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Grammaticalisation and the Old English Modals

Résumé

Cet article examine le fonctionnement des futurs auxiliaires de modalité en vieil-anglais, ainsi que la manière dont ils se sont grammaticalisés, processus qui aboutit en anglais moderne à la constitution d'une catégorie syntaxique à part. Cette étude montre que ce processus de grammaticalisation était déjà bien entamé à l'époque du vieil-anglais, et qu'il n'a sans doute pas atteint son terme en anglais contemporain. En effet, les différents modaux se sont grammaticalisés à des vitesses différentes, certains, paraissant à cet égard très en avance, déjà, en vieil-anglais, alors que pour d'autres la grammaticalisation se poursuit encore dans la langue contemporaine.

Mots-clés

Modaux – auxiliaires – grammaticalisation - épistémique radicale

Abstract

This contribution analyses how modal auxiliaries-to-be function in Old English and how they came to be grammaticalised into a grammatical category of their own in modern English. We show that the grammaticalisation process was already well under way in Old English and that it has probably not yet reached its end in contemporary English. Various modal auxiliaries have indeed become grammaticalised at different paces: whereas some were already being grammaticalised in Old English, other are still undergoing this process in the language's contemporary use.

Keywords

Modals – auxilaries – grammaticalisation – radical epistemic

Grammaticalisation and the Old English Modals[1]

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1 Introduction

My intention here is to take (yet) another look at a feature of the grammar of English that has attracted a great deal of attention from linguists, both those working on the modern language and those who take an interest in its history: the modals[2]. More precisely, I shall be examining their uses and functions in Old English (henceforth OE). Given the wealth of material available on this topic, it would be a hard task indeed to propose any radically new insights into the workings of the modals and their development across time, and I certainly do not claim to be able to do so here. My objectives are far more modest. I shall simply seek to bring together elements put forward by some of the major contributions to the field, notably the studies by Coates (1983), Goossens (1982), Denison (1993), Plank (1984), Traugott (1989), and Warner (1993), to name but a few, and to which the reader who wishes to obtain more detailed information is referred. I shall, however, try to examine the history and the evolution[3] of the modals from a "dynamic" perspective (Smith, 1996), in an attempt to show that the different members of the modal group may not have been grammaticalised in a uniform manner, as is sometimes assumed. I shall be looking at the syntactic and semantic properties of the individual modals in OE and at some of the changes which seem to be underway during the OE period. Finally, I shall suggest that, where some of the modals are concerned, the process of grammaticalisation and change has probably still not reached its conclusion even in Present-Day English (henceforth PDE).

2 The modern English modal auxiliaries

I shall concentrate here on what might be called the central modals, to the detriment of the so-called "semi-modals" such as PDE *dare*, *ought to*, or *need*. The usual candidates for inclusion in this group, in PDE, are those set out in Fig. I below:

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[1] An earlier version of this paper was presented at the seminar organised by LIDIL12 (LInguistique et DIdactique des Langues à l'UPEC), a constituent group of IMAGER (Institut des Mondes Anglophone, Germanique et Roman) on 10th February, 2012, at the Université Paris-Est. My thanks go out to Fabienne Toupin, to the two anonymous referees and to Valérie Bourdier for reviewing this text and for all their helpful comments and suggestions. Any remaining errors or inaccuracies are entirely the responsibility of the author.
[2] I shall follow Denison (1993) here in using the term 'modals' to describe both the modern auxiliaries and their Old English "ancestors," despite the ongoing debate as to the exact status of these forms in early English.
[3] The term "evolution" is used, of course, as a kind of short cut and should not be taken to infer that words or languages evolve in any kind of biological sense. There is a very real biological dimension to language change, which is however supplied by generations of speakers who use and adapt language over time. As Croft (2000) points out, terms such as "language change" are in reality misnomers. Languages themselves are abstract entities and as such cannot really "change" at all. What does undergo change, rather, are speakers' internal grammars, their representations of language and the manner in which they use it.

shall	*will*	*can*	*may*	*must*[4]
should	*would*	*could*	*might*	

Figure I: The 'central' modal auxiliaries in PDE

The modals, of course, share a number of morphological, syntactic and semantic properties which set them apart from lexical verbs. Amongst other things:
- all are defective, lacking the infinitive, past and present participles;
- all lack the 3rd person singular present tense *–s* inflection, characteristic of English verbs;
- all, in terms of complement selection, are limited to the same form, a bare infinitival VP;
- all possess the "NICE" properties, and therefore function solely as operators (Huddleston, 1984);
- the historically "preterite" forms (with some exceptions, notably that of *could*), in the second line of Fig. I, tend not to be used as markers of past time.

The PDE modals, clearly, are highly grammaticalised forms, displaying as such many of the properties typical of grammaticalised elements in general (see Hopper & Traugott, 1993). They tend to express essentially subjective, speaker-centred meanings (the epistemic modals, for example, allow the speaker to express his opinion as to the truth of a proposition), they often undergo phonological reduction (/ʃəd/, /kəd/, etc), and they have all been recategorised, forming in PDE a closed syntactic class, along with auxiliary *do* and probably pre-infinitival *to* (Pullum, 1982). Observe that in PDE, this recategorisation appears to be complete, in that they have lost the prototypically verbal properties with which they were associated at the stage when they could still function as lexical verbs, such as the possibility of accepting noun phrases or full clauses as complements.

Interestingly, a closer inspection of the modal group in PDE suggests that some of the typically "modal" properties are not distributed as evenly across the group as might be imagined. *May* and *might*, for instance, have no reduced forms, *could* still often functions as the past time equivalent of *can*, while some modals are more extensively used with epistemic meaning than others[5]. I shall return to this question later.

3 Grammaticalisation patterns for auxiliaries in English

Despite all the attention that the modal auxiliaries have received in the literature, a number of questions remain to be answered, especially from a diachronic standpoint. How did the grammaticalisation of the modals come about, and when? Was the process identical in each case? Did the modals already constitute a separate category in OE, or were they still regarded as full verbs? While not claiming to be able to answer these questions, I shall endeavour to shed a little light on them in the discussion that follows.

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[4] *Must* is listed here among the "present" forms, which corresponds to PDE usage, although from an etymological point of view, it is of course the preterit of the verb **motan*.
[5] I make the traditional distinction here between "root" meanings, which are concerned with deontic or dynamic modality, and "epistemic" meanings, which express the speaker's attitude towards the proposition. The latter tend to be considered more "strongly subjective" (Traugott, 1989: 36) than the former.

Recent work on grammaticalisation has demonstrated that linguistic items tend to grammaticalise along paths or "clines," to borrow the term used by Hopper & Traugott (1993: 6-7), which raises the question as to what sort of cline the OE modals followed on their way from lexical verb to auxiliary status. Through which stages did they pass? Did all the modals follow the same path? To answer these questions, one could do worse than to take a look at other, attested grammaticalisations of former lexical verbs in the history of English, to see to what extent the relevant factors in these instances can also be applied to the modals.

Let us consider first of all the Middle-English (ME) (quasi?) auxiliary *gin/gan*. *Gin* develops from the OE lexical verb *(on)ginnan*, which functions initially as a control verb, with inchoative meaning. It then comes to be used with the "transparent argument structure" associated with raising verbs (Los, 2005: 88-96). The inchoative sense grows progressively weaker, so that by early Middle-English (ME) times *gin/gan* has become a periphrastic tense marker, appearing in contexts from which it would have been excluded had it retained its original inchoative meaning (see Lowrey, 2002: 276). Denison is of the opinion that, at this stage, "syntactically, it is possible to treat *onginnan* as an auxiliary" (1993: 321).

A second example is that of auxiliary *do*. For Ellegård (1953), the origins of the auxiliary lie in a catenative causative construction. This structure is reanalysed in early ME, as Denison (1985) shows, as a raising construction, producing what is generally referred to as "periphrastic *do*." Periphrastic *do* is reanalysed in its turn as an auxiliary, a process which seems to begin sometime around the end of the fifteenth century (Lowrey, 2002). For *gin* and *do*, at least, one could therefore postulate a cline along the following lines:
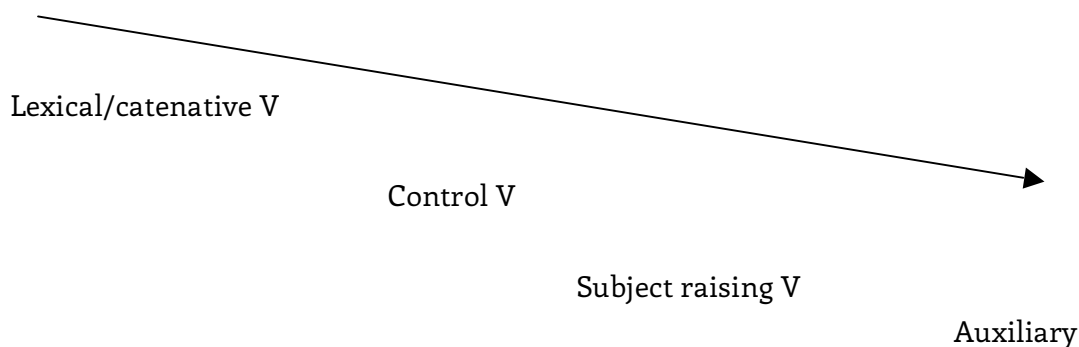

Lexical/catenative V

Control V

Subject raising V

Auxiliary

Figure II: Possible grammaticalisation cline for auxiliaries in English

The different stages could be illustrated by the following sentence types:

(i) Mary wants everyone to know the truth
(ii) Mary wants to know the truth
(iii) Mary doesn't seem to know the truth
(iv) Mary mustn't know the truth

The first stage would be that of a typical catenative verb, such as *want* in (i), which has a full clausal complement. PDE *want* can also function as a control verb, as in (ii), where the

verb *know* has no surface subject in the embedded clause. This subject is however understood to be that of the matrix verb, the NP *Mary*, the "controller" of that of *know*. In (iii), the NP *Mary* appears semantically to be the subject of *know*, and receives from the embedded verb the Experiencer role. However, it is not an argument of *seem*, from which it receives no semantic role at all. The meaning of (iii) is close to that of *It seems that Mary knows the truth*. *Seem* in (iii) remains nonetheless a lexical verb in PDE. It does not possess the "NICE" properties shared by the PDE auxiliaries, a stage that *must* has reached in (iv).

It might be useful at this point to recall which claims are made by clines such as our Fig. II, and which claims are not made. First of all, Fig. II does not claim that every catenative verb is destined ultimately to become an auxiliary, nor that every auxiliary has necessary followed the same cline. Nor does it claim that a control verb, for example, that becomes a raising verb undergoes a radical, overnight change of status, abandoning its former functions completely and simultaneously acquiring new ones. On the contrary, as Hopper & Traugott point out, in a linguistic change from a state A to a state B, "A probably never becomes B without an intermediary stage in which A and B co-exist" (1993: 49). This type of co-existence, called "layering" by Hopper (1991), can persist for long periods of time, and is very much in evidence where the OE modals are concerned. As we shall see in section 4, they still retain certain characteristics of lexical verbs while at the same time possessing many of the properties of the modern auxiliaries. Finally, it specifically does not claim that every verb which begins to evolve along such a cline will necessary follow the whole cline from beginning to end. What is predicted, however, by clines such as Fig. II is that grammaticalised elements will not move back "uphill," to borrow an image from Hopper & Traugott (1993: 17). In other words, auxiliaries will not revert to being lexical verbs, and raising verbs will not turn back into catenatives. If the modals display both lexical and auxiliary properties in OE, therefore, we know that it is the lexical properties that are the oldest, and the auxiliary properties that have been most recently acquired.

It is not clear, however, to what extent Fig. II can be applied to the modals. While we can be reasonably certain that Fig. II fits the cases of *gin* and *do*, it should be remembered that both these grammaticalisations are comparatively recent, and therefore relatively well documented. The grammaticalisation of the modals is already under way during the OE period, and reliable evidence that the modals, too, grammaticalised along the same lines is likely to prove much more difficult to find. Nor is it by any means certain that the modals followed the same path as *gin* and *do*. It is true that *willan* functions as a straightforward catenative and control verb in some of its uses in OE, and of course has become a fully grammaticalised auxiliary today. However, as we shall see, there are good reasons for considering the grammaticalisation of *willan* to be somewhat atypical with regard to that of the other modals.

The picture is complicated still further, where the modals are concerned, by the existence of two kinds of meaning, the so-called "root" meanings (to express permission, obligation, and the like), and the epistemic meanings, concerned with judgements of probability or certainty expressed by the speaker). The root modals, semantically, often seem close to certain control verbs (cf *he can swim* and *he is able to swim*, where *he* appears to have much the same form of semantic link to *can* as to *be able*), whereas the epistemic meanings appear to have more in common with raising verbs (compare *He might know the answer* and *he seems to know the answer*, where *he* has no direct semantic link either with *might* or with *seem*: the speaker judges that the proposition *he*

knows the answer is perhaps true or seems to be true). This might suggest that the root uses of the modals evolved directly from control structures, and the epistemic uses from raising verbs, in which case the cline given in Fig. II would have to be modified to allow for two separate grammaticalisation paths from lexical verb to auxiliary. Against this idea, it has also been observed (Goossens, 1982; Warner, 1993) that the root uses of the modals appear chronologically before the epistemic ones. Indeed, Goossens considers that while *magan*, **sculan*, and *willan* display some traces of epistemic use during the OE period (up to about 1100), "none of them can be regarded as an established carrier of epistemic meaning" in OE (Goossens, 1982: 79). Traugott indicates that this distribution across time fits well with a more general tendency in semantic change, by which "meanings tend to become increasingly based on the speaker's subjective belief state/attitude toward the proposition" (Traugott, 1989: 35). A possible path of evolution from root to epistemic modality will be discussed in section 5.

In the discussion that follows, I shall therefore refer to the different stages on the cline in Fig. II as and when they seem particularly relevant, but without committing myself to the idea that the modals necessarily followed the same path. Grammaticalisation, of course, can be a very long process, sometimes extending over several generations of speakers. I shall endeavour to show here that, while the grammaticalisation of the modals is already under way in OE, it continues on into the ME period and in some cases even beyond.

4 The OE Modals

I shall take a closer look in this section at the individual modals. As one might expect, uses of the OE modals and the meanings they express, much like those of their modern counterparts, vary considerably from one context to another, and it would be impossible here to do more than outline some of the features which appear particularly relevant to the purposes of this study. Again, the reader is referred to the studies listed in the introduction for more detailed information.

4.1 A separate syntactic category?

If we were to draw up a list corresponding to Fig. I for OE, it would look, superficially at least, very similar:

sceal	*wille*	*cann*	*mæg*	*mot*[6]
sceolde	*wolde*	*cuðe*	*mihte*	*moste*

Figure III: The OE Modals

Nonetheless, the modals in OE form a less clearly defined syntactic class than their PDE reflexes. Unlike the latter, the modals in OE still conserve a certain number of the properties associated with full, lexical verbs. Typically, lexical verbs in OE can function transitively, with an NP complement, or intransitively. They can also be associated with

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[6] The forms listed here are 1st person singular forms, rather than the infinitives, to enable a direct comparison with the defective PDE verbs, which of course have no infinitive form.

finite complements, introduced by *þæt*. Bare infinitive complements in general are rare, used with causatives like *hatan* or *lætan*, with verbs of direct perception such as *geseon* and *gehieran*, or the modals. The latter, at the same time as taking infinitive complements, also appear in a variety of constructions typically found with lexical verbs. From a semantic point of view, the original lexical values associated with the modals persist in the NP, intransitive, and *þæt* constructions. When used with an infinitive, the modals have often undergone the semantic "bleaching" typical of grammaticalised forms: they have lost much if not all of their original lexical meaning, acquiring in exchange more abstract, "speaker-centred" meanings (Hopper & Traugott, 1993: 94). For example, **sculan* still occurs with nominal complements in OE:

      *1 Hym wæs an broht se him **sceolde** tyn þusend punda*
'One [person] was brought to him who owed him 10,000 pounds'   (O3[7] Matthew ch18 v24)[8]

      *2 Hu mycel **scealt** ðu mínum hlaforde?*
'How much do you owe to my lord?'   (O3 Luke ch16 v5)

The verb clearly still has a distinct lexical meaning here, the equivalent of PDE *owe*. *Cunnan*, too, occurs as a lexical verb with an NP complement, with the meaning "to know," and is frequent in OE in this construction:

      *3 Anne cræft ic **cann**. Hwelcne cræft **canst** þu?*
'I know one skill.' 'Which skill do you know?' (O3 Ælfric, Colloquy 196: 37)

      *4 Ic ða stowe ne **can**, ne ðæs wanges wiht*
'I do not know the place, nor anything of the plain' (O2 Codex, Elene 41: 1363)

      Examples involving *willan* and *magan* with a nominal complement are harder to find. Nonetheless, both appear in other kinds of construction in which normally only lexical verbs occur. *Willan*, for example, is used twice in (5):

      *5 He cwæþ: 'Hwæt **wilt** ðu ðæt ic ðe do?' Næs ðæt na ðæt he nyste hwæt se blinda*
      wolde
'He said "What do you want me to do for you ?" It wasn't that he did not know what the blind man wanted'   (O2 Blickling Homilies, 19: 33)

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[7] Dating OE texts is a notoriously difficult exercise. Among other considerations, one needs to take into account the fact that surviving manuscripts may well have been copied many years after the initial version of the text was written, which renders the question of the date of origin of an OE text even more problematic. Nonetheless, it is important not to think of OE as some kind of monolithic, unchanging entity. The recorded OE period spans three or four centuries, during which, like all natural languages, OE evolved. In order to give the reader some idea of the diachronic dimension of OE, texts are labelled here by (presumed) date of origin, according to the Helsinki Corpus classification: O1 (pre-850), O2 (850-950), O3 (950-1050), O4 (1050-1150). OX means "pre-1150," and appears in cases where, in the opinion of the Helsinki compilers, insufficient information is available to date the text.

[8] OE examples, unless otherwise stated, are referred to by page number and line number, respectively, in the edition listed in the "Primary Sources" section.

In the second sentence in (5), the complement of *willan* is the pronominal NP *hwæt*. And in the first, the complement is a finite clause introduced by *ðæt*, a structure which occurs with lexical verbs (and which will ultimately come into competition with the *to-* infinitive clause). In both instances, *willan* assigns a thematic role both to its subject (that of Experiencer) and to its nominal or clausal internal argument (that of Theme) in the same manner as any semantically similar lexical verb, and much like PDE *want*.

Magan, too, can occur with a finite complement, in which case it too functions much like a lexical verb in terms of thematic-role assignment. It appears to mean something like "be (so) powerful (that...)," as in (6):

6 Hwa **mæg** þæt he ne wundrie swelcra gesceafta ures scyppendes?
'Who can help wondering at such creations of our Maker?'   (O2 Boethius, 92: 7)

The sense is close to that of the corresponding substantive, *might*, which has retained its original meaning in PDE. (6) is a relatively early example, taken from the OE translation of Boethius, but even in later OE, *magan* could still be used as a lexical verb:

7 Hu **mæg** he? Hig cwædon, þæt he wel **mihte**
'How is he? They answered, that he was well'   (O3 Genesis, ch29 v6)

These are straightforward intransitive uses, of course, not to be confused with cases of VP ellipsis. (7) dates from Ælfric's time, probably around the beginning of the eleventh century. The above examples also show that the modals retained a number of morphological features typical of lexical verbs: separate 2nd person singular forms (2), (5), subjunctive forms (3), while the preterites, apparently, could still be used in past time or indirect speech contexts as members of the same verbal paradigm, as in (1) and (2), in (5) or again in (7). Clearly, the modals in OE do not constitute such a homogeneous, syntactically distinct category as in PDE.

Nonetheless, there are signs too that in OE the modals have begun to acquire a number of more "modal" properties that even at this stage set them apart from typical lexical verbs.

Morphologically, certain forms already seem to have been lost. The infinitives **sculan* and **motan*, for instance, are not attested in written OE. This does not prove conclusively that they did no longer existed in OE. It may be that these forms remained in use, but simply do not appear in the restricted sample of the language at our disposal today. It would seem, however, to suggest that they had at least become rare by this time.

The "NICE" properties, unfortunately, cannot be used to distinguish operators and lexical verbs in the same way as in PDE. "N" (direct negation, without *do* support) and "I" (subject-verb inversion) were properties common to all verbs in OE, and "E" (emphasis) is a difficult test to apply, given that we have no access to spoken OE. It would appear, however, that "C" (code, a form of VP ellipsis) was already a property of the modals:

8 Ic worda gespræc ma ðonne ic **sceolde**
'I have spoken more words than I should'   (O2 St. Andrew, 28: 956)

9 Uton eornestlice fleon to heofunge soðra dædbote, ða hwíle ðe we **moton**

8

'Let us earnestly flee to the sighing of true penitence, while we can'   (O3 Ælfric, Homilies, II 124: 20)

*10 **Wolde** ic freondscipe, þeoden þrymfæst, þine, if ic **mihte**, begitan*
'I would like to obtain, mighty prince, if I could, your friendship'   (O2 St. Andrew, 28: 958)

Typically, "modal" uses of the future auxiliaries occur with a bare infinitive complement. And even when used with full lexical meaning, these verbs can still select bare infinitive complements which tend not to appear with most lexical verbs. *Willan*, for example, is used in (11) and (probably) in (12) with its full volitional meaning, but takes nonetheless a bare infinitive complement:

*11 Hwelcne hafoc **wilt** þu habban, þone maran hwæþer þe þone læssan?*
'Which hawk do you want to have, the larger or the smaller?'   (O3 Ælfric, Colloquy, 198: 118)

(Example quoted by Warner, 1993: 167)

*12 Hwyder **wilt** ðu gangan? Ic **wille** gangan to Rome*
'Where do you want to go ? I want to go to Rome'   (O2 Blickling Homilies, 191: 16)

This seems to have been the case both in Ælfric's prose, typical of later OE, and the earlier Blickling text (late ninth century?). The question as to when exactly the modals begin to form a separate, fully grammaticalised class has been the source of much debate. Lightfoot (1979) famously considers the modals still to be full verbs in OE, not attaining auxiliary status until the sixteenth century. Others (notably Goossens, 1982; Plank, 1984) have criticised this position. Warner (1993) suggests that the OE modals, whilst not yet having become members of an independent syntactic category are well on the way to achieving auxiliary status, and this view seems about right. However, much of the discussion in the literature deals with the modals as a relatively uniform group. It will be my contention here that the evolution of the (future) auxiliaries is not perfectly homogeneous, some becoming grammaticalised more rapidly than others. As we shall see in section 5, traces of this differential evolution can still be observed in PDE.

4.2 Uses and properties of the OE modals

In order to demonstrate this point, we need to take a look at specific examples involving each of the modals, on an individual basis, taking both semantic and syntactic factors into account.

4.2.1 *Willan*

The case of *willan* is a particularly interesting one, in that it appears to have undergone very rapid grammaticalisation. On many occasions, *willan*, as in (10), (11) or again in (13) below, with a finite *ðæt* complement, functions as a lexical verb with volitional meaning:

*13 He **wolde** ðæt ða cnihtas cræft leornedon*
'He wanted the youths to learn science[9]'   (O1 Cædmon 221: 4)

And yet, alongside these examples, we find others from which any notion of volition can be excluded. The verb in these uses has been bleached to a large extent of its original lexical meaning. Syntactically, modal *willan* only occurs with an infinitive complement:

*14 Hwæt **wille** ic ðissum wiðersacan geandwyrdan?*
'What answer shall I give to this denial?'   (O3 Ælfric, Homilies, I 378: 11)

*15 Gif me seo godcunde geofu in þære stowe forgifen beon **wile**, þæt ic lifgan mote be minum hondgewinne, ic ðær lustlice wunige*
'If the divine grace will be given to me in that place, that I may live by the work of my hands, I will happily live there'   (O2 Bede, 366: 4)

*16 Gif we deoplicor ymbe þis sprecað, þonne wene we þæt hit **wile** ðincan ðam ungelæredum to menigfeald*
'If we speak about this more deeply, then we will think that it will seem too complex to the uneducated'   (O3 Ælfric, Homilies, II 582: 25)

                    (Examples (15) and (16) quoted by Warner, 1993: 168)

The speaker in (14) is obviously not asking himself what answer he *wishes* to give. And in both (15) and (16), the subject of *willan* (divine grace and the subject of the discussion, respectively) is an abstract entity, incapable of volition. *Willan* seems to function here as a full sentence modifier, in Warner's terminology, to form a kind of periphrastic future much as in PDE, with a "prediction" sense. In other words, even at this early stage, *willan* is already being used as what Traugott (1989) would call a "weak epistemic" modal. Moreover, the non-modal, lexical verb of volition seems to have evolved directly into the epistemic modal without passing through an intermediate, subject-oriented root modal phase[10]. In PDE, *will* can apparently function as a subject-oriented modal, with a "characteristic" sense, as in *Boys will be boys*. Warner (1993: 167), adopting Traugott's position that the epistemic uses evolved from root meanings, suggests that volitional uses

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[9] Note that the most common translation of *cræft*, 'skill, art, craft' (Bosworth & Toller, sub. *cræft*, sense II) would be inappropriate here: the context makes it clear that the *cnihtas* should be versed in the "precepts of books" (Thorpe's translation). This is rather Bosworth & Toller's sense III, 'craft of mind, cunning, knowledge, science.'

[10] Some analysts, taking a broad view of the notion of modality, consider volition to be a form of modality, although this is debatable. Certainly, there appear to be no grounds for analysing *willan* in (11), for example, as anything other than a straightforward lexical verb. It apparently assigns an Experiencer role to its subject, *þu*, which is an argument both of *willan* and (implicitly) of the lower verb. In other words, it functions as a control verb, much like PDE *want*. At best, volition might perhaps be viewed as a form of dynamic modality, although, as Palmer (1979) points out, there are good reasons for considering dynamic modality not to be a form of modality at all. In instances of deontic modality, where permission or an order is given by the speaker, and in cases of epistemic modality, where the speaker expresses his belief in the truth or the likelihood of the proposition, the modal element, typically an auxiliary or adverb, can be seen as the trace of the speaker's presence. No such role is played by lexical verbs such as *want*. Only in contexts with a 1st person subject do lexical verbs of wanting seem to come close to expressing a form of modality, in this sense.

may have given rise to "an extension of such senses to a characteristic predisposition or property of the subject (which may be animate or inanimate)" as in (17):

> 17 *Elpendes hyd* **wile** *drincan wætan, gelice spynge deð*
'An elephant's hide will absorb liquid, like a sponge does'   (O2 Orosius 230: 26)
(Example quoted by Traugott, 1989: 39; Warner, 1993: 167)

Here, *willan* looks, superficially, much like a subject-oriented root modal, expressing some characteristic of the subject *elpendes hyd*. However, Warner's derivation seems problematic. If it were right, one would expect to see *willan* used, in chronological order, first with its original, volitional sense, then with a "general characteristic" meaning, and only later to express prediction. But this does not appear to be the case: I have found no evidence to suggest that examples such as (17), evoking a general characteristic of the subject, predate the likes of (15) – (16). The Bede example in (15) presumably predates the translation of *Orosius*, the source of (17). To this we can add the fact that there seems to be no obvious point of transition from the expression of volition to that of a characteristic. A far more likely explanation would derive the epistemic prediction meaning directly from the lexical volitional one. Contexts such as that of (12) or of (18) below could have served as a kind of bridge spanning the gap between volition and prediction:

> 18 *Ic* **wille** *mid flode folc acwellan*
'I intend to [will ?] destroy the people with a flood'   (O1 Cædmon 78: 20)

The referent of *ic* is God. Obviously, to the medieval mindset, very little would have separated what God desired from what would very likely be done. It is easy to imagine how an announcement of what the subject intends to do could be reanalysed by the hearer as an announcement of what he or she will do.

A further argument in favour of the "direct volition to prediction" hypothesis concerns the preterite form, *wolde*. It too seems to have been used at an early stage to express a prediction in the past. An excellent example is to be found in Traugott (1989: 39), also in Hopper & Traugott (1993: 48):

> 19 *Þa Darius geseah þæt he ouerwunnen beon* **wolde**, *þa* **wolde** *he hiene selfne on ðæm gefeohte forspillan*
'When Darius saw that he would be overrun, then he wanted to kill himself on the battlefield' (O2 Orosius 3: 9)

The second *wolde* here expresses a desire on the part of the subject, at a moment situated in the past. But the first *wolde* clearly constitutes a heavily grammaticalised use. No trace of volitional meaning remains: Darius obviously did not want to be defeated. Rather, we are looking at a predictive *willan*, already grammaticalised to the extent that the preterite could indeed be used to shift the prediction to a past context. Again *willan* appears to have acquired epistemic meaning at a very early stage.

It would appear likely, therefore, that the "characteristic" sense of *willan* (and of PDE *will*) is probably not derived from the volitional sense at all, but rather from the idea of prediction, via a pragmatic inference. If a speaker predicts that an event X involving an agent Y will take place, the hearer is very likely to assume that he is basing his prediction

on what he knows about Y, and how he will probably behave in the circumstances. This inference has become more or less lexicalised over time. If this derivation were to be confirmed, this would indeed be a case of the epistemic meaning giving rise to a more typically root meaning, unlike what seems to happen with the other modals. Such an evolution remains, however, broadly consistent with the general tendency outlined by Traugott, mentioned in 3 above. The shift from volitional to predictive meaning does indeed enable *willan* to express the speaker's attitude towards the proposition as a whole. The characteristic sense arises as a side effect of this process, due to the lexicalisation of a pragmatic inference.

To close this section on *willan*, we can observe that examples such as (19) confirm two basic principles of grammaticalisation and variation. Firstly, linguistic items do not grammaticalise overnight. On the contrary, as Hopper & Traugott point out, older lexical uses and newer, grammaticalised ones, ilustrated by the two uses of *wolde* in (19), tend to co-exist, often for long periods, before the newer form finally replaces the older one. This is a clear case of layering (1993: 49). Secondly, where variation of this type occurs, it is not the case that one sub-set of speakers conserves the older form, for example, whilst another innovates by adopting the new form. The same speaker will probably have both options as part of his or her internal grammar, as presumably did the author of example (19).

4.2.2 *Sculan

Sculan too appears to have reached a relatively advanced stage of grammaticalisation. Its basic (root) modal meaning in OE seems to be one of obligation:

20 'Hwæt **sceal** ic singan?' Cwæð he: 'Sing me frumsceaft' (Quid debeo cantare?)
' "What must I sing?" He said "Sing the original creation to me" '   (O2 Bede, 344: 2)

21 Hælend him þa onswarede ⁊ cwæð: 'Ðu **scealt** fylgean me'
'The Saviour answered him & said "You must follow me" '   (O2 Blickling Homilies, 23: 14)

22 Seo cyrice **sceal** fédan ða ðe æt hire eardiaþ
'The Church must feed those that dwell in her'   (O2 Blickling. Homilies, 41: 27)

Again, modal *sculan* is followed by an infinitive complement. At the same time, there are signs that the obligation sense is shading into a future meaning, of a more epistemic nature:

23 Ðu **scealt** deaðe sweltan
'You shall suffer death'   (O3 Genesis, ch2 v17)

24 Hwa **sceal** us awilian þone stan of ðære þyrih? Se stan is ormætlice micel
'Who shall roll away the stone from the tomb for us? The stone is extremely large.'   (O3 Ælfric, Easter Sunday, 184: 19)

A clue to the extent of the grammaticalisation of *sculan* is provided by the fact that the preterite has already begun to distance itself from the present, more so than the

preterite forms of the other modals. *Sc(e)old(on)* was used to express an obligation in the past, as in (25):

> 25 *And se cyng þa betæhte þa fyrde to lædene Ealfrice ealdorman and Þurode eorl and Ælfstane bisceop and Æscwige biscop and **sceoldon** cunnian gif hi muhton þone here ahwær utene betræppen*

'And the king then entrusted the leadership of the army [literally: "entrusted the army for leading"] to lord Ealfric and to earl Thorod and to bishop Alfstan and to bishop Ashwig and [they] had to find out if they could entrap the invading force somewhere from the outside'
(O3 AS Chronicle E, yr 992)

At the same time, it could be used not so much to situate the obligation in the past as to attenuate it:

> 26 *Þa þe þær ærest comon wendon þæt hi **sceoldon** mare onfon*

'Those that had come there first thought that they ought to receive more'   (O3 St. Matthew, ch20 v10)

Sometimes, the two meanings can be hard to distinguish:

> 27 *He ne cuðe don his gerihte swa wel swa he **sceolde***

'He [the bishop] couldn't perform his rites as well as he should [have ?]'   (O4 AS Chronicle E, yr 1047)

It is difficult for the modern reader to determine whether *sceolde* here should be analysed as a temporal preterite, as a preterite of weak obligation, or perhaps even as an under-specified form, the author deliberately choosing to allow both readings.

Sceold(on) also appears in contexts where there is no apparent connection with the idea of obligation. One such example is given in (28), below:

> 28 *... ⁊ to þam Pentecosten wæs gesewen innan Barrucscire æt anan tune blod weallan of earþan, swa swa mænige sædan þe hit geseon **sceoldan***

'And at that Pentecost was seen at a town in Berkshire blood welling up from the earth, just as many [people] said who supposedly saw it'   (O4 AS Chronicle E, yr 1100)

Sceoldan is used here with an infinitive to cast doubt in some way upon the likelihood that the event [people saw it] took place, a function which falls more generally in OE to the subjunctive. This might be connected to a not dissimilar use in German of *sollen*, the cognate of **sculan*, as in *Er **soll** verhaftet worden sein*, "he is thought/said to have been arrested." There is however another, perhaps more likely, explanation for the presence of *sceoldan* in this example. It appears to be linked to a phenomenon identified by Bybee, Perkins & Pagliuca (1994: 214-18), summarised by Croft (2000: 138-40), by which *should* comes in subordinate clauses to replace subjunctive morphology.

This process involves three stages. Initially, *should* is used to express weak obligation in a context where another element implying obligation is already present. This

is what Coates (1983: 45) calls a "modally harmonic" combination. Secondly, given that the idea of obligation is already expressed by another item in the context, *should* is reanalysed in these cases not as a marker of obligation but as a kind of *irrealis* form, with the same function as the morphological subjunctive. Finally, in the third stage of the operation, the reanalysed form is extended to other contexts in which no trace of obligation is present, as a periphrastic subjunctive marker.

Interestingly, one finds clear indications in OE that *sceold* + infinitive and the morphological subjunctive were in competition in precisely the types of context in which the reanalysis outlined above would be expected to take place. In the complement of the verb *bebeodan*, "order," for example, a subjunctive form normally appears, as in:

> 29 *Forþon se apostolica papa bebead Theodore biscope, þa he from him ferde, þæt he him on his biscopscire gerisne stowe* **foresege**

'For the apostolic pope ordered bishop Theodore, when he left him, that he provide a suitable place for him in his diocese'   (O2 Bede, 256: 32)

But one also finds a variant in which the periphrastic *sceolde* + infinitive construction appears instead of the morphological subjunctive:

> 30 *Se ealdorman (…) bebead his burðegne þæt he gebringan* **sceolde** *into his gebeorscipe þa foresædan Iudith*

'The prince ordered his chamberlain that he should bring the aforementioned Judith to his feast' (O3 Judith, 361: 239)

With the verb *biddan*, "ask, bid," a similar alternation occurs, as illustrated by (31) and (32):

> 31 *Ða bæd Swegen hine ðet he* **sceolde** *faran mid him*

'Then Swain asked him that he should travel with him'   (O4 AS Chronicle E, yr 1046)

> 32 *Uton feallan to ðære rode, and þone Ælmightigan biddan þæt he us* **ahredde** *wið þone modigan feond þe us afyllan wile*

'Let us fall down before the Cross, and ask the Almighty that he deliver us from the arrogant devil who wants to bring us down'   (O3 Oswold, II 126: 19)

There are signs too that the reanalysis was complete even in OE times. In (33), the *ðæt* clause in which *scealden*, rather than the morphological subjunctive, appears expresses a goal or a purpose. No sense of obligation is present:

> 33 *Ða héht se cásere gesponnan fiówer wildo hors … ðæt ða wildan hors* **scealden** *iornan on hearde wegas and him ða limo all tobrecan*

'Then the emperor had four wild horses harnessed … so that the wild horses should run on the hard paths and shatter all the cement for him'   (O3 Shrine 72: 1)

The third stage of the reanalysis, in which *scealden* functions as what Coates calls a "quasi subjunctive" (1983: 67) has apparently been reached. The process outlined above displays many of the elements which characterise grammaticalisation. A periphrastic form has begun to oust a morphological one, after a period of competition, and can now appear in

contexts from which it would have been excluded had it retained its original lexical meaning. Given that *sceold* was already at least a partially grammaticalised form, this periphrastic subjunctive *sceold* could be viewed as a kind of "double" grammaticalisation. For Plank (1984), the spread of *sceold* (and of other modals too) to contexts of this type is an important factor in explaining the loss of the subjunctive in English.

4.2.3 *Motan*

Of all the modals, *motan* has perhaps undergone the most significant semantic change. In earlier OE, especially, it is used to express a meaning much closer to that of modern *may* than to that of modern *must*. This becomes clear from examples such as the following:

*34 Ne **magon** hie and ne **moton** ofer mine est þinne líchoman (...) deaþe gedælan*
'They are not able and are not permitted, against my will, (...) to separate your body after death'   (O2 St. Andrew, 70: 2431)

It is interesting to observe the contrast between the two modals here. *Magan* expresses a notion of capacity, whereas *motan* evokes the notion of permission or authorisation. A similar contrast is to be found in (35):

*35 Hu **mæg** se beon gesælig se þe on þa gesælþu þurhwunian ne **mot***
'How can he be happy, he who is not allowed to continue in happiness ?'   (O2 Boethius, 8: 13)

I shall return to *magan* in the following section. In a relatively late development, *motan* comes to be used to express not permission, but obligation:

*36 Man **mot** on eornost motian wið his drihten, se ðe wyle ðæt we sprecon mid weorcum wið hine*
'One must address one's Lord in earnest, he who wishes us to speak to him by our deeds'
(O3 Ælfric, Treatise, 15: 3)

Examples of this type begin to appear only in later OE.

4.2.4 *Magan*

The root meanings of *magan* seem to lie somewhere between those of *motan* and *cunnan* (see 4.2.5). *Magan* semantically remains close to the PDE substantive *might*. Many occurrences of OE *magan* are best rendered in PDE by *can*:

*37 Ic mid handum ne **mæg** heofon geræcan*
'I cannot, with my hands, reach Heaven'   (O1 Cædmon 275: 9)

*38 Swæ feawa hiora wæron þæt ic furðum anne anlepne ne **mæg** geðencean be suðan Temese ða ða ic to rice feng*

'There were so few of them that I couldn't even think of a single one south of the Thames when I came to the throne' (O2 State of Learning, 5: 19)

Magan, then, functions as a kind of dynamic modal, concerned with power, capacity, or physical capability, and contrasts as such with *motan*, as we saw in the previous section.

The preterite, *mihte*, was available to express past-time capacity, as we saw in example (10), reproduced below:

*10 Wolde ic freondscipe ðine, if ic **mihte**, begitan*

Although most commonly used to express the notion of physical capacity, there are cases in OE where the meaning of *magan* is closer to the 'permissive' sense of the PDE auxiliary. Unambiguous instances of permissive use are harder to find, although Warner (1993: 165) gives a good example, reproduced here as (39):

39 Cwædon him to: Gif þu ne wilt us geðafian in swa æðelicum þinge, þe we biddað,
*ne **meaht** þu in usse mægðe ne ussum gemanan wunian ⁊ dreofon hine onweg*
'[They] said to him: "If you will not consent to us in so noble a matter, as we ask, you may not dwell in our country nor in our society," and they drove him away' (O2 Bede, 112: 22)

Of all the modals, *magan* is perhaps the first to develop epistemic uses. Both Goossens (1982) and Traugott (1992) consider epistemic uses to be rare in OE. Nonetheless, as Denison (1993) points out, one finds seemingly epistemic "possibility" uses of *magan* with impersonal verbs, as in (40) and (41):

*40 Nu **mæg** eaþe getimian, þæt eower sum ahsige, hwi ...*
'Now [it] may well happen, that one of you ask(s), why... (O3 Wulfstan, 122: 11)

*41 **Mæg** þæs þonne ofþyncan ðeodne Heaðobeardna / ond þegna gehwam þara leoda*
'The lord of the Heathobards and each thane of the people may regret it' (literally "[it] may of-this then cause regret to the lord of the Heathobards and to each of the thanes of the people") (OX Beowulf 136: 4070)

(examples quoted by Denison, 1993: 300)

OE was still a "null subject language," to borrow a term from Safir (1985). Unlike their PDE counterparts, verbs such as *gelimpan* and *getimian*, "happen, occur," could appear either with a non-referential pronoun, *hit*, in subject position or with no surface subject at all. (40) and (41) could be analysed, at a time before the operators alone had come to possess the "NICE" properties, as "raising" structures, on the way to full auxiliary status. From this perspective, *magan* would have no subject in these examples because there is no subject to "raise" out of the lower clause.

At any rate, when the expletive subject pronoun is present, it can also become the subject of the modal, as (42) shows:

*42 Ic axige hwæðer hit **mihte** gedafeman abrahame þam halgan were, þæt…*
'I ask if it might have been fitting for Abraham, the holy man, that…' (O3 Ælfric, Interrogationes, prg. 61: 400)

The meaning of (42), like that of the two previous examples, can only be epistemic. The author is clearly not evoking some kind of physical capacity or ability of non-referential *hit*. A further point of interest arising from (42) is that *mihte* is apparently being used as what Warner (1993: 162) describes as "a sentence modifier … evaluating past- or present-tense propositions." Warner claims that no clear instances of this phenomenon occur before the ME period, although evidence from Ælfric's late OE suggests that Warner may be a little over-cautious here. Alongside (42), we also find (43), by the same author:

*43 Sume beladunge **mihte** se rica habban his uncyste gif se reoflia wædla ne læge ætforan his gesihðe*
'The rich (man) might have had an excuse for his niggardliness if the leprous beggar had not lain [there] before his eyes' (O3 Ælfric, Homilies, I 330: 9)

(42 and 43 quoted by Denison, 1993: 298-300)

The use of *mihte* is of particular interest here. It is the presence of the preterite, apparently, that indicates that the probability evaluation concerns a past time event. OE had no perfective infinitive: Ingham (2011) argues convincingly that the perfect infinitive construction was a syntactic borrowing from Anglo-Norman, which possessed a similar construction, probably introduced into English by bilingual speakers.

4.2.5 *Cunnan*

I have left until last what might be considered, for reasons that we shall examine later, the most peripheral of the modals, *cunnan*. *Cunnan* is also the last of all the modals to be fully grammaticalised, and conserves for a long period many of its lexical verb properties. For example, *cunnan* occurs frequently in written OE with an NP complement, as in (4) above and again in (44):

*44 Leofre ys us beon beswungen for lare þænne hit ne **cunnan***
'[It] is dearer to us to [ie, we would rather…] be flogged for learning than not to know it'
(O3 Ælfric, Colloquy II, 6: 7)

(44) also shows that the infinitive form was still in use during this period.

The most overtly modal uses of *cunnan* in OE tend to concern dynamic modality, the knowledge or the ability of the subject to do something, as in (45) and (46). In these uses, *cunnan* appears with a bare infinitive complement:

*45 Ic **can** eow læran*
'I can teach you' (O1 Cædmon, 280: 3)

> *46 'Ne **con** ic noht singan ; ond ic for þon of þeossum gebeorscipe uteode, ond hider gewat, for þon ic naht singan ne **cuðe'***

'I cannot sing at all, and I therefore went out of that feast, and departed hither, all because I could not sing'   (O2 Bede, 342: 30)

Cuðe, the preterite form of *cunnan*, expresses past capacity in (46) just as *could* still functions as the 'temporal' preterite of dynamic *can* in PDE.

So-called dynamic modality is generally understood to involve "the properties or dispositions of persons or other entities involved in the situation," according to Huddleston & Pullum (2005: 55). The dynamic interpretations of modals, as they put it, "are somewhat peripheral to the concept of modality." Palmer (1979: 2) comes to much the same conclusion when he observes that "some of the meanings of the modal verbs, particularly the use of *can* to refer to ability . . . do not seem to be strictly matters of modality at all; for ability and volition refer to characteristics of the subject of the sentence rather than to the speaker." In other words, dynamic modality is subject-oriented. But whereas the modals in PDE are transparent with regard to the assignment of thematic roles, the referent of *ic* (or of *I* in the modern version) in (45) seems to be assigned two roles, one by *læran* and also one by *cunnan*, in much the same way as the referent of *he* in *he is able/has the ability to teach* receives a role from both *be able* and from *teach*. Given that *be able to and have the ability to* are presumably control predicates of some kind, one can speculate with some justification as to whether *cunnan* in OE was not still a control verb, some way behind the other future auxiliaries on the road to grammaticalisation.

Evidence from later stages in the history of English lends support to the idea that *cunnan* was the last of the modals to fully grammaticalise. Denison (1993: 310-11) quotes a series of examples to show not only that the infinitive form of *cunnan* remained productive long after the end of the OE period, but also that it could appear in the complement of another modal, just like a straightforward lexical verb. Some of his examples are reproduced below:

> *47 I **shall cunnenn** cwemenn Godd*

'I will be able to please God' (Ormulum, c1180)

> *48 He **moste conne** wel mochel of art / Þat þou woldest ȝif þerof ani part*

'He would need to know very much of artifice to get you to give up any part of it' (Floris & Blaunchefloure, c1300-50)

> *49 Ho so euer schuld dwelle at Paston schulde have nede **to conne** defende hymselfe*

'Whoever should live at Paston should need to know how to defend himself'   (Paston Letters, 1445)

In (47) and (48), the infinitive surfaces in the complement of another modal, and in (49) as the complement of infinitival *to*, which is generally considered to occupy the same slot in the syntax as the modals. Denison also notes (1993: 294) that in some contemporary Scots dialects, *can* can still function morphologically as a lexical verb:

> *50 Ye'll **ca**n cum neist weik ?*

*51 If wey **had cuid** cum*
(Examples taken from Brown & Millar, 1980)

This would appear to indicate that in these varieties, at least, the grammaticalisation of *can* as a modal remains incomplete, suggesting once again that it was probably a later development than that of the other modal auxiliaries.

4.3 Summary

A number of points emerge from our rapid survey of the OE modals. Firstly, they did not as yet constitute a separate syntactic class, although the grammaticalisation process was already in progress during the OE period. Secondly, this process has not been a homogeneous one. It appears that some of the modals in OE have advanced further along the path towards full auxiliary status than others. *Cunnan*, for instance, seems to lie some way behind *sculan* in this respect. It is interesting to compare the rapid grammaticalisation of *willan*, too, with that of *cunnan*, which is probably still continuing today.

The examples quoted here also highlight an interesting semantic shift among the modals, in their root meanings. Simplifying matters somewhat, we can identify three broad types of root modality: capacity, permission, and obligation. Around the beginning of the OE period, the three categories were expressed, in the majority of cases, by *magan*, *motan*, and **sculan* respectively:

	CAPACITY	PERMISSION	OBLIGATION
(*cunnan*)	*magan*	**motan*	**sculan*

Fig. IV: Root meanings of the modals, early OE

Cunnan, with its "knowing" semantics, is at best a marginal member of the group. However, during the OE period, it starts to be incorporated, and begins to take over the expression of capacity from *magan*. This appears to be part of a chain shift, which sees all the modals move to the right on our chart:

CAPACITY	PERMISSION	OBLIGATION	
→ *cunnan*	→ *magan*	→ **motan*	→ **sculan*

Fig. V: Shift in the root meanings of the modals

The semantic shift outlined above is consistent with the table given in Traugott (1972: 198-99). *Magan* takes over the "permission" role from **motan*, and **motan* replaces **sculan* as the modal expressing obligation. **Sculan* begins to leave the group, a process which is nearing completion in PDE, where *shall* has all but disappeared from contemporary American English, while even in British English its use is becoming increasingly restricted,

mostly to old lists of rules and regulations (a relic of its former obligation sense) and to the more or less "frozen" first-person *Shall I ...?* construction, employed when a speaker offers to do something for somebody else[11]. *Should* has not undergone the same decline as the originally present form, because, as we have seen, it was already being reanalysed in OE times as an independent lexeme. *Willan*, on the other hand, was at no stage concerned by the root meaning shift, having followed a different path towards auxiliary status.

Whilst it would be difficult to date this shift accurately, we do know roughly when it must have taken place. It appears to start towards the end of the OE period, accelerating in the first part of the ME period. In early recorded OE, for example, obligation is expressed by **sculan*, as in examples (20), (21) and (22), all from the O2 period. Only in later OE does **motan* begin to supplant **sculan* in this role, as shown by (36), from an O3 text. And even during the O3 period, **motan* can still be used to express permission, as in (9). This would appear to be another instance of layering. The change in meaning of **motan* shows up in late OE texts.

Similarly, *magan* is used consistently in earlier OE with the older capacity meaning, as in the O2 examples (6), (10), (34), (35), (37), (38), and even in (37), an O1 example (if, as Thorpe claims, the authorship of the *Metrical Paraphrases* can indeed be attributed to Cædmon). Uses to express permission are rarer, and, although early examples can be found, such as (39), they mostly occur in later texts:

> 52 *Agyf þine scire, ne* **meht** *þu lencg tun-scire bewitan*
> 'Give up your office, you may no longer exercise [your] stewardship'   (O3, Luke, ch16 v2)

As for *cunnan*, the shift from knowing how to do something to having the capacity to do something is slight, and many examples in both early and later OE could, retrospectively, be understood with both meanings. When, for instance, the *fuglere* (fowler) in Ælfric's colloquy is asked: *Canst þu temman hafocas?* (Can you tame hawks?), and he replies *Giese, ic can* (Yes, I can), it is difficult to determine whether the inteviewer is asking if he is able to tame birds or if he knows how to do so. Both interpretations fit the context. However, Tellier (1962: 123) notes that, by the eleventh century: "il est possible d'employer *cunnan* avec un infinitif désignant soit un procès de type intellectuel (...) soit un procès physique." Even if uses of the latter type remain comparatively rare, *cunnan* seems to be encroaching upon the territory previously occupied by *magan*. Crucially, Tellier also notes that uses of *cunnan* with an infinitive, the predominantly modal construction, are on the increase (1962: 122)[12].

A further clue to the date of the shift set out in Figs. IV and V is provided by the emergence of epistemic meanings of *must*. **Motan/must*, when it comes to be used epistemically in early ME, has the modern "logical necessity" or "strong probability" meaning, which is generally associated with root obligation (see, for example, Nordlinger & Traugott, 1997: 299), rather than the "possibility" meaning attached to epistemic *may* or *might* in PDE, which corresponds rather to root permission. And the ME reflexes of *magan*,

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[11] The widely-diffused prescriptivist rule recommending that *shall* should replace *will* in the first person singular and plural in educated speech has probably kept *shall* alive in British English for longer than may otherwise have been the case.

[12] The shift also shows up in an interesting study by Hicks (1993) of the translations into PDE of *cunnan*, *magan*, and *motan* as used in *Beowulf*, Ælfric's *Lives of Saints*, and a sample from the *Canterbury Tales* (see Hicks, 1993: 58-74).

when used epistemically, express possibility, as one might expect if they were derived from a root permission meaning. If we accept Goossens' and Traugott's hypothesis that derives epistemic from root meanings, then we can conclude that the root meaning shift must have begun, at least, before the epistemic forms became widespread, in earlier ME. Caution should be exercised here, however: we have access only to a small quantity of written texts from the period, and of course, for the new forms to appear in written documents, the change must necessarily already have begun, at least, in the spoken language beforehand.

An interesting question that we can ask ourselves is whether the shift set out in Figs. IV and V is a "push" chain or a "drag" chain. Lancri (2000) is one of the few to have attempted to answer this complex question, opting for the latter solution: "nous avons tout lieu de penser que c'est la création d'auxiliaires du futur, à savoir la grammaticalisation de *shall* et *will*, qui a enclenché le processus des glissements et réajustements successifs" (2000: 111). The hypothesis as it stands, however, poses a certain number of problems. To begin with, the only argument Lancri gives in support is a largely intuitive one: "on peut imaginer que leur sens respectif [ie: the meanings of *shall* et *will*] de "vouloir et de "devoir" les prédestinait tout naturellement à se rapprocher et à former ensemble une opposition du système. Les deux termes sont, en effet, antinomiques l'un de l'autre. On peut donc émettre l'hypothèse que, pour s'associer à *will* et former avec lui un couple d'opérateurs à finalité prédictive, *shall* s'est vu contraint de céder son sens premier à *must*" (2000: 111). All of which remains, of course, somewhat speculative. Moreover, there seem to be no "natural" grounds for assuming that *shall* and *will* would be drawn together, or that the need would be felt for some kind of systemic opposition between two auxiliaries of the future, especially given that once *sculan* and *willan* start to function as grammaticalised future auxiliaries, they become bleached of most if not all of their original lexical meaning. The hypothesis also relies heavily upon the participation of *willan* which, as we have seen, follows its own path towards auxiliary status and remains outside the root modal group. It is simply not concerned, therefore, by the shift. Finally, any explanation centred exclusively on *sculan* fails to take into account the ease with which knowing how to do something can shade into being able to do something, a factor which is likely to have played at least some part in the change. Tellier (1962) considers the shift to be both a drag and a pull chain. He identifies what he calls two poles, a "pôle de traction" (*sculan* pulling the other modals rightwards on our chart as it leaves the group to become an auxiliary of the future) and a "pôle de propulsion" (*cunnan* pushing the others to the right as it makes its way into the group). For Tellier, the shift is caused by: "les pôles de propulsion et de traction qui agissent conjointement" (1962: 337). He may be right in this: *sculan* certainly does begin to express future meaning, as shown by (22) and (23), but it is by no means alone. *Willan* too, as in (14-16), acquires future uses, more rapidly than *sculan*. And while *cunnan*, does indeed enter the group from the left, it does so very slowly, so much so that the grammaticalisation process is probably still going on today, as we shall see in section 5. It is possible, therefore, that neither of these developments alone carried enough impetus to produce the wider shift, whereas the combined effect of both acting together did. Further research would be required, however, to confirm or refute this hypothesis.

5 The grammaticalisation of the modals: a continuing process

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Some confirmation of the "differential grammaticalisation" hypothesis is to be found in the modern language. Obviously, a detailed examination of the modal auxiliaries in PDE lies well beyond the scope of this paper. My aim here is simply to show, as I suggested earlier, that there are very good reasons to assume that the process of grammaticalisation and change within the modal group which begins in OE has yet to reach its conclusion, and is still very much an ongoing phenomenon in PDE. I have already mentioned the fact that *shall* seems to be in the final stages of leaving the group. Further evidence is supplied by the pairs *may/might* and perhaps by *can/could*.

Denison (1992) points out that *may* with a perfective infinitive is becoming increasingly common in PDE in counterfactual contexts, where formerly *might* would have been expected, as in sentences like *if he'd set off earlier he may have got there on time*. Counterfactual *may* is also attested instead of *might* in conditional sentences:

*53 "If I lived there, it **may** not be as easy for me to see the changes."*   (Caryll Phillips)
(quoted at http://www.languagehat.com/archives/001055.php)

May and *might* appear to be drifting apart. *Might* in sentences like **Yesterday he might leave early* is no longer the past form of permissive *may*. *Might* is still supposed to replace *may* in backshifting contexts, as in:

*(v) I think I **may** see her today.*
*(vi) I thought I **might**/***may** see her yesterday, but I had to work late at the office.*

However, Huddleston & Pullum (from whom the above examples are borrowed) point out that this is no longer systematically the case. Their comments are interesting: "Actually, some speakers do allow *may* here, which shows that for them the two forms have become separated – *might* is no longer the preterite form of *may* for these speakers" (2005: 57). At least some modern speakers, apparently, have reanalysed *may* and *might* as independent auxiliaries, with similar meanings. This reanalysis might easily have taken place in epistemic contexts such as the following:

*(vii) He **may/might** have forgotten to post the letter*

The preterite *might* is sometimes said to express a weaker probability than *may*, although whatever difference in meaning there might be here is slight, to say the least. As Denison remarks, the two auxiliaries are "frequently almost interchangeable" in contexts of this type (1993: 294). If this change continues, it may well lead to the disappearance of one or the other of the forms.

The second example is that of *can*. We saw that *cunnan* was the last of the modals to begin to be grammaticalised, and *can* continues to remain behind the others on the path to grammaticalisation. In its dynamic uses, the preterite *could* still functions as a backshifting preterite and as a past tense marker:

*(viii) I **can** swim*
*(ix) I **could**/***can** swim when I was six*

There are however, signs that the separation of the two forms has begun. They do not share the same properties. *Could*, for example, can be used quite freely not only with dynamic but also epistemic meaning:

*(x) They **could** get here this evening, but it's unlikely*

Could is not used in (x) to express dynamic modality in the past. Nor is it used to attenuate a possibility that might otherwise be expressed by *can*. The latter auxiliary would be impossible here, as it has still to acquire a full range of epistemic meanings. In the negative form, for example, epistemic *can't* is usually possible:

*(xi) You **can't** be serious!*

Taken out of context, (xi) is ambiguous between a dynamic or deontic root interpretation and an epistemic one, "your being serious" being judged a virtual impossibility by the speaker. With affirmative *can*, however, epistemic readings are much harder to obtain. The following example cannot normally be used to imply that the speaker considers "your being serious" to be a possibility[13]:

*(xii) You **can** be serious!*

If we accept the hypothesis that epistemic uses of the modals developed from root uses, this could be seen as evidence that *can* has yet to reach the same stage in the grammaticalisation cycle as the other modals. Of course, as Hopper & Traugott (1993) point out, the fact that an element begins to grammaticalise along a given cline does not imply that it will necessarily reach the end of the cline. The process can be interrupted at any moment. *Can* may or may not acquire more extensive epistemic uses in the future. Nonetheless, the potential for further change exists. *Can*, if it continues to evolve in the same manner as the other modals, is likely to develop more extensive epistemic uses over time.

Some authors seem not to regard epistemic *can't*, as in (xi), as an epistemic modal at all. Such is the view of Bouscaren & Chuquet (1987), for example, who give the following example:

*(xiii) You **can't** have seen him in London, I know he was in Paris then*

For Bouscaren & Chuquet: "Il s'agit bien ici d'une relation concernant le sujet de la relation prédicative: *it is not possible for you to have seen him...* Il n'y a pas d'évaluation sur la

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[13] The widespread use of epistemic *can't* is probably linked, in a way that remains to be determined, to the fact that epistemic *mustn't* is very rarely used, in present-day British English at least, with epistemic meaning. However, cases of epistemic, affirmative *can* do occur in PDE, albeit less frequently, even with non-referential subjects:

*It **can** get really hot in Marrakesh in August*

*Where there is charge, there **can** be sparks !* (Science Buddies, http://www.sciencebuddies.org/science-fair-projects/project_ideas/Elec_p049.shtml)

validation de la relation prédicative: l'énonciateur asserte une impossibilité. Il semble donc plus correct de considérer qu'il s'agit d'une relation entre le sujet et le prédicat" (1987: 50). In other words, for these authors, *can't* in (xiii) must be what in Warner's (1993) terms would be called a subject-oriented or "subject-selecting" modal. But this cannot be the right analysis. If it were, then we would expect *can't* with this type of meaning not to be possible with non-referential subjects. The latter, however, are frequent with epistemic *can't*:

> *(xiv) There **can't** be many linguists who would agree with that*
> *(xv) It **can't** be raining, the ground looks dry*

Both (xiv) and (xv) are perfectly acceptable. And yet, obviously, no semantic relationship is established in these examples between the predicate and the non-referential pronoun. No property or capacity is being ascribed to what is basically a syntactic slot-filler.

It might be more accurate to consider that *can't* functions in such cases as a root modal but with what Nordlinger & Traugott (1997) call the "wide scope" typical of epistemic modals. The latter, of course are "sentence modifiers" according to the terminology used by Warner (1993), in that they have scope over the whole proposition. Root modals can, however, also have wide scope whilst retaining their root meanings. Take, for example, the following sentence:

> *(xvi) Protective clothing **must** be worn at all times*

Must here is used to express obligation, not epistemic certainty. And yet, it is not subject-oriented. Clearly, no obligation is imposed upon the protective clothing to be worn. Rather, *must* has scope here over the whole proposition [*Protective clothing - be worn at all times*][14].

It may be possible to apply the same analysis to so-called epistemic *can't*. Caution, however, is recommended: from a pragmatic point of view, it is clear that the speaker in (xi) and in (xiii) – (xv) is using *can't* epistemically to express his opinion that the situation[15] in question is highly unlikely to occur or to have occurred. What is interesting is that, as Nordlinger & Traugott show, wide-scope root uses form likely bridging contexts for the shift from "simple" root to full epistemic uses. The existence of examples such as the above could be taken as a sign that just such a shift is taking place in contemporary English.

6 General Conclusion

It would appear, then, that there are indeed a number of reasons to believe that the grammaticalisation process which has ultimately seen the modals constitute a separate syntactic category almost to themselves did not in fact affect each of them in the same way. Some grammaticalised far more rapidly than others, some acquired epistemic meanings before others, while for some the process is still under way even in PDE. I have merely been able to sketch some of the developments which took place during the OE

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[14] *Must*, of course, appears here with a passive complement, and the absence of an Agent argument seems to block any narrow scope interpretation.

[15] A term borrowed from Huddleston (1984) to designate both events and states.

period: further research, obviously, would be required to determine more precisely the nature of some of the changes outlined here.

This kind of study also serves to highlight the need to take into account what one could call, following Smith (1996), the dynamic nature of natural language, even when we look at it from a synchronic perspective. The manner in which speakers use language is susceptible to change at all periods in time, and speakers have a natural tendency to reanalyse utterances and to modify their internal grammar accordingly. What will appear to future generations of speakers as changes in the language, therefore, are taking place today. Just as we can observe, from our twenty-first century vantage point, changes which were taking place during the OE period, so too do we need to be aware of developments under way even in the contemporary language.

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