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Investigating the past of the futurate present*

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Abstract

Using a corpus of 1118 future-referring clauses from each of five versions of the Christian Gospels, this paper explores the effect that the development of English modals as a distinct class had on the range of meanings expressed by the simple present tense. It is shown that in Old English, the simple present tense was the primary form used to express future meanings, while by Early Modern English modals were obligatory in such clauses. In late Middle English, modals were very frequently used, but are shown not to be obligatory. The change is attributed to the advent, in the late 1500s, of a contrastive interpretable feature MODALITY, spelled out by the modals. Thereafter, a clause lacking this contrastive feature could not be interpreted as future-referring except in planned or scheduled contexts. The featural implications of the present-day decline of the true modals are then briefly considered.

Keywords

English, modals, contrast, morphosyntactic features, grammaticalization, tense, future time reference

1 Introduction

This paper addresses the question of whether the development of modals as a morphosyntactically distinct class of auxiliaries in English had systematic effects on the meanings expressed by other verb forms. Here, we focus on how the expression of statements about the future may have changed with the development of the modal auxiliaries. In Present-Day English (PDE) the modal *will*, and to a lesser extent *shall*, express future meanings; these modals are fully integrated into the grammatical system of tense and mood. This raises the question, however, of how English expressed future meanings before the modals had developed as functional elements inserted in T; i.e., before the beginning of the 16th century.

We pursue this inquiry on the assumption that different languages, and therefore also different stages of the same language, can have different inventories of features and syntactic projections, as argued by Bobaljik and Thráinsson (1998) and Cowper and Hall (2017), and in contrast to the strictest version of the cartographic approach, articulated by Cinque and Rizzi (2010). Further, we adopt the view, consistent with that put forward for phonology by Dresher (2009) and Hall (2007), that grammatically active features are contrastive. By 'grammatically active' we mean features that are

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obligatory in certain contexts, and are involved in syntactic processes such as agreement or movement (Wiltschko 2008; Cowper and Hall 2014, 2017). If an interpretable feature F is grammatically active, and thus contrastive, then its absence is interpreted semantically as 'not F.'[1] Features or properties that are not grammatically active are not contrastive; the absence of a non-contrastive property G is not necessarily interpreted as 'not G,' although pragmatic principles may favour a 'not G' inference in some contexts.

For example, English exhibits a grammatical contrast between singular and plural, but does not grammatically distinguish plurals greater than two from duals. The absence of grammatical plurality in (1a) therefore contrasts with its presence in (1b), and (1a) cannot be interpreted as plural.[2] This differs from the situation with a non-contrastive element such as the modifier *two* in (1c). The absence of *two* in (1b) does not contrast grammatically with its presence in (1c), and (1b) therefore does not exclude a dual reading.

(1) a. this book (= exactly one book)
b. these books (= two or more books)
c. these two books (= exactly two books)

Implementing this view of contrastive features in the verbal inflectional domain, we assume that in Present-Day English, a contrastive feature MODALITY distinguishes modally marked clauses expressing futurity, possibility, or necessity from other finite clauses, following Cowper and Hall (2017). In PDE, grammatical MODALITY is spelled out by the modal auxiliaries (*will/would, shall/should, can/could, may/might,* and *must*).[3] In this paper we use the term 'modals' to refer only to these obligatorily finite modal auxiliaries, and not to periphrastic expressions like *have to* or *be going to*, which we assume do not spell out the contrastive feature MODALITY. See section 4 for more on the differences between these periphrastic constructions and the true modals.

We further assume, following Cowper and Hall (2017), that the appearance of MODALITY in the English Infl system was part of the development of the English modals from verbs to Infl heads in Middle and Early Modern English (Closs 1965; Lightfoot 1979; Roberts 1985; van Kemenade 1992; Warner 1993; van Gelderen 2004). Before this change took place, the premodals[4] were verbs. Just like the dual meaning associated with the word *two,* their modal meaning came from the encyclopedic content associated with their roots (Marantz 1997), not from a featural specification relevant to the grammar. Once MODALITY was added to the system, it was spelled out by the new class of modals, and the absence of a modal auxiliary thus came to be interpreted as signalling the contrastive absence of the feature.

As a result of this change, in Present-Day English modals *will* and *shall* spell out a specific flavour of grammatical modality, which we call temporal modality. These auxiliaries are thus used to

[1]While our discussion is framed in terms of privative features, nothing in our account crucially depends on features being privative rather than binary. With binary features, the contrast here would be expressed as holding between the marked and unmarked values of the feature [±F]. (See Cowper and Hall 2014 for further discussion of feature valency.)

[2]We set aside here the question of whether the semantics of plural nominals can include singular reference (Sauerland 2003; Zweig 2009, among others). What is relevant here is the grammatical contrast between singulars and plurals, which gives rise to the interpretation of *this book* as contrastively not plural.

[3]MODALITY corresponds to the feature IRREALIS proposed by Cowper (2005), which is spelled out in Spanish and many other languages by the future and conditional tense forms.

[4]This term is due to Lightfoot (1979), and refers to the earlier English verbs that later developed into the modal auxiliaries.

express futurity, alongside other periphrastic constructions like *be going to*. The simple present and the present progressive can still be used with futurate meaning in matrix clauses, but only when the clause describes a plan, or a schedule, that holds at speech time, as in the examples in (2).

(2) a. The train arrives this evening.
b. The children are going to the beach tomorrow.

In the view we adopt here, this restriction is due to the contrastive absence of MODALITY in such clauses. Simple predictive clauses, by contrast, like those in (3), require an overt expression of futurity, as shown in (4). The modal form is also felicitous with plans and schedules, as shown in (5), though the planned/scheduled nature of the event is less salient when the modal is used.[5]

(3) a. #The hurricane arrives on the east coast the day after tomorrow.
b. #The candidate's reputation is taking a nosedive three days from now.
c. #That director certainly wins an Oscar next year.

(4) a. The hurricane **will** arrive on the east coast the day after tomorrow.
b. That director **will** certainly win an Oscar next year.

(5) a. The train **will** arrive later this evening.
b. The children **will** go to the beach tomorrow.

This view of PDE modals as spelling out the contrastive feature MODALITY, along with the absence of this class at an earlier stage, leads to the following prediction: Before the English modals were established as a class of auxiliaries spelling out the contrastive feature MODALITY, the simple present was not contrastively non-modal, and should thus have been used to express the full range of futurate meanings. In what follows, we demonstrate that this prediction is correct, based on historical corpus data. In sections 2 and 3 we lay out our methodology and results, which indeed support the hypothesis that the simple present was able to express future meanings in earlier stages of English. In section 4 we turn to preliminary evidence that the grammatical status of MODALITY may again be changing in contemporary English, leading to a new expansion of possible futurate uses of the simple present.

2 Methodology

2.1 The empirical challenge

Testing this prediction faces two main challenges. The first is finding a reliable way to identify future-referring clauses at earlier stages of English, in the absence of an obligatory modal element such as *will* or *shall*. Though some examples can be identified from context, there is no way to automatically distinguish instances of the present tense with future reference from those with present reference; searching for morphologically present-tense verb forms yields an intractably high number of false positives. Other potential methods of narrowing searches, such as requiring the presence of a future adverbial, prejudge the distribution of futurate presents, and thus could skew the data in unknown ways.

[5]Future-referring present-tense forms are also possible—in fact required—in various adjunct clauses, including conditional antecedents and *when* clauses; we return to these in section 4.

The second difficulty is in making meaningful comparisons across stages in the development of English. If the frequency of futurate presents does appear to change over time, we want to be able to say with confidence that these changes reflect changes in the language itself, rather than differences in the types of texts examined from different periods.

Both of these issues can be resolved by looking at a single text that was translated into English at different historical periods. As for many European languages, the largest such text is the Christian Gospels, which have Old English, Middle English, and Early Modern English versions widely available. Furthermore, the source languages (Greek and Latin) of the translations have morphological future tenses, providing a convenient means of identifying future-referring clauses. Comparison among these separate translations forms the basis for the analysis presented here.

2.2 The texts

We constructed a corpus with five versions of the Gospels: the original Greek New Testament, the Latin Vulgate, the Anglo-Saxon Gospels (translated from Latin ca. 993), Purvey's revision of the Wycliffe Bible (translated from Latin ca. 1388),[6] and the King James Version (translated from Greek in 1605–1611).

These translations provide a consistent text rendered across three periods in the development of English, but they do present certain drawbacks from the perspective of linguistic analysis. The texts are translations, not original vernacular compositions. They are scriptural, and thus likely represent a markedly formal register. They were created by a small group of translators, not by a broad cross-section of speakers of the English of the time. And finally, some patterns may be due to deliberate policy choices in translation, rather than reflecting the natural way of expressing a meaning at the time.[7]

Despite these drawbacks, the selection of texts has the advantage of allowing the comparison of semantically equivalent clauses from multiple stages of English. The remainder of this section describes in more detail the database on which this paper's analysis is based.

2.3 The database

The database includes all verses of the Gospels that contain either *will* or *shall* in the King James Version, as well as all verses that contain a verb in the future indicative or aorist subjunctive in the original Greek, since these two were the most common correspondents of clauses with *will* or *shall* in the King James Version. Our purpose in including all of these verses was to cast a relatively wide net for potentially future-referring verb forms at other stages of English. For verses with more than one clause with potential future reference (i.e. more than one instance of *will* or *shall*, or more than one verb in a relevant form in the original Greek), multiple database records were created to give a separate record for each potentially relevant clause. Each record is linked to the corresponding verse in all other versions, allowing comparison across translations and with the original source of translation.

Each record was manually coded for the flavour of modality expressed, so as to isolate those

[6] We chose Purvey's revision over the original Wycliffe Bible because it is thought to be more 'rhythmical and idiomatic' (Heaton 1913: 285), and thus may be more representative of the English of the time. The Greek and Latin versions were included as both were separately used as sources for English translators. After the fact, we also added three other versions to our data set—the Tyndale Bible, Luther's German version, and the older version of the Wycliffe Bible. However, neither the Tyndale nor the older Wycliffe shed additional light on the questions pursued here. A full examination of the Luther Bible and its relevance to these issues awaits further research.

[7] We discuss one such potential interference in section 3.5, related to a surprisingly high rate of modal *shall* in the Purvey translation.

with future meaning. Clauses using *will* or *shall* in a volitional or mandatory sense, or where the modal occurs in a conditional clause, were excluded from further analysis. Coding was done primarily on the basis of the King James Version, but doubtful cases were checked against other versions.

The result was a database with a total of 4538 records, of which 1118 were coded as futurate. These 1118 are the focus of the analysis developed in this paper.

3 Results and discussion

3.1 Overview of results

Table 1 summarizes the expression of future time reference across the five versions of the New Testament included in our database.[8]

[Table 1 about here]

Before moving on to more detailed discussion of the changes that can be observed in English, some general observations can be made about differences among these versions. In Greek and Latin, the majority of future-referring clauses used a morphologically future form of the verb (around 88% in both cases). In the Anglo-Saxon Gospels, by contrast, the majority—85%—of such clauses involved the present tense. In Purvey, 84% involved a modal, almost always *shall*, and then in the King James, over 99% were expressed with a modal, about three-quarters of the time with *shall*, and one-quarter with *will*. The three English translations of Luke 13:24, shown in (6), illustrate the progression rather nicely.

(6) a. ASG: ...for ðām ic secge ēow, manega **sēcaþ** ðæt hig in gān, and hī ne **magon**.
b. Purvey: ...for Y seie to you, many **seken** to entre, and thei **schulen not mowe**.
c. KJV: ...for many, I say unto you, **will seek** to enter in, and **shall not be able**.

In (6a), present indicative *sēcaþ* and *magon* are both used with future time-reference. In (6b), *seken* is a present-tense form (one of those syncretic for indicative and subjunctive), while in the second clause SHALL expresses futurity, followed by an infinitival form of MAY, which by Early Modern English was no longer possible. Finally, in (6c), both clauses have modals expressing futurity.

These results provide a general confirmation of our prediction. The lack of a grammatically contrastive feature MODALITY in Old English correlated with a wider semantic range for the simple present tense. As the modals were established as a syntactically distinct class, the range of uses available to that verb form narrowed, until (Early) Modern English, where modals are virtually obligatory in future-referring clauses. In the next sections we discuss the stages of this change in more detail.

3.2 The initial state: Old English

As Table 2 shows, present tenses make up a large majority of future-referring forms in the Anglo-Saxon Gospels. Finite present-tense clauses in Old English could be either indicative or subjunctive, and both moods were used to express future meaning. The indicative–subjunctive

[8]Some forms tallied here exist in only one of the languages, and are thus systematically absent from all other versions. Only Greek and Latin have morphological future tenses, for example, while only English has the class of modal auxiliaries of interest here. Many present-tense forms at the relevant stages of Old English were also syncretic for indicative and subjunctive. Rather than group such forms with either class, we have counted them separately here.

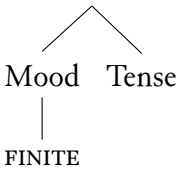
distinction was already in decline at this point, with many syncretic forms. In the Anglo-Saxon Gospels, unambiguously subjunctive forms appear only 5.4% of the time in future-referring clauses. Interestingly, though the Old English subjunctive was sometimes associated with modal or irrealis contexts, we found no evidence that the subjunctive was preferentially used to express futurity. (Traugott 1992 offers a detailed discussion of how these two moods were used in Old English, noting that the subjunctive typically expressed doubt, desire, obligation, or evidentiality, and that the distinction between subjunctive and indicative was already beginning to erode during this period.)

[Table 2 about here]

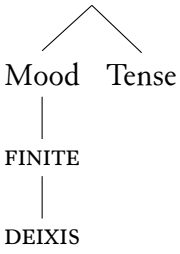
On this basis, we claim that the so-called present tense in Old English was merely non-past, and not contrastively non-modal or non-future. It thus freely occurred with future interpretations.

We can express this by saying that the Old English tense-mood system lacked the feature MODALITY. Old English finite clauses can be characterized by the feature dependencies in (7), adopting the framework in Cowper (2005). The privative feature PRECEDENCE distinguishes past from non-past forms, while DEIXIS distinguishes indicative from subjunctive forms (the latter lacking DEIXIS). The distinction between indicative and subjunctive clauses was being lost in Old English; ultimately FINITE and DEIXIS came to be bundled, so that neither occurred without the other.[9]

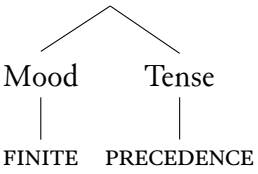
(7) a. Non-past subjunctive



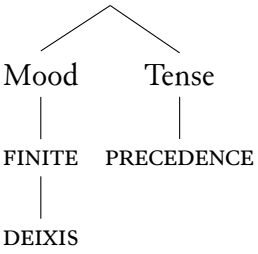
b. Non-past indicative



c. Past subjunctive



d. Past indicative



3.3 The end state: Early Modern English

By the Early Modern English period, represented in our database by the King James Version of the Christian Gospels, the inflectional system of English had undergone substantial reorganization. At this stage, the modals *shall* and *will* are used nearly categorically in the future-referring clauses contained in our database, as can be seen in Table 3. In our data, *shall* and *should* predominate, but *will* and *would* are also fairly robust, occurring in approximately 22% of all future-referring clauses.

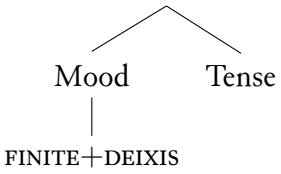
[9]The loss of the subjunctive seems to have been very gradual, beginning in Old English with increasing syncretism between the subjunctive and the indicative, but continuing through the Middle English period (Traugott 1992; Fischer 1992). Since we found no connection between the subjunctive and future time reference at any stage, we do not discuss it further.

[Table 3 about here]

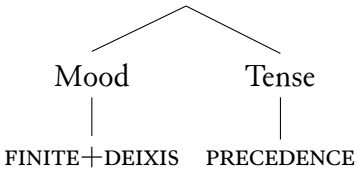
The preponderance of the modals here might be taken to be an artefact of how the data were selected, because our database systematically includes every verse from the KJV that contains either *shall* or *will*. Note, though, that the verses in the database also include all those that contained either the future indicative or the aorist subjunctive in the original Greek; the addition of these verses does not substantially reduce the predominance of *shall* and *will* in the KJV.

Clearly, by this stage the simple present tense in English is contrastively non-modal. We model this by proposing that by Early Modern English, MODALITY was fully established as a contrastive grammatical feature of the English Infl system. Early Modern English finite clauses can be characterized by the feature dependencies in (8). Here, as before, PRECEDENCE distinguishes past from non-past clauses, but now MODALITY distinguishes modal from non-modal clauses, restricting the semantic range of the non-modal forms.

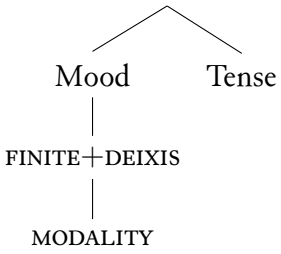
(8) a. Non-past non-modal



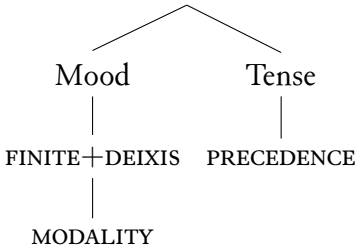
b. Past non-modal



c. Non-past modal



d. Past modal



As a result, by Early Modern English the simple present tense could no longer be used in modal clauses, which now contain MODALITY, just as it cannot be used in clauses containing the feature PRECEDENCE.

3.4 Interim summary

The data discussed in the previous two sections appear to bear out our main prediction. In Early Modern English, future clauses are categorically expressed with modals, while in Old English, they are categorically expressed with present-tense forms. This supports the account proposed in Cowper and Hall (2013), in which MODALITY was not part of the inflectional system of Old English, and present-tense forms were thus not contrastively non-modal. By Early Modern English, MODALITY was part of the system of contrasts in the English Infl, and present-tense forms, now contrastively non-modal, were not used in future clauses.

We turn in the next section to the expression of the future in Middle English, where there is evidence for the introduction of MODALITY in the inflectional system, but also for interference from editorial choices in the Purvey translation.

3.5 The transitional stage: Middle English

Middle English should represent an intermediate stage between the complete lack of a feature MODALITY in Old English and its role as a fully contrastive feature in Early Modern English. We would therefore expect to find that a smaller proportion of future-referring clauses contain *will* or *shall* in the Purvey Gospels than in the King James Version.

In fact, while this is true for modal *will*, it is not true for *shall,* as can be seen in Table 4. Rather, *shall* occurs slightly more often in Purvey than in the King James: while in the King James Version, *shall* occurred in only 73.7% of future-referring clauses, in Purvey it occurs in 81.5%.

[Table 4 about here]

This difference could arise from a number of different sources. It could simply be that *shall* was fully established as a future modal by the Middle English period, while *will* lagged behind (perhaps retaining more of its original volitional flavour). The relative frequency of *shall* compared to *will* would then be explained by saying that it was the only true future modal attested at this period; by Early Modern English, the introduction of *will* to the system caused it to encroach on *shall*.

We will see in the next section, however, that there is reason to think that at least some of *shall*'s dominance is in fact an artefact of editorial policy in translation, rather than an accurate representation of the state of English at this period. Factoring out the effect of this apparent editorial policy yields a somewhat different picture—we argue a more accurate picture—of the inflectional system of Middle English.

3.6 *Shall* as a matter of editorial policy

One of the drawbacks of the texts we gathered in our database is that they were translated, and not originally composed in English. This creates the possibility that individual translators may have deliberately mapped particular forms in the source language to fixed targets in the translation, rather than using a range of possible future-referring forms. If this is the case, then we might expect to find the rate of *shall* (or any other inflectional choice) to be strongly influenced by the verb form used in the source text.

In fact, this is exactly what we find. The source for the Wycliffe/Purvey translations was the Latin Vulgate; as shown in Table 5, the Latin future indicative was rendered overwhelmingly with forms of *shall* (94.4%). On the other hand, where the Vulgate has forms without future tense morphology, or forms that are ambiguous between the future perfect indicative and the perfect subjunctive, forms of *shall* remain very common in Purvey, but translations with the simple present are also commonly attested. Notice in particular that 35.3% of the syncretic Vulgate forms are translated with present-tense forms.

[Table 5 about here]

We thus speculate that there was indeed an editorial policy active in the Purvey translation, that the Latin future indicative should be translated with *shall*, obscuring what was in fact an optional use of modals to express future meanings. This may mean that the verses where the Vulgate expresses a

future meaning with something other than the future indicative more accurately reveal the state of English at the time of Purvey: modals were gaining ground as a way of expressing the future, but were not yet obligatory, so that the present tense was still available as a way of expressing the future.

To support this conjecture, we must examine the range of future meanings expressed by present-tense forms in the Purvey Gospels, to show that these indeed include simple predictive futures of the type attested with the present tense in Old English. This is what we would expect to find if the use of modals remained optional at this stage—in our terms, if MODALITY were not yet a fully contrastive feature of Infl.

As it turns out, there are 87 present-tense clauses with future time-reference in Purvey. Of these 87, 38 were clearly predictive futurate clauses, like the first conjunct in Luke 13:24, repeated in (9). Such clauses require a modal (an overt expression of MODALITY) in Modern English.

(9) a. ASG: ...for ðām ic secge ēow, manega **sēcaþ** ðæt hig in gān, and hī ne **magon**.
b. Purvey: ...for Y seie to you, many **seken** to entre, and thei **schulen not mowe**.
c. KJV: ...for many, I say unto you, **will seek** to enter in, and **shall not be able**.

Of the same 87 present-tense clauses with future reference in Purvey, there were also 26 examples where the clause in question was a relative clause, a purpose clause, a temporal adjunct clause, or some other dependent construction. These were invariably rendered in the King James Version with a modal, but in PDE would generally be in the present. (10) gives an example from Luke 9:26, here in the final *when* clause.

(10) a. ASG: ...ðone mannes sunu forsyhþ, ðonne he **cymþ** on his mægen-þrymme, and hys fæder, and hālegra engla.
b. Purvey: ...mannus sone schal schame hym, whanne he **cometh** in his maieste, and of the fadris, and of the hooli aungels.
c. KJV: ...of him shall the Son of man be ashamed, when he **shall come** in his own glory, and [in his] Father's, and of the holy angels.

The remaining 23 examples with the simple present tense in Purvey were fairly heterogeneous: some had a conditional flavour; others could be interpreted as futures or as generic, timeless statements. But what is interesting for our purposes is that there are 38 instances in the Purvey/Wycliffe Gospels where a clearly predictive clause with future reference is expressed using the simple present tense, in a way that is not possible in PDE, and is not attested in the Early Modern English of the King James Version. Given this, it is fair to say that in the stage of Middle English represented by Purvey, the present tense was still available as a means of expressing future meaning.

We might suppose that in original vernacular texts, where no translation conventions applied, we might find a higher proportion of futurate clauses expressed by the simple present. For the reasons discussed earlier, this is a difficult hypothesis to test, due to the challenge of distinguishing present from future reference in the absence of relevant temporal adverbials, so we leave this for future investigation.

3.7 Absence of translation effects in ASG and KJV

If the predominance of *shall* in the Purvey translation is an artefact of policies in translation, rather than reflecting the underlying grammar of Middle English, we should ask whether this raises doubts for our earlier conclusions regarding either Old English or Early Modern English.

In fact, neither the Anglo-Saxon Gospels nor the King James Version shows evidence of a categorical translation policy analogous to Purvey's use of *shall* to translate the Latin future indicative.

In the Anglo-Saxon Gospels, we do see larger numbers of 'other' forms (such as *be to*) when the Vulgate has something other than future indicative or syncretic forms. For example, in the following verse (Luke 9:31), ASG follows the structure of the Latin more closely than the later translations do:

(11) a. Vulgate: ...quem **completurus erat** in Ierusalem
('which he **was to complete** in Jerusalem')

b. ASG: ...ðe he **to gefyllenne wæs** on Hierusalem
('that he **was to fulfill** in Jerusalem')

c. Purvey: ...which he **schulde fulfille** in Jerusalem

d. KJV: ...which he **should accomplish** at Jerusalem

Despite this tendency, for all Latin future-referring forms, the present tense is a robustly attested option in Anglo-Saxon Gospels. In Table 6, we do not see any single form in the Vulgate giving rise to a clear outlier in the Anglo-Saxon Gospels, as we did for the future indicative and *shall* in the Wycliffe/Purvey.

[Table 6 about here]

In the King James Version, similarly, we do not find any apparent categorical effects of translation, as can be seen in Table 7. The difference from the Anglo-Saxon Gospels is that the King James Version overwhelmingly uses modals to translate all future-referring forms in the source text (here the Greek rather than the Latin Vulgate). While the proportions of different modals do vary somewhat across the different Greek sources, and *shall* is consistently the most common overall, no Greek form is so consistently mapped onto a single translation in the King James as the Latin future indicative is to *shall* in Purvey.

[Table 7 about here]

In sum, in neither the ASG nor the KJV do we see the kind of systematic correlation to the specific form of the source (Greek or Vulgate Latin) that we find in the Middle English Purvey translation.

3.8 The grammar in transition

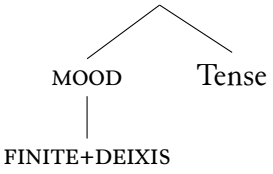
We assume, based on the discussion in the previous section, that in Middle English modals were possible in clauses expressing future reference, but that they were not yet obligatory. This raises the question of how such transitional optionality can be formally represented in speakers' grammars, and exactly what is the path of change involved in the addition of a new contrastive feature to the grammar. While the theory provides several possible ways to represent optionality, the choice between them will be governed by whether or not they are compatible with a plausible scenario for the addition of the feature to the grammar.

Within the theoretical framework we have adopted here, there are at least three possible ways that optionality can exist in a grammar. The first possibility is that the feature MODALITY might be an optional adjunct feature, in the sense of Wiltschko (2008). Wiltschko proposes that adjunct features differ from head features in that their absence is not contrastive. If MODALITY were an optional

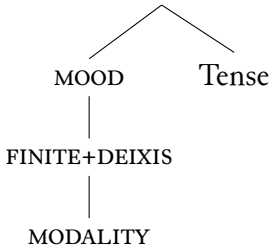
feature in Middle English, then its presence could serve to disambiguate the sentence, as well as being realized by a modal. For this proposal to be correct, we would need to understand where the optional feature came from in the first place, what it was a feature of, and why it then came to be reanalyzed as a contrastive feature of T.

The second possibility is that in Middle English there were (at least) two competing grammars (in the sense of Kroch 1989), one with MODALITY and the other without. In other words, speakers at this period would control two versions of Infl. A conservative version of Infl would lack MODALITY as a grammatical feature, while an innovative version would have the feature in a contrastive role. This approach amounts to saying, essentially, that the relevant aspects of the Old English and Early Modern English systems coexisted for some part of the Middle English period. This situation is depicted in (12) and (13). Notice here that the conservative Infl in (12) is identical in feature specification to the contrastively non-modal Infl in (13b). Such a situation could have caused some instability in the system, contributing to the loss of the conservative version.

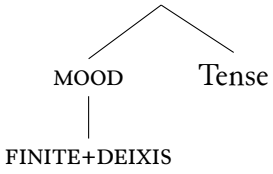
(12) Conservative



(13) a. Innovative modal



b. Innovative non-modal



The final possibility involves a single underlying grammar with competing surface morphological realizations. Here we would say that MODALITY was fully contrastive in Infl by Middle English, but that its morphological realization depended on the choice between conservative and innovative vocabulary items (which could be formally encoded by register features as in Cowper and Hall 2003). The modal *shall* (with *will* lagging behind it) was available as a realization of MODALITY in Infl, but it was markedly innovative. In more conservative contexts, these vocabulary items were not used, and the next best fit to spell out an Infl including MODALITY was the present tense.

These three options relate to a broader question of how to represent variability in linguistic systems within formal theory. Because the Wycliffe and Purvey translations are the work of single individuals, we cannot attribute observed variation to differences in grammars across individuals, and because both modals and the simple present are expressions of the finite inflectional system of English, we cannot attribute this variation to two different syntactic means of expressing the same semantics (as in, for example, *must* versus *have to*).

3.9 A possible path of change

We posit, following Lightfoot (1979), that most of the premodals (**sculan* > *shall, magan* > *may, mōtan* > *must, agan* > *ought*, and *durran* > *dare*), in addition to carrying modal meaning, were distinguished from other verbs in Old English by the morphological peculiarity of being preterite-presents, and therefore lacking the usual *-eþ* ending in the third-person singular. The Old English verb *willan* > *will*, while not a preterite-present verb, also happened to lack this ending. There were some non-modal preterite-present verbs as well, but all of these were lost before the end of the fifteenth century (Lightfoot 1979: 102). By the end of the Middle English period, then, there

was a morphologically distinct set of verbs all of which had modal meaning. If Cowper and Hall (2014) are correct in their claim that a formal feature can arise when speakers establish a correlation between two properties, it is reasonable to suppose that speakers may have assigned a feature such as MODALITY to the preterite-present premodal verbs during the Middle English period.

By the end of Old English, the premodals had begun to appear in raising structures, and in Early Middle English they were beginning to exhibit epistemic uses (Traugott 1992; Fischer 1992).

A second important change that began in Old English but ran to completion in Middle English was the gradual loss of non-finite uses of the premodals. Since the finite verb moved out of the verb phrase at this stage, this meant that the premodals virtually always surfaced in T, or even higher in questions and counterfactual conditions. From a Distributed-Morphology perspective, with the loss of the nonfinite forms, the premodals came to consistently spell out a feature of the T head, namely FINITE.

We propose that at this point, speakers were led to posit FINITE as an inherent feature of the premodals. This made it possible for modals to be merged directly in T, rather than moving to T after having merged as the head of a verb phrase lower in the structure. Following Roberts and Roussou (2003: 30), we assume that given the choice between merging the premodals directly in T on the one hand, and merging them in V but invariably moving them to T on the other, the learner will choose the more economical option of merging them directly in T.

So far, MODALITY has not played a contrastive role in the system, but rather has simply been a feature of the class of premodals. But once the premodals become members of the category T, the stage is set for a new contrast. Since MODALITY characterizes all and only the premodals, and since the premodals merge in T, all clauses containing premodals have a feature in T that all other clauses lack. We hypothesize that this led to a change in the status of that feature. Originally a feature of a lexical class, expressing the correlation between modal meaning and a morphological peculiarity, MODALITY was reanalysed as a systematic, contrastive feature of T. Once that happened, clauses without a modal in T were contrastively non-modal, and in particular, present-tense clauses without modals could no longer express future meanings.

This scenario correctly predicts that there should have been an intermediate stage, where modals were merged in T and expressed various kinds of modality including temporal modality, but were not obligatory in clauses with future time reference. However, as more and more speakers acquire MODALITY as a contrastive feature of the T system, the modals *will* and *shall* became obligatory in such clauses. From the data we have, it seems that this happened sometime in the 1500s, after the Purvey/Wycliffe Bible was created but before the King James Version.

Given the connection that we have established between the addition of contrastive MODALITY to the English T system and the restrictions on future-referring uses of the present tense, another change around the same time warrants some attention. Fischer (1992) notes that prior to late Middle English, there was no historical or narrative use of the present. It seems plausible that the narrowing of the semantic range of the present from simply 'non-past' to 'contrastively non-modal non-past' might somehow make it possible for the present to refer to a narrative past time, but the actual connection remains to be explored. Interestingly, a preliminary search has turned up no languages that both have a historical use of the present and lack any overt morphosyntax for the future.

In the next section we turn to another change in the modal system of English: changes in the expression of futurity between the time of the King James Version and the present day.

4 A new transitional stage? Present-Day English

We have already seen examples showing that the modals *will* and *shall* occurred in a wider set of contexts in the 17th century than they do today. The clearest cases of this are future-referring adjunct clauses headed by *when* and *if:* in Early Modern English modals were required in all such clauses, as in (14), whereas in PDE they are impossible.

(14) a. For **when** they **shall** rise from the dead, they neither marry, nor are given in marriage; but are as the angels which are in heaven. (KJV, Mark 12:25)

b. **If** ye **shall** ask any thing in my name, I will do [it]. (KJV, John 14:14)

The use of modals in such clauses declined during the 18th century, as noted by Visser (1963–73: §1519):

> In the course of the eighteenth century the number of instances with *shall* perceptibly decreases; subsequently the use of *shall* + infinitive in conditional clauses practically passes into desuetude.

It thus seems that modals reached the peak of their distribution in Early Modern English, and have since declined. The question is whether this was a relatively minor change, affecting only adjunct clauses and resulting in a state of equilibrium for the feature MODALITY in the PDE inflectional system, or if it is a single stage in a broader change taking place over a much longer time period, possibly continuing into the present day.

In fact, recent variationist work has demonstrated that true modals are in decline across different contemporary varieties of English. Tagliamonte and D'Arcy (2007), for example, show that in present-day Canadian English, modals like *must*, *will*, and *can* are losing ground to the so-called semi-modals, such as *have to*, *be going to*, and *be able to,* and Bybee et al. (1994), Krug (2000), Jankowski (2004), and Collins (2005) have reported similar developments in other contemporary varieties.[10]

In terms of the organization of the English inflectional system, what we need to ask is whether these semi-modals are simply innovative realizations of the same syntactic feature MODALITY, or whether that feature itself is in decline. The semi-modals are all periphrastic expressions that allow semantic modality to be expressed in the same clause as the full range of tense forms, as illustrated in (15)–(17).

(15) a. The students are able to perform this calculation.

b. The students can perform this calculation.

(16) a. The students have been able to perform this calculation for several years now.

b. *The students have could perform this calculation for several years now.

(17) a. We expect the students to be able to perform this calculation.

b. *We expect the students to can perform this calculation.

Each of the true modals has a corresponding periphrastic form; for example, *must = have to*, *can = be able to*, *will/shall = be going to*, *may = be allowed to*, *should = be supposed to*, etc. Fischer (2003)

[10]See also Biberauer and Roberts (2015), who argue that the decline of the modals in contemporary English is an example of nanoparametric change, taking place on an item-by-item basis.

suggests that such constructions arose to compensate for the grammaticalization of the true modals (i.e., the restriction of the true modals to finite forms, and for us, the addition of the feature MODALITY to the English Infl system).

The semi-modals as a class are syntactically distinct from the true modals in that semi-modals do not merge in the Infl head, instead occurring lower in the clause. The majority of semi-modals take the form of BE + adjective/participle + non-finite IP (e.g. *be able to*, *be supposed to*, *be allowed to*, *be going to*).[11] We treat BE as a copular verb; like other uses of BE, it allows inversion in questions (e.g. ***Is she** able to swim?*; ***Are they** supposed to leave?*, etc.) without need for DO-support.[12] But the modal meaning is expressed by the lower adjective or participle, which is clearly below Infl. The behaviour of the semi-modal *have to* is interesting in this regard; while auxiliary *have* normally precedes VP-initial adverbs and clausal negation, and inverts in questions, many speakers do not apply these patterns to the *have* of *have to,* as illustrated in (18). (In general, the speakers who accept (18) seem to be ones who also allow such constructions when *have* is a main verb taking a nominal complement.)

(18) a. % We have usually to ring the doorbell twice to get his attention.
b. % She hadn't to leave until Tuesday.
c. % Have they to write another paper this term?

For speakers who reject (18), not only does semi-modal *have* not merge in Infl, it cannot even move to Infl in the course of the derivaton. At the very least, therefore, we would have to say that if the Present-Day English semi-modals reflect the syntactic presence of a feature MODALITY, the feature occupies a lower syntactic position than it does in sentences containing true modals. However, the oldest of the semi-modals, *have to* and *be going to,* date back to late Middle English or Early Modern English (Leech et al. 2009: 91), and thus predate not only the advent of MODALITY as a contrastive feature, but even the establishment of the premodals as a well-defined lexical class. This makes it very unlikely that the rise of the semi-modals is due to the addition of MODALITY to the English Infl.

Can we distinguish this possibility—i.e. that MODALITY is simply coming to be morphologically realized by semi-modals rather than true modals—from the alternative possibility that the status of MODALITY in English is undergoing a broader change? If MODALITY is losing ground as a contrastive feature of Infl, then we would predict, based on our claims about the change from Old English to Modern English, that the present tense would again be expanding its range of use. If, on the other hand, the feature is still contrastive, but now being spelled out by the semi-modals, then there is no reason to expect such an expansion.

In this context, we note an expansion in the range of the future-referring simple present that to our knowledge has not previously been reported.[13] As noted in section 1, the simple present in 20th-century English is usually described as being able to refer only to planned or scheduled future events; it is supposed to be infelicitous with unplanned predictions for future events (Lakoff 1971; Vetter 1973; Huddleston and Pullum 2002).

[11] While *able* and *allowed* are fairly clearly adjectives, and *going* is fairly clearly a participle, the category of *supposed* is less clear—it differs in both pronunciation and interpretation from the deverbal adjective *supposed* (in the sense of 'assumed'). We have also set aside habitual *used to*, which syntactically resembles the semi-modals but expresses aspectual rather than modal meaning.

[12] We assume, following Cowper (2010) and Bjorkman (2011), that both copular and auxiliary BE occur in order to realize stranded inflectional features, either in Infl or in a lower inflectional head.

[13] Partee (2015) gives an example that may be of the same kind, but assumes that it is a property of headlinese.

For some speakers, however, we find future-referring presents in a broader range of contexts, exemplified in (19). As with futurate presents in the historical corpora, these are virtually impossible to search for in corpora of present-day English. However, we have collected a few dozen naturally-occurring examples from broadcast media and a handful from print media. These examples are ungrammatical for some (plausibly more conservative) speakers, but fully grammatical for others.[14]

These apparently novel uses of the futurate present do not cover as broad a range as futurate presents did in Old English. Examples appear to fit into five general categories: (a) the consequent of a future-oriented conditional, (b) matrix or embedded questions referring to a future situation, (c) clauses modified by adverbs like *maybe* or *hopefully*, (d) clauses embedded under a higher clause containing a modal, negation, or a verb with modal meaning, and (e) a small number of cases involving cleft-like constructions.

(19) New contexts for futurate present in PDE

a. In the consequent of a future-oriented conditional:[15]
If I don't tell Patty about Katie, the clients **lose** the case. (*Damages,* season 1, ep. 1)

b. In a matrix or embedded question referring to a future situation:

i. But he **gets** confirmed, right? (referring to a possible future nomination; *The West Wing,* season 7, ep. 19)

ii. If the press finds out next month or next year, then I don't know what **happens** to you or your presidency. (*The West Wing,* season 7, ep. 14)

c. In a clause modified by an adverb like *maybe* or *hopefully*:
Maybe he**'s** up doin' the polka five minutes from now. (*The West Wing,* season 6, ep. 9)

d. Embedded under a clause with a modal, a verb with modal meaning, or a negated verb:
We're deadlocked at $300 million. CBC's pushing for more after-school care. I don't think we **get** that out of committee. (*The West Wing,* season 7, ep. 2)

e. Clefts: That's why the other guy **wins**. (said months before the election; *The West Wing,* season 7, ep. 8)

In general terms, it appears that this use of the simple present is licensed by certain higher operators, specifically question or modal operators. These operators can occupy heads, or can be adjoined to the relevant clause (as in the case of licensing adverbs *hopefully* or *maybe*). These generalizations based on attested examples are confirmed by judgements from speakers who accept this use of the simple present; for such speakers there is a contrast between sentences like (20a), with no licensing expression of modality, and (20b), with the adverb *hopefully*:

(20) a. # It rains later this month.[16]

b. % Hopefully it rains later this month.

We suggest that this change can be viewed as a further development in the reduction of the range of use of the modals that began in the 18th century (Visser 1963–73). First, modals were lost

[14]We have not conducted any formal study or survey, but two of the authors of this paper reject the examples in (19), while the other three authors find them fully grammatical. The examples were collected by one of the authors for whom they stand out as ungrammatical.

[15]We have happened upon one startlingly early example of this type, in a letter from J. S. McCuaig to Sir John A. Macdonald, dated 12 October 1883, quoted in Ward (1950: 78): 'Unless you again contest the constituency, we lose it.'

[16]Infelicitous because long-range weather is not subject to planning or scheduling, except in fictional contexts.

from conditional and temporal adjunct clauses, and from the complements of verbs like *hope*, contexts where *will* and *shall* appear to have been required in Early Modern English.[17] Descriptively, we can say that the contexts in (19) represent a broadening of the set of elements that license a future-referring use of the simple present.

Framed in terms of modals as the realization of a feature MODALITY, we can say that the presence of certain operators above a given instance of Infl, whether in an adjoined position or as a higher c-commanding head, either make the overt realization of MODALITY optional, or make the presence of that feature itself optional.

This might indicate that the status of MODALITY is once again changing—or is continuing to change—in the inflectional system of English. It might be that MODALITY is becoming (or reverting to) an optional modifier feature, losing its status as a contrastive feature. Alternatively, it could be that MODALITY is becoming a contrastive feature in, or licensed by, Comp, or of some other position in the left periphery above Infl, where it is associated with clause-level operators and adjuncts, and can be directly selected by certain higher verbs. This would be consistent with the frequent observation that change in grammatically significant elements often involves their association with higher and higher syntactic positions over time (as in, for example, Roberts and Roussou 2003).

The course of this recent change in modals, then, is as follows. In Early Modern English, as represented by the King James Bible, modals such as *will* and *shall* appear to have been obligatory in all future-referring clauses, including temporal and conditional adjuncts. The feature MODALITY was at that point fully contrastive in Infl; clauses without overt modals were contrastively non-modal in meaning, restricting future interpretations of the simple present tense to currently-held plans and schedules. During the eighteenth century, a change occurred so that future-referring adjunct clauses headed by elements like *if*, *when* and *until* could no longer contain modals expressing futurity. Now, as illustrated in the examples above, modals are becoming optional in a broader range of constructions, but still in the scope of certain operators arguably related to modality.[18]

It is unclear whether this change in the use of the simple present in English can be directly related to the rise of the semi-modals. The fact that we have not observed simple declarative present-tense clauses expressing predicted future events suggests that MODALITY is still contrastive in English, but its status is clearly changing. More work is required in order to determine exactly what is going on, and whether MODALITY is on its way to vanishing entirely, in which case we would expect the present tense to regain the semantic range it had in the 10th century.

5 Conclusions

In this paper we have linked changes in the inflectional system of English—specifically the rise of a grammatically distinct class of modal auxiliaries—to the development of a contrastive feature MODALITY. We have argued that the absence of such a feature prior to the development of the modals predicts that the simple present should have occurred in contexts that later came to require future-referring modals such as *will* or *shall*.

This prediction is borne out: in Old English, predictive statements about the future were largely expressed using the simple present—a fact we explain by saying that at this stage there was no contrastive modal feature in the Infl system. In Middle English, a feature MODALITY arose first as a

[17] For many people, *hope* can optionally take complement clauses with *will*, but there seems to be a subtle difference in meaning between sentences with and without the modal.

[18] We take no position on whether question operators can be understood as modal, or if the licensing of this use of the simple present in questions instead involves something more subtle, remains to be determined.

property of the premodals, and subsequently as a feature of Infl. By Early Modern English, MODALITY was fully contrastive within the Infl system, so that all future-referring clauses require a modal.

This illustrates that formal properties of a language's inflectional system, and in particular the range of contrastive dimensions of meaning it encodes, has implications for the set of meanings available to other inflectional forms. We have also suggested a mechanism by which new contrastive features can be added to the grammar.

Finally, we have discussed a further change that appears to be attested for some speakers of PDE: beyond a general retraction in the distribution of modals from its peak in Early Modern English (in temporal and conditional adjuncts), for these speakers modals are becoming optional below a wider range of operators. This suggests further changes in the distribution of the formal feature MODALITY, possibly indicating its decline as a contrastive feature, or a shift in its syntactic position into the left-peripheral domain of the clause.

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List of Tables

Table 1: Expression of future meaning in all five versions of the Christian Gospels

$n = 1118$	Greek		Vulgate		ASG		Purvey		KJV	
Future indic.	861	77.0%	896	80.1%	—	—	—	—	—	—
Aorist sbjv.	129	11.5%	—	—	—	—	—	—	—	—
Fut. perf. indic.	—	—	51	4.6%	—	—	—	—	—	—
Fut. periphr.	—	—	34	3.0%	—	—	—	—	—	—
Total future	**990**	**88.6%**	**981**	**87.7%**	—	—	—	—	—	—
Imperf. sbjv.	—	—	18	1.6%	—	—	—	—	—	—
Pluperf. sbjv.	—	—	9	0.9%	—	—	—	—	—	—
Perf. indic.	—	—	5	0.4%	—	—	—	—	—	—
Total past	—	—	32	2.9%	—	—	—	—	—	—
Pres. indic.	39	3.5%	29	2.6%	784	70.1%	48	4.3%	7	0.6%
Pres. syncr.	—	—	—	—	104	9.3%	16	1.4%	—	—
Pres. sbjv.	3	0.3%	43	3.8%	60	5.4%	23	2.1%	—	—
Total present	43	3.8%	72	6.4%	**948**	**84.8%**	87	7.8%	7	0.6%
may/magan	—	—	—	—	5	0.4%	—	—	—	—
shall/scealon	—	—	—	—	4	0.4%	911	81.5%	824	73.7%
should	—	—	—	—	—	—	24	2.1%	42	3.8%
will/nyll	—	—	—	—	14	1.3%	4	0.4%	221	19.8%
would	—	—	—	—	—	—	4	0.4%	24	2.1%
wurðan	—	—	—	—	1	0.1%	—	—	—	—
Total modal	—	—	—	—	24	2.1%	**943**	**84.3%**	**1111**	**99.4%**
Other	86	7.7%	33	3.0%	146	13.1%	88	7.9%	—	—

Table 2: Future-referring clauses in the Anglo-Saxon Gospels

Present indicative	784	70.1%
Present syncretic	104	9.3%
Present subjunctive	60	5.4%
Total present	**948**	**84.8%**
may/magan	5	0.4%
shall/scealon	4	0.4%
will/nyll	14	1.3%
wurðan	1	0.1%
Total modal	24	2.1%
Other	146	13.1%

Table 3: Future-referring clauses in the King James Version

shall	824	73.7%
should	42	3.8%
will	221	19.8%
would	24	2.1%
Total Modal	**1111**	**99.4%**
Present indicative	7	0.6%

Table 4: Future-referring clauses in Purvey

shall/scealon	911	81.5%
should	24	2.1%
will/nyll	4	0.4%
would	4	0.4%
Total modal	943	84.3%
Present indicative	48	4.3%
Present syncretic	16	1.4%
Present subjunctive	23	2.1%
Total present	**87**	**7.8%**
Other	88	7.9%

Table 5: Renditions of Latin future-referring forms in Purvey

	Vulgate fut. indic. $n = 896$		Vulgate fut. periphr. $n = 34$		Vulgate syncretic $n = 51$		Vulgate present $n = 72$		Vulgate past $n = 32$		Vulgate other $n = 33$	
shall/should	**846**	**94.4%**	17	50.0%	29	56.9%	21	29.2%	18	56.3%	4	12.1%
will/would	2	0.2%	1	2.9%	—	—	—	—	3	9.4%	2	6.1%
Present	15	1.7%	—	—	**18**	**35.3%**	**49**	**68.1%**	—	—	**5**	**15.2%**
Other	33	3.7%	16	47.1%	4	7.8%	2	2.8%	11	34.4%	22	66.7%
Total non-*shall*	50	5.6%	17	50.0%	22	43.1%	51	70.1%	14	43.7%	29	87.9%

Table 6: Future-referring forms in the Vulgate and their correspondents in the Anglo-Saxon Gospels

	Vulgate fut. indic. $n = 896$		Vulgate fut. periphr. $n = 34$		Vulgate syncretic $n = 51$		Vulgate present $n = 72$		Vulgate past $n = 32$		Vulgate other $n = 33$	
Modal	8	0.9%	10	29.4%	—	—	1	1.4%	3	9.4%	2	6.1%
Present	**813**	**90.7%**	8	23.5%	**47**	**92.2%**	**59**	**81.9%**	8	25.0%	13	39.4%
Other	75	8.4%	**16**	**47.1%**	4	7.8%	12	16.7%	**21**	**65.6%**	**18**	**54.5%**

Table 7: Translations of Greek future-referring forms in the King James Version

	Greek fut. indic. $n = 861$		Greek aor. sbjv. $n = 129$		Greek present $n = 59$	
may	—	—	—	—	—	—
shall	661	76.8%	104	80.6%	34	57.6%
should	3	0.3%	12	9.3%	11	18.6%
will/nill	189	22.0%	12	9.3%	13	22.0%
would	2	0.2%	1	0.8%	1	1.7%
Total modal	**855**	**99.3%**	**129**	**100.0%**	**59**	**100.0%**
Present indicative	6	0.7%	—	—	—	—
Present syncretic	—	—	—	—	—	—
Present subjunctive	—	—	—	—	—	—
Total present	6	0.7%	—	—	—	—
Other	—	—	—	—	—	—