

# Interpreting mood<sup>1</sup>

JOSEP QUER

## Abstract

*An analysis of the interpretation of indicative/subjunctive contrasts in embedded clauses is pursued here that, rather than attaching rigid meanings to each mood, views mood shifts as the overt marking of a change in the model for the evaluation of the proposition or property expressed by the embedded clause. From this perspective, mood morphology conveys information about model flow in discourse, which can be determined by a variety of factors ranging from lexical meaning of embedding predicates to different aspects of discourse interpretation and context change. The proposal identifies and analyzes the parameters that induce model shift in subordinated domains. This allows us to distinguish core cases of subjunctive selection from more peripheral ones, both within a language and crosslinguistically, and it also provides us with an explanation for several empirical problems that a rigid interpretation of mood leaves unresolved. The analysis offered concentrates on mood distribution in Catalan and Spanish.*

## 1. Introduction

This article aims at characterizing the contribution of the grammatical category *mood* to the interpretation of different types of embedded clauses in Romance,

- 
1. This article is based on parts of my doctoral dissertation, which appeared as Quer (1998). The material in its current shape has been presented to the audiences of Going Romance 1998 (December 1998) and to the Colloquium of the Seminar für Sprachwissenschaft, Universität Tübingen (June 1999). For extensive discussion, criticism or suggestions, I would like to thank those audiences, as well as Donka Farkas, Anastasia Giannakidou and Louise McNally. I am also grateful to two anonymous *Probus* referees for their valuable comments. Part of the research reported here has been made possible through the project PB96-1199-C04-02 of the Spanish Ministerio de Educación y Cultura.

mainly focusing on Catalan and Spanish.<sup>2</sup> Specifically, a unified account of *mood shifts*, i.e., indicative/subjunctive contrasts, in terms of *model shift* will be offered: mood switching is argued to imply that the model for the evaluation of the proposition (or property) at hand has been shifted to another one of an essentially different type. The parameters that induce the relevant shift in the type of model of evaluation, signaled by the choice of mood, will be identified and analyzed.

From the perspective outlined in this article, finite mood oppositions overtly convey information about model flow in discourse. The analysis is cast in broad semantic terms, ranging from the contribution of lexical meaning of embedding predicates to a dynamic view of context change, since model flow is influenced by a variety of interpretive factors.

The article is structured as follows. Section 2 sets up the stage by discussing the basic pattern of mood contrasts in complement clauses and by introducing the relevant elements of the model theory adopted. The types of models contributed by embedding predicates are established and argued to account for the basic model shift in argument clauses. Section 3 proceeds to naturally extend the account to other empirical domains like purpose clauses, relative clauses, negated attitude ascriptions, concessive conditionals and free relatives. Section 4 deals with a number of cases that constitute a serious problem for the standard accounts of mood distribution in the sense that they predict the opposite of what is attested: subjunctive clauses with realis interpretation, indicative relatives with attributive/narrow scope readings, subjunctive complements to causative and to factive-emotive predicates offer strong empirical support for the need not to ascribe rigid meanings to moods, as in the proposal to be defended in this article.

The version of the account I will develop here, though, has several limitations. First, I will only deal with finite mood oppositions in embedded contexts. Therefore, infinitival clauses and imperatives will be ignored. Although not discussed here, the account of subordinated mood oppositions is also claimed to apply unproblematically to matrix mood contrasts. Second, the conditional tense/mood will be put aside for the time being, even if ideally it should also be incorporated into the picture. Third, the empirical focus will be on Romance (mainly Catalan and Spanish). Despite the fact that no explicit account of crosslinguistic variation is provided, the tools of the account developed in this article should allow us to easily extend it to non-Romance languages by determining how languages show sensitivity to the different parameters at play and thus follow different grammaticalization patterns of mood distribution.<sup>3</sup>

---

2. Unless indicated otherwise, the examples will be from Catalan throughout, but the generalizations also apply to Spanish.

3. For existing crosslinguistic accounts of mood distribution see Farkas (1992) and Giorgi and Pianesi (1997).

## 2. Embedding predicates and models

Invariable mood selection in argument clauses is usually made to follow from some property of the embedding predicate. In this section the basic contrast between indicative- and subjunctive-taking verbs is examined. The explanation relies upon the difference in the type of the evaluation model such predicates introduce.

### 2.1. Basic contrast

An overarching theory of mood distribution should be able to explain the well-known fact that the choice of mood is sometimes determined lexically, as in (1) and (2). The instances of systematic lexical selection of subjunctive such as with volitional predicates (see (2)) correspond to the cases that most consistently display this mood across Romance varieties and diachronically, as well as from the point of view of language acquisition and language attrition. This should follow from a deep semantic property of such predicates that cannot be overridden by other interpretive factors. Likewise, a related explanation should be offered for the cases where indicative is the only option and subjunctive is excluded (see (1)).

- (1) *L'Anna pensa [que els pingüins {volen/\*volin}]*  
the Anna think.3SG that the penguins fly.IND/SUB.3PL  
'Anna thinks that penguins fly.'
- (2) *L'Anna vol [que li {comprin/\*compren} un pingüí]*  
the Anna want.3SG that her buy.SUB/IND.3PL a penguin  
'Anna wants them to buy her a penguin.'

In view of these basic facts, two different kinds of approaches have been formulated that attempt to account for mood distribution and interpretation. The first one, which has a long tradition in the literature, defends that indicative and subjunctive must be associated with *realis* vs. *irrealis* interpretations. For the paradigm under discussion, this implies that the complement proposition in (1) is interpreted as holding in (or being close enough to) the actual world, whereas the one in (2) does not and it just relates to the subject's desire world. The second kind of approach to mood identifies the scope of clauses with mood morphology: indicative and subjunctive would correlate with wide and narrow scope of clauses, respectively (cf. Laka (1990, 1992), Stowell (1993), Brugger and D'Angelo (1994, 1995), Uribe-Etxebarria (1994), Giannakidou (1994, 1995)). If volitional predicates are interpreted as intensional operators, subjunctive is argued to mark that the embedded clause takes narrow scope with respect to it, as in (2). Conversely, in the absence of such an operator only indicative is possible, as in (1).

Building on the insights of previous accounts, the thesis I will defend in this article is that mood overtly marks information about the models where clauses are to be interpreted: mood shift signals a change of type of model for the evaluation

of the proposition or property at hand (cf. Quer 1998). In the next subsection we turn to the explanation of the basic case of model shift.

## 2.2. Model shift

In this section the essentials of the model theory assumed throughout will be laid out. On the basis of the assumptions made within this framework, we will derive the lexical determination of mood choice, and we will establish the basic divide in the types of models.

**2.2.1. Context, attitudes and models.** I will essentially assume a Stalnakerian theory of assertion (cf. Stalnaker 1978 and subsequent work). Utterances are interpreted against the background of specific *contexts*. A *context* can be defined as a tuple of the form in (3) (from Giannakidou 1998; cf. Condoravdi 1994):

$$(3) \quad c = \langle \text{cg}(c), W(c), s, h, w_0, f, \dots \rangle$$

The context includes both informational and so-called Kaplanian parameters. Among the informational parameters we find the *common ground* ( $\text{cg}(c)$ ), namely the information shared by the illocutionary agents at the point where an assertion is uttered), the *context set* ( $W(c)$ ), that is the set of worlds compatible with the informational state stored as the common ground; as the common ground is incremented with the propositions added by new assertions, the context set is reduced) and optionally, *modal bases* and *ordering sources* (cf. Kratzer 1981, 1991) for the interpretation of modal statements. The most relevant Kaplanian parameters are the speaker ( $s$ ), the hearer ( $h$ ), the world where the utterance takes place ( $w_0$ ), and a function assigning values to variables ( $f$ ).

Under this conception of contexts, I adhere to the view that the notion of truth must be relativized to models within a context and to individuals (cf. Giannakidou 1998, Farkas 1992). *Models of individuals* are defined in Giannakidou (1998) as in (4).

- (4) Let  $c = \langle \text{cg}(c), W(c), M, s, h, w_0, f, \dots \rangle$  be a context.  
A model  $M(x) \in M$  is a set of worlds in  $c$  associated with an individual  $x$ .  
 $x$  is called the *individual anchor*.

This notion of model essentially corresponds to the *accessibility functions* known from modal logic and possible world semantics.

For unembedded assertions the individual anchor is the speaker and the relevant model is the epistemic model of the speaker,  $M_E(\text{speaker})$ , which is the default one: it stands for the speaker's worldview and it represents his or her epistemic status, what s/he knows and believes.

This conception of model turns out to be crucial for the interpretation of embedded propositions, because embedding predicates of propositional attitude are

taken to introduce specific types of models into the context. Among these intensional predicates, we must distinguish between two classes, weak and strong.<sup>4</sup> Let us see first what these two classes consist of in terms of the models they contribute (see Farkas 1992, 1999, Giannakidou 1998).

### A. Weak intensional predicates

(i) Epistemic model:  $M_E(x)$ . It stands for  $x$ 's worldview and represents his or her epistemic status. It is introduced by epistemic predicates like 'believe' or 'think'. For (5), this amounts to saying that the truth of the embedded proposition must be evaluated in  $M_E(\text{Anna})$  anchored to the referent of the matrix subject, so that the proposition 'penguins fly' comes out as true in that model.

- (5) *L'Anna creu [que els pingüins volen]<sub>ME(Anna)</sub>*  
 the-Anna believe.3SG that the penguins fly.IND.3PL  
 'Anna believes that penguins fly.'

(ii) Dream model:  $M_D(x)$ . It is introduced by fiction predicates like 'dream' or 'imagine' and it stands for the unreal universe of  $x$ 's dream or fiction.

- (6) *L'Anna ha somiat [que els pingüins volaven]<sub>MD(Anna)</sub>*  
 the-Anna have.3SG dreamt that the penguins fly.IND.IMPF.3PL  
 'Anna dreamt that penguins flew.'

(iii) Model of reported conversation:  $M_{RC}(x)$ . It is contributed by assertive predicates like 'say' or 'claim', but also by prospective predicates like 'predict' or 'promise'. They reproduce a conversational context and the assertions made therein.

- (7) *L'Anna diu [que els pingüins volen]<sub>MRC(Anna)</sub>*  
 the-Anna say.3SG that the penguins fly.IND.3PL  
 'Anna says that penguins fly.'

### B. Strong intensional predicates

Strong intensional predicates such as volitionals or directives introduce a set of worlds that model alternative realizations of the actual world according to the preferences of the matrix anchor, and in this sense they contribute a model of bulitic alternatives ( $M_{Bul}(x)$ ). In an example like (8) below the embedded proposition is

4. For the distinction between weak and strong intensional predicates, see McCawley (1981), and for its relevance for mood choice, see Farkas (1992) and the text below.

evaluated in such a model conceptualizing future developments of the world according to Joan: the future worlds realizing his wish are more desirable than those that do not. Such buletic alternatives are generally projected into the future, but we also find desire predicates like ‘wish’ that can introduce a model of past buletic alternatives. Here I will gloss over such cases of counterfactual desire predicates.

The two prototypical cases of strong intensional predicates that take a clausal argument are the following:

(i) volitionals like ‘want’ or ‘prefer’;

- (8) *El Joan prefereix que no li posin deures*  
 the Joan prefer.3SG that not him put.SUB.PRS.3PL homework  
 ‘Joan prefers not to be given homework.’

(ii) directives like ‘order’ or ‘ask’.

- (9) *El Joan ens va demanar que no li poséssim deures*  
 the Joan us AUX.3SG to-ask that not him  
 put.SUB.PST.1PL homework  
 ‘Joan asked us not to give him homework.’

For argument clauses, Farkas (1992) and Giannakidou (1997a, 1998) capitalize on the distinction between weak and strong intensional predicates and derive mood selection facts from it: while indicative surfaces with weak intensional predicates in the general case, strong intensional ones systematically require subjunctive complements. The crucial distinctive property would lie in the introduction of one vs. many worlds for Farkas, or alternatively in the contribution of a veridical vs. non-veridical model for Giannakidou.<sup>5</sup>

Farkas (1999) analyzes the divide between weak and strong intensional predicates from a different perspective. She observes that the complements to *believe*-type predicates are similar to assertions, whereas this is not the case with the complements to *want*-type predicates. The explanation she gives is formulated in terms of Context Change Potential (cf. Heim 1992). Roughly, the context change potential of an expression is the way that expression affects the context. By asserting a sentence, we propose to change the current conversational context  $C^6$  to a new

5. Giannakidou (1998: 112) defines (non)veridicality as follows:

(i) A propositional operator *Op* is *veridical* iff it holds that  $\llbracket Op\ p \rrbracket_c = 1 \rightarrow \llbracket p \rrbracket = 1$  in some epistemic model  $M(x) \in c$ ; otherwise *Op* is *nonveridical*.

She takes intensional predicates to be propositional operators that apply to the complement proposition. In the veridical models contributed by weak intensional predicates, the truth of the proposition is entailed in that embedded model, while in the non-veridical models linked to strong intensionals it is not.

6. Context *C* here corresponds to what we have called common ground above (see (3) above).

context  $C'$  which is the intersection of  $C$  and the proposition  $p$  expressed by the sentence. In her proposal, all weak intensional predicates have Assertive Context Change Potential.

By contrast, strong intensional predicates according to Farkas (1999) have no assertive context change potential, and they make no claim of truth of the complement with respect to a single set of worlds. They establish preference relations between individuals and sets of alternatives. The set of alternatives constitute a Buletic base. The preference or comparative relation among those alternatives states that those where the embedded proposition holds are more desirable than these where it does not.<sup>7</sup> The set of alternatives is constructed on the basis of the epistemic state of the individual anchor.

Farkas's (1999) characterization of complements to weak and strong intensional predicates in terms of assertive context change potential lies at the bottom of the divide between the two types of model that will be relevant for our account of model shift. Weak intensional predicates are taken to introduce an epistemic-like type of model ( $M_E(x)$ ), whereas strong intensional ones introduce a very different type of model, a buletic one ( $M_{Bul}(x)$ ). As we will see below, other intensional operators like the future or modal verbs will align with the latter type in a straightforward fashion, as they establish a comparative relation among worlds. Notice that Farkas's characterization of the divide correlates with the veridicality approach put forth in Giannakidou (1998): the embedded models contributed by weak intensionals are veridical, while the ones introduced by strong intensionals are non-veridical.

**2.2.2. Basic type of model shift.** Given the essential binary divide among intensional predicates argued for in the previous subsection, let us proceed to see how mood shift relates to model shift in the case of argument clauses. Epistemic models ( $M_E(\text{speaker})$ ,  $M_E(x)$ ) are default, since assertion is viewed as the basic conversational move. In accordance with this, indicative is taken to be the default mood (*contra* Portner 1997), as it typically surfaces with both unembedded and embedded assertions.

Attitude ascriptions expressed by weak intensional predicates take us from the epistemic model of the speaker to some individual's epistemic model. It is in this sense that we do not encounter a shift in the *type* of model, and consequently no mood shift to subjunctive is attested.

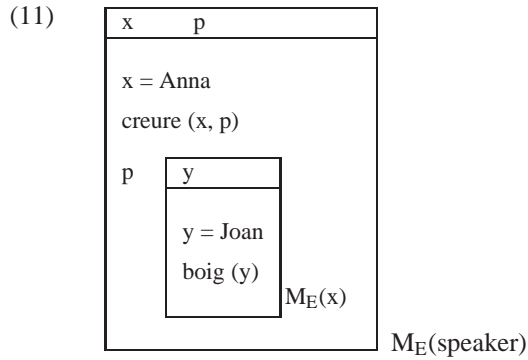
---

7. See Heim's (1992) definition of the meaning of *want*:

- (i) ' $\alpha$  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  $\alpha$  than any non- $\phi$ -world maximally similar to  $w'$ .

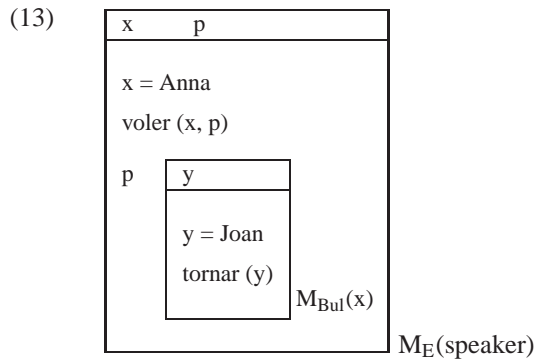
I propose to represent interpretation in a model by means of model indices to Discourse Representation Structures (see Farkas 1992, 1993). So for an example like (10), we would get a simplified DRS representation as in (11), where the subindices point to the relevant model for interpretation. Since both are epistemic models no mood shift to subjunctive is expected, as is the case.

- (10) *L'Anna creu [que el Joan és boig]*  
 the-Anna think.3SG that the Joan be.IND.3SG crazy  
 'Anna thinks that Joan is crazy.'



On the other hand, the buletic models associated to strong intensional predicates ( $M_{Bul}(x)$ ) do induce model shift, because they take us from the epistemic model of the speaker to the buletic model of an individual. Therefore, mood shift to subjunctive is attested, as in (12). The representation in (13) intends to represent the shift in the transition from the index of the main DRS to the index of the subordinate DRS.

- (12) *L'Anna vol [que el Joan torni]*  
 the-Anna want.3SG that the Joan return.SUB.3SG  
 'Anna wants Joan to come back.'





Subjunctive selection by a predicate is a fact linked to its lexical semantics, and it cannot be overridden by any other interpretive component of the grammar: since it introduces a different type of embedded model, it will always induce mood shift. This explains why the appearance of subjunctive in such environments is extremely stable.

The account provided thus far is not substantially different from Farkas's (1992, 1999) and Giannakidou's (1997a, 1998) approaches to mood selection in argument clauses (cf. also Giorgi and Pianesi 1997). However, the account of mood shift as model shift turns out to be superior, in that given its analytical tools, it allows for a unified analysis of mood distribution.

### 3. Extending the account

The account of mood shift as model shift marking extends naturally to a number of empirical domains other than argument clauses to intensional predicates, such as purpose clauses, relative clauses, negated attitude ascriptions, concessive conditionals and free relatives.

#### 3.1. Purpose clauses

Purpose clauses display invariant selection of subjunctive (see (14)), much in the same fashion as strong intensional predicates. They are always interpreted in a buletic model that can be linked to the semantics of the purpose complementizer.

- (14) *L'ha convidada perquè no s' {enfadi/\*enfada}*  
 her-have.3SG invited so-that not SE-get-angry.SUB/IND.3SG  
 'S/he has invited her so that she will not get angry.'

Purpose interpretations, though, are not always dependent on the presence of a specialized complementizer. Under the appropriate conditions, restrictive relative clauses can also yield a purpose reading, as in (15). Purpose relatives are always in subjunctive, which signals model shift as in the case of standard purpose clauses. The relevant reading is licensed if a buletic model anchored to an individual is available, in the case of (15) the referent of the matrix subject.

- (15) *Li va regalar una novel·la que el*  
 him AUX.3SG to-give a novel that him  
*distragués*  
 entertain.SUB.PST.3SG  
 'S/he gave him a novel that would entertain him/to entertain him.'

## 3.2. Restrictive relative clauses

Indicative/subjunctive alternations are also attested in the domain of relative clauses. In this case, the issue of lexical selection does not arise, because relative clauses are not selected by the main predicate. Rather, they contribute a descriptive condition of a noun that is an argument of the main predication. However, the account of mood in terms of model flow extends naturally to this subordination domain without recourse to a different kind of explanation specific to relatives.

In line with the hypothesis developed so far, it follows that mood choice in restrictive relative clauses signals the model where the descriptive condition contributed by the relative is to be evaluated. In (16), the strong intensional verb *necessitar* ‘need’ introduces a buletic-like model whose individual anchor is the referent of the main subject. In (16a), mood shift to subjunctive indicates that the property expressed by the relative has to be evaluated in  $M_{\text{Bul}}(\text{they})$ , the model introduced by the intensional verb *necessitar* ‘need’. By contrast, indicative in (16b) (without mood shift) constitutes the explicit marking of the fact that the property in question must not be evaluated in the embedded model  $M_{\text{Bul}}(\text{they})$ , but rather in the epistemic model of the speaker  $M_E(\text{speaker})$ , or in the one of the referent of the main subject  $M_E(\text{they})$ , thus creating the effect of ‘wide scope’ of the descriptive condition vis-à-vis the intensional predicate.

- (16) a. *Necessiten un alcalde [que faci grans*  
           need.3PL a mayor that make.SUB.PRS.3SG big  
           *inversions]* $M_{\text{Bul}}(\text{they})$   
           investments  
           ‘They need a mayor that makes big investments.’  
       b. *Necessiten un alcalde [que fa grans*  
           need.3PL a mayor that make.IND.PRS.3SG big  
           *inversions]* $M_E(\text{speaker})/M_E(\text{they})$   
           investments  
           ‘They need a mayor that makes big investments.’

Such mood contrasts arise where a non-epistemic model is present, thus allowing for the choice of subjunctive, next to the indicative. This extra model can be contributed by a strong intensional predicate, as in (16), but also by tense morphology like the future or the conditional, by generic/habitual tenses like the present or the imperfective, by an imperative, by negation,<sup>8</sup> by a conditional antecedent,

8. Although negation strictly speaking is not a modal category (cf. Kiefer 1994), it directly relates to modality in many respects. For instance, it supports opaque readings of descriptions in its domain, and it gives rise to modal subordination (cf. Roberts 1990). This follows from the impact a negative sentence expressing not-*p* has on the context (see Farkas 1999). When uttered, the proposition *p* is not added to the common ground: rather we ignore the intersection of *p* with the common ground and retain its complement, which has a limited lifespan in discourse, but to which

etc.<sup>9</sup> Here no issue of lexical selection arises, hence the apparent optionality of mood choice.

### 3.3. *Negated attitude ascriptions*

A different sort of model shift involves the complement clauses of negated (or questioned) weak intensional predicates. Under negation, they allow for both indicative and subjunctive, as in (17), but the choice of mood has a clear impact on the interpretation of the subordinate clause: whereas the proposition expressed with subjunctive is simply interpreted in the embedded model  $M_E(\text{jury})$ , the choice of indicative involves presupposition of truth on the part of the speaker (consequently, it is evaluated as true in  $M_E(\text{speaker})$ ). That the truth of the complement proposition is actually a presupposition rather than the result of an assertion has been shown in Quer (1998). Most noticeably, it passes all tests for presupposition (Levinson 1983) and it is inherited in the same fashion as other presuppositions.<sup>10</sup>

- (17) a. *El jurat no creu [que sigui*  
           the jury not believe.3SG that be.SUB.3SG  
           *innocent]* <sub>$M_E(\text{jury})$</sub>   
           innocent  
           ‘The jury doesn’t believe that s/he’s innocent.’  
       b. *El jurat no creu [que és*  
           the jury not believe.3SG that be.IND.3SG  
           *innocent]* <sub>$M_E(\text{speaker})$</sub>   
           innocent  
           ‘The jury doesn’t believe that s/he’s innocent.’

Here the model shift signaled by mood switch is not triggered by a change in the sort of model (both are epistemic), but rather by a *shift in the individual anchor*. Note that this model shift triggered by a switch in the individual anchor is associated with a crucial difference in the context change potential of the complement clause. While the evaluation of the proposition *p* ‘S/he is innocent’ in the embedded model ( $M_E(\text{jury})$ ) implies not adding it to the jury’s epistemic state, the indicative complement brings us back to the model of the speaker ( $M_E(\text{speaker})$ ),

---

modal adresses can be made under certain conditions. It is in this sense that negative utterances relate to modal statements or to buletic contexts: the propositions they convey are not added to the common ground as part of the propositions accepted as true by the illocutionary agents. Thanks to Donka Farkas for discussion and suggestions on this issue.

9. For a detailed survey of the licensing environments for subjunctive relatives, see Farkas (1982), Giannakidou (1997a, 1998) and Quer (1998).

10. More complex cases involving multiple embeddings are discussed in detail in Quer (1998, Chapter 2, § 5), where it is shown that indicative clauses in the scope of matrix negation are not always associated to presupposition of truth in the epistemic model of the speaker.

to which the proposition *p* is added (actually not by asserting it, but rather by forcing accomodation of the presupposition).<sup>11</sup>

In languages like Standard Italian (cf. (18a)) this kind of model shift is overtly marked even in the absence of negation in the matrix.<sup>12</sup>

- (18) a. Italian  
*Credono che Andrea sia molto stanco*  
 believe.3PL that Andrea be.SUB.3SG very tired  
 ‘They think that Andrea is very tired.’  
 b. Catalan  
 \**Creuen que l’Andrea estigui molt cansat*  
 believe.3PL that the-Andrea be.SUB.3SG very tired  
 (‘They think that Andrea is very tired.’)

Interestingly, though, when there is no model shift and the utterance is equivalent to a matrix assertion, as in (19), indicative is the only option even in Italian (from Saltarelli 1974): both matrix and embedded clause must be interpreted assertively in  $M_E(\text{speaker})$ .

- (19) *Credo che {sono/\*sia} stanco*  
 believe.1SG that be.IND/SUB.1SG tired  
 ‘I think I am tired.’

11. This view of mood shift in negated attitude ascriptions makes the prediction that indicative should be excluded in a belief report in the first person, as pointed out by an anonymous referee: indicative should lead to a contradiction in the evaluation of the embedded proposition, because it would be false in the embedded model and true in the matrix one, but in the suggested instance both models coincide ( $M_E(\text{speaker})$ ). However, such utterances are not ungrammatical, as attested in (i).

(i) *Doncs jo no (em/m’ho) crec que és culpable*  
 then I not REFL/REFL-it believe.1SG that be.3SG guilty  
 ‘I do not believe, though, that he is guilty.’

Examples like this are highly dependent on discourse context in order for them to be fully acceptable. Given that the truth of the embedded proposition is not endorsed by the speaker, the claim to its truth must be attached to a previous agent in the discourse (hence the translation provided for (i)). It is significant that, to the extent they are accepted, such structures require a pronominal use of the attitude verb (*creure* ‘s’, *pensar-se* = ‘to come to believe/think’) and some speakers also need to dislocate the embedded clause. For discussion, see Quer (1998: 61).

Interestingly, when the embedding predicate does not allow this reinterpretation of model shift, as with the perception verb *veure* ‘to see’, the use of indicative is excluded, as in (ii).

(ii) *No veig que (hagi/\*ha) marxat*  
 not see.1SG that have.SUB/IND.3SG left  
 ‘I do not see s/he has left.’

12. Significant register and speaker variation has been reported with respect to the use of subjunctive under epistemic predicates in Italian (see for instance Wandruszka 1991 and Giorgi and Pianesi 1997), which casts some doubt on the widespread generalization that epistemic verbs robustly select for subjunctive in their complements. Further empirical research is needed on this issue.

The fact that Italian licenses subjunctive in affirmative belief reports constitutes an instance of the different grammaticalization patterns languages adopt in mood distribution as a reflection of model shift.<sup>13</sup>

However, when mood shift is ‘triggered’ by negation, it cannot be considered a selectional fact, hence the variation attested in mood selection by epistemic predicates in the same language, as in Catalan and Spanish.

### 3.4. Shift to expanded models

Model shift can not always be traced back to an overt element. In this section I will present and discuss two cases where an operation in the current evaluation model triggers model shift, namely expansion of the modal base.

#### A. Concessive conditionals (non-factual concessives)

Catalan and Spanish have specialized connectives in order to express concessive relations. Both indicative and subjunctive are in principle possible, as exemplified in (20)–(21).

- (20) *Encara que no és major d’edat, el deixen entrar*  
 although not be.IND.3SG major of-age him let.3PL to-enter  
 ‘Although he is not of age, they let him in.’
- (21) *Encara que no sigui major d’edat, el deixaran entrar*  
 although not be.SUB.3SG major of-age him let.FUT.3PL  
 entrar  
 to-enter  
 ‘Even if he is not of age, they will let him in.’

Indicative and subjunctive concessives, though, do not mean the same: while with an indicative adjunct both the main and the embedded proposition are asserted, with subjunctive concessives, only the proposition in the main clause is. These differences have led to classifications of concessive clauses into real/unreal or factual/non-factual concessives.

13. Crucially, Italian displays indicative with the other classes of weak intensional predicates, such as assertive and fiction verbs (cf. Giorgi and Pianesi 1997). This suggests that Italian is sensitive to some property of epistemic predicates that sets them apart from the other classes of weak intensionals. Giorgi and Pianesi (1997) argue that this property amounts to having a non-realistic modal base. Farkas (1999) proposes that subjunctive under epistemics is used to mark that *p* is added to a derived context, but not to the current one. Whatever the ultimate explanation might be, it becomes clear that finer-grained distinctions are operative in model shift than just the one discussed in the main text. Establishing these distinctions goes beyond the goals of the present article.

It will be shown that the mood contrast by itself distinguishes plain concessives from *concessive conditionals*, which always require subjunctive. This contrast determines crucial interpretive differences.

It is important to notice that all sorts of concessive conditionals must be in the subjunctive, as exemplified in (22)–(26):<sup>14</sup>

(i) *Parametric Concessive Conditionals*

- (22) *Diguin el que diguin, continuarem amb la*  
 say.SUB.3PL the that say.SUB.3PL go-on.FUT.1PL with the  
*nostra protesta*  
 our protest  
 ‘Whatever they say, we will go on with our protest.’

- (23) Spanish  
*Quienquiera que llame, no abras la puerta*  
 whoever that call.SUB.3SG not open.SUB.2SG the door  
 ‘Whoever might call, do not open the door.’

(ii) *Alternative Concessive Conditionals*

- (24) a. *Li agradi o no li agradi,*  
 him/her please.SUB.3SG or not him/her please.SUB.3SG  
*se'l prendrà*  
 REFL-it take.FUT.3SG  
 ‘Whether s/he likes it or s/he does not like it, s/he will drink it.’  
 b. *Li agradi o no, se'l prendrà*  
 him/her please.SUB.3SG or not REFL-it take.FUT.3SG  
 ‘Whether s/he likes it or not, s/he will drink it.’

(iii) *Polar Concessive Conditionals*

- (25) *Fins i tot si m'ho paguessin, no hi aniria*  
 even if me-it pay.SUB.PST.3PL not DIR go.COND.1SG  
 ‘Even if they paid it for me, I would not go.’  
 (26) *Encara que no em convidi a la festa, li*  
 even though not me invite.SUB.3SG to the party her/him  
*faré un regal*  
 make.FUT.1SG a present  
 ‘Even if s/he does not invite me to the party, I will buy her/him a present.’

14. For the classification of concessive conditionals, see König (1986) and Haspelmath and König (1998).

Concessive conditionals display several properties that distinguish them from plain concessives: (a) they are incompatible with episodic tense in the matrix (see (27)); (b) as conditionals, they license donkey-anaphora<sup>15</sup> (see (28)); (c) they are not paraphrasable as an adversative relation, unlike indicative concessives (see (29) vs. (30)); (d) they allow for the morphology and interpretation of counterfactual conditionals, both present and past (see (31)–(32)).

- (27) \**Encara que s'enfadessin, els vam*  
 even though REFL-get-angry.SUB.PST.3PL them AUX.1PL  
*barrar el pas*  
 to-block the way  
 ('Even though they got angry, we blocked their way.')
- (28) *Encara que un pagès es vengui una truja,*  
 even though a farmer REFL sell.SUB.3SG a sow  
*sempre la recorda*  
 always her remember.3SG  
 'Even if a farmer sells a sow of his, he will always remember her.'
- (29) a. *Encara que està esgotat, continua treballant*  
 although be.IND.3SG exhausted keep.3SG working  
 'Although he is exhausted, he keeps on working.'  
 b. *Està esgotat, però continua treballant*  
 be.IND.3SG exhausted but keep.IND.3SG working  
 'He is exhausted, but he keeps on working.'
- (30) a. *Encara que estigui esgotat, continuarà treballant*  
 although be.SUB.3SG exhausted keep.FUT.3SG working  
 'Even if he is exhausted, he will keep on working.'  
 b. \**Estigui esgotat, però continuarà treballant*  
 be.SUB.3SG exhausted but keep.FUT.3SG working  
 ('He is (SUB) exhausted, but he will keep on working.')
- (31) *Encara que arribessin a l'hora, no*  
 even though arrive.SUB.PST.3PL at the-time not  
*aconseguirien entrades*  
 get.COND.3PL tickets  
 'Even if they arrived on time, they would not get tickets.'
- (32) *Encara que haguessin arribat a l'hora, no*  
 even though have.SUB.PST.3PL arrived at the-time not  
*haurien aconseguit entrades*  
 have.COND.3PL got tickets  
 'Even if they had arrived on time, they would not have got tickets.'

15. On donkey anaphora in complex conditionals, see von Stechow (1994). For Roger Higgins's observation that subjunctive concessives seem to license donkey anaphora in English, see von Stechow (1993: 523).

Concessive conditionals are clearly modal. The general interpretive pattern of concessive conditionals can be paraphrased as ‘Irrespective of the value of *x*, the consequent *q* holds’, where *x* ranges over individuals or over truth values. This means that in order to evaluate the concessive antecedent we must go through assignments in different worlds or situations. On the one hand, two of the three types of concessive conditionals involve free choice readings, a kind of interpretation that is necessarily tied to modality because it involves evaluation in alternative worlds or situations: (i) parametric concessive conditionals are essentially free relatives that are marked for free choice interpretation (with the particle *-ever* attached to the relative pronoun in English, with reduplicated subjunctive V1 forms in Catalan and Spanish (see (22)), or with free choice relative pronouns as those of the *-quiera* series in Spanish (see (23))); (ii) alternative concessive conditionals are also amenable to free choice readings among the disjuncts (cf. Higginbotham 1991 and Larson 1985 on free choice readings of disjunctive *either/whether*). On the other hand, in polar concessive conditionals the scalar particle *even* that appears in front of the antecedent (see (25)) overtly marks that the specified antecedent condition has to be evaluated also in the most distant worlds of the modal base where according to the ordering source the condition is taken to hold.<sup>16</sup> An implicature arises that in all the other worlds, being closer to the base one, the unlikely condition does not hold, so the consequent trivially does.<sup>17</sup>

Why are concessive conditionals invariably in subjunctive? Mood shift is clearly at play in concessive conditionals, in that it reflects model shift to an expanded version of the epistemic model of the speaker  $M_E(\text{speaker})$ .<sup>18</sup> In order to strengthen the concessive component of the sentence, worlds that verify the unlikely antecedent condition are taken into account. Since those more far-fetched worlds, ranked according to a less realistic ordering source, are incorporated into the modal base, the model is enriched and thus expanded vis-à-vis the basic epistemic model of the speaker.

---

16. On the notions *modal base* and *ordering source*, see Kratzer (1981, 1991). For our purposes, and simplifying matters somewhat, a modal base reduces to the set of worlds in the model and an ordering source is a conversational background that establishes a ranking among those worlds.

17. A closely related proposal has been defended in von Stechow (1998) for subjunctive conditionals. For him, the indicative is semantically vacuous, and the subjunctive carries a presupposition that the current domain of quantification is partly outside the context set by taking into consideration some counterfactual or non-actual worlds. Enlargement of the domain of quantification amounts to strengthening the claim a subjunctive conditional makes. This is very close to my proposal that subjunctive in concessive conditionals is marking an expansion of the modal base.

18. In fact, the ‘base’ model than can be expanded need not be the epistemic model of the speaker, as is the case in many of the examples displayed in the text, but I will ignore this in order to simplify the discussion in the text.



## B. Subjunctive free relatives in generic contexts

Indicative/subjunctive oscillations are also attested in the domain of free relatives. Under the approach defended here, such alternations should not be unconstrained and we would expect interpretive differences attached to the choice of mood.

If the matrix verb is in generic present, both moods are equally good, as in (33).

- (33) a. *Expulsen del partit [qui protesta]*  
 expel.PRS.3PL from-the party who protest.IND.PRS.3SG  
 'They expel from the party those who protest (IND).'
- b. *Expulsen del partit [qui protesti]*  
 expel.PRS.3PL from-the party who protest.SUB.PRS.3SG  
 'They expel from the party whoever protests (SUB).'

Subjunctive only occurs in an environment where model shift is at play.<sup>19</sup> Therefore, in the absence of model shift, a subjunctive free relative is excluded from an episodic context, as in (34b), because the relevant model is the default one, i.e., the epistemic model of the speaker.

- (34) a. *Van expulsar del partit [qui protestava]*  
 AUX.3PL expel from-the party who protest.IND.IMPF.3SG  
 'They expelled from the party those who protested (IND).'
- b. \**Van expulsar del partit [qui protestés]*  
 AUX.3PL expel from-the party who protest.SUB.PST.3SG  
 ('They expelled from the party whoever protested (SUB)').

As we will see in detail in section § 4.2, in generic, characterizing and conditional environments, indicative restrictive relatives and free relatives can be interpreted both referentially (see (35a)) and attributively<sup>20</sup> (see (35b)) (alternatively, with a wide-scope/specific reading for (35a) and with a narrow-scope/non-specific reading for (35b)). Those two readings are made prominent in (35) through the

19. In Quer (1998) it is argued that subjunctive free relatives display the same distributional constraints as free choice items (FCI). This can be ascribed to the fact that subjunctive imposes an attributive reading on the free relative, as independently argued for subjunctive restrictive relatives (cf. Rivero 1977, Farkas 1982, Veloudis 1982/83, Rouchota 1994). In this sense, they are the counterparts of English *-ever* free relatives as analyzed in Dayal (1997).

20. The term *attributive* must be understood in the sense of Donnellan (1966) (cf. Dayal (1997) and Giannakidou (1997b)), whereby the individual picked out by the description varies from world to world, thereby necessarily meeting the descriptive condition on the variable. By contrast, under a *referential* reading the description picks out the specific referent established in the discourse.

addition of a deictic temporal adverbial in the first case and by an adverb of quantification in the second case. The extra reading indicative free relatives yield in a generic context like this is the one in (35b).

- (35) a. *Avui expulsen del partit qui protesta*  
 today expel.PRS.3PL from-the party who protest.IND.3SG  
 'They expel today from the party those who protest (IND).'
- b. *Normalment expulsen del partit qui*  
 normally expel.PRS.3PL from-the party who  
*protesta*  
 protest.IND.3SG  
 'They normally expel from the party those who protest (IND).'

Does this mean that the attributive, narrow-scope reading of indicative free relatives in generic contexts is identical to the one of their subjunctive counterparts? Put otherwise, are the two examples in (33) indistinguishable under the relevant attributive, narrow-scope interpretation of the description? Although the differences are subtle, they are not felt as completely synonymous, so we should be able to characterize the meaning nuance at play. For instance, in a discourse context like (36) where we actually contradict the generalization that protesters are expelled, the indicative version of the free relative remains felicitous, while the subjunctive counterpart becomes infelicitous. The introduction of an exception in the concessive clause seems to contradict the stronger generalization expressed with the subjunctive relative.

- (36) *Expulsen del partit qui {protesta/#protesti},*  
 expel.PRS.3PL from-the party who protest.IND/SUB.PRS.3SG  
*tot i que el secretari sempre protesta*  
 even though the secretary always protest.3SG  
 'They expel from the party those who protest (IND/#SUB), even though the secretary always protests.'

The explanation for the contrast in (36) and the meaning distinctions in (33) has to be sought in the operation effected on the model. Generic sentences are viewed as modal statements that are interpreted with respect to two parameters: a *modal base* and an *ordering source* (in line with Heim (1982), Kratzer (1981, 1986, 1995) and Krifka et al. (1995)). Assuming with Heim that genericity is linked to a stereotypical ordering source, the mood contrast in the free relative in (33) is taken to reflect a difference in the modal base present in the model for evaluation: the choice of subjunctive in (33b) signals that worlds that are more far-fetched from the stereotype are taken into account, thus making the statement stronger. The modal base that is used for interpretation is 'expanded' with respect to (33a). Mood shift is thus marking a shift in the model again, in the same way as with concessive conditionals.

The contrast under consideration parallels the one between the readings of English *a* and *any* in generic contexts (see Kadmon and Landman 1993 on the notions of *widening* and *strengthening*). According to Kadmon and Landman (1993), *any* in generic contexts widens the denotation of the common noun along a contextual dimension, whereby the statement with *any* is strengthened vis-à-vis the one with *a* (see (37)). As a consequence of this, the tolerance to exceptions that is typical of generic predications is drastically reduced.

(37) *Any owl hunts mice* → *An owl hunts mice*

Assuming that the parallelism is correct, we have an explanation for the infelicity of the subjunctive free relative in (36), as opposed to the indicative counterpart: introducing an exception leads to a contradiction with the strengthened generalization expressed with the subjunctive clause.

#### 4. Non-rigid interpretations for mood

The strongest type of argument for the analysis put forth in this paper is provided by cases that show that moods do not have invariant meaning. From the point of view that mood shift constitutes the marking of model shift, this is not an unexpected result, even if it requires determining which are those less straightforward kinds of model shift. However, for theories of mood that attach specific interpretation to moods, these cases become an unsurmountable problem, as they contradict their predictions.

##### 4.1. *Realis/non-scopal subjunctive clauses*

There are several domains where subjunctive clauses are interpreted factually in environments that also lack a scopal element. These are not just puzzling facts, but an actual problem for the two sorts of account mentioned at the outset, namely the *realis/irrealis* approach and the scopal approach.

A. *Complements to factive predicates.* Factive-emotive and psych predicates tend to take subjunctive in Catalan and Spanish (see (38)), even if they also take indicative in certain cases. However, they are not intensional and their complements have a default factive (hence, *realis*) interpretation. A more detailed discussion of these subjunctive complements will be undertaken in section 4.4.

(38) Spanish  
*Me molestó [que me {llamara/\*llamó} tan tarde]*  
 me annoy.PST.3SG that me call.SUB/IND.3SG so late  
 'It annoyed me that he called me so late.'

B. *Factual concessive clauses.* Next to concessive conditionals, which receive a non-factual interpretation (see 3.4 above), we also find plain concessives in subjunctive that yield a factual reading, as in (39).

- (39) Spanish  
*Aunque sea su hijo, lo ha echado*  
 although be.SUB.3SG his son him have.PRS.3SG thrown-out  
*de su casa*  
 from his home  
 'Although he is his/her son, s/he has thrown him out of his/her home.'

C. *Past subjunctive relatives.* Certain registers of Spanish allow the use of past subjunctive morphology in relative clauses that modify a referential DP in an episodic context. The substitution of a simple past indicative form for the subjunctive in the relative does not affect the truth value of the sentence.<sup>21</sup>

- (40) *Mantienen retenido al que fuera el más*  
 keep.3PL retained A-the that be.SUB.PST.3SG the most  
*sanguinario dictador de América Latina*  
 cruel dictator of Latin America  
 'They keep in detention the one that was the most cruel dictator in Latin America.'

What the interpretation of the embedded clauses in (38)–(40) share is that the proposition (or property) they express is presupposed as part of the information shared by the illocutionary agents. In this sense, mood shift to subjunctive marks model shift again: from the epistemic model of the speaker to the common ground. Even if strictly speaking the common ground is not a model (see 2.2.1 above), the conversational move is analogous to the model shift we have been describing thus far: the speaker presents the content of the clause not as his own assertion but rather as a presupposition in the common ground.<sup>22</sup>

#### 4.2. *Attributive/narrow-scope indicative relatives*

The existing analyses of mood in relatives correlate indicative and subjunctive morphology with wide- vs. narrow-scope readings (alternatively, specific vs. non-specific ones) or referential vs. attributive interpretations of the antecedent DP,

21. For a detailed description and discussion of this construction, see Quer (1998: 157–162).

22. The difference with respect to the complement of semifactive predicates like 'know', which take indicative, would lie in the fact that with semifactives the presupposition of its truth is just endorsed by the speaker, which requires accommodation into the common ground. However, uttering (38), (39) or (40) requires that the content of the embedded clause be already established as part of the common ground at the point of utterance.

respectively. Subjunctive relatives are argued to give rise either to an *attributive* reading of the DP antecedent (Rivero 1975 for Spanish, Rouchota 1994 and Giannakidou 1997a for Greek) or to a *non-specific/narrow-scope* one (Saltarelli 1977 for Italian, Kampers-Manhe 1991 for French). By contrast, indicative relatives yield either a *referential* reading or a *specific/wide-scope* one. In most contexts, though, the two types of interpretive contrasts are indistinguishable and in fact there have also been attempts to reduce the referential/attributive distinction to a scopal or specificity one (cf. Rivero 1977a, b, Farkas 1982, Veloudis 1983/84). Thus we could say that in (16), repeated here, the object description with a subjunctive relative (see (16a)) receives an attributive, non-specific or narrow-scope reading, whereas its indicative counterpart in (16b) yields a referential, specific or wide-scope interpretation. From these considerations it could then be concluded that the proper characterization of mood contrasts in relative clauses is of a different nature than in other subordination domains.

- (16) a. *Necessiten un alcalde [que faci grans*  
           need.3PL a mayor that make.SUB.PRS.3SG big  
           *inversions]*<sub>MBul(they)</sub>  
           investments  
           ‘They need a mayor that makes big investments.’  
       b. *Necessiten un alcalde [que fa grans*  
           need.3PL a mayor that make.IND.PRS.3SG big  
           *inversions]*<sub>ME(speaker)/ME(they)</sub>  
           investments  
           ‘They need a mayor that makes big investments.’

However, such an account proves insufficient and actually gives wrong results in a well-defined set of contexts. In conditional and conditional-like environments (i.e., generic and characterizing statements; see Krifka et al. 1995), indicative relatives can receive both types of interpretations, as in (41), where the description is ambiguous between a referential and an attributive reading or between a wide- and a narrow-scope reading (this observation is due to Veloudis 1983/84 for Greek relative clauses). Under the former interpretation, the description picks out a certain type of shirt (a specific make, colour or design) the subject buys whenever he or she finds it in a shop, while under the latter reading the only precondition the shirt has to fulfill in order to be bought is that he or she likes it.

- (41) *Si troba [una camisa [que li agrada]],*  
       if find.IND.3SG a shirt that to-her/him appeal.IND.3SG  
       *se la compra*  
       REFL it buy.3SG  
       ‘If s/he finds a shirt s/he likes, s/he buys it.’

I will show next that these facts receive a natural explanation under the analysis of mood as overt marking of model flow without resorting to specific assumptions for relative clauses. The extra interpretation that indicative relatives yield in these contexts is made to follow from the semantics of (factual) conditionals.

In conditionals, *if*-clauses provide restrictions to quantifiers (cf. Lewis (1975) and Kratzer (1986)). In factual/indicative conditionals, the role of the antecedent proposition is to restrict the set of worlds quantified over (that is, the modal base) to those worlds where the proposition is true. The consequent is then asserted to hold in those worlds. Conditional sentences of the form *if*  $\phi$ ,  $\psi$  are interpreted by means of tripartite structures with a restrictive clause and a scope. Such structures are headed by the relevant operator, which can be a Q-adverb, a modal, or, in the case of bare conditionals, a covert necessity operator (cf. Kratzer 1995).

In factual/indicative conditionals,<sup>23</sup> the role of the antecedent proposition is to restrict the set of worlds quantified over (that is, the modal base) to those worlds where the proposition is true. A factual/indicative conditional does not introduce a new type of model, but it simply takes the modal base contained in the epistemic model of the speaker  $M_E(\text{speaker})$  and the quantifier restricts it further to those worlds satisfying the antecedent. In this sense, we can speak of a ‘reduced’ form of  $M_E(\text{speaker})$  or of a ‘restricted’ modal base within that model, but not of a different type of model strictly speaking.

23. I use ‘indicative’ here not in the morphological sense, but as referring to one of the traditional categories of conditional sentences. A complete account would require taking into account present and past counterfactual conditionals as well (also called ‘subjunctive’ conditionals), but for the sake of simplicity I will concentrate only on factual/indicative conditionals and just assume that an analysis along the same lines extends to the rest of conditionals (concessive conditionals constitute a different case, though; see 3.4).

It is important to remark that the fact that the conditional antecedent itself is in indicative mood constitutes a morphosyntactic idiosyncrasy of the complementizer *si* ‘if’, which turns out to be incompatible with present subjunctive tenses, i.e. simple present and present perfect (cf. Quer 1998: 234); note that any other choice of conditional nexus requires subjunctive in the antecedent, as we would expect given the operation effected by the conditional on the current model. Corresponding to (41) we thus find (i), with a protasis exclusively in subjunctive. So if we put *si*-antecedents aside, it turns out that both expansion and restriction of the modal base are marked by mood shift in the general case, contrary to the suggestion made by one anonymous referee according to which only expansion of the modal base would trigger subjunctive.

(i) *En cas que {trobi/\*troba} [una camisa [que li*  
 in case that find.{SUB/IND}.3SG a shirt that her/him  
*agrada]], se la compra*  
 please.IND.3SG REFL it buy.3SG  
 ‘In case s/he finds a shirt s/he likes, s/he buys it.’

The fact that an indicative relative description can be interpreted in the embedded model ( $M_B(\text{speaker})'$ ) indicates that there exists a non-negligible asymmetry between the interpretation of propositions and descriptions in indicative conditionals. This is expected under the view that propositions stand for worlds and descriptions for properties of individuals in those worlds. The ultimate consequences of this asymmetry remain to be explored at this point.

An indicative relative appearing in a conditional antecedent as in (41) can ambiguously point to the default model of the speaker  $M_E(\text{speaker})$  or to the subset thereof determined by the protasis  $M_E(\text{speaker})' \subset M_E(\text{speaker})$ : in the first case it determines a referential/wide-scope reading of the antecedent, while in the second case it leads to an attributive/narrow-scope interpretation where the denotation of the description varies across the worlds quantified over by GEN in this case (see (41')).

- (41') a. [a shirt s/he likes]  $M_E(\text{speaker})$  *referential/wide-scope*  
 b. [a shirt s/he likes]  $M_E(\text{speaker})' \subset M_E(\text{speaker})$  *attributive/narrow-scope*

These facts cannot be captured in a purely scopal account of mood contrasts or with the *realis/irrealis* characterization of indicative/subjunctive contrasts. The correct analysis requires reference to the operation on models effected by conditional sentences, which comes for free under the approach to mood shift as a reflection of model shift.

The possibility for an indicative relative to be interpreted in the embedded model remains restricted to conditional and conditional-like environments. This limitation is empirically confirmed, for instance, by the inappropriateness of an indicative relative modifying a bare object of a strong intensional predicate, as in (42). Its ill-formedness must be ascribed to the conflicting requirements of the evaluations of the descriptive conditions provided by the head noun and the indicative relative: the former must be evaluated in the embedded model,<sup>24</sup> whereas the latter is evaluated in the epistemic model of the speaker (see (43)). This is in contradiction with the requirement that the descriptive conditions on a single variable be evaluated in the same model (Quer 1998), therefore the structure results in ungrammaticality.

- (42) \**Per a aquest viatge vol [camises [que no*  
 for this trip want.IND.3SG shirts that not  
*s'arruguen]]*  
 wrinkle.IND.PRS.3PL  
 ('For this trip s/he wants shirts that do not wrinkle.')

- (43) \**[ [shirts]  $M_{Bul}(s/he)$  [that do not wrinkle]  $M_E(\text{speaker})$  ]*

The mood distribution in relatives modifying a free choice item (FCI) like *qual-sevol* 'any(one)' provides further support for the analysis put forth here. The initial paradigm to look at is the one in (44), where we witness that the FCI is only licensed if modified by a subjunctive relative.

24. Cf. also Farkas (1997) on the scope limitations of bare plurals.

- (44) a. *Presenta'm* [qualsevol [que hagi  
introduce.IMPER.SG-me anyone that have.SUB.3SG  
*fet una sol.licitud*]] [FCI+SR]  
made an application  
'Introduce to me anyone who has (SUB) made an application.'
- b. \**Presenta'm* [qualsevol [que ha  
introduce.IMPER.SG-me anyone that have.IND.3SG  
*fet una sol.licitud*]] \*[FCI+IR]  
made an application  
('Introduce to me anyone who has (IND) made an application.')

The explanation for the contrast lies in the inherent lexical semantics of FCIs. FCIs like Catalan *qualsevol* have been characterized by Giannakidou (1997b) as indefinites that lexically encode attributivity and thus impose a requirement of variation upon the context of appearance. They are only felicitous in non-veridical environments that guarantee variation in the denotation of the description, so that different individuals can be picked out as a referent for the description across the worlds of the modal base.<sup>25</sup> In our case, the FCI *qualsevol* must be licensed in the embedded model of future buletic alternatives contributed by the imperative. This requirement is satisfied by the subjunctive relative in (44a), which is also interpreted in the embedded model, but not by the indicative relative in (44), which would require evaluation in the epistemic model of the speaker (or the epistemic model of the hearer), thus violating the condition of uniform model evaluation of descriptive conditions on the same DP.

In view of this situation, the interesting prediction is that an indicative relative modifying a FCI should be possible in conditional and conditional-like environments, because those are the contexts where indicative relatives can yield attributive readings. The prediction is actually borne out, as the examples in (45) make clear: indicative relatives modifying a FCI yield a grammatical result in a conditional antecedent (see (45a)) or in a present generic environment (see (45b)).

- (45) a. *Si rep qualsevol paquet que li*  
if receive.3SG any parcel that him/her  
*sembla sospitós, el retorna*  
seem.IND.3SG suspicious it return.3SG  
'If s/he receives any parcel that seems suspicious to him/her, s/he returns it.'

25. Licensing environments for FCIs include future tense, imperative, antecedent of conditionals, generic sentences, modals, etc. (cf. Bosque 1996, Giannakidou 1997a, b). The environments where FCIs do not get licensed are episodic and progressive tenses, which anti-license FCIs in the sense of Giannakidou (1997a, b, c), by virtue of their veridical character.



- b. *Retorna qualsevol paquet que li sembla*  
 return.3SG any parcel that him/her seem.IND.3SG  
*sospitós*  
 suspicious  
 ‘S/he returns any parcel that seems suspicious to him/her.’

These observations confirm that indicative relatives are not incompatible with attributive, narrow-scope or non-specific readings, an unexpected result under both the *realis/irrealis* approach and the scopal account of mood distribution. However, it is fully justified from the point of view that mood constitutes the overt marking of the flow of evaluation models in the context.

#### 4.3. Complements to causative and implicative predicates

Causative and implicative predicates taking a finite complement always require subjunctive, although the truth of the embedded proposition is entailed and there is no intensional element with respect to which subjunctive morphology can take narrow scope (see (46)). They cannot be viewed as intensional predicates in any obvious sense.

- (46) *Fas que {marxi/\*marxa} abans d'hora*  
 make.2SG that leave.SUB/IND.PRS.3SG before of-time  
 ‘You make her/him leave earlier.’

Although their complements are evaluated as true in the epistemic model of the speaker, the embedding predicates lexically entail a model of type  $M_{\text{Bul}}(x)$  too, which is linked to the causative component of the meaning. Causation involves a model of buletic alternatives anchored to the referent of the subject of the causative predicate. This constituent part of the meaning of causative and implicative predicates is what must be held responsible on the one hand for the appearance of subjunctive (model shift), and on the other hand, for the opacity effects they give rise to. For instance, the subjunctive relative in the complement clause of (47) constitutes an opaque description which must be interpreted not in the epistemic model of the speaker, but rather in the lexically entailed model of future alternatives anchored to the matrix subject ( $M_{\text{Bul}}(\text{they})$ ) and linked to the causative component of the predicate.<sup>26</sup> Still, the whole DP entails the existence of a referent in  $M_E(\text{speaker})$ .

26. Another clear proof of the existence of such a lexically entailed model  $M_{\text{Bul}}(x)$  is offered by the observation that FCIs like *qualsevol* ‘any(one)’ are licensed in the complement clause of causative and implicative predicates in Catalan, as in (i). This is an unexpected result if the only model at play were the epistemic model of the speaker  $M_E(\text{speaker})$ , because it is clearly veridical and as such it does not license the appearance of FCIs (cf. Giannakidou 1997b, 1998).

- (47) *Van aconseguir [que sortís un candidat*  
 AUX.3PL to-manage that come-out.SUB.3SG a candidate  
*[que defensés els seus interessos]]*  
 that defend.SUB.PST.3SG the their interests  
 'They managed for a candidate to come out that would defend their interests.'

Mood shift to subjunctive in the complement clause of causative and implicative predicates must be tied to model shift to  $M_{\text{Bul}}(\text{they})$ . As in the case of strong intensional predicates, strict selection of subjunctive by causative/implicative predicates is viewed as a consequence of the model shift that such predicates trigger due to their lexical semantics.

#### 4.4. Factive-emotives

A relatively high degree of variability in mood selection is attested both intralinguistically and across different Romance varieties with factive-emotive predicates. A striking case is the contrast in (48), where the acceptability of indicative under the same predicate changes with the matrix tense.

- (48) a. *Em va agradar que em*  
 me AUX.3SG to-please that me  
*{truqués/?va trucar} de seguida*  
*{call.SUB.3SG/AUX.IND.3SG to-call} immediately*  
 'I liked it that s/he called me immediately.'
- b. *M'agrada que em {truquin/\*van*  
 me-please.3SG that me {call.SUB.3PL/AUX.IND.3PL  
*trucar} de seguida*  
*to-call} immediately*  
 'I like it if they call me immediately/that they called me immediately.'

When indicative is an option, the factive-emotive predicate yields an assertive reading which is absent with a subjunctive argument clause: whereas the embedded proposition is presented as old information in (49a) and the assertion is

- 
- (i) *Va fer que posés a la venda qualsevol dels*  
 AUX.3SG to-make that put.SUB.PST.3SG to the sale any of-the  
*seus quadres recents*  
 his/her paintings recent  
 'S/he made him/her put any of his/her recent paintings on sale.'

Therefore, I claim that the felicity of the free choice item in (i) is due to the role played by  $M_{\text{Bul}}(x)$  in the interpretation of the complement clause.

limited to the main predicate, in (49b) both the matrix and the subordinate clause are asserted. This is most natural when the assertive character of the predicate is straightforward (cf. *queixar-se* ‘to complain’ in (49) vs. *agradar* ‘to please’ in (48)).

- (49) a. *Es queixava que li posessin males notes*  
 REFL complain.IMPF.3SG that her/him put.SUB.IMPF.3PL  
 bad marks  
 ‘S/he complained that they gave her/him bad marks.’
- b. *Es queixava que li posaven males notes*  
 REFL complain.IMPF.3SG that her/him put.IND.PST.3PL  
 bad marks  
 ‘S/he complained that they gave her/him bad marks.’

That the embedded proposition is presented as presupposed material in case the clause is subjunctive becomes apparent if we continue the utterance with an assertion that contradicts such presupposition: (50) is a felicitous continuation of (49b), but a totally infelicitous one for (49a). Notice that this means that the complement is not interpreted factively if it is indicative, as in (49b).

- (50) ... *però no tenia raó: sempre li posaven notes raonables.*  
 ‘... but s/he wasn’t right: they always gave her/him reasonable marks.’

This mood alternation cannot be argued to be an instance of vagueness of the main predicate, as coordination of an indicative and a subjunctive complement clause gives an ungrammatical structure (see (51)):

- (51) \**Es queixava que li posessin males notes i que la renyaven*  
 REFL complain.IMPF.3SG that her/him put.SUB.PST.3PL bad  
 marks and that her scold.IND.IMPF.3PL  
 (‘She complained that they gave her bad marks and would scold her.’)

I would like to propose that the explanation for the selection of subjunctive by factive-emotives must be sought in their alleged lexical ‘factivity’, or even more precisely, in the fact that these predication express a causal link between an eventuality (realized by a subject or object clause) and a psychological state resulting from that eventuality. That the eventuality at hand is not always interpreted factively becomes clear from the assertive occurrences identified by the indicative (see (49b)), as well as from the quantificational readings in non-episodic contexts (see (48b) and the discussion below).

The appearance of subjunctive with factive-emotives should not be ascribed to some notion of ‘subjectivity’ underlying the expression of emotions or to their

evaluative character (*contra* Farkas 1992, 1999): purely evaluative predications take the indicative without any trouble, as attested in (52).

- (52) *Llàstima que no van arribar a l'hora*  
 pity that not AUX.IND.3PL to-arrive on time  
 'Pity they did not arrive on time.'

I will argue that two different factors may determine the presence of subjunctive with factive-emotives: (a) the causative component of the predication in quantificational contexts; or (b) the old information character of the embedded proposition.

In non-episodic contexts, the interpretation we obtain is quantificational, conditional-like in the sense that the embedded clause contributes the restriction of an operator like GEN or a Q-adverb.<sup>27</sup> The general interpretive pattern would boil down to the following paraphrase: 'Normally, if a certain eventuality holds, a certain psychological state follows.' Model shift to subjunctive is of the same type as the one that triggers subjunctive in conditional antecedents (see fn. 23; cf. Lewis (1973) for the view that causation implies counterfactual reasoning). Obviously, the embedded proposition is not interpreted factively in these instances.

In episodic contexts, the quantificational, conditional-like reading is absent and we obtain a purely factive interpretation. In this case model shift reduces to identification of the embedded proposition as part of the common ground (see 4.1), that is the informational state shared by the illocutionary agents in the context at the point when the psychological predication is asserted: the embedded proposition is thus presupposed, hence the label 'factive' attached to these predicates.

This partition of the empirical problems and their explanations is confirmed in languages like Romanian that do not mark model shift to the common ground overtly, thus displaying indicative with factive-emotives in the default case, as in (53):

- (53) *Maria regretă că Paul a plecat*  
 Maria regret.3SG that Paul has.IND.3SG left  
 'Maria regrets that Paul has left.'

If there is conditional interpretation, though, the complement clause is subjunctive (from Farkas 1992: 102), as exemplified in (54):

- (54) *Ar fi păcat să pierdem sansa asta*  
 COND.3SG be pity SUB lose.1SG chance this  
 'It would be a pity to lose this chance.'

27. See Quer (1999) for an analysis of these cases which are argued to be instances of non-logical *if* clauses (cf. Williams 1974, Pesetsky 1991).

Factive-emotive predicates can be said to instantiate examples of model shift that, despite not being lexically determined, rely on their lexical properties, specifically in the causal link expressed by the psychological predication.

## 5. Conclusion

The proposal that mood constitutes the overt marking of information about model interpretation turns out to be capable of providing a unified theory of mood distribution in all subordinated domains, as long as the different factors that determine model flow are identified. Those factors range from lexical meaning of embedding predicates to complex notions like conditional interpretation or concessivity that have an impact on the relevant model for evaluation. A dynamic view of meaning that makes crucial use of models relativized to a context and to individuals, which is independently needed for semantic interpretation, proves to be the correct framework for the analysis of mood distribution. Further inquiry into the interplay between model information marked by mood and other semantic phenomena should shed light on some long-standing issues in semantic theory.

*Universiteit van Amsterdam*

## References

- Bosque, Ignacio (1996). La polaridad modal. Ms., Universidad Complutense de Madrid.
- Brugger, Gerhard and Mario D'Angelo. (1994). Aspect and tense at LF: The Italian present perfect. Ms., Università di Venezia.
- (1995). Movement at LF triggered by mood and tense. *Folia Linguistica* XXIX: 195–221.
- Condoravdi, Cleo (1994). Descriptions in context. Doctoral dissertation, Yale University.
- Dayal, Veneeta (1997). Free relatives and *ever*: identity and free choice readings. Ms., Rutgers University.
- Donnellan, Keith S. (1966). Reference and Definite Descriptions. *Philosophical Review* 75: 281–304.
- Farkas, Donka (1982). *Intensionality and Romance Subjunctive Relatives*. Bloomington: IULC.
- (1992). On the semantics of subjunctive complements. In *Romance Languages and Modern Linguistic Theory*, eds. P. Hirschbühler and K. Koerner, 69–104. Amsterdam/Philadelphia: John Benjamins.
- (1993). Modal anchoring and NP scope. Ms., UCSC.
- (1997). Evaluation indices and scope. In *Ways of Scope Taking*, ed. A. Szabolcsi, 183–215. Dordrecht: Kluwer.
- (1999). The Semantics of Complementation: Belief vs. Want. Talks delivered at the Universitat Autònoma de Barcelona, 7–11 June 1999. Forthcoming ms. UCSC.
- von Stechow, Kai (1993). Adverbs of quantification, conditionals, and presupposition accommodation. In *Proceedings of WCCFL 11*, ed. Jonathan Mead, 510–524. Stanford: CSLI.
- (1994). Restrictions on quantifier domains. Doctoral dissertation, University of Massachusetts at Amherst.
- (1998). The presupposition of subjunctive conditionals. In *The Interpretive Tract (MIT Working Papers in Linguistics 25)*, ed. Uli Sauerland and Orin Percus, 29–45. Cambridge, Mass: MITWPL.

- Giannakidou, Anastasia (1994). The semantic licensing of NPIs and the modern Greek subjunctive. In *Language and Cognition 4, Yearbook of the Research Group for Theoretical and Experimental Linguistics* 4, 55–68. Groningen: University of Groningen.
- (1995). Subjunctive, habituality and negative polarity items. In *Proceedings of SALT V*, eds. M. Simons & Teresa Galloway, 94–111. Ithaca: Cornell University.
- (1997a). The landscape of polarity items. Doctoral dissertation, Rijksuniversiteit Groningen.
- (1997b). Linking sensitivity to limited distribution: The case of free choice. In *Proceedings of the 11th Amsterdam Colloquium*, eds. Paul Dekker et al., 139–144. Amsterdam: ILLC/Department of Philosophy, University of Amsterdam.
- (1997c). Competing constraints on limited distribution: Polarity sensitive and free choice items. Ms., ILLC/Department of Philosophy, University of Amsterdam.
- (1998). *Polarity Sensitivity as (Non)Veridical Dependency*. Amsterdam/Philadelphia: John Benjamins.
- Giorgi, Alessandra and Fabio Pianesi. (1997). *Tense and Aspect: From Semantics to Morphosyntax*. Oxford: Oxford University Press.
- Haspelmath, Martin and Ekkehard König (1998). Concessive conditionals in the languages of Europe. In *Adverbial Constructions in the Languages of Europe*, ed. Johan van der Auwera, 563–640. Berlin: Mouton de Gruyter.
- Heim, Irene (1982). The semantics of definite and indefinite noun phrases. Doctoral dissertation, University of Massachusetts/Amherst.
- (1992). Presupposition projection and the semantics of attitude verbs. *Journal of Semantics* 9: 183–221.
- Higginbotham, James (1991). Either/or. In *Proceedings of NELS 21*, ed. T. Sherer, 143–155. Amherst, Mass.: GLSA Publications.
- Kadmon, Nirit and Fred Landman. (1993). Any. *Linguistics and Philosophy* 16: 353–442.
- Kampers-Manhe, Brigitte (1991). L'opposition subjonctif/indicatif dans les relatives. Doctoral dissertation, Rijksuniversiteit Groningen.
- Kiefer, Ferenc (1994). Modality. In *The Encyclopedia of Language and Linguistics*, ed. Ronald E. Asher, 2515–2520. Oxford: Pergamon Press.
- König, Ekkehard (1986). Conditional, concessive conditionals and concessives: Areas of contrast, overlap and neutralization. In *On Conditionals*, eds. Elizabeth C. Traugott et al., 229–246. Cambridge: Cambridge University Press.
- Kratzer, Angelika (1981). The notional category of modality. In *Words, Worlds, and Contexts: New Approaches to Word Semantics*, eds. Hans-Jürgen Eikmeyer and Hannes Rieser, 38–74. Berlin: De Gruyter.
- (1986). Conditionals. In *Papers from the Parasession on Pragmatics and Grammatical Theory*, 1–15. Chicago: Chicago Linguistic Society.
- (1991). Modality. In *Semantics. An International Handbook of Contemporary Research*, eds. Arnim von Stechow and Dieter Wunderlich, 639–650. Berlin/New York: de Gruyter.
- (1995). Stage-level and individual-level predicates. In *The Generic Book*, eds. Gregory N. Carlson and Francis J. Pelletier, 125–175. Chicago: The University of Chicago Press.
- Krifka, Manfred et al. (1995). Genericity: An introduction. In *The Generic Book*, eds. Gregory N. Carlson and Francis J. Pelletier, 1–124. Chicago: The University of Chicago Press.
- Laka, Itziar (1990). Negation in syntax: The nature of functional categories and projections. Doctoral dissertation, MIT, Cambridge, Mass.
- 1992. Sobre el subjuntivo. Ms. University of Rochester & Euskal Herriko Unibertsitatea.
- Larson, Richard (1985). On the syntax of disjunction scope. *Natural Language and Linguistic Theory* 3: 217–265.
- Levinson, Stephen C. (1983). *Pragmatics*. Cambridge: Cambridge University Press.
- Lewis, David (1973). *Counterfactuals*. Cambridge, Mass.: Harvard University Press.
- (1975). Adverbs of quantification. In *Formal Semantics of Natural Language*, ed. Ed Keenan, 3–15. Cambridge: Cambridge University Press.
- McCawley, James D. (1981). *Everything that Linguists Have Always Wanted to Know about Logic but Were Ashamed to Ask*. Chicago: The University of Chicago Press.

- Pesetsky, David (1991). Zero syntax, part II. Ms., MIT, Cambridge, Mass.
- Portner, Paul (1997). The semantics of mood, complementation, and conversational force. *Natural Language Semantics* 5: 167–212.
- Quer, Josep (1998). Mood at the interface. Doctoral dissertation, UiL OTS/ Universiteit Utrecht. Published by Holland Academic Graphics, The Hague.
- (1999). Non-logical *if*. Ms., Universitat Autònoma de Barcelona.
- Rivero, María L. (1975). Referential properties of Spanish noun phrases. *Language* 51: 32–48.
- (1977a). Specificity and existence: A reply. *Language* 53: 70–85.
- (1977b). *Estudios de gramática generativa del español*. Madrid: Cátedra.
- Roberts, Craige (1990). *Modal Subordination, Anaphora, and Distributivity*. New York/London: Garland.
- Rouchota, Villy (1994). The semantics and pragmatics of the subjunctive in modern Greek: A relevance-theoretic approach. Doctoral dissertation, UCL.
- Saltarelli, Mario (1974). Reference and mood in Italian. In *Linguistic Studies in Romance Languages. Proceedings of the Third Linguistic Symposium on Romance Languages*, eds. R. Joe Campbell et al., 203–218. Washington D.C.: Georgetown University Press.
- Stalnaker, Robert C. (1978). Assertion. In *Syntax and Semantics 9: Pragmatics*, ed. P. Cole, 315–322. New York: Academic Press.
- Stowell, Tim (1993). Syntax of tense. Ms., UCLA.
- Uribe-Etxebarria, Myriam (1994). Interface licensing conditions on NPIs: A theory of polarity and tense interactions. Doctoral dissertation, University of Connecticut.
- Veloudis, Jannis (1983/84). I ipotaktikí stis anaforikés protásis. *Glossologia* 2–3: 111–135.
- Wandruszka, Ulrich (1991). Frase subordinate al congiuntivo. In *Grande grammatica italiana di consultazione Vol. II*, eds. Lorenzo Renzi and Giampaolo Salvi, 415–481. Bologna: Il Mulino.
- Williams, Edwin (1974). Rule ordering in syntax. Doctoral dissertation, MIT, Cambridge, Mass.