

The development of *can/could* from pre-modals to modals: a corpus-based study for the period from 1350 to 1570

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Yi, Eun-Kyung. 2004. The development of *can/could* from pre-modals to modals: a corpus-based study for the period from 1350 to 1570. *SNU Working Papers in English Language and Linguistics* 3, #-#. This paper reviews and builds upon previous studies on when *can/could* became modals. Using only a few examples from period literature and Oxford English Dictionary (OED), the majority claim that most pre-modals became modals before 16th century while the same occurred much later for *can/could*. This paper re-examines this subject using the Helsinki Corpus from the second half of Middle English to the first century of Early Modern English. Quantitative analyses produced some remarkable results which could correct overgeneralization committed by previous studies. Additionally this paper epitomizes the pre-modal uses of *can/could* in Middle English and provides examples from the Helsinki Corpus. (Seoul National University)

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1. Introduction

In present-day English modals (or modal auxiliaries) form a grammatical group that is separate from verbs. They are similar to verbs in that both belong to a verbal group of phrases, but disparate in that they behave differently in terms of syntax and morphology. Syntactically, modals need a plain infinitive complement. Two modals cannot appear together in the same verbal phrase because they do not have non-finite forms. Modals are also involved in many critical syntactic phenomena such as sentence negation, subject-verb inversion and post-verbal ellipsis. Morphologically modals have distinctive forms only between present and past tense forms and the latter shows the irregular formation. They do not vary according to agreement of person or number, even in the third person singular present. Finally among modals, *can*, *may*, *will*, *shall* and *must* are referred to as *central*, while *ought*, *used*, *be*, *have*, *need*, *dare*, *do*,

and *let* are *peripheral*.¹

There is much literature concerning the historical changes of English modals. Modals before the establishment of present-day uses are often distinguished by the term, *pre-modals*. (This will be explained in detail in section 2.) In Old English (OE) and Middle English (ME), pre-modals show grammatical patterns similar to those of Modern English (MnE). However, there are many critical differences. For example, they can take a direct object as a complement (1a), permit double modals in a verbal phrase (1b), and stand as *to*-infinitive (1c) in syntax.

- (1) a. I **can** wel frenshe latyn englissh and duche.
 b. Er ye **shal conne** excuse you of the deth.
 (from *The History of Reynard the Fox* (translated from the Dutch original), Caxton)
 c. ...euery Cristen man is bondon **to conne**, and to preye to God...
 (from *Middle English Sermons*, edited by W.O Ross)²

Morphologically, pre-modals have inflectional forms of cases according to person and number apart from the distinction between present and past tense forms. <Table 1> below is Old English data from Denison (1993).

<Table 1> The inflection of *can* and *will*

<i>Person Number Tense</i>	<i>can</i>	<i>will</i>
1 SG PRES	ic cann	wille
2 SG PRES	þ canst	wilt
3 SG PRES	he cann	wil(l)e
1/2/3 PL PRES	we cunnon	willað
2 SG PA	þ cuþ it	woldest
3 SG PA	he cuð	wolde

Source: Denison(1993)

These characteristics show that pre-modals shared many aspects of verbs in OE and ME, which are different from present-day grammar. They might have undergone significant changes at some time in the past.

1 This explanation is based on Denison (1993), pp. 292-294.

2 This texts in (1) are included in the Helsinki Corpus, Middle English 4 file (HCM4).

There might have been some linguistic or extralinguistic factors that brought about the changes. And the changes could have had critical influences on English syntax beyond the boundary of modals. Some modals today may still be under the process of the same grammatical changes. *Dare* and *need* can function not only as verbs but as modals. (2a) and (3a) show verbal behavior while (2b) and (3b) are just like modals.

- (2) a. I **need** some one to look after my kids.
 b. I **need** not do it at once. / **Need** I stay here?
- (3) a. Emily **dares** to oppose him.
 b. She **dare** not go upstairs. / **Dare** she tell him that?

2. Previous studies

There seems to be a general agreement among previous studies that modals underwent this drastic shift sometime between 15th and 16th century.³ The year 1500 is approximated as the boundary, which also divides Early Modern English (EModE) from ME. And scholars often distinguish two chronological phases of modals by distinct terms. Present-day modals are simply called *modals* or *modal auxiliaries* and modals prior to 1500 are named *pre-modals*, *preterite-present verbs* or just *modals* etc. (In this paper I call the former *modals* and the latter *pre-modals* and name the uses found only in pre-modals as *pre-modal uses*.) However, some argue that this change was completed at different periods for different modals. *Can/could* is often cited as the most idiosyncratic instance of this variation.

<Table 2> Dates of losing grammatical patterns of *can* & *may*

Verb	Direct object	Past participle	Double modals	-ing	Infinitive
<i>Can</i>	1710	1587	1847	1587	1633
<i>May</i>	1470	1528	1532	1556	1565

Source: Bauer (1994)

Bauer (1994) sketches this viewpoint with the date of the last

³ Bauer (1994), Denison (1993), Lee (1999), Lightfoot (1979), Visser (1970).

appearance of each pre-modal use citing Allen (1987) in <Table 2> above. This shows that the rate of change for *can* and *may* was very different, and that although the change of *may* to a modal was completed in the 16th century, the change of *can* to a modal was not completed until the 19th century.⁴ Lee (1999) asserts that the phenomenon of modals' taking a direct object as in (1a) disappears in ME except for *can*, citing Lightfoot (1979).⁵ Lightfoot (1979) provides some examples from OED, which is again quoted in (4).

- (4) a. shall: the leeste ferthyng þæt y men **shal** (c1425)
 b. can: Yet **can** I Musick too... (c1649)
 c. may: For all the power thai **mocht** (c1470)

The relatively slow transition of *can* seems supported by some of the evidences above. However, it is necessary to examine if a few instances can be legitimately generalized to support the assertion. They may be exceptional or rare examples from a few writers. But a language is not the possession of a few people, rather, it is often used by innumerable speakers. So its shift in uses must be measured by statistics. In this respect the plausibility of previous literature can be re-examined with substantial quantitative evidence derived from corpus-based analyses.

This paper will try to prove the previous works' assertion that *can/could* completed the change exceptionally late, given that most of the other modals completed their changes around 1500. Statistical data will be based upon quantitative analyses of the Helsinki Corpus. The data was mined by the Wordsmith program. For this purpose the proper periods are before and after the threshold of EModE. <Table 3> shows the periodical information of the Helsinki Corpus chosen in the analyses.

4 Quoted from Bauer (1994) p. 24

5 from Lee (1999) p. 481

<Table 3> The diachronic information of Helsinki Corpus
: Size and divisions⁶

Subperiod	Dates	Words
ME 3	1350-1420	184,230
ME 4	1420-1500	213,850
EModE 1	1500-1570	190,160
Total	-	588,240

3. Statistical results

Copious amount of *can/could* were found in the Helsinki corpus for each of the periods in question. The tokens and frequencies by period are summarized in <Table 4> below.

<Table 4> Frequency of *can/could* by period (tokens in parentheses)

	ME 3	ME 4	EModE 1
<i>Can</i>	4.9 (90)	8.2 (175)	10.0 (190)
<i>Could</i>	2.3 (42)	2.4 (52)	6.0 (115)
Total	7.2 (132)	10.6 (227)	16.0 (305)

(* frequency: out of 10,000 words)

<Table 4> presents a couple of remarkable insights of *can/could* uses. First of all it can be seen that the total frequency goes upwards period by period. It is more than doubled in EModE1 in comparison with ME3. *Can* and *could* taken separately show different patterns. *Can* increases most in ME4 whereas *could* shows a steep rise in EModE1. It is also noticeable that *could* stays even in ME3 and ME4 while *can* steadily goes upwards. The drastic increase of *could* in EModE1 may have a relationship with the establishment of the modal category. *Could* rarely appeared in ME in comparison with *can*. This might be partly because speakers of that time felt this word less useful than *can* or because they were uncertain about the grammatical use of *could*, which caused them reluctant to use it. If the latter could be a part of the reason, then the establishment of modal uses around 1500 might have made speakers feel free to use *could* and consequently boosted the frequency.

6 from Kytö's General Introduction (to the Helsinki Corpus)

Now let us turn to pre-modal uses of *can/could*. The disappearance of these uses means the completion of change from pre-modals to modals. The percentages of pre-modal uses by period are in <Table 5>.

<Table 5> Percentage of pre-modal uses out of total *can/could* by period (tokens in parentheses)

	ME 3	ME 4	EModE 1
<i>Can</i>	15.6% (14)	10.3% (18)	0.0% (0)
<i>Could</i>	14.3% (6)	7.7% (4)	0.9% (1)
Total	15.2% (20)	9.7% (22)	0.3% (1)

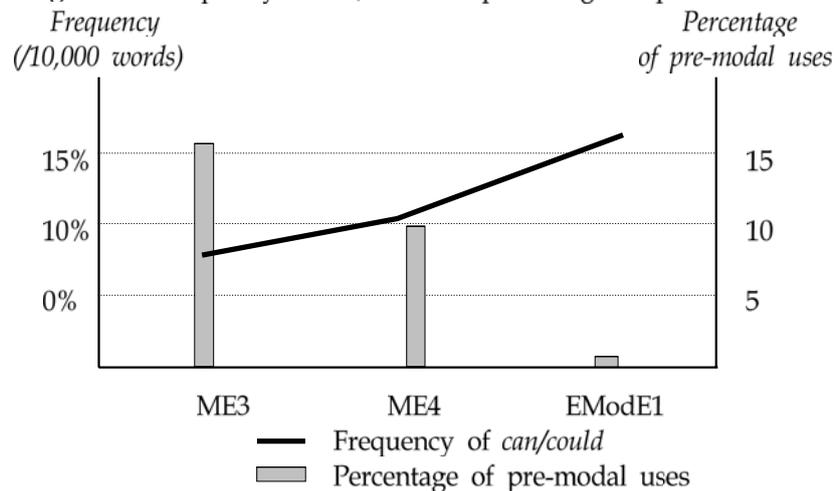
Surprisingly EModE1 has only one instance of pre-modal uses. This is an obvious counterevidence to the assertion of previous studies. In previous studies, most pre-modals are said to have lost their pre-modal uses before 16th century except for *can* whose pre-modal uses survived for much longer. It is true that there are some examples of pre-modal uses after ME in OED and other literature. However, what is important here is that most writers in EModE1 stop using *can/could* as pre-modals. Examples that support the previous opinions are degraded to exceptions. Therefore we can make corrections like (5).

- (5) Most English modals had fully acquired their current syntactic properties by the 16th century including *can/could*.

Another tendency is that the percentage of pre-modal uses decreases throughout ME3 and ME4. It does not suddenly become zero. In ME4 the percentage drops to almost half the previous period. And both *can* and *could* show a similar rate of decrease. The specific examples of pre-modal uses will appear in section 4.

Here it is doubtful whether there are some connection between the frequency of *can/could* and the extinction of pre-modal uses. <Figure 1> shows this clearly.

<Figure 1> Frequency of *can/could* vs. percentage of pre-modal uses



The frequency of *can/could* and the percentage of pre-modal uses are inversely related in <Figure 1>. As noted above, the frequency shows a steady increase by period; on the other hand, the percentage of pre-modal uses critically decreases almost to extinction. Several scenarios are possible, the following being one: the decrease of pre-modal uses consequently means that the historical changes in grammar for *can/could* are nearly complete, and that their state of grammatical instability is resolved. Some previous studies assume that this emergence of modals is closely related to the rise of periphrastic *do*. Periphrastic uses of *do* were not firmly established either in OE or ME. Their rise to prominence occurred in EModE1.⁷ This shows that modals and periphrastic *do* followed similar chronological trajectories. Modals and periphrastic *do* form a distinctive syntactic category, *auxiliaries* in present-day English. Auxiliaries occupy one of critical syntactic positions particularly in negation, subject-verb inversion, etc. as noted in section 1. It means that modals became essential in English syntax. This fact may have boosted the use of modals including *can/could*.

7 From Lee (1999) p.538~

4. Syntactic patterns of pre-modals

4.1 Pre-modal uses of *can/could*

This section provides actual examples of pre-modal uses found in the Helsinki Corpus. This will help in understanding how pre-modals are different from present-day English modals particularly in syntax. <Table 6> summarizes the tokens by type and by period.

<Table 6> Tokens of each phenomenon by period

Types of pre-modal uses	ME3	ME4	EModE1
<i>Can/could</i> + a direct object	9	8	1
<i>Can/could</i> + <i>of</i> -phrase	3	1	-
To <i>can/could</i>	3	3	-
Coordination w/ full verbs	1	1	-
Double modals	2	5	-
Others	2	6	-
Total	20	22	1

(※ *Could* never occurs with *to*-infinitive or as double modals.)

Pre-modal uses include some different phenomena. Among these are: taking a direct object (4.1.1) or *of*-phrase (4.1.2) as a complement, combining with *to*-infinitive (4.1.3), being coordinated with full verbs (4.1.4) and appearing as double modals (4.1.5).

4.1.1 *Can/could* + a direct object

This use seems to be the most critical evidence that *can/could* used to be a full verb. Lightfoot(1979) proposed that the extinction of this use is the first sign of the transition from pre-modals to modals. According to OED, this use of *can* is defined as a transitive independent verb. In this case *can/could* means *to know* or *to be acquainted with (a person)*, *to have practical knowledge of (a language, art, etc.)*.

Examples from the Helsinki Corpus are listed below. In these examples *can/could* takes a noun, or a noun phrase as a complement (or as a direct object). Taking a direct object is a unique property for verbs in present-day English, distinguishing modals from verbs. Modals in present-day English must have a non-finite verb as a complement in

a full sentence. It is obvious that *can/could* was a verb meaning 'be able to do something' which is similar to the meaning of the present-day modal, *can/could*. Though pre-modal *can* and modal *can* belong to different syntactic categories, they stay unchanged in meaning.

(From ME3)

- Hou **can** this man lettris, sithen he hath not lerned?
- In alle the ordres foure is noon that **kan** So muchel of daliaunce and fair langage.
- A wys wyf, if that she **kan** hir good,
- but he shal gladly techen the science that he **kan** withouten presumpcion or pride
- thei that **kunne** wel the sentence of holi writ and English togidere
- And in him sei þ u **kanst** no skile.
- thei **kouden** the langage of English
- She **koude** muchel of wandrynge by the weye.
- All we **cund** þ mikel graim

(From ME4)

- Y **can** no more attis tyme,
- ne thei **can** no skill of itt
- but I **can** not one lettre
- I **can** wel frenshe latyn englissh and duche.
- I **kan** no curtesy
- he xal evyr more ly stulle Ffor deth **kan** no sporte
- For suche weneþ þ . **kunne** it and vnderstonde it we
- y **cowde** no skylle

(From EModE1)

- he was an honest man & one that **could** his good

4.1.2 Can/could + of phrase

These instances show that *can/could* combined with an *of*-phrase as a complement. This is another powerful evidence that *can/could* was a full verb in that only verbs can take a prepositional complement in present-day English. OED defines this *can/could* as an intransitive independent verb. This *can/could* means *to have knowledge, to know of, to know much or little of*. In this case, it is also not changed in meaning, but critically different in syntax. *Can/could of* seems to be a kind of phrasal

verbs meaning almost same as *can/could* of section 4.1.1 above. Examples from Helsinki Corpus texts are provided below.

(From ME3)

- For she **koude of** that art the olde daunce
- And he, that **couth of** guile ynouh
- Bot he which **couth of** alle sorwe

(From ME4)

- Now assay will I How I **can of** wryghtry
- For she **koude of** that art the olde daunce

4.1.3 *To*-infinitive, to *can*

In present-day English, modals do not have non-finite forms and cannot become constituents of *to*-infinitive structures. This is also a unique property for verbs in present-day English syntax. However, this was possible in ME. Some examples of this use were found in the Helsinki Corpus as below. OED also lists this meaning as *to know how, to be able, to have the power, ability, or capacity (of)*. Though *can/could* are various in forms, it is evident that they form *to*-infinitive structures. This case also supports that *can/could* was used as a full verb in ME.

(From ME3)

- for þ̄ presumen as þ̄ fend **to connen** þ̄ : þ̄ knowen not.
- 3̄ the lewid puple crieth aftir holi writ, **to kunne** it, and kepe it..
- God graunte to us alle grace **to kunne** wel, and kepe wel holi writ

(From ME4)

- þ̄ prayoure is euey man and childe hold **to kunne** ...
- but þ̄ nis no þ̄ ig so hard **to kunne** þ̄ 1 whi & what þ̄ ig God is
- þ̄ prayore euey Cristen man is bondon **to conne**, and to preye to God

4.1.4 Coordination with full verbs

Each conjunct in *and*-coordination should have the same syntactic category. For example, a noun phrase can be coordinated with another noun phrase and a verb with another verb. Some instances found in

the Helsinki Corpus show that *can/could* could be coordinated with another full verb. It can be inferred from this phenomena that language users of that time perceive *can/could* as full verbs.

(From ME3)

- make oure puple to **haue**, and **kunne**, and **kepe** truli holi writ

(From ME4)

- he **cowde** and **promysed** them to be there

4.1.5 Double modals

A modal cannot be followed by another in modern English because modals do not have non-finite forms. In ME, however, *may+can* and *shall+can* appear and the latter is more frequent than the former. All the examples except one include double modals plus another full verb. Given that modals take a non-finite verb in present-day English, both are modals not verbs, which means that this *can/could* differs in syntactic categories from the verbal uses above.

However, we cannot conclude that all the pre-modals could have been cumulatively used. It is because most examples found are limited to two types, *may+can (+verb)* and *shall+can (+verb)*. These might have been specific patterns permitted to pre-modals in ME.

The last line of ME4 examples looks like a double modal use, but it is different in that the second modal *can* functions as a full verb.

(From ME3)

- þu **schalt** wel **kun** beginne & ceese in alle
- forþ þu **schalt kun** betir wite how þu schul be conceyued goostly

(From ME4)

- one is for as moche as I **haue** not ne **can** gete no bokes of...
- he ne **schal** neuere wel **kunne** loue God ne þu ke God of his goodes
- er ye **shal conne** excuse you of the deth
- they **shal** moche better **conne** rewle them self ther by
- I **shal** not **conne** wel goo thyder
- þu nys no þu g þu a man **may** bettere **kunne** þu þu God is
(※ *kunne* as a full verb)

4.2 The origin of *cunning*

Just like gerunds or present participles in present-day English, *can* could combine with *-ing* forms in OE and ME. This form may have appeared on the assumption that *can* could be a full verb. As other pre-modal uses in section 4.1, this form must have disappeared when the syntactic transition of *can* was completed.

OED gives some interesting facts about this form at some places. Under *cunning* it is written that *now only as adj. Obs.* while *cunning* is explained as a *verbal noun or present participle of 'can'*. As a noun, *cunning* meant *knowledge, the faculty of learning, science or an art, a craft*, which are all obsolete now, and its adjectival meaning was *possessing knowledge, learning or skill*. *Cunning* as a noun has examples as in (6).

- (6) a. the Holi Spiryt, autour of wisdom, and **kunnyng**, and truthe, dresse
him in his werk, and suffre him not for to erre.
(From ME3)
- b. Be the grace of God, if oure **cunnyng** be thertoo.
(From ME4)
- c. Forasmoche as the science and **connyng** of Physyke
(From EModE1)

It can be inferred that the *can+ing* structure disappeared while its adjectival meaning survived in the form of *cunning* in present-day English. This inference is supported by examples from the Helsinki Corpus, as shown in <Table 7>. Tokens of *cunning* suddenly decrease by half in EModE1 whereas adjectival uses comprise up to 30%.

<Table 7> Tokens of total *cunning* and of adjective uses of *cunning*

	ME 3	ME 4	EModE 1
Tokens of <i>cunning</i>	19	21	10
Tokens of adjective use	1	3	3

In present-day English *cunning* is an independent adjective meaning *clever, skillful or sly*. *Cunning* originated from the *can+ing* form but historically lost *can's* inflection and became an adjective. This is supported by its various spellings. *Cunning* had many variations in

spelling. In ME3 it was *kunmyng* or *conmyng*; however, in EModE1 *cunmyng*(*cunning*) or *coonmyng* became dominant. The latter are similar to present-day *cunning*, while the spelling of modal *can* had no variant forms in EModE1 of the Helsinki Corpus. So, it cannot be said any longer that *cunning* is the form of *can+ing* in this period of time. This means that both were (or were becoming) separate. In sum, the loss of the *can+ing* form is another evidence of the extinction of pre-modal uses of *can/could*.

5. Conclusion

This paper analyzed the development of *can/could* from pre-modals to modals based on the Helsinki Corpus, focusing on when it was completed. Previous studies disagree on *can/could* while there is a general consensus on the other modals. They insist that *can/could* became a modal far later than the others. Some said it was the 17th century and some said it was the 19th century with some examples from period literature and OED. This paper is founded upon the doubt that these examples might be exceptions rather than the rule. And it assumes that statistical or quantitative evidence from corpora is better able to support such claims.

This paper proves that previous conclusion on *can/could* is wrong. *Can/could* completed the transition from pre-modals to modals in ME along with other modals. Therefore *can/could* is not exceptional at all in this respect. EModE1 of the Helsinki Corpus shows just one example of *can/could* being used as a pre-modal, which had been decreasing steadily on the way from ME3 to EModE1.

Furthermore, this paper sketches the patterns of pre-modal uses and provides evidence from the Helsinki Corpus. The outstanding patterns are: *can/could's* taking a direct object, *can/could of, to can*, coordination with full verbs and double modals. Finally, the form *can+ing* is examined. This form originally derived from *can* as a gerund or present participle, but its origin became obscure and it became an independent adjective, *cunning*.

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