Spanish Subjunctive Clauses Require Ordered Alternatives

Elisabeth Villalta
University of Massachusetts at Amherst

1. Introduction

This paper examines the semantic properties of the subjunctive mood in Spanish. My main goal here is to argue for a new semantics of the verbs that select subjunctive mood in their complement clause, based on an alternative semantics. I propose the hypothesis that Spanish subjunctive clauses require contexts that make ordered alternatives available.

Whether the verb of an embedded clause is in the indicative or the subjunctive mood is determined by the matrix verb. The indicative mood is selected by epistemic verbs (e.g., know, think, believe), declarative verbs (e.g., say, write, declare), predicates of certainty (e.g., be sure, be convinced), comissives (e.g., promise), and fiction verbs (e.g., dream, imagine).1 A few examples are presented in (1) through (4).

(1) Victoria cree que hará buen tiempo. TO BELIEVE
Victoria believes that make [Fut. Ind.] good weather.
‘Victoria believes that the weather will be nice.’

(2) Sofía sabe que se ha planeado un picnic. TO KNOW
Sofía knows that SE has planned [Ind.] a picnic.
‘Sofía knows that a picnic has been planned.’

(3) Marcela dice que no sabe si puede venir. TO SAY
Marcela says that not knows [Ind.] if can come.
‘Marcela says that she doesn’t know whether she can come.’

(4) Sofía ha prometido que traerá el postre. TO PROMISE
Sofía has promised that bring [Fut. Ind.] the desert.
‘Sofía has promised that she will bring the desert.’

The subjunctive mood is selected by desire predicates (e.g., want, wish, hope), directives (e.g., order, advise, suggest), modals (e.g., it is possible, it is likely), predicates expressing doubt (e.g., not believe, doubt) and emotive factive predicates (e.g., regret, be glad, be surprised). A few examples are presented in (5) through (8).

(5) Victoria quiere que Marcela venga al picnic. TO WANT
Victoria wants that Marcela come [Subj.] to-the picnic.
‘Victoria wants Marcela to come to the picnic.’

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The subjunctive mood in Romance languages has received considerable attention in traditional as well as in recent theoretical linguistic literature. Subjunctive mood has been related to notions such as Irrealis (Givón 1994), Non-assertion (Bolinger 1968, Terrell & Hooper 1974), Strong Intensionality (Farkas 1985, 1992), Non-Veridicality (Giannakidou 1997), Model Shift (Quer 1998), Modality (Giorgi & Piannesi 1997, Portner 1992, 1997), and many more. For reasons of space, I will not present these approaches here nor will I contrast them with my proposal. I will limit myself to a discussion of one recent approach by Giorgi and Piannesi (1997), who propose that the licensing contexts for subjunctive mood can be characterized with Kratzer’s (1977, 1981, 1999) semantics for modality. At first sight, their proposal resembles the approach that I will defend here. But after closer examination, we will see that these two approaches make rather different predictions.

The structure of this paper is as follows. In section 2, the meaning properties of the verbs that select subjunctive mood in Spanish are investigated. In section 3, an alternative semantics for these verbs is developed and the role of subjunctive mood in the meaning composition is discussed. In section 4, the proposal is compared to a modal semantics for verbs that select subjunctive mood (cf. Giorgi and Piannesi 1997). I present a number of challenges for the modal approach and argue that these can be accommodated straightforwardly in my proposal.

2. A Semantics for desire verbs (Heim 1992)

In this section, I present Heim’s (1992) analysis of desire predicates which builds on Stalnaker’s (1984) insight that every desire report contains a hidden conditional. ’A little more explicitly, the leading intuition is that John wants you to leave means that John thinks that if you leave he will be in a more desirable world than if you don’t.’ (Heim 1992, p.193). I then argue that such a conditional semantics should be extended to all verbs that select the subjunctive mood in Spanish.

We begin with the semantics for propositional attitude verbs first introduced by Hintikka (1969). The definition for the verb believe is given in (9).
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(9) 'α believes $\phi$' is true in $w$ iff: $\forall w' \in \text{Dox}_\alpha(w): \phi$ is true in $w'$.
(Dox$_\alpha(w)$ contains all the worlds that are compatible with what $\alpha$ believes to be true in the world $w$.)

Adopting the Hintikka-style analysis for a verb such as want results in the definition given in (10). Here, the worlds compatible with $\alpha$’s beliefs in $w$ (the doxastic alternatives) have simply been replaced with the worlds compatible with $\alpha$’s desires in $w$ (the buletic alternatives).

(10) 'α wants $\phi$' is true in $w$ iff: $\forall w' \in \text{Bul}_\alpha(w): \phi$ is true in $w$.
(Bul$_\alpha(w)$ contains all the worlds that are compatible with what $\alpha$ wants in $w$.)

That this definition, however, cannot appropriately capture all the characteristics of the verb want, becomes clear as soon as the relevant examples are examined more closely. The example in (11), from Heim (1992), illustrates that this definition is problematic.

(11) I want to teach Tuesdays and Thursdays next semester.

Heim notes that (11) can be true in a situation in which I would prefer not to teach at all. In such a situation, then, in all the worlds that are compatible with what I desire, I do not teach. If we adopt the definition in (10), however, the sentence is false in this situation. The definition of want thus needs to make explicit that the subject only takes into consideration those worlds that she/he believes are possible.

Heim (1992) develops a new definition that captures Stalnaker’s insight that every desire report employs a hidden conditional: ‘to want something, is to prefer something to certain relevant alternatives, the relevant alternatives being those possibilities that the agent believes will be realizable if he doesn’t get what he wants.’ (Stalnaker 1984, p.89). The sentence (11) can thus be paraphrased as in (12).

(12) If I teach Tuesdays and Thursdays next semester, I will be in a more desirable world than if I don’t teach Tuesdays and Thursdays next semester.

Following Lewis (1973) and Stalnaker (1968), a conditional $\text{if } \phi, \psi \text{ is true in a world } w \text{ iff } \psi$ is true in all $\phi$-worlds maximally similar to $w$. By adopting such a conditional semantics, Heim defines the verb want as in (13).

(13) 'α wants $\phi$' is true in $w$ iff: For every $w' \in \text{Dox}_\alpha(w)$:
Every $\phi$-world maximally similar to $w'$ is more desirable to $\alpha$ in $w$ than any non-$\phi$-world maximally similar to $w'$.

Under this definition, for (11) to be true, the following has to hold: each doxastic alternative in which I teach Tuesdays and Thursdays is more desirable than minimally different worlds in which I don’t. And each doxastic alternative in which
I don't teach Tuesday & Thursday is less desirable than minimally different worlds in which I do.

In Heim (1992), the formal definition of this verb is stated in a Context Change Semantics. Since, in this paper, I do not use this framework, I present the equivalent definition in a non-dynamic semantics. Heim encodes the relation of comparative similarity among worlds with a family of selection functions: for each world \( w \), there is a selection function \( \text{Sim}_w \) from propositions to propositions which maps each \( p \) to the set of \( p \)-worlds maximally similar to \( w \).

\[
\text{Sim}_w(p) = \{ w' \in p \text{ and } w' \text{ resembles } w \text{ no less than any other world in } p \}
\]

Additionally, Heim uses an abbreviation for the ranking of possible worlds in terms of desirability. She introduces \( <_{\alpha,w} \), a relation between worlds, that can also be employed in an extended sense as a relation between propositions, as defined in (15).

\[
(a) \text{ For any } w, w', w'' \in W, w' <_{\alpha,w} w'' \text{ if } w' \text{ is more desirable to } \alpha \text{ in } w \text{ than } w''
\]

\[
(b) \text{ For any } w \in p, p \subseteq W, q \subseteq W, p <_{\alpha,w} q \text{ iff } w' <_{\alpha,w} w'' \text{ for all } w' \in p, w'' \in q.
\]

The formal definition of the verb \textit{want} can now be stated as in (16).

\[
[\text{want}](p)(\alpha)(w) = 1 \text{ iff } \forall w' \in \text{Dox}_\alpha(w): \text{Sim}_w(p) <_{\alpha,w} \text{Sim}_w(\neg p)
\]

In other words, in (16), \( \alpha \) \textit{wants} \( p \) is true in \( w \) iff for every world \( w' \) compatible with \( \alpha \)'s beliefs, the \( p \)-worlds closest to \( w' \) are more desirable to \( \alpha \) in \( w \) than the \( \neg p \)-worlds closest to \( w' \).

Heim notes that, when extending such a definition to other \textit{desire} predicates, one soon runs into problems. The sentence in (17) illustrates the verb \textit{wish}.

(17) John wishes he would teach on Tuesdays.

This sentence can only be judged to be true in a situation in which John believes that he doesn't teach on Tuesdays. Hence, the worlds compatible with his beliefs only include worlds in which he doesn't teach on Tuesdays, and the definition in (16) cannot be adopted. Heim suggests that, for the verb \textit{wish}, the proposition is evaluated with respect to the revised set of worlds compatible with his beliefs. We add to the set of his doxastic alternatives all the (maximally similar) worlds in which John teaches on Tuesdays. The meaning of (17) can then be paraphrased as 'John thinks that if he taught on Tuesdays he would be in a more desirable world then he is in (because he is not teaching on Tuesdays).' Heim's definition of the verb \textit{wish} is given in (18).
Conditional semantics for \textit{wish}  

\begin{equation}  
[[\text{wish}]](p)(a)(w) = 1 \text{ iff } \forall \ w' \in \text{revised Doxa}(w): \text{Sim}_w(p) \prec_{w,w} \text{Sim}_w(\neg p)  
\end{equation}

Heim (1992) furthermore extends her proposal to factive \textit{desire} predicates such as \textit{be glad}, illustrated by the following example.

John is glad that he will teach on Tuesdays.

The sentence in (19) has the presupposition that John believes in the truth of the complement, i.e. that he will teach on Tuesdays. As before, since John's doxastic alternatives do not include worlds in which he doesn't teach on Tuesdays, the definition of the verb \textit{be glad} has to make reference to a revised set of his doxastic alternatives. The meaning of (19) can then be paraphrased as 'John thinks that (because he will teach on Tuesdays) he is in a more desirable world than he would be if he wouldn't teach on Tuesdays.' The verb \textit{be glad} is defined in (20).

Conditional semantics for \textit{be glad}  

\begin{equation}  
[[\text{be glad}]](p)(a)(w) = 1 \text{ iff } \forall \ w' \in \text{revised Doxa}(w): \text{Sim}_w(p) \prec_{w,w} \text{Sim}_w(\neg p)  
\end{equation}

To summarize, \textit{desire} verbs such as \textit{wish}, \textit{want} and \textit{be glad} share their core semantics, with the only difference that \textit{wish} and \textit{be glad} make reference to the \textit{revision} of Doxa$_a(w)$.

After this brief presentation of Heim's semantics for \textit{desire} predicates, we now return to the class of verbs that select subjunctive mood in Spanish. The \textit{desire} predicates that we have just discussed all select the subjunctive mood in Spanish. Interestingly, whether counterfactual worlds are evaluated or not, does not play a role for the selection of subjunctive mood. The conditional semantics adopted so far can straightforwardly be extended to all other verb classes that select the subjunctive mood in Spanish, such as \textit{directives}, predicates of doubt, modals and \textit{emotive factive} predicates. A common property of these verbs thus seems to emerge: they require a conditional semantics. Note that the comparison relation is not a relation of desirability for all predicates. Verbs such as \textit{be surprised}, \textit{doubt} rather require a comparison relation of \textit{likelihood}. Consequently, I assume that the comparison relation (or scale) is contributed by the lexical meaning of each verb. A first attempt for a generalization for the subjunctive mood in Spanish is stated in (21).

Preliminary generalization for subjunctive mood in Spanish  

An embedded proposition p requires the subjunctive mood, if p is compared to non-p on a scale introduced by the matrix verb.

I now turn to a discussion of examples that call for a revision of the semantics discussed in this section.
3. An Alternative Semantics for the Subjunctive Mood in Spanish

In this section, I argue that the proposed semantics for the verbs selecting subjunctive mood in Spanish has to be revised and that it crucially involves comparison of the embedded proposition p with contextually available alternatives, rather than with \( \neg p \). After presenting evidence from contexts that contain more than two alternatives, I develop a new analysis for these verbs. I then restate the generalization for the verbs selecting the subjunctive mood in Spanish, and discuss the possible contribution of the subjunctive mood to the meaning composition.

3.1. More than two alternatives

The central point to be made here, is that the semantics of verbs selecting subjunctive mood require comparison of contextual alternative propositions. In fact, the definition adopted so far refers to a special case, namely, when the context only provides the alternatives p and \( \neg p \). Contexts providing more than two alternatives illustrate this issue quite clearly. Consider the scenario in (22).

(22) Sofía has promised to bring a dessert to the picnic. Victoria knows that there are three possibilities. She could prepare a chocolate cake, even though that is completely unlikely because that represents far too much work. She might bring an apple pie, which is very likely since she can just buy it at the bakery nearby. Or she might bring ice-cream, which is most likely, since she usually has some in her freezer. Victoria prefers the chocolate cake over the apple pie and the apple pie over the ice-cream.

The schematic figure in (23) represents the two scales involved in this scenario. That Sofía will bring the chocolate cake is the most desirable and less likely alternative; that she will bring the ice cream is the less desirable and most likely alternative.

(23) + desirable  \[ \begin{array}{c} \text{chocolate cake} \\ \text{apple pie} \\ \text{ice cream} \end{array} \] - likely
       - desirable  \[ \begin{array}{c} \text{chocolate cake} \\ \text{apple pie} \\ \text{ice cream} \end{array} \] + likely

In this situation, the sentence in (24) is intuitively judged to be false.

(24) Victoria wants Sofía to bring the apple pie.

However, if we apply Heim’s definition of the verb want, this sentence comes out as true in the scenario (22): the worlds in which Sofía brings the apple pie are more desirable to Victoria than all the minimally different worlds in which she doesn’t. This is true, since this set does not contain worlds in which she brings chocolate cake (these are not minimally different, because they are completely unlikely). The worlds in which she doesn’t bring the apple pie are less desirable to Victoria than minimally different worlds in which she does. These contain worlds in
which she brings ice cream. A conditional semantics thus does not make the correct predictions for this scenario.

Other verbs give rise to similar effects in contexts that make more than two alternatives available. Imagine that, in the continuation of the scenario in (22), Sofía does in fact bring the apple pie to the picnic and that Victoria is totally disappointed. The sentence in (25) can then be considered to be true in that situation.

(25) Victoria regrets that Sofía brought the apple pie.

A conditional semantics for the verb regret, however, predicts (25) to be false in this scenario. It predicts that the worlds in which Sofía brought the apple pie are less desirable to Victoria than all the minimally different worlds in which she doesn’t. This is false, since the latter set contains some worlds in which she instead brings ice-cream (which are worlds that are worse for Victoria, since she disprefers ice-cream). Again, a conditional semantics does not make the correct predictions for a scenario as in (22).

I conclude that the semantics of the verbs under discussion involves comparison of \( p \) with its contextual alternatives rather than with \( \neg p \). In the following section, I propose to revise the semantics accordingly.

3.2. An alternative semantics for the verb ‘want’

Given the above, we revise the definition of want so as to incorporate comparison of \( p \) with its contextual alternatives. The new definition is given in (26).

(26) ‘\( \alpha \) wants \( \phi \)’ is true in \( w \) iff
\[
\forall w' \in \text{Dox}_\alpha(w): \forall \psi \text{ that is a contextual alternative to } \phi:
\{ w': \phi \text{ is true in } w' \} \prec_{\alpha,w} \{ w': \psi \text{ is true in } w' \}
\]

In what follows, I argue that, in this definition, reference to the doxastic alternatives is in fact not necessary. The definition can then be simplified accordingly as in (27).

(27) ‘\( \alpha \) wants \( \phi \)’ is true in \( w \) iff
\[
\forall \psi \text{ that is a contextual alternative to } \phi: \phi \prec_{\alpha,w} \psi
\]

There are several reasons that make the reference to doxastic alternatives unnecessary. Heim’s initial motivation for introducing the doxastic alternatives in the definition of want is absent under this new perspective. Recall that it was necessary to make reference to the worlds that are compatible with the subject’s beliefs, since a sentence such as ‘I want to teach Tuesdays and Thursdays’ can be true in a scenario in which I would in fact prefer not to teach at all. When adopting the definition in (27), however, the sentence can be true in such a situation, even though (27) does not make reference to the doxastic alternatives. In this situation ‘I do not teach at all’ is simply not an available alternative.
Another reason for eliminating the doxastic alternatives from the definition are practical inferences. The practical inference illustrated in (28) is illicit and indicates that someone's desires are not necessarily affected by his/her beliefs. To desire something does not require that one desire all its consequences.

(28)  
I want to teach Tuesdays and Thursdays next semester.  
I believe that I can only teach Tu&Thu next semester if I work hard now.

\[ \neg \therefore \text{I want to work hard now.} \]

A final argument for eliminating the doxastic alternatives from the definition comes from the fact that desires and beliefs can sometimes even be contradictory, as illustrated in the example from Heim (1992) in (29). I can desire this weekend to last forever even if I believe that this is in fact impossible.

(29)  
I want this weekend to last forever.

To conclude, I propose to eliminate reference to the doxastic alternatives in the definition of want, and to implement its lexical entry as in (30).

(30)  
Alternative Semantics for want  
\[ [[\text{want_C}]]^p(a)(w) = 1 \text{ iff } \forall q \in g(C) : p <_{\text{DES a.w}} q \]

where \( <_{\text{DES a.w}} \) is defined as follows  
(a) For any \( w, w', w'' \in W, w' <_{\text{DES a.w}} w'' \) iff \( w' \) is more desirable to \( \alpha \) in \( w \) than \( w'' \).

(b) For any \( w \in p, p \subseteq W, q \subseteq W, p <_{\text{DES a.w}} q \) iff \( w' <_{\text{DES a.w}} w'' \) for all \( w' \in p, w'' \in q \).

In this definition, the verb want carries an index \( C \) that stands for a variable anaphoric to a contextually determined set of propositions (it is an index of type \(<\langle s,t\rangle,\triangleright \rangle \)). This variable receives its content from the variable assignment \( g \). I may mention here that variables of this kind have also been used before for similar purposes, such as for the domain of quantification of only in Rooth (1985, 1992) and the resource domain of adverbs of quantification in von Fintel (1994).

3.3. Two semantic verb classes

The alternative semantics presented in the previous section can be extended to all verbs that select subjunctive mood in Spanish. The scale of comparison may differ from verb to verb and should thus be contributed by the lexical meaning of the verb. The following generalization for subjunctive mood in Spanish can now be proposed.
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(31) New Generalization for Subjunctive Mood in Spanish
An embedded proposition p requires the subjunctive mood, if p is compared to its contextually available alternatives on a scale introduced by the verb.

It is still necessary to show that this characterization based on an alternative semantics correctly excludes all verbs that select the indicative mood in Spanish. For most verbs of this class, such as declarative verbs, predicates of certainty, comissives and fiction verbs, it seems obvious that such an alternative semantics cannot appropriately express their meaning. For example, to say that p cannot mean to say p more than its alternatives, simply because what is said cannot be graded. However, nothing seems to prevent us from attributing an alternative semantics to a verb such as believe, even though it selects the indicative mood in Spanish. To believe that p could mean to consider p more believable/likely than its alternatives. Interestingly, the verb believe displays crosslinguistic variation for its mood selection properties. In Italian, for example, believe selects the subjunctive mood contrary to Spanish. I propose then that believe can in principle receive slightly different interpretations. In a language in which believe selects the subjunctive mood, it does not have the exact same meaning as in a language in which it selects the indicative mood. In Spanish, the lexical entry for believe is the Hintikka-style definition presented before in (9).

There is some first linguistic evidence that an alternative semantics appropriately characterizes the verbs that select subjunctive mood in Spanish. Such verbs more readily allow for degree modification. The verbs selecting indicative mood, on the contrary, generally disallow such degree modification. (32) illustrates the case of verbs selecting the indicative mood, while (33) illustrates verbs that select the subjunctive mood. Degree modification with 'mucho' (‘a lot’) is only possible in (33).

(32) *Victoria sabe / cree / declara mucho que Sofía traerá el postre.
Victoria knowslbelieves/declares a-lot that Sofía bring[Fut. Ind.] the desert.
‘Victoria very much knows/believes/declares that Sofía will bring the desert.’

(33) Marcela quiere/recomienda /duda mucho que Sofía venga.
Marcela wants/recommends/doubts a-lot that Sofía come [Subj].
‘Marcela very much wants/recommends/doubts that Sofía will come.’

To conclude, I have proposed to adopt an alternative semantics for the verbs that select the subjunctive mood. The fact that these verbs more readily allow for degree modification provides linguistic evidence for the claim that these verbs compare alternatives on a scale. Further evidence will be discussed in section 4.

3.4. What is the role of the subjunctive mood?

We now turn to the role of the subjunctive mood in the meaning composition. In (34) I repeat once more the lexical entry for the verb want, and present a (simplified) tree structure for a Spanish sentence in (35).
I will assume that the subjunctive mood is realized as a feature in a projection above IP, presumably MoodP. The question is what role this feature plays in the meaning composition. One possibility would be to attribute to the feature [+subjunctive] a similar role to that of a focus feature: it introduces a variable that constrains the domain of quantification of C to a subset of the set of alternatives to p (cf. Rooth 1992).

Negative Polarity Items have recently received a very similar treatment in Krifka (1990, 1992, 1994, 1995). Krifka proposes that Negative Polarity Items introduce alternatives into the semantics. These alternatives induce an ordering relation of semantic specificity, where the NPI itself denotes a most specific element in that order.

There is an interesting parallelism between such a semantics for NPIs and the one that I am investigating here for subjunctive clauses: both involve ranking of alternatives on a scale. While in the case of NPIs the scale is inherent to the meaning of the NPI, for subjunctive clauses the scale is introduced by the verb. A parallel semantics for subjunctive clauses and NPIs would of course be a welcome result, given their strikingly similar distribution observed in the literature (cf. Giannakidou 1997, Nathan & Epro 1984).

4. Alternative Semantics versus Modal Semantics

In this section, I compare my proposal to the approach taken in Giorgi and Piannes (1997). These authors defend the idea that, in Romance languages, subjunctive mood is selected in contexts that can be characterized with Kratzer's semantics of modality. In particular, they propose that subjunctive mood appears in contexts that require a non null ordering source. At first sight, their proposal will appear to be similar to the approach developed here. They characterize the licensing contexts for subjunctive clause as sets of ordered worlds. I argue here that subjunctive clauses require contexts that make ordered alternatives available, i.e. a set of ordered propositions. The main goal of this section is to show that these two theories are not equivalent and that there are several empirical differences between these two approaches. I will point
to several problematic consequences for Giorgi and Piannes’s approach and show that the proposal developed here has several empirical advantages.

Before comparing these two theories, I briefly introduce Kratzer’s theory of modality and make explicit how the meaning of the verbs that select the subjunctive mood can be defined in such a framework.

4.1. A Modal Semantics for the Subjunctive Mood

Kratzer (1977, 1981, 1991) develops a semantics where modal expressions are dependent on two contextual parameters, a modal base and an ordering source. The modal base is a set of worlds determined by a conversational background f. The ordering source is a second conversational background g that can induce an ordering on the modal base.

A set of propositions A can induce an ordering \( \leq_A \) on the set of all possible worlds in the following way (following Lewis 1981).

\[
\forall w, z \in W: w \leq_A z \iff \{p: p \in A \text{ and } z \in p\} \subseteq \{p: p \in A \text{ and } w \in p\}
\]

‘A world w is at least as close to the ideal A as a world z iff all propositions of A which are true in z, are true in w as well.’

Sentences containing modals are then evaluated with respect to an ordered set of worlds. The two contextual parameters are usually not expressed explicitly in the sentence but have to be recovered from the context. Consider the following example in (37) in the context of the previous scenario (22).

(37) Sofía should bring the chocolate cake.

When this sentence is interpreted in the scenario (22), the modal base is formed by the worlds that are compatible with what Victoria believes. The ordering source is a set of propositions determined by Victoria’s desires. This set of propositions can induce an ordering on the set of worlds compatible with her beliefs. The meaning of (37) can then be paraphrased as in (38).

(38) In view of what Victoria believes and in view of what she desires, it is necessary that Sofía bring the chocolate cake.

We now turn to the implementation of such a modal semantics for verbs selecting the subjunctive mood. Giorgi and Piannes (1997) propose that subjunctive clauses are evaluated in contexts that are formed with a non null ordering source. They do not provide an explicit definition of the verbs that select subjunctive mood, though. Following Kratzer’s assumptions, the semantics of the verb \( \text{want} \) can be defined as in (39), adopted from von Fintel (1999).
Parallel to the verb *should* in the example (37), the verb *want* requires the modal base $f_j(a,w)$ to be formed by the worlds that are compatible with $\alpha$’s beliefs. The ordering source $g_j(a,w)$ is formed by the set of $\alpha$’s desires. In other words, $\alpha$ *wants* $\phi$ is true in $w$ iff among the worlds compatible with $\alpha$’s beliefs the ones that maximally correspond to $\alpha$’s desires in $w$ are all p-worlds.

Such a modal semantics can be extended to all verbs that select the subjunctive mood in Spanish. Two types of parameters of variation are expected. First, the modal base will differ for certain verbs: verbs such as *wish* and *be glad* require a modal base formed by the revised set of doxastic alternatives, so as to include counterfactual worlds. Second, the ordering source varies from verb to verb. For verbs such as *want* and *wish* the ordering is determined by the desires of the subject, while for verbs such as *be surprised* and *doubt* the ordering is determined by what the subject considers likely.

In the following, I investigate a few challenges for a modal semantics of the verbs that select the subjunctive mood.

### 4.2. Challenges for a Modal Semantics of the Subjunctive Mood

In this section, I argue that there are some empirical differences between a modal semantics for the verbs selecting the subjunctive mood (henceforth the Modal Theory) and the proposal made here (henceforth the Ordered Alternatives Theory). We will see that some problematic consequences of the Modal Theory can be straightforwardly accommodated within the Ordered Alternatives Theory.

The Modal Theory attributes the same semantics to verbs selecting the subjunctive mood as to modal verbs. Practical Inferences show that this assumption is problematic. A practical inference may have the form in (40), (cf., e.g., von Wright 1973). From the two premisses in a) and b) we can infer c). Importantly, however, we cannot infer d).

\begin{align}
(40) & \quad a) \text{ Marcela wants to go to the picnic.} \\
& \quad b) \text{ Marcela knows that she can only go to the picnic if she works extra hours.} \\
& \quad \vdash \quad \text{ Marcela should work extra hours.} \\
& \quad d) \quad \neg \vdash \quad \text{ Marcela wants to work extra hours.}
\end{align}

The Modal Theory predicts that c) and d) should be equivalent, since these sentences receive an equivalent semantics. Adopting the definition of *want* as given in (39), we predict the following. From a) follows that among the worlds compatible with
Marcela’s beliefs, the ones that maximally correspond to her desires in w are all worlds in which she goes to the picnic. From b) follows that Marcela knows that all worlds in which she goes to the picnic are worlds in which she works extra hours. We can infer that among the worlds compatible with Marcela’s beliefs the ones that maximally correspond to her desires in w are all worlds in which she works extra hours, and we expect d) to be true. The Modal Theory thus predicts that d) should be a possible inference from a) and b), which is not the case.

The Ordered Alternatives Theory, on the contrary, does not predict the equivalence of c) and d), since, under this theory, these sentences receive different semantic representations. Furthermore, for a) and d) the set of relevant alternatives is not the same. For example, for a) it could be \{Marcela goes to the picnic, Marcela goes to work, Marcela stays at home\}, while for d) it could be \{Marcela works extra hours, Marcela doesn’t work extra hours,\}. No inference is thus expected.

Another challenge to the Modal Theory is presented by the verb be glad. This verb illustrates that not all verbs require the embedded proposition to be the best alternative, but only a good alternative. This becomes evident in a scenario that makes more than two alternatives available, as the one described previously in (22), represented here again by the picture in (41).

(41) + desirable  \begin{tabular}{c}
chocolate cake \\
apple pie \\
ice cream \\
\end{tabular} - likely

- desirable  \begin{tabular}{c}
chocolate cake \\
apple pie \\
ice cream \\
\end{tabular} + likely

In this scenario, the sentence in (42) can be judged to be true, even though ‘Sofia brought the apple pie’ is not the best alternative.

(42) Victoria is glad that Sofía brought the apple pie.

The Modal Theory, however, predicts that (42) should be false in this scenario. It predicts that among the worlds compatible with Victoria’s revised beliefs, the ones that maximally correspond to Victoria’s preferences in w are all worlds in which Sofía brings the apple pie.

Can the Ordered Alternatives Theory accommodate the fact that the proposition p does not always have to be the best alternative? The verbs under discussion seem to vary with respect to this issue. Some verbs, such as prefer, for example, require p to be ranked highest among the alternatives, whereas other verbs such as be glad, regret only require p to be a good alternative. This information should then be encoded in the lexical entry of these verbs, and is independent of the assumption that alternatives are being compared. The lexical entry for be glad can be formalized as in (43).

(43) \([\text{be glad}_c]_a = 1 \text{ iff } \exists q \in g(C): p <_{\text{DES}a,w} q\)

Another interesting challenge for the Modal Theory is presented by entailment relations. When entailment relations hold between two propositions, these
do not hold anymore once the propositions are embedded under verbs such as *be glad, regret, be surprised*. While in (44), a) entails b), in (45), a) does not entail b).  

(44)  
   a) He bought a Honda.  
   b) He bought a car.  

(45)  
   a) I am glad he bought a Honda.  
   b) I am glad he bought a car.  

The sentence (45a) can very well be true in a situation in which I am not glad at all that he bought a car. But given that he has bought one, I am glad that he bought a Honda rather than another car. 

The Modal Theory, however, predicts that (45b) should be true whenever (45a) is true. If we use a modal definition for the verb *be glad*, the following holds. Among the worlds compatible with my revised beliefs, the ones that maximally correspond to my preferences in \( w \) are all worlds in which he bought a Honda. All worlds in which he bought a Honda are worlds in which he bought a car. Hence, we can conclude that among the worlds compatible with my revised beliefs, the ones that maximally correspond to my preferences in \( w \) are all worlds in which he bought a car. 

Kadmon and Landman (1993) suggest that for verbs such as *be glad* there is another contextually interpreted modal parameter involved, a so-called perspective. The perspective enters into the semantics of these verbs and affects the truth conditions of sentences containing it. This would explain why it is possible for me to be glad that he bought a Honda (because a Honda is a better choice than other cars), and at the same time not be glad that he bought a Honda (because I have something against buying cars), without contradicting myself. Kadmon and Landman (1993) claim that entailment relations are maintained unless the perspective changes. However, they do not present an explicit proposal as to how this perspective is to be incorporated into a modal semantics of verbs such as *be glad*. The Ordered Alternatives Theory provides us with the means to make this notion more explicit, as will become clear below.

The Ordered Alternatives Theory, contrary to the Modal Theory, does not predict that an entailment relation should hold between (45a) and (45b). This is so since the set of contextual alternatives differs in both cases. In a), the set of alternatives could be \{He bought a Honda, He bought a Toyota, He bought a Mercedes\}, while in b), it could be \{He bought a car, He bought a bike, He didn’t buy anything\}. Kadmon and Landman’s notion of perspective can then be characterized with the help of the set of alternatives. A change in perspective is determined by a change of the set of alternatives.

A final argument in favor of the Ordered Alternative Theory comes from examples that involve Focus. As already pointed out in Dretske (1972), focused phrases embedded under certain propositional attitude verbs give rise to meaning differences. The two sentences in (46) and (47) have different truth conditions (in the example, words in capital letters are focused).
SPANISH SUBJUNCTIVE CLAUSES REQUIRE ORDERED ALTERNATIVES

(46) Victoria wants SOFIA to bring the chocolate cake.
(47) Victoria wants Sofia to bring the CHOCOLATE CAKE.

How can the Modal Theory account for these meaning differences? No framework has yet been developed where the interaction of Focus and the semantics of modals is made explicit. But von Fintel (1999) discusses this issue and proposes that Focus induces a presupposition about the context. Such a presupposition can narrow down the modal base, so as to only include the propositions that are relevant.

The Ordered Alternatives Theory explains these facts in a quite elegant way. Given the definition for want based on an alternative semantics, we expect to find an analogy to other Focus sensitive operators, such as only. Both want and only make reference to a domain of quantification C of contextually determined alternatives. Rooth (1992) proposes that focus can constrain the set of alternatives that this variable C refers to. In (46), C is the set of propositions of the form ‘x brings the chocolate cake’, in (47), it is the set of propositions of the form ‘Sofia brings the x’. Below, I illustrate this with the tree structure for (46).

\[
(46) \quad \text{S} \to \text{NP} \to \text{VP} \\
\quad \text{\quad Vc} \to \text{CP} \\
\quad \quad \text{\quad \text{NP}_f} \to \text{VP} \to \sim C
\]

The Ordered Alternative Theory can thus straightforwardly account for association with Focus phenomena in embedded clauses.

Interestingly, Boër (1979) notes that Focus does not have the same effect in the context of all propositional attitude verbs. Sentences containing know, for example, do not seem to give rise to the same difference in meaning when embedded constituents are focused. This provides evidence for the generalization that verbs selecting the indicative mood are not based on an alternative semantics.

To summarize, in this section I have pointed to a number of problematic consequences of the Modal Theory of the subjunctive mood. We have seen that the Ordered Alternatives Theory, on the contrary, accommodates these challenges in a rather straightforward way.

5. Conclusion

In this paper, I have argued for a new semantics of the verbs that select the subjunctive mood in Spanish, based on an alternative semantics. I have proposed the following generalization for subjunctive mood in Spanish embedded clauses: an
embedded clause $p$ is in the subjunctive mood if the proposition $p$ is compared to contextual alternatives on a scale introduced by the matrix verb. Whether these alternatives are possible or counterfactual alternatives does not play a role for the distribution of subjunctive mood.

First, I have discussed Heim’s semantics of desire predicates and proposed that it can be extended to the whole class of verbs that select the subjunctive mood. Then, based on contexts that make more than two alternatives available, I have argued that Heim’s semantics needs to be revised. Crucially, the new semantics involves comparison of $p$ with its contextual alternatives. Subjunctive clauses hence require contexts in which ordered alternatives are made available.

Finally, I have presented a comparison of my proposal with Giorgi and Piattelli-Palmarini’s (1997) approach to the subjunctive mood. I have shown that there are empirical differences between these two approaches. We have seen that a number of phenomena are problematic for the Modal Theory: practical inferences, contexts with more than two alternatives and entailment-relations. The proposal that I have developed here can straightforwardly accommodate the described facts. Finally, association with Focus phenomena follow directly from my approach. We can then conclude that the Ordered Alternatives Theory for the subjunctive mood has empirical advantages over the Modal Theory.

At present, I have developed a characterization of the verbs that select subjunctive mood in terms of an alternative semantics. What remains to be shown is that such a semantics can be extended to the other contexts in which subjunctive mood appears, such as relative clauses, certain adjunct clauses, conditionals, questions and under certain circumstances triggered by negation. I leave this for future research.

Endnotes

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1. I have adopted this verb classification following Farkas (1992).
2. See Portner (1999) for extensive discussion of recent approaches to the semantics of mood. For a summary of proposals offered in traditional grammars and transformational grammars see, for example, Bell (1980), Bergen (1978), Klein (1974), and Palmer (1986) for a crosslinguistic survey on mood and modality.
4. Not all verbs selecting the indicative mood disallow degree modification, though. For example, ‘estar muy/demasiado seguro’ (‘to be very/too certain’) and ‘prometer mucho/demasiado’ (‘to promise very much/too much’) seem possible. I leave a more detailed analysis of the semantics of these verbs for future research.
5. More precisely, the conversational background is a function f which assigns sets of propositions to possible worlds; the set of worlds in which all propositions of f(w) are true constitutes the modal base.

6. This is a simplified representation that is meant to illustrate a possible modal definition of want. See von Fintel (1999) for a detailed discussion of the definedness conditions of verbs such as want, wish, be glad, be sorry.

7. These examples are discussed in Kadmon & Landman (1993) and von Fintel (1999), among others. These authors mainly concentrate on downward entailments that do not seem to survive in the context of verbs such as be surprised, regret, be sorry, even though negative polarity items are licensed in their complements.

References


