

A neoparametric approach to variation and change in English modals

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Theoretical background How can syntactic structures vary from one language to another, or from one stage to another in the history of a single language? The strongest version of the cartographic approach to syntax says, in effect, that they cannot: “if some language provides evidence for [...] a particular functional head [...], then that head [...] must be present in every other language, whether the language offers overt evidence for it or not” (Cinque & Rizzi 2008: 45). Under this view, all surface syntactic variation arises through movement, and any seemingly absent head is merely syntactically and phonologically inert (attracting no specifier and having no over spellout). In principle, this is a strong claim about the universality of functional structure, but it is not easy to test: to falsify it, one must show not just that language Y shows no sign of a projection XP known to exist in language Z, but that Y *cannot* be analyzed as having XP.

In contrast to this view, we pursue what we will call a neoparametric approach—one that admits of variation in how formal features are grouped into projections, while still holding to the Borer–Chomsky conjecture that the lexicon is the source of variability (Borer 1984; Chomsky 1995; Baker 2008) rather than positing parameters in the older sense of Chomsky (1981). This position follows from Chomsky’s (2000: 100) assumption that each language selects a subset [F] of the universal set of features, making a one-time assembly of the elements of [F] into a lexicon. As Cowper (2005) points out, intrinsic semantic entailments between features restrict both their combination into lexical items and the selectional requirements of those lexical items. Bobaljik & Thráinsson (1998) offer evidence for the neoparametric approach from variation: several correlated typological properties of Germanic languages follow from differences in the number of projections in the Infl system. Cowper & Hall (2011) make a similar case based on diachronic changes in English voice and aspect, showing that the replacement of the passival by the progressive passive (among other changes) is most elegantly explained by positing a re-organization of features from one head to two. In this paper, we show that the neoparametric approach also offers an elegant account of the diachronic development of the English modals.

The data Until the end of the Middle English period, English modals were essentially ordinary verbs that happened to have modal meanings (Lightfoot 1979; Roberts 1985; others). They could take nominal arguments (1; 3a), and they had infinitive (2) and participial (3) forms. As Lightfoot (1979) has pointed out, they belonged to the morphological class of preterite-present verbs, which did not take the regular 3SG.PRES. suffix *-þ/-s*, but they were otherwise unremarkable.

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| (1) <i>Ic sculde tyn þusend punda.</i>
I should ten thousand pounds
'I had to pay £10 000.' | (3) a. <i>cynnyng no recour</i>
can+ing no recourse
'knowing no recourse' |
| (2) <i>I shall not konne answe.</i>
I shall not can answer
'I won't be able to answer.' | b. <i>if he had wolde</i>
if he had will+en
'if he had wanted to' |

In Present-Day English, modals cannot take DP objects (**I should £10 000*, **I can no recourse*), and they lack non-finite forms (**I won't can answer*, **She is canning do that*, **if he had would*).

What happened What changed, we claim, is that the feature MODALITY was added to the English T head, and the modal verbs were reanalyzed as T instead of V.

Our MODALITY is essentially equivalent to the feature IRREALIS proposed by Cowper (2005) to characterize both English modals and the future and conditional tenses of languages such as Spanish and French. This feature is semantically dependent on DEIXIS, which in turn is a dependent of FINITE. Semantically, DEIXIS indicates that the proposition expressed by the clause is anchored to the deictic centre of the utterance: its time, place, and world are to be evaluated relative to the time, place, and world of the (implied) speaker at the moment of speech. In the absence of further specification, the relation is simply one of identity or inclusion, and the

proposition is thus asserted to be true in the real world at the moment of speech, or, if the past-tense feature PRECEDENCE is added, at some time before the moment of speech. The addition of MODALITY creates a more marked relation between the clause and its deictic anchor, in the spirit of Kratzer's (2012) semantics of modals. The proposition denoted by the clause is asserted either to follow from (in the case of necessity modals) or to be compatible with (in the case of possibility modals) the (relevant subset of the) set of propositions characterizing the situation in the real world at the moment of speech (or before it, with PRECEDENCE), rather than simply to belong to it. Because MODALITY is dependent on FINITE, there are no infinitival or participial forms of the future or conditional in French and Spanish—nor of modals in Modern English.

The reanalysis of the modals was triggered by a combination of factors: (i) As the loss of inflectional morphology during ME made the subjunctive (characterized in our system by the absence of DEIXIS) less distinguishable from the indicative, there was a rise in the periphrastic use of the (pre-)modals to express non-realis meanings (Fischer 1992). (ii) Non-modal preterite-present verbs were either lost or regularized, making the modals morphologically distinct (Lightfoot 1979). (iii) English lost V-to-T movement. Following Bjorkman (2011), we assume that even auxiliary *have* and *be* do not move from V to T, but that they are instead inserted in T to provide morphological support for inflectional features. These three factors combined to make the modals a morphologically and semantically identifiable category of items in T, to all appearances indigenous to that projection and quite distinct from V. Having been reanalyzed as spelling out MODALITY in T, the English modals took on the functions of future and conditional tenses in other languages, *will* (and formerly *shall*) being now the default expression of future time reference, and *would* (and formerly *should*) of counterfactuality.

This account of the English modals depends on the assumption that it is possible for the featural content of T to change over time (and thus, by implication, to vary from one language to another). In the absence of MODALITY, the indicative was not contrastively realis, and present and past indicatives were standardly used to express future and conditional meanings (respectively). If the development of the modals involved not only the reanalysis of those individual words, but also the addition of a new feature to T, then the concomitant shift in the range of meanings of the indicative follows elegantly from this change.

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