A neoparametric approach to variation and change in English modals

Elizabeth Cowper (University of Toronto) & Daniel Currie Hall (Saint Mary's University) cowper@chass.utoronto.ca daniel.hall@utoronto.ca

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1 Theoretical background

The question: How can syntactic structures vary from one language to another, or from one stage to another in the history of a single language?

1.1 The strong cartographic approach

"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).

- Syntactic structures in all languages use the same syntactic heads, organized in the same order of dominance.
- Seemingly absent heads are present in the structure, but are syntactically and phonologically inert—nothing moves to their specifier position and they are not spelled out at PF.
- Variation in surface order of constituents arises through movement.

In principle, this is a strong claim about the universality of functional structure.

But is it falsifiable? To refute 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.

1.2 A neoparametric view

- Languages can differ in:
 - which formal features (chosen from a universal set) are grammatically active. This 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.
 - how these formal features are grouped into projections, within certain limits. 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.
- Parametric syntactic differences between languages thus derive from the (functional) lexicon (Borer 1984; Chomsky 1995; Baker 2008).

• The semantic range of a head bearing a given interpretable feature in a given language depends crucially on the set of contrasts the feature participates in in that language, as argued in Cowper & Hall (to appear) for viewpoint aspect in pre-18th century English. See also Manuel (1990) and Hall (2011) for the same phenomenon in phonology: the phonetic range of a segment bearing a given feature depends on the set of contrasts that feature participates in in that language.

1.3 Previous neoparametric proposals

- Bobaljik & Thráinsson (1998): Several correlated typological properties of Germanic languages follow from differences in the number of projections in the Infl system.
- Cowper & Hall (2011) on diachronic changes in English voice and aspect: The replacement of the passival by the progressive passive (among other changes) is most elegantly explained by positing a reorganization of features from one head to two.

Here, we argue that the neoparametric approach, along with contrastive underspecification, offers an elegant account of the diachronic development of the English modals.

2 The data

2.1 Earlier English: Modals as verbs

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) a. Ne can ic eow.
 - not can I you
 - 'I don't know you.' (OE Gosp., Mt. XXV 12; Visser 1963–73: 499)
 - b. Euerych bakere of be town shal [...] to be clerke of the town a peny.
 'Each baker of the town shall pay to the clerk of the town a penny.'
 (a. 1400 Usages of Winchester (Engeroff) p. 64; Visser 1963–73: 498)
 - c. *He felle downe and myght no more.*'He fell down and could do no more.'
 (c. 1450 Guy of Warw. (C.) 6947; Visser 1963–73: 502)
 - d. I wolle noon oper medecyne ne lore.
 I will no other medecine nor lore
 'I will have no other medicine or teachings.'
 (c. 1374, Chaucer, Anel. & Arc. 244; Visser 1963-73: 503)

- e. I woulde rather one onely day of lyfe / then all the ryches of Roome. 'I would rather have one day of life than all the riches of Rome.' (1557 North, Gueuara's Diall. Pr. 96; Visser 1963-73: 503)
- Most are attested in non-finite forms:
 - a. I shall not konne answere (2)I shall not can answer 'I will not be able to answer.' (c. 1386 Chaucer Canterbury Tales B 2902: V 1649; Roberts 1985: 23)
 - b. Cynnyng no recour in so streit a neede... can-ing no recourse in so desperate a need 'Knowing no recourse in so desperate a need...' (c. 1439 Lydgate Fall of Princes 7, 1346: V 1650; Roberts 1985: 23)
 - c. if we had mought conuenient come together... if we had might-en convenient come together 'If we had been able to meet conveniently' (c. 1528 St. Thomas More Works 107, 86: V 1687; Roberts 1985: 24)
 - d. *if he had wolde…* if he had will-en...
 - 'if he had wanted to...' (1525 Ld. Berners, Froiss. II, 402: V 1687; Roberts 1985: 24)
- Modals underwent inversion in questions, but so did verbs in general:
 - a. What sholde I al day of his wo endite? (3)'Why should I spend all day describing his woe?' (Chaucer, Canterbury Tales; Fischer 1992: 279)
 - b. Why make ye youreself for to be lyk a fool? 'Why do you allow yourself to behave like a fool?' (Chaucer, Canterbury Tales; Fischer 1992: 278)
- They belonged to the morphological class of preterite-present verbs, which did not take the regular 3SG.PRES. suffix -b/-s, but they were otherwise unremarkable (Lightfoot 1979).

Present-Day English: Modals as a morphosyntactically distinct category 2.2

- Modals no longer take DP objects: • Modals lack non-finite forms:
 - (4) * *I* should £10 000. a.
 - * I can no recourse. b.
 - c.

- * I won't can answer. a.
 - * *She is canning do that.*
- * I will no more medicine. c.
- Modals have a fixed position in the auxiliary sequence:
 - (6) a. She might have been watching.
 - * *She had might be(en) watching.* b.
 - * She had been might(ing) watch(ing). c.

- b.
- * If we had could meet...

(5)

- Modals invert as auxiliaries do, unlike main verbs:
 - (7) a. Should they answer the questions?
 - b. *Have they answered the questions?*
 - c. Did they answer the questions?
 - d. * Did they {should, shall} answer the quesions?
 - e. * Did they have answered the questions?
 - f. * Answered they the questions?

3 What happened

The interpretable feature MODALITY was added to the English T head, and the modal verbs were reanalyzed as T instead of V.

3.1 Features of T

We assume that interpretable morphosyntactic features are privative. They participate in semantically determined dependency relations, which can be conveniently represented in tree form. A given feature may or may not have the ability to project as a syntactic head.

Features of tense and mood (Cowper 2005; Cowper & Hall 2007):



The dependency relations in (8) follow from the denotations of the features, with the exception of FINITE, which has no semantic content.

PRECEDENCE marks a clause as prior to its temporal anchor. (Spelled out as past participle if non-finite, simple past if finite.)

PROPOSITION marks a clause as propositional (as distinct from a bare event).

FINITE is a purely syntactic feature, indicating the ability to assign structural case to, and agree with, a subject.

DEIXIS anchors the clause to the speech situation. A finite clause without DEIXIS is subjunctive.

MODALITY introduces a marked relation (possibility or necessity) between the clause and the speech situation.¹ A deictic clause without modality is simply asserted to be true, on the realis timeline. (In languages such as French and Spanish, this feature is realized by the future and conditional forms; in PDE, it is spelled out by modals.)

The role of contrast can be seen by comparing the English tense system with that of Inuktitut (Hayashi 2011). In Inuktitut, PRECEDENCE has a dependent, HODIERNAL, spelled out by a special past-tense marker *-qqau*. Clauses with *-qqau* refer to past events that took place on the same day as the speech event. The general past-tense marker, *-lauq*, is thus contrastively non-hodiernal, and cannot normally be used for past events that took place on the day of the speech event. Hayashi (2011) argues that *-lauq* cannot be specified as pre-hodiernal, however; when the speaker doesn't know when the event took place, *-lauq* is used.

Since PRECEDENCE in English has no dependent features, clauses in the past tense can refer to events at any time prior to the moment of speech.

3.2 The earlier system

(9) Features of T (repeated from (8a)):



At this stage:

- FINITE could appear without DEIXIS. This configuration was spelled out by the subjunctive form, used for things such as wishes (10a), reported speech (10b), *if*-clauses (10c), hypothetical events (10d), and questions (10e). Without FINITE, the clause would be infinitival. Note that under this view, the difference between a subjunctive clause and an infinitival clause is purely syntactic: a subjunctive clause can have an internally licensed (nominative) subject, and its verb can agree with the subject. Semantically, infinitival and subjunctive clauses are both distinguished from indicatives by the lack of DEIXIS.
 - (10) a. Forðy ic wolde ðætte hie ealneg æt ðære stowe wæren. therefore I wanted that they always at that place were.sbjnctv
 'Therefore I wanted them always to be there.' (CPLetWærf 73; Traugott 1992: 239)

^{1.} Cowper (2005) calls this feature IRREALIS; Cowper & Hall (2007) introduce the name MODALITY.

- b. Wulfstan sæde þæt he gefore of Hæðum Wulfstan said that he went.sbjnctv from Hedeby 'Wulfstan said that he left from Hedeby' (Or 1 1.19.32; Traugott 1992: 240)
- c. Fed ðonne min sceap, gif ðu me lufige.
 feed.IMPER then my sheep if thou me love.SBJNCTV
 'Then feed my sheep, if you love me.'
 (CP 43.4; Traugott 1992: 257)
- d. For though I write or tolde yow everemo/ Of his knyghthod, it myghte nat suffise.
 'For even if I should write or tell you ever more of his knighthood, it might not suffice.'
 (Chaucer, Canterbury Tales; Fischer 1992: 248)
- e. Lord! wheyther thow yet thenke upon Criseyde? lord whether thou yet think.sBJNCTV upon Cressida 'Lord! Do you still think of Cressida?' (Chaucer, Troilus and Cressida; Fischer 1992: 279)

Even in OE, the use of the subjunctive was not fully consistent, and various periphrastic options were also available, including ones using the pre-modals.

• MODALITY was not yet part of the feature system, and verbs with modal meaning were true verbs. This situation can be usefully compared with modern French and Spanish, in which modal verbs are true verbs, with lexical modal meaning, appearing in the full range of tense forms. However, in these languages T includes MODALITY, which is is spelled out, not by the modal verbs, but by the morphological future tense. T bearing both MODALITY and PRECEDENCE is realized as conditional (Cowper 2005).

In OE and early ME, as in PDE—and unlike in French and Spanish—there was no morphological future tense. In OE and early ME, the T system lacked MODALITY entirely, and the indicative tenses were thus **not** contrastively non-modal. The semantic range of the simple present was thus broader than it is in PDE, and it was used with future time reference more freely than it is in PDE.

- (11) a. & *ic arise of deaðe on þam þriddan dæge* and I arise from death on that third day 'and I will arise from death on the third day' (ÆCHom I, 10 152.7; Traugott 1992: 182)
 - b. And wel I woot, as ye goon by the weye, Ye shapen yow to talen and to pleye;
 'And well I know, as you go on your way, you will shape yourselves to tell stories and to play.' (Chaucer, *Canterbury Tales*; Fischer 1992: 241)
- Any verb could move to T, and thence to C.
 - (12) a. Hwæt getacniab ðonne ða twelf oxan [...]? what signify then those twelve oxen
 'What do the twelve oxen signify?' (CP 16.105.5; Traugott 1992: 170)

b. Why make ye youreself for to be lyk a fool?
'Why do you allow yourself to behave like a fool?'
(Chaucer, *Canterbury Tales*; Fischer 1992: 278)

Modal verbs at this stage:

- originated in V
- moved to T like other verbs
- did not spell out any particular feature of T



3.3 The current system

(14) Features of T (repeated from (8b)): T PROPOSITION PRECEDENCE

Finite+Deixis | Modality

What has changed?

- FINITE and DEIXIS are now bundled: (nearly) all finite clauses are deictic; the subjunctive is dead (or moribund, existing only in certain frozen constructions).
- MODALITY is now part of the T system: the modals now realize a feature of T. They realize T directly, rather than moving from V to T, and *will* is the standard way of expressing futurity.
- V-to-T movement has been lost: main verbs no longer move to T, and auxiliary verbs are inserted directly in T, per Cowper (2010); see also Bjorkman (2011).

3.4 The path of change

• The morphological contrast between the indicative and the subjunctive was lost.

Fischer (1992: 246–250):

- "The three moods [indicative, imperative, and subjunctive] are still formally differentiated in Middle English but this becomes less and less so in the course of the period" (246).
- "Mustanoja (1960: 453) writes that by the fifteenth century the ratio between the periphrastic and inflectional subjunctive was nine to one in non-dependent clauses" (247).
- "In Middle English we see a very rapid increase in the use of periphrastic constructions especially of the so-called perfect and future 'tense', and in the use of modals where Old English had the subjunctive" (250).

Fischer (2003) notes that in OE, although the subjunctive could convey modal meanings, it was already beginning to be reinforced or replaced by modal verbs:

(15) a. Subjunctive in deontic context:

And micel is nydpearf manna gehwilcum bæt he Godes lage gime and much is necessary of.men for.each that he God's law heed.SBINCTV

'And it is necessary for each man that he should heed God's law.' (*The Homilies of Wulfstan*, quoted in Fischer 2003: 21)

b. Subjunctive reinforced by deontic modal:

Forbon us is nydbearf, bæt þa mynstru of bære stowe **moten** beon therefore us is necessary that the monasteries from that place must.SBJNCTV be gecyrrede to obre stowe. changed to other place

'Therefore it is necessary for us that the monasteries be moved from that place to another.' (*Gregory's Dialogues*, quoted in Fischer 2003: 21–22)

- (16) illustrates the use of *should* as a replacement for the subjunctive:
- (16) And manie gon nakede; and bidde þæt sum man heom scholde biweue,... and many go naked and ask that some one them should clothe 'And many go naked and ask that someone clothe them,...' (ca. 1300, quoted in Fischer 1992: 315)

The loss of the subjunctive was at least partially due to phonological reduction/deletion of unstressed vowels in the inflectional suffixes (see, e.g., Lass 1992).

- Learners had less reason to posit a separation of FINITE from DEIXIS.
 - For some speakers, the features may have come to be bundled, and spelled out by indicative verb forms.
 - For other speakers, the featural distinction may have been retained, with syncretic realizatons for the almost all verbs.

- In the spirit of the Contrastivist Hypothesis (Hall 2007, Dresher 2009), we assume that in the absence of evidence to the contrary, learners treat features as bundled together rather than separately active.
- The loss of a distinct subjunctive led to an increase in the use of the premodals to express the meanings previously expressed by the subjunctive.
- As a periphrastic substitute for the subjunctive T head, premodals would have been used more frequently in their finite forms as the first element in the verbal sequence. Warner (1993: 145) notes that:
 - There are no instances of non-finite *mot*, *sceal*, and *bearf* by the late Middle English period,
 - The non-finite uses of *can, may,* and *will* declined through the 1400s.²
 - By 1500, only *will* retained any non-finite use, and even that was extremely rare in the 16th century.
- The premodals were also morphologically distinct from other verbs—as preterite-presents (Light-foot 1979), they lacked the third-person singular agreement marking.
- At around the same time, in the early 16th century, the infinitival suffix *-en* was lost.
 - According to Roberts (1993: 310f), also cited in Roberts & Roussou (2003: 41), this suffix was the only evidence that the complement of a premodal was a TP rather than simply a verb phrase.
 - With the loss of *-en*, learners reanalysed modal clauses as monoclausal rather than biclausal, with the modals occupying a functional head.
- The increasing use of the premodals to express what was previously encoded by the subjunctive, and the decline in their nonfinite uses, led to a reanalysis of the features of T.
 - MODALITY, a dependent of DEIXIS, was added to the features of T, and was spelled out by the premodals.
 - Since MODALITY is a semantic dependent of DEIXIS, all clauses bearing this feature are necessarily finite.
- The addition of MODALITY to T provided a productive means of expressing epistemic modality.
 - According to Traugott (1992: 197):
 - In OE the premodals either had no epistemic uses at all, or "show only marginal epistemic colouring" in impersonal constructions. "Even the subjunctive mood does not express doubt (low probability) in main clauses; it does so only in subordinate clauses."
 - Epistemic modality was expressed either by a few adverbs like *gewene* 'possibly', *æfæstla* 'certainly,' or *forsop* 'truly,' or by higher clauses like *wen is þæt* 'hope is that.'

^{2.} Some of the premodals diverged into modal and non-modal verbs; the latter can still occur in non-finite forms (e.g., *con* as in "I have hardly had time to con over your examination papers" (1835); *will* as in "Tis yours, O Queen! to will/ The Work, which Duty binds me to fulfil" (1697)). It is thus not always clear, for any given non-finite form in the transitional period, whether the verb should be considered an instance of the earlier pre-modal, or of its non-modal reflex.

- Roberts & Roussou (2003: 45), citing Lightfoot (1979) and Roberts (1985), note that epistemic interpretations of premodals emerge in Middle English.
- The number of epistemic modal examples in Visser (1963–73) jumps dramatically after the mid-15th century.
- The grammatical contrast in (17) was replaced by the new contrast in (18):



- This had two consequences:
 - The addition of MODALITY to T made it possible for the premodals, now lexically marked with this feature, to be directly merged in T, rather than moving to T from a lower merge position.
 - On the assumption that syntactic heads are no more and no less than the features that constitute them, we take it that in order to be inserted in a given syntactic head, a lexical item must be specified with a feature of that head.
 - Following Roberts & Roussou (2003), we assume that if an element can be merged in a higher position, it will be, giving a derivation with fewer movements.
 - The new grammatical contrast shown in (18) reduced the extent to which the simple present could be used for futurate clauses.
 - Visser (1963–73: 675) says that the use of *shall* and *will* for pure futurity rapidly increased through the 16th century, and that the use of the simple present with future reference declined through the same period.
 - This is exactly what one would expect if the simple present became contrastively nonmodal in the early 16th century, with the addition of MODALITY to T.
- Later in the 16th century, V stopped moving to T in English (Roberts & Roussou 2003: 43; Lightfoot 1999: 163; Warner 1997: 382–383). This had the effect of completing the separation of the premodals from the other (non-auxiliary) verbs.
 - The modals are now specified for the grammatical feature MODALITY, and can thus only be inserted in T.

- In a few cases (*need*, *dare*) two versions of a premodal survive, with one behaving like the other modals, and the other version behaving like an ordinary verb.
- In some varieties of English, it seems that not all modals came to obligatorily spell out the feature MODALITY, and thus retained some nonfinite uses. Scots *can* is apparently an example of this (Ščur 1968).

4 Conclusions

- Both the strong cartographic approach and the neoparametric approach proposed here can provide a descriptive account of the changes in the distribution and interpretation of English modal verbs.
- The neoparametric approach, along with the contrastive approach we take to formal features, has the advantage of connecting these changes, in a non-accidental way, to two other changes in the history of English syntax: the loss of the subjunctive and the loss of the futurate and conditional uses of the present and past indicative.
- Key properties of the neoparametric approach:
 - Features can be either separate or bundled in a given system.
 - Features that are present in one language/stage can be absent in another.
 - Therefore, the interpretation of features (and their absences) can vary depending on the other representations with which they contrast.
- Contrast, and its effect on the semantic interpretation of interpretive formal features, plays a key role in diagnosing which formal features are present in a given language.

References

Baker, Mark. 2008. The syntax of agreement and concord. Cambridge: CUP.

- Bjorkman, Bronwyn. 2011. *BE-ing default: The morphosyntax of auxiliaries*. Ph.D. thesis, Massachusetts Institute of Technology.
- Bobaljik, Jonathan David & Höskuldur Thráinsson. 1998. Two heads aren't always better than one. *Syntax* 1(1). 37–71.
- Borer, Hagit. 1984. *Parametric syntax: Case studies in semitic and romance languages*, Studies in Generative Grammar. Dordrecht: Foris.
- Chomsky, Noam. 1995. The minimalist program. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries: The framework. In Roger Martin, David Michaels & Juan Uriagereka (eds.), *Step by step*, 89–155. Cambridge, MA: MIT Press.
- Cinque, Guglielmo & Luigi Rizzi. 2008. The cartography of syntactic structures. *CISCL Working Papers* 2. 43–58.
- Cowper, Elizabeth. 2005. The geometry of interpretable features: Infl in English and Spanish. *Language* 81(1). 10–46.

- Cowper, Elizabeth. 2010. Where auxiliary verbs come from. In Melinda Heijl (ed.), *Proceedings of the 2010 annual conference of the Canadian Linguistic Association*, 16 pp. Toronto: Canadian Linguistic Association.
- Cowper, Elizabeth & Daniel Currie Hall. 2007. The morphosyntactic manifestations of modality. In Milica Radišić (ed.), *Proceedings of the 2007 annual conference of the Canadian Linguistic Association*, 11 pp. Canadian Linguistic Association.
- Cowper, Elizabeth & Daniel Currie Hall. 2011. Syntactic change and the cartography of syntactic structures. Presented at NELS 42.
- Cowper, Elizabeth & Daniel Currie Hall. to appear. Syntactic change and the cartography of syntactic structures. In Stefan Keine & Shayne Sloggett (eds.), *Proceedings of NELS 42*, 12 pp. Amherst, MA: GLSA, University of Massachusetts.
- Dresher, B. Elan. 2009. *The contrastive hierarchy in phonology*, vol. 121, Cambridge Studies in Linguistics. Cambridge: Cambridge University Press.
- Fischer, Olga. 1992. Syntax. In Norman Blake (ed.), *The Cambridge history of the English language, vol. II:* 1066–1476, 207–408. Cambridge University Press.
- Fischer, Olga. 2003. The development of the modals in English: Radical versus gradual changes. In David Hart (ed.), *English modality in context*, 17–32. Bern: Peter Lang.
- Hall, Daniel Currie. 2007. *The role and representation of contrast in phonological theory*. Ph.D. thesis, University of Toronto.
- Hall, Daniel Currie. 2011. Phonological contrast and its phonetic enhancement: Dispersedness without dispersion. *Phonology* 28(1). 1–54.
- Hayashi, Midori. 2011. The structure of multiple tenses in Inuktitut. Ph.D. Thesis, University of Toronto.
- Lass, Roger. 1992. Phonology and morphology. In Norman Blake (ed.), *The Cambridge history of the English language, vol. II: 1066–1476, 23–155.* Cambridge: Cambridge University Press.
- Lightfoot, David. 1979. Principles of diachronic syntax. Cambridge: Cambridge University Press.
- Lightfoot, David. 1999. The development of language: Acquisition, change, and evolution. Oxford: Black-well.
- Manuel, Sharon Y. 1990. The role of contrast in limiting vowel-to-vowel coarticulation in different languages. *Journal of the Acoustical Society of America* 88(3). 1286–1298.
- Mustanoja, Tauno F. 1960. A Middle English syntax. Helsinki: Société Néophilologique.
- Roberts, Ian. 1985. Agreement parameters and the development of English modal auxiliaries. *Natural Language & Linguistic Theory* 4(1). 21–58.
- Roberts, Ian. 1993. Verbs and diachronic syntax: A comparative history of English and French. Dordrecht: Kluwer.
- Roberts, Ian & Anna Roussou. 2003. *Syntactic change: A minimalist approach to grammaticalization*, vol. 100, Cambridge Studies in Linguistics. Cambridge: Cambridge University Press.
- Ščur, G. S. 1968. On the non-finite forms of the verb *can* in Scottish. *Acta Linguistic Hafniensia* 11(2). 211–218.
- Traugott, Elizabeth Closs. 1992. Syntax. In Richard M. Hogg (ed.), *The Cambridge history of the English language, vol. I: The beginnings to 1066*, 168–289. Cambridge: Cambridge University Press.
- Visser, Fredericus Theodorus. 1963–73. *An historical syntax of the English language*. Leiden: E. J. Brill. Three parts in four volumes, with pages numbered consecutively throughout.
- Warner, Anthony. 1993. English auxiliaries. Cambridge: Cambridge University Press.
- Warner, Anthony. 1997. The structure of parametric change, and V movement in the history of English. In Ans van Kemenade & Nigel Vincent (eds.), *Parameters of morphosyntactic change*, 380–393. Cambridge University Press.