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Subjective and objective modality: Interpersonal and ideational functions in the English modal auxiliary system[☆]

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Abstract

This study deals with the distinction between subjective and objective modality on the basis of the English modal auxiliaries. I show that this distinction is still very poorly understood, both in terms of the criteria that have been proposed to support it, and in terms of the actual delineation of subjectivity and objectivity in the modal domain. After identifying the empirical and theoretical problems in the literature, I propose an alternative, semiotic account, which tries to explain the divergent grammatical behavior of subjective and objective modality in terms of the function they fulfill. The central factor in this semiotic explanation is the performative versus non-performative status of the modals, which can explain their divergent behavior with respect to tense, interrogation, and conditionality. On the basis of this alternative analysis, I also propose a more accurate delineation of subjective and objective functions in the English modal auxiliary system. © 2001 Elsevier Science B.V. All rights reserved.

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1. Introduction

It is a basic principle in many functional theories of language that in addition to the grammatical systems which organize the propositional *content* of the clause,

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there are a number of structures which take care of the *speaker's interactive position* with respect to this propositional content. Halliday (1994), for instance, distinguishes between an *ideational* and an *interpersonal* component; traditional speech act philosophy (Austin, 1962; Searle, 1969) makes a basic distinction between a *locutionary* and an *illocutionary* component; and Hengeveld's (1989) layered model of clause structure similarly distinguishes between a content-related and a speaker-related set of functional layers.

In this study, I will investigate the functional distinction between ideational and interpersonal grammar in the system of the modal auxiliaries in English. The English modals are particularly interesting for this purpose because they form a clear, unitary category, which is neatly delineated on morphosyntactic grounds and can fulfill both interpersonal and ideational functions. Some modals clearly serve to encode a position of the *speaker* with respect to the propositional content of the clause, either in terms of epistemic commitment to probability or possibility, or in terms of deontic commitment to obligation or permission. In other cases, however, the modals can also fulfill functions which do not seem to be related to the speaker at all: the modals of ability and volition, for instance, do not express any interpersonal speaker-commitment but rather indicate a property of the *agent* in the propositional content of the utterance.

The issue of speaker-relatedness in modality has traditionally been discussed in terms of the distinction between *subjective* and *objective* modality: the terminology was introduced in Lyons (1977), but the distinction as such dates back to Halliday (1970) and was taken up again in Foley and Van Valin (1984) and Hengeveld (1987, 1988, 1989). In the first section, therefore, I will survey the different proposals for the definition and delineation of subjective and objective function in the modal system. In theory, there is a more or less general agreement that the subjective–objective dichotomy should be defined in terms of the distinction between speaker-related and content-related function, but in actual practice the distinction remains very poorly understood. A number of grammatical criteria have been proposed to operationalize subjectivity and objectivity, such as the divergent acceptability of the two types in interrogative contexts or in protases of conditional constructions, but the application of these criteria to the modal auxiliaries in English has produced no less than four different proposals in the literature for the delineation of subjectivity and objectivity. In the second section, therefore, I will try to come to a better understanding of the distinction by taking a *semiotic* perspective which relates the grammatical behavior of the categories to the functions they fulfill. More particularly, I will show how the mechanisms behind the various criteria that have been proposed can be explained in terms of one basic functional principle of *performativity*: in different ways, the various criteria all exploit the fact that subjective modals have a performative function whereas objective modals do not. In the final section, I will use this semiotic analysis to resolve the inconsistencies in the literature on subjective and objective modality in English, both concerning the demarcation of the subjective and objective domains, and concerning the precise status of subjectivity.

2. The problem of subjective and objective modality

The term ‘modality’ has been used to cover a wide range of elements, including adjectives like *probable*, nouns like *probability*, adverbs like *probably* and verbs like *will*, but for the purpose of this study I will concentrate on the modal *auxiliaries*. This category is clearly delineated in English on the basis of four morphosyntactic parameters: modal auxiliaries (1) do not require *do*-support in interrogative, negative, ‘code’, and emphatic contexts (Huddleston’s (1976) NICE properties), (2) do not have an *-s* form for the third person singular, (3) do not have any non-finite (infinitive or imperative) forms, and (4) cannot co-occur with each other. This includes the verbs *can*, *may*, *must*, *ought to*, *shall*, and *will* (Palmer, 1979, 1990).

2.1. Exemplification of the subjective-objective distinction

Some modal auxiliaries in English are closely connected with the interpersonal function in the clause. The function of the modal verbs in examples like (1) and (2) is precisely to encode the *speaker’s position* with respect the propositional content of the clause.

- (1) The mass of similar letters from all parts of the world were a stark reminder of Somalia’s appalling human rights record under Siad Barre, although on my return from Mogadishu last week Amnesty confirmed that the preacher for whom it had campaigned had actually been released some time in nineteen eighty-nine. The flood of letters must have had some impact after all <ICE-GB:S2B-023 #64–65:3:A>¹
- (2) You seem to be seeking to destroy yourself in some way, but you must not include me in your plan of action <ICE-GB:W2F-008 #71:1>

The epistemic *must* in (1) realizes the speaker’s assessment of the proposition ‘the flood of letters had some impact’ as a nearly inevitable conclusion, while the deontic *must* in (2) realizes the speaker’s wish that the interlocutor would leave him out of his plans.

Not all uses of modal verbs are so clearly interpersonal, however. It has often been pointed out (Halliday, 1970; Palmer, 1990: 35–38; Foley and Van Valin, 1984: 213–216; Hengeveld, 1988: 233–234) that the modals of volition and ability² do not express any position of the *speaker*, but should rather be regarded as a category *internal* to the proposition. The modal verbs in (3) and (4), for instance, are not related to the speaker in any way:

- (3) Uhm so you you can drive can you <ICE-GB:S1A-097 #138:1:B>

¹ Examples taken from the ICE-GB corpus are marked with their standard ICE text code; examples taken from the COBUILD corpus are marked with CB. In example sentences, I will follow the convention of underlining the element under discussion.

² In what follows I will use Palmer’s (1979, 1990) cover term of ‘dynamic modality’ for this category.

- (4) I mean she won't see a psychiatrist at all anything remotely approaching that
uhm <ICE-GB:S1A-031 #139:1:B>

Can in (3) and *won't* in (4) merely indicate the ability, respectively the unwillingness of the agent to carry out the action denoted by the main verb.

Another problematic category is deontic modality, which seems to allow non-interpersonal uses in addition to the interpersonal use illustrated in (2) (Halliday, 1970: 347–349; Lyons, 1977: 832–833; Palmer, 1979: 91–107).

- (5) But to reach orbit an object must accelerate to a speed of about 17,500 miles per hour (28,000 kilometers per hour, called satellite speed or orbital velocity) in a horizontal direction; and it must reach an altitude of more than 100 miles (160 kilometers), in order to be clear of the atmosphere.<ICE-GB:W2B-035 #39:1>

The necessity expressed by the modal verb *must* in (5), for instance, cannot be assigned to the speaker. as in (2): rather than expressing the speaker's wish, *must* in (5) expresses the existence of some necessity without actually committing the speaker to it.³

Finally, Lyons (1977: 797–801) and Hengeveld (1988: 234–236) have claimed that the distinction between interpersonal and non-interpersonal functions can equally be made for epistemic modality. Lyons argues that epistemic *may* in an example like (6) can have two interpretations:

- (6) Alfred may be unmarried (Lyons, 1977: 797)

Given that Alfred belongs to a community of ninety people, the interpretation of *may* in (6) depends on the speaker's knowledge about the presence of unmarried people in that community. One interpretation is *objective*: if the speaker knows that there are unmarried people in the group to which Alfred belongs, he also “knows, and does not merely think or believe, that there is a possibility (and in this case a quantifiable possibility) of Alfred's being unmarried” (1977: 798). The other interpretation is *subjective*: if the speaker does not know anything about the presence of unmarried people in this group, he “may be understood as subjectively qualifying his commitment to the possibility of Alfred's being unmarried in terms of his own uncertainty” (1977: 797). Thus, Lyons argues, the possibility expressed by *may* can either be attributed to the uncertainty of the *speaker*, as in the subjective interpretation, or it can be logically inherent in the *situation* described in the utterance, as in the objective interpretation.

³ In fact, these uses of 'deontic' modality might perhaps more appropriately be called 'dynamic', especially where the necessity predicated by the modal is not related to any deontic source, but originates in the circumstances of the state of affairs; see further in section 4.

2.2. Subjectivity

2.2.1. Subjectivity-objectivity as speaker-relatedness

Semantic distinctions like the ones discussed above have led authors like Halliday (1970), Lyons (1977), Foley and Van Valin (1984), and Hengeveld (1987, 1988, 1989) to posit a distinction between two types of modality, often called *subjective* and *objective*, following the terminology introduced by Lyons (1977). Although the various proposals are driven by different theoretical concerns, the actual definition of the distinction usually boils down to whether or not the modal in question involves the speaker in the utterance.

Halliday (1970) was the first to organize the different functions of the modals into two basic categories, depending on whether or not they are related to the speaker. This generalization follows Halliday's more general functional hypothesis (e.g. Halliday, 1976) according to which the three basic functions of human language (encoding experience, managing speaker-hearer interaction, and organizing all this into coherent discourse) are realized in three different components of the grammatical system (the ideational, interpersonal, and textual subsystems). Thus, Halliday (1970) uses the function and grammatical behavior of the English modals to subdivide them into two basic categories, one of which is part of the ideational component while the other is part of the interpersonal component. The epistemic modals and some uses of deontic modals (like *must* in (2), above) belong to the *interpersonal* component, because they take care of the speaker's involvement in the utterance: they are "a form of participation by the speaker in the speech event. Through modality, the speaker associates with the thesis an indication of its status and validity in his own judgement; he intrudes, and takes up a position" (Halliday, 1970: 335). The modals of ability and volition, as well as some other uses of deontic modals like (5) above, belong to the ideational metafunction, because they "are not speaker's comments, but form part of the content of the clause, expressing conditions on the process referred to" (Halliday, 1970: 338).

Lyons (1977: 797–801) introduces the terminological distinction between subjective and objective modality. His account of the distinction is phrased in terms of Hare's (1970) analysis of utterances into three basic functional components: the *tropic*, the *neustic*, and the *phrastic*. The *tropic* is defined as "that part of the sentence which correlates with the kind of speech act that the sentence is characteristically used to perform" (Lyons, 1977: 749), and glossed as the *I-say-so* component of the utterance. The *neustic* is defined as "that part of the sentence which expresses the speaker's commitment to the factuality, desirability, etc., of the propositional content conveyed by the phrastic" (Lyons, 1977: 750) and glossed as the *it-is-so* and *so-be-it* component of the utterance. The *phrastic*, finally, corresponds to the propositional content of the utterance. These three functional components form the basis of Lyons' analysis of subjective and objective modality: the subjective versus objective character of a modal depends on which component in the utterance is qualified by the modal (see Table 1).

Subjective epistemic modality involves a qualification of the *tropic* component of the utterance, through which the speaker "express[es] [...] reservations about giving

Table 1
Lyons' tropic-neustic-phrastic analysis

Modality type	Subjective	Objective
<i>Epistemic</i>		
Tropic	Mod (I-say-so)	I-say-so
Neustic	It-is-so	Mod (It-is-so)
Phrastic	Prop Cont	Prop Cont
<i>Deontic</i>		
Tropic	I-say-so	I-say-so
Neustic	Mod (So-be-it)	It-is-so
Phrastic	Prop Cont	Mod (Prop Cont)

an unqualified, or categorical, 'I-say-so' to the factuality of the proposition embedded in his utterance" (Lyons, 1977: 799). Objective epistemic modality, on the other hand, involves a qualification of its neustic component: the speaker does give an unqualified I-say-so to his utterance, but introduces a modal qualification in the it-is-so component. For deontic modality, Lyons relates the subjective-objective distinction to the distinction between the neustic and the phrastic (Lyons, 1977: 832–841). In both cases, he argues, the speaker gives an unqualified I-say-so to his utterance but, while for subjective deontic modals, like *must* in (2) above, this I-say-so applies to a so-be-it in the neustic component, for their objective counterparts, like *must* in (5) above, it applies to an it-is-so in the neustic. In the latter case, the deontic qualification belongs the phrastic component of the utterance rather than the neustic: objective deontic modality involves statements about the existence of obligations rather than orders creating such obligations (Lyons, 1977: 832–833).

Lyons' account of the distinction is similar to Halliday's in that he relates the subjective-objective dichotomy to a basic distinction between different functional components in the utterance. An important difference is that Lyons further differentiates the definition of subjectivity and objectivity depending on whether the modality in question is deontic or epistemic: subjective-epistemic modality involves qualification of the tropic, whereas subjective-deontic modality involves qualification of the neustic, and objective-epistemic modality involves qualification of the neustic whereas objective-deontic modality involves qualification of the phrastic. In section 4, I will show that such further differentiation is not linguistically justified, and that subjective modality always involves a qualification of the neustic in Lyons' terms, irrespective of whether the modal in question is epistemic or deontic.

Another difference is that in Lyons' conception of subjectivity and objectivity, speaker-involvement does not seem to be the only parameter involved. As shown by Nuyts (1993: 945–951, 2000: 30–34), Lyons' account of the distinction can also be interpreted in terms of the notion of *evidentiality*, especially for epistemic modality: in the case of subjective modality, the speaker "alone knows the evidence and draws a conclusion from it" (Nuyts, 2000: 31), whereas in the case of objective modality

“(s)he indicate[s] that the evidence is known to (or accessible by) a larger group of people who share the conclusion based on it” (Nuyts, 2000: 31). Nuyts has shown convincingly that this interaction with evidentiality is a significant parameter in the behavior of epistemic modal expressions (1993: 945–951, 2000), but since this interpretation of the subjective-objective distinction is not relevant for the present study, which focuses on the issue of speaker-related versus content-related function, it will not be considered any further.

Foley and Van Valin (1984) also deal with different types of modality in their layered model of clause structure. They analyze the clause as a structure consisting of three superimposed layers, each of which is associated with its own set of grammatical operators. The first layer is called the *nucleus*, which consists of the predicate accompanied by operators indicating aspect and direction; the second layer is the *core*, which consists of the nucleus and its core arguments, accompanied by operators indicating deontic and dynamic modal categories; and the third layer is the *periphery*, which consists of the core and its adjuncts, accompanied by operators like tense, epistemic modalities, evidentiality, and illocutionary force. When dealing with the English modal auxiliaries in terms of this model, Foley and Van Valin (1984: 229–232) argue that there is a basic distinction between modals which function as operators of the core and those which function as operators of the periphery. Non-epistemic modals, like those expressing obligation, permission, ability, and volition are regarded as core operators because their function is internal to the core layer of the clause: they qualify the relation between a core argument and the predicate. Epistemic modals, on the other hand, are regarded as peripheral operators, because their function is external to the core layer: they express the speaker’s estimation of the likelihood that the state of affairs denoted by the core will become a reality.

Hengeveld’s (1987, 1988, 1989) framework, finally, brings together elements from the three approaches discussed above. Like Foley and Van Valin (1984), Hengeveld proposes a layered model of clause structure, consisting of successive layers, each with their own set of operators; he accounts for different types of modality as operators over different layers. He distinguishes between epistemological, objective, and inherent modality. *Epistemological* modality involves “[the] speaker’s expression of his commitment with regard to the truth of the proposition” (1987: 58): this category includes the equivalent of Lyons’ subjective epistemic modality, as well as markers of evidentiality. *Objective* modality involves an evaluation of a state of affairs in terms of a speaker’s knowledge, which can be either epistemic “knowledge of possible situations obtaining in the speaker’s conception of reality or of a hypothesized universe” (1987: 57) or deontic “knowledge of possible situations relative to some system of moral, legal, or social conventions” (1987: 57): this category includes both the equivalent of Lyons’ objective epistemic modality, and deontic modals like *must* in (2) above. *Inherent* modality, finally, involves “the relation between a participant in a State of Affairs and the realization of that State of Affairs” (1987: 56): this includes both the dynamic modals of ability and volition, and deontic modals like *must* in (5) above. Like Lyons (1977), Hengeveld proposes different treatments for epistemic and deontic modality: epistemic modality can be either subjective (as a subcategory of epistemological modality) or objective, and

deontic modality can be either objective or inherent. Like Halliday (1970), Hengeveld, too, explains the theoretical significance of the different types of modality in terms of a basic dichotomy between an interpersonal and an ideational function in the linguistic system: epistemological modality is interpersonal, whereas objective modality and inherent modality are ideational.

2.2.2. Subjectivity-objectivity as explicit presence of the speaker in the utterance

Before we proceed to the discussion of criteria for speaker-relatedness and the actual delineation of subjective and objective functions in the modal domain, it should be noted that the terms ‘subjective’ and ‘objective’ are also used in a different sense, not entirely unrelated to that in which it has been used in the previous section, and confusingly sometimes also applied to the analysis of modality.

This different use of subjectivity and objectivity does not refer to the question of whether a linguistic element is related to the speaker or not, but to the question of how *explicitly* the speaker is present in an utterance. This sense of ‘subjective’ and ‘objective’ has been elaborated most explicitly in the work of Langacker (1985, 1990). The basis of his definition is the distinction between *conceptualization*, the meaning of a linguistic expression, and the *conceptualizer*, the speaker (and interlocutor) who is (are) responsible for this conceptualization. In terms of this distinction, the degree of subjectivity/objectivity of an utterance pertains to how explicitly the conceptualizer is present in his/her own conceptualization. Ultimately, a conceptualizer is always present to some degree in a conceptualization as the one who is responsible for it, but there are different degrees of explicitness in this presence. For instance, if we consider the following two examples (based on Langacker, 1990: 9–15):

- (7) This room was used by the king to receive important guests.
 (8) The room we are in now was used by the king to receive important guests.

Both examples (7) and (8) require reference to the speaker for their interpretation: in both cases, the speaker is the deictic centre which serves as a point of reference for the location of the room in question. The difference between (7) and (8), however, is that the speaker is present more explicitly in (8) than in (7): whereas in (7) the speaker remains an “offstage” (Langacker, 1990: 9–10) reference point for the interpretation of the demonstrative *this*, in (8) the speaker goes explicitly “onstage” (Langacker, 1990: 9–10) in the personal pronoun *we* in the postmodification of *room*. These different degrees of explicitness are what Langacker refers to as subjective and objective: the role of the speaker becomes more *objective* if the speaker figures more explicitly in the utterance, and more *subjective* if the speaker figures less explicitly in the utterance.⁴

⁴ It is important to note that Langacker defines ‘subjectivity’ and ‘objectivity’ from the perspective of the conceptualizer rather than from the perspective of the conceptualization. The two perspectives are theoretically equivalent, but result in opposite classifications, which may cause some terminological confusion: when the speaker is more explicitly present in the utterance, the role of the conceptualizer becomes more objective, but the conceptualization as such might be argued to become more subjective. (Thanks to Ricardo Maldonado (p.c.) for discussion of this point.)

If we compare this sense of ‘subjective’ and ‘objective’ with the one presented in the previous section (where ‘subjective’ meant ‘related to the speaker’ and ‘objective’ meant ‘related to the propositional content’), it is clear that Langacker’s sense of subjectivity applies only to the *subjective* pole of the original distinction: in order to qualify as more or less explicit in the presence of the speaker, a particular element must of course have a speaker-related function in the first place. Thus, Langacker’s subjectivity and objectivity are not entirely unrelated to subjectivity as it was defined in the previous section: they can be regarded as an additional dimension for the subjective pole, depending on how explicitly the speaker-relatedness figures in the utterance.

Unsurprisingly, the notion of subjectivity understood as explicitness of speaker-presence has also been applied to the analysis of modality. Compare, for instance, the following examples (from Perkins, 1983):

- (9) I {think, believe, reckon} he will go
 - (10) {Possibly, It’s possible that, There’s a possibility that} he will go
 - (11) I {permit, allow, authorize} him to go
 - (12) {It is {permitted, permissible}, Permission has been granted} for him to go
- (Perkins, 1983: 101–102)

Perkins (1983: 100–105) regards expressions like (9) as the “explicitly subjective” options within the epistemic system, and expressions like (10) as the “explicitly objective” options, with modal auxiliaries as unmarked for subjectivity and objectivity (1983: 101).⁵

The same analysis is applied to the deontic system, again with expressions like (11) as the explicitly subjective options, expressions like (12) as the explicitly objective options and modal auxiliaries as unmarked for subjectivity and objectivity.

Clearly, this understanding of subjectivity and objectivity should not be confused with the one that is the focus of the present study, viz. the contrast between speaker-related and content-related function. Elements which Perkins (1983) calls subjective in terms of speaker-explicitness are necessarily also subjective in terms of speaker-relatedness, but elements which he calls objective in terms of speaker-explicitness are not necessarily objective in terms of speaker-relatedness.

2.3. Problems of criteria and delineation

In spite of the more or less general theoretical agreement that there is a basic distinction between speaker-related and non-speaker-related functions in the system of modal auxiliaries, the actual delineation of the two functions in the modal domain and the criteria on which this delineation is based remain highly problematic.

⁵ Although Perkins’ use of the subjective-objective distinction is equivalent to Langacker’s, it is important to note that he assigns the terms subjective and objective the other way round, inasmuch as he works from the perspective of the conceptualization rather than that of the conceptualizer. Thus, if the speaker is present more explicitly in the utterance, the utterance becomes more subjective. (See also the previous footnote.)

2.3.1. Criteria

Most authors who propose a distinction between subjective and objective modality support their distinction with a number of grammatical criteria. Some of these involve the *behavior* of modal auxiliaries in various grammatical contexts, which is different depending on whether the function of the auxiliaries is subjective or objective; others also focus on the relative *surface ordering* of subjective and objective modality, together with their position relative to other qualificational categories like tense.

One very popular criterion is the behavior of modal expressions under interrogation. This criterion has been introduced to lend support to the distinction between modal adverbs and modal adjectives (Jackendoff, 1972: 84–87; Bellert, 1977: 344–346; Nuyts, 1992, 1993, 2000): modal adjectives regularly occur in questions, as shown in (13), whereas modal adverbs usually do not,⁶ as shown in (14) below:

- (13) Is it possible that all human beings on earth today are descended from a single woman? (CB)
- (14) ?Are all human beings on earth today possibly descended from a single woman?

Lyons (1977) and Hengeveld (1988) have related this criterion more generally to the distinction between objective and subjective modality: they argue that objective modality can be questioned, whereas subjective modality cannot. In section 3.2, I will argue that this is not the case: both types of modality can occur in interrogative clauses, but the *effect* of the interrogation on the modal expression is different, depending on whether the modal is subjective or objective.

A second criterion is the behavior of modals in conditional contexts. Lyons (1977) and Hengeveld (1988) argue that objective modality can occur in the protasis of a conditional construction, whereas subjective modality cannot. Palmer (1990: 182) offers a less absolute version of this criterion: subjective modals *can* occur in conditional protases, but in that case they echo what has already been said, as shown in examples like (15). This modification need not invalidate the use of conditionality as a criterion for the subjective-objective distinction: in section 3.1, I will show how the echoic interpretation of subjective modals in specific contexts can actually be explained as a reflection of their essentially performative nature.

- (15) If he may come tomorrow, ... = ‘if you say he may come tomorrow’ (Palmer 1990: 182)

A third criterion which is often used is the relationship of modal auxiliaries to tense. Halliday (1970), Hengeveld (1988), and Palmer (1990) argue that subjective modals do not exhibit any tense distinctions, whereas objective ones are found in all tenses. Foley and Van Valin (1984) implicitly incorporate the same argument in

⁶ But compare Bellert (1977: 344) and Van der Auwera (1983) on the speech-act modifying function of *perhaps* and its Dutch equivalent *misschien* in questions. Even outside of these contexts, however, modal adverbs may be acceptable in interrogatives.

their relative ordering of operators, by locating objective modality within the scope of tense operators, and subjective modality outside this scope.

A final criterion is the surface ordering of subjective and objective modality, which is crucial to Foley and Van Valin's (1984) argument about the relative scope of operators. In general, they argue, "the ordering of the auxiliary elements directly reflects the relative ordering of the operators" (1984: 225, compare also Van Valin (1993: 7–9) and Van Valin and LaPolla (1997: 40–52)). Applied to the problem of modal auxiliaries in English, there are two ways in which the subjective-objective distinction is reflected in the surface ordering of elements.

In standard English, two modal auxiliaries can never co-occur in one and the same clause; however, there are also a number of quasi-auxiliaries (Perkins, 1983: 59–65) like *have to*, for which co-occurrence with modal auxiliaries is possible, as shown in (16):

(16) John may have to leave (Foley and Van Valin, 1984: 231)

When auxiliary and quasi-auxiliary co-occur in the same clause, Foley and Van Valin argue, the auxiliary will always be further removed from the main verb than the quasi-auxiliary, reflecting the scope of an operator of the peripheral layer (in this case subjective epistemic modality) over an operator of the core layer (in this case objective deontic modality).

Another context where surface ordering reflects scope of subjective over objective modality is the so-called 'double-modal construction' of Southern American English (and certain dialects of Scotland and Northern Ireland, see Nagle (1994) for an overview). Here, the co-occurrence restrictions of standard English do not apply, such that certain combinations of two modal auxiliaries are allowed, as shown in (17) below.

(17) Don't get so far ahead – I may not could make it. (Foley and Van Valin, 1984: 231)

Again, Foley and Van Valin argue, the ordering with respect to the main verb reflects the relative scope of the two types of modality: the outermost modal will always be a peripheral operator (in this case subjective epistemic modality), whereas the innermost one will be a core operator (in this case a dynamic modal of ability).

2.3.2. Delineation

The actual delineation of the subjective and objective categories on the basis of the definitions and criteria discussed above is a matter of serious disagreement in the literature. The only thing that is more or less uncontroversial is the objective status of the modals of ability and volition, on which most frameworks seem to agree. For the analysis of epistemic and deontic modality, however, as many as four different combinations with subjective and objective function have been proposed.⁷ Lyons

⁷ I disregard the fact that some authors differentiate even further by proposing different instantiations of the subjective-objective distinction for epistemic and deontic modality, as shown in section 2.2.1.

(1977) and Palmer (1979, 1990) claim that both epistemic and deontic modality can be subjective and objective; Halliday (1970) argues that only deontic modality can be both subjective and objective, and that epistemic modality is always subjective; Hengeveld (1988) argues that only epistemic modality can be both subjective and objective, and that deontic modality is never subjective; and Foley and Van Valin (1984) claim that epistemic modality is always subjective and deontic modality is always objective. Table 2 summarizes the different proposals.

Table 2
The subjective-objective distinction in four frameworks

Halliday	Subjective = interpersonal = {epistemic, deontic} Objective = ideational = {dynamic, deontic}
Lyons	Subjective = tropic = {epistemic} Subjective = neustic = {deontic} Objective = neustic = {epistemic} Objective = phrastic = {deontic, dynamic}
Foley and Van Valin	Subjective = periphery = {epistemic} Objective = core = {deontic, dynamic}
Hengeveld	Subjective = interpersonal = {epistemic} Objective (+ inherent) = ideational = {epistemic, deontic, dynamic}

The fact that there are so many divergent proposals indicates that the distinction between subjective and objective modality is not yet properly understood. As already shown, there is a more or less generally accepted semantic characterization which relates the distinction to the presence or absence of speaker-commitment, and there are some often-used grammatical criteria which relate the distinction to behavioral differences with respect to tense, conditionality, or interrogation, but the extreme divergence in the actual analyses resulting from these semantic and grammatical criteria shows that these criteria as such are not sufficient.

In the following section, I will try to contribute to a better understanding of the distinction between subjective and objective modality from a *semiotic* perspective. *Semantic* criteria like presence or absence of speaker-involvement are notoriously difficult to apply consistently; but on the other hand, *grammatical* criteria like interaction with interrogation and conditionality are equally problematic, as long as they are applied without understanding *how* and *why* they test for a particular semantic distinction. The *semiotic* alternative is to bring the semantic and grammatical criteria together as inseparable aspects of one and the same semiotic phenomenon (McGregor, 1997); in this perspective, criteria of meaning can be made sharper because they are encoded in form, and criteria of form are no longer applied blindly because their mechanism can be explained in terms of the way they encode meaning. In the following section, I will elaborate a model for the role of modality in the clause, using the notion of *performativity* as the semiotic core, holding together the semantics of the utterance and the grammatical behavior of the auxiliaries.

3. The performative nature of subjective modality

In this section, I will show how *performativity* is the semiotically relevant factor which brings together the semantic intuitions about the distinction between subjective and objective modality with the grammatical criteria that can be used to make the distinction. The notion of performativity has already been proposed as a significant factor for the analysis of modal auxiliaries by Palmer (1983), while Nuyts (1993) has shown convincingly that the distinction between performative and non-performative functions is one of the factors which account for the difference between modal adverbs like *probably* and modal adjectives like *probable*. Following this tradition, I will show how performativity is the key to a semiotic account of the distinction between the subjective and objective functions of the modal auxiliaries in English; this will allow us both to sharpen the semantic characterization and to understand the mechanism behind the grammatical criteria that are commonly used to make the distinction.

The performativity involved in subjective modality is somewhat different from the traditional performativity associated with an utterance's illocutionary force (compare also Nuyts, 1993: 954, 2000: 35; Goethals, 2000: 86–91). The performativity associated with the illocutionary force of an utterance relates to the fact that producing the utterance brings into existence a particular interactive role of the speaker towards the interlocutor. By making a promise, the speaker puts himself under an obligation to the interlocutor; by asking a question, the speaker establishes an asymmetric relationship of knowledge between himself and the interlocutor: this could be called *interactive performativity*, since it concerns the social interaction between speaker and interlocutor. In contrast, the performativity involved in subjective modality does not establish such social relationships between the *I* and *you* of the discourse context, but brings into existence a particular position of commitment with respect to the propositional content of the utterance.

For instance, the subjective modals cited in (1) and (2) above, section 2.1, and repeated below, cast the speaker in a particular role with respect to the content of his utterance: by using the subjective epistemic *must* in (1), the speaker presents himself as being committed to the status of the proposition as an inevitable conclusion; by using the subjective deontic *must* in (2), he presents himself as being committed to the status of the action in question as an undesirable course of action. Thus, taking positions of commitment with respect to the propositional content of the utterance is a distinct aspect of the performativity of the utterance, which could be called its *modal performativity*.

- (1) The mass of similar letters from all parts of the world were a stark reminder of Somalia's appalling human rights record under Siad Barre, although on my return from Mogadishu last week Amnesty confirmed that the preacher for whom it had campaigned had actually been released some time in nineteen eighty-nine. The flood of letters must have had some impact after all <ICE-GB:S2B-023 #64-65:3:A>

- (2) You seem to be seeking to destroy yourself in some way, but you must not include me in your plan of action <ICE-GB:W2F-008 #71:1>

In the following sections, I will show how this characterization of subjective modality in terms of (modal) performativity can be used to *explain* the mechanism behind the grammatical criteria which support the distinction between subjective and objective modality. First, subjective modals cannot occur in the protasis of a *conditional* construction without echoic reinterpretation, whereas objective modals are unproblematic. Conditional protases are special in that they suspend the speaker's commitment to the proposition they contain: a proposition in a conditional protasis is merely supposed for the sake of the relation with the apodosis, but not asserted (Dancygier, 1998). This suspension of speaker-commitment clashes with the performative character of subjective modality and leads to echoic reinterpretation, whereas it is unproblematic for objective modals, which are non-performative. Secondly, subjective modals interact with the *declarative-interrogative* system, whereas objective modals do not. In contrast with the accounts of interrogation proposed by Lyons (1977) and Hengeveld (1988), interrogation is not *excluded* for subjective modality, but orients the subjective modal towards the interlocutor, whereas it does not affect its objective counterpart. This is where interactive performativity meshes with modal performativity: subjective modals create a position of commitment with respect to the content of the utterance, and the interrogative hands the responsibility for this position over to the interlocutor in the next turn; objective modals do not create any position of commitment and therefore remain unaffected by interrogation. Finally, subjective modals are not subject to *tense*, whereas objective modals are. This is a property both of interactive and of modal performativity: a speaker cannot establish any social relations or modal positions in the past or the future, as has been argued by Halliday (1970) and Palmer (1990).

3.1. Conditionality

A first criterion for distinguishing between subjective and objective functions of modal auxiliaries is the acceptability of the modal in conditional contexts, as argued by Lyons (1977) and Hengeveld (1988): “objectively modalized predications can be hypothesized in a conditional sentence, subjectively modalized ones cannot” (Hengeveld, 1988: 236). It is certainly the case that subjective modals do not easily appear in conditional protases, but their occurrence is not entirely excluded, as shown by Palmer (1990: 182). What distinguishes subjective from objective modality in terms of occurrence in conditionals is not acceptability as such, but the *influence* of the construction on the interpretation: when subjective modals occur in the protasis of conditional constructions, they receive a special echoic interpretation, in which they do not express the current speaker's opinion, as they do in normal main clauses, but echo an opinion that has already been voiced in the preceding discourse (see also Palmer, 1990: 182). In this section, I will show that this echoic effect can only be explained as a reflection of the performative function of subjective modality,

which clashes with the inherently non-performative character of the protasis in conditional constructions. Consider the following examples:

Dynamic modality

- (18) Now he is back, Australian coach Bob Dwyer is certain to promptly add Roebuck to the World Cup squad preparing for the big event in May and June. He spent last season doing radio reports for radio 2GB, but says: 'I've kept myself pretty fit'. If he can recapture the resourceful form which won him 23 caps Roebuck will be pushing strongly for a spot in the 26 man squad. (CB)
- (19) It may be that your mother was simply trying to prevent a repetition of the sister-brother friction that caused her mother and her so much grief. If your mother will co-operate, you might ask her these kinds of questions: When you were a child, what got you into trouble and how were you punished? Did you like your mother and father? (CB)

Epistemic modality

- (20) In distilling a statement of theme from a rich and complicated story, we have, of course, no more encompassed the whole story than a paleontologist taking a plaster mold of a petrified footprint has captured a living brontosaurus. A writer (other than a fabulist) does not usually set out with theme in hand, determined to make every detail in the story work to demonstrate it. Well then, the skeptical reader may ask, if only some stories have themes, if those themes may be hard to sum up, and if readers will probably disagree in their summations, why bother to state themes? (CB)

Deontic modality

- (21) A simple sealant is used to cope with corners. The process is quick, taking only 15 to 20 minutes to clean a whole house, and helps maintain the purity of rain water if it must be stored. At \$ 5.25 a meter or about \$ 370 for a family home, it's the cheapest gutter cleaning mechanism on the market, said Mr Sheehan, 60-year-old retired primary school principal. (CB)
- (22) The key stumbling block remained Republican insistence on a Medicare premium increase. Mr Clinton argued that Medicare increases were not necessary to meet demands for a balanced budget. 'If America must close down access to quality education, a clean environment and affordable health care for our seniors in order to keep the government open, then that price is too high', Mr Clinton said in vetoing the temporary spending bill. (CB)

Examples (18)–(22) illustrate the categories of dynamic, epistemic, and deontic modality in the protasis of conditional constructions. The dynamic modals of ability and volition can occur unproblematically in the protasis of a conditional construction (Palmer, 1990: 179–180), as shown in examples (18) and (19). Epistemic modals,

however, are not acceptable in this position, unless they receive a special echoic interpretation (Palmer, 1990: 182). This is shown clearly in examples like (20), where the modal *may* does not express the opinion of the speaker who uses the conditional construction, but merely echoes an opinion expressed or implied in the preceding discourse. The ‘skeptical reader’ who uses the conditional in (20) is not necessarily committed to the opinion realized by *may*, but simply introduces it as another speaker’s opinion into his own argument, in this case with a polemic purpose, to show how the conclusions that could be drawn from that opinion contradict the other speaker’s position. For deontic modality, finally, there are two possibilities. On the one hand, some deontic modals can easily be used in conditional protases without requiring any special interpretation, as in example (21). These are the instances where the deontic modal merely predicates the existence of some kind of necessity without actually committing the speaker to it. On the other hand, some deontic modals may also receive echoic reinterpretation just like the epistemic modals, as shown in example (22). As with example (20), the modal *must* in (22) does not express the current speaker’s opinion. Rather, it echoes an opinion voiced in the preceding discourse: the deontic *must* in (22) is not just any *must*, but clearly represents the position to which the Republicans are committed, which is obviously not a position the current speaker holds.

The behavior of the different modals in the protasis of conditional constructions can be explained as a consequence of a clash between the performative function of the subjective modal and the inherently non-performative character of the conditional protasis. The protasis of a conditional is non-performative, because the function of the conditional marker *if* is precisely to suspend any commitment by the speaker to the proposition in its scope (Dancygier, 1998: 14–24), and thus to mark it as a mere supposition for the sake of the apodosis. For modals in ideational functions, as in (18), (19), and (21), the non-performative character of the conditional protases is unproblematic and therefore does not affect their interpretation, but it does cause problems when the modal has a performative function, as in (20) and (22): the function of the conditional marker is to suspend any speaker commitment, whereas the function of performative modals is precisely to encode a speaker’s epistemic or deontic commitment. This clash of functions leads to the echo-effect observed in (20) and (22): the performative modal in a conditional protasis is no longer performative in the sense of expressing a position of the current speaker, but comes to function as a propositionalized resumption of a context where the modal did have a performative function, usually expressing another speaker’s position. Such echoic resumption is the only way a modal can still encode a position in a context which inherently suspends any positioning of the speaker.

Thus, by using performative modals in a conditional construction, the speaker brings opinions voiced in the preceding discourse (usually by other speakers) into his own discourse, while not committing himself to them. It is not a coincidence that these constructions usually have a special polemic or rhetorical power, as in (20) and (22): when the speaker brings other people’s opinions as suppositions into the protasis of a conditional construction, the conclusions drawn in the apodosis can also be used against them, as is clearly the case in (20) and (22).

3.2. Interrogation

As already indicated in section 2.3.1, the criterion of interrogation was originally used to differentiate between modal adverbs and modal adjectives (Jackendoff, 1972: 84–87; Bellert, 1977: 344–346), but was generalized to the subjective-objective distinction by Lyons (1977) and Hengeveld (1988): “objectively modalized predications can be questioned, subjectively modalized ones cannot” (Hengeveld, 1988: 236). I agree that the declarative-interrogative contrast is relevant to the distinction between subjective and objective modality, but I do not believe that utterances with subjective modality become unacceptable in an interrogative context.

Both subjective and objective modals can occur in interrogatives, but for subjective modality there is a functional *interaction* between the modal and the declarative-interrogative system which does not exist for objective modality: subjective modals are oriented towards the *interlocutor* under the influence of interrogation, whereas objective modals remain unaffected. This is perhaps seen most clearly for deontic modality, which can be both subjective, as in (23), and objective, as in (26).

- (23) What we want is for the right honourable gentleman to use the full weight of his office. We are getting tired of a cosmetic approach an oversanguine approach. There is a crisis and he must act now<ICE-GB:S1B-056 #87–89:1:F>
- (24) Must the minister act now?
- (25) ‘You’ve got to be there by nine o’clock in the morning at the latest. You’ll be crossing the main refugee routes. Shouldn’t be too bad’. ‘Must I leave my platoon, sir? At this moment?’ ‘Stop arguing and get down there. It’s nobody’s fault but yours that you speak fluent German. You know perfectly well every linguist’s name is listed’. (CB)
- (26) Brake shoes must always be renewed in sets of four <ICE-GB:W2D-018 #67:1>
- (27) Must brake shoes always be renewed in sets of four?
- (28) First-time buyers should ask: Who is responsible for a title search and abstract? Who will provide title insurance? Must the termite inspection be paid before closing (in which case you will need a receipt), or can it be paid at settlement? (CB)

The orientation of the deontic necessity expressed by *must* in (23) is shifted towards the interlocutor under the influence of interrogation, as shown in (24) and (25): the speaker in (24) and (25) is no longer committed to the deontic necessity, but asks whether the *interlocutor* is committed to it, ‘do you wish the minister to act now?’ The deontic necessity expressed by the objective *must* in (26), on the other hand, does not undergo any shift in an interrogative context: the interrogative in (27) will not be interpreted as a question about the interlocutor’s commitment to deontic necessity (‘do you want brake shoes to be changed in sets of

four?'), but about his *epistemic*⁸ commitment to the truth of a proposition about the *existence* of this necessity, 'do you think it is true that brake shoes must be changed in sets of four?'

Epistemic modality behaves in the same way as deontic modality: interrogation also shifts the orientation of the modal towards the interlocutor. Thus, in examples like (29) and (30), the speaker does not take the responsibility for the epistemic position expressed by the modal, but transfers this responsibility to the interlocutor in the next turn.

- (29) THOMPSON: If the trials are successful, might this be used as the first line of treatment of cancer? THORPE: Well that's exactly where we are going. We are hoping that this will replace conventional chemotherapy. (CB)
- (30) I mean maybe we've got no choice if we want to do it but I mean erm do you think it's possible to do anything worthwhile in history lessons or can this work really only take place in somewhere like civics social studies sociology politics? (CB)

It is sometimes argued that epistemic modals do not easily occur in interrogatives (Palmer, 1990: 62), and this is certainly true in terms of frequency, but it is not an inherent restriction the way there is an inherent restriction on modal adverbs in interrogatives, for instance. The lower frequency is due to a number of other factors, one of which is the fact that some epistemic modals, in addition to signaling speaker-commitment, have other functions which are not easily compatible with the 'transfer' function of interrogatives. A good example of this is epistemic *must*, which does not merely mark inference but also includes a component of evidentiality,⁹ as shown by Hoye (1997: 105–106) on the basis of collocability with evidential adverbs (cf. also Palmer (1990: 12) and Nuyts (2000: 129)).

- (31) Casually, Frido said to one of the colleagues in his room — 'Has anybody seen the Chief of Staff since he returned? He must know what's going on.' 'Must he?' Frido met a hard stare. Men were talking in whispers in every office. (CB)

Because of this additional evidential function, *must* in interrogatives necessarily acquires a special, challenging value, as in (31). Along with the modal, the evidential function is also oriented to the interlocutor: 'do you think you have evidence for that position?' Another factor contributing to the low frequency of epistemic modals in interrogatives is the availability of the formally and semantically *unmarked* value of the simple indicative in the epistemic system (Verstraete, 2000), which is the most natural option in interrogative contexts. Deontic modals, by contrast, do not have

⁸ This epistemic commitment remains formally unmarked: the simple indicative mood can be regarded as the formally and semantically unmarked value of the epistemic modal system (Palmer, 1986: 26–29; Verstraete, 1998, 2000).

⁹ Thanks to Jan Nuyts (p.c.) for drawing my attention to this point.

such an unmarked value available in interrogative contexts:¹⁰ therefore all the burden is shifted to the modal auxiliaries, which explains their higher text frequency in interrogatives, when compared with epistemic modals.

The divergent behavior of subjective and objective modality in reaction to the declarative-interrogative contrast can again be explained in terms of performativity, more particularly in terms of interaction between interactive and modal performativity. Subjective modals establish a position of epistemic or deontic commitment with respect to the propositional content of the clause and are therefore susceptible to the interactive performativity encoded in the declarative-interrogative contrast, which allows the speaker either to take the responsibility for this commitment in his own turn, or to transfer it to the interlocutor in the next. Objective modals, on the other hand, do not create any position of commitment but belong to a proposition which is itself subject to modal performativity: the declarative-interrogative contrast will mesh with this performative modality (in cases like (27) and (28) this is the formally unmarked value of the epistemic system) and not with the objective modals that are internal to the proposition.

This account of the interaction between interrogation and the subjective-objective distinction does not only contradict Lyons' (1977) and Hengeveld's (1988) claims about the unacceptability of subjective modality in interrogative contexts, but also calls into question the assumption, common to layered models of clause structure, that illocutionary force as an operator has scope over both subjective and objective modality. In Foley and Van Valin's model (1984: 220–221, 233–234; cf. also Van Valin, 1993: 7–9; Van Valin and LaPolla, 1997: 41–42), for instance, the illocutionary force operator, which is responsible for the paradigmatic opposition between the declarative, interrogative, and imperative clause types, has scope over both subjective and objective modalities. From the perspective of the interaction between interrogation and the subjective-objective distinction, however, it would be more accurate to put the operators of subjective modality and of illocutionary force on the same level, with scope only over objective modality. After all, only objective modality falls within the scope of interrogation, inasmuch as it belongs the propositional content that is interrogated. Subjective modality, by contrast, does not fall within the scope of interrogation, as we have shown, but *interacts* with it on an equal footing: subjective modality and the declarative-interrogative contrast are two *distinct* but *complementary* aspects of one and the same performative component in the utterance.

3.3. Tense

The distinction between subjective and objective modality in terms of tense has often been noticed in the literature (Halliday, 1970: 336–343; Palmer, 1979: 33–34; Hengeveld, 1988: 237): objective modals are subject to distinctions of tense,

¹⁰ The deontic system does have an unmarked option in the form of the imperative mood (Palmer, 1986: 29–30; Verstraete, 1998, 2000), but unlike what is the case for the epistemic system, this option is not available in the interrogative.

whereas subjective modals are not. The examples below illustrate the relevance of tense for the categories of dynamic, epistemic, and deontic modality.

- (32) Gillespie positioned himself for a challenge but before he could move in for the tackle Hughes had driven the ball high past Grobbelaar from 25 yards. <ICE-GB:W2C-004 #50:2>
- (33) Tom Shovell held things together while he was mine captain, but he retired a couple of years back and Theophilus wouldn't appoint anyone to take his place. <ICE-GB:W2F-007 #53:1>
- (34) Well she might be coming to Clare's party <ICE-GB:S1A-036 #90:1:B>
- (35) they said they might be back late. <ICE-GB:W2F-006 #142:1>
- (36) While the signs slipped by ... Scotch Corner, Wetherby, Leeds ... she thought about the brooch. £480: a fortune to a man with no job back in 1957. She tried to summon up the brooch, to remember what had made it so special. It had to be the same one ... how many sheep-shaped brooches could there be? <ICE-GB:W2F-003 #17–21:1>
- (37) In fact Old Trafford had to wait another 20 minutes but then two goals arrived together, like buses. <ICE-GB:W2C-004 #45:2>
- (38) He'd said that you had to have your finance by the third of February <ICE-GB:S1B-061 #152:1:A>

The dynamic modals of volition and ability can occur in the past tense, as shown in examples (32) and (33), where *could* and *wouldn't* express past ability and volition, respectively. Epistemic modals can be morphologically past, but this morphological marking does not express the speaker's past judgment: either it is used for tentativeness, as in (34), or it occurs in a context of indirect or free indirect speech, as in (35) and (36). Deontic modality, again, is ambiguous. With objective deontic modality, morphological past tense expresses the existence of past necessity, as in (37). With subjective deontic modality, morphological past tense never expresses the speaker's past wish, unless it occurs in a context of indirect speech, as in (38).

This divergent behavior with respect to tense can likewise be explained in terms of performativity (as it is done in Halliday (1970) and Palmer (1990)). Objective modal verbs belong to the propositional component of the clause and can therefore be situated in time, just like any other verb in the proposition. Subjective modals have a very different function: they performatively realize a position of epistemic or deontic commitment with respect to the propositional content of the clause, and this always happens in the here-and-now of the speech situation. A speaker cannot bring into existence any position of commitment in the past, just like he cannot perform any speech act in the past: subjective modality belongs to the performative component of the clause and is therefore not subject to distinctions of tense.

4. Conclusions

The criteria of conditionality, interrogation, and tense are all instrumental in the definition of a basic contrast between the performative, speaker-related functions of

modal auxiliaries, and their non-performative, content-related functions. Table 3 summarizes the results of applying these criteria, organized according to the three traditional categories of modality, viz. epistemic, deontic, and dynamic. If we compare these results with the various proposals for the delineation of subjective vs. objective function that were presented in section 2 (see Table 2 in 2.3.2.), we see that a number of the assumptions made there have been confirmed, whereas others had to be rejected on the basis of these criteria.

Table 3

The subjective-objective distinction for epistemic, deontic, and dynamic modality

Modality type	Subjective	Objective
Epistemic	+	-
Deontic	+	+
Dynamic	-	+

As to dynamic modality, the traditional assumption that dynamic modals are always objective is confirmed: dynamic modals can always be hypothesized in a conditional protasis, are always subject to tense distinctions, and do not shift their orientation under the influence of interrogation. Functionally, dynamic modals do not serve to position the speaker with respect to the propositional content of the utterance, but belong themselves to that propositional content.

As to epistemic modality, Lyons' (1977) and Hengeveld's (1988) claims that epistemic modality can be both objective and subjective are not confirmed: epistemic modality becomes echoic under the influence of conditionality, is not subject to distinctions of tense, and usually shifts its orientation under the influence of interrogation. Thus, for instance, Lyons' (1977) double interpretation of *Alfred may be married* (see example (6) in section 2.1.1) is not reflected in the linguistic behavior of the modal: whether or not the speaker's estimation of possibility is based on knowledge about the presence of unmarried people in Alfred's community may be relevant for the logical status of the argument, but it is not for the linguistic status of *may* (see also Nuyts, 1993: 246; Høye, 1997: 51).

As to deontic modality, both subjective and objective functions occur. There is no reason to deny subjective status to deontic modality, as in Foley and Van Valin (1984) and Hengeveld (1988). Certain uses of deontic modality clearly serve to encode the *speaker's* commitment to the necessity/possibility of an action, and this subjective function is reflected in the same grammatical characteristics which reflect the subjective nature of epistemic modality. In addition to these subjective uses, there is also an objective category of deontic modality, which merely predicates the existence of some necessity without actually committing the speaker to it, and consequently does not show any of the grammatical behavior which characterizes its subjective counterparts.

In fact, it might even be questioned whether the label 'deontic' is still justified for this objective category. In terms of function, objective deontic modality sometimes

appears to be closer to the dynamic category, because the necessity expressed by the modal is usually internal to the states of affairs described, rather than deriving from some external source. Accordingly, Palmer (1990: 113–132) lists this type under the heading of ‘dynamic necessity’ and Hengeveld (1987, 1988) includes it in his ‘inherent’ category. In examples like (39) and (40), for instance, the necessity expressed in *must* originates within the state of affairs described. In an example like (39), the necessity of replacing brake shoes in sets of four derives from the function and position of brake shoes in cars, and in an example like (40), the necessity of reaching a particular speed is related to the purpose expressed in the phrase *to reach orbit*.

- (39) Brake shoes must always be renewed in sets of four <ICE-GB:W2D-018 #67:1>
- (40) But to reach orbit an object must accelerate to a speed of about 17,500 miles per hour (28,000 kilometers per hour, called satellite speed or orbital velocity) in a horizontal direction; and it must reach an altitude of more than 100 miles (160 kilometers), in order to be clear of the atmosphere. <ICE-GB:W2B-035 #39:1>

Finally, the analysis also shows that it is not necessary to differentiate the analysis of subjectivity and objectivity depending on whether the modality is epistemic or deontic, as Lyons (1977) does by locating subjectivity in the tropic component for epistemic modality and in the neustic component for deontic modality. When deontic modals are subjective, the different grammatical characteristics that reflect performativity are exactly the same as those which indicate the performative nature of epistemic modality, and there is consequently no reason to differentiate in terms of tropic and neustic. In fact, Lyons’ whole tropic-neustic-phrastic framework can be given a more consistent interpretation in terms of the framework presented in this study, as summarized in Table 4.

Table 4
An alternative to Lyons’ tropic-neustic-phrastic analysis

	Gloss	Subjectivity–objectivity
<i>Lyons</i>		
Tropic	I-say-so	subjective-epistemic
Neustic	it-is-so/so-be-it	subjective-objective/deontic-epistemic
Phrastic	proposition	objective-deontic
<i>Alternative</i>		
Tropic	I-say-so/do-you-say-so	= <i>interactive performativity</i>
Neustic	it-is-so/so-be-it	subjective-epistemic/deontic = <i>modal performativity</i>
Phrastic	proposition	objective-deontic

Lyons argues that subjective epistemic modality involves a qualification of the tropic (I-say-so) component, whereas subjective deontic modality involves a qualification of the neustic component (it-is-so/so-be-it). In terms of the analysis presented here, however, the subjective function is to be located in the neustic, and the objective function in the phrastic, irrespective of whether the modal is epistemic or deontic. The tropic, on the other hand, is not a matter of modality at all, but of the *interactive* performativity realized by the declarative-interrogative contrast: this is what activates the position of commitment encoded by the modal for use in speaker-hearer interaction, by allocating the responsibility to the speaker or by transferring it to the interlocutor in the next turn. Thus, Lyons' gloss of I-say-so for the tropic contrasts with do-you-say-so, and this contrast applies both to epistemic *and* deontic subjective modality.

In fact, this alternative understanding of the tropic-neustic-phrastic framework seems to be more in accordance with Lyons' initial definition of the distinction. Lyons (1977) defines the neustic as "that part of the sentence which expresses the speaker's commitment to the factuality, desirability, etc., of the propositional content conveyed by the phrastic" (1977: 749–750); clearly, this is the domain of subjective modality, including both deontic (so-be-it) and epistemic (it-is-so) modality. On the other hand, the tropic is defined as "that part of the sentence which correlates with the kind of speech act that the sentence is characteristically used to perform" (ibid.: 749); clearly, this is not the domain of the *modal* performativity of speaker's commitment, but the domain of *interactive* performativity which activates the modal performativity for use as a move in discourse.

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