Can and may: monosemy or polysemy?

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Abstract

This paper argues, on the basis of a corpus-based study of the meanings of can and may in contemporary British, American and Australian English, that a polysemy-based analysis is applicable to both modals. With may, epistemic possibility is the dominant meaning, but the dynamic and deontic possibility meanings still account for over 16.5% of tokens. By contrast the meanings of can, apart from a small percentage (1.1%) of epistemic cases, are united through the concept of potentiality. Nevertheless there are signs that the epistemic possibility meaning is becoming established, as it sheds its syntactic/semantic restriction to non-affirmative contexts.

Keywords

can, may, polysemy, monosemy, modals, corpus, English
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1. Monosemy versus polysemy

There are two traditions in the semantic analysis of can and may – in fact, of the modals generally. One, represented in the work of Ehrman (1966), Perkins (1983), Groefsema (1995), Klinge (1993), Papafragou (2000) and others, views each modal as being monosemous, as having a core or unified meaning that is evident in all their uses, with different interpretations simply being prompted by the contexts in which the modal is used. The other, represented in the work of Palmer (1990), Coates (1983), Huddleston and Pullum et al. (2002), Lyons (1977) and others, views each of the modals as being polysemous, expressing two or more independent meanings (without necessarily claiming that all the meanings expressed by a particular modal are clearly distinct).

Much debate has focused on the phenomenon of ambiguity, with ‘polysemists’ taking it as evidence for their approach that most of the modals yield instances which, in abstraction from context, are ambiguous between a root and epistemic meaning (e.g. does John may visit mean “John is permitted to visit” or “It is possible that John will visit”?; does John can’t live here mean “John is not able to live here” or “It is not possible that John lives here”?). They argue that these meanings are distinct (and associated with distinctive syntactic and semantic properties, and with different types of paraphrases) and that therefore the sentence cannot be properly understood unless one is aware which is the intended meaning. ‘Monosemists’, by contrast, note the infrequency of modal ambiguities, arguing that “apparent ambiguities are a result of the interpretation of an utterance containing the modal in a particular context” (Groefsema 1995:55).

A corollary of the monosemy position, one surely counterintuitive, is that the same meaning can never be expressed by different modals. Proponents are obliged to seek a semantic distinction even in cases where, at the very best, they are differentiated by no more than an element of formality, as for example in contexts where many speakers would regard May I smoke in here? and Can I smoke in here? as alternating freely.

The approach adopted in this study is essentially a polysemy one. At the same time the insights of the monosemists will be found to be applicable to the analysis at various points (for instance in attempting to identify the fine nuance of meaning which – I claim – distinguishes the existential dynamic use of can as in It can be very cold in Stockholm from the general epistemic use of may as in It may be very cold in Stockholm). I also acknowledge that a polysemy analysis is more straightforwardly applicable to may than it is to can, whose major senses – permission, possibility and ability – are closely related.

2. A corpus-based study

The database comprised every token of can and may extracted from three parallel corpora: the million-word International Corpus of English British English corpus (‘ICE-
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GB’), the parallel Australian English corpus (‘ICE-AUS’), and a specially-assembled corpus of c.200000 words of American English (‘C-US’) designed to fill the gap caused by the non-availability hitherto of an actual ICE-US corpus. Each of the corpora comprises 60% spoken texts and 40% written.

The frequencies presented in Tables 1 and 2 below show that can was over three times more popular than may in the three corpora. The overall frequencies for can did not vary greatly across the three corpora, but those for may revealed a clear difference between BrE (1218 tokens) and the other two corpora (AusE: 881 tokens; AmE: 825 tokens per million words), reflecting the more advanced state of the decline of may in the latter (cp. Leech’s 2003:231 finding that may has undergone a greater decline in American than British writing in recent decades).

### Table 1. May in ICE-AUS, ICE-GB and C-US
(Figures normalized to tokens per one million words.)

<table>
<thead>
<tr>
<th></th>
<th>Epistemic</th>
<th>Dynamic</th>
<th>Deontic</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICE-AUS</td>
<td>681 (77.3%)</td>
<td>111 (12.6%)</td>
<td>89 (10.1%)</td>
<td>881</td>
</tr>
<tr>
<td>ICE-GB</td>
<td>1073 (88.1%)</td>
<td>65 (5.3%)</td>
<td>80 (6.6%)</td>
<td>1218</td>
</tr>
<tr>
<td>C-US</td>
<td>687 (83.3%)</td>
<td>81 (9.8%)</td>
<td>57 (6.9%)</td>
<td>825</td>
</tr>
<tr>
<td>Total</td>
<td>2441 (83.5%)</td>
<td>257 (8.8%)</td>
<td>226 (7.7%)</td>
<td>2924</td>
</tr>
</tbody>
</table>

### Table 2. Can in ICE-AUS, ICE-GB and C-US
(Figures normalized to tokens per one million words)

<table>
<thead>
<tr>
<th></th>
<th>Epistemic</th>
<th>Dynamic</th>
<th>Deontic</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICE-AUS</td>
<td>24 (0.7%)</td>
<td>2996 (88.7%)</td>
<td>358 (10.6%)</td>
<td>3378</td>
</tr>
<tr>
<td>ICE-GB</td>
<td>32 (0.9%)</td>
<td>3234 (90.7%)</td>
<td>299 (8.4%)</td>
<td>3565</td>
</tr>
<tr>
<td>C-US</td>
<td>56 (1.5%)</td>
<td>3192 (87.1%)</td>
<td>417 (11.4%)</td>
<td>3665</td>
</tr>
<tr>
<td>Total</td>
<td>112 (1.1%)</td>
<td>9422 (88.8%)</td>
<td>1074 (10.1%)</td>
<td>10608</td>
</tr>
</tbody>
</table>

3. The semantic framework

The classification of modal meanings in this study is based on Palmer’s (1990:37) tripartite distinction between epistemic modality (concerned with the speaker’s commitment to the truth of the proposition), deontic modality (concerned with conditions relating to the completion of an action deriving from an external source), and
dynamic modality (concerned typically with an individual’s ability or volition). This scheme competes with various binary schemes – the most familiar being that which contrasts epistemic and root modality (the latter encompassing deontic and dynamic).

3.1 Epistemic may and can

As the figures presented in Tables 1 and 2 show, epistemic possibility is the primary meaning of *may* in Modern English (accounting for 83.5% of instances of *may* in the present study), but the least common for *can* (accounting for only 1.1% of tokens).

Epistemic *may* and *can* are usually subjective (as in (1)), expressing the speaker’s lack of knowledge as to whether or not the proposition is true, and assessment of it as merely a possibility.

(1) we left ten minutes into the inspection time and there was no-one there and ah that’s the only thing they may have had good offers during the inspection time [ICE-AUS S1A-008(A):67]

However they are not invariably subjective (as Verstraete 2001 has argued); occasionally we find objective instances (as in (2)), where the judgement is one that is entertained more generally and not limited to the speaker.

(2) It’s thought the man may have committed suicide [ICE-GB:S2B-016 #134:4:A]

Tokens such as those in (3) and (4) were accepted as examples of epistemic *can*, despite the claim made by some (e.g. Coates 1983:101) that such non-affirmative cases merely provide missing forms in the epistemic *must* paradigm and hence that the epistemic possibility meaning is not available for *can*.

(3) the school hasn’t phoned so he can’t be too bad [ICE-AUS S1A-096(B):95]

(4) How can it be an intrusion of privacy if the newspapers are being presented with the stories from the main participants on a silver plate [ICE-AUS S2B-004(A):159]

More recently Coates (1995:63) has suggested that *can* may be developing ‘genuinely’ epistemic uses (i.e. in positive declarative clauses). The present data confirm this to be so, with a small number of tokens such as the following appearing in all the data:
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(5) You can be maybe next Australia next South Africa [ICE-AUS S2b-033(Z):289]

Consider next so-called ‘concessive may’ (exemplified in (6) and (7)). Some writers (e.g. Coates 1983:136) regard the concessive use of may as involving a softening of the speaker’s assertion. However it arguably involves a special type of pragmatic strengthening, in which the speaker concedes the truth of the proposition, rather than expressing a lack of confidence in its truth. The meaning contributed by may is minimal, with the modal merely serving to reinforce the concessive meaning of the construction (compare “although it is good for you” and “although you are talented to some degree”).

(6) It may be may be good for you but it’s not very good for never been very good for the black people in South Africa [ICE-GB:S1A-047 #59:1:A]

(7) You really are relatively speaking in comparison with the other two very inexperienced however talented you may be [ICE-GB:S1B-043 #27:1:A]

The time of the situation with epistemic possibility can be present, as in (8), past as in (9), and future as in (10) (with future time situations, as Huddleston and Pullum et al. (2002:182) note, being “barely possible” with epistemic can).

(8) if you get a swelling of the whole gland it can’t be a tumour [ICE-GB:S1B-010 #80:1:A]

(9) These pedestrians may not have seen you at all and could rush out, [ICE-GB:S2A-054 #199:2:A]

(10) Perhaps the areas where additional effort may be focussed in the years to come when implementing new technology are consultation and training. [ICE-AUS W1A-019(noone):149]

There are two types of present situation. In addition to that exemplified in (8), with a stative lexical verb, there are general situations (with a non-stative lexical verb) found – I shall argue – with may, as in (11), but not with can.

(11) Firstly, the head may twist sharply, tearing and twisting the connections and membranes of the brain. [ICE-GB:W1A-004 #16:1]

Examples such as (12) with can are quite similar.
(12) What’s missing in each of these cases is the idea once thought to be definitive of morality that there can be obligations which constrain our choices and duties that place a limit on desire, [ICE-GB:S2B-029 #139:1:A]

However there is a subtle difference in such cases. May is epistemic, foregrounding the speaker’s uncertainty as to whether or not, at any given moment, a situation whose potential for occurrence is not in doubt, will be actualised (and is appropriately paraphrased by “it is possible that … will”). By contrast can falls – just – on the dynamic side of the borderline between dynamic possibility and epistemic possibility, foregrounding the potential for occurrence of the situation (and is appropriately paraphrased by “it is possible for … to”). The distinction described here has been discussed using a variety of labels in the literature. For Leech (1987:81) the relevant senses of may and can involve respectively ‘factual possibility’ and ‘theoretical possibility’; for Van der Auwera (1986) ‘indeterminacy’ and ‘contingency’; for Bolinger (1989) ‘extrinsic possibility’ and ‘intrinsic possibility’; and for Klinge (1993) ‘possibility’ and ‘potentiality’.

Some (e.g. Coates 1983:145; Vihla 2000) have argued that the semantic closeness of may and can in such cases justifies an interpretation of ‘neutralization’ or ‘merger’. Such an interpretation may appear to be supported by examples such as (13) and (14), where may and can seemingly alternate readily.

(13) They can stop at any point or they may progress to involve the whole body in a generalized fit. [ICE-GB:W2B-023 #78:1]

(14) The frequency of the main oscillator is not critical, so can vary to some extent without undue problems, but component tolerances may cause the timing to be incorrect with a resultant loss of realism. [ICE-GB:W2B-032 #41:1]

However, rather than saying that two meanings have merged into one in such cases, it may be argued that we have two meanings – epistemic and dynamic – and that in certain contexts it doesn’t make any difference which one we choose. One important piece of evidence for this position is the incidence of harmonic combinations involving epistemic expressions that are found with may (but not can) in this meaning: in an extraposed that-clause with it is possible as matrix clause as in (15), with the intensifying adverb well as in (16), or with the epistemic adjunct possibly as in (17):

(15) It is possible that protozoa may play a significant role in the removal of both viral and bacterial pathogens, although there is no evidence for this at the present time. [ICE-GB:W2A-021 #71:1]
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(16) The physical mechanisms governing intra-plate earthquakes are not well-understood although they may well be associated with previous faulting activity (Johnston and Kantor, 1990). [ICE-AUS W2a-033(noone):25]

(17) they may possibly increase the capacity of an individual organism to track or avoid change. [ICE-GB:W1A-009 #56:1]

3.2 Dynamic may and can

Whereas epistemic possibility involves a lack of knowledge (it is not known whether the proposition has been, is, or will be, actualized), dynamic possibility is not oriented towards verification but rather to potentiality. As Tables 1 and 2 above indicate, this is the primary meaning expressed by can (accounting for 88.8% of tokens) but a minor meaning for may (8.8%).

Three primary uses of dynamic possibility may be distinguished: ‘theoretical possibility’ (a term suggested by Leech 1987:81), ‘ability’, and ‘dynamic implication’ (a term suggested by Palmer 1990:86).

3.2.1. Theoretical possibility

In the case of theoretical possibility the potentiality lies in the external situation, and in the clearest cases there is explicit mention of the enabling circumstances, as in (18):

(18) One cannot fly into Zermatt; there is no airport. [C-US Frown F06 83]

May is possible, as in (19), and is often associated with a greater degree of formality:

(19) it’s not necessary uh for uh me to dwell at length upon, the Civil Evidence Act uh or uh the uh Rules i in regard to, uh what evidence may be uh, adduced [ICE-GB:S2A-063 #17:1:A]

Two subtypes of theoretical possibility may be identified. One is what Palmer (1990:107) calls ‘existential modality’. This use – which lies on the borderline between modality and aspectuality – involves an implicit existential quantifier, one that applies to at least some members of the relevant population (witness the implication of set membership in (20): “Some females kill”) or to a situation that sometimes takes place (witness the implication of characteristic behaviour in (21): “She sometimes acts in a pushy way”).

(20) Oh well Females can kill I’ve seen that before [ICE-AUS S1A-039(B):253]
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(21) She can be pushy [ICE-AUS S1A-045(A):181]

This use is similar to what Coates (1983:169) refers to as the ‘predictability’ use of will. Witness the alternation between can and will in (22):

(22) Ideal owner Burmese can be good pets for families as they are reasonably well balanced and cope with children quite well, however, no cat will suffer extreme teasing. Many single people, retired or otherwise, find the Burmese a companion which will ‘talk’ back to them. Someone who spends a lot of time away from the home should probably have a second cat, as they can get destructive if bored. [ICE-AUS W2D-019(noone):24]

The second subtype, ‘rational modality’ (to use Palmer’s 1990:105 term) is not too far removed from objective deontic possibility, with actualization being licensed by general societal or cultural considerations.

(23) The link between population growth and environmental destruction is well understood but how can we reasonably expect poor people to reduce the size of their family when it is the labour a large family provides that maintains their survival? [ICE-AUS W1A-020(noone):58]

(24) Like 98 per cent of the planet's population, we Efecans may be justly accused of being provincial, parochial, and these qualities are sometimes magnified by your habit of hearing ‘Ithaca’ when we say ‘Efica’. [ICE-AUS W2F-007(noone):5]

3.2.2 Ability

The ability use, which is found with can but not may, also involves a type of potentiality. Here however the potentiality lies in the subject-referent and may be – especially with certain verbs of perception and cognition – close to actualisation, as in (26):

(25) However, humans can still understand these utterances even when they are spoken in different accents [ICE-AUS W1A-009(noone):6]

Of course potentiality and actualisation are related: the latter provides the evidence for the former. Not that potentiality is necessarily always actualised, as in (26):

(26) He can still play the piano but he never pl plays it [ICE-AUS S1A-019(A):57]
In (27) by contrast we may infer potentiality from actualisation – in fact the degree of modality is so low here that removal of the *can* would barely change the meaning (compare *Do you speak any East European languages?):

(27) **Can** you speak any East European languages [ICE-GB:S1A-014 #109:1:B]

### 3.2.3 Dynamic implication

With ‘dynamic implication’ the literal semantic meaning is dynamic, but the relevant interpretation is dependent upon the illocutionary force. In (28) for example the illocutionary force is that of suggestion, offer in (29), request in (30), and command in (31):

(28) Perhaps we **can** talk about that on another occasion [ICE-GB:S1B-055 #65:1:B]
(29) I **can** make one of those up for you show you how to put that together [ICE-AUS S2A-053(noone):21]
(30) Mum **can** you please send over copies of all my bank & credit statements. [B-013(noone):80]
(31) **You can** bloody well keep your hands off. [ICE-GB:W2F-001 #95:1]

### 3.3 Deontic *may* and *can*

Deontic possibility (or ‘permission’) is a minor meaning for *may* and *can*, as Tables 1 and Table 2 above indicate. It may be subjective, as in (32-34): in (32) the speaker is the deontic source, but in the interrogative in (33) and in the conditional protasis in (34) the addressee is the deontic source:

(32) **You may** use my desk.
    Well wait a minute, it’s a royal mess, isn’t it.
    Yes it is. [C-US SBC]
(33) **May** I sit down for a minute? [ICE-GB:W2F-018 #170:1]
(34) If I **may** please [ICE-AUS S1B-064(A):253]

However, it may also be objective, as in the statement of rules and regulations found predominantly in bureaucratic and administrative writing, as in:
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(35) Kat (or ghat), sometimes known as Arabian tea and widely chewed in the Middle East and East Africa is not, however, on the banned list and may be freely imported and used in Britain. [ICE-GB:W2B-020 #49:1]

Some writers (e.g. Vanparys 1987) differentiate deontic may and can as respectively subjective and objective, but this difference is probabilistic rather than absolute. Deontic can differs from may in its frequency of occurrence and in formality, but nevertheless parallels may in the range of deontic uses, as indicated by the examples in (36-39), which match (32-35) above:

(36) She she she came to the point where she said you know you don’t have to go you can stay alright then I said I said do you mean you’re you’re asking me to stay [ICE-AUS S1A-064(A):86]

(37) Can I finish my story [ICE-AUS S1A-019(B):183]

(38) If I can partly misquote John and say yes indeed it adds to the gaiety of the country [ICE-GB:S1B-024 #26:1:D]

(39) Broadbanding applies to all assets other than ‘works of art’ and plant depreciable under a special depreciation regime. The broadband rates can be increased by a loading of 20% for all depreciable items other than motor vehicles [ICE-AUS W2D-008(noone):55]

There are two specialized subtypes of permission may. Firstly, there is the idiom may as well, which literally expresses a comparison of equality but is typically used with mitigated directive force (representing a type of subjective deontic modality):

(40) We don’t have to watch all of that but we may as well watch a bit just to tell him that we did [ICE-AUS S1A-013(B):301]

Secondly we have optative may, which occurs in pre-subject position in clauses used to express hopes and wishes. It is found mainly in formal or mock-formal style, as in (41):

(41) Yes, dear friend, and may the blue bird of happiness shit all over you too! [ICE-GB:W1B-003 #165:2]
4. Conclusion

With *may* the range of meanings available suggests the plausibility of a polysemy-based account: while epistemic possibility is dominant, the (historically prior) dynamic and deontic senses still account for over 16.5% of tokens. By contrast the meanings of *can*, apart from a small percentage of epistemic cases, seem to be united through the concept of potentiality. Dynamic meanings dominate, while the deontic meanings which *can* expresses are predominantly objective and thus quite close to dynamic possibility. Having said this, there are signs that the epistemic possibility sense of *can* is becoming established (as we might expect to happen, historically), as it sheds its syntactic/semantic restriction to non-affirmative contexts. This suggests that for *can*, as for *may*, there is a case for adopting a polysemy approach.

Bibliography


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