

CONTRASTING VERBAL SEQUENCES: GOVERNMENT AND BINDING APPROACHES

Mireia Llinàs i Grau
Universitat Autònoma de Barcelona

The basic aim of this article is to explain the contrasting behaviour of a specific verbal sequence in Catalan and in English as a result of the application of the process of incorporation proposed in Baker (1988). It is argued that incorporation of the past participle selected by the auxiliary in a HAVE+ PAST PARTICIPLE sequence onto the auxiliary is obligatory in Catalan, and non-existent in English. This conclusion is reached on the basis of word order possibilities in both languages. The article also accounts for the language internal contrast found between the HAVE+ PAST PARTICIPLE sequence and sequences made up of a modal and a main verb, as the result of the non-application of incorporation. One of the processes where the contrast is neutralized, clitic climbing, is regarded as a consequence of the theory of T-marking of Guéron and Hoekstra (1988).

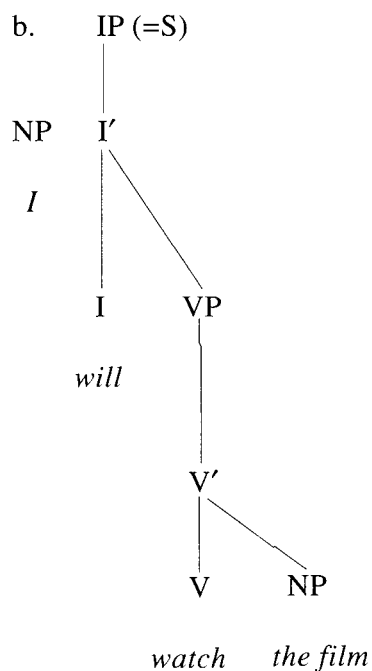
1. Introduction

The analysis of verbal sequences has not been one of the main focuses of study within the Government and Binding (GB) approach to syntax. The terms “auxiliary” and “main” verb have taken up little space in the pages of generative literature.¹ English modals have usually been granted a special position in phrase structure, but the place of other so-called auxiliaries has often been disregarded. Ever since a distinct node, AUX —now INFL—, was postulated for Tense elements (cf. especially Akmajian, Steele and Wasow 1979), modal

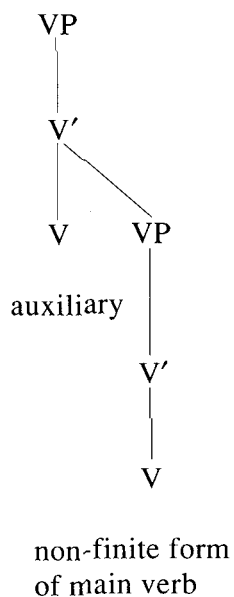
¹ Two important exceptions to this general neglect are Guéron and Hoekstra (1988) and Zagana (1988).

verbs in English were also argued to be generated in this other node. The structure of (1)a. is (1)b. in the present framework, where INFL has the status of the head of the clause. This article takes the view that other auxiliaries occupy a V node heading a VP, and that main verb VPs are selected by auxiliaries. This is specifically proposed and argued for in Zagona (1988) for Spanish and English, and implicitly assumed in most works in the field. The structure assumed is as in (2).

(1) a. I will watch the film



(2)



It is well-known that English modals differ from modals in most Romance languages in many respects. Crucially, English modals are never main verbs in that they may not occur as unique verbal elements in a clause; some Romance modals, on the other hand, may. As the following examples illustrate, Catalan *deure* may occur as main verb ((3)a.) or select an infinitive ((3)b.):

- (3) a. *Ens deu un sopar*
to-us owes a dinner
“He/She owes us a dinner”
- b. *Deu saber moltes coses*
must know many things
“He/She must know many things”

In terms of other syntactic characteristics, Catalan modals differ from English modals in that they may co-occur, as shown in (4)a., and they may be preceded by auxiliaries, as in (4)b.:

- (4) a. *La Joana deu poder fer moltes coses a l'hora*
The Joana may INF-can do many things to the-hour
“Joana must be able to do many things at the same time”
- b. *El Joan ha pogut acabar-ho tot*
The Joan has PART-can to-finish-it everything
“Joan has been able to finish everything”

The morphological characteristics of English modals do not apply to modal verbs in Catalan: their inflectional paradigm is not defective —*can vs puc, pots, pot, podem, podeu, poden / poder, pogut, podent*.

Moreover, Catalan does not have a well-defined set of modal verbs; different authors include different lexical items in the list of modal verbs for Catalan (cf. Ferrater 1981 for the difficulties to delimit a formal category “modal” in Catalan), a non-problematic delimitation for English (at least for the basic modal verbs).

From a language-internal point of view, the verbal sequences containing a modal plus an infinitive (M-sequences) contrast in

several ways with verbal sequences made up of a so-called auxiliary plus a non-finite form of a verb (Aux-sequences). One of these contrasts is shown in (5) and (6):

(5) a. No *he sentit* mai el desig d'anar a missa
not have felt never the desire to go to church
"I have never felt the desire to go to church"

b. * No *he* mai *sentit* el desig d'anar a missa

(6) a. No *pot* *anar* mai a missa
not is-able to-go never to church
"He/She is never able to go to church"

b. No *pot* mai *anar* a missa

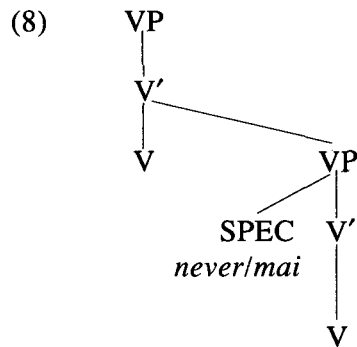
In (5), the Aux-sequence cannot be separated by an adverb, but the M-sequence in (6) may. This language-internal contrast is related to another contrast between Catalan and English: the equivalent Aux-sequences in English may (and must) be interrupted by an adverbial element:

(7) a. * I *have felt* never the desire to go to church

b. I *have* never *felt* the desire to go to church

2. The problem

As already observed, it is assumed that Catalan and English have the same structure for verbal (Aux-) sequences, as in (2). Nevertheless, if both languages allow an independent head position for, for instance, aspectual auxiliaries as in (5) and (7), how can one account for the fact that English adverbs may interrupt the sequence whereas Catalan equivalent adverbs may not? X'-theory implies that a full VP structure should allow for a specifier position—alternatively, an adverb may adjoin to VP—, which is accessible for adverbs, as in (8):



Other syntactic processes, such as movement of one part of the verbal sequence, give the same contrasting result, as shown in (9) and (10):

- (9) a. Has the baby cried while we were out?
- b. * Ha el bebè plorat mentre érem fora?
- c. Ha plorat el bebè mentre érem fora?

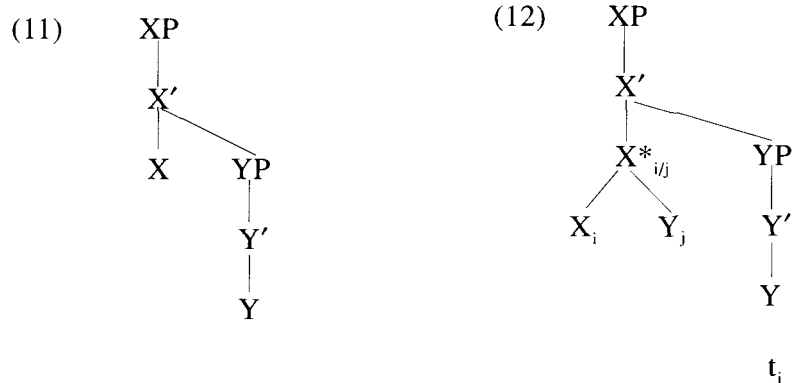
- (10) a. We thought that he would cry and cried he has!
- b. * Crèiem que ploraria i plorat ha!
- c. Crèiem que ploraria i (i tant que/com) ha plorat!

Hence, sequences that seem identical in both Catalan and English have a very different syntactic behaviour. Language-internally, different sequences of two verbal elements in Catalan also display a dissimilar syntactic behaviour with respect to possibilities of interruption by other lexical items, and separation by movement. In essence, the Catalan aspectual auxiliary is much more tightly linked to the verb that follows it. The cohesion between the two verbal elements in Catalan may be related to the cohesion typical of single lexical items. In other words, two verbal elements display a behaviour that points towards the conclusion that they are not two separate heads in phrase structure, but rather one single head. If the assumption is maintained that structure (2) is valid for both languages, the most plausible hypothesis is that a process takes place

in Catalan which links the two verbal elements in such a way that they become one single element in the syntax.

3. The theoretical solution

Baker (1988) posits a mechanism, incorporation, that I will claim applies in Catalan in order to account for the contrast shown in (5)-(7) and (9)-(10). Baker's mechanism of incorporation moves the head of a maximal projection to the head position of another maximal projection, and creates a structure where two heads are adjoined, as in (11) - (12):



The movement follows the principles of the GB-Barriers framework: the trace of the moved element does not violate the Empty Category Principle (ECP); it is properly (antecedent) governed by the node which contains the moved head plus the head to which it is attached, as in (12). As also shown in (12), t shares an index with X^* and thus the latter is a proper antecedent governor. The importance of indexing mechanisms in the explanation of proper government of empty categories is patent in all the studies referred to in this article; Baker's (1988) indexing system implies that a head trace is properly governed if it is antecedent governed. The ECP is

satisfied by virtue of the fact that the movement of heads follows the Head Movement Constraint (HMC), (13):

(13) HEAD MOVEMENT CONSTRAINT

An X^0 may only move to the Y^0 which properly governs it

Incorporation is a syntactic process and it is proposed by Baker on the basis of languages from very different language families in order to account in a unified fashion for grammatical function changing processes which had previously been accounted for by different and unrelated rules. Baker (1988) argues for the single process of head-movement underlying all of these grammatical changing processes.

The languages Baker posits syntactic incorporation for have productive non-inflectional morphological processes, a fact which is not found in Catalan. Nevertheless, in a structure like (2), head-movement is allowed. The ECP is satisfied; the second verbal head follows the HMC when it moves to the first verbal head, as in (11) and (12). Note that incorporation in these verbal sequences does not lead to a grammatical change; it is independently motivated by the behaviour of the sequences. The trigger of such a process in non-grammatical function changing constructions, where, moreover, morphological reasons cannot be alluded to, must come from other areas in the grammar. A seemingly relevant difference between English and Catalan, with respect to the construction where incorporation is postulated, is the different lexical value of the first verbal element in the Aux-sequence: English *have* has lexical value, whereas Catalan *haver* does not. In other words, *have* may function as the only verbal element of a clause, as opposed to Catalan *haver*:

(14) James *has* three compositions in his drawer

(15) En Jaume **ha / té* tres redaccions al seu calaix

As (15) shows, the verb *tenir* takes up the lexical meaning of *have*. In principle, the fact that *have* and *haver* have different lexical properties is not related to a syntactic parameter; it is an

idiosyncratic lexical property of Catalan *haver*. Besides English, the French and Italian corresponding lexical items have maintained their lexical value:

(16) Marie a trois garçons

(17) Maria ha tre figli

It is this idiosyncratic property which may be alluded to as the trigger of *obligatory* incorporation;² French, like English (cf. (7) above) displays no incorporation, and Italian displays optionality with respect to this process:³

(18) a. Jean ne l'a jamais compris

b. * Jean ne l'a compris jamais

(19) a. Gianni non lo ha mai capito

b. Gianni nonlo ha capito mai

The theory of morphology that Baker argues for (cf. also Ohalla 1988) implies that there are principles which apply to "words" created in any level of the grammar. One of these principles is the Head Opacity Condition (HOC) as in (20) (Baker 1988, 73):

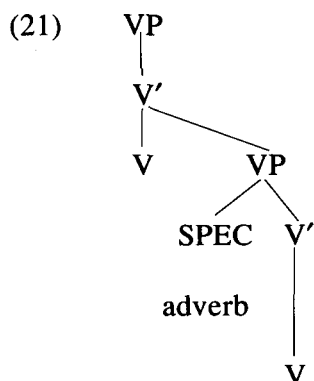
(20) *[X⁰ . . . t_i . . .]

(20) implies that no part of an element which is a zero level category may be subject to move-alpha. If we consider the Catalan examples in (9) and (10) and assume that incorporation has taken place, the HOC may be made responsible for their ungrammaticality.

The examples in (5) may be accounted for if we assume incorporation of the past participle is obligatory in this sequence; it must hop over the adverb in VP-initial position, as (21) shows:

² The lexical idiosyncrasy attributed to auxiliaries of the type of *haver* / *have* in Aux-sequences is discussed in Llinàs i Grau (1990).

³ But see Belletti (1990) for an account of the adjacency of the participle and the auxiliary which explicitly disclaims incorporation.



4. The language internal contrast revisited

The cohesion of Aux-sequences in Catalan is accounted for by postulating obligatory incorporation. M-sequences on the other hand do not display an identical behaviour; as shown in (6) above, an adverb is allowed between the two verbal elements. Notice that the movement of one of the two elements of the verbal sequence also gives grammatical results:

- (22) a. La Maria *podrà* *arribar* a classe
 The Mary will-be-able to-get to class
 "Maria will be able to get to class"
- b. *Podrà* la Maria *arribar* a classe?
- c. Sabia que *arribava* *amb retard* a classe i
 knew that was-getting with delay to class and
entrar-hi *no va poder*
 go-in-there not was to-be-able
 "He/She knew that he/she was late to class and
 get in he/she could not"

The first verbal element in (22)b, the modal, *podrà*, has moved

independently of the infinitive which follows it. In (22)c the infinitive, *entrar*, has moved independently of the modal. These examples contrast with (9)b. and (10)b. above.⁴

Nevertheless, the contrast between the two types of sequences is neutralized for other syntactic processes. One such process is clitic climbing, which is possible both in Aux-sequences and M-sequences:

- (23) a. He vist *aquesta pel.lícula* tres vegades
 have seen this film three times
 "I have seen this film three times"
- b. L'he vist tres vegades
 it-have seen three times
 "I have seen it three times"
- (24) a. Podria veure *aquesta pel.lícula* tres vegades
 could to-see this film three times
 "I could see this film three times"
- b. La podria veure tres vegades
 it could to-see three times
 "I could see it three times"

In other words, the two types of sequences contrast in some respects, but they are similar in other respects. Modal verbal sequences in Romance have been the issue of study of many proposals and there has been intense debate as regards the kind of projection dominating the infinitive following the modal; namely, whether it is a clausal node or a verbal projection (cf. Rizzi 1982; Burzio 1986; Piccolo 1985; 1990; among many others). Only recently has the notion of auxiliaryhood been taken into account as a way of explaining this similarity of otherwise contrasting sequences. Guéron and Hoekstra (1988) redefine this notion in terms of a specific

⁴ There seems to be a difference between root and epistemic modals with respect to these syntactic characteristics. Only root modals contrast straightforwardly with Aux-sequences, as the examples in the text illustrate.

feature that only auxiliaries may assign, a T-index. The assignment of this T-index is called T-marking and when such a process takes place, the phrase which is assigned the T-index is interpreted as (part of) a predicate in LF. Selected complements of a V must be interpreted either as predicates (if verbal) or as arguments (if nominal). Lexical verbs select nominal complements, and auxiliaries select predicate complements. This is formulated by Guéron and Hoekstra as a principle of Functional Determination of Categories (Guéron and Hoekstra 1988, 36):

(25) Functional Determination of Categories (FDC)

a. External

An XP is construed as a nominal projection iff it is casemarked.

An XP is construed as a verbal projection iff it is T-marked.

b. Internal

The subject of a nominal projection receives a Case which is determined internal to XP; the subject of a verbal projection receives Case (if any) determined by an external governor.

This principle applies at LF independently of the nature of the node dominating a non-finite form of a verb in a sequence of two verbs; what is relevant is the nature of the selecting verb. I will here consider only the external determination of categories; i.e. the ability or inability of the selecting verb to T-mark its complement.

Guéron and Hoekstra's analysis classifies causative verbs as auxiliaries. The following examples illustrate how T-marking may apply alike in a traditionally considered Aux-sequence and in a causative sequence in English. In (26)a., as noted above, the projection dominating the non-finite form is a VP; in (26)b., regardless of the nature of the projection dominating the infinitive selected by the causative, T-marking applies and it is construed as a VP in LF (X=V).

(26) a. She [_{has_j} [_{VP_j} seen_j the film three times]]

b. She [_{had_j} [_{XP_j} her husband do_j the dishes]]

In both sentences, the main verb in the VP absorbs the T-index and the two verbs in such a structure form a chain (a T-chain) sharing the same index.

Leaving the issue of the type of phrase selected by modal verbs aside, if we assume the FDC to be correct and we regard M-sequences as complex predicates —i.e. if we allow for modal verbs to assign a T-index—, the T-marking of both the VP selected by the aspectual auxiliary in an Aux-sequence and the XP selected by the modal in a M-sequence may be both interpreted as (part of) predicates. T-marking is assumed to be a “barrier-voiding” process, equivalent to L-marking. If this is the case, clitic climbing does not violate any principle in the grammar; namely, the empty category of the clitic is properly governed because the XP dominating the infinitive is no longer a barrier in modal sequences. The empty category is properly governed by the preceding V by antecedent government. The assumed structure for the two structures ((23)b. and (24)b.) where clitic climbing is possible is the following, omitting details for simplicity reasons:

- (27) a. L' he vist tres vegades
 b. pro l_i 'he^k [vist^k e_i] tres vegades

- (28) a. La podria veure tres vegades
 b. pro l_a podria^k [veure^k e_i] tres vegades

As observed, the first verb and the second one form a T-chain; they share the same T-index, and there is no intervening element which could give rise to the formation of another chain. The first verbs pass on the T-index to the XP they select, and the T-index is absorbed by the main verb. In such a structure, the fact that the clitic attaches to the first verb implies a unification of indexes; i.e. $k=i$. The empty category is, thus, properly antecedent governed by the verb preceding it. This proposal leads to the conclusion that modal verbs in Catalan are auxiliaries, at least in some of their uses.

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