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Patricia Hamel and Ronald Schaefer

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PREFACE

As far as is known, all languages have ways of expressing modality, i.e., notions of possibility, necessity, contingency, etc. But this pervasive phenomenon has so far been the object of little systematic linguistic analysis. In fact, investigators do not even agree on the scope of the term modality. Very roughly speaking, two kinds of modality have been distinguished, namely epistemic and deontic. The former involves the speaker's judgment as to the degree of certainty of an event or state of affairs being referred to. Deontic modality, on the other hand, has to do with such notions as obligation, permissability and necessity. However, as useful as this distinction is, little is known so far concerning the linguistic patterns which express those ideas. It is clear that the modality systems of a great many languages will need to be thoroughly scrutinized and compared before any conclusions can be drawn as to their place in 'universal grammar.'

The papers included in this volume of the Kansas Working Papers in Linguistics were written by graduate students at the University of Kansas for a seminar on modality taught by Professor Choon-Kyu Oh in the spring of 1979. They deal with a variety of topics bearing on modality and with a variety of languages and language families. It is our hope that these papers will stimulate comments from colleagues at other institutions.

The Editors

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SUBJECTIVE MODALITY

Charles Seibel

ABSTRACT: Modal expressions place propositions somewhere on a scale of likelihood. If the basis for placement is the current knowledge of the speaker, we can speak of <u>subjective</u> modality. In English, <u>may</u> and <u>must</u> are subjective modals. In this paper they are compared with their non-subjective or <u>objective</u> counterparts both semantically and syntactically. Modals in several other languages are considered in an attempt to show that there is a widespread, if not universal, tendency to contrast subjective and objective modality.

The following terms will be used in the study. A proposition is the meaning of a sentence. A world is the set of propositions which are true in a certain state of affairs. A base set is a consistent set of propositions according to which a modal is interpreted. A proposition is possible if and only if it is in at least one of the possible worlds that are compatible with the base set. A proposition is necessary if and only if it is in all the possible worlds which are compatible with the base set. (The base set and thus the set of possible worlds being considered in the utterance of any modal sentence in a natural language vary with the sort of modal expression employed and with the context, but it is probably always less than the set of all possible worlds.)

A distinction is often made between epistemic and root modality. Root modals are said to express permission, obligation, and ability, whereas the meanings of epistemic modals are said to range from possibility to certainty. The validity of this dichotomy and the relationship between the two categories are not crucial for the current study. Let it simply be said that the subjective/objective distinction is made by slicing through a modal system in a different direction from that of the epistemic/root cut, and that in this paper the focus will be on the so-called epistemic modals.

If we take English as our starting and reference point and begin with the possibility end of the epistemic modality scale, we immediately confront the sticky problem presented by $\underline{\text{can}}$ and $\underline{\text{may}}$. If we lay aside clearly root uses, we will be ignoring sentences like (1-3).

- 1. Laura can speak French.
- 2. Can you see him yet?
- 3. a. You may smoke.
 - b. You can smoke.

However, it is interesting to note that speakers for whom permissive may and can are in complementary distribution would use (3a) to grant their own permission and (3b) to tell someone that some other authority permits smoking at that time and place. The distinction I want to make between epistemic can and may is similar and, apparently, related. May means possibility based on speaker's authority. It predicates of a proposition that the proposition is true in a possible world compatible with his current

knowledge; the propositions making up his knowledge of the actual world are serving as the base set. That is what I mean by subjective modality. Can, on the other hand, means that the proposition in its domain is true in some possible world compatible with some relevant base set. In more intuitive terms, may is a weak guess or a prediction or, at least, an assertion that the speaker, although he doesn't know if a proposition is true or not, has no compelling reason to believe that it is (or was or will be) false in the actual world. Can means that there is nothing keeping the proposition from being true, the kinds of obstructions being considered depending on the context and the speaker's attitude. Can can be used more freely than may. The speaker using can is not necessarily committing himself to even a weak conjecture about the realization of the proposition. Therefore, the speaker can utter (4a) truthfully even if he is personally certain that the treaty in question will not be signed for weeks. Under the same circumstances he cannot utter (4b).

4. a. All the parties are present. The treaty can be signed any time.
b. All the parties are present. The treaty may be signed any time.
In (4a) the speaker is saying that there are no physical obstructions, such as one of the parties being absent, to prevent the signing; in (4b) he is saying that he has no compelling reason to believe that the treaty won't be signed soon. If the speaker feels certain that the treaty won't be signed soon, the proposition is false in all possible worlds compatible with his knowledge, even though it is not false in all possible worlds compatible with other relevant base sets, i.e., even though it is not truly impossible.

It should be pointed out that the past forms of can and may are used more frequently for epistemic possibility that the non-past forms. This is especially true of can when a proposition conflicts with the speaker's beliefs, but the subjective/objective distinction remains, as can be seen by comparing these sentences:

5. a. The peace treaty could be signed, but it won't be. b. *The peace treaty might be signed, but it won't be.

Further evidence for the distinction between may and can arises when they are put in negative and interrogative sentences. Inserting not after may does not negate the possibility modal but rather the main verb (i.e., the demodalized proposition). This is usually called internal negation. Using not with can negates the possibility (external negation). Compare these sentences:

- 6. a. The peace treaty cannot be signed.
- b. The peace treaty may not be signed. Furthermore, epistemic $\underline{\text{may}}$ is unlike $\underline{\text{can}}$ in that it seems unnatural in questions. Compare:
 - 7. a. Can the peace treaty be signed now? b.?May the peace treaty be signed now?

The differences of interpretation and acceptability in (6-7) seem to fit with the subjective/objective opposition. Given that the dialog and not the monolog is the normal linguistic situation, it would seem odd for a speaker to ask whether a proposition is true in a world compatible with his own current knowledge, as in (7b). And if we see the use of may, i.e., of

subjective modality, as a weak conjecture, a leaving open of a possibility, it seems reasonable that it cannot be negated. One might say that a weak conjecture is already negative in a sense; it means that the speaker doesn't know for sure. What would it mean to negate it further? The subjective possibility modals in both Japanese and Korean are constructions whose literal meaning is that the speaker isn't able to know, i.e., that the speaker is merely guessing about the possible truth of a proposition. Sentences (8) and (9) are examples.1

8. (Japanese) John wa hon o yomu ka - mo - si - re - nai SM book OM read QM-even-know-capability-neg.

'John may read the book.'

9. (Korean) John - 1 o - 1 - ci - to - moli - n - ta

SM come-QM-even-can't-know-TM-MM

'John may come.'

In Malay the subjective modal <u>mungkin</u> (a sentential adverb) contrasts with the objective modal <u>boleh</u> in about the same way as <u>may</u> contrasts with <u>can</u> in English. Although <u>mungkin</u>, unlike <u>may</u>, can be negated (this might be explained by its being an adverb), it cannot be used in information-seeking questions, whereas boleh can.

10. ?Mungkin Ali sakit?

possibly sick

?'May Ali be sick?'

11. Boleh Ali sakit? possibly

'Can Ali be sick?'

In Hebrew the sentential adverb of possibility <u>uli</u> contrasts with the adverbs <u>yitaxen</u> and <u>efsar</u> in that both external and internal negation are allowed for the last two, whereas only internal negation is possible with uli.

12. <u>uli</u> Dani lo xole
possibly neg. sick
'Dani may not be sick.'

13.*lo <u>uli</u> Dani xole

14. lo <u>yitaxen</u> se Dani xole

possible
'Dani can't be sick.'

Hebrew also has a stronger possibility modal (probability), <u>kanire</u>, which literally means 'as far as I can see" and thus is clearly subjective. Again, external negation is impossible.

15.*lo kanire se Dani xole

In Alsatian subjective possibility is expressed with darfa, which, like may, is also a modal of permission. To indicate the possibility of a proposition the subjunctive is used (c.f. might) and, in contrast to the objective modal kena, it cannot be negated or used in questions.

16. a. ər kent drisiš jorr plt sın could 30 years old be 'He could be 30 years old.'

enclosed by a circle which is inside a larger circle containing all relevant possible worlds. Since a proposition is possible if it is true in at least one possible world, subjective possibility entails objective possibility: a proposition inside the small circle is necessarily inside the larger one. On the other hand, a proposition is necessary only if it is true in all possible worlds compatible with the base set. Therefore, a proposition could be true in all possible worlds bounded by the smaller circle (must) without being true in all possible worlds in the larger one (have to).

Two further remarks should be made concerning <u>must</u> and <u>have to</u>. First, the second of these is not, strictly speaking, a member of the closed class of English modal auxiliaries; it requires do-support and can be used in the same verb phrase with a true modal. Second, epistemic <u>have to</u> is much less commonly used than <u>must</u>. These two facts suggest the possibility that epistemic necessity is more likely to be expressed with a subjective modal that with a stronger objective one. Evidence from other languages lends support to this hypothesis.

In Turkish, for example, there are at least four epistemic necessity modals, and none of them can be negated. All are unusual in information-seeking questions. Two of these modals, -mell and -DIr, are verb affixes, and two are adjectives, lazim and gerek.

20. a. John bu saat - te ev - de ol - ma - malithis hour - at home - at be -neg.

b. John bu saat - te ev - de deyil - dir

neg.

c. John bu saat - te ev - de ol - ma - ma - si lazim

be neg. ing poss.

d. John bu saat - te ev - de ol - ma - sa gerek be neg. opt.

'John must not be at home at this hour."

The syntactic means are available for the external negation of all these modals with the exception of $\underline{\text{mali}}$. In fact, the two adjectives can be negated when they express obligation. However, none of the four can be negated when used epistemically.

*John bu saat-te ev-de \[
\begin{cases}
\text{ol-mali-ma} \\
\text{ol-ma-si lazim deyil} \\
\text{ol-sa gerek deyil} \\
\text{dir deyil}
\end{cases}

All epistemic necessity modals in Turkish seem to be subjective.

The Hebrew necessity modal with an epistemic meaning is clearly subjective and cannot be negated.

22. Dani betax lo oved.

neg. work

'According to my knowledge, Dani is not working.'

'Dani must not be working.'

23.*Dani lo betax oved.

The Alsatian modal min, like its cognate must, is used in both an epistemic and a root sense. Unlike must, however, the scope of negation (internal vs. external) is ambiguous in the root readings. This ambiguity disappears in epistemic readings, where, as with must, negation is always internal.

24. dis me·s nit vo·r sin this must neg. true be 'This must not be true.'

Similarly, Spanish <u>deber</u> is used in a root as well as an epistemic sense. When epistemic it is not used in questions, and negation is internal only.

25. a. El debe estar loco.

he must be crazy

b.*Debe el estar loco?

c. El no debe estar loco.
'He must not be crazy.'

When the Malay necessity modal <u>městi</u> is negated it loses its epistemic meaning and is given a root interpretation. Notice that in (26a) the negative word occurs before the main verb, providing internal negation. In (26b) we have external negation, the modal itself being negated.

26. a. John mesti tidak ada di rumah neg. exist at home

'John must not be at home.'

b. John tidak mesti ada di rumah

'John is not obligated to be at home.'

In Hungarian the subjective/objective contrast is made by using the single modal adverb, <u>bisztos</u>. It is subjective when used as a predicate modifier and cannot be negated or used in questions; it is objective when used as a sentential adverb with the complementizer hogy.

27. a. Bisztos esett.

rained

'It must have rained.'

b. Bisztos, hogy esett.

'It is certain that it rained.'

c. Bisztos nem esett.

neg.

'It must not have rained.'

d. *Nem bisztos esett.

e. Nem bisztos, hogy esett.

'It is not certain that it rained.'

f.*Bisztos esett?

g. Bisztos, hogy esett?

'Is it certain that it rained?'

Sufficient evidence has not yet been collected to allow for a claim that all languages provide for a subjective/objective contrast in their epistemic modal system. It is difficult at this stage even to say what we mean by a modal system or to set up criteria by which to classify expressions as genuine modals as opposed to periphrastic expressions with modal meanings. However, the data collected in this paper indicate that there is some basis for hypothesizing the subjective modal as a universal linguistic category. Obviously there is a great need for more data, more clearly defined categories, and a more refined general theory of modality.

1. All the sentences from languages other than English came from presentations made by speakers of those languages (mostly native) in a seminar on modality, given by Professor Choon-kyu Oh at the University of Kansas during the Spring Semester of 1979.