." This sense of having to "defend my claim" is part of what it means for there to be contextual commitment towards the conversational backgrounds when 'probable' is used.

English shows a contrast between *probable* and *likely* that is of similar nature.¹⁴ With *probable* in (33), the speaker seems to be reporting on the basis of objective data, such as an analysis of past patterns of voting. The concept of "objective" evidence can be (at least partially) captured by the notion of contextual commitment: the speaker would argue that the evidence is appropriate, and she presupposes that any member of the community (including the addressee) would agree that it is. With *likely*, the statement manages to convey a more subjective opinion: while the speaker treats the evidence for the movie winning as appropriate, she does not assume that anyone else would agree. Only *likely* can be used, for example, if the speaker's judgment is based entirely on gut feeling.

¹³ This discussion has been removed from the reworked version of the paper in Kratzer 2012.

¹⁴ Like German *warscheinlich*, the English adverb *probably* is more "subjective" than its adjective counterpart. We don't discuss the relevance of part of speech to the readings of modals here.

- (33) [A and B are talking about the upcoming Academy Awards, and A says:]
It is probable/likely that Wings of Desire will win the Academy Award.

French *probable* to some extent covers the ground of both ‘probable’ and ‘likely’. Thus, it makes sense from our point of view that it would allow both indicative and subjunctive. We suggest, based on examples like (22)-(23), that indicative is possible only on the objective reading. We account for this in Section 4 by proposing a stylistically marked form of the adjective which allows indicative when commitment is presupposed, in addition to a “normal” lexical entry for *probable* compatible with both objective and subjective readings, and which selects subjunctive.

Next, we turn to subjunctive-taking *nécessaire*. On the proto-standard approach, ‘necessary’ works fine because it can be claimed to always have an ordering source. On our approach, having an ordering source is not enough to trigger selection of the subjunctive; the question is whether or not the modal implies commitment to the content of the ordering source. In (34), the challenge is that the speaker seems committed to the priorities which would require taking the A train.

- (34) Il est nécessaire que vous preniez le train A.
it is necessary that you take.SBJV the train A

We explain (34) with the idea that, while the speaker is committed to the modal backgrounds, the addressee need not be. Let’s say that the reason the speaker asserts (34) is that the A train is the only one which has a stop within a short walk of the destination. He is committed to this priority. However, the addressee need not share it. She could respond with “No, it’s a beautiful day, and I’d enjoy a long walk. I’ll take another train which leaves me all the way across the park from home.” This shows that the addressee is not presupposed to be committed to the priority assumed by the speaker. To be more precise, if (34) is accepted as true by the addressee, she is committed to the priority of avoiding a long walk, but prior to that point, it is still up for debate. Another way to put it is that a sentence with ‘necessary’ proposes that the interlocutors become committed to the priorities assumed by the speaker (Rubinstein 2012), in addition to asserting that the modal necessity claim is true under those priorities. Because *nécessaire* does not presuppose commitment towards the priorities on the part of the addressee, it selects subjunctive.

And finally, we make a few comments about the weak modal *possible*. We assume that it takes the subjunctive for the same reason as the “normal” version of *probable*, i.e. because it does not require an objective interpretation. The difference is that *probable* is ambiguous, and also has a special, indicative-compatible lexical entry which can be used by some speakers in situations in which the objectivity of the evidence is highlighted. In other words, the inherent flexibility of the modal adjectives leads to their selecting subjunctive, and it takes an entry which carves out a subset of the uses to allow indicative.

4 Towards a formalization of mood selection based on contextual commitment

In this section, we discuss the concept of contextual commitment in detail and take initial steps towards formalizing it. Based on the discussion in Section 3, we show that it predicts the mood selection properties of many key examples in French.

4.1 Formal proposals

Assumed representation and composition. We suggest that the fact that a given predicate selects for the indicative or subjunctive should be represented compositionally on the predicate itself. The features $[+_indic]$ and $[+_subj]$ attach to a verb or adjective, and license a mood morpheme in that predicate’s complement clause.¹⁵ The indicative feature additionally introduces, in the form of a presupposition, a commitment requirement towards the predicate’s modal backgrounds; the subjunctive feature has no semantic effect at all. We will go through the major pieces of this approach one at a time.

In (35), we see $[+_indic]$ adjoined to the matrix verb *croit*, and then adjoined to the whole complex we have the verb’s modal backgrounds f and g .

- (35) Pierre $[[+_indic] \text{ croit}] \langle f, g \rangle$ que Marie être-indic heureuse.
 Pierre believes that Marie be-indic happy

The semantic function of $[+_indic]$ is to require that all of the individual arguments of its sister be committed to that sister’s modal backgrounds. How exactly one writes down this semantics depends on one’s assumptions about the semantics of attitude verbs. We assume a kind of partial neo-Davidsonian decomposition, with a sentence with ‘believe’ represented as follows (minus any contribution of mood):

- (36) $a \text{ believes } S \Rightarrow \lambda w \exists e [e < w \wedge \text{Overlaps}(e, \text{now}) \wedge \text{Bel}(e) \wedge \text{Agent}(e, \llbracket a \rrbracket)] \wedge$
 $f(e)$ and $g(e)$ represent $\llbracket a \rrbracket$ ’s beliefs in $e \wedge \llbracket S \rrbracket$ is a necessity with respect to $f(e)$ and $g(e)$

Lexical entries for ‘believe’ and ‘probable’ are given in (37)-(38):

- (37) $\llbracket \text{believe}/\text{croire} \rrbracket = [\lambda B \lambda p \lambda e. \text{Bel}(e) \wedge B(e)$ represents the content of $e \wedge p$
 is a necessity with respect to $B(e)$]
- (38) $\llbracket \text{probable} \rrbracket = [\lambda B \lambda p \lambda e : B$ is evidential or circumstantial $\wedge B$ is relevant in
 $e . p$ is a necessity with respect to $B(e)$]

As should be clear, B is a tuple of modal backgrounds (which are now functions from events to sets of propositions; [Hacquard 2006, 2010](#)), $B(e)$ applies each component

¹⁵ The underscore in $[+_indic]$ indicates that the feature licenses indicative in the complement.

of B to e , and p is the denotation of the complement clause. We assume that other arguments (for example, the subject in the case of ‘believe’ and ‘want’, and the subject and object in the case of ‘order’ and ‘promise’) are introduced via thematic roles. This is how $Agent(e, \llbracket a \rrbracket)$ comes to be part of (36).¹⁶ The clause “ B represents the content of e ” states that the modal backgrounds in B represent the beliefs of the attitude holder of e ; in other words, they are both doxastic.¹⁷

The presuppositions of mood morphemes. When indicative is adjoined to a modal element, it introduces a presupposition to the effect that all individuals related by thematic roles to the event argument of that predicate are committed to all of the modal backgrounds associated with the predicate (39a). Beyond this presupposition, it has no effect and simply denotes the identity function. The subjunctive represents the absence of this contextual restriction (39b), and so in a sense it is the default mood (Portner 1997; Schlenker 2005; Siegel 2009).

- (39) (a) $\llbracket [+_{indic}] \rrbracket = [\lambda P \lambda B \lambda p \lambda e : \text{all individuals who bear thematic roles associated with } e \text{ are committed in } e \text{ to all components of } B . P(B)(p)(e)]$
 (b) $\llbracket [+_{subj}] \rrbracket = [\lambda P \lambda B \lambda p \lambda e . P(B)(p)(e)]$

When a verb or adjective takes a finite clause in French, it must be associated with either $[+_{indic}]$ or $[+_{subj}]$, in order to license the mood morpheme in its complement. While there is almost certainly some amount of grammaticalization in this association (so that, for instance, *possible* is associated with $[+_{subj}]$ in the lexicon), here we will explain the system as if the choice is semantically determined.¹⁸ In particular, we will argue that $[+_{indic}]$, and not $[+_{subj}]$, is adjoined to *croire* because the presupposition introduced by the former is guaranteed to be satisfied, in virtue of the nature of believing events. And likewise, $[+_{subj}]$ is adjoined to *vouloir* because the presupposition $[+_{indic}]$ introduces would not typically be satisfied, in virtue of the nature of wanting events.

At last, we reach the central piece of our proposal, the definition of commitment. Commitment is a relation between an individual (for example, the attitude holder in a belief event) and a modal background.

- (40) An individual a is COMMITTED TO a modal background h in event e iff a is disposed/prepared in e to argue for $h(e)$ in a conversationally appropriate way (e.g., by arguing that it is rational/proper/sensible/wise) in any relevant conversation c .

16 The rest of the material otherwise unaccounted for in (36), such as “*Overlaps(e, now)*”, comes from other functional projections, like tense.

17 It might be that $g(e)$ is empty. The pair of a doxastic f and empty g would also be appropriate.

18 We will reintroduce the issue of grammaticalized mood marking in 4.3 below.

We should make clear that in saying that *a* is prepared to argue in favor of a modal background in a conversation *c*, we do not require that he actually argue in favor of it. For one thing, while *a* must be a party in *c*, the conversation can be purely hypothetical. It is certainly possible to believe and hope things in solitary confinement. Additionally, there may be stronger reasons not to make the argument (such as politeness or a need for secrecy). Often, however, when it is relevant and there is no stronger reason not to, *a* does argue in favor of the modal background in an actual conversation. In (41), *openly* entails that Romney's beliefs have been made public; being beliefs, they will have been defended as appropriate.

(41) He [Romney] openly believes life begins at conception.¹⁹

4.2 Discussion of some of the key examples

In this section, we go through a number of attitude verbs and one modal adjective to show how their mood selection properties are explained on our proposal. Though we cannot cover all of the important cases, we will discuss both some of the core cases which worked well in the proto-standard analysis ('say', 'believe', 'want', 'order') and some tricky ones which were problematical for that approach ('hope', 'probable', 'promise').

Example: 'say'. Perhaps the most straightforward verb to explain under our analysis is *dire* 'say', which takes the indicative when it has a finite complement (and positive polarity). In the literature on mood, it is assumed that 'say' is associated with a modal base (or simple accessibility relation), representing the common ground of the reported conversation, and no ordering source. If we adopt these ideas, it is clear that the subject argument is contextually committed to this modal base; an individual must be prepared to defend the propositions he overtly presupposes, and this modal base represents shared presuppositions. As a result, the presupposition of [+*indic*] is guaranteed to be satisfied and the feature is adjoined to *dire*.²⁰

Example: 'believe'. In French, *croire* takes the indicative. This verb is associated with a doxastic modal background as its modal base, and perhaps also with an additional doxastic background as ordering source. The subject of 'believe' is necessarily committed to these backgrounds, which after all represent his beliefs: he must be disposed to argue in favor of them, in any relevant conversation. As a result, the presupposition of [+*indic*] will always be satisfied, and the feature is therefore adjoined to *croire* in every sentence in which it takes a finite complement.

¹⁹ <http://www.971talk.com/2012/PresidentIssues/abortion.aspx>

²⁰ While [+*subj*] would not lead to any semantic or pragmatic problems, we assume that [+*indic*] must be chosen as a case of Maximize Presupposition (Heim 1991). This applies to 'believe' as well.

Example: ‘hope’. We focus on those speakers for whom *espérer* selects the indicative, and we assume that it has a doxastic modal base and an “intellectual”, “non-glandular” buletic ordering source. The presupposition of commitment towards the ordering source explains the doctor example, (24b): because of [+*indic*] the speaker should be disposed to defend the preference for the cigarette in a relevant conversation, and the actual conversation with the doctor certainly counts as relevant. But he cannot defend the preference in that conversation, since the doctor has explained that it is not wise, and the doctor retains authority on such matters. The commitment towards the doxastic modal base is apparent in the perpetual motion example (28b). There is no contextually appropriate argument the speaker can mount in favor of the beliefs which would allow this sentence to have non-trivial truth conditions.

Example: ‘want’. Wanting, like hoping, is an attitude of desire, but *vouloir* takes the subjunctive. *Vouloir* has a modal base and ordering source similar to the ones used by *espérer*, but the agent need not be committed to either of them. The doctor example (24a) shows that there’s no problem using ‘want’ to express a preference which one cannot defend within the conversation. Similarly, there’s no problem using ‘want’ in (28a), even though one cannot argue in favor of all of the propositions which would need to be in the background in order for it to be true.

Bolinger’s (1974) description of ‘want’ as being “glandular”, rather than “intellectual”, is helpful. In our terms, this aspect of ‘want’ is reflected in the kind of ordering source it uses. One cannot help one’s glandular-buletic preferences, and because of this, there’s no guarantee they will be defensible. Nevertheless, we may want to describe them, so a verb like ‘want’ is essential. The modal base used with this type of ordering source likewise cannot be restricted to a defensible, doxastic one, since one may think that one’s glandular preferences are unrealizable. When this is the case, the doxastic modal base must be revised, perhaps in the way proposed by Heim (1992), to include worlds in which the relevant preferences are realized.

Although this approach to the semantics of ‘want’ makes clear why subjunctive would be the natural choice in the complement of this verb, we cannot give a purely semantic explanation for why *vouloir* is never able to take the indicative. It is theoretically possible (though not typical) for someone’s glandular desires to be a subset of her rationally defensible preferences, in which case the presupposition of the indicative would be satisfied. Hence, we need a mechanism for representing the grammatical association of *vouloir* with subjunctive, and we model this by assuming that it has become linked with [+*subj*] in the lexicon. That is, the verb is inserted into the phrase marker with the feature [+*subj*] already adjoined to it.

Example: ‘probable’. *Probable* usually takes the subjunctive, but selects the

indicative in certain especially “objective” contexts, like academic writing. We assume that it can utilize epistemic/evidential or circumstantial modal backgrounds and that it always has both a modal base and an ordering source.²¹ An evidential background determines a set of propositions treated as evidence in a particular event *e*; a circumstantial background picks out relevant facts concretely realized in the event. On the evidential reading, e.g. (42a), this event is the speech event, and the individual participants in it are the speaker and addressee. On the circumstantial reading, the relevant event is one which includes the relevant circumstances, and it need not have any participants. In (42b), it is a situation containing the mine before it exploded.²²

- (42) (a) It is probable that we have a more or less pure case of ε . [cf. (22)]
 (b) It was probable that the mine would not explode (but it did).

We model the complex distribution of mood with *probable* in French by assuming that there are two entries for *probable* in the lexicon: one which is associated with [+*subj*], just as with other modal adjectives, and one which is not associated with either mood feature. The second form will allow indicative, when the presupposition associated with [+*indic*] is satisfied.²³ Example (22) illustrates the kind of context which leads to indicative with *probable*. The event which [+*indic*] takes as an argument is the speech event, and we assume that the author is the one treating the modal background as evidence in this event. Since he is clearly committed to these evidential backgrounds in the “conversation” between author and reader, and in this case assumes that the reader has accepted his evidence, the presupposition of the indicative feature is satisfied.

Example: ‘promise’. The next two cases are ‘promise’, which takes the indicative, and ‘order’, which takes the subjunctive. Both have two individual arguments,

21 We are setting aside examples which express numerical degrees of probability, like *It is 99% probable that it's an ε* . Such examples have motivated the proposal that the meaning of *probable* is always to be stated in terms of mathematical probabilities (Yalcin 2007, 2010; Lassiter 2011). As far as we know, no theory of verbal mood has been developed in terms of this approach, but if our main claims in this paper are correct, in order to explain mood selection within this theory, one would have to find a way of connecting the concept of contextual commitment with the numerical probabilities.

22 We do not know whether circumstantial examples like (42b) ever take indicative, and so in this paper we will not try to integrate them into the analysis. On the circumstantial reading, the event need not have any participants, so it is not clear how the presupposition of commitment would apply. Perhaps it's vacuously satisfied when there are no participants, or perhaps the indicative further presupposes that there is at least one participant who can be committed. We note that French *probabilité (que)*, which like its English counterpart *probability* seems to mainly be used in a circumstantial sense, takes the subjunctive in the cases we have examined.

23 It would also technically work to associate the second lexical entry with [+*indic*], but this would add an unnecessary stipulation.

and the modal backgrounds express properties of a context in which those two individuals interact. With both, the modal base represents the common ground of the reported context. The ordering source of ‘promise’ is a subset of the To-do List of the promiser representing those commitments for which the promisee holds the promiser accountable (Zanuttini et al. 2012). Searle (1965) notes two important conditions on successful acts of promising: first, that the promisee must prefer that the promise be fulfilled, and second, that the promiser must intend to keep the promise.²⁴ Given these points, *promettre* meets the conditions for licensing the indicative. Both the promiser and promisee are committed to the modal backgrounds, both the modal base and, crucially, the priorities in the ordering source.

Example: ‘order’. In contrast to ‘promise’, the object of ‘order’ need not be committed to the deontic ordering source associated with this predicate. Obviously, one can be ordered to do something which one believes not to be wise or proper, and as a result the ordering source itself may come to contain propositions which this individual would not defend. Because the commitment condition associated with [+*_indic*] is not in general satisfied with *ordonner*, [+*_subj*] has become associated with the latter feature in the lexicon, and it uniformly selects subjunctive.

4.3 Semantic versus lexical mood selection

In Section 4.1, we gave a semantically based definition of mood. We proposed that indicative mood is licensed by a feature which introduces a presupposition of commitment towards the modal backgrounds. However, in Section 4.2, we suggested that a mood-licensing feature could be associated with a lexical item in the lexicon, and crucially a lexically-associated token of [+*_subj*] will license subjunctive mood (blocking association with [+*_indic*]), even if the presupposition of [+*_indic*] would be satisfied in the context. This type of grammaticalization was proposed for *vouloir*, *probable*, and *ordonner*. In the cases we have discussed, there is no parallel example of grammaticalized licensing of indicative. Although this contrast may only be an accident of the items we have thus-far investigated, if it holds up more generally, it does make sense in terms of our theory. Because the subjunctive is the default form, lacking a presupposition of its own (it does not mark lack of commitment, but rather only fails to mark commitment), when it is the grammaticalized form, there is no presupposition which needs to be ignored or overridden. In contrast, if we eventually find cases of grammaticalized indicative when the commitment condition is not met, they will be grammaticalized in the stronger sense that a feature, [+*_indic*], has been

²⁴ Searle also discusses relevant cases in which ‘promise’ does not report a promise, but rather has the function of emphasizing commitment. For example: ‘*You stole that money, didn’t you?*’ – ‘*No, I didn’t, I promise you I didn’t*’ (Searle 1965: 261 in Davis, ed.).

disassociated from its compositional meaning.

5 Comparison with previous work

Although we cannot achieve a thorough comparison in such a short paper, we wish to briefly discuss previous work which is based on a similar intuition as ours.

Our approach finds inspiration in the informal descriptions of mood by Bolinger (1974) and Puskas (2012). By looking at a number of specific constructions, such as performative sentences and complement preposing, Bolinger supports a traditional description of Spanish mood as representing “two ways of looking at reality, one intellectual, one attitudinal.” Similarly, Puskas proposes that a distinction between “cognitive” and “emotive” attitudes explains the indicative/subjunctive contrast in French. These contrasts can be associated, formally, with the absence or presence of an ordering source representing the attitudinal/emotive content. In addition, Bolinger claims that the indicative is chosen in cases in which the pragmatic function of a subordinate clause is similar to what it would have if it were not subordinated, and perhaps one could see this as related to contextual commitment.

Thinking about the indicative in terms of contextual commitment captures the persistent intuition in the literature that indicative-selecting attitudes take into account all the relevant things that an attitude holder takes to be true – be it in reality, in the context of a dream, or in a conversation (Farkas 1992; Giannakidou 1994, 1995, 1997, 1999; Quer 2001). An attitude holder would defend all and only those propositions that he or she thinks accurately describe the relevant “reality”, and thus there is an overlap between Giannakidou’s notion of *veridicality* and contextual commitment to epistemic backgrounds. But as we have argued, there can also be commitment to priorities, represented as ordering sources, as in the cases of ‘hope’ and ‘promise’. Additionally, indicative-selecting *probable* could not be explained in terms of veridicality and the speaker’s epistemic model, since the complement clause is not true throughout all of the speaker’s belief worlds; a new type of epistemic model, a subset of the speaker’s epistemic model, would have to be assumed.

Inspired by recent proposals within the proto-standard approach, we have followed Villalta (2006, 2008) and Smirnova (2011) in separating the semantic contribution of the mood markers from that of the embedding predicates. An important addition to this approach is found in the proposals of Quer (2001) and Smirnova (2011), which aim to capture cases of variable mood selection (with emotive factives in Spanish and with predicates like ‘remember’ in Bulgarian, respectively). It seems to us that, because we also separate the meaning of mood from the attitude predicate, this variability may also be explicable in terms of contextual commitment, but we do not have space to pursue this possibility here.

Next we will briefly compare our ideas to several recent proposals which do not

fall under the general framework of the proto-standard theory. According to Siegel (2009), indicative marks speaker commitment towards the truth of the complement, and in this respect her proposal shares an intuitive link with ours. However, the accounts of key facts are rather different. According to Siegel, emotive factives select subjunctive in Romance because marking speaker commitment via indicative would be redundant with the presupposition of the factive predicate. She accounts for the cases discussed by Quer in which the complement of an emotive factive is indicative; these complements are asserted rather than presupposed, and so speaker commitment can be non-redundantly marked by the indicative. She also aims to explain certain contrasts between Romance and Balkan by proposing that in Balkan the indicative marks subject commitment, rather than speaker commitment. Although Siegel's analysis shares much with ours, it is not easy to see how it could explain the difficult cases of indicative discussed in this paper: with 'hope', 'promise', and 'probable', the speaker is not in general committed to the truth of the complement. Rather, subject commitment to modal backgrounds seems to work better.

Portner (1997) argues that the Italian indicative is associated with verbs that are *prototypically factive*, in the sense that, for typical situations s in the domain of the verb's modal background B , the world of s is in $B(s)$. Portner's analysis seems to be contradicted by emotive factives, but he suggests that these are not attitudes towards sets of worlds, but rather sets of (sub-world) situations; in this regard, his proposal is similar to that of Farkas (1992). He also acknowledges a problem with 'say' and other similar cases, since his proposal relies on the idea that in "typical" cases, what one says is true. Contextual commitment seems to better explain why 'say' is associated with the indicative.

Schlenker (2005) also proposes an analysis of indicative related to the concept of contextual commitment. Building on Stalnaker's (1975) analysis of conditionals, he proposes that the indicative mood presupposes that the world at which its clause is evaluated is within the context set of "a speech or thought event e ." A significant problem for this theory is that the choice of anchoring event e is not grammatically determined; sometimes it is the matrix verb's event argument, sometimes the root speech event. This means that he cannot answer such questions as why indicative cannot be selected with *vouloir*, if the speaker believes the complement to be certain. Nevertheless, Schlenker's proposal to analyze the indicative in terms of a generalized notion of context set expresses an intuition close to ours. The key difference is that where our account looks at both the modal base and ordering source, and considers contextual commitment towards them, his analysis only looks at whether each accessible world is compatible with the discourse context set or modal base.

An interesting direction which deserves further thought is suggested by Farkas (2003). Although the core idea of the proto-standard analysis is central to Farkas's analysis, she argues that mood choice cross-linguistically cannot be explained with a

single semantic feature. She proposes two features: [\pm Assert], which is related to comparison, and [\pm Decided], which separates core subjunctive-taking predicates from emotive factives. These features determine mood choice through their relative ranking in an OT model. Although Farkas's analysis of the subjunctive runs into many of the problems of the proto-standard theory generally, the way that it combines multiple features in the analysis of mood selection is potentially important. From our perspective, it raises the possibility of combining the insights of the proto-standard theory with our own. Perhaps the presence/absence of a comparative semantics and contextual commitment are both relevant. Although we are unable to pursue the idea here, we would like to raise the possibility that simple modal predicates like *nécessaire* and *possible* select subjunctive because their semantics involves an ordering source, as on the proto-standard account. Contextual commitment might only be relevant to mood selection in constructions in which there is an explicit attitude holder. Making use of two (or more) factors would make it easier to explain cross-linguistic variation, something we have not attempted here.²⁵

Finally, our proposal that mood selection tracks contextual commitment to conversational backgrounds is directly inspired by the analysis proposed by Rubinstein (2012) to account for differences in modal strength among necessity modals. Rubinstein argues that the relative weakness of *ought*, as compared to *have to* or *must*, stems from the modal's dependence on assumptions that are presupposed not to be collectively committed to in the conversation. Our analysis builds on a similar idea to account for the meaning contribution of subjunctive, in contrast to indicative mood, thereby supporting the relevance of factors like contextual commitment to modal semantics more generally.

6 Summary

Our goal has been to argue for the following main points:

- The proto-standard theory has problems with certain indicative-selecting items.
- Indicative mood marks the presence of contextual commitment.
- Contextual commitment can be explained precisely, and integrated into a plausible model of grammar and meaning.

Although many issues remain to be resolved, and clearly our paper has only dealt with a single language, we hope to have shown that contextual commitment is an important factor in mood selection, and that the role it plays in semantics and pragmatics can be made precise within a linguistically realistic theoretical framework.

²⁵ Giorgi & Pianesi (1997) also use multiple properties to account for cross-linguistic variation, but because the “non-null ordering source” property of the proto-standard theory is the strictest subjunctive property, a predicate with this property is predicted to select subjunctive across all languages.

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