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**CONSIDERATIONS FOR THE COGNITIVE ANALYSIS
OF THE MODAL AUXILIARIES IN ENGLISH**

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Cet article discute de la contribution de la grammaire cognitive à l'étude des auxiliaires modaux en anglais. Certains problèmes posés par l'utilisation d'une méthodologie qui part de modèles cognitifs idéalisés pour aller vers les faits linguistiques sont soulevés. L'auteur propose des voies de solution à certains de ces problèmes au moyen d'une approche inductive qui cherche la cohérence d'abord parmi les faits internes à la langue anglaise elle-même.

CONSIDERATIONS FOR THE COGNITIVE ANALYSIS OF THE MODAL AUXILIARIES IN ENGLISH

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1. Introduction

The application of cognitive principles to the explanation of the peculiar morpho-syntactic behaviour of the modal auxiliaries stands in contrast both to purely syntactic accounts such as those of McCawley (1971) and Pullum and Wilson (1977), as well as to the complete silence about this question in most approaches. In the latter case, which could be exemplified by Palmer (1990), Coates (1983) and Perkins (1983), no attempt at all is made to relate the basic morphological and syntactic properties of the modals, such as the absence of *-s* endings or their inability to occur after another auxiliary, to the semantic content of these auxiliaries. In the former, the focus is exclusively on form, and the inability of the modals to follow another auxiliary, for example, is explained merely as a consequence of their defective morphology: *have* and *be* require that the following verb be inflected as a past or present participle; modals have no participial forms; therefore, modals cannot follow *have* or *be*. A cognitive approach takes up the challenge of answering the question of why the modals should all be defective in the first place and of doing so by starting from the postulate that semantic factors are responsible for most morphological and syntactic phenomena. In this paper, I wish to try to build on certain advances offered by the cognitive account of the modal auxiliaries as proposed by Langacker (1991).

2. Idealized cognitive models utilized to characterize the English modals

Langacker frames his explanations of the morpho-syntax of the modals in terms of certain "idealized cognitive models, which function as the cognitive domains in terms of which these meanings are

characterized" (p. 242). Four such models are utilized in the analysis of the modal auxiliaries: the basic epistemic model, the elaborated epistemic model, the time-line model and the structured world model. The first of these involves the basic distinction between reality and irreality, the former being depictable as a cylinder surrounded by irreality and moving in the direction of the about-to-be-real; the leading edge of the cylinder corresponds to "immediate reality" and what is behind the leading edge to "known reality". The elaborated epistemic model adds to the first model a layer of "unknown reality" located around the perimeter of the cylinder of known reality; this corresponds to realities whose existence is suspected or contemplated by the speaker/conceptualizer without being accepted as established. Thirdly, the time-line model incorporates two further notions: that of time, as the axis along which reality evolves, and that of the "ground" (G), i.e. the speech event and its immediate circumstances (such as time and place of speaking). The fourth model depicts the notion that "the world is structured in a certain way, so that certain events and situations are possible, while others are precluded" (p. 276). This model allows the introduction of a useful distinction for epistemic modals, that between "potential reality", which includes all those paths which reality is not precluded from following, and "projected reality", which corresponds to future courses of reality which can be projected with considerable confidence because of the present evolutionary momentum of reality (pp. 277-278). The modals are analyzed as what Langacker calls "grounding predications" (p. 271): their function is to relate an event to the ground by situating this event in the region of irreality in various relations to immediately known reality (in the case of 'epistemic' modals) or by depicting the event's realization as that towards which some particular form of potency is directed (in the case of 'root' modals). Thus epistemic *may*, for example, is described as situating the designated process in the realm of potential reality and epistemic *will* as situating a process in the field of projected reality (p. 278). Root *may*, on the other hand, expresses a process as the object of a particular form of potency directed towards this process, namely permission (p. 272).

As grounding predications, modals are "exactly on a par" with tense (p. 248), since the *ø/-ed* opposition is seen as one of proximity vs. distance from the ground, with the temporal and conditional values of these morphemes being treated as derivatives of this more basic contrast between "proximal" and "distal". The basic

options among the grounding predications which are obligatorily found in all finite clauses are therefore the presence vs. absence of a modal and the presence vs. absence of the distal predication (-ed).

3. Characteristics of the modals explained by idealized cognitive models

The framework just described allows semantically-based explanations to be proposed for a number of characteristics of the modal auxiliaries. The reason for the absence from their paradigm of participial and infinitival forms is attributed to the fact that these would be inconsistent with the modals' grounding function, which involves an obligatory reference to the here and now of the speech act and so cannot be atemporalized. The fact that a modal does not agree in person with its subject follows from the characterization of -s itself as "a full grounding predication that situates the profiled process in immediate reality and specifies that its trajector is third-person singular" (p. 248); the -s ending does not occur with a modal because the latter places the designated process in the region of irreality.

The explanation proposed for the use of the uninflected plain stem on the verbs which immediately follow the modals is more complex. It is claimed first of all that this form is not an infinitive (as it has been traditionally considered) because of the "inherent restriction that a grounding predication and its head must represent the same grammatical class" (p. 248). This entails that the modal's complement is a finite form not inflected for tense or subject agreement, the reason for this being that "grounding elements constitute a single complex predication which combines as a whole with ...the immediately following verb (the grounded verb)" (*ibid.*). When there is no modal, the grounded verb is inflected morphologically, since the non-modal grounding predications -s and -ed are phonologically dependent (*She likes/-ed it*). Because grounding predications that signal irreality (the modals) are independent words, however, their integration with the grounded verb results in a two-word sequence in which that verb is morphologically unchanged (*She may like it*).

Although the notion of a finite form not inflected for tense or person appears self-contradictory, the basic notion of the modals serving to relate the event expressed by their complement to reality by

situating this event in irreality seems beyond dispute. These auxiliaries do evoke an event as non-actual but with a certain potential for being or becoming real. Palmer's work on *can/be able to* and the expression of actuality (1977, 1990) is a case in point. Whereas the non-modal *be able to* has the capacity to evoke the actualization of a particular event in the past, *can*, because it is a modal auxiliary evoking a mere state of possibility, is incapable of this function:

- (1) I ran fast, and was able to catch the bus.
- (2) *I ran fast, and could catch the bus.
(Palmer 1977: 5)

However, negating the existence of the possibility implies negating actualization, and so *could* becomes possible in the negative:

- (3) I ran fast but couldn't catch the bus.

Similar restrictions apply to certain uses of *would* (*I invited him to come but he wouldn't/*I invited him to come and he would*). These particular facts all confirm the view that the modals evoke potentiality and not actuality.

Moreover, if the function of the modals is to relate an event to the ground as opposed to the ground's reality, then the argument proposed to explain the absence of non-finite forms is quite cogent. Since both the infinitive and the participles involve no inherent reference to the present (i.e. "immediate reality"), it would make no sense to use them as grammatical forms for verbs whose inherent semantic content is that of situating an event with respect to immediate reality (as located at a certain distance from the ground in the case of the modals). Consequently, the conjugation of the modals does not contain any non-finite forms, and so these verbs cannot be used after auxiliary *have* (which requires a past participle), auxiliary *be* (construed with a present or past participle), or *do*-auxiliary (followed by an infinitive).

4. Questions raised by idealized cognitive models and proposals for possible solutions

4.1 Relation to the subjunctive

This view of the modals raises one question, however, which has not yet been addressed in a cognitive approach: might modal auxiliaries be present subjunctive forms? Initially, this appears quite plausible, both on the formal and semantic levels. Formally, the subjunctive is characterized by the absence of the *-s* ending in the third person singular just like the modals. Semantically, the present subjunctive can be defined as evoking irreality but with a positive orientation towards actualization (Hirtle 1975: 19-20). One might argue therefore that the modal auxiliaries are each particularized versions of the subjunctive. Two important facts speak against this however. Firstly, some of the modals show a past/present opposition defined in terms of time-sphere, as attested by (4) – (6) below, something which is not possible with the English subjunctive, where the past/present opposition (for those speakers who still make it) is defined exclusively in terms of positive vs. negative orientation with respect to actualization, as shown in (7a) and (7b).

- (4) a. I can get good prices on tires.
b. When I was working for Firestone, I could get good prices on tires.
- (5) a. Our dog will bark for hours at a tree stump.
b. Remember that dog we used to have? He would bark for hours at a tree stump.
- (6) a. She said she may come.
b. *She said she may come, but she didn't.
c. She said she might come, but she didn't.
- (7) a. If a man be found guilty of larceny, he shall be sentenced to a minimum term of five years.
b. If a man were found guilty of larceny in this country, he would never be able to find a job again.

The second fact which speaks against the modal auxiliaries being analyzable as present subjunctives is their ability to appear in main clauses with declarative word order and declarative illocutionary force.

Subjunctive forms are used almost exclusively in subordinate clauses, their main clause usage being restricted to optative exclamatives with inverted word order such as *Long live the King!* These two facts indicate that the modals belong to the indicative and not the subjunctive mood.

In itself this fact does not contradict the cognitive grammar analysis of the modals. Taking it into account however might cast light on precisely how it is that these auxiliaries can have a grounding function. If they are indicatives, the representation of the ground is part of the grammatical meaning of the modals: the fact that they belong to the indicative mood implies that their lexical content is situated in real time with respect to the present moment as either contemporaneous (*ø*) or anterior (*-ed*) to the latter. What is situated in the past or present time-sphere, however, the lexical content of the modal, is not by nature a reality but rather a potential for the reality of the event denoted by the infinitive. Two options are therefore open regarding the way to conceptualize this content: it can be conceived as a reality on a par with all the other verbal lexemes of the language; or it can be construed as a non-reality defined by the type of relation which it entertains with respect to reality. The first case corresponds more or less to the German modals, which have a full conjugation like any other verb.¹ The second case corresponds to the English modals and here we can perhaps see more clearly, or at least from a different angle, why Langacker analyses them as pure grounding predications with the notion of potency being "pulled offstage to become an unprofiled facet of the base" (pp. 270-271): the English modals do not treat potency as a reality but rather as what it is in itself, something that is defined merely as a certain type of relationship which some non-realized event has with respect to reality.

Viewing the modals from this angle allows one moreover to explain certain of their characteristics which have yet to be accounted for. One of these is the modal behaviour of the verbs *need* and *dare*. In Duffley (1994), it is shown that all of the fully or partially modal uses of these two verbs are somehow non-assertive: negative (*He need never know*), interrogative (*Need he ever know?*), semi-negative (*I need hardly say how glad I am*), conditional (*If you need borrow money at all, borrow as little as possible*), restrictive (*He need only phone me*), etc. Because of the non-assertive character of these utterances, the reality of daring or needing (which *per se* are realities) is not predicated of the

subject of the verb, but rather negated, questioned or otherwise hypothesized. Consequently, one can say that it is only when *dare* and *need* are not asserted as realities that they can be used as modal auxiliaries. In this case, what happens is that they become non-realities *per accidens*; the modals, on the other hand, are non-realities *per essentia*.

4.2 Expression of irrealis

A further characteristic of the modal verbs in English which this view permits one to comprehend better is the capacity of their *-ed* forms to express irrealis in assertive contexts:

- (8) I could be in Marbella right now!

With 'normal' verbs evoking realities, the *-ed* form evokes irrealis only in conditional clauses or after expressions which imply irreality:

- (9) a. If only I was in Marbella right now!
b. I wish I was in Marbella right now.

Comparing (8) and (9) however shows that 'modal' + '*-ed*' is the equivalent of '*if/wish*' + '*-ed*' in expressing the idea of irreality in the present. Since '*-ed*' is the constant in the equation, one can only conclude that the modals are somehow equivalent in meaning to the conjunction *if* or the verb *wish*. Both signal non-reality, and *-ed* indicates that this non-reality is seen as not having positive chances of being or becoming real. Thus it is because modals already evoke irreality by nature that the *-ed* can be construed as representing the absence of positive orientation of this irreality with respect to actualization.² While this is not the only possible construal – we have seen above that the past time-sphere can also be evoked by modal *-ed* forms – there is a strong tendency for this value of *-ed* to be the dominant one because of the nature of the modals' lexical content. This accounts for the feeling of certain grammarians that some modal forms such as *should* and *might* have practically lost their past tense values (cf. Palmer 1990: 13, who goes so far as to treat *should* as "an independent modal, with no past time reference").

4.3 Use of bare vs. *to*-infinitive

With regard to the fact that the modal auxiliaries are construed with the bare and not the *to*-infinitive, on this point I must part company with Langacker's analysis, according to which the verb following the modals is a tenseless and personless finite form. This analysis is based on certain *a priori* restrictions on grounding predications, namely that "a grounding predication and its head must represent the same grammatical class," which in this case requires that both be "processual". Because an infinitive is atemporal (i.e. not processual), "the complement of a modal must be a simple verb" (p. 248). One can object to this analysis first of all because it appears to be a product of an assumption that the modals should be treated like tense as grounding predications. Langacker takes as a starting point for the discussion of the modals the abstract category "auxiliary", which he himself points out "is not a grammatical constituent", but rather comprises "a series of predications that fulfill a particular semantic function: collectively, they convert the initial process type specified by a content verb into the grounded process instance profiled by a finite clause" (p. 240). Tense and modality are seen as having the role of grounding the higher-order process type derived by the application of voice and aspect to the content verb. Consequently, they must operate exclusively on finite clauses. This argument is based however on the abstract categories of "tense" and "modality" and their logical function with respect to propositions. It does not take into account the fact that in English tense is an inflectional category whereas the modals are independent lexical items. The two may have similar logical functions of situating propositions with respect to reality; however, one cannot argue from their logical equivalence to the grammatical structure directly: for instance, the parallelism between the adverb *perhaps* in *Perhaps she is here* and the modal *may* in *She may be here* does not justify analyzing the former as a modal verb, even though they both express epistemic possibility.

It seems more coherent therefore to follow the traditional analysis, according to which the form following a modal auxiliary is an infinitive. Firstly, this view accounts for the identity of the form found after the modals with that found after the preposition *to* with all verbs, whereas Langacker's hypothesis leaves the verb *be* out (*That may be/To be or not to be*). Secondly, it is consonant with the history of English, in

which there was formerly a distinctive sign showing that the form following the modals was indeed an infinitive. And thirdly, a form which is not inflected for either tense or person does not seem very much like a finite verb form anyway.

A point which has to be addressed if the form following the modal is an infinitive is the explanation for the presence or absence of the preposition *to*. A number of authors have argued that the *to* before the infinitive is meaningful. One of the most notable among these is perhaps Wierzbicka (1988), who claims that the use of *to* "is associated with a personal, subjective, first-person mode: 'I want', 'I think', 'I know'" (1988: 164). This is too broad as a characterization of the meaning of *to* however: it applies to the whole sentence containing this preposition and would imply that *to* will be used whenever wanting, thinking or knowing are conceived in a personal mode. That this is not the case can be seen from uses such as *I think that I am right* or *I know that I am wrong* which do not contain *to*. Moreover *to* can occur with predicates which have no connection with the notions of wanting, thinking or knowing, as in *I just happened to be in the right place at the right time*.

The analysis followed here will take a more focussed approach to the meaning of *to*, according to which the effect of using this preposition between two verb forms is to evoke a before-after relation between the events denoted by the two verbs in question (cf. Duffley 1992: 17). This is because *to* designates its complement as the end-point of a movement, which is understood in this case to be a movement in time due to the temporal nature of the infinitive. *To*'s meaning gives rise to two main effects in discourse, according to whether the movement it denotes is understood to be non-realized (10) or realized (11).

- (10) a. I tried to talk to her.
 b. I longed to talk to her.
- (11) a. I managed to talk to her.
 b. I got to talk to her.

In contrast, when one event cannot be construed as a before-position with respect to the other, *to*'s meaning is not appropriate. This is the case

when the main verb's event cannot be conceived as getting under way before the infinitive's, as with the verbs of perception in uses such as:

- (12) I watched him cross the street.

Since it is impossible to conceive watching as being realized before the beginning of crossing, the bare form of the infinitive must be used.

With the modals, the inappropriateness of *to* is due to similar motives. The reason why the modals do not evoke something felt to constitute a before-position with respect to the complement verb's event is not, however, because they cannot be conceived as getting under way before the beginning of the infinitive's event as in (12) above. It is rather that the lexical content of these auxiliaries evokes irreality, something which by its very nature is not felt to have the substance necessary to constitute a real before-position in time with respect to the event expressed by the infinitive. The verb *need* provides a striking illustration of this, as it occurs both with and without *to*. Whenever a need is asserted straightforwardly, *to* must be used:

- (13) *The transmission needs be fixed right away.

The preposition can be omitted only when the existence of any need is negated, questioned, etc., i.e. only when there is no real need accepted by the speaker. This entails that there is nothing real corresponding to a need situated in time by the conceptualizer, but only the possibility of a need, whence the absence of a real before-position and the non-use of *to*, as argued in Duffley (1994).

4.4 Absence of third-person singular ending

This brings us to the problem of the absence of *-s* in the third-person singular of the modals, where the picture is somewhat more complicated than Langacker's treatment suggests.³ To say that *-s* does not occur with modals because the latter place the process they designate in the region of irreality while *-s* is "a full grounding predication that situates the profiled process in immediate reality and specifies that its trajector is third-person singular" is on the right track. Nevertheless, it still leaves a number of questions unanswered. First of all, why does third-person singular require a special grounding predication to situate the process of which it is the trajector in immediate reality while none of the other persons do? Is the absence of *-s* on the modals related to the

absence of *-s* in the subjunctive? And what about the absence of *-s* in the past tense (cf. **He ates all the cookies.*)? Does it bear any relation to the modals? More importantly, Langacker's characterization of *-s* leaves out of consideration entirely the cases where this ending is not associated with third person singular:

- (14) I was so glad to see her.
- (15) So I says to her ...

Consideration of these uses leads to a more complete view of why a third-person singular trajector of a process situated in immediate reality requires a special sign (*-s*).

The colloquial use of *-s* illustrated in (15) above can provide a good starting-point for the discussion of this question. One could argue here that in a way the *-s* continues to denote third person: the 'I' of which the event 'saying' is predicated is not the speaker as speaker but rather the speaker as protagonist in a narrative which occurred in the past. This cannot be the whole story however, as it does not explain why we do not say **So I saids to her* or **So he saids to her*. This constraint shows that the verb has to be in the present tense (except for the verb *be*, which will be discussed below). This fact is confirmed by the description of the type of context where the usage with *-s* occurs as compared to that where past tense forms are used:

While in the Army, I met many men who in recounting experiences use forms like *I shoots, I catches, I gives*. English grammar, as it exists for these men, allows them the choice of *I shoots* or *I shot* in story-telling (...). They are apt to choose the past tense when they are not engrossed in the story, as often at the beginning, before they warm up to it, and now and then later on; but at any moment that it becomes more vivid and they feel themselves reliving the action, not just remembering it, they switch to this special historical present in *-s*.

(Levin 1949: 127)

In other words, it is only when the events of the narrative are felt to be vividly present that the speaker slips into the *-s* forms.

If we consider (14) now, certain constants can be perceived. As with (15), the person of whom 'being glad' is predicated is not the speaker *qua* speaker but the speaker as a protagonist in some past episode. However the tense of the verb is past here (denoted by the stem *w-*), which makes this use different from the one just discussed. The key factor in this case is the lexical content of the verb, the notion of 'being'. This notion has a manifest connection to the notion expressed by the present tense found in uses like (15), and also in the 'garden-variety' uses of the *-s* in the present: 'to be' can be defined as 'to occupy the present moment in time'. Thus whereas the present tense evokes the occupation of the present moment in time grammatically, the verb *to be* evokes the occupation of the present lexically, as defining the very notion of being itself.

Another piece in the puzzle is the status of the third person with respect to the first and second persons. In many languages, the third person gets special treatment, the more frequent case being the opposite of English, i.e. the third person is unmarked while the others are marked (cf. Benveniste 1966: 228-230, 256). This is because, as Benveniste points out, the third person is absent from the speaking situation, whereas the first and second persons are obligatorily present. It should be noted that this absence is primarily of a spatial nature, although it may be coupled with a temporal absence.

As a consequence of the nature of this grammatical person, a process which is predicated of a third-person support is automatically situated spatially outside the speaking situation. The role of the verbal *-s* in English appears to be to signify this spatial discontinuity with the locus of the speaker-hearer relationship. A further condition on its use in English is that the process situated spatially outside the speaking situation must share the temporal notion of being/existence with the speaker's own existence. This can occur in two ways: grammatically, by the fact of being construed in the present time-sphere (even for past events in which the speaker becomes so absorbed as to see them as present), or lexically, as is the case with the verb *to be* whose very semantic content evokes the notion of existence, which is necessarily shared with the speaker *qua* speaker. The latter case is probably not as obvious as the present time-sphere uses, but it will perhaps help if one considers that a past state of being of the speaker is necessarily defined by reference to his present state of being, whereas a past act of eating or

sleeping of the speaker is not necessarily defined by reference to his present eating or sleeping (he may be doing something else right now). The notion of a discontinuity between two situations which share the notion of actual presence in time can thus be seen to be involved here as well.

Coming back to the modals, we can now see more clearly why *-s* does not occur with them. It is only required when the attribution to a trajector of a process conceived as sharing real existence in time with the speaker's own existence situates this process outside the speech situation, thus creating a spatial discontinuity between two realities (that of the speech situation and that of the event). Because the modals only situate irrealities in time, they do not evoke something that shares real being with the speaker's existence in time. By the same token, the past time-sphere also no longer shares being with the speaker, and so, except for the case of *to be* discussed above, past forms take no *-s* in the third person singular either. This constitutes a more complete explanation for the absence of *-s* with the modals and shows the relation between the absence of *-s* with the latter and its absence with past tense forms.

4.5 Variation in status of grounding predications

A further difficulty in the present state of the cognitive analysis of the modals is the treatment of the latter as being exactly on a par with *-ed* in the function of grounding predications. Since *-ed* can be appended to a modal, if this inflection has a grounding function, then this entails that one is grounding what is itself already a grounding predication. This seems contradictory and, if maintained, at the very least calls for explication. Moreover, Langacker argues (pp. 259-260, 279) that reported modals such as (16) and (17) situate the infinitive's event with respect to a "surrogate ground" in the past.

(16) Jill said that she might help us yesterday but she didn't.

(17) She said she would finish yesterday but she didn't.

Thus in (16) *may* is said to specify the epistemic position of the event with respect to the surrogate ground, and the *-ed* distal predication indicates the temporal dissociation of the surrogate ground from the ground (p. 260). This implies that *-ed* is used to ground the modal in a past vantage point from which the epistemic distance to the infinitive's

event is computed. If the modals and *-ed* are exactly on a par, however, why does one not also find the opposite, i.e. if *-ed* can ground a modal in the past, why can a modal not ground an *-ed* in irreality? Nevertheless constructions such as (18) are not found in English:

(18) *He may finished the job yesterday.

This shows that the modals are not exactly on a par with *-ed*. They have a lexical content which can be situated in time by means of *-ed*, while the converse is not true. Their grounding function is thus a consequence of what they situate in time and so they are not pure grounding predications on exactly the same level as *-ed*.

One might also ask how the subjunctive fits into the class of grounding predications, as it obviously evokes irreality just like the modal auxiliaries. If it were considered to have the status of a grounding predication of irreality, however, the claim that the latter are "phonologically autonomous" (p. 249) would have to be modified. Furthermore, one would also have to account for the fact that the subjunctive normally needs a main clause with a verb in the indicative to introduce it while the modals do not. This would seem to confirm once again that the modals are indicative forms and that by themselves they really do situate a lexical content in time, except that this lexical content is a potentiality. This distinguishes them both from the subjunctive and from the *-ed* morphemes, which correspond to general ways of construing a lexical content with respect to time but have no lexical content of their own.

5. Conclusion

This paper has attempted to show both the strengths and weaknesses of the current account of the modal auxiliaries in cognitive grammar and to propose possible solutions to some of the problems which it raises. The points which have been evoked concerning the difficulties raised by Langacker's analysis are a reminder that this approach follows a method which takes idealized cognitive models as the starting-point for the analysis and fits particular languages into the idealized models. There is, of course, nothing wrong with having recourse to such models. The only proviso is that one must not forget that they are idealized constructions and therefore that the structure of a particular language may very well not correspond to them on many

points. As research progresses on each particular language, the models of explanation should become less and less idealized, as we get closer and closer to the way each language actually operates. Indeed, the generalizations drawn from this second stage of research are the only really valid ones on the level of first-order inductions. Moreover, for second-order generalizations about linguistic universals to be valid they must be based on first-order generalizations which have been validated in detail in many specific languages. Hopefully, the attempt made in this paper to point out where the current cognitive account of the modal auxiliaries fails to fit the reality of usage in English adequately can open the way to the necessary adjustments to the model so as to bring it more and more into line with the facts of the English language.

NOTES

1. The fact that they express irreality does perhaps show through in one place in the paradigm however: the absence of an ending in the first and third person singular, which can be traced back historically to the fact that these verbs were preterit-presents.
2. This analysis is basically in agreement with that of James (1982: 385), who points out that "there has to be some other element in the sentence which indicates 'hypothetical', so as to ensure that the past tense marking is not interpreted as meaning 'past time'." James attributes the use of the past tense in these contexts to the notion of 'remoteness from the present' which its meaning implies. I would add to this that the past tense also evokes an event which has no more chance of becoming real, whence the impression of 'contrary-to-fact' or 'contrary-to-expectations' produced when the event viewed in this way is hypothetical rather than merely past.
3. One might argue that the task of attempting to provide a semantic motivation for this morphological characteristic is pointless, as it is a consequence of the historical origin of the modals as preterit-presents. The history of the verb *dare* shows however a historical preterit-present which can now take -s ending. This indicates that more is involved than mere conservation of forms from the past,

since it renders legitimate the question of why *dare* can take -s but the other modals cannot.

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