

# THE COMPLEMENTARY DISTRIBUTION OF THE SUBJUNCTIVE AND THE INFINITIVE IN COMPLEMENT CLAUSES

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The purpose of this study is to give a global explanation of the complementary distribution of complement clauses in subjunctive and infinitive form. The analysis that I propose for these facts not only involves the inflectional constituents of the matrix clause and its subordinate clause, but crucially, the position C (=Comp). Furthermore, close examination of complement clauses which contain a verb in the subjunctive mood demonstrates that an identical verbal morphology conceals, in fact, two different syntactic manifestations. The origin of this phenomenon is at D-structure, where the semantic information that determines whether or not a particular verb can subcategorize for a clause with a verb in the subjunctive is provided to the lexical entries of verbs. I will consider Catalan as representative of a language which allows subcategorization for both subjunctive and infinitival clauses, and modern Greek as representative of a language which allows subcategorization of a subjunctive clause but lacks the possibility for subcategorization of an infinitival clause.

## 1. The Subjunctive, Epistemic Modality and C

### 1.1. *A Question of Modality*

Lyons (1977) establishes a distinction between two types of phrasal modality:

- (a) Espistemic modality, "...which is concerned with matters of knowledge, belief, [...], opinion rather than fact."

(b) Deontic modality, "...which is concerned with the necessity or possibility of acts performed by morally responsible agents."

Lyons proposes the concept of *factive/non-factive* as the principal feature of epistemic modality. Consider the examples in (1), which must be treated in terms of modality because the appearance of the respective elements *may*, *perhaps*, or *it is possible* makes them *non-factives*.

(1) a. He *may* have gone to Paris.  
b. *Perhaps* he went to Paris.  
c. *It is possible* that he went to Paris.

A strictly factual statement, in contrast, is not epistemically modal.<sup>1</sup>

In a discussion of the Spanish subjunctive, Lavandera (1983) asserts that sentences with a verb in the subjunctive mood "do not refer to states or events whose occurrence is questionable, or just feared, wished, doubted, etc., but to 'states of affairs' whose occurrence could easily be denied or affirmed, but is instead left unasserted." In other words, the suggestion is that a sentence in the subjunctive is *non-factive*, or in Lavandera's terminology, [-assertive]. The concept, while not new, has been interpreted in different ways. Traditionally, the subjunctive has been considered the *irrealis* mood, or the mood of subjectivity.

The subjunctive, however, is not the only structure in which a non-factive sentence may appear. A clause headed by a wh-element, for example, is also non-factive. In light of this suggestion, note that examples (a) of (2) are respectively synonymous with examples (b) of

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<sup>1</sup> The concept denoted by the term *factive* has been applied to cover various different meanings. I assume a different concept of *factive* than that assumed, for example, by Kiparsky and Kiparsky (1971), which my claims about the subjunctive will clarify.

(2).<sup>2</sup> The difference is that the (a) examples contain a wh-element in initial position, and the (b) examples a verb in the subjunctive.<sup>3</sup>

(2) a. Em sap greu si arribes tard.

1sgDat tastes grave if arrive-2sg late

'I'm sorry if you arrive late.'

b. Em sap greu que arribis tard.

1sgDat tastes grave that arrive-2sg-SUBJ-PRES late

'I'm sorry that you arrive late.'

a. ' T'importa si fumo?

2sgDat-matters if smoke-1sg

'Do you mind if I smoke?'

b. ' T'importa que fumi?

2sgDat-matters that smoke-1sg-SUBJ-PRES

'Do you mind if I smoke?'

Subcategorization for a non-factive subordinate clause is generally a lexical property of verbs. Of course, the subcategorization requirement can be satisfied formally by one of the two options described above for non-factivity or by both. As seen in the examples below, the (3a) sentences containing verbs of the type *afirmar* allow only factive clauses, while those of (3b) require clauses with a wh-element and those of (3c) realize non-factivity with either a wh-element, (3c"), or a form of the subjunctive (3c').

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<sup>2</sup> Examples headed by *si* seem to have a more hypothetical shade of meaning.

<sup>3</sup> *Si* is a wh-element of unspecified modality. See Rigau (1984).

(3) a. Afirmo que ha vingut.  
assert-1sg that has come  
'I assert that he has come.'

a'. \*Afirmo que vingui.  
assert-1sg that come-3sg-SUBJ-PRES  
'I assert that he should come.'

a''. \*Afirmo si ve.  
assert-1sg if comes  
'I assert if he comes'

b. \*Pregunto que ha vingut.  
ask-1sg that has come  
'I ask that he has come.'

b'. \*Pregunto que vingui.  
ask-1sg that come-3sg-SUBJ-PRES  
'I ask that he comes.'

b''. Pregunto si ve.  
ask-1sg if comes  
'I ask if he is coming.'

c. \*Demano que ha vingut.  
request-1sg that has come  
'I request that he has come.'

c'. Demano que vingui.  
request-1sg that come-3sg-SUBJ-PRES  
'I request that he comes.'

c''. Demano si ve.  
request-1sg if comes  
'I request if he comes.'

## 1.2. *The Naturalness of the Subjunctive*

Chomsky (1986b) defines clausal structure as below (irrelevant details omitted).

(4) {CP [IP NP [I' Infl VP]]]

The constituent Infl, identified as the head of the phrase, is composed of the constituents Agr, for agreement, and Tense. Picallo (1984, 1985a) claims that the constituent Infl, when subjunctive, is characterized by having inflectional Agr elements but no Tense elements of its own. In other words, a subjunctive Infl has the features [+Agr, -Tense]. The morphological marking of a subjunctive verb's tensc, according to Picallo, depends on the Tense constituent of the matrix clause's Infl. Thus, as shown by the sentences in (5), the subjunctive's option for [+Past] or [-Past] is restricted by the specification that appears in the principal predicate (5a, b). In contrast, a subordinate clause in the indicative lacks such a restriction. The Infl of a subordinate clause in the indicative may vary freely in what concerns Tense (5c).

(5) a. Desitja que porti/hagi portat/\*portés/\*hagués portat un llibre.  
desires that bring-3sg-SUBJ-PRES/have-3sg-SUBJ-PRES brought/bring-3sg-SUBJ-PAST/have-3sg-SUBJ-PAST brought a book

b. Desitjà que \*porti/\*hagi portat/portés/hagués portat un llibre.  
desired that bring-3sg-SUBJ-PRES/have-3sg-SUBJ-PRES brought/bring-3sg-SUBJ-PAST/have-3sg-SUBJ-PAST brought a book

c. Sap que porta/ha portat/portava/havia portat/va portar/portarà/portaria/hauria portat un llibre.  
knows that brings/has brought/brought-3sg/had brought/PAST-3sg bring/bring-3sg-FUT/bring-3sg-COND/have-3sg-COND brought a book

In keeping with this claim, the structural difference between an indicative Infl, a subjunctive and an infinitive is expressed as in (6).

- (6) Infl indicative [+Tense, +Agr]
- Infl subjunctive [-Tense, +Agr}
- Infl infinitive [-Tense, -Agr]

These structural characterizations, however, must be made more precise. Consider first the subjunctive. With a verb such as *desitjar*, the complement clause, which forms part of the verb's subcategorization frame, appears in fact to carry a [-Tense] Infl. If the complement clause relates to the subject (superficially at least), however, the situation changes. According to Chomsky's (1981) Extended Projection Principle, the subject is not part of the subcategorization of the verb, but rather an additional requirement. The subjunctive Infl of this type of clause, in fact, is [+Tense], as the examples in (7) demonstrate:

- (7) Em sap greu que hagi portat/vagi portar/porti/portés/hagués portat/vagi haver portat un llibre.  
'I am sorry that he/she has brought/brought/brings/should bring/had brought/had brought a book.'

With respect to these facts, for the preliminary hypothesis I will assume two types of subjunctive: the subjunctive 1 (S1), represented by embedded clauses in sentences with matrix verbs such as *desitjar*, as in (5a ,b), and the subjunctive 2 (S2), represented by examples such as (7). Despite apparent semantic interferences, the difference between (S1) and (S2) is in fact syntactic, not semantic. I will return to this question in section 2.

### 1.3. *About the position C*

The data above show that a non-factive subordinate clause can be headed by a wh-element, which according to the general assumption, moves to the specifier position of C. Suppose that this part of clausal structure is represented as in (8) (see Chomsky (1986a, b)).

- (8) [CP [Spec WH] [C: [C que] IP]]

Henceforth, I refer indiscriminately to the position that the conjunction *que* occupies as C or Comp, and I reserve the complete term *complementizer* for the conjunction.

Is it also possible that a subjunctive clause assumes a prominent position, as in the case of clauses with a wh-element? This scenario in fact occurs crosslinguistically with regard to the position C. Languages exist, for example, in which the complementizer assumes a different form depending upon if the verb is in the subjunctive or indicative. Modern Greek and Romanian exemplify such a case:

(9) *Greek:*

- a. léi pos érçete o jánis.<sup>4</sup>  
says that comes the John  
'He says that John is coming.'
- b. Léi na erθi o jánis.  
says that come-3sg-SUBJ-PRES the John  
'He says that John should come.'

*Romanian*

- c. Zice că vine.  
says that comes  
'He says that he is coming.'
- d. Zice să vină.  
says that come-3sg-SUBJ-PRES  
'He says that he should come.'

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<sup>4</sup> For the Greek examples, I use a broad phonetic transcription that does not take into account the openness of the e's and the o's, the optional palatalizations of the / before n, or assimilation beyond the border of the word. The sign r represents the alveolar flap. To avoid unnecessary complexity, I use the standard symbols in writing for the pause (,), the question (?) and the exclamation (!).

In light of these examples, it could be assumed that a clause with a verb in the subjunctive marks its C with a given feature. As a clarification, I will assume that this marking is an indexation of the position C. As the examples in (9) show, the indexation can be evident on the surface in some languages. The null assumption is that in languages in which the indexation is not overtly manifested, it and its syntactic effects are still present. The purpose of the next sections will be to argue in favor of this null hypothesis.<sup>5</sup>

Furthermore, the issues even in Greek and Romanian are more complex than they seem at first glance. The traditional treatment of the particles (*na* in Greek, *să* in Romanian) considers them to play two different roles. These roles are first as a conjunction and, as such, complementizer, and second as a "subjunctive markers" and, as such, an element with the possibility of belonging to Infl, in the terminology of current generative-transformational grammar.<sup>6</sup> My analysis is intended to reconcile these two different treatments of the particles.

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<sup>5</sup> It would be desirable to be able to unify both types of non-factives under a single characterization for C as in (i).

(i) A non-factive clause must have a non-factive C.

In this case the wh-criterion formulated by May (1985) would be secondary to this more general principle. Naturally, if this principle is accepted, the determination of when a non-factive clause has to contain a verb in the subjunctive and when it has to be a clause with a wh-element would have to be derived from other principles and mechanisms of the grammar, and would affect in an essential way the characterization of the lexicon. I will not pursue this idea.

<sup>6</sup> See, for example, *Neoelliniki grammataki* (1987).

## 2. Characterization and Classification of the Subjunctive

### 2.1. S1 and S2

In section 1 I divided the subjunctive into two categories, S1 and S2, under the assumption that, within the subjunctive, there exist two different manifestations of epistemic modality distinguished only by their syntactic effects.

With respect to determining the members of the two different categories, the question is which class of verbs require S1, and which take or may take a subordinate clause with a verb in S2? In principle, the classification seems to be the following:

a) Verbs such as *voler* ('to want'), *desitjar* ('to desire'), *anhelar* ('to long for'), *esperar* ('to hope'), and so on, the so-called verbs of choice, which take a subordinate clause with the verb in S1.<sup>7</sup> Such verbs express desire or hope. Furthermore, the verb *poder* ('to be able'), which in Catalan is vacuously a verb of choice in that it always requires an infinitive, which, in contrast, is not so in languages such as Greek.<sup>8</sup>

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<sup>7</sup> In fact, the group also includes verbs such as *intentar* ('to try') and expressions such as *tenir l'esperança / el desig que* ('have the hope/the wish that'), *tenir ganes que* ('to have desires that'). In contrast, the restrictions on tense usage and on the possibility of the main and subordinate Agr coinciding, which occurs with verbs such as *manar* ('to rule'), *ordenar* ('to order'), appears to be a consequence of semantic factors. From this perspective, note that in Portuguese the inflected infinitive can appear with verbs such as *mandar* ('to rule'), but not with verbs such as *querer* ('to want'). I explain this dichotomy below.

<sup>8</sup> Consider the variation illustrated by (i) and (ii):

- (i)     Ha volgut que us diguéssim la veritat.  
has wanted that 2plDat tell-1pl-SUBJ-PAST the truth  
'He wanted that we told you the truth.'
- (ii)    Ha volgut que us diguem la veritat  
has wanted that 2plDat tell-1pl-SUBJ-PRES the truth  
'He wanted that we tell you the truth.'

b) A given series of verbs take an S2 subjunctive clause, which appears at S-structure in some cases as the subject, and in a limited number of cases, as the subcategorized object. These verbs are as follows:

(i) Raising verbs functioning as copulative verbs: *ser* ('to be'), *señalar* ('to seem'), *resultar* ('to result')...

(ii) Psych-verbs: *preocupar* ('to worry'), *interesar* ('to interest'), *espantar* ('to frighten'), and so on. According to Belletti and Rizzi (1986), these verbs also have derived subjects, and as such, are similar to raising verbs. Note also that verbs such as *temer* ('to fear') also require a verb in S2, although the subordinate clause is subcategorized, so they are also included in this group. Finally, the verbs *lamentar* ('to regret'), *sentir* ('to be sorry') and so forth are also members of this group.

(iii) Other verbs that subcategorize for a complement clause as object such as *admettre* ('to admit'), *aceptar* ('to accept'), *perdonar* ('to forgive'), *entendre* ('to understand')...

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The variation between (i) and (ii) is one rather of aspect than of tense. Example (i) has a perfective nuance that (ii) does not. (i) can be lengthened to ...*i per això us l'hem dita* ('and because of that we told it to you'), while (ii) can be lengthened to ...*i per això ara us la direm* ('and because of that now we will tell it to you'). Temporal systems of defective subjunctives exist, however, and one example occurs in modern French:

- (iii) Je veux que Jean vienne  
I want that Jean come-3sg-SUBJ-PRES
- (iv) Je voulais que Jean vienne  
I wanted that Jean come-3sg-SUBJ-PRES

This case is not really an exception to the verbs of choice. In the absence of a [+Past] subjunctive form without a perfective nuance, the present subjunctive takes the place of the past subjunctive by means of the neutralization of the [+Past] specification. Similar restrictions occur in Romanian. The imperfect indicative and subjunctive forms are not used. Furthermore, the usage of the historic past corresponding to the perfect indicative form is rather restricted, and its usage in a matrix clause can imply the use of the present subjunctive in the embedded clause.

(iv) Verbs such as *creure* ('to believe'), *dir* ('to say'), *afirmar* ('to assert'), *saber* ('to know'), *pensar* ('to think'), *imaginar* ('to imagine'), *veure* ('to see'), *predicar* ('to predict'), *suposar* ('to suppose') and so on, which as assertive verbs, subcategorize for a clause in the indicative, but as negatives, can subcategorize for a clause in the subjunctive.

To proceed further with the analysis, I provide below a summary of the respective properties of the two different classes of subjunctive, S1 and S2:

α) As mentioned above, S1 depends temporally on the Tense of the matrix clause, but S2 does not (see examples (5) and (7)). We can therefore consider S1 as [-Tense] and S2 as [+Tense].

β) In a language like Catalan, the subject of the main and subordinate clause may not be coreferent in an S1 structure, as shown in example (10a), but in an S2 structure, the subjects may be coreferent, as shown in examples (10b) and (10c):

(10) a. \*En Joan<sub>i</sub> desitja que *pro<sub>i</sub>* hi vagi.

the John desires that *pro* there go-3sg-SUB-PRES

'John desires that he goes there.'

b. En Joan<sub>i</sub> lamenta que *pro<sub>i</sub>* no tingui temps.

the John regrets that *pro* not have-3sg-SUBJ-PRES time

'John regrets that he does not have time.'

c. En Joan<sub>i</sub> tem que *pro<sub>i</sub>* no arribi tard.

the John fears that *pro* not arrive-3sg-SUBJ-PRES late

'John fears that he will arrive late.'

γ) To a certain extent, S2 can be substituted by the indicative depending on the kind of predicate that appears. This substitution occasionally occurs in conjunction with a morphological variation, such as in *creure's* ('to believe oneself') instead of *creure* ('to believe') or *témer-se* ('fear oneself') instead of *témer* ('to fear'), or with a quasi metalinguistic use or echo of what

has previously been said by another speaker, as seen in example (11). The interesting fact, however, is that these possibilities do not occur with S1, as shown by example (12):

(11) a. No em crec que tens raó, sinó que en fas l'efecte.  
not myself believe-1sg that have-2sg reason but that of-it make-2sg the-effect  
'I don't believe that you are right, but you give the appearance of it.'

b. Em temo que tens raó.  
myself fear-1sg that have-2sg reason  
'I fear that you are right.'

c. No accepto que tens raó, sinó que no se't pot contradir.  
not accept-1sg that have-2sg reason but that not one-2sgAcc can contradict  
'I don't accept that you are right, but that you can't be contradicted.'

(12) a. \*Desitjo que ho fas.  
desire-1sg that it do-2sg  
'I desire that you do it.'

b. \*No desitjo que ho fas, sinó que te'n vagis.  
not desire-1sg that it do-2sg but that you yourself-from-here go-2sg-SUBJ-PRES  
'I don't desire that you do it, but that you get out of here.'

The last feature ( $\gamma$ ) has the effect of making S2 more like the indicative than like S1. It is thus more understandable from an intuitive perspective that a negativized verb with an S2 requires a complement clause but an identical structure with a verb in S1 does not.

Based on the properties outlined here, it becomes clear that S1 is a much more unique case than S2. In other words, in terms of the theory of markedness, S1, as compared to S2, should be considered the *marked subjunctive*.

In establishing the information that lexical entries must contain, Chomsky (1986a) proposes *S-selection* (semantic selection), which specifies the theta roles of the complements that a given

word takes, and *C-selection* (categorial selection), which specifies the grammatical category to which the complements must belong. According to Chomsky, the grammatical category of a complement is the canonical structural realization (CSR) of the theta role that a given complement has, and that has been S-selected.

This concept appears in the two levels of *cooccurrence frames* proposed by Grimshaw (1979). In the first frame *selection* is checked at the level of semantic representation and refers to the relation between semantic classes and given semantic frames. In the second frame *subcategorization* is checked at the level of the syntax and refers to the relation between syntactic categories and subcategorization frames.

Abstracting away from certain considerations, we can suppose, following Chomsky, that the CSR of a concrete theta role which refers to the object of a verb, can be an NP or a CP. According to Grimshaw, the selection would specify that the NP could be a clause corresponding to CP. Chomsky extends this idea as far as to considering *clause* a theta role. In this work I will assume that CP is the CSR of the theta role of the subcategorized complement.

The indexation relations which guide the behavior of S1 and S2 are established at D-structure.<sup>9</sup> A subcategorized clause of a verb of choice has to satisfy certain selection conditions. Concretely, the Infl and the Comp of such a subcategorized clause must carry a given set of features permitting the indexation which I discuss in section 2.2. I treat the features of Infl and Comp in section 3.1.

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<sup>9</sup> Assuming a theta role classification similar to that of Gracia (1986), verbs of choice take complements that can be associated with the theta role *goal* more than with the theta role *theme*, which corresponds instead to complements of verbs which subcategorize for clauses with the verb in S2.

## 2.2. Indices

I have referred to indices and coindices until now without specifying exactly how I define the two concepts. Basically, I adopt a theory of restrictive indexation defined in the four points below:

- a) Each element  $\alpha$  with a bundle of features  $F = (f_1, f_2, \dots, f_n)$ , where  $n > 0$ , carries an index  $i$  that indicates that  $F \in \alpha$ .
- b) An element  $\alpha$  carries an empty index  $e$  ( $\alpha(e)$ ) if it is not specified for a bundle of features.
- c) The elements of a given set  $A = (\alpha_1, \alpha_2, \dots, \alpha_n)$ , where  $n > 1$ , are coindexed if and only if  $F \in \alpha_1, F \in \alpha_2, \dots, F \in \alpha_n$ , and there is no element  $\alpha_j$  for which  $F \in \alpha_j$  is not satisfied.
- d) An element  $\alpha$  transmits its index  $i$  to an element  $\beta$  if and only if  $\beta$  has an empty index ( $\beta(e)$ ) that is substituted by the index  $i$ . Transmission of an index results in coindexation.

As determined by (d), there can be no process of reindexation. In order for an element to share the features of another element, it may not contain its own specification of these same features. In other words, it can carry only an empty ( $e$ ) index. Only an element with an index  $e$  can receive an index  $i$  from another element, so that index transmission is understood as a substitution of the index  $e$  for the index  $i$ .

Above I claimed that a sentence containing a verb in the subjunctive generally marks its C with an index. I can now further clarify this marking. I will assume that a coindexation between the constituent Tense of the subordinate clause, which I will call Tense2, and C occurs. The coindexation takes place under *government*, a central subtheory within the theory of Government and Binding. In Chomsky (1986b), government is defined as follows:

$\alpha$  governs  $\beta$  if and only if  $\alpha$  m-commands  $\beta$  and every barrier for  $\beta$  dominates  $\alpha$ , where:

(i)  $\alpha$  c-commands  $\beta$  if and only if  $\alpha$  does not dominate  $\beta$  and every  $\gamma$  that dominates  $\alpha$  dominates  $\beta$ ;

(ii)  $\alpha$  m-commands  $\beta$  if and only if  $\alpha$  c-commands  $\beta$  and  $\gamma = XP$  (Aoun and Sportiche, 1983).

It could be said that the effect of this coindexation is to turn C into a kind of lighted indicator, that confirms that Tense2 is in the subjunctive.

If, however, the main clause contains a verb of choice, according to the indexation theory that I have adopted, Tense2 carries an empty index (Tense<sub>(e)</sub>). Thus, the coindexation that occurs has to involve three elements. In other words, the coindexation would also involve the Tense of the main clause, which I will call Tense1, in order to allow Tense1 to establish the temporal features that correspond to Tense2. The index  $i$  of Tense1 is therefore transmitted to C and to Tense2, which is possible only when the elements that receive the index have an empty index, as in this case.<sup>10</sup> Again this indexation falls under the theory of government.<sup>11</sup> The example below represents a syntactic structure which contains a subordinate clause with a verb in S1, not but with a verb in S2:

(13) [...[Tense1]<sub>i</sub>...[[C ...]<sub>i</sub>...[Tense2]<sub>i</sub>...]]<sup>12</sup>

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<sup>10</sup> I suggested above that coindexation infers that a group of features, F, are shared. In what concerns tense, C has no morphemes corresponding to the morphemes of the verbal inflection that fall under the term Tense, but it should be assumed that C shares the specification of features with Tense1 and Tense2 without overt manifestation in the form of specific morphemes. I will clarify this point below.

<sup>11</sup> According to Chomsky's (1986b) definition, CP is a potential barrier for government. The status of CP, however, as a barrier is ruled out because CP is no longer a blocking category once it has been lexically marked by the verb of the matrix clause.

<sup>12</sup> Picallo (1987) suggests that this indexation turns the subjunctive into a "verbal anaphor", which involves the entire constituent Infl. She is therefore obligated to make certain assumptions which are not necessary within the framework of my proposal.

As in the case of any other indexation, the effects appear at LF.

### 2.3. Remarks on S2

In accordance with the claims I have made so far about S2, crosslinguistic variations exist in the class of verbs which subcategorize for a clause with the verb in S2. These facts contrast with the facts of S1, a marked option without possibility for variation. Recall that in certain cases S2 can be substituted by the indicative. In other words, taking a clause with a verb in S2 is never a "required" feature for a verb in the universal sense. I cite below examples to clarify these claims.

In Catalan a verb like *creure* ('to believe') subcategorizes for a clause with a verb in the indicative (14a). In Italian (14b), in contrast, the clause can be in S2:<sup>13</sup>

(14) a. *Em creia que li deia la veritat.*  
myself believed-1sg that 3sgDat said-1sg the truth  
'I believed myself to be telling him the truth.'

b. *Credeva che gli dicesse la verità*  
believed-1sg that 3sgDat say-1sg-SUBJ-PAST the truth  
'I believed myself to be telling him the truth.'

In Greek, a subject complement clause appears either in the subjunctive or the indicative:

(15) *to óti/na andapokrínonde sto étimá mas fne paríyo.*  
that answer-1pl/1pl-SUBJ-PRES to-the request ours is consoling  
'It is consoling that they answer our request.'

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<sup>13</sup> In this respect Medieval Spanish and Catalan behave like modern Italian.

Furthermore, if a verb such as *pistévo* ('to believe') or *nomízo* ('to be of the opinion') is negated in Greek, the subordinate clause need not contain a verb in the subjunctive:

(16) δε nomízo óti éçi polí kózmo.  
not believe-1sg that there-is many people  
'I don't believe that there are many people.'

Even the verb *kséro* ('to know') assumes two different meanings depending upon whether it appears with the subjunctive or the indicative:

(17) a. kséris na xorévis?  
know-2sg that dance-2sg-SUBJ-PRES  
'Do you know how to dance?'  
b. kséro óti éftase xθés.  
know-1sg that arrived-3sg yesterday  
'I know that he arrived yesterday.'

Even in languages as close as Catalan and Spanish, a verb such as *creure* ('to believe') shows differences:

(18) a. ¿Crees que pueda haberlo hecho?  
believe-2sg that can-3sg-SUBJ-PRES have-it done  
'Do you believe that he could have done it?'  
b. ?Creus que ho pugui haver fet?  
believe-2sg that it can-3sg-SUBJ-PRES have done  
'Do you believe that he could have done it?'  
c. Creus que ho pot haver fet?  
believe-2sg that it can-3sg have done  
'Do you believe that he could have done it?'

The choice between the indicative and S2 is a result of semantic or even pragmatic factors. The case is not purely syntactic in nature as is the case of S1. The selection between (19a) and (19b), for example, depends on a variety of factors:

(19) a. Em sap greu que vinguin cada dia (sense que n'hi hagi cap necessitat).

1sgDat tastes grave that come-3pi-SUBJ-PRES every day (without that for-it-there have-3sg-SUBJ-PRES any need)

'I am sorry that they come every day (without that there being any need for it).'

b. Em sap greu que vénen cada dia (i no n'hi ha cap necessitat).

1sgDat tastes grave that come-3pl every day (and not for-it-there has any need)

'I am sorry that they come every day (and there is not any need).'

As Lavandera (1983) claims about the alternation of the subjunctive and indicative in Spanish, "all verbal communicative acts involve the interaction of linguistic means with other repertoires of knowledge and belief. This interaction underlies the creative aspect of language use. In my view, the complexity of verbal communicative acts does not preclude the possibility of analyzing them nor of focusing the analysis on the contributions to the total communicative process of specific linguistic signals, such as mood, tense, pronouns, and word order."

In accordance with these claims, the fact that a verb can take a complement clause with the verb in S2 must appear in the semantic information of the verb. As noted in point b (iv) of section 2.1, this possibility also has to be foreseen for cases in which the negation of the main verb—or, in other words, the inclusion of a negative modality element in the complex V + Infl—has the same effect. Such cases are worth considering in more detail. When the negation has scope over the verb, I assume that it is generated inside Infl. Pollock (1988) and Zanuttini (1989), among others, have made this claim in the form of an hierarchically articulated Infl structure. Below I discuss the evidence for this claim.

a) Between negation and the verb no other element, an adverb for example, can surface. If another element appears in this position, the negation refers to this element and not to the verb. This is demonstrated if a part of the negation, such as *pas* for example, follows instead of precedes the verb. Separating *pas* from the other component of negation *no*, causes ungrammaticality:

(20) a. No tens raô.

not have-2sg right

'You are not right.'

b. No tens pas raô.

not have-2sg *pas* right

'You are not right.'

c. No sempre tens raô (= tens raô, però no sempre).

not always have-2sg right (= have-2sg right, but not always)

'You are not always right (= you are right, but not always).'

d. \*No sempre tens pas raô

not always have-2sg *pas* right

'You are not always right.'

b) Under the general assumption that clitics adjoin to Infl, it is observed in Portuguese that in certain subordinate clauses, the order of verbal clitics and negation is interchangeable:

(21) Porque lho não/não lho emprestas?

why it not/not it understand-2sg

'Why don't you understand it?'

c) Assimilation between certain classes of constituents, such as the article and the noun that follows, occurs in Greek. The same assimilation is found between the negation and the verb and in certain other cases, but always between elements that form a unit. The assimilation

works as follows in the case of the verb and negation. The negation changes in Greek from *ðen* or *mi* when it appears before a verb that begins with a vowel or a non-continuant consonant. In the other cases, the form that appears is *ðe* or *mi*. To be more precise, it should be said that the form of negation is *ðe-Ø*, *mi-Ø*, and that rule (22a) is then applied. When the verb begins with a vowel, (22b) is applied. When the verb begins with a non-continuant consonant, however, the nasal that has triggered rule (22a) assimilates to the non-continuant consonant in place of articulation, and the non-continuant consonant assimilates in sonority to the nasal as in (22c). Optionally, then, the nasal can be deleted, as (22d) shows. This brings us to the repertory of cases such as appear in (23):

(22) a.  $\emptyset \rightarrow C / \{V, C\}$   
           |      |  
       [+nas] [-cont]

      b.  $C \rightarrow n / -V$  (by default)  
           |  
       [+nas]

      c.  
       [+son]  
       |  
       C  
       |  
       [+nas] place of articulation

      d.  $C \rightarrow \emptyset$   
           |  
       [+nas]

(23) a. *ðe miló.*  
       not speak-1sg  
       'I don't speak.'  
       *mi milás.*  
       not speak-2sg-SUBJ-PRES  
       'Don't (you) speak.'

b. ðen íme.  
 not be-1sg  
 'I am not.'

min fsc.  
 not be-2sg-SUBJ-PRES  
 'Don't (you) be.'

c. ðe(m) berpató (ðeC + perpató).  
 not walk-1sg  
 'I don't walk.'

mi(ñ) gapnízete (miC + kapnízete).  
 not smoke-2pl-SUBJ-PRES  
 'Don't (you) smoke.'

An interpretation of these facts is that negation alters the modality (affirmative-negative) but not the epistemic modality of its clause. In other words, in spite of the negation, the clause continues as factive or non-factive. Of course, the epistemic modality of the subcategorized subordinate clause is affected. Verbs that behave in this way with negation include an interpretation with epistemic modality as defined by Lyons, which must appear in the lexicon's semantic information. Following this line of reasoning, observe that a sentence containing the verb *ignorar* ('to ignore, not to know') requires a subordinate clause in S2, which is similar to a sentence with *saber* ('to know') in the negative, but in contrast to a sentence with *saber* in the affirmative. Inversely, when the verb *ignorar* is negativized, the indicative is required in the subordinate complement clause:

(24) a. Sé que han parlat amb algú.  
 know-1sg that have-3pl talked with somebody  
 'I know that they have talked with somebody.'

- b. No sé que hagin parlat amb ningú.  
not know-1sg that have-3pl-SUBJ-PRES talked with nobody  
'I do not know that they have talked with nobody.'
- c. Ignoro que hagin parlat amb ningú.  
ignore-1sg that have-3pl-SUBJ-PRES talked with nobody  
'I am unaware that they have talked with nobody.'
- d. No ignoro que han parlat amb ningú.  
not ignore-1sg that have-3pl talked with nobody  
'I am not unaware that they have talked with nobody.'

#### 2.4. *The Constituent Infl*

Picallo (1987) assumes that indexation between the Infl constituents of the subordinate and matrix clauses can occur because the subjunctive verb of the subordinate clause can have as temporal reference the tense of the matrix verb. In principle, in languages like Catalan, the subject of the subordinate clause must be different from that of the main clause. Picallo suggests that in what concerns the sub constituent Agr, which is also affected by the coindexation from the moment that it forms part of Infl, a reindexation occurs at LF.<sup>14</sup> The framework that I have adopted here contains some significant differences with respect to this proposal. First, until now I have implicitly assumed Infl to be a simple binary constituent, as in Chomsky (1981). From this moment on, however, I will adopt the structure that Belletti (1988) proposes, although for the sake of simplicity, I will continue to use the term Infl.<sup>15</sup> I will assume following Belletti that the adjunction of the verbal affix to the verb occurs by the raising of the verb and subsequent incorporation of the elements Tense and Agr, as indicated by the arrows:

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<sup>14</sup> The general claims made by Picallo about the subjunctive apply only to S1, as I hope to have shown.

<sup>15</sup> Various recent proposals suggest that Infl has an articulated structure in which Tense and Agr are not considered as a bundle of features, but rather as heads of the maximal projections TP and AgrP. See, for example, an alternative approach in Pollock (1988) and the discussion in Chomsky (1988).

(25) [Agr<sub>P</sub> NP [Agr Agr [IP ...[T<sub>T</sub> Tense [VP [V<sub>V</sub> V...]]]]]]<sup>16</sup>

This structure, in which the constituents Agr and Tense appear hierarchically separated, adapts to the possibility of indexing only Agr or only Tense, without affecting the other constituent. If, in fact, the subjunctive S1 is [+Agr], in accordance with what I have claimed about indexation, Agr1 of the matrix clause can not transmit its own index to Agr2 of the subordinate clause, Agr2, because it already has its own index. Thus, in the case of S1, the coindexation that relates the matrix to the subordinate clause affects only the Tense constituents under the supposition that Tense2 carries an empty index (Tense<sub>(e)</sub>), and receives the features of Tense1 by means of the transmission of Tense1's index.

Under the assumption that Agr is not affected, the process of index transmission can be represented as below :

(26) [...[AGR]<sub>i</sub>...[Tense]<sub>j</sub>...[...[AGR]<sub>k</sub>...[Tense]<sub>(e)</sub>...]]  
[...[AGR]<sub>i</sub>...[Tense]<sub>j</sub>...[...[AGR]<sub>k</sub>...[Tense]<sub>j</sub>...]]

It should be pointed out, however, that this analysis does not break completely with the idea of a unique constituent Infl, because there has to be a feature, a *verbal affix*, for example, that identifies Agr and Tense as elements, which both can adjoin to the verb as it raises.

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<sup>16</sup> As Picallo (1984, 1985b) proposes, it is perhaps necessary to include inside the VP a determination of aspect in the form of an auxiliary because S1, even though it has no tense of its own, allows various aspectuals. According to this suggestion, we would have the following structure:

(i) [VP AUX [V<sub>V</sub> V...]]

### 3. The Infinitive versus the Subjunctive

#### 3.1. Features

The type of contrast represented in (27), in which the indices indicate coreference between Agr1 and Agr2, is known to occur in many languages:

(27) a. Vull cantar  
want-1sg to sing  
'I want to sing.'  
b. Vull; que cantij [\*i=j]  
want-1sg that sing-3sg-SUBJ-PRES  
'I want that he sings.'

There are languages, however, such as Greek, which have no infinitive, and others, such as Romanian, which have a minimized usage of the infinitive. In such languages the restriction of (27) does not occur. The complete or partial disappearance of the infinitive is a phenomenon of the Balkan languages, which, for apparently diverse reasons, has extended to languages belonging to different linguistic groups. In these languages the subjunctive substitutes for the infinitive, as exemplified by the examples in (28):

(28) a. *Romanian*: Vreau să plec.  
*Greek*: θέλω να στύω.  
want-1sg that leave-1sg-SUBJ-PRES  
'I want to leave.'  
b. *Romanian*: Pot să fumez?  
*Greek*: βορώ να καπνίσω?  
can that smoke-1sg-SUBJ-PRES  
'Can I smoke?'

Of course, the use of the subjunctive with Agr2 as well as with Agr1 is a direct consequence of the lack of infinitive. In Greek the solution is always the subjunctive, while in Romanian, the solution may be occasionally the infinitive, although never in the case of the verb *a vrea* ('to want'), and optionally in the case of the verb *putea* ('to be able'). In section 3.2 I return to the question in Greek.

As indicated above in (6), I consider the features of the infinitive to be [-Tense, -Agr], where the negative value is interpreted as the absence of the feature. Within this framework of classification and the theory of indexes, the following repertory of possibilities results:

(29) Infinitive: [-Agr, -Tense]

S1: [+Agr, +Tense(*e*)]

S2: [+Agr, +Tense<sub>1</sub>]

Indicative: [+Agr, +Tense<sub>1</sub>]

Incorporation of the empty index *e* distinguishes S1 from the infinitive. S1 depends on its own morphology to express Tense, although Tense1 determines the Tense. The infinitive, in contrast, does not have its own morphology in this same sense and must be classified as lacking Tense.

The inflected infinitive of European Portuguese, which has an Agr with its own index and which can assign nominative case to the subject, must be added to this classification.<sup>17</sup> The following example represents the features of the European Portuguese infinitive:

(30) [+Agr, -Tense]<sup>18</sup>

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<sup>17</sup> This detail distinguishes it from English ECM structures with verbs such as *to want* or *to expect* and Latin examples with verbs such as *spero, dico*, and so on.

<sup>18</sup> I have purposely excluded the possibility of a [+Tense] infinitive, [Tense<sub>1</sub>] in my notation, from this classification. Languages exist which have, or have previously had, infinitives with not only aspectual but also

In various proposals verbal features are also attributed to the position Comp. In what concerns Comp, I assume the relevant features to be [ $\pm$  Tense]<sup>19</sup> and [ $\pm$  Subjunctive],<sup>20</sup> and that [ $\pm$  Subjunctive] appears in Comp only when Tense is positive, or within the framework I am assuming, when Tense is present. The features carried by Comp in the cases seen so far are represented as below in (31):

(31) Infinitive: [-Tense]

Portuguese infinitive: [-Tense]

S1: [+Tense<sub>(e)</sub>, +Subjunctive]

S2: [+Tense<sub>i</sub>, +Subjunctive]

Indicative: [+Tense<sub>i</sub>, -Subjunctive]

In a footnote Picallo (1984) suggests that this distribution of features makes the Portuguese infinitive equivalent to the subjunctive. If the Portuguese infinitive were equivalent to S1, however, it is obvious that the opposition between [-Tense] and [+Tense<sub>(e)</sub>], which is reflected in my classification, has to be accounted for. In any language, an infinitive generally does not represent non-factive modality. Furthermore, the cases in which S1 appears *are the only ones in*

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temporal endings. One example occurs in classic Greek, which had infinitives with their own morphology for the present, future, perfect and aorist. The temporal form of the infinitive changed, however, to conform to the rules of *consecutio temporum*, as demonstrated by what occurs with S1, which I consider to be [-Tense<sub>(e)</sub>]. The scenario suggests that the infinitive depended temporally on the main verb, and consequently also had to be considered [+Tense<sub>(e)</sub>]. This is not the reason for which in no language there can exist a [+Tense] infinitive in parallel distribution with S2, which, as we have seen, must be considered [+Tense].

<sup>19</sup> This feature, as well as the alternative feature FINITE (Koster and May, 1987), has been proposed by Chomsky and Lasnik (1977), Den Besten (1983), Rizzi (1982), and Raposo (1987), among others.

<sup>20</sup> Evidence of this feature appears in languages, which, although they lack the behavior seen in Greek or Romanian, have different complementizers for the indicative and the subjunctive. Polish, for example, is a language of this type. Although this feature does not appear in all languages, it can be generalized to languages which have a subjunctive mood.

*which the inflected Portuguese infinitive certainly cannot appear.* Picallo generalizes, however, the characteristics of S1 to all subjunctives.

The Comp of an S1 subordinate clause allows coindexation of Tense1-C-Tense2 by means of the empty index of the feature Tense. In contrast, in the case of S2 complement clauses or the indicative, there is no relation between Tense1 and C.

The next question concerns the scenario with the infinitive. First, observe that the infinitive can take the place of either S1 or S2. Furthermore, the infinitive can also take the place of the indicative, although selection between the infinitive and an inflected form varies across languages. In Spanish, for example, the following examples show that the infinitive is selected where Catalan would use the indicative:

(32) a. Parece haber sucedido algo.  
appears to have happened something  
'Something appears to have happened.'

b. Parecen haber llegado.  
appear-3pl to have arrived  
'They appear to have arrived.'

c. Afirmó tener razón.  
asserted-3sg to have reason  
'He asserted that he was right.'

Catalan allows the use of S2 in cases where Spanish obligatorily uses the infinitive. This usage of S2 in Catalan occurs mainly with psych-verbs, and furthermore, as shown by (33a), allows either Agr1 and Agr2 to appear:

(33) a. Tems que no arribis tard.  
fear-2sg that not arrive-2sg-SUBJ-PRES late  
'You fear that you will arrive late.'

b. No et preocupa que arribis tard?  
not 2sgDat worries that arrive-2sg-SUBJ-PRES late  
'Doesn't it worry you that you arrive late?'

This duality is not possible with S1. It is characteristic of S2, although we will soon see the strategy used in Greek and Romanian to permit the identity of *Agr* and *Agr2* in the case of S1 as well.

Turning again to the infinitive, if examples can be found in which the infinitive appears in clauses with an equivalent in S1 and an equivalent in S2, these facts can be directly attributed to the status of the infinitive's *Comp*, marked as [-Tense], which thus converts it into a "neutral" option.

As for the Portuguese inflected infinitive, Raposo (1987) observes that there are certain restrictions on its usage.<sup>21</sup> In the examples below, the fact that the Portuguese inflected infinitive may appear subcategorized by declarative and factive verbs, but not by verbs of choice, is demonstrated:

(34) Eu afirmo/lamento [os deputados terem trabalhado pouco].  
I state/regret the representatives to have-3pl worked little  
'I state/regret that the representatives have worked little.'

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<sup>21</sup> Certainly, Galician exhibits the same behavior as standard European Portuguese. In Brazilian, however, the inflected infinitive is replaced by the invariable infinitive in constructions where European Portuguese would require the inflected infinitive. Applying an idea of Raposo's, the explanation appears to be that the Brazilian infinitive contains an empty *Agr*.

(35) \*Eu desejava [os deputados terem trebalhado mais].

I desired the representatives to have-3pl worked more

'I desired that the representatives worked more.'

Furthermore, with epistemic verbs the Portuguese inflected infinitive may occur only if its subject is overt and in postverbal position. This option is not possible, however, with verbs of choice:

(36) a. O Manel pensa [termem os amigos levado o livro].

the Manel thinks to have-3pl the friends bring the book

'Manel thinks that the friends have brought the book.'

(37) b. \*O Manel pensa [os amigos termem levado o livro].

the Manel thinks the friends to have-3pl brought the book

'Manel thinks that the friends have brought the book.'

According to Raposo, this contrast is due to the fact that epistemic verbs subcategorize CP as complement. The Infl of an inflected infinitival embedded clause must be governed by the matrix clause, receive case, and assign case to the subject. In order for these conditions to be satisfied within Raposo's system, Infl must move to Comp. This leads us to (36a). This solution is unnecessary with factive or declarative verbs, which subcategorize for an NP. For Raposo, a Infl that lacks Tense but contains Agr, such as the Portuguese infinitive, has a maximal projection (IP) equivalent to an NP. Within Raposo's theory, the head of IP = NP can be governed by the matrix verb, receive case, and then assign case to the subject without having to move to Comp. Finally, (35) is eliminated with verbs of choice for the same reasons as (36b). Nevertheless, application of this strategy to (36a), as (37) demonstrates, is not allowed because, according to Raposo, verbs of choice do not take nominal complements but rather CP complements with a [-Tense] Comp, which interpreted within the terms of my proposal, is a [+Tense<sub>(e)</sub>] Comp. An infinitive is [-Tense], and in principle, should be able to occupy the Comp position. As the Portuguese infinitive, however, has a nominal Infl, if it moves to

Comp, it converts CP into a purely nominal complement, thereby violating the selectional requirement that a verb of choice cannot subcategorize for an NP.

### 3.2. *The case of the Balkan languages*

In this section I focus on Greek as the most representative case within the Balkan languages of the disappearance, either complete, as in Greek, or partial, of the infinitive. As indicated above, Greek allows Agr1 and Agr2 to be identical, which is impossible in languages such as Catalan.

(38) a. θέλω να τραγούδω.

want-1sg that sing-1sg-SUBJ-PRES

'I want to sing.'

b. \*Vull; que cant;.

want that sing

'I want to sing.'

An important question to ask is whether the contrast shown in (38) is the result of a distributional gap in languages such as Catalan. Clearly, a structure such as (38a) is the only solution for a language that lacks the infinitive form. Yet, why does a language such as Catalan, which has an infinitive form, lack a "stylistic" variation such as the one in (38b)? If this were a question of a distributional gap, some language would have to exist in which both the solution with the subjunctive and the solution with the infinitive were possible. Romanian is an apparent example of such a language. However, even though both solutions may occur, in the case of the appearance of the infinitive, the choice depends on the speaker's dialect. This fact suggests that some kind of principle or filter exists to prevent the formation of examples such as (38b) in these languages.

Warburton (1982) acknowledges the problems with the supposition that Greek has SVO as its basic word order. Working within the Functional Grammar framework, he divides the clause into two parts, the theme ('θέμα') and the commentary ('sxόλο'). The theme corresponds to

the information already known within the clause, while the commentary brings new information. According to Warburton, the subject is generated after the verb in a neutral clause such as (39), which suggests a basic VSO word order for Greek. In contrast, the thematicization of the subject, where the subject would be the information already known inside the clause, requires that the subject be preposed in front of the verb. Warburton suggests that the "initial position" ('*arçıkı θesis*') of the clause is reserved for the theme rather than for a determined syntactic function. This suggests that (40), not (39), would be the appropriate answer to a question like *A qui va besar en Joan?* ('Whom did John kiss?'). In contrast, (41), in which the theme would be the direct complement, would be the appropriate response to the question *Qui va besar a la Maria?* ('Who kissed Maria?'):

(39) filise o jánis ti maría

kissed the John the Maria

'John kissed Maria.'

(40) o jánis filise ti maría

the John kissed the Maria

'John kissed Maria.'

(41) ti maría ti filise o jánis

the Maria 3sgfemAcc kissed the John

'John kissed Maria.'

I quote below from Warburton's article:

«This conclusion offers two probable solutions to the problem of the basic order of the constituents:

»(A) The basic order is VSO, given that of the two most neutral and less marked orders, i.e., VSO and SVO, the former is the most basic, or

»(B) A basic syntactic order of constituents does not exist in modern Greek, and all the variants are derived by means of rules which are sensitive to the syntactic characteristics of the lexical elements of the clause and to the syntactic and pragmatic elements of the context. At any rate, a scale of the significance of the markedness of the different variants in the order of the constituents would be necessary. Thus, the most neutral and less marked in terms of factors of intonation, morphology and syntax is also the order VSO, followed by the order SVO, and finally the others [...].

»[The two conclusions] do not have the same explanatory power. Certainly they are the same in the fact that VSO is considered the most neutral order, but while (A) considers this order as "basic", (B) proposes no order as initial and "basic".»

Warburton also notes the behavior of clauses in the indicative and in S1 such as the following:

(42) a. kséro pos ti fflise o jánis ti marfa.  
know that 3sgfemAcc kissed-3sg the John the Maria  
b. kséro pos ti marfa ti fflise o jánis.  
c. kséro pos o jánis fflise ti marfa.  
'I know that John kissed Maria.'

(43) a. θélo na filisi o jánis ti marfa.  
want-1sg that kiss-3sg-SUBJ-PRES the John the Maria  
b. θélo ti marfa na ti filisi o jánis  
c. θélo o jánis na filisi ti marfa.  
'I want John to kiss Maria.'

These examples clearly demonstrate that the thematicized element is preposed with respect both to the verb of its clause and to the particle *na*, while the complementizer *pos* is not.

Furthermore, between *na* and the verb no element that does not belong to verbal inflection can appear:

(44) \*θέλο *na* ο *jánis* *filísi* *ti* *maría*.

want-1sg that the John kiss-3sg-SUBJ-PRES the Maria  
'I want John to kiss Maria.'

These facts suggest that *na* may be simply a verbal particle, and in such cases, a subjunctive marker. The examples below show, however, that *na* may also be characterized as a complementizer because it cannot coexist with *pos*:

(45) a. \*θέλο *pos* ο *jánis* *na* *filísi* *ti* *maría*.

want-1sg that the John that kiss-3sg-SUBJ-PRES the Maria

b. \*θέλο *pos* *na* *filísi* ο *jánis* *ti* *maría*

'I want John to kiss Maria.'

Warburton's argument can be easily interpreted within the GB framework. If, in effect, the basic word order of Greek is VSO and the subject can be thematicized, this suggests that the subject can occur in a higher position, such as that of adjunct to AgrP, as in (43c), which raises to the specifier of AgrP, where it appears in surface position. (See Koopman and Sportiche (1988) for an alternative proposal, which would generate the subject in VP, postverbally in Greek.)

With the term "thematicization" I am not referring to grammatical function but rather to something similar to Chomsky's (1977) *left dislocation*. A thematicized element, whether a complement, as in the Catalan example (46a), or the subject as in the Greek example (46b), always occupies an adjoined position. In the case where it is an object, it is always represented as a clitic, and in the case where it is a subject, it is represented with the empty pronominal *pro*.

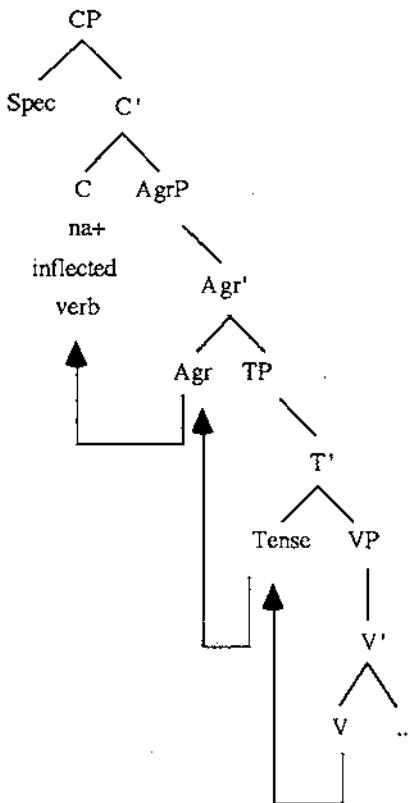
(46) a. [C' [C (que)] [AgrP] [THEME la Maria] [AgrP [NP en Joan] [AgrP la va besar]]]]  
b. [C' [C (pos)] [AgrP [THEME o Jánis] [AgrP filisc ti María]]]]

As in structure (47), however, the theme can also be adjoined to C'. Here, as in the other instances where the theme appears, I assume that it does not occupy the specifier position of CP, but rather an adjoined position.

(47) [CP THEME [CP Spec [C' C AgrP]]]

In a subordinate clause in which *na* appears, no other complementizer can appear. Furthermore, no element may intervene between *na* and the verb with the exception of elements such as clitic pronouns or negation that are analyzed as appearing within inflection. These facts suggest that the complex format for *na* and the inflected verb are found inside of C. First, let's suppose that *na* in effect is an inflected element. Therefore, when the verb raises, it will pick up *na* along with the other inflectional elements, Tense and Agr. The verb will finally end up in C having picked up all these elements. This scenario is illustrated in (48):

(48)



In order to thematicize the subject, or any other element, it must appear in a position higher than C. In other words, as I have already suggested, it has to be adjoined to CP. (Because it is not relevant to the theory proposed herein, I do not address whether it is a question of movement or base generation in that position.) Clauses such as those in (43b) and (43c) represent this case.<sup>22</sup>

<sup>22</sup> Perhaps a thematic element is preposed with respect to the complementizer *pos*:

(i)     δen perímena tus prósfijes pos θa tus próbidañ étsi  
       not was-1sg hoping the refuges that FUT they betray-FUT so  
       'I was not hoping for the refuges that they would be betrayed like that.'

In this case, the thematic element occupies the position adjoined to CP, as does the subject in a clause with *na*. The difference, however, is that in a clause with *na*, only this position is possible for a thematicized element,

The subject can even occupy the adjunct to CP position of the main clause. Thus, (49b) represents the structure of (49a):

(49) a. *ta peðjá borí na fíyun ávrio.*  
the children can-3sg that leave-3pl-SUBJ-PRES  
'The children will maybe leave tomorrow.'

b. [CP [THEME *ta peðjá*] [CP [Agr *borí*] ...[vp V [CP.[C *na-fíyun*] ávrio]]]]]

This mechanism, which appears in fact to apply in all clauses with *na*, permits Greek to have clauses of the type (38a), cited above. Reviewing carefully the facts, it becomes clear that this option depends heavily on the concept of indices. Implicitly, indexes acquire their full meaning at LF, and not at the level of the syntax. LF does not identify syntactic processes, but merely checks the results in the form of indices or traces. In other words, LF is blind to syntactic processes. So far we have seen that a relation between Tense1 and Tense2 crucially involves the position C by means of a coindexation. Nevertheless, this process implicates only the affix with temporal features. With respect to Agr, the same relation never occurs, because it would then have to satisfy the two contradictory requirements outline below:

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while with *pos*, it can also be thematized in the position adjoined to AgrP. Observe furthermore that *na* can coexist with the word *pu* when the latter functions as a relative:

(ii) *éna ayóri pu na su arési*  
a boy who to you pleases  
'A boy who pleases you.'

When *pu* is a complementizer in expressions of the type *lipáme pu* ('I am sorry'), for example, *pu* cannot appear with *na*, as expected. Following Chomsky (1986b), the concurrent appearance of *na* and *pu* in the case that *pu* were a relative, would explain why wh-elements occupy the specifier of C position in the same way that *na* and the verb will be able to occupy the position C, which remains free:

(iii) [CP [Spec *pu*] [C [C *na su arési*]]]

a) On one hand, coindexation between Agr1 and Agr2 could not mark C because C is not a temporal affix, but rather is different from Tense. Furthermore, it should be noted that because C permits the coindexation of some element of the main verbs' Infl with the subordinate clause, its features have to be [+Tnscc(c), +Subjunctive]. In other words, it must have temporal-modal features.

b) On the other hand, if there were coindexation between Agr1 and Agr2, it would have to occur by means of C, given that, like Tense, C is an inflectional element that is identified by the raising verb as an affix.

From these observations, it follows that Agr1 and Agr2 cannot be coindexed. To be more exact, Agr1 cannot transmit its own index to Agr2. Of course, in the case of S1, this possibility is irrelevant from the outset because in this structure Agr2 has its own index. The case is instead reserved for infinitives, which, as has been shown, have a neutral C.

Due to free variation, however, it is possible that the index of Agr1 and that of Agr2 may happen to coincide. Then, when the structure arrives at LF, the process is not identified as free variation, but rather as a coindexation that does not involve C. Sentences of this type are therefore eliminated in languages such as Catalan. Likewise, the Greek equivalent, since it will have Agr elements along with the Tense elements *na* and the verb in the position C, will be legitimate because the coincidence of the indexes of Agr1 and Agr2 will involve C, which is of course where Agr2 appears.<sup>23</sup>

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<sup>23</sup> It has to be assumed that the Romanian dialects which do not use the infinitive behave like Greek in allowing Agr1 and Agr2 to be identical, although it is possible that the particle *să* does not raise with the verb to Comp in some clauses. This may be true in the case of the composed conjunction *ca să*, which can surface in non-continuous form.

### 3.3 Some observations on negation and verbs of fear

The analysis proposed for Greek takes into account the dual character observed by traditional grammarians of the particle *na*, as both a subjunctive marker and complementizer. In fact, the particle *na* is not restricted to object complement clauses, but may appear in any subjunctive clause, just like the Catalan complementizer *que*:

(50) a. o jóryos na érθi sto tiléfono!  
the George that come-3sg-SUBJ-PRES to-the telephone  
'Have George come to the telephone!'

b. to ípe ja-na fíjis.  
it has-said for-that leave-2sg-SUBJ-PRES  
'He has said it so that you leave.'

The fact that an element from a verbal affix acts as complementizer is not exceptional to the Balkan languages. Furthermore, *na* is not the only inflected element that can act in this manner. The examples below show that the negative particle *mi(n)*, when not functioning as negation, but as a link, does as well:<sup>24</sup>

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24 The fact that *mi(n)* acts like a complementizer allows that *mi(n)* and a negative particle, such as *ðe(n)*, can appear in the same clause. Thus, (i) is the negative form of (51a):

(i) sovúrne min ðen érθi  
fear-1sg not not come-3sg-SUBJ-PRES  
'I fear that he won't come.'

The impossibility of this kind of construction in Catalan is relative, and could be due to a phonetic filter that prevents expletive *no* from appearing with a negative *no*. In any case, it is possible to find at certain levels of language sentences such as the following in (ii):

(ii) Que no no havies de venir?  
IM not not had-2sg to come  
'Didn't you have to come?'

(51) *fovúme min érfi.*

fear-1sg not come-3sg-SUBJ-PRES

'I fear not to come.'

In some dialects of Catalan, expletive *no* can be used as a particle like Greek *mi(n)*. In addition to the broader solution shown in (52a), with verbs of fear, a given number of speakers use this solution without the presence of the complementizer *que*:

(52) a. *Temo que no vingui.*

fear-1sg that not come-3sg-SUBJ-PRES

'I fear that he will come.'

b. *Temo no vingui.*

fear-1sg not come-3sg-SUBJ-PRES

'I fear that he will come.'

Presumably, (52b) has the same structure as clauses with *na* and with *mi(n)* in Greek, which suggests that the inflected V appears inside Comp. In Catalan, this strategy is simply a stylistic variation of (52a), and is rather marginal in comparison. In the Greek cases of S1 that we have seen, the coincidence of indexes of the two Agr's, the main and subordinate, is permitted.

The claim of movement to Comp is supported by the following features:

a) Catalan rejects the usage of empty complementizers. The type exemplified in (52b) is therefore only justified if there is an element occupying Comp.<sup>25</sup>

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[IM means 'interrogative marker'].

<sup>25</sup> Clearly, the movement of *no* + V to C is the only solution for saving a clause of this type, which would be generated without a complementizer. Still unclear to me is the scope of the parametric requirement that prevents the position C in an embedded clause to appear empty in Catalan. It could be a question of the raising of *na* + V in Greek that occurs when a clause is generated with an empty C, which is obligatory when C is [+Tense<sub>(e)</sub>].

b) In structures of the (52a) type, there is no movement of the inflected verb to Comp, as demonstrated by the possibility of a subject appearing between the complementizer (inside C) and the complex verbal (53a). Instead, the subject must be postverbal in a structure like (53b). Compare the examples:

(53) a. Temo que els nens no es despertin.  
fear-1sg that the children not themselves wake-up-3pl-SUBJ-PRES  
b. Temo no es despertin els nens.  
fear-1sg not themselves wake-up-3pl-SUBJ-PRES the children  
c. Temo els nens no es despertin.  
fear-1sg the children not themselves wake-up-SUBJ-PRES  
'I fear that the children will wake up.'

c) In Catalan, the order VSO is not possible, as shown by example (54a). Nevertheless, a clause with a verb of fear and an expletive *no* is at least acceptable with this order for speakers who use the construction (54b). The relative oddness of the example, even for those speakers, is due to the rather marginal character of this type of clause, but in no case does it reach the grade of ungrammaticality observed in (54a):

(54) a. \*Ha portat en Joan un llibre.  
has brought the John a book  
'John has brought a book.'

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+Subjunctive}, because raising occurs even though there is no coincidence of indexes between the matrix and embedded clause. The generation of this type of empty C in Romanian may not be obligatory as it is in Greek. Furthermore, the movement of the inflected verb to Comp has been proposed by various linguists to account for different phenomena: Raposo (1987), Rizzi (1982) (for Aux-to-Comp movement), Koopman (1984) and Travis (1984) (for subject-auxiliary inversion in English).

b. \*Temo no ens faci en Joan una mala passada.  
fear-1sg no 2plDat make-3sg-SUBJ-PRES the John a difficult time  
'I fear that John will give us a difficult time.'

Thus, in Greek as in Catalan, an element of the verbal affix (i.e., expletive *no* and *mi(n)* in Greek) acts like a complementizer without really being a complementizer. Also included in this class of elements are the Greek particle *na* and *să* in Romanian.

Within the classification of the psych-verbs, the verb *témer*, discussed already above, is the only member of the class of the verbs of *fear* that subcategorizes for a direct complement. Other similar verbs subcategorize for a complement clause with the theta role of *theme*, as in the case of *fer por* ('to make scared') and *espantar* ('to frighten'). Of course, such examples are all cases of S2.

### 3.4. *Changes in the behavior of the verbs that require S1*

A given number of sentences which include main verbs that require an S1 subordinate clause, can in a certain way break the tripartite relation established between the verbal affix of the main clause and C, and the verbal affix of the subordinate clause. The most immediate effect is that Agr1 and Agr2 may coincide in a clause of this type, and as example (55) demonstrates, the result is grammatical:

(55) No vols que després vinguis i t'ho trobis tot per fer.  
not want-2sg that after come-2sg-SUBJ-PRES and yourself-it find-2sg-SUBJ-PRES all  
for to do  
'You don't want to come after and find that you have it all to do.'

The grammaticality of this example has to be attributed to the presence of the adjunct *després*, since its absence causes the example to be ungrammatical:

(56) \*No vols que vinguis i t'ho trobis tot per fer.

'You don't want to come and find that you have it all to do.'

Note that, *després*, the adjunct of (55), can occupy an even higher position:

(57) No vols, *després*, que vinguis i t'ho trobis tot per fer.

'You don't want to come after and find that you have it all to do.'

An adjunct like *després* is a temporal element, so it does not allow the verb in subjunctive to have an independent temporal reference, which is in fact another characteristic of S2. Nevertheless, depending on the type of adjunct, the temporal independence with respect to Tense1 becomes evident:

(58) a. \*No vols que *després* vinguessis i t'ho trobassis tot per fer.

not want-1sg that after come-2sg-SUBJ-PAST and yourself-it find-2sg-SUBJ-PAST all for to do

'You don't want that after you should come and should find all to do.'

b. \*No vols que, a causa d'això, vinguessis i t'ho trobassis tot per fer.

not want-1sg that for reason of-that come-2sg-SUBJ-PAST and yourself-it find-2sg-SUBJ-PAST all for to do

'You don't want that, because of that, you should come and should find all to do.'

c. No vols que, si passés això, vinguessis i t'ho trobassis tot per fer.

not want-2sg that if happen-3sg-SUBJ-PAST that come-2sg-SUBJ-PAST and yourself-it find-2sg-SUBJ-PAST all to do

'You don't want that, if that happened, you should come and should find all to do.'

These adjuncts belong to the special class of interrogative connectors. Fabra (1956) defines them as follows: "Further included in the class of adverbs are certain words and expressions

that express the logical relation between what is said in the clause in question, and what has been said in a previous clause (opposition, consequence, addition, etc.)."

I will claim that these elements appear in a position adjoined to C, as shown in structure (59a), and I will reject the alternative of adjunction to AgrP represented in (59b):

(59) a. [CP [C [C [C que] després] [AgrP NP Agr']]]  
b. [CP [C [C que] [AgrP després [AgrP NP Agr']]]]

In (59b), the adjunct would occupy the position which certain thematic elements occupy, as shown above in examples (46a) and (46b). An adjunct like *després*, however, which is not a thematicized element, *can coexist* with a thematicized element in that position, as shown in (60):

(60) No vull que, després, a la Maria li digueu això.  
not want-1sg that after to the Maria 3sgDat say-2pl-SUBJ-PRES that  
'I don't want that, after, you say that to Maria.'

Nevertheless, if we invert the order of the connector and the thematicized element, we find a curious phenomenon:

(61) No vull que, a la Maria, després li digueu això.  
'I don't want that, to Maria, after you say that to her.'

(61) is not synonymous with (60). The meaning of *després* as a connector in (60) is different from the meaning of *després* in (61), where it appears with its own literal meaning of *més tard* ('later'); as a connector, it would be a synonym of *com a resultat d'això* ('as a result of that') or of some similar expression. In (61) *després* is not a connector. Instead it is a simple temporal determiner. The interpretation of (61) with *després* as an interclausal connector is impossible.

Consider that, if instead of *després* we insert a connector, the same duality does not occur. The structure parallel to (61) is ungrammatical. Consider (62):

(62) a. No vull que, per aquesta raó, a la Maria li digueu això.  
not want-1sg that for that reason to the Maria 3sgDat say-2pl-SUBJ-PRES that  
'I don't want that, for that reason, you say that to Maria.'  
b. \*No vull que a la Maria, per aquesta raó, li digueu això.  
not want-1sg that to the Maria for that reason 3sgDat say-2pl-SUBJ-PRES that  
'I don't want that to Maria, for that reason, you say that to her.'

This suggests that in reality the correct structure is as in (59a).<sup>26</sup>

Suppose now that, in the case of (57), this adjunct moves to a higher position close to the specifier of CP position:

(63) [CP [Spec *després*][C [C [C que]  $t_i$ ][AgrP NP AgrP]]]

To permit this structure, the Empty Category Principle requires that  $t_i$  be properly governed. In other words,  $t_i$  has to be governed by a lexical category. Here, the potential governor is the complementizer *que*.<sup>27</sup> I repeat here Chomsky's (1986b) definition of government:

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<sup>26</sup> I disagree here with Chomsky (1986b), who assumes that adjunction is only to maximal projections. In Fukui and Speas' (1987) alternative system, a functional category like COMP has a double bar level (CP) only if a given set of conditions that permit an element to appear in the specifier are satisfied. Aside from the functional categories (CP, InfI, i Det), Fukui and Speas assume a single bar level projection. The generalization can therefore be made that adjunction occurs at the X' level, even though a category like Comp can have a filled specifier, and thus, an XP level.

<sup>27</sup> This possibility should be viewed as a logical extension of the classification based on the categorial features [ $\pm N$ ] [ $\pm V$ ] within the X-bar theory. In principle, however, the lexical categories that carry these features can take arguments, which in reality is not always true. For example, in the case of *de* insertion (see Chomsky (1986a)), it can be assumed that the verb assigns the theta role while the preposition is an intermediary inserted to satisfy

$\alpha$  governs  $\beta$  if and only if  $\alpha$  m-commands  $\beta$  and every barrier for  $\beta$  dominates  $\alpha$ , where:

- (i)  $\alpha$  c-commands  $\beta$  if and only if  $\alpha$  does not dominate  $\beta$  and every  $\gamma$  that dominates  $\alpha$  dominates  $\beta$ ;
- (ii)  $\alpha$  m-commands  $\beta$  if and only if  $\alpha$  c-commands  $\beta$  and  $\gamma = \text{XP}$  (Aoun and Sportiche, 1983).

The conditions are satisfied. The complementizer *que* m-commands the trace, since the first  $\gamma = \text{XP}$  that dominates C is CP, which also dominates the trace. The only potential barrier for  $\beta (=t)$  in this case is CP. According to Chomsky's definition,  $\gamma (=CP)$  is an inherent barrier for  $\beta (=t)$  if  $\gamma$  is a blocking category for  $\beta$  and  $\gamma \neq \text{AgrP}$ . To be a blocking category for  $t$ , CP cannot be L-marked. L-marked means directly theta marked by a lexical category. Second, CP must dominate  $t$ . In this case, both conditions are satisfied.

In (63), the adjunct has moved to occupy the specifier of CP position. This means a thematicized element will be able to appear to its left, adjoined to CP, but not to its right, as demonstrated in (64a) and (64b). Of course, the connector can also appear with a thematicized element adjoined to AgrP as in (65):

(64) a. No vull a la Maria, després, que li digueu això.

not want-1sg to the Maria, after, that 3sgDat say-2pl-SUBJ-PRES that

'I don't want to Maria, after, that you say that to her.'

b. \*No vull, després, a la Maria que li digueu això.

'I don't want, after, to Maria that you say that to her.'

(65) No vull, després, que a la Maria li digueu això.

'I don't want that, after, to Maria you say that to her.'

---

case requirements. The complementizer *que* also plays the role of intermediary between the matrix and embedded clause.

The effect of the adjunct or its trace in clauses such as those that we have just seen serves to break the relation of c-command that exists between C, now segmented, and AgrP. The result is that AgrP is not c-commanded by all of the segments of C. Once the c-command relation is broken, the feature [+Tense<sub>(e)</sub>] no longer affects AgrP, and thus, TP of the embedded clause, and Tense2 can vary freely.

According to my claims, the triplicate indexation Tense1-C-Tense2 is generated at D-structure, where the features of the position C are also established. At D-structure, which is a pure representation of the thematic structure (see Chomsky (1986a)), the presence of an adjunct which does not pertain to the subcategorization frame is not possible. The effect, however, of this adjunct is revealed at the level of the syntax. The empty index of the feature Tense of C becomes invalidated. As the features are established at D-structure, such a change can occur without triggering checking.

Clearly, once the link between Tense1-C-Tense2 is broken, the temporal index of Tense2 can vary freely, just like that of Agr2. In other words, Tense2 and Agr2 behave as if it were a case of S2. The result is a clause that should have been generated with Tense2 different from Tense1, and as such, will be legitimate for the syntactic effects. LF, confronted with these two equal indexes, checks that C is of the required type so that there can be a coincidence of indexes between Agr1 and Agr2 and at the same time a free variation of Tense2. At any rate, it could be said that LF is incapable of interpreting as identical the indexes of Agr if C is of the type [+Tense<sub>i</sub>], but of course it is capable of identifying them when C is marked as [+Tense<sub>(e)</sub>]. The effect of the adjunct in the case that I have treated is precisely to invalidate the empty index.

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