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The distribution  
of axiological parameter  
in selected English modals ▼

Among a considerable number of the utterance types that have been distinguished in the course of research on cognitive science so far, the division into factual and non-factual ones seems to be one of the most prevailing. According to certain results of the research in this field, it is widely known that any sentence can be classified as factual if it refers to the actual state of affairs in the real world, as can be seen in the following examples:

1. Właśnie skończył myć samochód.
2. He has just finished washing his car.
3. Il vient de finir laver sa voiture.

Whichever language is used (Polish, English, or French) to express the above sentences, all of them will be called factual, as they refer to what has already happened and thus can be considered a fact that is verifiable in terms of its TRUE // FALSE value. By contrast, the three utterances could be expressed in a non-factual mood, as it is in the examples below:

4. Możliwe, że skończył myć samochód.
5. He may have finished washing his car.
6. Probablement, il a fini de laver sa voiture.

The difference between the two sets of sentences is that the latter one contains expressions that cannot be verified in terms of their truth-false value because they do not state a fact, but merely impose the mood of possibility, as a result of which the sentences deal with the state of affairs that belongs to the alternative world of possible events rather than to the real world of actual events.

Further investigation into the nature of modals led to the distinction between their root and epistemic reading, which seems to be best elaborated on by Eve Sweetser. She successfully argues that the epistemic sense of the English modal verbs stems from our tendency to perceive any abstract entity

in concrete terms. Otherwise expressed, the epistemic meaning of English modal verbs is a metaphorical extension of their root (deontic) sense (Sweetser 1990: 57).

The aim of this paper is to analyse the axiological aspects of English modal verbs in their deontic sense and investigate the way those aspects exert influence on their epistemic reading. In order to do this, I am going to briefly discuss the notion of SCHEMA and apply its axiological parameter to English modality in its deontic sense. This will be followed by the analysis of how this parameter governs possible interpretations of epistemic senses in English modals.

The notion of SCHEMA is one of the essential aspects that needs to be elaborated on in the present paper. As pointed out by Mark Johnson, SCHEMA is an element of human cognition that makes the world meaningful to us (Johnson 1987: 28). For example, if one comes across a THING (1) and later a THING (2), one knows what they are because both THINGS (1 and 2), though very likely to be different from each other in a variety of ways, manifest a range of similar and // or identical features arranged in a certain schema that is typical of and peculiar to a given THING only.

This theory has recently been enhanced by Tomasz P. Krzeszowski, who claims that not only do schemata play a crucial role in human understanding but also that they possess certain axiological charge, which is most decisive in the evaluation process, taking place together with that of conceptualization (Krzeszowski 1997: 48). As a consequence, if every single concept arising from a given schema bears some value, then it means that any instantiation of a schema or concept entails the same value, too. Having said that, I would like now to explore the notion of schemata as applied to selected modal verbs in English.

For the purpose of the present paper, I have decided to focus on three modals: MAY, SHOULD, and MUST. Let me consider the following examples of deontic modality:

- 1) You may stay longer if you want.
- 2) You should stay longer; after all, it's her birthday today.
- 3) You must stay till the end of the trial; you're the main witness.

In all those cases, modal verbs serve the purpose of establishing certain authority over the subject. As it can be easily noticed, the rising numbers on the left column correspond to the increase in the authority that is exercised over the subject. Following Sweetser's way of reasoning, those instances of modality can be cognitively treated in terms of physical barriers and forces. Thus, (1) speaks about potential rather than real barrier; that is to say, there is

no real force to make the subject perform the action expressed by the predicate, yet it seems to be obvious that the speaker is in power to exercise such force. As for (2), the subject is clearly compelled to perform the action expressed by the predicate, though the obligation is not so strong as it is in (3), where the force and authority is most compelling and where the subject is most likely to yield to it.

In our culture, where freedom is one of the most glorified values, the schema of FORCE and that of BARRIER are usually considered as negative and such will be the predicates constituting the two schemata. If we analyse the first statement in terms of its axiological value, we are bound to arrive at the conclusion that out of the three, the first one instantiates a fairly neutral, if not positive, pole of the schema (NO BARRIER), as the statement indicates the absence of barrier, though its potential appearance cannot be totally ruled out. Otherwise expressed, the speaker is in force to impose such a barrier, for it is he or she who removes it in this particular example. The speaker's authority he extends becomes obvious in the second example. The schema of BARRIER reinforced by 'should' increases the negative value of the whole expression, though forces in this example are not so strong and definite as they are in the third example, in which the subject of the sentence is exposed to direct force coming from the speaker's authority. Thus, the three examples show a diversified degree to which they instantiate the negative pole of the BARRIER schema. It should be said at this point that not only do conceptual schemata possess a built-in PLUS-MINUS schema, which can be illustrated by means of the horizontal axis, but also their intensity is likely to vary from negative pole to positive pole (or from absolute negative to absolute positive value). This explains why we can classify both MUST and SHOULD as negative, though the former will be found more negative than the latter, while MAY will activate the (weak) positive pole of the schema. The distribution of the modals on the horizontal axis of the PLUS-MINUS schema inherent in BARRIER can be illustrated in the following way:

(-)...MUST.....SHOULD.....0.....MAY.....(+)  
 FIRM BARRIER NO BARRIER

Before I focus on the epistemic sense of the discussed modals, I would like to apply Sweetser's way (Sweetser 1990: 61) of paraphrasing deontic modals to my examples:

- 1) You may stay longer if you want.  
 = [you are not barred from staying longer]

2) You should stay longer; after all, it's your girlfriend's birthday today.

= [certain forces influence you towards staying longer]

3) You must stay till the end of the trial; you're the main witness.

= [the direct force <speaker> compels you to stay till the end of the trial]

It has been one of the most fundamental assumptions of cognitive linguistics that a human being understands abstract aspects of reality in terms of physical entities, mainly by means of cognitive metaphor (Lakoff 1980: 5). The same happens in the case of epistemic modals, which, as Sweetser successfully argues, are merely metaphorical extensions of their deontic senses. Thus, the following epistemic senses of the modals can be paraphrased in the way below:

1) He may stay longer; he's got some extra work.

= [I am not barred by my premises from the conclusion that he will stay longer]

2) He should be at home by now; the party did not last too long.

= [the available set of premises influences me to conclude that he is at home right now]

3) He must be in court right now. The trial is still in progress and he is the main witness.

= [the available evidence compels me to the conclusion that he is in court]

What we can see in the above examples is an instance of imposing real-world modality (i.e. that of physical barriers and forces) onto that of epistemic world. Otherwise expressed, one of the domains is perceived in terms of the other, though it should be remembered that one domain does not actually become the other, and that both preserve their cognitive typology. Therefore, we can say that the two domains overlap to a certain extent, though they do not cease to constitute two separate entities. This so-called Invariance Principle also entails preserving axiological charges within domains (Krzyszowski 1997: 156). Therefore, there is no use analysing the axiological charge of the BARRIER schema as instantiated by epistemic modals, since they will be exactly the same as those in their deontic equivalents. However, it is interesting to notice the influence of the axiological charge on the epistemic sense of probability expressed by MAY, SHOULD and MUST. If we analyse the above sentences in terms of the degree of probability, we will arrive at the conclusion that out of the three modals, MAY entails the lowest possibility that the event will take place; MUST expresses the highest probability, while SHOULD lies somewhere in between the previous two. It seems to me that at this point it will be useful to juxtapose the three modals with the degree of probability and with the axiological charge they possess. In this way, we receive the following table:

**Table 1.** The Distribution of Axiological Charge in Selected English Modals

Epistemic Modal	Axiological Charge	Degree of Probability
MAY	0/+	Probability (50%)
SHOULD	slightly negative	Strong probability (70%)
MUST	highly negative	Complete certainty (99%)

(based on Swan, Michael *Practical English Usage*, pp. 323, 335).

It should be added that the negative charge of MUST is of higher intensity than that of SHOULD. The axiological charge of MAY is debatable, since on the one hand, it entails no barrier, which could lead to the conclusion that MAY is positive, but on the other, a potential threat of imposing such a barrier does exist. Even a cursory glance at the above table makes it easy to notice that the more intense negative charge of the modal, the higher probability that an event will take place. It transpires that deontic modals are metaphorically extended by their epistemic reading. This metaphorical extension, however, does not change either SOURCE DOMAIN (root modality) or TARGET DOMAIN (epistemic modality), i.e. both domains remain separate, though they overlap to a given extent. Finally, the axiological extension of root modality into epistemic modality results in imposing the unchanged axiological topology (in accordance with Axiological Invariance Hypothesis (Krzyszowski 1997: 157)) onto the latter, thus governing their axiological charge responsible for the degree of probability in the epistemic modals discussed in this paper.

To conclude, the axiological charge appears to play a crucial role in the English modals. By means of bi-polar schemata, concepts acquire certain value and the process of evaluation become parallel to that of conceptualisation. As far as the English modals are concerned, their axiological charge is of even greater significance, not only due to the BARRIER schema they instantiate, but also due to the influence that the negative pole of this schema exerts on their epistemic sense. As it was concluded in the course of this paper, epistemic sense of the selected modals refers to various degrees of possibility and what I hope to have shown is that there is a plausible connection between axiological charge residing in the deontic reading of modals and their epistemic equivalent.

### Bibliography

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### Streszczenie

Pośród wielu podziałów na różne rodzaje zdań, dokonanych jak dotąd przez nauki językoznawczo-kognitywne, jeden z nich dzieli wszystkie zdania na modalne i niemożliwe. Pierwszy z nich dotyczy zdarzeń, które można zweryfikować lub zaklasyfikować za pomocą cechy PRAWDA lub FAŁSZ, w zależności od tego, czy zdarzenie ujęte w zdaniu miało miejsce, czy też nie. Z kolei drugi rodzaj (niemożliwe) dotyczy zdań, których w powyższy sposób zaklasyfikować nie można, gdyż zawierają one wyrażenia typu 'być może' lub 'na pewno' i w ten sposób zawierają się w kręgu hipotetyzacji czy też spekulowania o faktycznym stanie rzeczy.

Język angielski (w większym stopniu niż język polski) korzysta z czasowników modalnych, które językoznawstwo kognitywne podzieliło na deontyczne i epistemiczne. Na przykład angielski czasownik MUST (musieć) w interpretacji deontycznej oznacza przymus (np.: *Musisz iść do szkoły*), zaś w interpretacji epistemicznej wyraża wniosek (np.: *Spójrz na nich – to musi być miłość*). Istnieje zależność pomiędzy tymi dwiema interpretacjami. Jej istota polega na rozciągnięciu kognitywnego schematu PRZYMUS ze znaczenia deontycznego na epistemiczne, które można wytłumaczyć w następujący sposób: to co widzę ZMUSZA mnie do wyciągnięcia wniosku: to jest miłość.

Dalsze badania nad językoznawstwem kognitywnym udowadniają, że każdy schemat posiada parametr aksjologiczny, dodatni lub ujemny, który pozostaje niezmienny w procesie metaforyzacji i konceptualizacji. Oznacza to, iż znak parametru aksjologicznego w interpretacji deontycznej danego czasownika modalnego jest identyczny jak w interpretacji epistemicznej tego samego czasownika.

Przedmiotem niniejszych badań jest przedstawienie znaku parametru aksjologicznego wybranych czasowników modalnych w języku angielskim, zarówno w interpretacji deontycznej, jak i epistemicznej, oraz wpływu niniejszego parametru na znaczenie tych czasowników w interpretacji epistemicznej.