SYNCHRONIC AND DIACHRONIC ASPECTS
OF ENGLISH AUXILIARIES

TOMOYUKI TANAKA
Tokyo Gakugei University*


0. Introduction

Auxiliaries are one of the most intriguing and complex areas in English grammar, and much effort has been devoted to clarifying their synchronic and diachronic aspects within various theoretical frameworks. In this book, Anthony Warner (henceforth, W) attempts to provide an analysis of a range of properties of auxiliaries in Present-day English (henceforth, PE) and their historical development from a new perspective. Although W does not deny the possibility of formalizing his ideas within other theoretical frameworks, he presents a lexical account of auxiliaries conducted within Head-driven Phrase Structure Grammar (henceforth, HPSG). Furthermore, he applies the theory of cognitive categorization by Rosch and her associates (Rosch (1978, 1988)) to account for the historical development of English auxiliaries.

In this review article, I will present W's main proposals and discuss some problems as well as possible alternatives. Among others, the following three points will emerge from the discussion. First, W's lexical account of auxiliaries in PE is apparently descriptive and far from explanatory; moreover, serious problems arise with regard to his analysis of be. Second, W's analysis of the historical change of English auxiliaries in terms of Rosch's theory of cognitive categorization will be more plausible if triggering factors for the change are taken into account.

* This paper is in part supported by a Grant-in-Aid for Scientific Research from the Japanese Ministry of Education, Grant No. 07710327. I am grateful to Osamu Koma and two anonymous EL reviewers for helpful comments and suggestions on an earlier version of this paper. Of course, all remaining inadequacies are my own.
consideration. Third, there seems to be no strong motivation for adopting HPSG as a theoretical framework for formalizing the system of English auxiliaries.

The organization of this review article is as follows. Section 1 introduces basic assumptions of this book. Section 2 presents W's lexical treatment of auxiliaries in PE, paying special attention to their morphosyntactic properties. Section 3 discusses W's arguments that there was already an auxiliary group in Old English (henceforth, OE) and Middle English (henceforth, ME). Section 4 examines W's analysis of the historical change of auxiliaries in Early Modern English (henceforth, EModE) in terms of Rosch's theory of cognitive categorization. Section 5 is a conclusion of this review article.

1. Basic Assumptions

1.1. Theoretical Background

W adopts HPSG as a theoretical framework for formalizing the system of English auxiliaries. In this section, I will therefore introduce some assumptions of HPSG, which will be only relevant in section 4.2. As a matter of fact, it seems to me that they play a critical role only in W's account of a series of changes that took place in EModE to be presented in section 4.2. Thus, it will be important to examine whether W's account of them is successful enough to motivate his adopting the framework of HPSG. I will postpone this matter until sections 4.2 and 4.3.

In HPSG, it is assumed that lexical heads carry information about the categories that they combine with. This information is described in terms of attribute (=feature name)—value matrices and it is used to project syntactic structures. Since a verb is the head of its clause, it carries information about its subject and complements. Following Borsley (1987, 1993) (contra Pollard and Sag (1987)), W assumes that information about subjects is given as the value of a feature SUBJ, which is distinguished from a feature SUBCAT within which information about complements is encoded.

For example, the verb *likes* in the sentence *Tom likes dogs* has a lexical entry which includes the information $V[\text{SUBJ} \langle \text{NP} \rangle, \text{SUBCAT} \langle \text{NP} \rangle]$. When *likes* combines with the sister NP (*dogs*), its SUBCAT feature is satisfied and its mother carries the 'saturated' feature $\text{SUBCAT} \langle \rangle$ in accordance with Rule 2 in (1b) (which corresponds to
VP → V (+complement)). Similarly, when *likes dogs* combines with the sister NP (*Tom*), its SUBJ feature is satisfied and its mother carries the ‘saturated’ feature SUBJ<> in accordance with Rule 1 in (1a) (which corresponds to S → NP VP). These processes are all ensured by the Subcategorization Principle (1c), which requires a head to occur with appropriate sisters:

(1) a. Rule 1: \([\text{SUBJ }<>] \rightarrow H[\text{-LEX, SUBJ }<\text{C}, \text{ SUBCAT }<\text{C}>], \text{C}\]

b. Rule 2: \([\text{SUBCAT }<\text{C}>] \rightarrow H[\text{+LEX, SUBJ }<\text{C}, \text{ SUBCAT }<\text{C}^*>, \text{C}^*]\]

In these rules H stands for ‘head,’ C for complement (or subject) and C* for any number of complements (including none). The attribute LEX distinguishes lexical items [+LEX] from phrasal categories [-LEX].

c. Subcategorization Principle

A category that is on the SUBCAT list of a head and not on the SUBCAT list of its mother or on the SUBJ list of a head and not on the SUBJ list of its mother must be matched by a sister of the head.

(Borsley (1987: 6))

The resulting structure of *Tom likes dogs* is given below:

(2) \[\text{V }[\text{-LEX, SUBJ }<>], \text{ SUBCAT }<\text{C}>] \quad \text{NP} \quad \text{V }[\text{-LEX, SUBJ }<\text{NP}, \text{ SUBCAT }<\text{NP}>] \quad \text{Tom} \quad \text{V }[\text{+LEX, SUBJ }<\text{NP}, \text{ SUBCAT }<\text{NP}>] \quad \text{NP} \quad \text{likes} \quad \text{dogs}\]

W also proposes to deal with various constructions involving auxiliaries in terms of lexical redundancy rules. Assuming that auxiliaries are identified as V[+AUX], he introduces the following three rules:¹

(3) a. Post-Auxiliary Ellipsis (including VP ellipsis and pseudo-gapping; see below): \[\text{V }[\text{+AUX, SUBCAT }<\text{XP}>] \rightarrow \text{V }[\text{+AUX, SUBCAT }<\text{XP[+ELLIPSIS]>}]\]

b. Negation: \[\text{V }[\text{+AUX, +FIN, -BSE, SUBCAT }<\text{XP}>] \rightarrow \text{V }[\text{+AUX, +FIN, -BSE, SUBCAT }<\text{XP, not}>]\]

¹ Morphosyntactic categories of auxiliaries are distinguished by a number of features. V[+AUX, +FIN(finite), -BSE(base)] corresponds to a non-imperative finite auxiliary.
c. Subject-Auxiliary Inversion: \( V[+\text{AUX}, +\text{FIN}, -\text{BSE}, \text{SUBJ}<\text{NP}\rangle, \text{SUBCAT}<\text{XP}\rangle] \rightarrow V[+\text{AUX}, +\text{FIN}, -\text{BSE}, \text{SUBJ}<\text{}>, \text{SUBCAT}<\text{XP}, \text{NP}\rangle] \)

Note that the value of SUBJ is transferred to SUBCAT in (3c). This means that in contrast to the clause structure described by \( S \rightarrow \text{NP} \text{VP}[+\text{AUX}] \), the inverted structure corresponds to \( S \rightarrow \text{V}[+\text{AUX}] \text{NP} \text{XP} \), where the subject is a sister to the auxiliary and its complement. W refers to these two types of clause structure as ‘VP structure’ and ‘flat structure,’ respectively.

1.2. Word Classes

Applying the general theory of cognitive categorization by Rosch and her associates to linguistic categorization, W makes a series of assumptions on word classes.

First, the establishment of a category depends on the extent of resemblances among the members of the category and differences between the members of the category and the members of other categories. Thus, there are properties common to some or all of the members of a category which are mutually predictive, in that the presence of one property in a member also implies the presence of others. In linguistic categorization, formal properties (which are largely syntactic and morphological) are of central importance in the establishment of a word class. On the other hand, semantic properties are less determinant for this purpose and only serve to identify a word class crosslinguistically.

Second, a category need not be homogeneous in the sense that some members show more of the properties of the category than other less fully characterized members. The former members are called the ‘prototypical’ members of the category. A category may also have indeterminate boundaries.

Third, categories are not all on the same level, and there are three different levels of categorization: basic-level, subordinate-level, and superordinate-level categories. W cites the following examples from
Rosch’s (1978) research on cognitive categorization of objects:

<table>
<thead>
<tr>
<th>Superordinate</th>
<th>Basic</th>
<th>Subordinate</th>
</tr>
</thead>
<tbody>
<tr>
<td>chair</td>
<td>kitchen chair</td>
<td>living-room chair</td>
</tr>
<tr>
<td>furniture</td>
<td>table</td>
<td>kitchen table</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dining-room table</td>
</tr>
</tbody>
</table>

In (4), the subordinate-level categories *kitchen chair* and *living-room chair* are distinguished from one another less sharply than the category *chair* is from other basic-level categories such as *table*; they share many properties in common. The superordinate-level category *furniture* is less internally coherent; there are few properties common to all of its members. In contrast, the basic-level categories *chair* and *table* are sharply distinguished from one another by many criteria, and each category is internally coherent in the sense that its members show many properties in common. In other words, basic-level categories represent the best use of both similarities and differences. Therefore, Rosch emphasizes the importance of the basic level of cognitive categorization in a range of different aspects of human behavior. W argues that this picture also holds of linguistic categorization, and proposes a fresh account of the history of English auxiliaries as we will see in sections 3 and 4.

2. The System of Auxiliaries in PE

With these basic assumptions in mind, let us turn to W’s analysis of auxiliaries in PE.

2.1. Traditional Criteria for Auxiliaries: Auxiliaries as a Word Class

In order to investigate the status and structuring of auxiliaries in PE, W presents a number of traditional criteria for auxiliaries from the literature (see especially Huddleston (1980), Palmer (1988), and Quirk, Greenbaum, Leech, and Svartvik (1985)). Notice that most of the criteria apply to finite auxiliaries, which are often called ‘operators.’

---

3 W excludes from the set of criteria for auxiliaryhood the fact that sentence stress on an auxiliary has the effect of emphasizing the polarity of the sentence. Rather, W argues that this is not to be stated as a property peculiar to auxiliaries, but rather follows from the principle that emphasis involves paradigmatic contrast within a relevant semantic field. See p. 7 for discussion.
(a) **Negation.** The operator typically has a form with contracted -n’t (can’t, won’t, isn’t, haven’t, etc.), unlike full verbs (*prefern’t, *stopn’t, etc.). The not of sentence negation follows the operator (*She will/need not hurt him, *She was not happy), but not full verbs (*She hurt/kissed not him).

(b) **Inversion.** Inversion of subjects and operators is typical of a range of grammatical contexts, such as interrogatives, tag questions, conditionals, sentences with fronted negatives, etc. (*Will/Can she come here?, *Come she here?)

(c) **Ellipsis.** Both finite and nonfinite auxiliaries may appear in elliptical constructions, such as VP ellipsis (*Paul will bring Mary because he should) and pseudo-gapping (*If you don’t believe me, you will the weatherman). W puts these two types of ellipsis together as ‘post-auxiliary ellipsis.’

(d) **Clitic forms.** Some operators have clitic forms which are available after pronouns, or (in the case of ’s) more generally (you’ll, he’d (would, had), Mary’s (has, is), etc.).

(e) **Adverb position.** Epistemic adverbs like probably, certainly, maybe and adverbs of frequency like often, never, hardly may occur after operators (*They will probably/hardly have eaten by six o’clock), but they do not generally occur after full verbs (*They ate probably/hardly their dinner by six o’clock).

(f) **Nonoccurrence after periphrastic do.** Periphrastic do (which is distinct from imperative do, according to W) does not precede nonfinite auxiliaries (*They didn’t have left, *They do be naughty).

(g) **Modals lack nonfinite forms in Standard English.** (*They will can come, *They have could come, *For Tom to may go).

(h) **Modals lack the third person singular present indicative inflection of full verbs.** Hence the contrast between he will and he wills; the latter is available only as a full verb.

(i) **Modals (and do) are followed by a plain infinitive.**

(j) ‘Tense’ relationships in modals are not parallel to those in full verbs. Preterite forms of modals are widely available with present reference and in a range of hypothetical, tentative, or polite expressions where contextual support is not always required. Reference to past time is virtually restricted to indirect speech and sentences with dynamic modality.

Here follows a simplified version of the structuring of auxiliaries in PE established by W on the basis of the formal criteria above:
A. the group of operators (which is distinct from the group of full verbs on all the criteria (a)-(f)):
   (i) modal auxiliaries (which are further distinguished by (g)-(j))
       can/could, may/might, must, shall/should, will/would
   (ii) non-modal auxiliaries
        finite forms of be/perfect have, periphrastic do, imperative do
   (iii) instances of less clear or overlapping membership
         dare, need, ought, used, 'possessive' have, have (to)

B. the group of non-operators
   nonfinite and imperative forms of be/have, the infinitive marker to

C. full verbs

As is obvious from the table (5), modal auxiliaries (i) constitute the most coherent and well-defined group; they show all the properties (a)-(j). Thus, they are the prototypical members of auxiliaries, and are further identified by several striking semantic properties, including, among others, subjective modality and lack of subject selection. Although the status of the members of B is not so clear, they are distinguished from full verbs by the criteria (c), (f), and for some speakers (e). It is apparent that there is a strikingly high level of mutual predictiveness among these formal properties, and they sharply distinguish auxiliaries from full verbs. Thus, W concludes that auxiliaries form a (basic-level) word class in PE.

2.2. The Morphosyntactic Independence of Auxiliaries

2.2.1. Ordering and Categorial Availability: A New Lexical Account

Having established the word class status of auxiliaries in PE, W discusses two related issues: the ordering of auxiliaries and the restricted availability of their morphosyntactic categories.

As illustrated by the following examples, the ordering of auxiliaries is severely constrained; the fixed order is shown in (6):

(6) a. The morning would have been being enjoyed.
    b. modal—perfect have—progressive be—passive be—main verb

(7) a. *John will must leave tomorrow. modal + modal
b. *John has could make some headway. perfect + modal

c. *Mary will do laugh at this example.
   modal + periphrastic do

d. *Mary has done laugh at this example.
   perfect + periphrastic do

(8) a. *John has had finished. perfect + perfect
   b. *Mary is having left. progressive + perfect
   c. *Paul was being singing. progressive + progressive

W argues that the fixed ordering of auxiliaries follows from the availability of their particular morphosyntactic categories. Since the presence/absence of particular morphosyntactic categories varies from one auxiliary to another (it is not automatically predicted), it must be listed. Moreover, such individually specified categories may have different requirements for their following items. W therefore proposes the following list of morphosyntactic categories of auxiliaries and their respective subcategorizations:4

(9) auxiliary category and subcategorization information in the lexicon

<table>
<thead>
<tr>
<th>category</th>
<th>subcategorized for a phrase headed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. can, could, etc. (finite)</td>
<td>plain inf.</td>
</tr>
<tr>
<td>do (finite)</td>
<td>non-aux. plain inf.</td>
</tr>
<tr>
<td>b. have, has (finite)</td>
<td>past participle</td>
</tr>
<tr>
<td>have (plain inf.)</td>
<td>past participle</td>
</tr>
<tr>
<td>having (nonprogressive)</td>
<td>past participle</td>
</tr>
<tr>
<td>c. is, are, etc. (finite)</td>
<td>non-inf. predicate; to-inf.</td>
</tr>
<tr>
<td>be (plain inf.)</td>
<td>non-inf. predicate</td>
</tr>
<tr>
<td>been</td>
<td>non-inf. predicate</td>
</tr>
<tr>
<td>being ((non)progressive)</td>
<td>non-inf., non-ing predicate</td>
</tr>
</tbody>
</table>

Given the information in (9), the ordering facts in (6)-(8) are immediately accounted for. Since a modal is finite only, it cannot occur after another modal or perfect have, as in (7a, b). The same is true of do (see (7c, d)). Perfect have lacks a past participle and a progressive ing-form, and therefore double perfects and progressive

4 Under W's approach, the ordering of auxiliaries should be stated in terms of their morphosyntactic categories as in (i), rather than (classes of) lexemes as in (6b):

(i) finite — infinitive — past participle — progressive participle — passive participle
having are impossible, as in (8a, b). Finally, double progressives are ruled out (see (8c)), because progressive being is not subcategorized for ing-predicates. Thus, W argues that the availability of morphosyntactic categories of auxiliaries plays a crucial role in their ordering, achieving a 100 percent observational adequacy.

2.2.2. Inflected Auxiliaries as ‘Anaphoric Islands’

W gives a number of arguments for his lexical approach to auxiliaries which incorporates (9), including arguments that verbal morphosyntax does not generalize to auxiliaries and that morphosyntactic categories of auxiliaries have idiosyncratic properties which must be specified in the lexicon. Among them, I will examine curious behaviors of auxiliaries in elliptical constructions in this subsection.

Let us begin with W's observation that ellipsis of phrases headed by auxiliaries is subject to the following condition: ellipsis of phrases headed by auxiliaries is allowed only if the morphosyntactic category of the antecedent is identical to that of the ellipsis site. Thus, in (10a, c), where the morphosyntactic category of the antecedent is different from that of the ellipsis site, ellipsis is impossible; compare them with (10b, d). Of course, such a condition is not imposed on ellipsis of phrases headed by full verbs, as in (11):

(10) a. *John is happy, and Mary soon will (sc. be happy).
    indic.—inf.

    b. John will be happy, and Mary may too (sc. be happy).
    inf.—inf.

    c. *John is happy today, and he often has in the past (sc. been happy).
    indic.—past ptc.

    d. John has been happy today, and he often has in the past too (sc. been happy).
    past ptc.—past ptc.

(11) a. John grows tomatoes, and Mary soon will.
    indic.—inf.

    b. John seems happy today, and he often has in the past.
    indic.—past ptc.

W interprets these facts as indicating that morphosyntactic categories of auxiliaries have a distinct status from one another, as in (9). He further suggests that they are not ‘inflectional,’ in the sense that they

5 The following sentences are grammatical, because they do not involve ellipsis of auxiliaries, but that of predicates:

(i) a. John is happy, and Mary soon will be.

    b. John is happy today, and he often has been in the past.
are not related to one another by such an inflectional rule that governs morphosyntax of full verbs. If this is correct, it follows that morphosyntactic categories of auxiliaries have a word-like status and are therefore unanalyzable internally. Thus, they are not transparent to anaphoric retrieval, just as words are not:

(12) a. Max's parents are dead and he deeply misses them (sc. his parents).

b. *Max is an orphan and he deeply misses them (sc. his parents).

(where an orphan is someone (immature) whose parents are dead, so that the meaning of orphan involves reference to the parents of an individual; Postal (1969: 206))

This is why W calls inflected auxiliaries 'anaphoric islands' in the sense of Postal (1969).6

Next, W asks what implications this account has for modals. Although ellipsis does not provide a useful test for morphosyntactic opacity of modals since they lack nonfinite forms, he leads to the conclusion, along the following reasoning, that modals are also morphosyntactically opaque.

Recall first that as pointed out in section 2.1, preterite forms of modals behave quite differently from those of full verbs, which makes it inconceivable that the same sort of inflectional rule operates both in modals and full verbs. W thus argues that preterite forms of modals are stated in the lexicon as noncompositional items incorporating tense.

The same story holds of mood as well. If there is no justification for postulating a special mood category for modals, they are presumably analyzed as syntactically indicative. However, unlike the normal function of the indicative (in the case of full verbs) that it merely locates states of affairs in a way that makes essential reference

---

6 W argues that be was transparent to anaphoric retrieval until the end of the 18th century:

(i) a. That bettre loved is noon, ne never schal
   'So that no one is better loved, or ever shall (be)' (c1370 Chaucer, A Complaint to his Lady, 80)

b. 'I wish our opinions were the same. But in time they will.' (1816 Jane Austin, Emma, 471)

According to W, this suggests a recent change from a system in which the forms of be behave like suppletive items within a system of verbal morphosyntactic categories, to one in which they have a relatively independent status.
to the actual world (Huntley (1984)), subjective modals specify or modify the force of the indicative; they convey aspects of the speaker’s commitment to the utterance. Such a semantic consideration leads W to the conclusion that modals are items incorporating mood in a way which is morphosyntactically unanalyzable, i.e., they are opaque to mood. Remarkably, according to W, this is held responsible for the fact that modals are finite only (see section 3.3 below for problems with this idea).

2.3. Summary and Problems

W’s discussion of auxiliaries in PE is summarized as follows. He first establishes the auxiliary group as a (basic-level) word class, on the basis of a set of mutually predictive properties which distinguish the auxiliary group from the group of full verbs. He then proposes a new lexical approach to the ordering of auxiliaries in terms of (9), which lists morphosyntactic categories of auxiliaries and their respective subcategorizations. This approach is supported by peculiar behaviors of auxiliaries in ellipsis: they are ‘anaphoric islands.’ W’s discussion leads naturally to the idea that auxiliaries (modals, in particular) are uninflected items incorporating mood/tense. In the remainder of this section, I will point out some problems with his analysis of auxiliaries in PE, which are all related to (9).

First, W defends his approach to the ordering of auxiliaries in terms of (9) by presenting a number of arguments that show the separate status of morphosyntactic categories of auxiliaries. Moreover, W’s approach provides a basis for dealing with recent historical developments, such as the rise of the double-ning constraint with auxiliaries (see below) and the failure of anaphoric retrieval with forms of be (see the previous subsection, especially, footnote 6). But (9) is apparently descriptive and looks like an arbitrary listing of idiosyncratic properties. Thus, W’s approach to the ordering problem which crucially refers to (9) is far from explanatory.

Second, as is obvious from (9), W gives a unitary analysis of be, arguing that predicative, passive, and progressive be are treated as a single lexical item. According to W, support for this analysis comes from the fact that predicative, passive, and progressive phrases may be coordinated after be:

(13) a. He is very angry indeed and throwing furniture about the room.
b. Paul was taunted by his classmates and very angry as a consequence.

c. John was put into a state of turmoil by the decision and hoping for its reversal.

He thus argues that the three types of be are all subcategorized for predicative categories ([+PRD], in the feature system of HPSG), as in (9). However, there are a number of differences reported in the literature between predicative and passive be, on the one hand, and progressive be, on the other. As observed by Akmajian, Steel, and Wasow (1979), a nonfinite VP headed by predicative and passive be may be fronted (when progressive be is present), while one headed by progressive be may not:

\[(14)\]
\[
a. \text{They all said that John was being obnoxious before I arrived, and being obnoxious he was!} \\
b. \text{They all said that John was being followed, and being followed he was!} \\
c. *\text{They swore that John might have been taking heroin, and been taking heroin he might have!} \quad \text{(ibid.: 23)}
\]

Furthermore, predicative and passive be appear in the complements of aspectual and perception verbs, whereas progressive be does not, according to Akmajian, Steel, and Wasow (1979) and Takezawa (1984) (note that I omit the participial complements in (17) because they are independently ruled out by the double-\textit{ing} constraint; see below):

\[(15)\]
\[
a. \text{He began to be/being obnoxious.} \\
b. \text{I've often seen him ?be/being obnoxious.} \\
\]

\[(16)\]
\[
a. \text{Mary began to be/being entertained by the dwarves.} \\
\]

\[7\] W observes that the fronting of a nonfinite VP headed by be is possible only if the head is \textit{being}. Compare (14a, b) with (ia, b):

\[(i)\]
\[
a. *\text{... and be happy/tortured he will.} \\
b. *\text{... and been good/tortured he has.}
\]

W assumes that \textit{being} is [−AUX] because of its transparent morphology (be+\textit{ing}), arguing that only a nonfinite VP headed by [−AUX] may be preposed. This assumption would be supported by the impossibility of licensing ellipsis by \textit{being}; recall that ellipsis is only licensed after V[+AUX] (see (3a)):

\[(ii)\]
\[
a. *\text{Kim was being noisy and Sandy is being, too.} \\
b. *\text{Kim was being watched by the FBI, and Chris was being, too.}
\]

If this is correct, the fronting data in (14) might not constitute arguments against W's analysis of be.
b. Mary saw the princess be/being kissed by the frog.

(17) a. *Mary began to be entertaining the dwarves.
   b. *Mary saw the princess be kissing the frog.

(Takezawa (1984: 678))

Since W does not have any means for distinguishing among the three types of be, these two differences remain unexplained.

One might argue that these differences are explained by assuming the following hierarchical structure, together with the statements that VP fronting applies only to VP^1 and that aspectual and perception verbs take VP^1 as their complements, along the lines of Akmajian, Steel, and Wasow (1979):

(18)

```
Infl
  modal, 'periphrastic' do
    V
      'perfect' have
        V
          'progressive' be
            V
              'predicative/passive' be
```

However, given the natural assumption that each of the structural positions for auxiliaries may be projected at most once and only in the hierarchy specified in (18), the ordering of auxiliaries would immediately follow from (18) without recourse to (9). Thus, W cannot invoke (18) to account for the different behaviors of the three types of be without introducing redundancy into his system.

Third, W argues that (9) gives a straightforward accommodation of the double-ing constraint with auxiliaries: according to (9), being (progressive and nonprogressive) does not take ing-predicates. Thus, apart from double progressives as in (8c), it extends to cases where being is not itself progressive:

(19) a. *Paul’s being talking ... (cf. the fact that Paul was talking)
   b. *Paul walked along, being humming as he went.
   c. *The choir being singing the national anthem was cheered by the crowd. (cf. the choir which was singing ...)

Furthermore, W observes that early English does not seem to obey the double-ing constraint; examples like (20) were sometimes found:

(20) One day being discoursing with her upon the extremities
they suffered ... (1719 Daniel Defoe, Robinson Crusoe, Vol. II: 218)

Remarkably, progressive *being* appeared at the end of the 18th century, which coincided with the emergence of the double-*ing* constraint. W accounts for the historical fact as follows: once progressive *being* was introduced into English, it developed the subcategorization restricted to non-*ing* predicates because of a very specialized meaning of double progressives, and then the subcategorization was generalized to non-progressive *being*. Thus, W proposes an illuminating account of the double-*ing* constraint with auxiliaries, but a problem arises in the case of the double-*ing* constraint with other verbs than *being* (Ross (1972), Milsark (1972), Akmajian, Steel, and Wasow (1979), etc.):

(21) a. *John was continuing singing soprano arias.
   b. *He is beginning signing no radical petitions.

(Milsark (1972: 542))

Since the ungrammaticalituy of (21) cannot be accommodated by (9), W's analysis of the double-*ing* constraint with auxiliaries would be less convincing if (8c), (19), and (21) illustrate a single phenomenon.8

3. Identifying an ‘Auxiliary’ Group before Modern English

Let us now turn to W's analysis of the historical development of English auxiliaries, especially modals. Indeed, there are few comments on the history of *have* and *be* in this book (see section 4.2 for the rise of periphrastic *do*). In this section, I will review W's treatment of so-called ‘preauxiliaries’ (especially ‘premodals’) in OE and ME, and show how W reaches the conclusion that there was already an auxiliary group even in OE and ME (though it was a subclass included in the general class of verbs), contrary to the influential proposal of Lightfoot (1979).

8 Akmajian, Steel, and Wasow (1979) argues that the double-*ing* constraint should distinguish between cases like (21) and double progressives, because the former will be acceptable in appropriate contexts (while the latter are absolutely unacceptable):

(1) John has quit smoking cigars for so many New Year's Eves in a row that I can't even remember when he began quitting smoking cigars.

(Akmajian, Steel, and Wasow (1979: 19))

Then, W might be on the right track in distinguishing between the two cases, though the status of examples like (21) remains unclear under his analysis.
3.1. Verb-like Characteristics

W begins by demonstrating that preauxiliaries in OE and ME belonged to the general class of verbs, citing several properties that they shared with full verbs (see (27) for the members of preauxiliaries in those periods).

(i) Formal paradigmatic contrasts. In OE, preauxiliaries showed the major formal contrasts of tense (past: nonpast), mood (indicative: subjunctive), person and number found with full verbs, though non-finites are not recorded for all of them, and the invariable *uton* lacked all contrasts. Of course, preterite-present verbs had an endingless form in the third person singular of the present indicative.

(ii) Semantics and subcategorization. In OE, most of the premodals appeared in senses and constructions which align them with full verbs. Thus, *wile* may mean ‘want, desire,’ *cann* ‘know, recognize,’ *maeg* ‘be strong.’ There were intransitive uses (maeg), transitive uses with one or more objects (sceal) or with complement clauses (wile), and uses occurring with directional complements.

(iii) Syntax. In OE, there was no difference in positional syntax between full verbs and preauxiliaries: both of them appeared in inversions and with the *ne* of sentence negation, as opposed to the situation in PE.

The above characteristics of preauxiliaries survived in a less distinctive form in ME. In addition, there is diachronic evidence that premodals developed further verbal characteristics in the course of ME, which indicates that they still had the status of verbs in ME.

(iv) Reformed present indicative plural. Some of the premodals appeared in ME with a present indicative plural reformed on the model of full verbs. Thus, instead of *bei shulle(n)*, with the historically expected ending of preterite-present verbs, in some parts of the south and south-east Midlands, forms with the *ep* ending of full verbs were found (e.g., *shullep*, *connp*, and *moup* (less frequently)).

(v) Additional nonfinites. Some of the premodals developed nonfinite forms in the course of OE and ME: the infinitive of *may* is first recorded in the middle of the 11th century, the infinitive of *dare* and past participles of *dare*, *may*, and *will* appeared in the course of ME.

(vi) Impersonal constructions. In ME, the premodals *ouen*, *parf*, and *mot* developed impersonal constructions, where they take an oblique NP and a plain infinitive.
Thus, preauxiliaries (premodals, in particular) shared a number of properties with full verbs in OE and ME. W therefore safely concludes that they belonged to the general class of verbs in those periods.

3.2. Distinguishing Properties of Auxiliaries in OE and ME

In spite of the conclusion just mentioned, W argues that full verbs and auxiliaries were distinguished in OE and ME by a range of mutually predictive properties. In general, W is very careful in examining the relevant historical data and drawing conclusions from them, though I will not go into details of his argument here.

(A) Elliptical constructions

In OE and ME, there were examples of VP ellipsis which require a linguistic antecedent. Since premodals such as *dearr, mot*, and *sceal* lacked an intransitive or absolute use, the following examples should be elliptical:

(22) a. forðy is betere þæt feoh þætte næfre losian ne mæg ðonne þætte mæg & sceal
   ‘therefore better is the property which can never perish (lit.: never perish not can) than that which can and will.’  (Bo 11.25.24)

b. deofol us wile ofslean gif he mot
   ‘(the) devil will kill us if he can.’  (ÆCHom i.270.10)

There were also cases which seem to parallel pseudo-gapping in PE:

(23) We magon monnum bemiðan urne geðonc & urne willan, ac we ne magon Gode
   ‘We can hide from men (lit.: from men hide) our thoughts and our desires, but we cannot (lit.: not can) from-God.’  (CP 39.12)

W argues, through careful examination of various facts and factors

---

9 W distinguishes ellipsis which requires a linguistic antecedent, like (22) and (23), from one whose meaning is recovered from a nonlinguistic situation, like the following examples:

(i) a. Paul is eating, but Tom hasn’t started.
   b. You may start (spoken instruction at the beginning of an examination).

(ii) þa cwæþ he to Petre, “To hwan ablinnest þu, Petrus?”
   ‘Then said he to Peter, “Why ceaseest thou, Peter?”’  (BlHom 189.2)
involved, that the possibility of these constructions was a distinctive property of preauxiliaries in those periods.

(B) Transparency to impersonal constructions

In OE and ME, a striking characteristic of some of the premodals and be, together with a few other verbs, is that they occurred with impersonal constructions, so that they lacked a nominative subject when the following verb was impersonal. Thus, they were in some sense transparent to impersonal constructions (see the next section for problems with this property):

(24) a. hine sleal on domes dæg gesceamian beforan gode
   ‘he (lit.: him(acc.)) shall at Doomsday be-ashamed before God.’ (Wulfstan: Sammlung der ihm zugeschriebenen Homilien 238.12)

b. Him may fulofte mysbefalle
   ‘He (obl.) may very often come to harm.’ (a1393 Gower, Confessio Amantis 1.459)

The following four properties applied only to premodals.

(C) Subcategorization for the plain infinitive

In OE, occurrence with the plain infinitive only was found with verbs of ‘sense perception,’ with hatan and lætan, and with premodals. Generally, the other verbs either took both the plain and to-infinitives or the to-infinitive only (see Callaway (1913)). According to W, premodals were prominent in this regard, even in OE: among verbs whose subject supplies the subject of the infinitival complement (what W calls ‘verbs with shared subject semantics’), the restriction to the plain infinitive was virtually an exclusive property of premodals. Then in ME, as the to-infinitive increasingly became the norm in verbal complements, premodals became more prominent in taking the plain infinitive only.

(D) Preterite-present morphology

In OE, there were a number of verbs which showed preterite-present morphology, including virtually all of the premodals and some other verbs (e.g. ann, ūpe ‘grant, give, permit,’ geman, gemunde ‘remember,’ wāt, wiste ‘know’). In ME, wil continued its process of accommodation to the group of preterite-present verbs, and the group gained a new member taking the plain infinitive and having modal senses, i.e. mun. Furthermore, preterite-present verbs which ordinarily had other subcategorizations than the plain infinitive and nonmodal semantics tended to be lost or to become weak. W argues that from OE
onwards, preterite-present morphology and restriction to the plain infinitive became increasingly mutually predictive, which made pre-modals sharply distinct within the class of verbs.

(E) Restriction to finite forms
W claims that at least shall and mot lacked nonfinite forms in OE and ME, carefully excluding the possibility that these gaps were accidental. First, W’s investigation shows that shall was very frequent among premodals in OE and ME; the absence of their nonfinite forms was not accidental, but grammatically determined. Second, W gives interesting evidence for the absence of the nonfinite forms of mot in OE from Ælfric’s Latin Grammar:

(25) licet mihi bibere mot ic drincan, mihi licuit ic moste, tibi licet, nobis licet, si nobis liceret gyf we moston; infinitivum licere beon alyfed (ÆGram 207.1)

Following the normal procedure, Ælfric cites the paradigm of the Latin verb and gives the OE glosses with the finite forms of mot. But when he reaches the infinitive licere, instead of the infinitive *motan, he uses the passive form of alyfan. This indicates that he preferred to avoid *motan, which supports the idea that mot was grammatically restricted to finite forms.

(F) The developing independence of preterite forms
As mentioned in section 2.1, preterite forms of modals have a limited availability for reference to past time in PE. According to W, such opaque uses first appeared in OE with sceolde imposing a present obligation:

(26) Apostrophus ... tacnað þæt sum uocalis byð forlæten, þe on þam worde beon sceolde
‘The apostrophe ... denotes that some vowel is omitted, which ought to be in the word (lit.: in the word be should).’
(Byrhtferth’s Manual 184.15)

Later in ME, such opaque preterites became a characteristic of pre-modals, though this development is a long-term matter over a period of a thousand years or so, not yet perhaps fully completed.

The results of W’s discussion of preauxiliaries in OE and ME are summarized in the following table:10

---

10 (27) contains the information (G) about the availability of subjective modality, in addition to (A)–(F). Incidentally, W discusses the presence of negative forms,
As is obvious from the above table, there were a range of properties (including formal properties; see below) in OE and ME which distinguished preauxiliaries from full verbs. Moreover, the high level of mutual predictiveness of these properties is very striking, and therefore it points to the existence of an auxiliary group in those periods. However, all the members did not share the same set of properties; *be*, *have*, and some premodals showed fewer properties than other premodals. Thus, the auxiliary group in those periods was fuzzy such as *ic nylle/nolde, ic nam/næs, and ic næbbe/næfde* (*ne*+*willan, *be*, and *habban*, respectively), as another criterion for preauxiliaries, though it is not included in (27).

<table>
<thead>
<tr>
<th>(27)</th>
<th>(A)</th>
<th>(B)</th>
<th>(C)</th>
<th>(D)</th>
<th>(E)</th>
<th>(F)</th>
<th>(G)</th>
</tr>
</thead>
<tbody>
<tr>
<td>can (OE cann)</td>
<td>(OE)(ME)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?ME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dare (OE dear)</td>
<td>OE, ME</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?ME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>may (OE mæg)</td>
<td>OE, (ME)</td>
<td>OE, ME</td>
<td>ME</td>
<td>(OE), ME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mot</td>
<td>OE, ME</td>
<td>(OE)(ME)</td>
<td>+</td>
<td>+</td>
<td>OE, ME</td>
<td>ME</td>
<td>OE, ME</td>
</tr>
<tr>
<td>ME mun (not in OE)</td>
<td>ME</td>
<td>(ME)</td>
<td>+</td>
<td>+</td>
<td>(ME)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>owe (OE agan)</td>
<td>ME</td>
<td>ME!</td>
<td>+</td>
<td>+</td>
<td>OE, ME</td>
<td>ME</td>
<td></td>
</tr>
<tr>
<td>shall (OE sceal)</td>
<td>OE, ME</td>
<td>OE, ME</td>
<td>+</td>
<td>+</td>
<td>OE, ME</td>
<td>ME</td>
<td>OE, ME</td>
</tr>
<tr>
<td>parf (OE <em>pearf</em>)</td>
<td>(OE), ME</td>
<td>OE, ME!</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>uton (not LME)</td>
<td>(?)OE</td>
<td>+</td>
<td>+</td>
<td>OE, EME</td>
<td>OE, EME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>will (OE <em>wile</em>)</td>
<td>OE, ME</td>
<td>OE, ME</td>
<td>(+)</td>
<td>(OE), ME</td>
<td>ME</td>
<td>OE, ME</td>
<td></td>
</tr>
<tr>
<td>be (OE <em>beon/wesan</em>)</td>
<td>OE, ME</td>
<td>OE, EME</td>
<td>–</td>
<td>partly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>weorðan (not LME)</td>
<td>OE, EME</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>perfect <em>have</em></td>
<td>ME</td>
<td>ME</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(OE <em>habban</em>)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>periphrastic <em>do</em></td>
<td>?+</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

F=few and declining.  N=limited and poorly supported with ‘shared subject.’
OE, ME=properties attested at the period in question.
(OE), (ME)=attested by instances which might be intransitive in the case of ellipsis, less central or clear instances in the case of impersonals and preterite-present morphology, less clear or more marginal in the case of subjective modality.
ME!=neutralized with use as impersonal verb in ME.
and less well-defined than that in PE. W argues that this situation is neatly captured by assuming that preauxiliaries in OE and ME formed a subordinate-level word class in the sense of Rosch. This is consistent with the fact pointed out in the previous section that there were a number of properties which they had in common with full verbs; recall that subordinate-level categories are not sharply distinguished from one another and they share many properties in common (see section 1.2). Among the auxiliary group, premodals were the prototypical members which were distinguished by more properties, especially (C)-(F), and further identified by the availability of subjective modality (G).

3.3. Problems

As mentioned in section 1.2, the establishment of a word class (whether it is basic-level or subordinate-level) crucially depends on the existence of formal properties which are shared by some or all of the members of the class. With this in mind, let us consider the two properties (B) and (E) adduced by W in order to argue that there was a subordinate-level word class of preauxiliaries in OE and ME.

First, as W himself admits, tranparency to impersonal constructions was not a distinctive property of preauxiliaries. Aspectual verbs, such as OE on-/aginnan and ME (bi)ginnen, also appeared with impersonal constructions:

(28) a. pa ongan hine eft langian on his cyþþe
   'Then he later began to long (lit.: began him (acc.)
   later to-long) for his native-land.' (BlHom 113.14)
   b. po bigan ham alle to agrise
   'Then they all began to be terrified.' (ham=‘them’) (c1330 Otuel 1604)

From a theoretical point of view, verbs which may occur with impersonal constructions are raising verbs (including aspectual verbs): they are characterized by lack of subject selection, and therefore they allow the oblique NP argument of impersonal verbs to raise to the matrix subject position (Lightfoot (1991)). Moreover, if this is correct, transparency to impersonal constructions is not a formal property but a reflection of a semantic property, because W argues elsewhere that lack of subject selection is one of the semantic properties of modals in PE (see section 2.1). Thus, the property (B), tranparency to impersonal constructions, is inappropriate as a formal property distinguishing preauxiliaries from full verbs.
Second, although W attempts to derive the fact that PE modals are restricted to finite forms from their opacity to mood, especially their subjective modality (see subsection 2.2.2), it seems to be the case that restriction to finite forms is a grammaticalized formal property of modals in PE, because it holds of all the members of the modal group regardless of the kind of modality they denote. On the other hand, there seemed to be a clear correlation between this property and subjective modality in OE and ME. In OE, only mot, sceal, and uton were restricted to finite forms, and as W observes, they best showed subjective deontic modality. Similarly, W also points out that premodals which denoted necessity, obligation, and related notions of futurity were finite only in ME. Thus in OE and ME, the property (E), restriction to finite forms, was directly related to opacity to mood, which in turn followed from subjective modality of the premodals involved. Therefore, it might not be a genuinely formal property in those periods.

4. The Status of Auxiliaries in EModE

According to the table (27), it is clear that preauxiliaries continued to develop into a more coherent and distinctive group during the OE and ME periods. W argues that this development was reinforced by two factors: (i) the decline of the effectiveness of oppositions of mood, especially indicative vs. subjunctive, and (ii) the internal dynamics of the developing auxiliary (especially modal) group. The factor (i) served to make premodals more frequent and salient, because they became functional substitutes for the subjunctive with its morphological decline. The factor (ii) promoted the internal coherency within the auxiliary group and its external distinctness from the class of full verbs, in accordance with cognitive economy which dictates that categories tend to be viewed as being as separate from each other and as clear-cut

11 In addition, Plank (1984) states that epistemic modals have never had nonfinite forms throughout the history of English.

12 A similar question will arise with regard to W's remark that grammaticalization of auxiliaries was not led by semantics. If we focus on one of its aspects, that is, their increasing opacity to mood, this was closely associated with subjectivity in OE and ME, as just mentioned in the text. It would thus be more reasonable that grammaticalization in this case was led by semantics, as well as morphological irregularity of premodals, i.e. preterite-present morphology, though W takes the latter to be primary.
as possible (see Rosch (1978: 35)).

4.1. A Cluster of Changes in EModE: The Development of a Basic-Level Word Class

W agrees with Lightfoot (1979) that a significant set of changes occurred to auxiliaries, especially modals, at the beginning of EModE (from the end of the 15th century to the beginning of the 16th century). However, W proposes a fresh account of these changes in terms of Rosch’s gradualist theory of cognitive categorization, in contrast to Lightfoot, who interprets them as showing a cataclysmic development of the modal group.

Among these changes, the following ones show apparent generalizations of earlier properties within the modal group, which sharpened its internal coherency and the distinction between modals and full verbs.

(I) Loss of nonfinites of can, may, will and perhaps do.
(II) Loss of nonmodal senses and constructions in can, may, and will, and the development of lexemic splits in can, dare, and need. Here, ‘lexemic split’ means that modal and nonmodal uses of the items in question began to be clearly distinguished in form and meaning.
(III) Further restriction in distribution of the plain infinitive. Variation between the plain infinitive and the to-infinitive in complements of full verbs had declined to virtually the modern situation in the 16th century, and occurrence with the plain infinitive became effectively distinctive of the modal group.
(IV) Full correspondence of preterite-present morphology with the modal group when wite ‘know’ was lost.

W further gives the following changes which look like new developments. They imply greater distinctness of auxiliaries from full verbs.

(V) Movement of lightly stressed adverbs before the verb. According to Ellegård (1953), lightly stressed adverbs, like never, seldom, always, etc., ceased to appear after full verbs by the end of the 16th century, while they continued to appear after auxiliaries.
(VI) Appearance of tag questions.
(VII) Appearance of a series of clitic forms (I’m, we’ll, he’d, he’s, etc.).
(VIII) Appearance of the contracted negative n’t (in the 17th century).

In summary, the modal group underwent an important series of changes from the end of the 15th century to the beginning of the 16th century. Other auxiliaries, such as be, have, and do, came to be
sharply distinguished from full verbs when they showed some of these changes ((V)-(VIII) for all of them, in addition to (IV) for be and (I) and (III) for do). Thus, the auxiliary group became more internally coherent among its members and externally distinct from full verbs in the period. W interprets this as showing the establishment of a basic-level word class in the sense of Rosch: the auxiliary group changed from a subordinate-level word class, relatively fuzzy in definition with properties and members overlapping with full verbs, to a more coherent and well-defined basic-level word class. Moreover, W emphasizes the gradual nature of this change: in the 16th century and later (hence even after the establishment of the basic-level status), there was a succession of changes that promoted the internal coherency and external distinctiveness of the auxiliary group,\(^{13}\) in accordance with the dynamic aspect of cognitive economy mentioned above. This point will be taken up below in the light of Lightfoot's (1979) radical re-analysis.

4.2. The Subject Parameter, the Loss of Verb Second, and the Rise of Periphrastic Do

Finally, W speculates on a cluster of changes which roughly coincided with the development of auxiliaries as a basic-level word class. These include the loss of null/oblique subjects, the loss of verb second, and the rise of periphrastic do, and W attempts to show that the latter two changes were related to the changing status of modals. Here the assumptions of HPSG made in section 1.1 will come into play.

W first suggests that the notion 'subject' is parameterized in the following way: it may be entered as a value of either SUBJ or SUBCAT (what W calls 'the subject parameter'). In OE, a flat structure where the subject is entered as a value of SUBCAT is basic, and it mainly gives rise to verb-intial and verb-second orders. A VP structure is secondary and derived by a lexical redundancy rule, yielding SVO and SOV orders. But in LME, the basic lexical entry is a VP structure where the subject is entered as a value of SUBJ, and a flat structure is secondary. W illustrates these situations with ditransi-

\(^{13}\) These relatively recent changes include, among others, (i) the reinforcement of preterite-present be, (ii) the loss of agreement inflection of modals dependent on the loss of thou, and (iii) the loss of directional complements after modals. See footnote 6 and section 2.3 for discussion of related matters.
tives:

(29) a. basic lexical entry in OE: V[SUBJ <<>, SUBCAT <IO, DO, S>]
b. derived lexical entry in OE: V[SUBJ <S>, SUBCAT <IO, DO>]

(30) a. basic lexical entry in LME: V[SUBJ <S>, SUBCAT <IO, DO>]
b. derived lexical entry in LME: V[SUBJ <<>, SUBCAT <IO, DO, S>]

Given these ideas, the loss of null/oblique subjects is accounted for in the following way. In OE, the subject is within SUBCAT in basic lexical entries, and hence it is strictly subcategorized by the verb. This means that the verb may impose formal or syntactic conditions on the subject. Thus, the subject may be null in the case of weather verbs, and it may be marked with oblique case in the case of impersonal verbs. However, in LME, the subject is within SUBJ in basic lexical entries, and the verb may no longer impose formal or syntactic conditions on the subject. Hence the loss of null/oblique subjects.\(^\text{14}\)

Next, let us turn to W's analysis of the loss of verb second and the rise of periphrastic *do*. W assumes that the marking of a verb for tense/mood/agreement applies with the following features for a VP structure and a flat structure, respectively:

(31) a. In combination with a verb that will enter a VP structure: SUBCAT< V[SUBJ <S>, +LEX]>
b. In combination with a verb that will enter a flat structure: SUBCAT< V[SUBCAT<... S>, +LEX]>

In (31a), the verbal affix has access to the value of the SUBJ feature of the verb they combine with, and this is necessary to assign nominative case to the subject and agree with it. In contrast, the verbal affix makes reference to the value of the SUBCAT feature in (31b). This type of reference, according to W, is isolated as a distinctively morphological property, being typically associated with word formation.\(^\text{15}\)

\(^{14}\) A serious problem arises with this analysis: null/oblique subjects would be incorrectly allowed even after LME by utilizing the derived lexical entry (30b) where the subject is within SUBCAT (i.e. in inverted structures). The same is true of W's approach to the *that-* effect as well (see p. 228). Thus, W will need some device to restrict the use of derived lexical entries.

\(^{15}\) W does not give independent motivations for this assumption, and its status seems to be unclear (though it is often the case that in word formation, an affix makes reference to the subcategorization feature of the head it combines with; see
W explains the loss of verb second in the following way. It follows from the above assumptions that verb second structures (flat structures with full verbs) require a morphological combination of mood/tense with the verb. However, they began to decline in the 15th century and became highly marked, because of (i) the weakening of overt verbal morphology and (ii) the increasingly lexicalized status (opacity) of mood/tense in modals. Independently, *do* was reanalyzed as a ‘unitary’ combination with mood/tense under the influence of the changing status of modals. Then, periphrastic *do* was introduced in order to avoid the markedness of verb second orders with full verbs. This means that periphrastic *do* was first established in inverted structures, which fits in well with the historical facts (Ellegård (1953)). W thus argues that the changing status of modals was closely associated with the loss of verb second and the rise of periphrastic *do*.

4.3. Problems

W presents an illuminating analysis of the history of English auxiliaries from a new perspective: the cluster of changes that occurred in EModE is interpreted as showing that they changed from a subordinate-level word class to a basic-level word class in the sense of Rosch. He further claims that his analysis is flexible enough to allow the gradual nature of the historical change involved, as opposed to Lightfoot’s (1979) radical reanalysis.

Williams (1981), Roeper (1987)). Moreover, W implicitly assumes that the affix in (31b) must make reference to S not only for case assignment and agreement but also for mood and tense, in spite of the fact that the latter are not properties of S. As we will see immediately, however, W’s account of the loss of verb second crucially depends on both of these problematic assumptions. I will not pursue these problems further here, because of the lack of further information in this book.

16 This analysis might be extended to the historical development of quantifiers discussed by Lightfoot (1979): they had belonged to the class of adjectives in OE and ME, but were reanalyzed as constituting a class distinct from the class of adjectives in the 16th century. See Lightfoot (1979) for details.

17 In response to W’s earlier criticism (Warner (1983)), Lightfoot (1991) proposes a solution to the problem of gradualism in language change. Roughly, he claims that premodals were recategorized as instances of *Infl* in the 16th century due to a number of morphological changes which isolated them from the class of full verbs. In his view, “not only were the morphological changes gradual, affecting certain verbs before others according to the evidence of the surviving texts; in addition, the recategorization may have been gradual, affecting certain premodals before others (Lightfoot (1991: 161)).” Hence, W no longer has advantage over Lightfoot in this regard.
However, as W himself admits, his analysis is 'rationalized history,' rather than 'explanation.' Indeed he proposes a consistent interpretation of the history of English auxiliaries, but it lacks an explanatory power. In my opinion, this is because he does not answer the following question: what triggered the change in the status of auxiliaries exactly in EModE? In other words, he does not make explicit what changes took place in triggering data before the reanalysis of auxiliaries (nor does he propose an underlying principle governing language change, e.g. Lightfoot's (1979) Transparency Principle).

It seems to me that this book offers two possible keys to this question. First, W argues that the decline of wite precipitated or was the first significant change among the cluster of changes c1500. This may have increased the internal coherency and external distinctiveness of premodals. But this might not be a decisive factor, because wite maintained the preterite-present morphology to the last despite its low frequency: OED records no -s form in the third person singular of the present indicative, and the first person singular form wot, with vowel change from the infinitive, was retained to the 19th century (see Denison (1993)). Second, it might be possible that the loss of the subjunctive helped to promote the saliency of premodals as distinct from full verbs, as mentioned above (see also Roberts (1985, 1993)). Perhaps both of these external factors, together with the internal dynamics and increasing opacity of premodals themselves, would be involved in the establishment of the basic-level word class of auxiliaries.

Finally, recall that as mentioned in section 1.1, W's adoption of HPSG as a theoretical framework for formalizing the system of English auxiliaries will be justified only if he presents a plausible analysis of the cluster of changes that occurred in EModE in terms of HPSG. However, in addition to the problems pointed out in the previous section (see footnotes 14 and 15), there is a serious problem with W's account of the rise of periphrastic do. While W convincingly argues that periphrastic do was first adopted in inverted structures in order to avoid the markedness of full verbs in flat structures, he offers no explanation of the fact that it became increasingly obligatory in negative sentences after the 17th century. In fact, he sidesteps the problem and states that the adoption of do in negative sentences was a secondary development. This problem might be solved within the framework of transformational grammar, along the lines of Roberts (1993) which incorporates the possibility of verb movement to Infl and
the changing status of the negative marker not (see also Ishikawa (1995)). According to Roberts, not changed from a phrase to a head in the 17th century, as the appearance of the contracted form -n't indicates. Before the 17th century, not, being a phrase, did not prevent a full verb from raising to Infl (at LF in the framework of Chomsky (1991)). However, once it became a head, not blocked raising of a full verb to Infl under Rizzi's (1990) Relativized Minimality. Thus, do came to be obligatorily inserted into Infl in negative sentences after the 17th century, in order to avoid a violation of Relativized Minimality. In contrast, W does not have any means for expressing these ideas within the framework of HPSG; at present, it would not be feasible to extend or recast (3b) for this purpose.

In short, the framework of HPSG does not provide a plausible analysis of the series of changes that took place in EModE. Therefore, it seems reasonable to conclude that there is no strong motivation for adopting HPSG as a theoretical framework for formalizing the system of English auxiliaries.

5. Concluding Remarks

On the whole, this book is impressive in presenting a comprehensive and illuminating analysis of English auxiliaries from a new perspective, covering a vast array of both synchronic and diachronic data. W's careful manner of treating historical data provides a good example for historical linguists. As we have seen, however, W's argument is largely descriptive and lacks an explanatory power. Moreover, W's approach to English auxiliaries in terms of HPSG seems to be untenable, so that his adoption of HPSG might reduce the value of this book. Thus, we will have to wait for more theoretical research within the framework of HPSG on the nature of lexical features, subcategorizations, lexical redundancy rules, etc., if such an HPSG approach is to give fruitful insights into the nature of English auxiliaries.

REFERENCES

CSLI-87-107), Center for the Study of Language and Information, Stanford.


Ellegård, Alvar (1953) The Auxiliary ‘Do’: The Establishment and Regulation of its Use in English, Almqvist and Wiksell, Stockholm.


Rosch, Eleanor (1978) “Principles of Categorization,” Cognition and Categorization, ed. by Eleanor Rosch and Barbara B. Lloyd, 27-48, Erlbaum,
Hillsdale, NJ.

Department of English
Tokyo Gakugei University
4-1-1 Nukui kita-machi, Koganei-shi
Tokyo 184
e-mail: tanakat@u-gakugei.ac.jp