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## POSSIBILITY READINGS OF *CAN* AND *MAY* AND THEIR POTENTIAL INTERCHANGEABILITY

### Abstract

This paper is concerned with possibility meanings of the English modal auxiliaries *CAN* and *MAY* in contemporary written British English. It reviews the issues relating to their usage and distribution on the basis of a qualitative analysis, with regard to the degree of formality and stylistic stratification. The analysis focuses on the occurrences of *CAN* and *MAY* conveying possibility from the viewpoint of supposedly competing forms and attempts to demonstrate to what extent the senses involved are synonymous and in what way they are distinct. The paper thus aims to discuss the factors governing the interpretation and distribution of *can* and *may* in written language and summarizes the usage of their possibility meanings in different registers.

### Key words

*Epistemic possibility; root possibility; the modal CAN; the modal MAY; overlapping senses; degree of formality*

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### 1. Introduction

This article focuses on discussing the semantic components of possibility meanings of *CAN* and *MAY* in relation to syntactic co-occurrence patterns, pragmatic aspects and stylistic variation. Since root and epistemic senses are normally perceived as unrelated, the article attempts to identify the main contextual factors affecting the interpretation of epistemic and root possibility occurrences. It discusses the usage of different meanings in different registers in order to illustrate the wide semantic range covered by the two auxiliaries. Finally, the paper investigates the contexts in which the overlapping senses of *CAN* and *MAY* are synonymous.

The principal aim of this paper is to analyse in detail and interpret the data of a small-scale corpus, 200 tokens of *MAY* and 200 tokens of *CAN* conveying possibility meaning. As source material for the analysis, contemporary printed British English has been used; the selected texts cover extracts from administrative style (ADMIN), academic scientific style (ACAD), popular scientific style (NAT) and newspaper reporting (NEWS). For easier comparison, the size of each sub-corpus is identical, i.e. 50 occurrences of *MAY* and 50 occurrences of *CAN* conveying epistemic or root possibility. The corpus has been examined mainly qualitatively, with the aim of showing the correlations that exist between epistemic and root possibility meanings. Where relevant, quantitative methods have been employed to support the major findings.

The analysis draws upon several sources, which serve as a basis for a comprehensive discussion of relevant findings. It has been grounded upon the studies by Coates (1980, 1983, 1995) defining and delineating root and epistemic possibility, and Tárnyiková's (1978, 1985) exhaustive characteristics of contextual co-occurrence patterns for different senses of *CAN* and *MAY*. Another valuable source has been Biber et al. (1999), which provides important quantitative information on semantic and syntactic properties of the examined modal verbs. Then, Dušková's (1972), Palmer's (1990), Huddleston and Pullum's (2002), or Leech's (2004) findings, typology and classification concerning the analysed modal verbs have been used.

## 2. Theoretical background

Since linguistic studies of modality often differ in its classification, approaching the subject from many different angles, it is important to introduce the relevant terminology and explain the concepts that will be used throughout the paper. Special attention is paid to distinguishing between epistemic and root possibility, which is crucial to the qualification of the occurrences of *CAN* and *MAY* in the examined corpus.

When classifying modality, the terms “deontic” and “epistemic” seem to be the most widely credited and recognized in the linguistic literature. Apart from them, dynamic modality is often posited (Palmer 2001). Huddleston and Pullum (2002: 52) advocate these three categories, explaining that deontic modality concerns obligation, permission or prohibition (*She must leave early*), “epistemic modality qualifies the speaker's commitment to the truth of the modalised proposition” (*They may be hungry*), and dynamic modality concerns the properties and dispositions of subject referents (*She can speak German*). Epistemic modality seems to be the least “problematic” concept, for scholars generally agree on its delineation. By contrast, there is a great deal of disagreement concerning the definition and delineation of deontic and dynamic modality. Therefore, it is preferable to speak about epistemic and non-epistemic/root modality (Coates 1983, Papafragou 2000, Leech 2004).

The root-epistemic distinction is adopted in this paper; the term “root” is employed here to cover non-epistemic meanings, which are believed to be unified with particular syntactic patterns<sup>1</sup> distinguishing them from their epistemic counterparts. The semantic content of the examined modals is thus studied in conjunction with the contextual co-occurrence patterns affecting their interpretation.

### 2.1 *Epistemic vs. root possibility*

Epistemic and root possibility<sup>2</sup> readings are usually distinguished in terms of subjectivity. The forms involving subjectivity are defined by Lyons (1977: 739) as “...devices whereby the speaker, in making an utterance, simultaneously comments upon that utterance and expresses his attitude to what he is saying”. This definition clearly indicates that epistemic possibility involves subjectivity in that it is basically understood as conveying the speaker’s lack of confidence in the truth of the proposition, as in *she may be ill*. On the other hand, root possibility usually relates to statements of fact where subjectivity is not involved and the occurrence of an event is conditioned by external circumstances, as in *it can take three hours to get there* (see e.g. Bybee and Fleischman 1995, Palmer 2001).

The crucial root-epistemic distinction is generally explained in terms of scope. Silva-Corvalán (1995: 74–75) notes that epistemic possibility has both the proposition and modality in its scope, whereas root possibility has only the proposition in its scope. This scope difference has consequences for negation, past time marking or hypothetical marking. With epistemic possibility, it is the main predication that is affected by these, as in *they may not come here* (= *it is possible that they will not come here*). By contrast, past time marking, hypothetical marking and negation affect the modal predication of root possibility, as in *they may not come here* (= *it is not possible for them to come here*) (cf. Huddleston 1993: 168–169, Huddleston and Pullum 2002: 175). Stated differently, within the root-epistemic distinction, epistemic possibility (conveying the speaker’s logical inference) is basically understood as concerning the proposition as a whole, whereas root possibility (where the occurrence of an event or state is conditioned by external circumstances) is viewed as concerning merely the verbal element. The scope difference is considered to be crucial and has been regularly applied to facilitate the interpretation of the analysed modal verbs, which seem to be quite distinct in their nature. While *MAY* typically communicates both epistemic and root possibility, it is doubtful whether *CAN*, essentially conveying root senses, has any genuine epistemic uses.

## 3. *CAN*

As mentioned, the modal verb *CAN* essentially conveys root senses (permission, possibility and ability) and thus it seems to be the only modal auxiliary where we do not find the regular root-epistemic distinction (Leech 2004: 85). Root *CAN* may

be characterized as having an invariant core meaning (potentiality) and its permission, possibility or ability interpretations can be seen as contextually inferred in the appropriate settings (cf. Perkins 1983: 35, Papafragou 2000: 48):

- (1) We are in the last part of the race with Manchester United and Arsenal. Only Arsenal can lose the title and I don't believe they will. (NEWS) [T1, 31]

Example (1) describes theoretically conceivable happening, which is supported by the structure *I don't believe they will*, so that it can be interpreted as root possibility. The ability reading is excluded here in that ability is normally associated with a positively accepted activity, while this one is not desired.

### 3.1 Gradient of restriction and inherency

The previous paragraph implies that the distinctions between the possibility, permission and ability reading of CAN seem to be subtle and often dependent only on contextual features. Leech (2004: 73) argues that it may be difficult to determine whether a particular occurrence belongs to one category or the other, giving the example *no one can see us here*, which could have the possibility reading (*it isn't possible for anyone to see us here*) or the ability reading (*no one is able to see us here*). The cases which cannot be clearly assigned just to one category are usually described in terms of gradience (see Tárnyiková 1978, Coates and Leech 1980), namely the gradient of restriction (linking examples intermediate between permission and possibility) and the gradient of inherency (linking examples intermediate between ability and possibility) (Coates 1983: 93). In the excerpted material, 29 tokens of CAN out of 200 (14.5%) are interpreted in terms of gradience.

The gradient of restriction (19 cases) relates the meaning of possibility and permission since permission can be viewed as granted possibility (Coates 1983).

- (2) Moreover, these powers all have weaknesses. They are overwhelmingly focused on individual offenders. Most can only be used against offenders who have been convicted and only apply to the period of their sentence. (ADMIN) [FC, 29]

Example (2) could be interpreted in terms of enabling circumstances, typically found with the possibility reading. Nonetheless, some degree of permission is implied as well, in particular some unspecified rules or regulations seem to be employed, but the permission-granting authority is not clearly specified. In comparison with core permission instances, the subject is inanimate and the verb is passivized (9 cases). The corresponding active sentence would be, however, interpreted as permission (*We are allowed to use these powers against offenders*).

The gradient of inherency (10 cases) relates the possibility and ability sense of CAN in that ability can be considered “a special case of possibility due to some skill or capability of the subject referent” (Quirk et al. 1985: 221–222).

In the cases representing the gradient of inherency, the fulfilment of the action depends on a mixture of external factors and inherent properties of the subject, as in (3),

- (3) “It’s far worse for those people left at home not knowing if they are going to be safe or even if they can get back. (NEWS) [T2, 5]

which might read *it is not clear whether the people will get back because the conditions in India allow that or because it is in their capacity*.

In conclusion, the indeterminate cases of *CAN* are not likely to be interpreted as clear-cut instances of ability, permission or root possibility in that the fulfilment of the action results from combining different factors.

### 3.2 Root possibility

The modal verb *CAN* is apparently most commonly employed to express root possibility. 171 occurrences out of 200 (85.5%) have been assigned the root possibility reading (the remaining 29 tokens being the examples of gradience discussed above). In its root possibility sense, *CAN* is generally glossable with *it is possible* followed by an infinitive clause. Quirk et al. (1985: 221–222) give the example *Even expert drivers can make mistakes = it is possible for even expert drivers to make mistakes*, which indicates that, unlike epistemic possibility, the speaker’s attitude to the truth of the proposition is not involved. The root possibility reading is bound to particular enabling conditions or circumstances, which appear to be crucial for the comprehension of the utterance.

- (4) Britain’s race relations chief wants free holidays for all school-leavers so that they can mix with teenagers from other backgrounds and develop a shared “British” identity. (NEWS) [T1, 1]  
= *so that it is possible for school-leavers (thanks to free holidays) to mix with teenagers*

In example (4), the enabling condition is explicitly stated (*free holidays for all school-leavers*) and the modal verb *can* be unambiguously interpreted as root possibility (see also Coates 1983 or Tárnayková 1985).

Nevertheless, the enabling conditions are often not specified or clearly implied in the immediate context and the modal verb *can* be assigned the possibility reading, above all, on the basis of “negative evidence”, i.e. neither permission nor ability applies. Ehrman’s (1966) term “*nihil obstat*”, which reads *there is nothing to prevent*, is commonly used in such cases, for example (5) (see Tárnayková 1978, Coates 1983, Palmer 1990, or Leech 2004).

- (5) The structures of these plant compounds can be industrially useful, for example, many are already polymer chains. (NAT) [NS, 30]

Example (5) can be understood as *there is nothing to prevent the structures from being industrially useful*. CAN in this sense frequently co-occurs with an inanimate subject and stative verb; the verb *to be* being the most frequent one (cf. Tárnayiková 1985).

The findings indicate that passive seems to be an important correlation for root possibility CAN; passive structures have been recorded in 63 out of 171 (36.8%) instances of root possibility CAN. They have been drawn, above all, from popular scientific style (49%) and administrative style (42%).

- (6) Meanwhile, pilot exercises in the identity fraud arena and within SOCA are throwing up striking examples of what can be done when public and private data is shared, with particular potential to reduce financial crime, money laundering and fraud. (ADMIN) [FC, 7]  
 = *examples of what it is possible to do when public and private data is shared*

As shown in (6), passive structures mostly co-occur with third person inanimate subjects and unexpressed agents (only 4 occurrences with expressed agents). All the analysed passive structures seem to be incompatible with ability interpretations, which is supported by Papafragou (2000: 53), claiming that “...passive sentences provide counter examples to an ability-based semantics for CAN”. However, the active counterparts of the examined passive constructions might often be interpreted in the ability sense. For example, when (6) is rephrased (*examples of what we can do*), it favours the ability interpretation (*examples of what is within our capacity to do*) (see also Dušková 1972 or Leech 2004).

Most occurrences of CAN, like (4) – (6), convey what is circumstantially possible and can be interpreted in terms of enabling conditions. Apart from this usage, root possibility CAN conveys what is sometimes the case (Huddleston and Pullum 2002: 184–185, Collins 2007: 7), corresponding to “existential possibility”.<sup>3</sup> Palmer (1990: 107) justifies the term “existential”, claiming that paraphrases with *some* or *sometimes* are more appropriate than those using *possible for*.

- (7) There may still be cases where a prevention order can have clear harm reduction benefits while the illegality of the underlying behaviour is borderline. (ADMIN) [FC, 30]  
 = *a prevention order sometimes has clear harm reduction benefits*

The existential interpretation in (7), supported by the structure *there may still be cases*, illustrates that this usage of CAN applies to situations that sometimes take place or characterize some members of a set, so that it may be explained in terms of generalization.

No occurrence of epistemic possibility CAN has been identified in the analysed data, which supports the claim that the modal verb CAN is essentially monosemous; it conveys a core root meaning (potentiality) from which possible inter-

pretations (possibility, ability, permission) derive, being prompted by a particular context.

## 4. MAY

### 4.1 Epistemic possibility

The modal verb MAY, unlike CAN, conveys both epistemic and root possibility. The figures in Table 1 confirm that epistemic possibility is primary and the most common sense of MAY<sup>4</sup> (cf. Coates 1983, Biber et al. 1999), which can be supported by Leech's (2003: 243) study concluding that "MAY shows a common tendency for the dominant sense of epistemic possibility in the early 60s to be even more dominant in the early 1990s".

**Table 1.** Possibility meanings of MAY

Interpretation of MAY	No. of tokens	%
Epistemic possibility	116	58
Root possibility	74	37
Indeterminate	10	5
<b>Total</b>	<b>200</b>	<b>100</b>

As explained in 2.1, the epistemic modal predication is not affected by negation or aspect, so that these can be considered unique signals of the epistemic possibility reading of MAY (see also Dušková 1972 or Huddleston and Pullum 2002). In Leech's (2004: 99) words, "the modal expresses a current state of the mind, while the main verb describes an event or state having variable time and aspect". In the analysed corpus, perfect aspect (20 cases), progressive aspect (3 cases) and negation (20 cases) proved to be compatible merely with the epistemic reading of MAY, which is illustrated in (8).

- (8) Many of the travellers in India at this time of year are in the most remote parts of the country and may not yet have received the Foreign Office's warning. (NEWS) [T1, 5]  
 = *perhaps/it is possible that the travellers haven't received...*

Although the modal verb is morphologically marked for negation (*may not*), it is the main predication that is affected by negation (*haven't received*), whereas the speaker's assessment of the proposition remains unaffected (*it is possible*) (cf. Coates 1983, Facchinetti 2003). Similarly, perfect aspect assigns past time reference to the proposition (*haven't received*), which implies that MAY + perfect aspect is always used to make a judgement in the present about past events or situations (cf. Downing and Locke 1992, Biber et al. 1999).

## 4.2 Root possibility

As opposed to epistemic MAY, root possibility MAY is less common (see Table 1) and is considered to be secondary, being restricted in its distribution to formal settings (Palmer 1990, Coates 1995). Leech (2003: 234) notes that "... [this sense] has declined in writing since then [1961], which can be assigned to the fact that it can be replaced by CAN". Nevertheless, the analysis has revealed that in formal written language the occurrence of root possibility MAY is significant, particularly in academic and administrative texts (78.4% of all root possibility MAY instances).

As demonstrated in 3.2, root possibility meaning is commonly associated with enabling external conditions. However, as with CAN, these are not usually explicitly expressed:

- (9) All publicity material is available free of charge and may be ordered from the Department of Health Publications Orderline by telephone, fax or email. (ADMIN) [HC, 9]  
 = *it is possible to order all publicity material free of charge from...*

Example (9) also illustrates the co-occurrence of MAY with passive, which is considered to be an important correlation for its root possibility reading; it is often found in passivized sentences in ADMIN and ACAD (17 cases). However, Coates (1983: 142) argues that the co-occurrence of root possibility MAY with passive is "not frequent enough to be significant in terms of the syntactic association measure". The analysis has confirmed the low implication value of this variable in that passive structures co-occur also with epistemic MAY (14 tokens), as in (10).

- (10) The Indian and Pakistani leaders are expected to attend a regional summit meeting in Kazakhstan next week, when it is hoped they may be persuaded to begin dialogue. (NEWS) [T2, 1]  
 = *it is hoped that maybe they will be persuaded to begin dialogue*

Like CAN, root possibility MAY conveys existential possibility involving generalization, as in (11), which might be paraphrased with the expression of quantification *sometimes*:

- (11) An intelligibility problem may result from a unique deviation source, that is, a deviant sound substitution/conflation, or deletion, or addition within a single word. (ACAD) [JJ, 35]  
 = *it is sometimes the case that an intelligibility problem results...*

Example (11) illustrates that with root possibility MAY the writer merely reports a state of fact and draws conclusions on the basis of experiments or observations.

### 4.3 Indeterminate cases

It has been exemplified in 3.1 that permission and possibility may be occasionally blurred when the distinguishing contextual features are not clear. As for root *MAY*, 7 cases intermediate between permission and possibility have been identified in governmental documents (ADMIN) dealing with rules and regulations.

- (12) In addition to having the statutory vires, we also need to look at processes for dealing with clients to ensure they are properly notified of the use that may be made of the information they supply, and to ensure that information is accurate and protected from misuse. (ADMIN) [FC, 16]

The occurrences like (12) have been classified as representing the gradient of restriction in that they seem to combine enabling conditions as well as some degree of permission (see 3.1).

Apart from the gradient of restriction, 3 tokens of *MAY* have been labelled as indeterminate between epistemic and root possibility. Leech and Coates (1980) use the term “merger” for such instances, claiming that they contain elements of both root and epistemic meaning. Root and epistemic interpretations thus coexist in a both/and relationship because the context fails to exclude one of them, as shown in (13).

- (13) At the level of production, the L1-L2 syllable and word stress difference may lead to serious intelligibility problems for both L1 and L2 receiver. (ACAD) [JJ, 119]  
 = root: *it is sometimes the case that the L1-L2 syllable and word stress difference lead...*  
 = epistemic: *perhaps the L1-L2 syllable and word stress difference will lead...*

All three instances of merger have been drawn from academic style, which might indicate that merger tends to occur in formal written style owing to the constraints of formality relating to root possibility *MAY* (see 5.1).

## 5. CAN VS. MAY

With regard to the primary uses associated with *CAN* and *MAY* (discussed in sections 3 and 4), Matthews (2003: 60) states that “root *CAN* is an assertion of possibility, i.e. *it is the case that p is possible*, as opposed to epistemic *MAY* expressing a predicted or speculated possibility, i.e. *it is possibly the case that p*”. This difference is illustrated in (14) and (15).

- (14) People may have thought that we were gone at half-time – and maybe we were – but we came out and proved just how much we wanted it. (NEWS) [T1, 27]

= epistemic: *it is possibly the case that people thought*

- (15) We welcome these proposals, and are considering adopting them while looking at how they can be extended to deal more effectively with those on the periphery of organised crime through special targeted provisions. (ADMIN) [FC, 9]

= root: *it is the case that extending the proposals is possible*

Leech (2004: 117) considers epistemic possibility in (14) to be stronger and more immediate in that it relates to “the actual likelihood of the occurrence of a particular situation” (*people thought*). By contrast, CAN in (15) relates to theoretically conceivable happening (*it is possible for us to extend the proposals*), associated predominantly with general statements where possible or likely results are determined by external conditions. As Perkins (1983: 39) states, “CAN focuses primarily on the current state of circumstances, whereas epistemic MAY focuses primarily on the current verifiability of the truth of the proposition”. Obviously, root CAN and epistemic MAY are quite distinct in nature; however, the two modal verbs do not correspond exactly with root and epistemic possibility, the former being conveyed also by MAY in formal settings.

### 5.1 Distribution of CAN and MAY

The analysis indicates that CAN and MAY have different distributions across registers, which can be explained mainly in terms of formality and their primary uses. Epistemic MAY, being generally more frequent than root MAY (see Table 2), prevails in NEWS (96%), in the contexts of subjective interpretation and speculation concerning reasons and motives (mainly in direct speech).

**Table 2.** Distribution of CAN and MAY across registers

		ADMIN	ACAD	NAT	NEWS	
CAN	root	43	40	47	41	<b>171</b>
	indeterminate					<b>29</b>
MAY	root	29	29	14	2	<b>74</b>
	epistemic	14	19	35	48	<b>116</b>
	indeterminate					<b>10</b>

The findings relating to NAT (Table 2) seem to be rather surprising because in non-academic natural sciences where facts are based on experiments and observation, root possibility usually prevails, being associated with the need for objectivity. However, the fact that NAT is represented by articles from the magazines *New Scientist* and *Focus*, which also include interviews, may account for the significant frequency of epistemic MAY.

The figures in Table 2 show that in ACAD and ADMIN both modal verbs predominantly mark root possibility, with *MAY* being extremely common in this function (58% in both ADMIN and ACAD) (cf. Biber et al. 1999). Root possibility *MAY* seems to be significantly associated with these two registers because, in comparison with *CAN*, it conveys information more formally (Dušková 1972: 64, Peters 2004: 88). A vast majority of root possibility *CAN* and *MAY* tokens occur in general statements of possibilities, where they discuss possible explanations and indicate expected outcomes. On the other hand, epistemic *MAY* typically qualifies statements and is associated with expressing caution in ACAD. As Facchinetti (2003: 308) notes, “balancing between reporting objective data and signalling subjective evaluation seems to be fundamental in scientific discourse”.

### 5.2 Potential interchangeability of *CAN* and *MAY*

Since *CAN* and *MAY* are overwhelmingly associated with different meanings (see Table 3), it is not possible to treat them as synonyms in many contexts; it is not possible to substitute *CAN* for epistemic *MAY* in that *CAN* does not normally convey epistemic possibility.

**Table 3.** Possibility meanings of *CAN* and *MAY*

meaning	CAN		MAY	
	tokens	%	tokens	%
epistemic possibility	–	–	116	58
root possibility	171	85.5	74	37
indeterminate	29	14.5	10	5
<b>Total</b>	<b>200</b>	100	<b>200</b>	100

Obviously, the semantic overlap of *CAN* and *MAY* is restricted to their root possibility meaning. Since negated *CAN* and *MAY* are essentially distinct (root vs. epistemic), the potential overlap is further restricted only to affirmative structures. Even if the two modals are linked in their root possibility sense in affirmative structures, they differ in distribution and thus the extent of overlap is not expected to be significant (cf. Coates 1980, Leech 2004).

The figures in Table 4 below confirm that root possibility *CAN* and *MAY* are distinct in terms of formality, or, as Dušková (1994: 186) states, “there is a stylistic difference between them”.

**Table 4.** Distribution of root possibility *CAN* and *MAY* in the examined registers (only affirmative utterances included)<sup>5</sup>

	CAN		MAY	
	tokens	%	tokens	%
ADMIN	39 (50)	78	29 (50)	58
ACAD	33 (50)	66	29 (50)	58
NAT	45 (50)	90	14 (50)	28
NEWS	33 (50)	66	2 (50)	4
<b>Total</b>	<b>150 (200)</b>	<b>75</b>	<b>74 (200)</b>	<b>37</b>

Root possibility *MAY* is restricted to formal contexts (cf. Coates and Leech 1980, Coates 1983); the overlapping senses can be identified particularly in ADMIN and ACAD, where the occurrence of root possibility *MAY* is significant (58% in both registers). On the other hand, root possibility *MAY* is rare or virtually non-existent in NEWS. Therefore, we may consider *CAN* to be the unmarked member of the pair; it is not restricted in its usage and is roughly equally distributed in all the analysed registers. Papafragou (2000: 78) states that "...the pressure for differentiation between the two verbs seems to be responsible for the relatively low frequency of root possibility interpretations of *MAY* (since *CAN* grammaticalises precisely this part of the conceptual space of modality in English)".

Example (17) illustrates that *MAY*, as opposed to *CAN*, is marked for formality and is not likely to be substituted for *CAN* in (16). However, it would be possible to use *CAN* instead of *MAY* in (17).

(16) "I think the World Championship can get in the way if you want to do well at the Olympics," she [Cave] said. (NEWS) [T1, 37]

(17) The first area of action to counter radicalisation lies in addressing structural problems in the UK and elsewhere that may contribute to radicalisation. (ADMIN) [IT, 11]

When root possibility *CAN* and *MAY* are used in the contexts differing in the degree of formality, e.g. NEWS and ADMIN, they appear to be in complementary distribution and can be described in terms of stylistic differences (cf. Leech 2004: 81).

In contrast, when root possibility *CAN* and *MAY* occur in formal contexts, e.g. ACAD and ADMIN, they are viewed to be in free variation. It is mainly in these two registers that we can talk about their potential interchangeability.

(18) Even where legislation proves necessary, it is still possible to rely on implied powers within that legislation, rather than including specific gateways, which can have the effect of creating uncertainty in the minds of front line staff in any situations where no explicit gateways exist. (ADMIN) [FC, 13]

- (19) Secondly, two or more allophones in the learner's L1 may have full phonemic status in English, for example, [n], [m], and [ŋ] in Japanese, as in the English words "sun", "sum", and "sung". (ACAD) [JJ, 33]
- (20) The time has come for us to examine in greater detail the ways in which NBES inter-speaker pronunciation may vary from the L1, and the extent to which such variation can impede intelligibility when NBESs interact with one another. (ACAD) [JJ, 32]

Obviously, there is no difference in meaning or effect between *CAN* and *MAY* in (18)–(20). In examples (18) and (19) the modal verbs are followed by the same lexical verb (*have*); the other verbs commonly used with root possibility *CAN* and *MAY* are *be*, *prove*, *identify*, *lead*, *arise*, *vary*, *cause*, *result* or *affect*. In example (20), *CAN* and *MAY* are employed in one sentence and seem to alternate merely to avoid the repetition of formal *MAY*. Hence we might conclude that in formal settings root possibility *CAN* and *MAY* are in free variation and can be considered as equivalent forms or stylistic variants (cf. Dušková 1994: 186, Leech 2004: 76).

The instances of interchangeability have been identified in the structures with inanimate subjects, (18)–(22), and in passive structures with unexpressed agents, (21)–(22). In all the recorded passive structures in ACAD and ADMIN (38 cases), root possibility *CAN* and *MAY* are interchangeable.

- (21) This can be clearly demonstrated where a subject increases the transfer of a particular L1 phonological feature in the information exchange task without affecting ILT intelligibility. (ACAD) [JJ, 64]
- (22) It [the term "jihad"] may also be used to mean military struggle, but the vast majority of Muslims do not consider today's terrorism to be legitimate, military jihad. (ADMIN) [IT, 7]

Out of all 130 tokens with the root possibility reading in ACAD and ADMIN, *CAN* and *MAY* seem to be mutually interchangeable in 121 instances (93%). There are 5 occurrences of *CAN* where the substitution might result in merger (23) and 4 occurrences of *MAY* in which *CAN* is likely to favour the ability interpretation (24).

- (23) Credit reference agencies seek to get information on the names of the deceased as quickly as possible, but this can (may) take many months. (ADMIN) [FC, 14]  
 = *it is the case that "it takes many months" is possible* (root)  
 = *we assume that this will perhaps take many months* (epistemic)
- (24) According to this theory, which, in more recent years, has become more broadly based and known as Communication Accommodation Theory or CAT (see Giles and Coupland 1991), speakers may (can) adjust their speech

either in the direction of that of their interlocutors (convergence) or away from that of their interlocutors (divergence). (ACAD) [JJ, 21]  
 = *it is possible for speakers to adjust their speech* (possibility)  
 = *speakers are able to adjust their speech* (ability)

The ability reading in (24) is facilitated by the co-occurrence of CAN with a human agent (*speakers*) and dynamic verb (*adjust*), whereas MAY merely conveys root possibility due to enabling external conditions (cf. Dušková 1972).

## 6. Conclusion

This paper has shown that monosemantic approach seems to be adequate when dealing with the modal verb CAN, viewed as having a core invariant meaning (potentiality). The occurrences interpreted as ability, possibility, or permission can be seen as a modification of the underlying core sense in the appropriate contextual conditions. The root possibility reading of CAN proved to be the most frequent one and can be generally considered more neutral (unmarked) than permission or ability; it often applies only because there is no clear indication of restriction or of inherent properties of the subject and the action is merely viewed as theoretically possible. By contrast, since MAY can be employed to express epistemic and root possibility, it can be characterized as polysemous. Nevertheless, the two seemingly distinct senses co-occur almost exclusively in formal settings, where it may sometimes be problematic to distinguish between them; cautious statements (epistemic possibility) and presenting information as a fact (root possibility) tend to merge in scientific discourse.

The analysis has revealed that syntactic correlations are rather weak and may prove ineffective in distinguishing subtle differences in the meaning conveyed. Particularly with MAY, the syntactic criteria listed in the literature on modality focus largely on differentiating epistemic possibility from root permission, but do not relate adequately to the differences between the two possibility senses. The context provided the necessary clues for the final disambiguation of many instances, but sometimes it was difficult to establish the point at which one interpretation was no longer possible.

It has been confirmed that the domain of root possibility is dominated by CAN, whereas that of epistemic possibility by MAY, which implies that there are many distributions in which the two modal verbs cannot compete. Even though they both can convey root possibility, in nearly half of the cases (43%) root possibility CAN and MAY are in complementary distribution, i.e. MAY is marked for formality and is unlikely to substitute for CAN in less formal contexts. CAN appears to be unmarked in that it is not restricted regarding stylistic variation and normally occurs in various settings, formal as well as informal.

Root possibility CAN and MAY overlap merely in affirmative sentences and their interchangeability is largely restricted to formal settings (ADMIN and ACAD

in this study), where they tend to be employed as stylistic variants, and seem to be partly conditioned by specific syntactic co-occurrence patterns. Yet the extent of semantic overlap between root possibility CAN and MAY in formal settings is remarkable, they are interchangeable in 94% of occurrences in ADMIN and ACAD. Root MAY usually conveys possibility due to enabling external conditions, whereas with CAN the fulfilment of the action may sometimes depend on a mixture of external factors and inherent properties of the subject.

## Notes

- 1 For example, animate subject, agentive verb and passive voice are considered to be linked with root meaning (Tárnyiková 1978, Coates 1983).
- 2 In Leech's (2004) terminology, "factual possibility" equals "epistemic possibility" and "theoretical possibility" equals "root possibility".
- 3 Leech (2004: 74) characterizes this use as habitual, providing the example *lightning can be very dangerous* = *lightning is sometimes very dangerous*. Tárnyiková (1978: 14) employs the term "characteristic possibility" based on Ehrman's (1966) "occurrential CAN".
- 4 Similarly, the epistemic possibility reading of MAY constitutes 61% in Facchinetti's survey (2003).
- 5 Altogether 21 tokens of root possibility CAN are not included, 19 being negated and 2 occurring in negative environments.

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