

ON THE FUNCTIONAL vs. LEXICAL NATURE OF RESTRUCTURING HEADS: EVIDENCE FOR A FINE-GRAINED CLASSIFICATION OF RESTRUCTURING MODALS

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Abstract: This paper examines in detail the thematic and syntactic properties of a set of (non-)restructuring structures in Germanic, Romance and Basque. Based on the comparison of these structures, I propose a fine-grained classification of (non-)restructuring constructions that include Functional Restructuring, Semi-Lexical Restructuring, Lexical Restructuring and Non-Restructuring constructions. The four types involve complements of different underlying structures (VPs, vPs or even as large as NegP/TPs). The results of the analysis argue against Cinque's (2005) hypothesis that all restructuring verbs are exclusively functional, and contradicts Wurmbrand's (1999) claim that, within the mixed class of restructuring verbs, modals must be raising verbs.

Keywords: functional restructuring, (semi-)lexical restructuring, modals, Germanic, Romance, Basque

1. Introduction

Recently advanced views on restructuring verbs fall into two main approaches: on the one hand, authors like Cinque (2004) propose that restructuring is universally restricted to functional heads; in contrast, Wurmbrand (2001, 2004) argues that, in languages like German, there also exists "lexical" restructuring (what she dubs LRI), where a lexical verb restructures with a small verbal complement. Within this debate, the analysis of Basque Modal Constructions (BMC) becomes particularly interesting. On the one hand, there is little research done concerning modal non-finite dependents in this language (see Etxepare and Uribe-Etxebarria 2009, 2010a and 2010b; henceforth E&UE); and, as we will see, the comparison between BMC and restructuring constructions in Germanic and Romance languages allows us to reach some firm conclusions regarding the underlying syntax of restructuring constructions in these languages. In addition, the analysis of BMC proves crucial in the debate concerning the functional vs. lexical nature of restructuring heads. In particular, I will show that the thematic properties of BMC contradict previous work where modal verbs are considered strictly functional (Cinque 2005) and raising heads (Wurmbrand 1999, 2004, Bobaljik and Wurmbrand 1999).

In this paper¹, I adopt E&UE's (2009, 2010a and 2003b) hypothesis that BMC involve different degrees of restructuring, Functional Restructuring (FRI), Lexical Restructuring (LRI) and Non-Restructuring (NRI), which differ with respect to the

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underlying syntax of the complement selected by the modal (as argued by Wurmbrand 2001, 2004). However, I show that this classification needs to be expanded to include 4 different types of (non-)restructuring constructions:

Functional Restructuring Type I constructions:

$$[\text{VP} \dots \text{V}^0 \dots] \text{F}^0$$

The modal is a functional head combining with a small (VP) size complement placed at its left side;

Semi-Lexical Restructuring Type II constructions:

$$[\text{vP/VP} \dots \text{V}^0 \dots] \text{V}^0$$

The modal is a semi-lexical head combining with a larger size complement (vP) placed at its left side;

Lexical Restructuring Type III constructions:

$$\text{V}^0 [\text{vP/VP} \dots \text{V}^0 \dots]$$

The modal is a fully lexical head which imposes selectional restrictions to their subject and combines with a large size complement (at least a vP) located to its right;

Non-Restructuring Type IV constructions:

$$\text{V}^0 [\text{TP} \dots \text{V}^0 \dots]$$

The modal is a lexical head which selects for a large size complement (at least a TP); these latter constructions present no restructuring effects.

The paper is structured as follows: section 2 introduces the phenomenon of restructuring and summarizes the main approaches to restructuring proposed in the last years on the basis of Romance and Germanic languages. In section 3, I examine the (non-)restructuring properties of BMC in detail. Following E&UE (2009, 2010), I first show that the transparency properties exhibited by these constructions vary depending on the word order the complement surfaces with respect to the modal. On the basis of this analysis, I present a classification of these constructions according to their level of (non-)restructuring. In section 4, I introduce some of the typical tests used to determine the syntactic size of non-finite complements (presence/absence of temporal modification and the possibility of embedded negation within the non-finite complements), and I provide further support coming from multiple negation constructions. In section 5, I show that restructuring modals display different thematic properties and that we should distinguish between functional restructuring, semi-lexical restructuring, lexical restructuring and non-restructuring. Finally, section 6 presents the main conclusions of the paper.

2. The phenomenon of restructuring

Some complex verb structures seem to behave like monoclausal structures in the sense that, although they involve more than one verb, they display clear transparency effects with respect to various syntactic operations. This phenomenon is commonly known as restructuring. In the next subsection I introduce some of the typical transparency effects exhibited by restructuring configurations in Romance languages and in German.

2.1 Transparency effects associated with restructuring

A typical transparency effect found in configurations involving restructuring is auxiliary switch, illustrated in (1). In (1a), the auxiliary that surfaces with the higher inflected verb is not determined by the modal verb but rather by the verb of the non-finite complement it combines with. Note that auxiliary switch is restricted to restructuring configurations and is not possible with verbs which select an inflected CP (1b)².

- (1) a. Avrei / ?Sarei voluto andar -ci con Maria.
 AUX_{TR} / AUX_{INTR} 1SG wanted go_{UNACC}-CL with Maria
 'I would have wanted to go there with Maria.'
 b. Avrei / *Sarei detestato andar -ci con Maria.
 AUX_{TR} / AUX_{INTR} 1SG hated go_{UNACC}-CL with Maria
 'I would have hated to go there with Maria.'
- (Cardinaletti and Schlonsky 2004)

Another typical clause-union effect, illustrated in (2) and (3), concerns clitic climbing. While in the Italian and Spanish examples (2a) and (3a) the clitics surface attached to the verb within the infinitival complement where they belong (*andar-ci*, *decir-se-lo*), in (2b) and (3b) they have moved out of the infinitival complements and appear immediately preceding the higher inflected verb.

- (2) a. Vorrei andar-ci con Maria.
 would-1SG go -CL with Maria
 'I would like to go there with Maria'
 b. Ci vorrei andare con Maria.
 CL would-1SG go with Maria
 'I would like to go there with Maria.'
- (Rizzi 1982)
- (3) a. Debes decir-se-lo a María.
 must-2SG say -CL-CL to María
 'You must say it to Maria.'
 b. Se lo debes decir a María.
 CL CL must-2SG say to María
 'You must say it to Maria'

As shown in (4) and (5), clitic climbing is impossible with complements of a predicate like *detestare* 'hate' or across an inflected CP:

- (4) a. Detesterei [CP andar-ci con Maria.]
 would hate-1SG go -CL with Maria
 'I would hate to go there with Maria'

² The abbreviations AUX_{INTR} and AUX_{TR} employed in the glosses stand for 'intransitive auxiliary' and 'transitive auxiliary' respectively. UNACC stands for 'unaccusative'.

- b. *Ci detesterei [CP andare con Maria.]
 CL would hate-1SG go with Maria
 'I would hate to go there with Maria'
 (Cardinaletti and Schlonsky 2004)
- (5) a. Creo [CP que se lo ha dicho a María.]
 believe-1SG that CL CL has said to María
 'I think he/she has said it to María.'
- b. *Se lo creo [CP que ha dicho a María.]
 CL CL believe-1SG that has said to María
 'I think he/she has said it to María.'

Other instances of transparency effects are the phenomena of long passive and the scrambling found in languages like German, where an XP can move out of the complement where it belongs. Consider the example in (6a). In this passive sentence, the object of the embedded infinitive appears with nominative case (rather than with accusative case, as objects usually do). This can only be taken to indicate that the restructuring infinitival has failed to assign accusative case to the object (it lacks the relevant functional projection: *vP*); consequently, the object has to move to the matrix clause to check case. Note that, since the matrix verb has undergone passivization, the only available case for the raised embedded object is the Nominative case. With regard to the scrambling example illustrated in (7a), we can see that the word order clearly indicates that the object has scrambled out of the infinitival complement, targeting a position which precedes the inflected matrix verb. As shown by the ungrammaticality of (6b) and (7b), both long passive and scrambling are restricted to certain types of predicates/configurations.

- (6) a. dass der Traktor zu reparieren versucht wurde
 that the tractor-NOM to repair tried was
 'They tried to repair the tractor.'
- b. *dass der Traktor zu reparieren geplant wurde
 that the tractor-NOM to repair planned was
 'They planned to repair the tractor.'
- (7) a. ... weil Hans den Traktor versucht hat [zu reparieren].
 because Hans the tractor-ACC tried has to repair
 '...because Hans tried to repair the tractor.'
- b. %... dass Hans den Traktor geplant hat [zu reparieren].
 that Hans the tractor-ACC planned has to repair
 '... that Hans planned to repair the tractor.'
- (Wurmbrand 2001)

In the next subsection I will summarize the major approaches to restructuring, and I propose that a fine-grained classification of restructuring constructions is necessary to account for the restructuring phenomena in the languages under analysis.

2.2 Major approaches to restructuring

Some early approaches (Kayne 1989, Rouveret 1997, Roberts 1998) analyse restructuring as involving a bi-clausal structure with a transparent CP boundary (the transparency of this CP would explain why syntactic operations such as clitic climbing are licensed). Other works analyse restructuring constructions as monoclausal constructions, created out of a biclausal structure (Rizzi 1976, 1982, Baker 1988, Ormazabal 1990 for Basque). In contrast, more recent theories of restructuring assume that restructuring structures are not derived from biclausal structures. Under this view, restructuring verbs differ from non-restructuring verbs in that the former have an impoverished argument structure and, further, they select complement structures smaller than a CP: these complements would correspond to a VP for some authors (Wurmbrand 2001, 2004, Cinque 2005) and would be no bigger than a ν P for others (Cardinaletti and Shlonski 2004). Still, there is no uniform treatment of restructuring within the various monoclausal approaches to the phenomenon: (i) Cinque (2005), for instance, argues that all restructuring is functional: restructuring verbs are inserted in the head position of a functional projection, under an approach where functional projections are classified according to a richly articulated and rigidly ordered hierarchy; as functional heads, restructuring verbs fail to assign thematic roles and have no arguments of their own; (ii) Cardinaletti and Shlonski (2004) find the functional/lexical dichotomy too narrow and, in view of the properties of a subset of Italian verbs, argue for the existence of intermediate categories which they classify as quasi-functional; these quasi-functional verbs allow clitic climbing and lack an internal argument (just as functional heads); but as lexical verbs, they can have an external argument, select the auxiliary and own their own clitic position³; (iii) Wurmbrand (2001, 2004) claims that there are different types of restructuring; functional restructuring verbs behave like functional heads in all respects (they have a raising structure, trigger clitic climbing and display long distance agreement and auxiliary switch); however, other restructuring verbs display mixed properties and, while they behave in some respects like lexical verbs (they participate in theta-role assignment and have an argument structure), they share other syntactic and semantic properties with functional elements (in particular, they combine with syntactically very small complements where “the infinitive (denotes) roughly an event or an action, lacks propositional and force properties such as an independent tense specification and complementizer material, lacks a structural case position/assigner, and does not include a syntactic subject” (Wurmbrand 2001: 4).

In the present paper, I will present new arguments that provide support for the following two hypotheses: (i) There exist different levels of (non-)restructuring that

³ As illustrated in the following examples from Cardinaletti and Shlonsky (2004), quasi-functional verbs like *andare* ‘go’ in Italian select the intransitive auxiliary *essere* ‘be’ while they allow the clitic associated to the non-finite transitive verb *trovare* ‘find’ to climb to a position preceding the matrix auxiliary.

- (i) a. Lo *ho / sono andato a trovare.
CL have.1SG / be.1SG gone to find
b. *Ho / sono andato a trovar-lo.
have.1SG / be.1SG gone to find-CL
‘I have gone to find him.’

involve complements of different syntactic structures; (ii) These (non-)restructuring heads can be of different thematic nature: purely functional, semi-lexical and lexical.

3. Evidence for a fine-grained classification of restructuring configurations: Asymmetries in the transparency of modal constructions

In the previous sections, I have shown some typical restructuring properties displayed by verbal complex constructions in languages like Italian, Spanish and German. Here I will examine several asymmetries regarding the clause-union phenomena exhibited by a subset of modal constructions in Basque. The aim is to show that these asymmetries are related to the degree in which the verb restructures with the complement in these constructions.

Recent work on Basque modal verbs (Haddican 2005, E&UE 2009, 2010a and 2010b) shows that the syntactic behaviour exhibited by some Basque modals (*nahi* ‘want’, *behar* ‘must / need’) makes it difficult to classify them as strictly functional categories. Haddican (2005) treats *nahi* ‘want’ and *behar* ‘must / need’ as quasi-functional verbs along the line of Cardinaletti and Shlonski (2004), since they are transparent to clitic climbing (that is, the auxiliary agrees in person and number with dative and absolutive arguments of the lower verb), but also participate in the selection of the auxiliary (‘be’ / ‘have’). In this sense, they contrast with purely functional modals like *ahal* ‘can / be able’, which do not participate in the choice of auxiliary (this is determined by the lower verb).

I will show, following E&UE (2009, 2010a and 2003b), that BMC involving *behar* ‘must / need’ and *nahi* ‘want’ are more complex than meets the eye and that the behaviour of these modals with respect to transparency effects – like auxiliary selection and agreement of the auxiliary with the embedded arguments – varies depending on the two possible word orders in which the modal and the non-finite complement surface. I will refer to these two word orders as Non-Fin + Modal and Modal + Non-Fin.

3.1 Auxiliary switch and case marking of the subject in BMC

The modals *behar* ‘need’ and *nahi* ‘want’ can select for both DP complements and non-finite verbal complements. When these modals select for a DP complement, this DP is assigned absolutive case, and the DP subject, in turn, receives ergative case. The modal acts as a lexical transitive verb and thus the auxiliary selected is transitive. This is illustrated in (8), which involves the auxiliary *dut* (a form of the transitive *edun* ‘have’).

- (8) Ni -k (*ni) diru -a behar / nahi dut (*naiz).
1SG-E (*1SG.A) money-3SG.A need / want AUX_{TR}3SG.A / 1SG.E (*AUX_{INTR}1SG)⁴

However, the constructions where *behar* ‘need’ and *nahi* ‘want’ select for a non-finite verbal complement display an asymmetrical behaviour regarding word order, auxiliary selection and case. Let us next consider these asymmetries:

⁴ A stands for Absolutive case, E for Ergative, D for Dative, ACC for Accusative and NOM for Nominative.

3.1.1 Non-Fin + Modal word order

When *behar* ‘need’ and *nahi* ‘want’ follow a non-finite complement that contains an unaccusative verb, auxiliary switch is optional. This optionality is shown in (9a-b) vs. (9c-d):

- (9) a. Ni -k bilera -ra joan behar dut.
1sg-E meeting to go_{UNACC} must / need AUX_{TR}1SG.E
‘I must go to the meeting.’
b. Xabierre-k joan nahi du.
Xabier -E go_{UNACC} want AUX_{TR}3SG.E
‘Xabier wants to go.’
c. Ni bilera -ra joan behar naiz.
1SG.A meeting to go_{UNACC} must / need AUX_{INTR}1SG.A
‘I must go to the meeting.’
d. %Xabier joan nahi da.⁵
Xabier.A go_{UNACC} want AUX_{INTR}3SG.A
‘Xabier wants to go.’

Thus, in (9a-b) involving the unaccusative verb *joan* ‘go’, the auxiliary chosen is the transitive *dut* (a form of the verb *edun* ‘have’), in which case, the matrix subject surfaces with ergative case. Alternatively, the same sentences can occur with the intransitive auxiliary *naiz* (a form of the verb *izan* ‘be’), in which case the subject bears absolutive case (the case assigned to unaccusative subjects in Basque). This is illustrated in (9c-d). This must be taken to indicate that when the modal selects a non-finite complement, it may behave lexically, determining a transitive auxiliary and an ergative subject, or functionally, in which case the modal is transparent to auxiliary selection and case-assignment by the lower uninflected verb. Note that the selection of the intransitive auxiliary and absolutive case in (9c-d) must be necessarily attributed to the presence of the unaccusative uninflected verb itself, and not to the modal verb (as shown in (8) above, *behar* ‘need’ and *nahi* ‘want’ exhibit the behaviour of transitive verbs).

3.1.2 Modal + Non-Fin word order

Interestingly, modal constructions show a completely different behaviour regarding the selection of the auxiliary in those contexts where the non-finite clause surfaces to the right of the modal verb⁶.

⁵ The selection of an intransitive auxiliary in the case of the modal *nahi* ‘want’ is restricted to the North-Eastern dialects of Basque, as illustrated in the following extract from a Zuberoa Basque text referred to by Euskaltzaindia (‘The Royal Academy of the Basque Language’) at http://www.euskaltzaindia.net/dok/arauak/Araua_0114.pdf.

(i) Desertiala *juan* *nahi* bazira, arren zuaza, oi, bena berhala
to the desert go(UNACC) want if-AUX_{INTR} please go, INTERJ but soon
‘If you want to go to the desert, do go, oh!, but soon.’ (Sallaberry 1870)

⁶ In many languages presenting underlying SOV word order, non-finite clauses may surface preceding or following the main verb; this variation in the word order correlates with different syntactic characteristics (Wurmbrand 2004, E&UE 2009).

- (10) a. Umee-k behar dute (*dira) ikastola-ra joan.
 children-E must / need AUX_{TR}3PL.E (*AUX_{INTR}3PL.A) school -to go_{UNACC}
 ‘The children must go to school.’
- b. Umee-k nahi dute (*dira) parke-ra joan.
 children-E want AUX_{TR}3PL.E (*AUX_{INTR}3SG.A) park -to go_{UNACC}
 ‘The children want to go to the park.’

As illustrated in (10a-b), when the modal precedes the complement, the intransitive auxiliary *izan* ‘be’ is not licensed and the subject must obligatorily surface with Ergative case. This indicates that, in the Modal + NonFin word order, the modal always acts as a transitive verb for purposes of auxiliary selection and case assignment.

3.2 Agreement with the arguments of the embedded complement

Once we have discussed the particularities of these modal constructions with regards to word order, auxiliary selection and case, let us now consider the asymmetries they display regarding agreement with the arguments in the embedded non-finite complement.

3.2.1 Non-Fin + Modal word order

As shown in sentences (11a-c), when the modal follows the non-finite complement, the matrix auxiliary must agree with all the arguments of the lower verb:

- (11) a. Patata-k erosi behar ditut (*dut)
 potato-PL.A buy must / need AUX_{TR}3PL.A (*AUX_{TR}3SG.A)
 ‘I want to buy potatoes’
- b. Liburuak irakurri nahi -ko nituzke (*nuk)
 book-PL.A read want-FUT AUX_{TR}3PL.A (*AUX_{TR}3SG.A)
 ‘I want to read the books’
- c. Amari oparia erosi nahi nioke
 mum-D gift-3SG.A buy want AUX_{TR}3SG.A / 3SG.D / 1SG.E
 (*nuk)
 (*AUX_{TR}3SG.A / 1SG.E)
 ‘I want to buy a gift to my mum.’

Thus, in (11a-b) the auxiliary necessarily agrees with the plural absolutive objects (*patatak* ‘potatoes’, *liburuak* ‘books’) of the uninflected verbs (*erosi* ‘buy’ and *irakurri* ‘read’), and in (11c) the auxiliary must agree both with the absolutive (*opari polita*) and the dative arguments (*amari*) of the uninflected verb *erosi* ‘buy’. Whenever the auxiliary fails to agree with any of the embedded arguments, the result is ungrammatical.

3.2.2 Modal + Non-Fin word order

In contrast, when the embedded complement surfaces to the right of the modal verb, agreement with the embedded absolutive and dative arguments appears to be

optional (12a-b), except when the agreement is with the 1st or 2nd person. As noticed by E&UE (2009, 2010a, b) person agreement with the 1st and 2nd person is always obligatory, as shown in (13a-b) and (14a-b)⁷.

- (12) Agreement: optional
- a. Patxi-k nahi luke / lituzke lanak bukatu.
Patxi.E want AUX_{TR}3SG.A / 3SG.E / AUX_{TR}3PL.A / 3SG. work PL.A finish
'Patxi wants to finish his works.'
- b. Patxi-k behar luke / lioke alkateari
Patxi-E must / need AUX_{TR}3SG.A / 3SG.E / aux_{TR}3PL.A / 3SG.D / 3SG.E major.D
garrantzi handi-ko gai bat -ez mintzatu.
importance great-of issue one-about talk
'Patxi needs to talk to the major about an important issue.'
- (13) Agreement with 1st / 2nd person absolutive DPs: obligatory
- a. *Behar dut zu etxe -ra eraman.
must / need AUX_{TR}3SG.A / 1SG.E 2SG.A home-to take
'I need to take you home.'
- b. Behar zaitut (zu) etxe-ra eraman.
must / need AUX_{TR}2SG.A / 1SG.E 2SG.A home-to take
'I need to take you home.'
- (14) Agreement with 1st / 2nd person dative DPs: obligatory
- a. ?? Behar dut zuri liburua eman.
must/need AUX_{TR}3SG.A / 1SG.E 2SG.D book give
'I must give you the book.'
- b. Behar dizut (zuri) liburua eman.
must/need AUX_{TR}3SG.A / 2SG.D / 1SG.E 2SG.D book give
'I must give you the book'

Let us summarise the main conclusions that follow from the data presented in (8-14): (i) BMC with *nahi* 'want' and *behar* 'must/need' differ with respect to the word order the modal and its complement surface with. This can be Non-Fin + Modal (where the non-finite complement precedes the modal) and Modal + Non-Fin (where the non-finite complement follows the modal); (ii) the presence/absence of transparency effects varies depending on this word order. In the Non-Fin + Modal word order, agreement with the arguments of the embedded verb is obligatory, but the auxiliary can be determined either by the modal or by the non-finite verb. By contrast, in the Modal + Non-Fin word order, the auxiliary is always determined by the modal, but agreement with the arguments selected by the non-finite verb is optional (except for 1st / 2nd person agreement). Table 1 captures the asymmetries found in BMC:

⁷ E&UE (2009, 2010a, 2010b) argue that we should dissociate number agreement with the 3rd person absolutive from 1st and 2nd person agreement: person agreement behaves like clitic climbing, but number agreement does not (see E&UE 2010b for a detailed discussion).

Table 1. Asymmetries in BMC involving *behar* ‘must / need’ and *nahi* ‘want’

Word-order	Non-Fin + Modal	Modal + Non-Fin
Auxiliary switch	Optional	Obligatory
Agreement with embedded arguments	Obligatory	Optional

In view of these asymmetries, I propose that we shall distinguish between four types of modal constructions:

- Type I constructions: present a Non-Fin + Modal word order and full transparency regarding auxiliary switch and agreement;
 Type II constructions: present a Non-Fin + Modal word order and are only transparent to agreement (the auxiliary is not switched);
 Type III constructions: present a Modal + Non-Fin word order and are only transparent to agreement (the auxiliary is not switched);
 Type IV constructions: present a Modal + Non-Fin word order and are totally opaque to agreement and auxiliary switch.

Table 2 illustrates the four-type classification of BMC:

Table 2. The four types of BMC

Word order	Non-Fin + Modal		Modal + Non-Fin	
Type	Type I	Type II	Type III	Type IV
Auxiliary switch	√	X	X	X
Case assigned to subject	Absolutive	Ergative	Ergative	Ergative
Agreement with embedded arguments	√	√	√	X

In the next section, I will show that, interestingly, the differences exhibited by these four types correlate with other relevant syntactic properties. These properties support the hypothesis that these constructions correspond to different levels of (non-)restructuring in which the head can combine with complements of different sizes. Later, in section 5, I will provide independent evidence for this four-type graded classification of (non-)restructuring modal constructions in Basque.

4. The syntactic size of the complements of modal constructions

In this section, I present the data provided by two of the typical tests used to determine the underlying syntax of non-finite complements in languages like German (Wurmbrand 1998 and 2001), English (Cable 2004) and Basque (E&UE 2009, 2010a and 2003b: the (im)possibility of temporal modification and (im)possibility of negation internal to the complement. The results reveal that complex verb constructions that display restructuring properties block the presence of temporal modification and negation within the complement, supporting the hypothesis that restructuring heads select for smaller complements than those selected by non-restructuring heads. I propose an additional test – the (im)possibility of licensing multiple negation of the higher inflected verb and its embedded complement – which will further support this hypothesis.

4.1 Temporal modification

The first test which I will present examines the (im)possibility of licensing temporal adverbs that locate the embedded event runtime at a time interval different from that of the matrix event.

4.1.1 Temporal modification and restructuring in German and English

Wurmbrand (1998) observes that, in German, there is no restructuring effect when the infinitival contains a temporal adverbial modifying the embedded tense (that is, when a temporal adverbial contributes an independent tense interpretation of the embedded complement). Thus, while as shown in (15a-b), scrambling of an embedded argument to the matrix clause is possible, it becomes ungrammatical when the embedded infinitive contains an adverb like *morgen* ‘tomorrow’ that anchors the non-finite event at a future time relative to the matrix event time, as shown in (15d).

- (15) a. weil der Hans versuchte [den Wagen über die Grenze zu schmuggeln]
 since the-NOM Hans tried [the-ACC car across the border to smuggle]
 ‘Since Hans tried to smuggle the car across the border.’
 b. weil der Hans [den Wagen]_{SCR} versuchte über die Grenze zu schmuggeln]
 since the-NOM Hans [the-ACC car]_{SCR} tried across the border to smuggle
 ‘Since Hans tried to smuggle the car across the border.’
 c. #weil der Hans versuchte [den Wagen *morgen* über die Grenze zu
 since the-NOM Hans tried [the-ACC car *tomorrow* across the border to
 schmuggeln]
 smuggle]
 ‘#Since Hans tried to smuggle the car across the border tomorrow.’
 d. *weil der Hans [den Wagen]_{SCR} versuchte [_{SCR} *morgen* über die
 since the-NOM Hans [the-ACC car]_{SCR} tried [_{SCR} *tomorrow* across the
 Grenze zu schmuggeln]
 border to smuggle]
 ‘#Since Hans tried to smuggle the car across the border tomorrow.’
 (Wurmbrand 1998: 56-57)

Similar facts obtain in constructions involving the verb *try* in English. As shown by Cable (2004), this verb may take non-restructuring complements involving a *to*-infinitive (what he refers to as *to*-form complements) or complements headed by a verb suffixed with *-ing* (*ing*-form complements). Interestingly, the two types of complements differ with respect to the possibility of licensing temporal adverbs:

- (16) a. ?I tried to leave tomorrow, (but the airline didn’t have any tickets).
 b. *I tried leaving tomorrow, (but the airline didn’t have any tickets).
 (Cable 2004)

As shown in (16b), temporal adverbs like *tomorrow* are excluded from within *ing-form* complements. Conversely, in the *to-form* complement in (16a) temporal modifiers are licensed. Cable (2004) takes this to indicate that *ing-form* complements involve less amount of structure (according to him, these are no larger than bare VPs), and should therefore be considered restructuring complements.

4.1.2 Temporal modification and restructuring in Basque

E&UE (2009) predict BMC to display an asymmetrical behaviour regarding the acceptability of temporal adverbials. This prediction is borne out: in modal constructions that present restructuring effects such as auxiliary switch (Type I) and or agreement with the embedded arguments (Type I, Type II and Type III of my classification) an adverbial like *bihar* ‘tomorrow’ cannot modify the embedded verb (17a-c), while in those constructions taken to involve non-transparent, non-restructuring infinitives (Type IV), *bihar* ‘tomorrow’ is licensed (as shown in 17d).

- (17) a. *Jon **bihar** etorri behar da **gaur.** Type I
 Jon.A tomorrow come_{UNACC} must AUX_{INTR}3SG.A today
 ‘Today Jon must come tomorrow.’
- b. *Jon **bihar** etorri behar / nahi du **gaur.** Type II
 Jon.E tomorrow come_{UNACC} must / want AUX_{TR}3SG.E today
 ‘Yesterday Jon must come tomorrow.’
- c. ??Jon-ek **atzo** behar / nahi zituen **bihar** liburu-ak
 Jon.-E yesterday need / want AUX_{TR}3PL.A / 3SG.E tomorrow book-3PL.A
 itzuli. Type III
 return
 ??‘Jon yesterday needed / wanted to return the books tomorrow.’
- d. Jon-ek **atzo** behar / nahi zuen liburu-ak **bihar**
 Jon-E yesterday need / want AUX_{TR}3SG.A / 3SG.E book-3PL.A tomorrow
 itzuli. Type IV
 return
 ‘Jon yesterday needed / wanted to return the books tomorrow.’

The results that E&UE obtain (2009) from the analysis of the different modal constructions under analysis are thus coherent with Wurmbrand’s (1998 and 2001) claim that the complements of functional and lexical restructuring verbs lack a TP projection.

Yet, the analysis evidences that Wurmbrand’s verbal classification according to which modal verbs combine with bare infinitives cannot apply to BMC. As stated by Wurmbrand, modals like *must* and *want*, among others, are to be included strictly within the restructuring predicate class across languages (Wurmbrand 2001: 7). However, the Basque modal construction in (17d) presents none of the restructuring properties described so far (auxiliary switch and transparency to agreement with the arguments of the uninflected complement). Interestingly, this is the only case that admits a time adverb disagreeing with the time of the matrix clause. These two facts convincingly demonstrate

that modals in Basque can be non-restructuring verbs that select for (at least) TP complements.

To sum up, the temporal adverbial test permits us to conclude that (i) Basque modals not always restructure with their complement, and that (ii) they differ with regard to the selection of the complement: restructuring modals take complements smaller than TPs, while non-restructuring modals select for complements (at least) as large as TPs⁸.

4.2 Negation within the non-finite complement of modals

The second test I will present concerns the possibility of licensing clausal negation within the non-finite complement.

4.2.1 Negation in Germanic and Romance infinitival complements

Various works have studied the question whether non-finite dependents can involve sentential negation. What some authors have proposed is that, in restructuring constructions in which the restructuring verb combines with a complement of smaller size (no bigger than VP/vP) embedded negation is impossible (Wurmbrand 1998 and 2001; Cable 2004; E&UE 2009, 2010a-b; among others). Such is the case of the Italian and Spanish restructuring constructions in (18b) and (19c), where embedded negation blocks clitic climbing.

In contrast, negation is allowed in non-restructuring configurations where the clitic remains attached to the uninflected verb, as shown in (18a) and (19a-b). According to Zanuttini (1997), sentential negation is represented by a clausal functional projection (NegP) above (VP) (see also Pollock 1989; Belletti 1990; Haegeman and Zanuttini 1996), and this NegP is located in a position immediately dominating TP in languages like Spanish and Italian. If Zanuttini's (1997) analysis is correct, then we must take the possibility of sentential negation in this type of structures (18b, 19b) to indicate that non-restructuring configurations like (18a) and (19a-b) involve structure larger than VP/vP: a TP complement at least⁹.

⁸ Nothing has been said in this paper about the temporal modification of modal complements in languages like German and English. Wurmbrand (1998) argues that modal complements do not own a tense projection. Even though the complement of necessity and volitional modals like *müssen/must* and *woollen/want* and *möchten/would like to* in German and English can appear to have an independent temporal interpretation, she argues that this interpretation is assigned as part of the meaning of the modal. The interesting thing about BMC, however, is that the different modal constructions manifest evident asymmetries with respect to the licensing of a temporal adverb like *bihar* 'tomorrow' and that, in addition, these asymmetries correlate with other syntactic properties. These shouldn't be the case if the temporal interpretation of the modal complement would be derived by the semantic of the modal itself. In Balza (in progress), I provide independent evidence derived from Sequence of Time effects, that the complements of Basque modals may involve a tense projection.

⁹ Various authors have questioned the impossibility of clitic climbing across negation (cf. Napoli 1981; Cinque 1999). In fact, besides clitic climbing, there are some other restructuring effects that appear to be compatible with embedded negation. For instance, in Italian restructuring phenomena like object preposing may co-occur with negation:

(i) Quei libri si potrebbero non leggere subito

- (18) a. Voglio non far-lo
want-1SG not do-CL
'I want not to do it.'
b. Lo voglio (*non) fare
CL want-1SG (*not) do
'I want (*not) to do it.'
- (Wurmbrand 2001: 130)
- (19) a. Puedes no tener ningún síntoma y estar embarazada.
can -2SG not have any symptom and be pregnant
'You cannot have any symptom and be pregnant'
b. En cuanto a los síntomas, puedes no tener-los y estar embarazada.
as for the symptoms can -2SG not have-CL and be pregnant
'As for the symptoms, you cannot have them and be pregnant'
c. *En cuanto a los síntomas, los puedes no tener y estar embarazada
as for the symptoms CL can -2SG not have and be pregnant
'As for the symptoms, you cannot have them and be pregnant.'

In German too, restructuring contexts such as long passives preclude an embedded negation reading in (20):

- (20) a. weil dem Hans [der Spinat nicht zu essen] erlaubt wurde
since the-D Hans [the-NOM spinach not to eat] allowed was
'since Hans was not allowed to eat spinach.'
*'since John was allowed not to eat spinach'
b. weil [der Kuchen nicht zu essen] versucht wurde
since [the-NOM cake not to eat] tried was
'since they didn't try to eat the cake'
*'since they tried not to eat the cake'
c. weil dem Hans [der Kuchen nicht zu essen] gelungen ist
since the-D Hans [the-NOM cake not to eat] managed is
'since Hans didn't manage to eat the cake'
*'since Hans managed not to eat the cake'
- (Wurmbrand 2001: 118)

Let us now turn to the case of the English verb *try*. As shown by Cable (2004), this verb takes both non-restructuring *to-form* complements and restructuring *ing-form*

these books *SI* would-be-able not read immediately
'What people could do is not read these books immediately.'
*'What people could not do is to read these books immediately.'

(Watanabe 1993: 366)

Wurmbrand (2003) suggests that these might be actually instances of what she calls Reduced Non-Restructuring (RNR) complements involving a position for negation as well as for independent tense. We will discuss some related facts in Basque in f.n. 7 of section 4.2.2.

complements. Crucially, we find the same contrast between the two types of complements we come across in German restructuring vs. non-restructuring constructions: while the *ing*-form complement resists embedded negation, the *to*-form complement in (24a) licenses it.

- (21) a. I tried not to cry, (but the tears wouldn't stop).
b. *I tried not crying, (but the tears wouldn't stop).

(Cable 2004)

Summarizing, the embedded negation test supports the conclusion that, in Romance and Germanic languages, the same verb can take both restructuring and non-restructuring complements, correlating with different structures: restructuring constructions which disallow embedded negation must correlate with small size complements which do not consist of a domain for negation. In contrast, full non-restructuring verbs present strong cross-boundary effects and the complements they select contain a position for negation.

4.2.2 Licensing of negation in Basque modal complements

With this background in mind, let us now analyse the behaviour of modals *behar* 'need / must' and *nahi* 'want' with respect to the possibility of licensing embedded negation: As shown by E&UE (2009, 2010a-b), non-finite complements license internal negation only in the cases where the modal precedes the complement, that is, in the Modal + Non-Fin word order, whereas embedded negation is impossible in the Non-Fin + Modal order where the precedes the modal. As we will see, if the negative element *ez* 'not' is present in the embedded complement, it blocks agreement with the embedded arguments. This restriction is illustrated in (22) and (23), where I examine the possibility of licensing embedded negation in each of the four constructions I have proposed. In the restructuring constructions in (22a-f) (that is, in Type I, Type II and Type III constructions), the presence of negation in the modal complement renders the sentences ungrammatical.

- (22) a. [*Ez etorri] behar natzaio. Type I: *Neg
not come_{UNACC} must AUX_{INTR}3SG.D / 1SG.A
'#I must [not come to him].'
b. [*Ez mintzatu] nahi natzaio. Type I: *Neg
not speak_{UNACC} want AUX_{INTR}3SG.D / 1SG.A
'#I want to not come to him.'
c. [*Ez etorri] behar / nahi dut. Type II: *Neg
not come_{UNACC} must / want AUX_{TR}3SG.A / 1SG.E
'#I must/want to [not come to him].'
d. [Ez liburu-ak] erosi behar / nahi ditut. Type II: *Neg
not book -PL.A buy must / want AUX_{TR}3PL.A / 1SG.E
'#I must/want to [not buy the books].'
e. *Ni -k behar ditut [ez liburu hauek ahaztu]. Type III: *Neg
1SG-E need AUX_{TR}3PL.A / 1SG.E not book these-A forget
'I must not forget these books.'

- f. *Ni -k nahi ditut [ez liburu hauek irakurri]Type III:*Neg
 1SG-E need aux_{TR}3PL.A / 1SG.E not book these-A read
 'I must not forget these books.'

In contrast, non-restructuring Type IV constructions such as (23a-b) allow negation in the embedded complement.¹⁰

(23) **Type IV Non-Restructuring:** √Neg

- a. Nahi / behar nuke ez deus (ere) erosi behingoz
 want / need AUX_{TR}3SG.A / 1SG.E anything (at all) not buy once-and-for-all
 (erosteko adikzio honetatik libratzeko)
 (buy-for addiction this-from free-for)
 'I would like to/need to not buy anything (at all) once and for all, (to release me from my shopping addiction).'
 (adapted from E&UE 2009)
- b. Ni -k behar dut [ez liburu hauek ahaztu].
 1SG-E need AUX_{TR}3SG.A / 1SG.E not book these-A forget
 'I must not forget these books.' (E&UE 2010b)

As noticed by E&UE (2009), the presence of a negative polarity item such as *deus (ere)*, which can only be licensed under the scope of sentential negation, excludes an analysis in terms of constituent negation.

If the hypothesis proposed by Laka (1990) that NegP selects for TP in Basque is correct, then it must be the case that in the non-restructuring constructions in (23a-b), the modal combines with a syntactically more complex complement: one that involves a tensed domain (TP), and is thus opaque to transparency effects. By contrast, restructuring constructions exhibiting clause-union phenomena (22a-f) must be smaller than a TP. As proposed in section 3, they can be as small as a vP (in the transitive cases) or a VP (when they involve an intransitive auxiliary).

The embedded negation test thus supports the hypothesis defended by E&UE (2009, 2010a-b), adopted in this paper, that Basque modals can combine with restructuring and non-restructuring complements, thus correlating with different syntactic structures.

¹⁰ Under some circumstances, in the Modal + Non-Fin cases, the object of the non-finite predicate can precede the negative element *ez*, in which case, the matrix auxiliary presents agreement with this object, as illustrated in (i vs. ii) below.

(i) Ni-k nire lagun -ak behar ditut [ez ikusi].
 1SG-E my friend-the.PL.A must AUX_{TR}3PL.A not see
 'I must not see my friends.'

(ii) *Ni-k nire lagun -ak behar dut [ez ikusi].
 1SG-E my friend-the.PL.A must AUX_{TR}3SG.A not see
 'I must not see my friends.'

(Duguine in progress)

As observed by Duguine (in progress), the object in (i) has been fronted to a position preceding the modal and matrix auxiliary, outside the non-finite complement. This fronted object cases are reminiscent of the Italian object preposing cases presented in f.n. 6, in that in the two cases, negation co-occurs with restructuring effects. This suggests that the construction in (i) above might as well be analysed in terms of reduced-restructuring, and that the classification of BMC might be even more fine-grained than what I have shown so far.

4.3 Multiple negation

The data analysed so far show that in non-restructuring constructions, a modal verb may select a complement involving embedded negation, what suggests that in these cases, the complement correlates with a syntactic structure containing more structure than the complement of restructuring configurations: at least a NegP/TP.

An additional test that can help us determine the structure of the complements involved in complex verb constructions is the multiple negation test, where both the modal and its embedded complement are negated¹¹.

Considering these facts, the prediction would be that multiple negation should be restricted to non-restructuring constructions (Type IV), while it should be prohibited in those involving restructuring (Type II, Type III, Type IV). As I will show throughout this subsection, this prediction is born out: only non-restructuring (Type IV) configurations contain a high position for sentence negation (NegP).

4.3.1 Multiple negation in English and Spanish

As expected, in Spanish, complex verb constructions in which the negative element *no* ‘not’ occurs preceding both the higher inflected verb and the non-finite verb within the complement are incompatible with the typical transparency properties attributed to restructuring structures like clitic climbing. Notice that in such constructions, there should be no ambiguity regarding where we interpret negation: the higher *no* ‘not’ affects the modal, and the lower *no* ‘not’ the uninflected verb. This indicates that, whenever multiple negation is possible, there must be more than one NegP (one in the matrix sentence and another inside the complement), and, consequently, clitic climbing should be blocked.

With this in mind, let us consider the examples in (24) below. While in those sentences where the clitic climbs to a position preceding the higher inflected verb multiple negation is impossible (see 24b-d), those in which the clitic remains attached to the non-finite predicate (as in 24a-c) are perfectly grammatical. These corroborates the prediction that restructuring constructions that exhibit transparency effects do not contain a position for embedded negation and involve less structure than their non-restructuring counterparts (at least a NegP).

- (24) a. En cuanto al periódico, no puedes no leer -lo nunca.
 as for the newspaper not can-2SG not read-CL never
 ‘As for the newspaper, you can’t not ever read it.’
 b. *En cuanto al periódico, no lo puedes no leer nunca.
 as for the newspaper not CL can-2SG not read never
 ‘As for the newspaper, you can’t not ever read it.’

¹¹ Note that in the instances of multiple negation illustrated in the text the two negative elements are not instances of Negative Concord. The two negative elements head two different Neg Phrases, one modifying the modal verb and the other modifying the non-inflected verb.

- c. No debes no creer -te -lo.
not must-2SG not believe-CL-CL
'You can't not believe it.'
- d. *No te lo debes no creer.
not CL CL must-2SG not believe
'You can't not believe it.'

Let us now turn to the case of English. Recall that, as argued in Cable (2004), the English verb *try* selects for both non-restructuring and restructuring complements. According to this author, restructuring *try* takes bare VP complements of *ing*-form that resist (independent) temporal modification and clausal negation. Conversely, non-restructuring *to*-form complements of *try* license temporal modifiers and negation. Therefore, the prediction will be that multiple negation should not be allowed when *try* combines with *ing*-form complements, while it should be when *try* combines with non-restructuring infinitival complements. The examples in (25a-d) demonstrate that this prediction is born out¹².

- (25) a. Don't try to react!
- b. Don't try not to react; just be yourself.
- c. Don't even try doing it yourself.
- d. *Don't even not try doing it yourself!

As shown by the ungrammaticality of (25d), multiple negation is not allowed in those constructions involving an *ing*-form complement of the verb *try*, which supports Cable's (2004) analysis.

4.3.2 Multiple negation in Basque modal complements

Crucially, in Basque we observe the same contrast we have found in Spanish and English regarding multiple negation and (non-)restructuring. Among the different types of modal constructions under analysis (Type I-IV), multiple negation is only possible in Type IV constructions involving no restructuring phenomena at all (as shown in 27), whereas in those constructions that exhibit restructuring properties such as auxiliary switch (Type I) and/or agreement with embedded arguments (Type I, Type II and Type III) it is not permitted, as shown in (26a-c).

(26) Non-restructuring modal constructions (Type IV)

- a. Ez nuke nahi [ez esan eta ez ezer sentitu ere].
not AUX_{TR}3SG.A / 1SG.E want not say and not anything feel either
'I wouldn't like not to say or feel anything.'
- b. Ez zenuke behar [ez deus (ere) erosi] (dendaria lagun izanda
not AUX_{TR}3sg.a / 2sg.e need not anything (at all) buy (shopper friend been
behartuta zaude zerbait eroste-ra)

¹² I would like to thank Bryan Leferman for help with the English data involving multiple negation.

obliged be2SG.A something buy-to

‘You shouldn’t buy anything (at all) (if you know the owner of the shop you are obliged to buy something).’

- c. Ez nuke nahi / behar denbora faltagatik [ez liburu
not AUX_{TR}3SG.A / 2SG.E want / need time lack-because [not books
hauek irakurri, oso kritika ona jaso dute eta.
these-A read very criticism good receive AUX_{TR}3SG.E / 3PL.A and
‘I wouldn’t like not to read these books, since they have had very good
reviews’

(27) **Restructuring contexts:**

- a. *Ez da ez etorri behar Type I
not AUX_{INTR}3SG.A not come must
‘He/she mustn’t come.’
- b. *Ez nuke ez deus (ere) esan nahi / behar. Type II
not AUX_{TR}3sg.a / 1sg.e not anything (at all) say want / must
- c. *Ez nituzke nahi / behar ez liburu hauek irakurri
not AUX_{TR}3PL.A / 1SG.E want / must not books these-A read Type III
‘I wouldn’t like not to read these books.’

To sum up, the syntactic properties examined through some of the tests proposed in the literature (presence/absence of temporal adverbs and embedded negation) support the hypothesis that the four type of modal constructions proposed in this paper must involve complements of different underlying structures: no bigger than VP/vP in the restructuring cases (Type I-III), and as large as NegP/TP in non-restructuring contexts (Type IV). This hypothesis is further reinforced by one more test that I have presented in this sections: the (im)possibility of licensing multiple negation.

Additionally, this last test is interesting for another reason: it helps us determine the nature of the modal. In order to admit multiple negation, both the non-inflected predicate and the modal itself must denote events (or states) that can be negated. This indicates that in the constructions that license multiple negation, that is, in non-restructuring constructions, the modal has the denotation of a state, and is therefore a lexical category. This conclusion receives further support in the next section, dedicated to examine the type of category the modal corresponds to in the four constructions under analysis.

Table 3 below summarises the syntactic properties of the Type I-IV BMC:

Table 3: Syntactic properties of BMC

	Type I	Type II	Type III	Type IV
Word order	Non-Fin + Modal	Modal + Non-Fin		
Embedded (independent) temporal adverbs	X	X	X	√
Embedded negation	X	X	X	√
Multiple negation	X	X	X	√

5. On the nature of *behar* ‘must / need’ and *nahi* ‘want’: Functional, semi-lexical and lexical modals.

Once we have examined the underlying structure of the four type of (non-)restructuring constructions proposed, in this section, I will analyse the thematic properties of the modals in these constructions, and conclude what the nature of the modal in each construction is (functional/semi-lexical/lexical).

I will apply some of the classic tests used for determining the presence/absence of thematic properties: the possibility of licensing weather predicates (subsection 5.1), the possibility of licensing inanimate subjects (subsection 5.2) and existential constructions (subsection 5.3), and the possibility of maintaining dative-case marked subjects (subsection 5.4).

On the basis of this analysis, I will argue against a strictly functional restructuring approach (Cinque’s 2005) to Basque modals, and I will show that there is evidence that BMC can involve different grades of restructuring that correlate with the syntactic differences shown in Section 4.

I will further show that Wurmbrand’s (1999) hypothesis that modals must be raising verbs is not tenable for Basque modals. Wurmbrand argues that modals, independently of whether they give rise to epistemic or root readings, do not assign a theta-role to an external argument and should be best analysed as raising verbs. However, this proves to be false in the case of some of the modal constructions I analyse in this paper.

The results will also prove that, although the classification proposed by E&UE (2009) correctly accounts for the syntactic properties analysed throughout the previous sections, it should be revised to become coherent with the different thematic properties exhibited by each construction. According to E&UE’s classification, BMC involve three grades of (non-)restructuring: Functional Restructuring, Lexical Restructuring and Non-Restructuring. Below, I summarise the main properties of the three types:

Functional Restructuring (FRI):

Modal category:	Functional
Word order:	<i>Non-Fin + Modal</i>
Complement:	Bare VPs involving uninflected unaccusative verbs
Matrix subject case:	Absolutive
Auxiliary:	Intransitive (determined by the unaccusative verb)
Agreement	Transparent to agreement with embedded arguments

Lexical Restructuring (LRI):

Modal category:	Lexical
Word order:	Non-Fin + Modal or Modal + Non-Fin
Complement:	Either VPs or small vPs involving a transitive structure ¹³

¹³ E&UE (2009) provide the following reasons to argue that the modal constructions described in (ii) actually involve *lexical* restructuring: To begin with, the modal behaves as a lexical transitive verb with respect to auxiliary selection and case: it determines the selection of a transitive auxiliary and assigns ergative case to the matrix subject. The embedded complement can be either a VP (in the unaccusative cases) or a small vP

Auxiliary:	Transitive (determined by the modal)
Matrix subject case:	Ergative
Agreement	Transparent to agreement with embedded arguments

Non-Restructuring constructions (NRI):

Modal category:	Lexical
Word order:	Non-Fin + Modal or Modal + Non-Fin
Complement:	As large as (NegP)/TP
Matrix subject case:	Ergative
Auxiliary:	Transitive (determined by the modal)
Agreement	Opaque to agreement with embedded arguments

We will see that this classification should be further subdivided in four (non-) restructuring grades. This subdivision will be necessary to accommodate the asymmetries regarding the thematic properties exhibited in the two word orders (Non-Fin + Modal and Modal Non-Fin) in the constructions in (ii), analysed as Lexical Restructuring (LRI). In particular, I will show that in the constructions involving Non-Fin + Modal word order, the modal shares both lexical and functional properties, and should thus be best analysed as a semi-lexical head, along the line recently proposed by various authors (Cardinaletti and Giusti 2001, Butt and Geuder 2001, Hagemeijer 2001) for certain type of verbs¹⁴.

Table 4 below illustrates the nature of the modal in the four constructions:

Table 4: Four levels of (non-)restructuring in BMC

Non-Fin+Modal		Modal+ Non-Fin	
Type I	Type II	Type III	Type IV
Functional Restructuring (FRI)	Semi-Lexical Restructuring (SLRI)	Lexical Restructuring (LRI)	Non-Restructuring (NRI)

5.1 *Weather-it* subjects

Picallo (1990) argues that root modality is subject-oriented and as such cannot have an inanimate subject, which explains why root modals cannot appear in weather sentences in Catalan. Bobaljik and Wurmbrand (1999) and Wurmbrand (2004) present arguments against Picallo's claim, showing that, in English, both epistemic and root modals allow for *weather-it* subjects.

- (28) a. It can rain in the Antarctic.
b. In order for the crop not to fail, it must rain tomorrow.

(in the transitive cases), which contains a silent external argument and an internal absolutive case-marked argument. The data coming from binding facts further evidence the presence of this small vP projection (see E&UE 2009 for a detailed account).

¹⁴ For a detailed account of semi-lexicality see Corver and van Riemsdijk (2001).

- c. In order for the ski race to take place tomorrow, it must snow tonight; it can be sunny tomorrow, but it must be cold, and it must not rain.
(Bobaljik and Wurmbrand 1999)

Hackl (1998) convincingly shows that these modals have a root reading. He states that epistemic modals are pragmatically odd if it is clear to all participants in the discourse that the proposition in question is true in the actual world. So, in a context like (29), even if the modal cannot have an epistemic reading, it can still be licensed in a weather sentence. The possibility of licensing weather predicates is thus taken to indicate that these modal constructions have a raising-like structure and select a non-thematic *weather-it* subject¹⁵.

- (29) Context: It is raining heavily and everybody involved in the discourse is looking out the window.
a. Hmm. It might rain really hard here. ??Epistemic
b. Hmm. It can rain really hard here. Root
(Bobaljik and Wurmbrand 1999)

However, when we apply this test to the four modal constructions I propose for Basque, we observe that BMC behave differently regarding the possibility of co-occurring with weather predicates. In particular, there is a contrast between those constructions in which the modal surfaces to the right of the complement (Non-fin + Modal), that is, Type I and Type II constructions, and the constructions where the modal precedes the complement (Modal + Non-Fin), that is, Type III and IV constructions:

- (30) **Non-fin+Modal**
a. Kanpo-an hotz izan behar da, jendeak eskularruak
outside-in cold be_{UNACC} must AUX_{INTR}3SG.A people.E gloves
daramatza eta. Epistemic (Type I)
bring3PL.A / 3PLE and
'It must be cold outside, people are wearing gloves.'
b. Erosi duzun beroki berria jarri ahal izateko, lehenago Root (Type I)
buy AUX_{TR}REL coat new put can be-for first
kanpoan hotz izan behar da.
outside cold be_{UNACC} must AUX_{INTR}3SG.A
'In order to wear your new coat, first it must be cold outside.'
c. Ez dira tontorr-eraino iritsi, beraz, haizea egin behar izan du.
Epistemic (Type II)
not AUX peak -to-the get so wind do must have AUX_{TR}
'They haven't reached the top, so it must have been windy.'

¹⁵ Chomsky (1981: 323-325) argues that *weather-it* is not an actual expletive, but what he calls a quasi-argument. He bases his claim on the fact that *weather-it*, unlike the true expletive *there*, can bind PRO in an adjunct. I will not address in this paper what the real nature of *weather-it* subjects might be. I will simply adopt the hypothesis that they are not proper arguments with a referential content, along the line of Svenonius (2002).

- d. Tontorr-eraino igo ahal izateko ez du Root (Type II)
 peak -to-the climb can be-for not AUX_{TR}3SG.A / 3SG.E
 haizerik egin behar.
 wind do must
 ‘To climb to the top, it mustn’t be windy.’
- (31) **Modal + Non-fin**
- a. *Behar lieke (haiei) euria egin Root (Type III)
 need AUX_{TR}3SG.A / 3PL.D 3PL.D rain do
 ‘It would be necessary that it rains to them.’
- b. *Behar du gaur gauean elurra bota. Root (Type IV)
 need AUX_{TR}3SG.A / 3SG.E today night snow throw
 ‘It is necessary that it snows tonight.’

As shown in (30a-d), Type I and Type II modal constructions involving *behar* are compatible with non-finite weather predicates, under both the epistemic and root readings. If Picallo’s (1990) and Bobaljik and Wurmbrand’s (1999) and Wurmbrand’s (2004) analysis is correct, this indicates that the modal in these constructions does not select a thematic subject.

Conversely, as shown in (31a-b), Type III and Type IV constructions where the modal precedes its complement do not license weather predicates. This suggests that, in contrast with the constructions in (30a-d), they select for an external argument and assign a theta-role to it.

All this considered, we must conclude that, in Basque, root modals can behave either as functional, lexical or semi-lexical predicates:

In the first case, when the modal is functional (Type I), it allows for a non-thematic whether subject. As shown in (30a-b), the modal in these constructions combines with a restructuring complement involving an unaccusative verb (*hotz izan*) that selects an intransitive auxiliary. We can thus conclude that this complement is of a small size (a bare VP).

On the contrary, when the modal is fully lexical, it does not admit non-thematic weather subjects, as shown in (31a-b). In this case, the modal can combine with different complements:

- (i) It can select, as argued by E&UE (2009), a VP or a *v*P. In either case, it is transparent to the agreement of the auxiliary with the embedded arguments (Type III constructions);
- (ii) Or it can combine with a non-restructuring clausal complement (at least a TP), in which case there is opacity regarding clause-union phenomena such as agreement with the embedded arguments (Type IV constructions);
- (iii) When the modal is semi-lexical, it acts like a functional modal with respect to the possibility of selecting for non-thematic subjects (as shown in 30c-d). However, the modal in these constructions selects for a transitive auxiliary, as lexical verbs do, and, as in Type III constructions, it can combine with a VP or with a complement as large as a *v*P, allowing the embedded arguments to agree with the matrix auxiliary.

Moreover, she presents data confirming that German epistemic and root modals license inanimate subjects in passive constructions, in contrast with lexical restructuring (*try*-type verbs) and non-restructuring (*plan*-type) predicates.

- (35) a. Der Kuchen dürfte gegessen worden sein. FRI (epistemic)
 The cake might eaten AUX_{PASS} be
 'The cake might have been eaten.'
 b. Der Kuchen muß gegessen werden. FRI (root)
 The cake must eaten AUX_{PASS}
 'The cake must be eaten.'
 c. *Der Kuchen versuchte gegessen zu werden LRI
 The cake tried eaten to AUX_{PASS}
 'The cake tried to be eaten.'
 d. *Der Kuchen plante gegessen zu werden NRI
 The cake planned eaten to AUX_{PASS}
 'The cake planned to be eaten.'
- (Wurmbrand 2004)

Wurmbrand (1999) thus concludes that both the epistemic and root modal verbs in the English and German sentences in (34) and (35) are functional / raising restructuring predicates.

In the present paper, I will defend the position according to which we must distinguish between two type of root modals. On the one hand, there are **dispositional modals** that denote concepts like volition or ability. The lexical meaning of such modal verbs predominantly has to do with properties of sentient beings, and must necessarily select for animate subjects.

On the other hand, there are root modals that should be better analysed as **directed deontic modals**. According to Barbiers (1995), even though, intuitively, the subjects of these **directed** modals seem to receive a theta-role from the modal, the thematic role (obligee, permisee) associated to these subjects is derived contextually, rather than from the theta-requirements of the modal. Thus, as observed by Wurmbrand (1999), in non-directed readings this role does not have to coincide with a specific syntactic argument in the sentence; that is, the determination of these roles cannot be seen as a mapping between theta roles and syntactic arguments (Wurmbrand 1999: 611). Rather, these roles can be directed to a contextually determined person other than the subject, and it does not necessarily pattern with a true theta role (Barbiers 1995, McGinnis 1993, Wurmbrand 1999 and 2004). This is the case of the examples in (36a-b).

- (36) a. John must go to Alaska
 (John = obligee)
 b. Mary can / may go to Alaska
 (Mary = permisee)
 c. The traitor must die
 (Someone = obligee must kill the traitor)
- (Wurmbrand 1999)

The same phenomenon is observed by Eide (2002) regarding Norwegian root modals: while the modals *må* ‘must’ *skal* ‘will’ *kan* ‘may’ and *bør* ‘should’ in (37a) admit both the epistemic and root readings in passive constructions involving inanimate subjects, the only reading available for the ambiguous modal *ville* (‘will / want’) in the passive constructions involving inanimate subjects in (37b-c), is the epistemic reading; The volition reading is not available, presumably due to the dispositional nature of the volitional modal, which, as a lexical verb, imposes selectional restrictions to its external argument.

- (37) a. Maten må / skal / kan / bør bli servert snart.
 food-DEF must / will / may / should be served soon
 ‘The food must / will / may / should be served soon.’

Epistemic / Root readings

- b. Maten vil bli servert snart.
 food-DEF will be served soon
 ‘The food will be served soon.’

Epistemic reading / *Volitional (lexical)

- c. Det vil komme noen.
 there will come someone
 ‘There will come someone.’

Epistemic reading / *Volitional (lexical)

If what these authors propose is correct, then we should expect there to be a contrast between Functional Restructuring (FRI), Semi-Lexical Restructuring (SLRI), Lexical Restructuring (LRI) and Non-Restructuring (NRI) BMC, concerning the availability of non-dispositional (directed) readings and, consequently, the acceptability of inanimate subjects.

Given the hypothesis defended here that Type I (FRI) and Type II (SLRI) restructuring constructions lack a thematic subject, the prediction is that they will not allow the dispositional reading in which the modal requires an animate subject to bear the role of the volitioner or obligee. In contrast, in Type III (LRI) and Type IV (NRI) Lexical Restructuring and Non-Restructuring constructions, the prediction will be that the modal will have a dispositional interpretation, disallowing inanimate subjects. As shown in the following set of examples, this prediction is correct:

- (38) **Type I (Functional Restructuring) and Type II (Semi-Lexical restructuring)**

- a. Konponbidea lehenbailehen etorri behar Type I
 solution-the.3SG.A as soon as possible come must
 zaigu.
 AUX_{INTR}1PL.D / 3SG.A
 #‘The solution needs to come as soon as possible.’ #Dispositional
 ‘We need the solution to come as soon as possible.’ √Directed
- b. ?Konponbidea lehenbailehen etorri nahi zaigu. Type I
 solution-the.A as soon as possible come want AUX_{INTR}1PL.D / 3SG.A
 #‘The solution wants to come as soon as possible.’ #Dispositional
 ‘We want the solution to come as soon as possible.’ ?Directed

- c. Konponbideak lehenbailehen etorri behar du. Type II
 solution-the.E as as possible come must AUX_{TR}3SG.E
 #‘The solution needs to come as soon as possible.’ #Dispositional
 ‘They need the solution to come as soon as possible.’ √Directed
- d. ?Konponbideak lehenbailehen etorri nahi du. Type II
 solution-the.E as soon as possible come must AUX_{TR}3SG.E
 #‘The solution wants to come as soon as possible.’ #Dispositional
 ‘They want the solution to come as soon as possible.’ ?Directed
- (39) **Type III (Lexical Restructuring) and Type IV (Non-restructuring)**
- a. *Erabaki -ak / Peru-k beharko lituzke arazo Type III
 decision-the.E / Peru-E need AUX_{TR}3PL.A / 3SG.E problem
 guztiak konpondu.
 all-PL.A solve
 ‘*The decision / Peru would need to solve all the problems.’ Dispositional
 ‘We would need the decision / Peru to solve all the problems.’ *Directed
- b. *Erabaki -ak / Peruk nahiko lituzke arazo Type III
 decision-the.E / Peru.E want AUX_{TR}3PL.A / 3SG.E problem
 guztiak konpondu.
 all-PL.A solve
 ‘*The decision / Peru would like to solve all the problems.’ Dispositional
 ‘We would like the decision / Peru to solve all the problems.’ *Directed
- c. *Erabaki -ak / Peru-k beharko lituzke arazo Type IV
 decision-the.E / Peru-E need AUX_{TR}3SG.A / 3SG.E problem
 guztiak konpondu.
 all-PL.A solve
 ‘*The decision/Peru would need to solve all the problems.’ Dispositional
 ‘We would need the decision / Peru to solve all the problems.’ *Directed
- d. *Erabaki -ak / Peru-k nahiko lituzke arazo Type IV
 decision-the.E / Peru-E want AUX_{TR}3SG.A / 3SG.E problem
 guzti-ak konpondu.
 all -PL.A solve
 ‘*The decision / Peter would like to solve all the problems.’ Dispositional
 ‘We would like the decision/Peter to solve all the problems.’ *Directed

As we can see, Type I (FRI) and Type II (SLRI) restructuring constructions in (38a-d) accept both animate and inanimate subjects. This supports a directed (rather than a dispositional) meaning of the modal¹⁶.

¹⁶ Although modal *behar* ‘must / need’ is clearly ambiguous between a directed deontic reading (as in (42a) and (42c) above) and a dispositional reading (43a-b), when questioned, not all speakers like a directed reading of the volitional modal *nahi* ‘want’. Examples involving *nahi* ‘want’ and an inanimate subject, however, occur very frequently, as can be verified by a Google search:

(i) errezeta honek osasun-zerbitzu publikoen premian dauden bizilagun guztiengana heldu nahi du
 recipe this-E health- service public-GEN need-in beREL inhabitant all-to-the arrive want
 AUX_{TR}3SGE
 ‘This recipe wants to arrive to all the inhabitants that are in need of public health services’
 (mugitu.blogspot.com)

Conversely, Type III (LRI) and Type IV (NRI) constructions (39a-d) necessarily require a [+animate] subject. This clearly indicates that the DPs occupying the subject position in these constructions are the external argument of the modals *behar* ‘must / need’ and *nahi* ‘want’, which are here acting as lexical verbs with a dispositional meaning.

5.3 Existential constructions

In existential constructions like (40) in English, there is no theta role assignment to the non-thematic expletive *there* that fills the subject position.

- (40) There is an apple tree in the garden.

As observed by Wurmbrand (1999), English modals are compatible with the expletive subjects of existential constructions, under both the epistemic and root reading:

- (41)
- | | | |
|----|--|-----------|
| a. | There must be more than what we see. | Epistemic |
| b. | There may be singing but no dancing on my premises | Root |
| c. | There can be a party as long as it’s not too loud | Root |
| d. | There must be a solution to this problem on my desk, tomorrow morning! | Root |
| e. | There will be no complaints when we go to Aunt Cassandra’ | Root |
- (Wurmbrand 1999)

This is again taken by Wurmbrand as an indication that modals in English are functional raising verbs.

Let us now examine existential constructions in BMC:

I have proposed that in Basque there exist Functional Restructuring (FRI), Semi-Lexical Restructuring (SLRI) and Lexical Restructuring (LRI) and Non-Restructuring (NRI) constructions that correlate with Type I, Type II, Type III and Type IV respectively (see Table 4). If the hypothesis holds, we should expect the functional and semi-lexical modals in Type I and Type II restructuring constructions to be compatible with existential constructions, whereas the modals in Type III and Type IV should disallow the non-thematic subject of these types of constructions. As I will next show, this expectation is confirmed.

Sentences (42a-c) have a transitive auxiliary determined by the non-finite unaccusative predicate. This auxiliary also agrees with the absolute subject of the unaccusative verb. They are, therefore, clear instances of Type I modal constructions and, as reflected in their translation, they give rise to an existential reading.

- (42) **Type I constructions: agreement of the intransitive auxiliary with the absolute argument**

- a. Udaran, sekulako usain-a egon behar da hor.
 summer delightful smell-SG.A be must AUX_{INTR}3SG.A there
 ‘There must be a delightful smell in the summer.’

- (ii) Proiektuak baliabide didaktiko-a izan nahi du
 project-the-E resource didactic -A be want AUX_{TR}3SG.E
 ‘The project wants to be a didactic resource.’

(musikaz.wordpress.com/)

- b. Taberna honetan pintxo onak egon behar dira.
 pub this-in pintxo good.PL.A be must AUX_{INTR}3PL.A
 ‘There must be good pintxos in this pub.’
- c. Lehenengo eta behin, baldintza demokratikoak egon behar dira
 first and once condition democratic.PL.A be must AUX_{INTR}3PL.A
 prozesu hori egiteko.
 process that do-for
 ‘First of all, there must be democratic conditions to carry out that process.’

In addition, as observed by some authors (Albizu, et al. 2010), modal *behar* permits an existential construction involving unaccusative predicates and low position absolutive subjects. One particularity of these type of constructions is that the auxiliary selected is the transitive *edun* ‘have’, which shows up with ergative agreement, as illustrated in (43a-c)¹⁷. Albizu et al. (2010) analyse these configurations as the counterparts of the English expletive constructions in (40) and (41). They propose that these constructions should be analysed as involving the structure in (43d), where the absolutive subject remains within the non-finite complement where it belongs, but agrees with the transitive auxiliary selected by the modal. I will adopt E&UE’s analysis and I will consider these to be instances of Type II constructions in which, for semantic reasons, the subject has not raised to a higher ergative position in the matrix clause.

(43) **Type II Semi-Lexical Restructuring constructions: agreement of the transitive auxiliary with the embedded absolutive argument**

- a. Udaran, sekulako usain-a egon behar du hor.
 Summer delightful smell-SG.A be must AUX_{TR}3SG.E there
 ‘There must be a delightful smell in the summer.’
- b. Taberna honetan pintxo on -ak egon behar dute.
 pub this-in pintxo good-PL.A be must AUX_{TR}3PL.E
 ‘There must be good pintxos in this pub.’
- c. Lehenengo eta behin, baldintza demokratiko-ak egon behar dute
 first and once condition democratic -PL.A be must AUX_{TR}3PL.E
 prozesu hori egiteko.
 process that do-for
 ‘First of all, there must be democratic conditions to carry out that process.’

(Albizu et al. 2010)

[(expletive) [[3SG / PL.A Non-Fin_{UNACC}] modal] AUX3SG / PL.E]

(adapted from Albizu et al. 2010)

¹⁷ I have not included examples involving the modal *nahi* ‘want’, but the intuition is that *nahi* ‘want’ should be compatible with non-thematic subjects, as long as they occur in the Non-Fin + Modal order and exhibit a non-dispositional, directed reading, as shown in (i) below – see the discussion in f.n. 15 about the examples in (39b) and (39d).

- (i) ??Konponbidea lehenbailehen egon nahi du mahaigain-a -n.
 solution-the-A as soon as possible be want AUX_{TR}3SG.E table- the-on
 ‘There wants to be a solution on the table as soon as possible.’

Interestingly, the following examples of English and Spanish show that in these languages too, volitional modals can occur in existential constructions under a directed reading:

- (ii) a. There wants to be a place... a place for continuous prayer on earth. (www.cecilecarson.com/)
 b. Parece que quiere haber cierta moderación en el foro de la bolsa. (www.labolsa.com/)

Thus, as demonstrated in (42) and (43), the modal in functional (Type I) and semi-lexical (Type II) restructuring constructions acts functionally in that it does not assign a theta-role to the subject.

In contrast, Type III (Lexical Restructuring) and Type IV (Non-Restructuring) constructions involving a Modal + Non-Fin word order do not license an existential interpretation. As I have proposed, these constructions involve a lexical modal verb that assigns a theta role to the subject, and are thus incompatible with the thematic properties of existential constructions.

- (44) a. *Lehenengo eta behin, behar dute baldintza demokratiko -ak
 first and once must AUX_{TR}3P_L.E condition democratic -3P_L.A
 egon. Type III
 be
 ‘First of all there need to be democratic conditions.’
- b. *Lehenengo eta behin, behar du baldintza demokratiko -ak
 first and once must AUX_{TR}3S_G.E condition democratic -3P_L.A
 egon. Type IV
 be
 ‘First of all there need to be democratic conditions.’
- c. *Behar du bihar -ko konponbide bat nire mahai Type IV
 must AUX_{TR}3S_G.E tomorrow-for solution-SG.A one my table
 gain-ean egon.
 top -in be
 ‘There needs to be a solution on my desk tomorrow.’

As a conclusion, it is reasonable to claim that, in contrast to what has been proposed in English, modals in Basque can behave either as functional or lexical heads:

- (i) Type I (Functional Restructuring) and Type II (Semi-Lexical Restructuring) constructions lack a thematic subject, just like functional heads.
- (ii) The modals in Type III (Lexical Restructuring) and Type IV (Non-Restructuring) constructions exhibit the thematic structure of a full lexical verb and are not licensed in existential constructions.

5.4 Quirky Subjects

Wurmbrand (1999) and Bobaljik and Wurmbrand (1999) observe that the subject of certain verbs (*lack*, *like*) requires a quirky (non-nominative) case in Icelandic (45a-b); however, when embedded in a Control structure, the subject surfaces with the case determined by the higher, controlling verb. Thus, unless the higher verb is also a quirky case assigner, the subject surfaces with nominative case. In raising constructions, on the other hand, the subject is only associated with the lower predicate, and its case is determined by the lower verb; if the lower verb is not a quirky case assigner, the subject shows up with nominative case (45c-d), but if it is a quirky case assigner (45e), the subject keeps its quirky case.

- (45) a. Harald / *Haraldur vantar peninga *NOM/√ACC
 Harald-ACC / *Harald-NOM lacks money
 ‘Harold lacks money.’ ‘Lack’: Quirky case
- b. Haraldi / *Haraldur líkar vel í Stuttgart *NOM/√DAT
 Harald-D / *Harald-NOM likes well in Stuttgart
 ‘Harold likes it in Stuttgart.’ ‘Like’: Quirky case
- c. Haraldur / *Harald vonast til a vanta ekki
 Harald-NOM / *Harald-ACC hopes for to lack not
 peninga √NOM/*ACC
 money
 ‘Harold hopes not to lack money.’
- d. Haraldur / *Haraldi vonast til a líka vel í Stuttgart √NOM/*DAT
 Harald-NOM / *Harald-D hopes for to like well in Stuttgart
 ‘Harald hopes to like it in Stuttgart.’
- e. Harald vir ist ekki vanta peninga √ACC
 Harald-ACC seems not lack money
 ‘Harald seems not to lack money.’

(Bobaljik and Wurmbrand 1999)

Thus, when modal verbs combine with a quirky-case assigning verb, the case the subject surfaces with can be taken to indicate whether the subject is the argument of the modal itself or whether it is the argument of the uninflected verb. The quirky subject test can thus help us determine the thematic properties of modals.

5.4.1 Quirky subjects in Icelandic modals

As observed by Wurmbrand (1999), Bobaljik and Wurmbrand (1999), in Icelandic, the subjects of verbs requiring quirky case-marked subjects show up with quirky case when embedded under a modal:

- (46) a. Harald / *Haraldur vill vanta peninga. *NOM/√ACC
 Harald-ACC / *Harald-NOM will lack money
 ‘Harold tends to lack money.’
- b. Haraldi / *Haraldur ætlar a líka vel í Stuttgart. *NOM/√DAT
 Harald-DAT / *Harald-NOM intends to like well in Stuttgart
 ‘It looks like Harald will like it in Stuttgart.’

Thus, in the modal construction in (46a-b), the subject does not show up with nominative case, but with the quirky case assigned by the uninflected verbs: accusative in the case of *vanta* ‘lack’ (46a) and dative in the case of *líka* ‘like’ (46b). This leads Wurmbrand (1999), and Bobaljik and Wurmbrand (1999) to conclude that modals are raising, functional heads.

5.4.2 Dative case-marked subjects in BMC

Similar to Icelandic, some Basque verbs like *gustatu* ‘to like’ (47a) or *loteria tokatu* ‘to win the lottery’ license dative case on their experiencer argument, as shown in (47b). As in Icelandic, when these verbs are embedded under a Control structure, the case the subject is assigned is specified by the matrix verb: nominative in Icelandic and ergative in Basque (47c-d) (see Austin 2006; Woolford 2006; Fernández and Rezac, 2010).

- (47) a. Ni -ri zure oinetako-ak gustatzen zaizkit.
 1SG-D your shoes -PL.A like AUX_{INTR}3PL.A / 1SG.D
 ‘I like your shoes.’ (Austin and López 1995: 12)
- b. Jon-i loteria tokatu zaio.
 Jon-D lottery-the-SG.A win AUX_{INTR}3SG.A / 3SG.D
 ‘Jon has won the lottery.’
- c. *Jon-i_i / Jon-ek_i zail du [e_i loteria tokatzea.]
 Jon -D / Jon-e difficult AUX_{TR}3SG.A / 3SG.E lottery-the-SG.A win
 ‘It is difficult for John to win the lottery.’

Interestingly, when verbs like *gustatu* and *loteria tokatu* (‘like’, ‘win the lottery’) are selected by a modal head, we observe the following contrast: while in *Functional Restructuring* structures like Type I (48a-b) the subject keeps dative case, in the *Lexical Restructuring* (Type III) and *Non-Restructuring* (Type IV) constructions in (49a-d) the presence of a dative subjects yields an ungrammatical result¹⁸.

- (48) a. Jon-i loteria tokatu must izan zaio Type I: √DAT
 Jon-D lottery-the-SG.A win must have AUX_{INTR}3SG.A / 3SG.D
 halako kotxea erosi ahal iza-teko.
 that car-SG.A buy can be-for
 ‘Jon must have won the lottery to buy such a car.’

¹⁸ The reason why I have not included Type II constructions here is that most speakers do not admit dative constructions in which the transitive auxiliary agrees with the dative argument of the uninflected unaccusative verb. As observed by Albizu and Fernández (2002), two alternative constructions are available in these cases where a dative is present: a fully lexical restructuring construction where the subject preserves the dative morphology and agrees with the intransitive auxiliary determined by the uninflected unaccusative verb (that is, a Type I Functional Restructuring Construction); a construction like (i) where dative agreement is simply missing.

(i) Ni-k berari hurbildu behar / nahi *diot / dut.
 1SG-E 3SG.D approach must / want AUX_{TR}3SGD / 1sge / AUX_{TR}1SG.E
 ‘I need/want to get close to him.’ (Rezac 2006, based on Albizu and Fernández 2002)

Therefore, a Type II Semi-Lexical construction like (ii) is ungrammatical for independent reasons that are not necessarily related to the theta-marking properties of the modal (see Rezac 2006 for a detailed account).

(ii) *Haiek berari gustatu behar diote.
 3PL.E 3SG.D like must AUX_{TR}3SG.D/3PL.E
 ‘They must appeal to him.’

(Rezac 2006)

- b. Miren-i barazkiak gustatu behar, zaizkio, beti Type I: $\sqrt{\text{DAT}}$
 Miren-D vegetables like must $\text{AUX}_{\text{INTR}}3\text{PL.A} / 3\text{SG.D}$ always
 eskatzen ditu.
 order $\text{AUX}_{\text{TR}}3\text{PL.A} / 3\text{SG.E}$
 ‘Miren must like vegetables, since she always orders them.’
- (49) a. *Jon-i behar ditu bi sari- ak tokatu. Type III: *DAT
 Jon-D must $\text{AUX}_{\text{TR}}3\text{PL.A} / 3\text{SG.E}$ two price-the-PL.A win
 ‘Jon must win the two prizes’
- b. *Jon-i behar ditu barazki-ak gustatu Type III: *DAT
 Jon-D must $\text{AUX}_{\text{TR}}3\text{PL.A} / 3\text{SG.E}$ vegetable-the-PL.A like
 ‘Jon must like vegetables.’
- c. Jon-i behar du bi sari- ak tokatu Type IV: *DAT
 Jon-D must $\text{AUX}_{\text{TR}}3\text{SG.A} / 3\text{SG.E}$ two prize-the-PL.A win
 ‘Jon must win the two prizes.’
- d. *Jon-i behar du barazki- ak gustatu Type IV: *DAT
 Jon-D must $\text{AUX}_{\text{TR}}3\text{SG.A} / 3\text{SG.E}$ vegetable-the-PL.A like
 ‘Jon must like vegetables.’

If Wurmbrand (1999) and Bobaljik and Wurmbrand (1999) are right, the reason why dative subjects are not admitted in (49a-d) must be that, in these constructions, the modal is a lexical verb that has its own argument structure; hence, the subject appears in an argument relation with the modal and must be cased marked by it.

All in all, the impossibility of dative subjects in the fully lexical Type III and Type IV constructions and the fact that they are perfectly grammatical in fully functional Type I constructions supports the hypothesis that we must distinguish between Functional Restructuring and Lexical Restructuring modals. In these, Basque modals differ from English modals, considered to be strictly functional (Wurmbrand 1999).

5.5 Intensifiers and manner adverbs

Lexical verbs admit modification of manner adverbs or intensifiers. Such is the case of lexical *nahi* ‘want’) and *behar* ‘need’ when they select DP complements:

- (50) a. Batzuetan biziki nahi zaitut beste batzuetan ordea....izugarri
 sometimes intensely want $\text{AUX}_{\text{TR}}2\text{SG.A} / 1\text{SG.E}$ other times but terribly
 gorratzen zaitut.
 hate $\text{AUX}_{\text{TR}}2\text{SG.A} / 1\text{SG.E}$
 ‘Sometimes I love you intensely, but sometimes I terribly hate you.’
- b. Ez gaude oso egoera on-ean eta garaipena biziki behar
 not be-1PL very situation good-in and victory intensely need
 dugu lasaiago egoteko.
 $\text{AUX}_{\text{TR}}2\text{SG.A} / 1\text{SG.E}$ calmer be-for
 ‘We are not in a very good situation and we intensely need the victory in order to be calmer.’

When these modal verbs select a non-finite predicate, however, the presence of an intensifier is not always possible. The unacceptability of the intensifier can be taken to indicate that the modal is not a lexical verb that denotes an event/state, and, as a consequence, it cannot be modified. This is precisely what we find in Type I and Type II constructions which under this analysis I have proposed involve Functional Restructuring (51a-d) and Semi-Lexical Restructuring (Type II).

- (51) Type I and Type II disallow the presence of ‘biziki’:
- a. *Jon *biziki* / *bihotz-bihotzez* heldu behar da Type I (FRI)
 Jon.A intensely / with-all-his-heart get must AUX_{INTR}3SG.A
 helmuga-raino
 goal -to
 #‘Jon must get to the goal intensely / with all his heart.’
 (biziki > *modal / biziki > *pass)
 - b. *Jon heldu *biziki* / *bihotz-bihotzez* behar da Type I (FRI)
 Jon.A get intensely / with-all-his-heart must AUX_{INTR}3SG.A
 helmuga-raino.
 goal -to
 #‘Jon must get to the goal intensely / with all his heart.’
 (biziki > *modal / biziki > *pass)
 - c. *Jon-ek medikuntzako azterketak *biziki* / *bihotz-bihotzez* Type II (SLRI)
 Jon medicine-of exam-the.PL.A intensely / with-all-his-heart
 gainditu behar / nahi ditu.
 pass must / want AUX_{TR}3PL.E / 3SG.E
 ‘Jon needs / wants to pass the exams with all his heart.’
 (biziki > *modal / biziki > *pass)
 - d. *Jon-ek medikuntzako azterketak gainditu *biziki* / Type II (SLRI)
 Jon-E medicine-of exam-the.PL.A pass intensely /
bihotz-bihotzez behar / nahi ditu.
 with-all-his-heart must / want AUX_{TR}3PL.A/3SG.E
 ‘Jon needs/wants to pass the exams with all his heart.’
 (biziki > *modal / biziki > *pass)

The sentences in (51a-d) are semantically anomalous, since, on the one hand, the modal does not admit modification of intensifiers, and on the other hand, verbs such as *heldu* ‘arrive’, *irabazi* ‘win’ and *gainditu* ‘pass’ cannot be modified by *biziki* ‘intensely’ or *bihotz-bihotzez* ‘with all his heart’ for semantic reasons. Note that the presence of the intensifier/manner adverb renders the sentence ungrammatical regardless of the position these modifiers occupy: immediately preceding the uninflected complement or immediately preceding the modal¹⁹.

¹⁹ As observed by (Elordieta 2003) manner adverbs must occupy the position immediately preceding the verb they modify in the unmarked word order, and both the adverb and the modified verb are pronounced without pause within the same intonational set.

Conversely, Lexical Restructuring (Type III) and Non-Restructuring (Type IV) constructions allow intensifiers and manner adverbs in the position immediately preceding the modal. When this occurs, the sentence might be ambiguous between an unmarked reading where the modifier affects the modal, and a marked reading where it modifies the uninflected verb. Since in (52a-b) the uninflected verb *gainditu* ‘pass’ cannot be modified by *biziki* ‘intensely’, the only possible interpretation is the one in which the intensifier/adverb modifies the degree or intensity of the state denoted by the modal itself.

- (52) a. Jon-ek biziki / bihotz-bihotzez behar / nahi Type III (LRI)
 Jon-E intensely / with-all-his-heart need / want
 ditu medikuntza-ko azterket-ak gainditu.
 AUX_{TR}3PL.A / 3SG.E medicine -of exam -the.PL.A pass
 ‘Jon needs / wants (with all his heart) to pass the exams with all his heart.’
 (biziki > modal / biziki > *pass)
- b. Jon-ek biziki / bihotz-bihotzez behar / nahi Type IV (NRI)
 Jon-e intensely / with-all-his-heart need / want
 du medikuntza-ko azterket-ak gainditu.
 AUX_{TR}3PL.A / 3SG.E medicine -of exam-the.PL.A pass
 ‘Jon needs / wants to pass the exams with all his heart.’
 (biziki > modal / biziki > *pass)

Summing up, the possibility of licensing intensifiers or manner adverbs in the position immediately preceding the modal (in the unmarked word order) can be taken to indicate that the modal behaves as a lexical verb: it denotes a state that can be modified with regard to its degree or intensity. As shown, this only occurs in Lexical Restructuring (Type III) and Non-Restructuring (Type IV) constructions²⁰, but it is not possible in Functional Restructuring (Type I) and Lexical Restructuring (Type II) constructions.

²⁰ Interestingly, we can observe a similar behaviour in the following sentences containing frequency adverb *maiz* ‘frequently’. In (i) (Type I, Functional Restructuring) *maiz* must necessarily be interpreted as modifying the lexical verb *heldu*. In contrast, sentences (ii) (Type II, Semi-Lexical RI) and (iii) (Type III, Lexical Restructuring) are ambiguous between a reading where *maiz* ‘frequently’ modifies the complement verb *heldu* ‘arrive’, and a reading where it modifies the modal *behar* ‘must/need’. Finally, in (iv), the adverb takes scope over the main verb *behar* ‘must/need’.

- (i) Jon (maiz) etorri behar da bulegora (maiz). (maiz > heldu / *maiz > behar)
 Jona (often) come must AUX_{INTR}3SGE office-to-the (often) (often > arrive / *often > must)
- (ii) Jon-ek (maiz) heldu behar du bulegora (maiz). (maiz > heldu / maiz > behar)
 Jon-E (often) arrive must AUX_{TR}3SGE office-to-the (often) (often > arrive / often > must)
 ‘Jon often must/needs to come to the office.’
- (iii) Jon-ek maiz behar ditu horrelako liburuak irakurri. (maiz > irakurri / maiz > behar)
 Jon-E often must AUX_{TR}3PLA / 3SGE such book-PLA read (often > read / often > must)
- (iv) Jon-ek maiz behar du horrelako liburuak irakurri. (maiz > *irakurri / maiz > behar)
 Jon-E often must AUX_{TR}3SGE such book-PLA read (often > read / often > must)
 ‘Jon (often) must/needs to read such books.’

I would like to thank Ricardo Etxepare for this observation.

6. Conclusions

The range of properties I have analysed in this work lead us to reach the following conclusions regarding the two main questions addressed in the introduction of this paper: the underlying syntax of non-finite (non-)restructuring complements and the functional/lexical nature of the modal in BMC.

With respect to the underlying structure of non-finite dependents, the comparison of Germanic, Romance and BMC point to the conclusion that, at least in these languages, (non-)restructuring heads can involve complements of different syntactic sizes.

In Type I Functional Restructuring constructions exhibiting full restructuring properties, the modal selects bare VP complements involving an unaccusative verb. These complements lack a position for temporal adverbs and negation, and consequently, they do not license multiple negation.

Type II and III Semi-Lexical and Lexical Restructuring constructions are only transparent to some clause-union phenomena, such as agreement of the auxiliary with the embedded arguments. The modal in these constructions can select both VP and vP sized complements. Consequently, they lack a position for embedded temporal adverbs and negation, and do not license multiple negation.

Finally, Type IV Non-Restructuring constructions present none of the restructuring properties examined in this work, and, as shown, they can combine with non-finite complements that involve higher projections such as negation and tense. As expected, these constructions also license multiple negation.

Regarding the question whether modals fall in the realm of functional or lexical categories, the conclusions reached are the following:

Only those modal constructions labelled as Type I lack a thematic structure in Basque, being thus compatible with weather predicates, dative case-marked subjects, inanimate subjects and existential constructions. Besides, these modal heads lack event properties, as evidenced by the fact that they cannot be modified by manner adverbs or intensifiers. All these properties point to the conclusion that the modal in this type of constructions is not a lexical head, but rather a purely functional category (F^0), and that these constructions should be best analysed as Functional Restructuring.

On the other hand, Basque counts with constructions in which the modal verbs clearly behave as lexical categories for all the thematic properties examined: they have a full thematic structure and are incompatible with weather predicates, dative case-marked subjects and inanimate subjects. In addition, the modals in these constructions admit modification by intensifiers and manner adverbs, as lexical verbs that denote events/states do. This is the case of Lexical Restructuring (Type III) and Non-Restructuring (Type IV) constructions.

Finally, there is also evidence of a mixed type of construction. In Type II constructions, the modal exhibits some functional properties: it is compatible with weather predicates and existential constructions; that is, it admits non thematic subjects. On the contrary, in these constructions the modal also displays some lexical properties: as a transitive verb, the modal participates in auxiliary selection and contributes an ergative position for the subject. This mixture of properties suggests they should be best analysed as Semi-Lexical Restructuring constructions.

Summing up, the comparison of Germanic, Romance and BMC supports the hypothesis defended by various authors (Wurmbrand 1998, 2001; Cable 2004; E&UE 2009, 2010a-b) that there are different grades of restructuring. Furthermore, the analysis of BMC crucially points to the necessity of extending this classification to include semi-lexical heads. Additionally, this comparison provides evidence against an analysis of Basque modals as functional raising verbs, along the line of Wurmbrand (1999) and Bobaljik and Wurmbrand (1999).

The main differences between the four types of BMC are summarised in Table 5 below.

Table 5: Summary of the syntactic and thematic properties of BMC

	Type I (FRI)	Type II (SLRI)	Type III (LRI)	Type IV (NRI)
Syntactic properties of BMC				
Temporal modification in the modal complement	NO	NO	NO	YES
Embedded negation	NO	NO	NO	YES
Multiple negation	NO	NO	NO	YES
Thematic properties of BMC				
Weather predicates	YES	YES	NO	NO
Inanimate subjects	YES (only with directed readings)	YES (only with directed readings)	NO	NO
Existential constructions	YES	YES	NO	NO
Dative case-marked subjects	YES	NO(?)	NO	NO
Modification by intensifiers/manner adverbs	NO	NO	YES	YES

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