Double Modal Constructions: A Construction Grammar Approach

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Abstract

Accounting for the syntax of double modal constructions (DMCs), (e.g.: *I **might could** get you a discount*), has proven problematic. A number of proposals to explain DMC behavior within generative grammar have been offered, among them that the left modal of the DMC is adverbial (Labov et al. 1968), that the DMC is a complex-headed verb (Boertien 1986), a single lexical item (Di Paolo 1989), two items where one modal carries morphological tense and the other syntactic tense (Battistella 1995), or part of a two-clause predicate (Ross 1969). These proposals all recognize, however, that DMC combinations are not boundless, and most note that each modal verb position in the DMC is restricted to a certain semantic category of modal. Those modal verbs that can occupy the left slot of a DMC are epistemic, while those that occupy the right slot are deontic. This semantically restricted syntax is a perfect candidate for analysis within a Construction Grammar framework. Construction grammar replaces the dictionary-and-grammar model of syntax with the *construct-i-con*, a set of "units of linguistic knowledge that pair a linguistic form with a meaning" (Hilpert 2014). Construction grammar has shown itself to be well-suited to phenomena that are non-predictable in form or meaning, a category into which DMCs clearly fall; those who do not use DMCs find them ungrammatical and their meaning at best unclear.

In this presentation, I analyze occurrences of DMCs—and their relative frequencies—in the Corpus of Contemporary American English (COCA). Based on this data, it is clear that semantic considerations are central to both DMC formation and frequency. Using modality scales from Hermerén (1978), I define a canonical Double Modal Construction for declarative sentences that is closely tied to the epistemic-deontic pairing. The scales of modality explain the prevalence of *might could*, as this modal fills a semantic lacuna. The results also indicate that linguistic innovation within DMCs is common and has caused an expansion in meanings and forms of double modal constructions.

1 Introduction

This paper analyzes the syntax of double modal constructions (DMCs) from a construction grammar perspective. Double modals, the cooccurrence of two modal verbs within a clause, are problematic within the generative grammar framework. A restriction in English syntax to one modal can be accounted for within generative grammar because phrasal heads should not iterate (Jackendoff 1977).[1] However, in dialects of English of the American South, sentences like (1) are deemed acceptable. This data must be accounted for.

(1) I might could get you a discount.

Varying proposals to account for double modals within generative grammar have posited that the DMC's left modal is adverbial (Labov et al. 1968; Labov 1972), that the DMC is a complex-headed verb (Boertien 1986; Mufwene 1994), a single lexical item (Di Paolo 1989), two items where one carries morphological tense and the other syntactic tense (Battistella 1995), and as two-clause predicates (Ross 1969). These proposals recognize that DMC combinations are not boundless, and most note that each modal verb position in the DMC is restricted to a certain semantic category of modals. Those modal verbs that can occupy the left slot of a DMC are epistemic, while those that occupy the right slot are deontic. Because DMCs exhibit both syntactic irregularity as well as semantic constraints, they are good candidates for analysis within Construction Grammar.

Construction grammar breaks with the assumption in generative grammar that syntax results from the inputting of items from the lexicon into phrase structure rules and transformational rules to output a grammatical sentence. Construction grammar replaces this dictionary-and-grammar approach with the *construct-i-con*, a set of "units of linguistic knowledge that pair a linguistic form with a meaning" (Hilpert 2014: 2). The construct-i-con thus contains not only words, but information about context and syntactic structure.

Construction grammar has shown itself to be well-suited to phenomena that are non-predictable in form or function, a category into which DMCs clearly fall; respondents who do not use DMCs find them ungrammatical and their meaning at best unclear. Goldberg (2006: 5) provides a definition of constructions:

> Any linguistic pattern is recognized as a construction as long as some aspect of its form or function is not strictly predictable from its component parts or from other constructions recognized to exist. In addition, patterns are stored as constructions even if they are fully predictable as long as they occur with sufficient frequency."

This paper builds a double modal construction within construction grammar, viewing double modals as semantically restricted to epistemic-deontic pairs. These pairs' rate of use is variable, and depends upon whether the first modal is primarily used epistemically in single modal constructions (SMCs) and whether the semantic effect of the double modal fills a semantic lacuna.

Section 2 defines modality, analyzes the semantics of modal verbs, and presents the existing literature on modal verbs from both generative and construction grammar perspectives. Section 3 defines DMCs as constructions consisting of an epistemic-deontic modal pairing. Section 4 presents the methodology used for finding and normalizing instances of double modal constructions in various corpora by allowing semantically licensed modifications to the canonical epistemic-deontic pairing. Section 5 looks at the data itself, as compiled from several linguistic corpora. Finally, Section 6 looks at how well construction grammar accounts for the DMC data gathered.

2 Modal verbs

Modality indicates the speaker's perception of an event. Modal verbs are one method by which modality is marked. Modal verbs can indicate levels of certainty, as well as ability, permission, and volition. Contemporary English has a fairly well-defined set of core modal

verbs for accomplishing these tasks. To establish the set of core modals in (2), I rely on Lars Hermerén's 1978 study, *On Modality in English*, with the addition of *ought to* (Hermerén 1978: 60–63). Hermerén cites *ought to* as a modal that operates slightly differently, in that it can take a 'to' after it, and that this might be a sign of declining usage. Based on the data gathered, usage does not seem to have declined, and thus it is included in the study. Other so-called "semi-modals" like *need to* or *dare to*, however, are not included.

(2) Core modals in English

will	would
can	could
may	might
shall	should
must	
ought (to)	

These modals appear before verbs in their bare form. Before analyzing them syntactically, it is worth looking at the semantic variation and complexity in modal verbs, as this will affect the syntactic analysis and guide any theory of how modal verbs fit into construction grammar.

2.1 The semantics of modal verbs: epistemic and deontic

Modal verbs can express many attitudes about "a relation of the event to reality, whereas a clause without a modal is concerned with the event as reality" (Bouma 1973: 43). Consider the following examples:

(3) You play the piano.

(4) You would play the piano [if you had time].

In (3), the speaker is considering reality as it exists. In the actual world, the agent (*you*) either knows how to or is in the process of playing the piano. Example (4) takes the proposition of playing the piano and relates it to a potential reality that does not exist. In

an alternate world where the agent had time to learn, the reality would be "You play the piano".

There are two uses of modal verbs, however, in which they act upon the sentence in different ways. While the sentences above express the subject's relation to playing the piano, modal verbs can also be used to express the *speaker's* attitude about his or her own certainty about the truth value of the entire proposition, subject included. The sentence in (4) is an example of a deontic or root use of a modal verb, as it expresses the desire of the subject to play the piano, were circumstances different. Other relations expressed through root modals include ability, volition, permission, suggestion, or obligation.

Example (5) is an example of the speaker expressing his own certainty about the accuracy of the statement as a whole.

(5) He might win the MVP this year.

This sentence does not reflect the subject's attitude towards winning the MVP, but rather the speaker's confidence that he will do so. This is an example of an epistemic modal. Sentences (6) and (7) are examples of epistemic modals, whereas (8) and (9) are deontic.

(6) He may go to the game tomorrow.
'It is possible that he will go to the game tomorrow.'

(7) He must be halfway to Detroit by now.
'It is almost certain that he is halfway to Detroit by now.'

(8) You may be excused from the table.
'I give you permission to leave the table.'

(9) You must go to the store before you eat your supper.
'You are required to go to the store before eating.'

Semantic glosses are required because, as these examples demonstrate, certain modals can act as both epistemic or deontic depending on the context and the reading. In (6), *may* does not modify the proposition, *go to the game*, in relation to the subject. It simply modifies the truth condition for the entire phrase. In (8), on the other hand, *may* does not

simply modify the certainty of the sentence. It relates the subject to the predicate through an external force, namely, the permission of another.

Similarly, (7) gives the speaker's opinion of the validity of the entire statement that the subject is halfway to Detroit. In (9), the subject and predicate are linked, again, via outside permission.

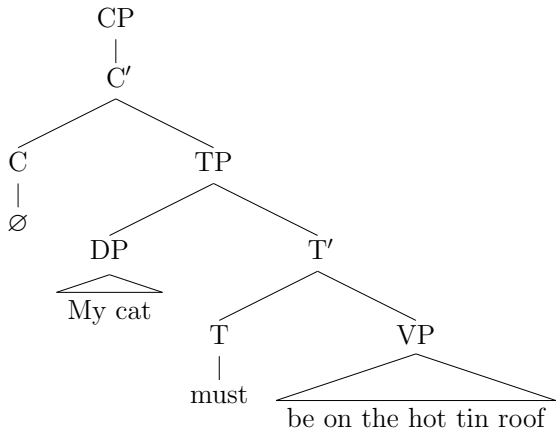
This division of modals into separate semantic categories is important both in the analysis of single modal constructions (SMCs) and especially in double modal constructions (DMCs). Analyses of SMCs in generative grammar often use two different syntactic structures (subject raising structures and control structures) depending on whether the modal is epistemic or deontic, respectively (Barbiers 2002: 2). This reliance on meaning as being determinant of syntactic structure makes the English modal system a prime candidate for treatment as a form-function pairing.

2.2 Modal verbs in generative grammar

2.2.1 Single modal constructions

Modal verbs have been subject to wide variety of analyses. Generative grammar can handle SMCs fairly straightforwardly; they are simply the tense-bearing element of the sentence and reside at the T node, as in (10).

(10) Tree structure of an SMC in generative grammar



Regardless of the structure that best accounts for the semantic properties of modal verbs, the location of the modal verb in the spoken phrase is clear and well-defined. Modal verbs in SMCs always precede negation, furthering the case for the modal to reside at T.

(11) My cat must not be on the hot tin roof.
(12) * My cat not must be on the hot tin roof.
(13) My dog could not eat as much as your cat.
(14) * My dog not could eat as much as your cat.

At first blush, an SMC is precisely the type of syntactic construction that fits squarely into the core of the theory. Syntactic considerations, however, seem to be informed by the semantic properties of the modal itself. Epistemic modals, for instance, do not undergo subject-auxiliary inversion (SAI), whereas root modals do. Modifying an example from Elsman and Dubinsky (2009), consider the following quartet of sentences:

(15) It may be difficult to live in the Sahara.
'It is possible that it is difficult to live in the Sahara.'
(16) * May it be difficult to live in the Sahara?
'Is it possible that it's difficult to live in the Sahara?'
(17) I may go out with my friends tonight.
'I have obtained permission to go out with my friends tonight.'
(18) May I go out with my friends tonight?
'Will you grant me permission to go out with my friends tonight?'

As shown by the ungrammaticality of (16), epistemic modals are ungrammatical when undergoing SAI, whereas deontic modals can undergo SAI. Elsman and Dubinsky (2009) use the Minimalist Program syntactic framework to analogize the behavior of the epistemic modals *may, might*, and *must* to sentential negation, which is posited to move to c-command the entire sentence at logical form (LF), but which causes the sentence to lose grammaticality if it dominates the entire sentence at SPELLOUT (see Chomsky (1995, 2001) and Butler (2003)).

2.2.2 Double modal constructions

Analysis of DMCs poses difficulties for a generative grammar analysis. First and foremost is the question of what nodes the two modals occupy. Furthermore, the use of more than one modal provides a dilemma in that only one lexical item in a clause should bear tense.

The simplest solution, considering that DMCs are a dialectal phenomenon, would be to simply adjust the phrase structure rules for the dialect to allow for two modals. Di Paolo (1989) suggests and immediately discards such a suggestion; simply allowing two modals of whatever type in whatever order would overgenerate. Speakers whose dialects allow for double modals do not allow for every double modal combination. Only certain modals, in certain orders, can appear (Di Paolo 1989: 195–196).

The second option, which Di Paolo (1989) supports, is to analyze the entire double modal a single lexical item. This would obviate the need to determine which modal bears tense, and would also eliminate the need to find a node in the syntactic structure for each modal. But again, this analysis has problems. Negation and SAI both split the two words, as can be seen in the examples below from Elsman and Dubinsky (2009). This should not happen if the double modal is truly interpreted as a single lexical item.

(19) **Could** you **might** go?

(20) He **might** not **could** go.

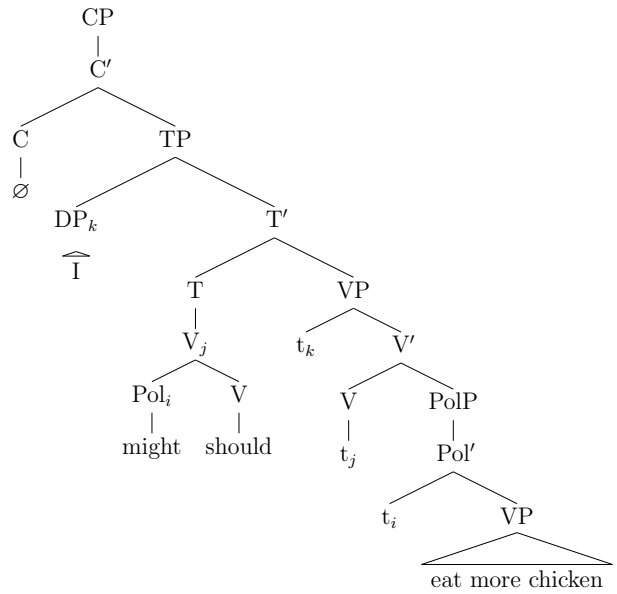


Figure 1: Structure of a DMC as proposed by Elsman and Dubinsky (2009)

Acknowledging that the two modals are indeed distinct lexical items results in the need to determine which bears tense and where they both reside. DMCs have a very strong preference for taking one epistemic modal (almost always *may* or *might*) followed by a deontic modal. *Might could*, the most commonly occurring double modal, for instance, combines the epistemic *might* and the deontic *could*.

In creating an generative grammar account for both single and double modal constructions and their movement in negative and SAI contexts, Elsman and Dubinsky (2009) views the canonical DMC as being a pairing of an epistemic modal and a deontic modal. It relies on the similarity of epistemic modals to negative polarity items, and thus define epistemic modals as such; it sees the epistemic modal as the head of a polarity phrase (PolP). This PolP is a complement to the deontic modal, and the Pol has the main verb as its complement. The epistemic modal then left-adjoins the deontic modal. This allows either the deontic modal only or the entire complex headed V to take tense or aspect (and undergo further movement for SAI or negation).

This treatment allows for the variation that can be seen in sentences like the ones below:

(21) I mighta coulda eaten more chicken.

(22) I might could've eaten more chicken.

(23) * I might've could eaten more chicken.

The analysis correctly predicts the variations that are allowed with its complex-headed V. Though it has many strengths, there are still issues that the authors raise. For one, it cannot account for the full variation of DMCs with one analysis and structure. To account for phrases where an adverb divides the two modals, as in (24). For these instances, the authors create another pattern that reverses the ordering of the POLP and deontic modal VP in the tree structure, to allow the adverb to left-adjoin to the deontic modal. Their claim is that this is justified because this structure patterns after SMC-style modals in Standard American English.

(24) I might possibly could play basketball tomorrow.

Additionally, the movement of the POL item to adjoin to *should* is unmotivated by the need to check features, and thus violates the generative grammar principle of LAST RESORT (Elsman and Dubinsky 2009: 105; Chomsky 1995).

Despite these shortcomings, the analysis accounts for a good deal of speaker intuition. Importantly, it is not content to overspecify by simply allowing any modal to go anywhere, nor does it underspecify to preserve simplicity. It provides a structure to deal with DMCs from a generative perspective without denying the variability inherent in its usage.

2.3 Modal verbs in construction grammar

The analysis of modal verbs within construction grammar begins with Sweetser (1990), which looks at English modal verbs as textbook examples of polysemy. Because English modals used to have non-modal meanings, and because deontic modal meanings developed first in Antiguan Creole and develop first in child language acquisition, Sweetser posits that modals developed the deontic meanings first, and that these meanings were extended from

the physical world to the interior world of reasoning (Sweetser 1990: 50). Through metaphorical links between permissiveness and possibility, modals take on a polysemous network of meaning from a single form (59):

> Given that the epistemic world is understood in terms of the sociophysical world, we can see why general sociophysical potentiality, and specifically social permission, should be analogous to possibility in the world of meaning.

With modal verbs as networks of polysemous links, the focus can turn to which of these links gets selected in a given context.

Wärnsby (2002) looks at epistemic *may* and *must* and attempts to determine whether they differ from deontic modals in their contexts, notably in the type of subject and verb they take and in how the verb they take is inflected (4). Her goal is to attempt to create a modal construction (in the Construction Grammar sense) for SMCs that accounts for these epistemic modals in all their forms.

Wärnsby finds that epistemic *may* and *must* do indeed differ substantially from their root counterparts in terms of what kinds of verbs and subjects they take. There are indeed clear preferences for either epistemic or deontic uses of the modal depending on its environment. Much of this is predicated on the nature of epistemic versus deontic meaning. Whereas epistemic meanings of *must*, for instance, can have a perfective reading, the deontic reading, being a command, must have a present or future reading.

The analyses in this section reveal much about the nature and structure of modals. The generative grammar analysis of SMCs shows that despite fitting into the theory at a very basic level, the structure of sentences containing modals should be analyzed differently depending on the semantic nature of the modal; if it is epistemic, use subject raising, and if it is deontic, use a control structure (Barbiers 2002: 2). Wärnsby's analysis of *must* and *may* show strong preference for either their epistemic or deontic readings depending on

their contexts. And the generative grammar approach to double modals was dependent on double modals being an epistemic-deontic pair of modals.

3 Fitting DMCs into construction grammar

Based on the observations about double modals in both generative and functional grammar, syntactic structure is dictated by the semantic content of the modals (epistemic or deontic) and syntactic context is highly determinative of the modal's semantic type. DMCs seem to be largely restricted to semantically constrained pairs of modals in an epistemic-deontic configuration. Add to this the unexpected syntactic structure and the non-compositionality of meaning and DMCs seem ripe for a construction grammar analysis as a form-function pairing.

The starting point for DMCs in a construction grammar analysis is to consider the DOUBLE MODAL CONSTRUCTION[2] as canonically an epistemic-deontic pair.

In order to determine why the epistemic modals are limited almost exclusively to *may* and *might*, looking at frequency of SMC uses of modals by their semantic functions is informative. Sweetser (1990) discusses nearly all the modals in their root forms, but does not mention *might* until the section of her work on epistemic readings of modals. This is due to the fact that *might* appears unique among modals in that it is strictly epistemic in modern usage.

Changes in the usage and context of modal verbs over time can be "understood as changes in a construction network of connections" (Cappelle and Depraetere 2016: 4). If *might* ever had a deontic modal meaning, the construction network has changed such that this meaning is no longer a part of the network. That this modal does not have a deontic reading means that there is no polysemy to interpret, and thus its use in the epistemic-only

part of the DMC would be easiest to interpret and would involve no ambiguity or misreading.

When *may* is considered, the issue of polysemy is in play, as *may* still retains a deontic meaning. However, as Boogaart (2009) notes in comparison with dutch *mogen*, which is still used almost exclusively deontically, "the English form is used both deontically and (even predominantly) epistemically these days" (222). *May* is being grammaticalized further and further toward an epistemic reading, while *can* takes over some of the semantic workload of deontic *may*.[3] This makes *may* a good candidate for the epistemic position of DMCs. Although it does have a deontic meaning, its epistemic reading is fast becoming primary.

The deontic modal in the DOUBLE MODAL CONSTRUCTION may be semantically constrained by Hermerén's scales of modality, reproduced in Figure 2 (Hermerén 1978: 98). The epistemic modals lie on the "Neutral Modalities" scale, while the deontic modals lie on the "Internal Modalities" and "External Modalities". The epistemic modals would seem to have a greater effect when modifying the items higher up on the scales, but introducing uncertainty with an epistemic modal on a deontic modal with too high a level of certainty might cause a semantic clash.

In terms of the larger conversational context in which DMCs occur, because it is a dialectal and a colloquial structure, it will occur in casual conversation among people who know each other. Written DMCs are scarce, but data is needed to define the DOUBLE MODAL CONSTRUCTION more precisely.

4 Methodology

In order to determine what registers of speech, collocational tendencies, and patterns are attendant in double modals, it was necessary to find occurrences of double modal constructions within corpus data. Due to their dialectal nature, and their use in more

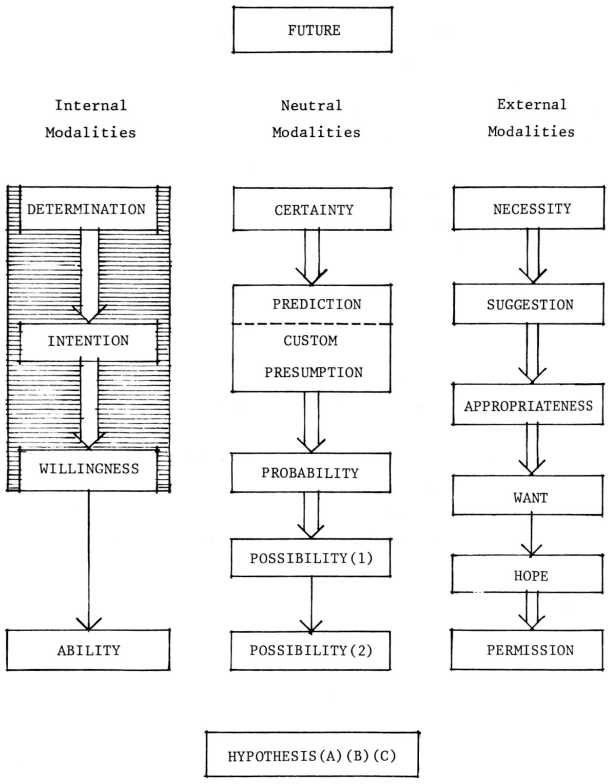


Figure 2: Scales of modality from Hermerén (1978)

colloquial speech registers, finding occurrences of double modals in written form is not a simple matter. Many corpora that are useful for more generally occurring phenomena turned up paltry or no results at all. The Brown corpus, Google n-gram, the British National Corpus (in the hopes of finding examples of DMCs in Scottish English) all either turned up no instances, or only instances in academic work that were discussing DMCs.

The Corpus of Contemporary American English (COCA) provided a corpus better-suited for locating occurrences of double modals. It is a large corpus, containing over 500 million words and, more importantly for determining registers of use, it contains equal amounts of text from five different categories: spoken, fiction, magazines, news, and academic papers. It has the added advantage of allowing wildcard searches by part of speech.

This made searching for double modals trivial. For declarative double modals, it was simply necessary to look for two adjacent occurrences of modal verbs, and for negative

occurrences, to search for a negative particle between two modals or after two consecutive modals. Once this was complete, the contexts were analyzed to ensure that the terms deemed modals were indeed modals. There were false positives due, for example, to the noun 'might' being parsed as a modal.

In addition to this corpus, two other, smaller corpora were consulted. The Switchboard corpus consists of telephone conversations between participants gathered in 1990–1991. The Fisher English corpus is a similar project that was undertaken in 2003. Being corpora of spoken texts, they are more likely to produce occurrences of double modals because DMCs "are almost exclusively oral" (Hasty 2011: 93). Secondly, they contain demographic information about the speakers, which can help verify the limited geographic range of dialects in which double modals are spoken. Thirdly, they contain audio, and thus allow a further check to ensure that what has been transcribed as a double modal has been transcribed correctly.

5 Data

The gathered data from all three corpora resulted in a total of 159 tokens of double modal use, omitting the so-called 'peripheral' double modals like *better, need*, and *dare*. COCA accounted for 112 of these, Switchboard for 13 and Fisher English for 34.

5.1 COCA

DMCs were not evenly distributed across the types of text that COCA contains. Table 1 shows that DMCs are far more likely to be found in fiction and spoken transcripts than in news, academic papers and magazines. This tracks well with double modals being restricted to less formal types of communication.[4]

Type	# of DMCs
Fiction	70
Spoken	35
News	4
Academic	3
Magazines	0

Table 1: COCA DMCs by text type

DMC	Count
might could	60
might ought to	9
might can	7
shouldn't ought to	7
might should	3
may could	3
may will	3
would might	3

Table 2: COCA DMCs by frequency

The number of each pair of modals is also far from evenly distributed. *Might could* dominates. There are only sparse examples of the other forms, but the contested *ought to* modal is relatively frequent compared to the others, pairing with should (in negative contexts) and might (usually in positive contexts). Table 2 shows all constructions with at least three occurrences.

Might could represents nearly half of all double modals in the corpus. Nearly all DMCs start with *may* or *might*, as expected. *Would might* and *shouldn't ought to* will be discussed in more detail in Section 6.

Some examples of each of the double modals with three or more occurrences can be found in the examples below:

(25) And I felt like I might could help contribute to that.

(26) But it has been suggested today that Rudy Giuliani might ought to send him a campaign contribution.

(27) We might can make up for some of those wrongs we made along the way.

(28) You shouldn't ought to have touched me.

(29) If your preacher has more cars than Donald Trump, you might should shop around for a new church.

(30) We've heard a little from military officials suggesting that some of the Iraqi civilians may could have been – or, possibly could have been involved in this attack.

(31) Well, I think what we're seeing may will be the last chapter in the terrible story created by Slobodan Milosevic.

(32) They would might decide to go for a Romney...

5.2 Switchboard and Fisher English

In order to glean a bit more information about DMCs, their transcription, and the people who use them, the Switchboard and Fisher English corpora were used as a small, qualitative data set. Though the quantitative analysis in the analysis below is confined to COCA, the Switchboard and Fisher corpora provided some demographic information; nearly all speakers who used DMCs were from the South, South Midland, or Midland regions of the United States. It also allowed a small set of data where the transcription could be checked against original audio. This was important for the analysis of *might would* in Section 6.2.

6 Analysis

Looking at double modals as a construction, their overall function is to hedge or qualify one's confidence in the statement. Whereas SMCs have a plethora of uses, DMCs combine modals for the purpose of undercutting the truth value of the second modal.

6.1 Might could

Because *might could* is the most frequently used DMC and because it seems to be the most "core" of all the DMCs based on both frequency and grammaticality judgments of users and non-users of DMCs alike, analysis will focus on *might could* to formulate the DOUBLE MODAL CONSTRUCTION. Other items in the corpus will be analyzed to see if they can be accounted for by the model set up by *might could*.

The reason *might could* is so prevalent may be that it fills two meaningful criteria very well. The first is that it uses epistemic *might*, which has no deontic reading and is best suited for a structure that requires an epistemic modal. The second is that, looking to the Hermerén chart of modal scales in Figure 2, *could* is the least volitional non-epistemic

modal, falling at the bottom of Hermerén's internal modality scale (ability) (Hermerén 1978: 102). Thus in cases where an epistemic-deontic restriction is placed on the collocation of modals in DMCs, *might could* fills a need for those for whom *could* on its own is too committal or demanding (depending on the subject). Over 75% of the occurrences of *might could* take personal pronouns as subjects, so the situations in which DMCs appear are often situations in which politeness is important.

(33) You might could stay here tonight.
(34) You might could make it.
(35) She might could have a live interview.
(36) We might could start being famous.

In the examples above from the COCA corpus, the sentences are invitations (33) or hopes (34–36). There is a pragmatic need for *might could* in situations where humility and politeness are important.

Pairings of epistemic *may* or *might* with other deontic modals (*ought to, can* and *should*) occur, but less frequently, as the resultant meaning may be covered adequately by a different modal. An avenue for further study, for instance, would be to determine whether the environments of *might should* and *could* in interlocutor suggestions are similar. If so, this would explain the relative scarcity of *might should*: instead of adding an epistemic modal like *may* or *might* to lower the certainty level of *should*, one could instead choose to drop from a modal that encodes external suggestion (*should*) to one that encodes simply ability (*could*).

The verbs that *might could* takes are of all types, but the most common main verb is *be*, with 18 occurrences over 60 tokens (30%). The existence of so many copular verbs brings up a possibility for an reanalysis and expansion of the work that *might could* can do. Instead of simply expressing uncertainty about the ability (deontic could), it seems that in some cases *could* is being used in its epistemic form.

(37) "You think he's still here?"

"Might could be."

The above example from the corpus does not really refer to the theme's ability to still be here, but rather the sentence "[He] might could be" is nothing more than a truth statement. If *could* has really been reanalyzed as epistemic, what licenses this? The answer may be emphasis. *Might* and *could*, both in their epistemic forms, each reinforce the other's tentative truth value. This "double-epistemic" modal is a way to lower the bottom rung on Hermerén's neutral modality scale as well. More study is necessary to figure out if this is a relatively new development and, if so, when it came to be.

Having covered the core Double Modal Construction model, and having analyzed an expansion to it, the other modals in Table 2 will be briefly analyzed to see if they comport with the Double Modal Construction.

Might ought to, might can, might should, and *may could* all represent instances of the two most commonly epistemic modals pairing with a deontic modal on either the internal or external modalities scale. This leaves *shouldn't ought to, may will,* and *would might*.

6.2 Would might

Posing a significant problem to the fundamental epistemic + deontic structure of the construction is the occurrence of three instances of *would might*. Looking at the transcripts, there are no indications of pauses, and aside from having the order of modals reversed, the contexts in which these modals appear seem comparable. They are all from the spoken category of texts. They all take pronouns as subjects, though they are not first or second person.

(38) They would might decide to go for a Romney...
(39) It would might convince some of the Republican...ranks...
(40) They would might deliberately wait...

If these transcriptions are accurate, they would require a significant shift in the theory. However, here the supplemental corpora are revealing. Those corpora contain 12 occurrences of *would might*. But when listening to the audio that accompanies them, in each case there is either a mistranscription or it is perceptible that the speaker used the more certain *would* before switching mid-modal to a less certain *might*. This does call into question the accuracy of the rest of the data, and it also does not prove with certainty that the transcriptions in the COCA corpus are not actual instances, but until more data is gathered, this is the best explanation available.

6.3 Shouldn't ought to

This construction is particularly interesting because there is another, analogous form that does not require a DMC, namely *ought not*. The user of double modals who gave grammaticality judgments judges *ought not* constructions to be fine and *shouldn't ought to* to be ungrammatical. However, if *ought to* has become so lexicalized as to be viewed as a single unit (sometimes pronounced and spelled *oughta*), the negation would break up the word. In an effort to avoid this, speakers may use a separate modal with an equivalent meaning to precede the negation, resulting in *shouldn't ought to* or *shouldn't oughta* (both fall under "appropriateness", though Hermerén does not deal with *ought to*, as he deems it a peripheral modal).

6.4 May will

May will is interesting DMC because *will* has a high certainty level, and is often just a future marker rather than the modal of determination for which it can be used when emphasized.

The three examples of *may will* are below.

(41) And if they were able to defeat me and reauthorize it that may will occur.

(42) Santorum may will win Michigan.

(43) What we're seeing may will be the last chapter in the terrible story created by Slobodan Milosevic.

These examples appear to be mistranscriptions of the construction *may well*. As there is no audio for these examples, and because *may well* works better in each instance, I will not analyze this potential DMC further here.

7 Conclusion

DMCs show all the hallmarks of construction grammar constructions. They are semantically restricted, syntactically unpredictable and semantically non-compositional. A close look at the existing literature shows the importance of the epistemic-deontic distinction, both in generative grammar and construction grammar accounts. Using Hermerén's scales of modality and Sweetser's analysis of modal verb polysemy, the function and the forms that double modals take becomes more obvious. The drastic change in frequencies between the "core" DMC of *might could* and the rest of the modals can be explained through the filling of a semantic lacuna at the bottom of the internal modality scale of volition. Further analysis revealed interesting reanalysis of *might could* as a double-epistemic modal to lower the lower bound of the neutral modal scale.

There is much more to explore on this topic, such as the construction *could might*, which seems to be a further expansion of the double-epistemic *might could*. A closer examination of how *ought to* interacts with other modals is an area ready for exploration. Looking at negation is also a subject worthy of analysis.

Notes

1. Modal verbs have conventionally occupied a phrasal head position in generative grammar since the 1960s (Nagle 2003: 355).

2. I will use small caps to differentiate the construction grammar Double Modal Construction from the general concept of a double modal construction, which I will continue to write as dmc.

3. Comparing "May I go?" and "Can I go?", the former is the correct prescriptive form, but a Google Ngram Viewer comparison shows that frequency of "Can I go?" equalled that of "May I go?" in 1960 and now occurs nearly four times as frequently.

4. All of the occurrences in fiction occurred either in direct quotations of character dialogue or as part of a first-person narrative. Many of the books and literary journals in which the dmcs were found referenced the Southern United States or rural culture in their titles (Southern Review, Ploughshares, Frontiers, Guns South, etc.), tying dmc usage to its dialectal geography.

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