

Modal verbs in Basque and head-movement

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In this paper I will discuss some peculiarities of modal verbs in Basque. I will argue that these properties are the effects of head incorporation as stated in Baker (1988). Assuming this analysis, it is suggested that some of those properties follow if we adopt the analysis of IP proposed by Laka (1988). Finally, I point out some problem of the analysis*.

Basic Data

Modal verbs in Basque take different types of complement clauses, depending on the relation between the subject of the matrix clause and the embedded subject^{1,2}:

- (1) a. Jonek_i [e_j ardoa lortzea] nahi du
John-E_i [e_j wine get-TZEA] want Aux-3A-3E
"John wants (somebody else) to get some wine"
- b. *Jonek_i [e_j ardoa lortzea] nahi du
John-E_i [e_j wine get-TZEA] want Aux-3A-3E
"John wants to get some wine"
- (2) a. Jonek_i [e_j ardoa lortu] nahi du
John-E_i [e_j wine get] want Aux-3A-3E
"John wants to get some wine"
- b. *Jonek_i [e_j ardoa lortu] nahi du
John-E_i [e_j wine get] want Aux-3A-3E
"John wants (someone else) to get some wine"

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(1) I will limit the examples to the verb *nahi* (want); however, the same basic facts hold, with some slight differences, of other verbs like *behar* (have to), *ahal* (can), *ezin* (cannot),...

(2) Following former works in the literature, I adopt the following conventions: A = Absolutive case; D = Dative case; E = Ergative case; PL = Plural number. -TZEA stands for the infinitival affix.

As is well known, Basque inflection shows Agreement not only with subjects but also with objects and indirect objects. This agreement is represented by assigning a number for the person (1 = first person,... 4 = first person plural,...) followed by the case to which it corresponds.

When the subject of the matrix clause and that of the embedded clause are not coreferential, those verbs take an infinitival clause as their complement (example (1A)). This is not possible, however, when the two subjects are coindexed: this fact is shown in (1b), where *Jon* and the empty subject are coreferential. In that case, the main verb obligatorily takes a clause in which, observationally, the verb appears in its participial form (never in infinitive), as in example (2a). Again, this second strategy is only allowed when both the subject of the matrix clause and the embedded subject are coreferential, but never when they are not (example 2b).

The structures we will be concerned about in this paper are those exemplified in (2), in which the two subjects are necessarily coreferential. As has been often noted in the literature, these structures present a whole range of atypical properties:

First, unlike in their infinitival counterparts, the subject of these constructions cannot be a phonetically realized NP:

- (3) a. *Jonek [berak/bera buruak ardoa lortu] nahi du.
 John-E [he-/himself-E wine-A get] want Aux-3A-3E.
 "John wants himself to get some wine"
 b. Jonek [e /berak ardoa lortzea] nahi du
 John-E [e/he-E wine-A get-TZEA] want Aux-3A-3E
 "John wants him to get some wine"

On the other hand, in spite of the relatively free order of the constituents in Basque sentence, nothing can intervene between the participial form and the matrix verb when those structures appear in the unmarked order; this restriction also holds for adverbs, as exemplified in (4b):

- (4) a. *Ardoa lortu Jonek nahi du
 wine-A get John-E want Aux-3A-3E
 b. *Jonek ardoa lortu orain nahi du
 John-E wine-A get now want Aux-3A-3E
 "John wants to get some wine now"

This restriction seems to be similar to that which, as Altube (1923) noted, holds between the verb and the auxiliary:

- (5) a. Jonek liburua atzo irakurri zuen
 John-E book-A yesterday read Aux-3A-3E-PAST
 "John read the book yesterday"
 b. *Jonek atzo irakurri liburua zuen
 John-Eyesterday read book Aux-3A-3E-PAST
 c. *Jonek liburua irakurri atzo zuen
 John-Ebook-A read yesterday Aux-3A-3E-PAST

Indeed, that they are subject to the same restriction is also confirmed by the fact that the exemption to that rule is possible, in both cases, in the same contexts; for clarification, compare the following sentences:

- (6) a. Ardoa lortu nahi duzu?
 wine-A get want Aux-3A-2E
 "Do you want to get some wine?"

- b. Nahi duzu ardoa lortu?
 want Aux-3A-2A wine-A get?
 "Do you want to get some wine?"
- (7) a. Jonek liburua irakurri du
 John-E book-A read Aux-3A-3E
 "John has read the book"
- b. Jonek ez du liburua irakurri
 John-E not Aux-3A-3E book read
 "John has not read the book"

In negative clauses, the negative element appears before the auxiliary and, unlike in affirmative sentences, the VP (but not the auxiliary) is dislocated to the right. Similarly, in some contexts it is possible to dislocate the "participial" sentence, leaving the main verb *nahi* and the auxiliary in their original position³. Generalizing, these restrictions can be formalized as in (8), where XYZ stand for any lexical element, with some restriction that are not relevant for the discussion in the case of (8b):

- (8) a. * ... V XYZ NAHI ...
 AUX
- b. NAHI XYZ V ...
 AUX

There is a third distinction involving these structures: generally, the auxiliary of the matrix sentence in Basque only shows agreement with the complements in its own sentence but never with the complements of the embedded clause. In the structures we are analyzing, however, the auxiliary of the main sentence agrees not only with its subject but also with the direct and indirect objects of the embedded clause:

- (9) a. Jonek [e ardoa erosi]nahi du
 John-E [e wine-A buy]want Aux-3A-3E
 "John wants to buy some wine"
- b. Jonek [e aspirinak erosi]nahi ditu
 Jon-E [e aspirine-A(PL) buy]want Aux-6A-3E
 "John wants to buy some aspirines"
- c. Jonek [e zuri ardoa erosi]nahi dizu
 John-E [e you-D wine-A buy]want Aux-3A-2D-3E
 "John wants to buy you some wine"

A Case of Incorporation

Consider the paradigm in (1)-(2), partially repeated here:

- (1) a. Jonek_i [e_i ardoa lortzea] nahi du
 John-E_i [e_i wine get-TZEA] want Aux: 3A-3E
 "John wants (somebody else) to get some wine"

(3) Examples like (6b), in which the embedded sentence is dislocated and the participial form does not appear adjacent to the main verb are quite marked, but they are generally accepted by most speakers of Basque.

- (2) a. Jonek_i [e_i ardoa lortu] nahi du
 John-E_i [e_i wine get] want Aux: 3A-3E
 "John wants to get some wine"

Baker (1988) proposes that if D-structure is basically a level in which thematic relations are represented, a unified theory of thematic representations should include a principle that constrains the possible well-formed D-structures:

(10) *The uniformity of theta assignment hypothesis*

(UTAH): Identical Relationship between items are represented by identical structural relationship between those items at the level of D-structure.

If this principle really plays a role, the two sentences in (1)-(2) must have the same D-structure, since the thematic relations between the two verbs and their arguments are the same. Therefore, given (1a), the structure in (2a) must be, at the level in which thematic relations are represented, biclausal.

As noted in section 1, however, structures like the one represented in (1b) present the particularity of showing agreement between the main auxiliary and the arguments of the embedded clause, a fact that must be explained.

Baker (1988) argues that morphological changes in the inflectional system and, more generally, grammatical function changing processes are the morphological side of more general processes that involve syntactic changes as well. Thus, changes in the agreement relationship among the constituents of the sentence are expected to correspond to changes in the syntactic relationship among those constituents. I will follow Baker in claiming that those processes can be explained without further stipulations by means of general rules and principles that already apply for independent change processes in natural languages; more precisely these phenomena will be analyzed as instances of the general rule move-a (in this case movements of 0-level elements in terms of X-bar Theory) and they obey the same general principles that hold for other instances of this rule (Wh-movement, NP-raising, and so on).

On the other hand, the particular properties shown by these changes with respect to other syntactic processes are assumed to be the effect of the nature of the element which moves; thus, it would be expected that the effects of the rule move-a when applying to heads are somehow manifested in a different way than those involving movement of maximal projections, this difference being the consequence of the nature of the elements moved.

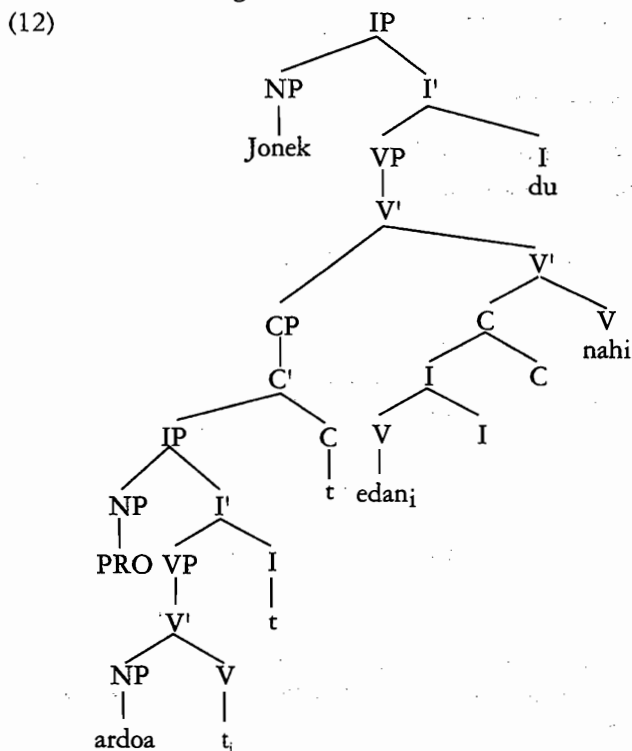
Assuming the preceding discussion, I will claim that the process involving changes in the agreement of the inflectional element in the structures at stake are the morphological counterpart of a syntactic adjunction of the embedded verbal element to the head of VP in the matrix clause (what Baker calls "Verb-Incorporation").

We suggested above, however, that this movement is not a strange process governed by particular rules 2A but rather it is subject to the same principles that hold for other instances of movement; in particular the trace left by the movement must obey the ECP⁴.

(4) For arguments supporting that traces of 0-level elements must be properly governed see Baker (1988: Ch. 2). Observe that this claim seems to be intuitively correct, because for the incorporated element to agree with its arguments in the embedded clause it must govern them also at S-structure, this requirement being met by means of its trace.

This principle poses a very strict locality condition on head movement since, assumed that the head itself does not count as a governor for itself, there is no possible lexical governor for the trace and, therefore, the possible antecedent governor must be in a position close enough to govern this position. In particular, the incorporation process at work cannot take place as in (11), because the maximal projections intervening between the Verb and its trace (namely VP, IP and CP) block the government relation. Thus, this incorporation must be done by means of intermediate steps⁵:

- (11) Jonek [[PRO ardoa t]
 John-E [[PRO wine-A t] du.
 Aux-3A-3E
- $$\begin{array}{c} V \\ \swarrow \quad \searrow \\ V \quad V \\ \text{lor} \quad \text{nahi} \\ \text{get} \quad \text{want} \end{array}$$



If the process described above is correct, some of the particular properties of the structures we are dealing with come up without further stipulations; in

(5) Observe that even when the incorporation involves intermediate adjunctions to I and C, as in (12), the VP intervening between I and V cannot be L-marked by INFL, a functional head, and, therefore, it counts as a barrier for the trace in V with respect to its governor, the verb in INFL position.

Baker, following Chomsky's (1986) proposal for movement of maximal projections out of VP, suggests that this problem can be solved if we allow \bar{V} to adjoin to VP in a first step. This strategy, however, is in conflict with Emond's Structure Preserving Constraint.

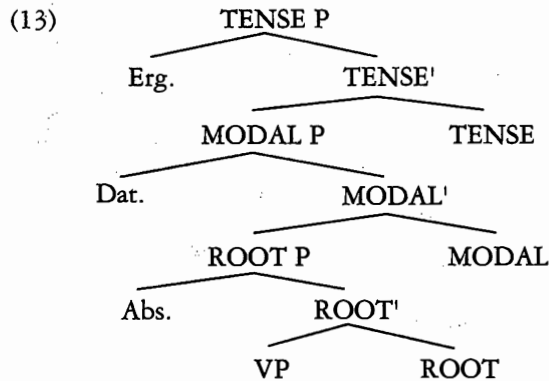
As it has been pointed out in the literature, many facts suggest that the definition of "government" must be revised so that VP does not count as a barrier between the elements within it and a potential governor outside.

particular, it would explain why the main auxiliary agrees with the embedded arguments, a fact that, under other assumptions, remains unexplained: provided that, as it has been generally claimed, there is a general process of V-to-INFL movement in Basque, the main INFL will contain, apart from its verb, the verbal and inflectional element of the embedded sentence and, in particular, its agreement features.

Although this analysis predicts accurately that the embedded verb must be adjacent to the modal verb, no lexical element intervening between them, it fails however in accounting for structures like (6b) in which the embedded sentence, including its verb, is dislocated to the right, the main verb remaining in its original position. It seems as if those structures showed the morphological effect of Verb-Incorporation without involving the syntactic side of this process, a fact that would contradict our theoretical claims. In the next section I will try to justify a slightly different way of accounting for this fact.

The Structure of INFL

Laka (1988) argues that the arguments in Basque are external to VP, and she proposes the following structure for the inflectional element in Basque⁶:



Assuming this configuration, the properties of the structures in which, under our analysis, Verb-Incorporation takes place are explained with minimal additional assumptions:

Under Laka's analysis, a device must be provided to allow the verb assign θ -role to each of its arguments which appear, at least at S-structure, in a position external to VP. The simplest assumption seems to be that the elements that bear the θ -role assigned by the verb are generated within VP at D-structure, in a position in which they can get it. In the mapping from D-structure to S-structure, NP-s in those positions have to move so that they can receive Case. Sentences, however, are not subject

(6) For arguments in favor of this structure, based on the morphological pattern of the inflected forms in Basque, see Laka (1988).

to the Case Filter and, therefore, they do not have to move out of VP⁷. This distinction is confirmed by some different facts in the case of Basque sentences:

To begin with, while temporal and infinitival clauses in Basque appear with overt morphological Case that indicates their syntactic function, completive Clauses take a complementizer that shows up to be reluctant to morphological Case markers (see (16a-b) below)⁸⁻⁹:

(14) a. pro ez dut ondo jan [[[pro honera etorri nintzen-]]-etik
(I) not Aux well eat [[[(I) here come Aux- [COMP]-from
"I have not eaten well since I came here"

b. [[PRO asko ikaste-]-akez dio gorputzari onik egiten
[[PRO a lot study-to]-E not Aux body-dat good make-ASP
"It is not good for the body to study a lot"

Second, with unergative verbs, the only argument bearing the u-role assigned by the verb appears in Ergative Case and, consequently, the agreement between the auxiliary and this argument surfaces in the ergative morpheme. Although these verbs do not subcategorize for direct objects, the auxiliary shows what traditionally has been considered the third person singular absolutive morpheme¹⁰; the same is true for the auxiliary form of a sentence in which the verb subcategorizes for a completive clause:

(7) Note that two independent stipulations are assumed here without further motivation: first, it is assumed that the reason why NP-s must move to their corresponding specifier positions is their need to get Case and that V in Basque cannot assign Case; second, that sentences, unlike NPs, cannot get Case and, therefore they do not move out of VP. Observe, however, that the proposed analysis is independent of both assumptions: suppose that the second assumption shows up to be false and that there is no such a strong constraint on sentences getting Case. Then, provided that the rule move-a is not obligatory, both strategies would be available: either the sentence stays within VP or it moves to the absolutive position. In those cases where the incorporation process must take place, the first strategy is not available, because the embedded CP would not be L-marked in the specifier position and, therefore, it counts as a barrier between the trace and its governor (see discussion in the preceding section). In the remaining cases (completive clauses,...) both strategies would be possible.

In the same way, if the first condition on NP movement turns out to be wrong, we can still maintain the analysis above, as far as the "new" requirement for the movement forces NPs (but not sentences) to move.

(8) As Uribe-Etxebarria (personal communication) observes, however, "*ela*" Complementizers can (in fact, they have to) get Case when they are in a position that receives genitive case. She notes the following contrast:

(i) a. [pro lana lortuko duzu-la]-ko esperantza...
[(you) job get-fut Aux-COMP]-gen. hope-A...
"The hope that you will get a job"

b. * [pro lana lortuko duzu-la] esperantza...
[(you) job get-fut Aux-COMP] hope-A

(9) Observe that infinitival clauses bear a determiner "-a". This suggests that these constructions in Basque are nominal elements and, therefore, they have to get Case; this would explain the different behavior of infinitival clauses (which, under our assumption, must move up to a Specifier position) and Completive Sentences with respect to Case assignment.

(10) Laka (1988) convincingly argues that the "D-", "Z-" and "L-" which surface on absolutive position in Basque auxiliary when it is third person are not really absolutive morphemes but that third marker is empty and the different morphemes surfacing in this position are assigned by the functional heads TENSE and MODAL.

Note that unergative verbs, in which there is no absolutive argument that could agree with the auxiliary but the corresponding markers show up in absolutive position, provide an independent argument in favor of this analysis.

- (15) a. Jonek gaizki hitzegiten du
 John-Ebadly speak Aux-3A-3E
 "John does not speak correctly"
- b. Jonek [pro afaria egingo dugula] esan du
 John-E[(we) dinner-A make-FUT Aux] say Aux-3A-3E
 "John said that we will have dinner"

Moreover, completive clauses can never appear either as subjects of transitive verbs (i.e. in a position in which they would be assigned Ergative Case), or as indirect objects (i.e. in dative position), as shown in (16). For lack of an independent reason for this fact, we could conclude that, in fact, they cannot appear in absolutive position either and, therefore, they are internal to VP at S-structure as well¹¹:

- (16) a. * [Jonek liburua du-ela] ez du ezer frogatzen
 [John-E book-A Aux-COMP] not Aux anything prove-ASP
 "That John has the book does not prove anything"
- b. * pro [Jonek gezurra esan du -ela] ez diot inportantziarik emango
 (I) [John-E lie-A say Aux-COMP] not Aux importance-A
 "I will not give any importance to the fact that J lies"

Finally, an independent confirmation is given by the "incorporated" structures at stake themselves: as examples (9a-c) (repeated here) show, the auxiliary of the main clause agrees with the direct object of the embedded clause and, therefore, changes its number morpheme depending on whether that object is singular or plural:

- (9) a. Jonek [e ardoa erosi] nahi du
 John-E [e wine-A buy] want Aux-3A-3E
 "John wants to buy some wine"
- b. Jonek [e aspirinak erosi] nahi ditu
 John-E [e aspirine-A(PL) buy] want Aux-6A-3E
 "John wants to buy some aspirines"

If the sentence was in the specifier of Root Phrase (cf. example (13) above) the main auxiliary should agree with it and, therefore, would not be affected by the change in number of the embedded object.

Summarizing the preceding discussion, my claim is that at D-structure, the level at which the thematic relations between the verb and its arguments are represented,

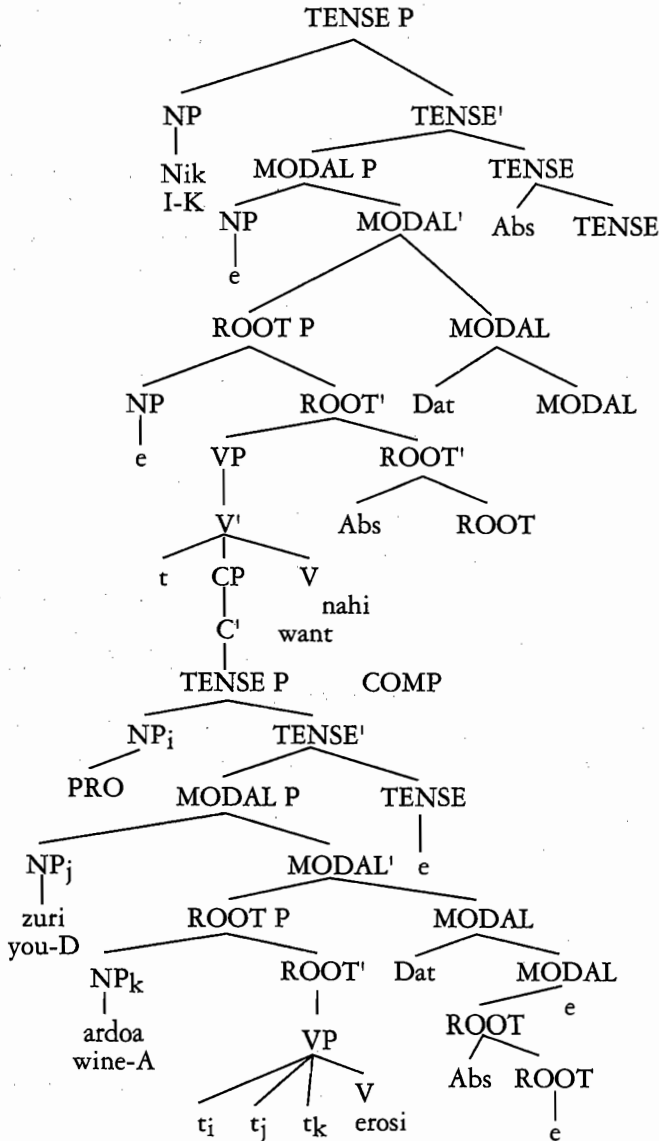
(11) Observe, once again, that (16)'s infinitival counterparts are absolutely grammatical in Basque:

- (i) a. [Jonek liburua iza-te-]ak ez du ezer frogatzen
 [John-E book-A have-to-]E not Aux anything prove
 "For John to have the book does not prove anything"
- b. pro [Jonek gezurra esa-te-]ari ez diot inportantziarik emango
 (I) [John E lie-A say-to-]-D not Aux importance-A give-FUT
 "I will not give any importance to the fact that J lies"

these arguments are in a position internal to VP¹², and the structure of the sentences at stake is biclausal.

In the mapping from D-structure to S-structure, several instances of the rule Move- α take place: the argumental NPs move to the different specifiers of the inflectio-

- (17) Nik [PRO zuri ardoa erosi] nahi dizut
 I-E [PRO you-D wine-A buy] want Aux-3A-2D-1E



(12) This proposal must be refined so that it explains more accurately the internal structure of VP, in order to account for the properties of NPs with respect to Binding Theory, and the configurational relations between the verb and the arguments bearing the different u-roles assigned by it.

nal heads in order to get Case; the embedded clause, however, must not move and remains in its original position within VP:

On the other hand, head-incorporation takes place: I will claim, however, that it is the auxiliary, rather than V, the element that moves up to the main verb-auxiliary complex, this movement being motivated by the lack of an overt functional head within the embedded inflexion¹³.

Since the clause is, by hypothesis, in the position in which it was generated at D-structure (ie. it is a complement of V) it is L-marked by the verb and, therefore, its head (with the lower functional heads adjoined to it) can continue its movement up, properly-governing its trace. Once it gets V, it has to continue up until it incorporates to the main inflectional compound, so that the requirement above is satisfied¹⁴. The final head will contain, in addition to the main verb and each of the "inflectional" heads, the inflectional elements of the embedded clause and, therefore, it will show agreement with the embedded complements. The embedded verb, however, is not incorporated and, therefore, it can dislocate to the right. Structures like (9) above, in which this element does not appear adjacent to the main verb would then be the consequence of that dislocation.

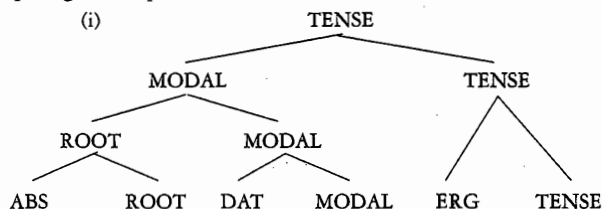
One interesting question arises related to this analysis, however; observe the following example:

- (18) pro nahi diozu Peruri ardoa erosi?
 (you) want Aux-3A-3D-3E Peter-D wine-A buy?
 "Do you want to buy Peter some wine?"

According to the analysis proposed above, the embedded sentence in (18) must be dislocated to the right, while its inflectional elements are incorporated, via head movement, to the main inflectional complex. But, if this is true, the lowest maximal projection dislocated to the right must be the embedded Modal Phrase, given that the NP in its Specifier position appears also dislocated¹⁵.

Indeed, given that this sentence appears in a position to the right of the auxiliary complex (that we assume to be in the main TENSE), the lowest projection to which

(13) We will assume, with Laka, that Agreement heads are adjoined to the functional heads giving the following morphological compound at S-structure:



I will also assume that in the structures we are analyzing agreement elements are adjoined to their corresponding heads, as in (i), but functional heads (ie. ROOT, MODAL and TENSE) in the embedded clause have an empty feature matrix in this case.

(14) For discussion about movement V-to-INFL see note 5.

(15) The minimal assumption would be, I think, that the whole embedded clause (CP, if any, or in any case TP) is in that position.

it can be adjoined is TENSE P. But, if so, the traces left by the raising of the auxiliary in its incorporation process are not c-commanded by their antecedent in the head of TP; thus, they are not properly governed, giving rise to a violation of the ECP. At this point of the inquiry I have not a clear solution for this problem¹⁶.

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(16) I am grateful to H. Lasnik and M. Saito for this observation. Ortiz de Urbina (1987) and (1989) claims that focalization phenomena in Basque are instances of WH-movement that in that language take place in the syntax. He provides a device to account for both phenomena in a unitary way, assuming that the focalized element moves, as the WH-phrase does, to the Specifier of COMP, forcing the Verb-Auxiliary compound to move to the head of CP, as an instance of Verb-Second phenomena. If this analysis was correct, there would be no such a problem, since it would be the main auxiliary, instead of the embedded clause, the element that moves up (to the COMP position), the traces created by the head-movement being in a position in which they are governed. As Uriagereka (1988) points out, however, the assumption that the head of CP is on the left in a language that shows head-right configuration needs a strong independent evidence that, in the case of Basque, does not seem to exist.