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Introduction

1.0 Recent research on English verb grammar has increasingly revealed the crucial functions of the auxiliaries as grammatical sentence elements, quite apart from their high frequency and their semantic indispensability in natural conversation. There are some implications for the teaching of English as a foreign language, and also for the teaching of foreign languages to learners whose native-language verb grammar is English.

1.1 The kind of English described here is that of many educated adult Americans, with some bias toward linguistic conservatism but without marked affectation, roughly as in a relaxed committee discussion or in a serious letter to a friend.—No attempt is made to give the history of the research or to give credit to the many grammarians whose work and ideas are here summarized and to a certain extent reformulated. To have tried to trace that history would have involved a bibliographical labyrinth, side issues, and an unproductive discussion of disagreements.—Since the appearance in 1960 of the first version of this sketch, several colleagues have made helpful comments and corrections through correspondence and conversations. Suggestions by Professors W. N. Francis, F. W. Householder, M. Joos, and R. W. Zandvoort have been incorporated in this revision.

1.2 In this discussion the full spellings are used as cover symbols for all the forms with various stress reductions and contractions. Typographically, the auxiliaries are italicized. The term 'lexical verb' is used for what is sometimes called 'full verb, free verb, true verb,' i.e. one of the thousands of verbs in the English lexicon with an inherent semantic content ('referential meaning') and without specifically grammatical function.
The Primary Auxiliaries

2.0 It is useful to distinguish two sets of auxiliaries: the primary auxiliaries with subject-agreement -s and full 'Past' syntax (have, be; do) and the modal auxiliaries without -s and without full 'Past' syntax (can, could, dare, may, might, must, need, ought, shall, should, will, would). In verb constructions containing members of both sets, the modal precedes the primary auxiliaries, not vice versa.

'Past,' have, and be

2.1 Along with 'Past'-inflection, have and be participate in a four-element system of constructions, which is a formal system, not a semantic one. The four elements are:

I. 'Past' (-ed, -t, alternative form of stem, zero)
II. Current relevance (have + participle1)
III. Limited duration (be + -ing)
IV. Passive (be + participle)

In this paper, each of these four elements is called a 'Modification' by a special convention of regarding the 'Past' inflection, auxiliary + participle, or auxiliary + -ing as 'modifying' the lexical verb in the construction. This terminological convention need not imply any theories of subordination, IC analysis, constituent structure, transformation, or concinnity, which are not involved in this discussion.

2.2.1 Grammatically, these four modifications are potentially co-occurrent, in all sixteen possible combinations. Some lexical verbs have an inherent semantic content which is incompatible with the semantic signal of 'Limited duration' or of 'Passive.' And the nature of practical situations is such that constructions with three or four co-occurrent modifications are infrequent. But if the lexical verb of a construction is semantically versatile, these four modifications may co-

1 The term 'participle' is here used as an abbreviation for 'past or passive participle,' the verb derivative as in "been, shaken, gone, glanced, put." As noted below in 2.7, this form has the grammatical meaning of past or passive depending upon the co-occurrent semantic content of auxiliaries or of the lexical verb itself.
occur in any combination: none, any one, any two, any three, all four. In the following paradigm, the arrangement is determined formally rather than semantically, by running through the combinatory possibilities mechanically:

(None)
--- eats
(Any one)
I ate
II has eaten
III is eating
IV is eaten
(Any two)
I, II had eaten
I, III was eating
I, IV was eaten
II, III has been eating
II, IV has been eaten
III, IV is being eaten
(Any three)
I, II, III had been eating
I, II, IV had been eaten
I, III, IV was being eaten
II, III, IV has been being eaten
(All four)
I, II, III, IV had been being eaten

2.2.2 The first component in a primary verb construction bears the subject-agreement marker (-s or zero) or the 'Past' inflection. This first component is the lexical verb if no modification or only the 'Past' modification is involved (i.e., no auxiliary). If Modifications II, III, IV are involved, the (first) auxiliary bears either the subject-agreement marker or 'Past' inflection. If both have and be occur, have is the first auxiliary. After have, be has its participle form been. If be occurs twice (Modifications III and IV), the form of the second occurrence is being.
2.3 The potential co-occurrence of the four primary modifications is formally a grammatical principle, but it has a semantic corollary: the grammatical meanings of the four must be compatible and non-contrastive. Hence the four primary modifications do not constitute a semantic system. Specifically, the absence of any particular modification does not deny the grammatical meaning which its presence signals: The absence of ‘Past’ inflection does not deny chronologically earlier time; the absence of have + participle does not deny current relevance; and the absence of be + participle does not deny ‘Passive’.

2.4 Much of the difficulty and confusion in describing the signalling functions of English verb constructions has arisen from the attempts to assign a meaning to the LACK of one or more of the primary modifications. Thus, it has been a common error to assign some meaning like ‘present, non-past’ to a construction which lacks the ‘Past’ modification (‘He reads Greek’), or a meaning like ‘active’ to constructions without be + participle (‘They were living here then. This material washes well. Her hat blew away. The door opens easily’), or a meaning like ‘habitual’ to constructions without be + -ing (‘He reads Greek’), or a meaning like ‘remoter past’ to a construction lacking have + participle (‘Four students came out of the lab just a minute ago’).

2.5 Cautiously avoiding these traps, we can describe the meaning of a verb construction as signalling the semantic content of the lexical verb modified (limited, focussed, extended) by the semantic content of only the actually occurrent grammatical signals. Thus we escape the lingering mortmain of a universal a priori grammar, which has assigned x meanings to the various presences and absences of the four overt modifications.

2.6 Likewise, by regarding the four modifications as being simply modifications—i.e. as limiting, focussing, extending the potential semantic content of the lexical verb of the construction—we escape an unrealistic semantic segregation of grammar from lexicon. We can acknowledge the existence of meaningful lexical verbs in our syntax,
and gracefully recognize a linguistically reasonable polysemy of our grammatical signals within different lexical contexts.

2.7 Indeed, we can recognize the semantic versatility among our grammatical signals themselves. The component 'participle form' ("seen, shown, eaten, studied") signals past-ness whenever it is preceded by _have_ in Modification II; but it signals passive-ness when preceded by _be_ in Modification IV or by "get," or by "keep" or "have" when an object intervenes ("keep it frozen, have it rebuilt"). As the example indicates, _have/"have"_ is versatile in combination with the participle construction in the two meanings of 'current relevance auxiliary' and 'causative adjunct.' The latter meaning is redundantly reinforced by the factor of word order (intervening object) and major stress on "have" in the causative meaning, whereas the auxiliary _have_ is normally with minor stress or zero stress "-ve, -s, -d." Similarly, the 'Past' Modification has three semantic functions, as earliness, or as non-reality (with accompanying /could/might/should/would/), or as automatic and meaningless in sequence-of-tenses when dependent on a preceding 'Past' form.
The Semantics of the Four Modifications

3.0 Zero modification: A construction without Modification consists of the lexical verb alone, without any auxiliaries or 'Past' inflection. The lexical verb bears the subject-agreement marker (-s or zero). This unmodified construction conveys the semantic content of the lexical verb alone, with no grammatical meaning beyond that of 'Verb.' It is compatible with any chronological meaning overtly signalled elsewhere in the sentence or situation:

Future if a time later than that of the utterance is signalled by adverbial elements ("He arrives at ten-thirty tomorrow"), context ("Your first lab-section meets in Room 423"), or a situation ("We transfer to Flight 58 at Atlanta"—spoken in Miami);

Contemporary in proclamations ("This road is legally closed") and in explanations accompanying demonstrations ("We heat this solution to 60°C and then we open the valve");

Past in the historical present ("When Cleopatra learns of Antony's defeat and death, she...");

Indefinitely repeatable in stage directions ("Randolph enters and hurries to the wall-safe") and in ritual instructions ("The recipient of the honorary degree steps forward, and the Vice-provost adjusts the hood; the President then reads a witty Latin citation");

Immutable and eternal in summaries of story plot—which convert a chronicle into a recitation, timeless, no longer time-bound within the speaker's report of a personally observed and remembered succession of events ("Unfortunately, Little Red-Riding-Hood tells the wolf exactly where she is going"), including headlines ("Thermometer soars to 103°").

Thus it is putting the cart before the horse to direct a learner "Use the /simple/present/non-past/ form of the verb to indicate repeated or habitual action with 'every day' and similar expressions." The meaning of repeated or habitual action is indicated by "every day" etc. or by the inherent semantics of the unmodified lexical verb; the grammar of zero modification is compatible with, not the signal for, that meaning. Most commonly, a predicate with zero modification is
simply timeless—pure description implicitly justified by a past record and a presumption of future continuation.

The sentence “Kenneth does practically everything right-handed, but he erases the blackboard with his left hand” signals Kenneth’s past record and presumptive future practice of left-handed blackboard erasing, without any implication that at the moment of the report Kenneth is erasing a blackboard left-handedly.

3.1.0 Modification I: A construction containing the ‘Past’ modification, without or with other modification(s), has either a limitation to the chronological past, or a focus upon non-reality, or is automatic in ‘sequence-of-tenses.’

3.1.1 If an associated construction contains /could/might/should/would/, then “if” + ‘Past’ modification signals uncertainty, unreality, improbability. The meaning Contrary-to-fact is signalled by /could/might/should/would/ + have + participle in an associated construction. In itself, the combined structure “If” + ‘Past’ modification . . . /could/might/should/would/ is void of any time-signalling content, and is compatible with contextual or situational clues specifying future, present, or past chronology.

A contracted version of this usage occurs in “What if he ordered you to go?” corresponding to “What would happen if . . . ? What would you do if . . . ?”

3.1.2 The ‘Past’ modification without associated /could/might/should/would/ signals earlierness, time anterior to that of the utterance, and nothing else; it does not per se specify the quantitative extent of earlierness in terms of remoteness or recentness.

3.1.3 ‘Past’ modification is automatic and meaningless in constructions syntactically dependent upon another construction with ‘Past’ modification: ‘sequence-of-tenses.’ (“He said you left with Ernest. We wanted you to know we got the tickets. I thought they were at the beach.”)

3.1.4 Thus, this feature of English verb inflection called ‘Past’

2 Some speakers have a quasi-conditional or hypothetical usage as in “It’s time we made up our minds.” The competing construction “It’s time for us to make up our minds” seems to be gaining ground.
has three apparently unrelated syntactic functions. Its function inherited from Germanic and earlier English grammar is to signal a focus on the chronological past: hence its conventional label 'Past.' But in modern English it also signals a focus on non-reality, in conditional clauses. And it also occurs, apparently automatically, in 'sequence of tenses.'

3.1.5 This remarkably heterogeneous trio of functions prompts a search for some common semantic feature. We are describing (2.5) each modification as a 'limitation, focussing, or extension' of the semantic content of the lexical verb. Hence we can ascribe to Modification I the function of limiting and/or extending the content of the lexical verb away from the observable actuality at the time and place of the utterance. Both the chronological Not-Now-So and the logical Only-Conditionally-So = Not-Necessarily-So share the meaning Not-Actually-So-As-I-Speak-To-You-Here-And-Now. And the sequence-of-tenses usage is necessarily removed from observable actuality.

3.1.6 For purposes of this discussion, we can label Modification I with terms that are (so far as I know) neologistic technical designations: 'unactual, unactuality.' 'Unactual' is to be understood as the negation of New International Dictionary Third Edition definitions 2b and 4 at "actual: 2b existing in fact or reality: really acted or acting or carried out—contrasted with potential and possible. 4 in existence or taking place at the time: present, current." Thus, when linked with /could/might/should/would/, unactual = ONLY-CONDITIONALLY-So = Hypothetical. Otherwise, unactual = Not-Now-So = Past.

3.2.1 Modification II, have + participle, explicitly links an earlier event or state with the current situation. It signals a significant persistence of results, a continued truth value, a valid present relevance of the effects of earlier events, the continued reliability of conclusions based on earlier behavior. A sentence like "My family has lived in this town since 1638" is a classic exemplification of the meaning of current relevance—not, as it is sometimes described, an odd
English idiom. Put negatively, *have* + participle asserts that there has not been any intervening change to affect importantly the validity (or the inferences from the report) of an earlier event or condition. "Four students came out" and have perhaps since reentered. "Four students have come out" and are still out, or only one, two, or three have since reentered; if so, the report of reentry is in the form "and two have gone back in" (and the two are still in) or "and two went back in" (and the two may or may not still be in). NB that the 'Past' modification by no means denies such current relevance; per se Modification I neither affirms nor denies that the earlier event or state is linked with the current situation.

The 'pluperfect,' *had* + participle: Co-occurrence of Modifications I and II (without or with III and/or IV) signals that at some past time a still earlier or a hypothetical event or state had a current relevance.

3.2.2 The *have* + participle modification does not necessarily imply completed action except to the extent that the earlier 'action' must have matured sufficiently to produce currently relevant effects. There need be no implication of completion in the sense of non-continuation of the 'action' at the present moment. The term 'perfect' has been unhelpful by suggesting some kind of completedness, previous termination, as essential semantic ingredients of Modification II, whereas these meanings are at most compatible by-products of the semantic combination of context, situation, the lexical verb, and the 'Current relevance' signal of *have* + participle.

3.3.0 *Modification III, be* + -ing, is sensitive to the semantics of the lexical verb. Its grammatical meaning, 'Limited duration,' is in a semantic dimension which is one of the coordinates of meaning of many lexical verbs, positively or negatively. Hence Modification III is versatile: its contribution varies according to the lexical verb's ingredient of optional or compulsory duration or non-duration, repeatability or non-repeatability. Likewise, the grammatical meaning of *be* + -ing is itself composite: 'Limited duration' can be decomposed into limitation and duration, and duration itself into continuation or repe-
tition. Hence the interactions of Modification III with various classes of lexical verbs will be various. It is convenient to distinguish five semantic classes of lexical verbs with respect to their having inherent or potential ingredients of duration, limitation of duration, and repeatability.

1. Neutral with respect to duration or repetition.
2. Durational, with possible limitation.
3. Non-durational, with possible repetition.
4. Non-durational, not subject to repetition in some contexts.
5. Durational, not normally subject to repetition.

With the first four classes, be -ing is the normal grammatical signal of simultaneity: limited duration par excellence. The chronological referent for simultaneity may be overtly contextual (adverbial, consecutive elements in a narrative) or situational. Without overt contextual or situational clues, be -ing is a signal for limited duration simultaneous with the utterance itself—a semantic implication corresponding to 'present tense.'

3.3.1 Neutral with respect to duration, continuation, and repetition: "operate, expect, approach, provide, tell." With these the combined semantic contributions of Modification III apply: duration, and specifically limited duration. ("They're admitting children free this afternoon. We were discussing that very question. We'll be seeing you in Wilmington, won't we?")

3.3.2 Durational, with possible limitation: "reside, contrive, teach, sit, repair." With such lexical verbs, the Third Modification be -ing contributes the meaning of limitation. The quantification of the limitation may be specified by a contextual or situational clue. ("Are you working here now? Bessie is teaching Spanish this year. They're sitting in the front row.")

3.3.3 Non-durational, with possible repetition: "break, hit, find, catch, kill." With these, Modification III signals limited duration in the form either of instantaneous simultaneity or of limited repetition, extending via iteration the normal 'Momentary' semantic content of
the lexical verb. ("Are you catching any trout in that stream? He was breaking the windows with his shoe.")

3.3.4 Non-durational, momentary, often without possible repetition: "proclaim, pronounce, sentence, prescribe, taste (good), feel (smooth)." These are the verbs of proclamation, opinion, announcement. As such, their ritualistic utterance by a speaker with the subject "I, we", or as a report of the speaker's discovery or judgment, constitutes a unique unrepeatable event; hence Modification III is inappropriate. (Thus these verbs in a context of proclamation or announcement are akin to those of the fifth class.) The Class 4 verbs may appear with zero modification as a timeless description of a relationship or a pattern of behavior: "Lamb stew tastes better with horseradish. I prescribe pelagoselenecin for lycanthropy." The addition of Modification III, \textit{be} \textit{+} \textit{ing}, specifically signals either simultaneity, or iteration with implied limitation: the situational clues distinguish between simultaneity and a description of recent and near-future behavior. "I'm prescribing pelagoselenecin" signals simultaneity while the doctor is writing or announcing his decision, but iteration of limited duration when he is describing his behavior to his colleagues. The combination of Modifications II and III, \textit{have been} \textit{-ing}, signals iteration in the limited and currently relevant past.

3.3.5 Durational, normally without limitation: "equal, know, contain, dislike, border." Such verbs are normally immune to the \textit{be} \textit{+} \textit{ing} modification. Whether by logic or by English idiom, their semantic content has an ingredient of permanence, of relational necessity, which is incompatible with any limitation of duration. Only an unambiguous contextual signal of limitation like "more and more, by this time, at the moment, for the time being" can impose a special suspension of the normal meaning of permanence and thus admit the \textit{be} \textit{+} \textit{ing} modification. (Cf. non-occurrent or freakish "Two times four is equalling eight. Aren't you remembering her address? One quart is containing two pints.")

Similarly, these verbs with normally unlimited duration do not readily appear in a future meaning without modification as most
verbs do; see 3.0 above. Even an associated adverbial element, or contextual or situational clue, is insufficient to limit these verbs to future-only, without the modal of overt prediction, \textit{will}. (Cf. non-occurent or freakish "When she's in France next summer, she enjoys snails. John resembles his grandfather in a few years.")

3.3.6 In short, Modification III is versatile, precisely because its semantic function overlaps semantic components of lexical verbs in English. And that is what linguistic theory would lead us to expect.

3.4.1 \textit{Modification IV}, \textit{be} \textit{+} participle, is the Passive. The traditional semantic characterization is fairly adequate: the subject referent undergoes an action or effect rather than (as often in constructions without Modification IV) producing or constituting an action or state. As noted above, 2.4, the absence of this modification is by no means a denial of the semantics of passive meaning. English grammar has no active voice, and 'Active' meaning is at most a compatible incidental by-product of the semantics of direct-object grammar.

3.4.2 Just as there are semantic classes of lexical verbs which are rarely found with \textit{be} \textit{+} \textit{ing}, there are many lexical verbs which do not participate in constructions with \textit{be} \textit{+} participle: "exist, resemble, look, saunter." The label 'intransitive' is traditionally applied to many of these verbs, either because of their non-participation in Modification IV or because they regularly appear without a direct object. The two criteria are not wholly congruent: the full verb "have" = "possess, participate in a relation" regularly has a direct object, but rarely occurs with Passive modification. The choice of criteria to determine 'transitiveness' appears to be a matter of taste; perhaps it would be better just to avoid the label and specify directly the facts of occurrence or non-occurrence with direct object or Passive modification.
The Modal Auxiliary System

4.0 There are four paired modals, and four unpaired ones:

<table>
<thead>
<tr>
<th>paired modals</th>
<th>unpaired modals</th>
</tr>
</thead>
<tbody>
<tr>
<td>can</td>
<td>may</td>
</tr>
<tr>
<td>could</td>
<td>might</td>
</tr>
</tbody>
</table>

The paired modals provide for conditionality and sequence-of-tenses with /could/might/should/would/. In addition, could occasionally functions as an 'earlierness' partner of can.

4.1.1 Thus the modals fall formally into a major class can-could, may-might, shall-should, will-would, and a minor class dare, must, need, ought. Within the minor class there is no specifically 'Unactual' form and no differentiation for sequence-of-tenses. Also, the minor class is defective in varying degrees for various speakers today; some of the unpaired modals are passing into the category of catenatives (with following "to") and their former semantic functions are increasingly taken over by other modals or catenatives, either wholly or partly via suppletion.

4.1.2 The modals, as pure modals, do not co-occur. "Might could" is substandard; "wouldn't dare" is an index of the passage of dare from the modal to the catenative class, as evidenced by the equally or more frequent formula "wouldn't dare to." Similarly with "will need to, may need to," etc.

4.2.0 The fact that the modals do not co-occur suggests that there are elements of incompatibility in their meanings. Leaving out of account for the moment the 'Unactual' forms, the eight modals invite semantic analysis into a system of partial similarities and partial differences. One suggestive formulation (by no means the only one that has been proposed) is:

4.2.1 can = inherent or permanent ability or possibility
dare = inherent moral ability or justification
may = contingent possibility, authoritative permission
must = inherent necessity under law, morality, logic
need = necessity contingent upon instruction or suggestion
ought = obligation, program of moral action
shall = program contingent upon instruction or suggestion
will = prediction; inherent futurity

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3 See above, 2.0, for the formal criteria of modal auxiliaries.
4 See below, 6.1.
4.2.2 For some speakers, the alternation of shall and will for prediction is determined by the traditional prescription in terms of the grammatical person of the subject. Most speakers use shall chiefly or exclusively in questions: it then asks for instruction or suggestion as to future behavior, whereas questions with will ask for pure prediction. Rather parallel is the relation of need and must: need asks for or asserts an opinion as to the contingent necessity or propriety of a specified behavior; must lacks the element of contingency.

4.2.3 The decay of dare, need, ought is having its semantic consequences. From speaker to speaker there are some variations in usage with or without "to" as between statement and question, affirmative and negative. There are some rather general suppletions:

<table>
<thead>
<tr>
<th>Affirmative</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ought to</td>
<td>shouldn’t</td>
</tr>
<tr>
<td>dare to</td>
<td>couldn’t, mustn’t</td>
</tr>
<tr>
<td>must, need to</td>
<td>don’t have to</td>
</tr>
</tbody>
</table>

4.2.4 Even with true modal usage, the negative formulas display irregularities. Formally, an English auxiliary is normally given a negative form by following “-n’t”; but might not is commoner than mightn’t, and shan’t is even rarer than shall not in American English. There are also semantic complications. “It /may/might/ not rain” asserts affirmatively the contingent possibility of non-rain; and “You mustn’t wait” asserts affirmatively the necessity of non-waiting (= the negation of the possibility or permissibility of waiting). On the other hand, the meaning of the auxiliary itself is negated in “I can’t hear you. You needn’t dress up”; so likewise with the rarer mayn’t = “not have authoritative permission.”

4.2.5 With younger speakers, may is yielding to might as an appraisal of pragmatic contingency, to can as authoritative permission.

4.3 We have already noted the function of /could/might/ should/would/ as sequence-of-tenses partners of /can/may/shall/will/. A somewhat special use of would as sequence-of-tenses partner of will is in such constructions as "When we were in college we
would sit up half the night arguing about abstractions” to describe a predictable kind of behavior in earlier time.

4.4 When associated with constructions containing “If” + Modification I (Unactuality), /could/might/should/would/ function as conditionals; see 3.1.1 above. These four modals also appear without an associated “if” construction: their meaning then is a lesser degree of urgency as to the pragmatic situation or a lesser degree of assurance as to probability. Should is less urgent and more polite than shall as an instruction or suggestion. Would is a polite softener parallel to will, especially as a request in question form. Otherwise, would signals a lesser assurance in prediction. Hence would is the favored modal for conditionality per se, just as will has no meaning beyond prediction per se.
Grammatical Characteristics of the Auxiliaries as a Class

5.0 Quite apart from their versatile and subtle semantic functions, the auxiliaries have certain grammatical features qua auxiliaries, which are specifically peculiar to English grammar. The four important grammatical rôles of the auxiliaries are:

5.1.1 Occurrence before -n't (not) for sentence negation. (The usual unstressed -n't is rare with /may/might/shall/ and lacking with am in the English here discussed.) True sentence negation requires an auxiliary to precede the signal /-n't/not/; any other location of "not" specifically makes the negation partial, affecting part but not all of the sentence. The unstressed suffixed -n't is not only the normal negative signal with an auxiliary; it occurs ONLY with auxiliaries and the related copula "be".

5.1.2 Occurrence before the subject. The most common occasion for the sequence Auxiliary + subject is with interrogation. Except when the subject is the interrogative subject /Who?/What?/Which [noun]?, English grammar demands an auxiliary before subject in questions, affirmative or negative.—Other, semi-marginal constructions with this sequence are:

(1) In formal styles, conditional inversion, usually with Had + subject + participle. ("Had he known that, he would have . . .")

(2) In formal styles, after sentence-initial elements with negative or restrictive meanings like "Never, Nor, Neither, Nowhere else, Scarcely, Seldom, Not only." ("Never have I seen such a spectacle. Scarcely had we entered when . . . Not only must you check this dial, but you must also . . .") In some styles, "as" may be followed by auxiliary (+ "also") + subject: "Andrew has been in bed with flu, as have also both of the children."

(3) Informally, after "So" in the meaning "also, likewise, too." In this construction the total formula is "So" + auxiliary + subject: "So can Joe. So will I. So were they. So have you. So's your old man."
Thus, after "So" in this construction, the auxiliary functions as predicate-echo, as described in 5.1.4 below.  

5.1.3 Occurrence as the locus for grammatical stress and pitch signals. Usually the main stress is on the last noun, verb, adjective, or adverb. Elsewhere, main stress signals a meaning of contrast, a specific insistence on the stressed word or sentence part as against some situationally possible alternative word or sentence part. But main stress on an auxiliary signals insistence on the truth value (affirmative or negative) of the sentence as a whole, as against doubt or disagreement whether expressed or implied by the hearer or anticipated by the speaker as the hearer's probable attitude or reaction.

5.1.4.1 Occurrence as the 'echo' or substitute for the entire verb construction and its complements (= predicate) in repetitions: "You'll arrive before we will. Barbara can read Tocharian but Mac can't. Barbara can read Tocharian rapidly but Mac can't. Pete's working hard and so is Mike." This use of auxiliary as echo-substitute is common in answers to Yes-No questions: "Will it rain?—No, it won't."  

5.1.4.2 The echo-substitute function is also found in the very common English question formula consisting of statement followed by tag-question: an auxiliary (+-n't) + pronoun subject. ("You're all coming, aren't you? Marcia and Albert haven't accepted yet, have they?")—If the tag-question has a rising intonation, it is a genuine request for information that the questioner lacks. If it has a falling intonation, it signals a request for confirmation of the questioner's expectation.

5.1.4.3 This is the vexatious English counterpart to "n'est-ce pas? nicht (wahr)? ?(no es) verdad?" etc. Instead of the invariability of such information- or confirmation-seeking formulas, the English tag-question (a) varies according to the auxiliary of the statement, (b) requires a pronoun subject, and (c) has the opposite sign (affirma-
tive or negative) from that of the preceding statement. This highly characteristic English usage is not a perversity but an inevitable corollary of our grammatical requirement of an auxiliary in interrogation, negation, truth-value signalling, and predicate echoing.

5.1.4.4 The tag-question formula is: Auxiliary (+ -n’t) + pronoun subject, with the opposite sign (affirmative or negative) from that of the preceding statement. If the sign is the same as in the preceding statement, the construction signals hostility with some superiority of status, knowledge, etc. (threat, disbelief): “You won’t come along, won’t you? He’s been here all morning, has he?” In this construction, the intonation is regularly falling-rising. Intensification is signalled by an initial “So . . .” or “Oh, so . . .”

5.1.4.5 In any of these echo-substitute functions, if Modification II “Current relevance” is involved, the echo is often (subject + ) modal (+ subject) + have (often + “done” in British usage): “Hadn’t Mary consulted Al?—She may have, but . . .” “I wouldn’t have expected Bruce to approve that request.—Well, he probably shouldn’t have.” “You were in a position to insist, and if you’d been wise you would have.”

5.2 These four grammatical functions of auxiliaries are a peculiar feature of English grammar. It must be noted that they are not mere ‘privileges’ for auxiliaries; an auxiliary is an indispensable component in any English construction of sentence negation, interrogation, stress for insistence, and echo-repetition. These semantic categories are surely among the most pervasive to emerge from any global survey of the syntaxes of the world. The peculiar English focus upon the auxiliaries as their carriers is thus a source of up to four major conflict points in any teaching of English as a foreign language, or of a foreign language to English-speaking learners.

5.3.0 But let us now note that the grammatical rôle of /do/does/did/(-n’t) has become clear. Do is the semantically empty auxiliary, a grammatical dummy, which performs as auxiliary-qua-auxiliary in the four obligatory functions when no other auxiliary is semantically appropriate in the construction.

5.3.1 Thus, in constructions which are otherwise without modals,
without primary auxiliaries, having no modification or only Modification I, empty /do/does/did/

(1) bears the -n’t of negation,
(2) precedes the subject in interrogation (and some other uses),
(3) bears the stress of truth-value insistence,
(4) echoes a preceding predicate in repetition.

Examples of empty do in the four functions:
(1) They don’t work here. He didn’t come on the 5:15.
(2) Did you finish the book? Where does she live now? [Neither do I. Not only did we agree . . .] 
(3) I did stop at the intersection. Do come in! He does look silly, doesn’t he? I don’t want to dance, and that’s that.
(4) It works now, doesn’t it? The Under-Secretary never understood, did he? Mildred likes coffee but Andrea doesn’t. Alice doesn’t type better than Carl does, does she?

5.3.2 Naturally /do/does/did/(-n’t) do not co-occur with the primary auxiliaries have, be or with the true modals. A construction with do + “dare to, need to” is prima facie evidence of the catenative rather than the modal status of “dare, need.” Likewise, the copula “/am/is/are/was/were/” is found with the empty auxiliary only in negative or insistent imperatives with “Don’t be” and “do be”; see 6.2.1 below. In British often and in American English occasionally, the full verb “have” occurs without empty “do”: “You have four brothers, haven’t you? Have you enough time to talk to me this morning?”

5.4.1 In statements and questions, the copula be does not co-occur with the empty auxiliary do. Do performs the function of auxiliary-qua-auxiliary with a lexical verb, and the copula performs the function of verb-qua-verb in the absence of a lexical verb. The copula also

(1) bears the -n’t of negation (except for am),
(2) precedes the subject in interrogation (and some other uses),
(3) bears the stress of truth-value insistence,
(4) echoes a preceding predicate in repetition.

(1) It isn’t very cold. (2) Are the new tapes here yet? (3) That is a fine baby! (4) We’re all ready, aren’t we?
The subject-agreement markers are borne by /am/is/are/ and /was/were/, both exceptionally. Modification I is borne by /was/were/. In multiple modifications, being bears -ing and been constitutes the empty participle.

5.4.2 Thus the copula has a grammatical function significantly parallel to that of do. Copula be is the empty verb as do is the empty auxiliary; both have purely grammatical functions, and neither has any lexical meaning. In the absence of any lexical verb, the copula fulfils the requirement of English grammar for a verb form in full sentences, and performs the special functions in negation, interrogation, insistence, and echoing, like do in the presence of a lexical verb but the absence of another auxiliary.

5.4.3 An important construction is unstressed "There" + verb + 'logical subject.' Verbs other than the copula frequently occur in this construction, but the copula is especially versatile in it. As copula, be is the required verb between "There" and the 'logical subject.' As to word order, "There" is in the normal subject position and the 'logical subject' is in that of a predicate complement. I.e., unstressed "there" is a semantically empty, purely grammatical subject, fulfilling the English requirement for a subject of a verb. Most commonly it is the empty subject of the empty verb—the copula. Thence their combined function as the signal for pure existence.

5.4.4 In negative and interrogative sentences, constructions with unstressed "there" + copula display the normal English grammar, with "there" in the appropriate position for a subject.

Negative: "There won't be . . . There wasn't . . . There weren't . . . There didn't happen to be . . . There hadn't been . . ."

Interrogative: "Has there been . . . ? Must there be further discussion . . . ? How could there have been . . . ?"

5.4.5 Otherwise than in interrogatives, unstressed "there" precedes the verb, and the 'predicate logical subject' follows the total verb construction, regardless of the complexity of the sequence of modals, catenatives, and primary auxiliaries which are associated

7 "There comes a time when . . . Then there appeared . . . There remain only two more questions to be considered."
with the copula: "There is going to be a meeting. There could have been some indications . . . There might have happened to be . . . There seemed to be a good chance."

5.4.6 Like the interrogative subjects /Who/What/Which/? the empty subject "there" is itself unmarked for number. A following verb displays the number agreement appropriate to the predicate noun complement or to an earlier noun or pronoun reference. "Who is coming? Which are staying? What's the best way to Newport? What are those things?"—Similarly, "There is a tide in the affairs of men. There are more things in heaven and earth. There happen to be several good reasons. There doesn't seem to be any objection."

5.4.7 It is clear that unstressed "there" is to be classified as the empty pronoun. It functions in the position of the subject—a familiar pronoun rôle. The convincing argument for establishing unstressed "there" as a pronoun is that it occurs like any other pronoun in the tag-question formula (5.1.4.2-4): Auxiliary (+ -n't) + pronoun subject: "There weren't any taxis at the station, were there? There should be lots of copies, shouldn't there? Oh, so there'll be plenty of time, will there?"
Catenatives, Imperatives, Relics

6.1.1 A full treatment of English verb grammar would consider the non-auxiliary constructions. Among these is the 'catenative construction.' This may involve verbs which are decaying modals like "ought to; (do) dare to, need to", or full verbs which have acquired a formulaic function: get + participle, get + -ing, keep (on) + -ing, want to, have to, used to. There is an important little class composed of "be" + adjectival element + "to": be going to, be about to, be bound to, be supposed to; be to.

6.1.2 Catenative constructions display verbs co-occurring in linked 'chains' like "don't want to have to keep on being supposed to . . ., ought to try to stop getting . . ." Catenatives may follow a modal ("might be going to") or primary auxiliaries ("hadn't been about to"); they may precede primary auxiliaries ("kept on being interrupted"). The maximal order of a complex chained verb construction is thus: Modal auxiliary, catenative(s), primary auxiliaries, catenative(s), primary auxiliaries, lexical verb.

6.1.3 All catenatives except "ought to" and "used to" have distinct forms with and without Modification I. Catenatives with "be" + "to" share in the grammar of the copula: see above 5.4.1-2. "Get, keep; want to, have to; dare to, need to" appear with preceding empty /do/does/did/(n't) in negatives, questions, and emphasis of insistence.

6.1.4 Unlike the primary auxiliaries and the modals, which are closed lists, the catenative construction appears to be one of open membership: the catenative quality is a property of a construction, not of given verbs. Just as some verbs have a high affinity for constructions with a direct object, so some verbs are commonly found in catenative constructions.

The general criteria (not yet satisfactorily defined) for identifying a catenative are syntactic rather than morphological or phonological. A construction with verb + "to" + verb can be identified as catenative by a negative criterion: Consider the two sentences "He started
to eat. He stopped to eat.” Parallel to the second sentence there is a grammatical English sentence, with the same truth value, containing “in order to”: “He stopped in order to eat.” But there is no such same-truth-value parallel for the first sentence: *“He started in order to eat.” Thus, if verb + “to” + verb can be replaced by verb + “in order to” + verb with the same truth value, the construction is not catenative.

6.2.1 Direct imperatives have as their first verbal element:

(1) a lexical verb: “Come at eight. Stand there. Take her an asparagus canape.”

(2) a catenative: ”Try /to/and/ be ready. Keep on turning. Stop wiggling.”

(3) the empty auxiliary Do(n’t) for negation or insistence.

(4) the empty verb Be and the limited-duration auxiliary Be + -ing: “Be careful. Be a sterling youth. Be working like mad when Durand gets here.”

6.2.2 The non-occurrences are significant. Modal auxiliaries do not occur as the first verb in an imperative, nor do verbs with Un-actual Modification I, nor have + participle with the Current relevance Modification II, linking past event or state with continued truth value.

6.2.3 The entire imperative construction may be expanded by a preceding “Please.” “Let’s” is either a softened imperative or one including the speaker; its negative varies between “Let’s not” and the less formal (but now recognizable as essentially analogical and deeply-English) “Don’t let’s . . .”

6.3 A relic—almost an orphan, and much more characteristic of conservative American than of British usage—is the construction with the base (infinitive-like) form of a lexical verb or the copula, preceded by “that” + subject in indirect-discourse imperatives: “I insisted that he be here at five”; also with “ask, suggest, demand, request, move” etc. In this construction the lexical verb, though preceded by a subject, lacks both subject-agreement and the sequence-of-
tenses Modification I. In negative indirect-discourse imperatives, “not” occurs (never -n’t) between the subject and the lexical verb instead of /don’t/doesn’t/didn’t/. Thus this construction as in “His father insisted that Joe not smoke at home” means something quite different from a sentence with the usual verb grammar like “His father insisted that Joe didn’t smoke at home.”—As this construction, anomalous in modern English grammar, becomes obsolescent, its function is taken over by catenatives and modals with prescriptive or contingent components: should(n’t), must(n’t), “have (got) to, ought(n’t) to.”

Historically, this is of course a reflex of a former subjunctive inflection; in modern English (in so far as it occurs at all) it, like the other imperative constructions, uses a base form which coincides with the uninflected infinitive, as shown by “be.”—Even less frequent, practically an archaism, is the construction with “if, whether, unless, until” + subject + base form: “If this be treason, ...”
Applications

7.0 Obviously, no simple universal recipe for the construction of foreign-language teaching materials will emerge from this survey of the grammatical status of the English auxiliaries and the copula. As always, structural comparison of the learner's native language with the target language is indispensable. But it should be clear that whenever English is one of the languages involved, the grammar of the auxiliaries will be a major learning problem.

7.1.1 When English is the foreign language being learned, the importance of early introduction and consistent practice of the patterns of negation, interrogation, insistence, and substitution is obvious. The remarkable rôles of the empty auxiliary do and the empty verb be will in most cases be points of serious conflict with the learner's native grammar. But these two semantically empty bearers of grammatical meanings are not freakish in English; their functions are a consequence of the entire structure of the grammar of the English auxiliaries. And the very patterns of negation, interrogation, insistence, and echo-substitution demand practice throughout the small but indispensable lists of the primary and modal auxiliaries, since those patterns involve auxiliaries (and copula) per se, and are not a peculiarity of any particular auxiliary or auxiliaries or copula.

7.1.2 A corollary is the importance of segregating practice with the auxiliaries from practice with catenatives or lexical verb chains. The semantic accident of time-signalling must not blur the grammatical incomparability of Modification Zero and I (both potentially with empty /do/does/did/), Modifications II and III, and modal will—as contrasted with the catenatives "be going to, be about to." Associated occurrences of "yesterday, today, tomorrow" may constitute a logical time system; but English grammar is not organized into a time system.

7.1.3 Whether practical pedagogical considerations dictate beginning with the empty bearers and then proceeding to the referentially meaningful auxiliaries, or the reverse, the basic structural function of the auxiliaries should be firmly established early in any learning of
English. The coverage should be complete as early as possible, so that from then on any later-learned verb can safely be assigned to the class of those with /do/does/did/(-n't) in the relevant construction.

7.1.4 Those grammatical considerations are reinforced by the pedagogical need for auxiliaries, especially the modals, for realistic oral practice. Without them it is hard to avoid intolerable dullness and childish banality. It is probably inevitable that unnatural or boring teaching materials for English will result if practice on the modals is deferred to a relatively late stage.

7.2.1 It may seem less urgent to take English auxiliaries into account for English-speaking learners of a foreign language. Yet such learners have deep-seated grammatical habits of signalling the major structural meanings of negation, interrogation, insistence, and echo-substitution via a small repertory (at most fifteen) of auxiliaries and the copula, with special stress-reductions and contractions. Any foreign language structure which signals these indispensable meanings otherwise, whatever its inherent regularity or "reasonableness," is a learning problem.

7.2.2 Here again, the need for intensive practice of grammatical patterns in conflict with native-language habits is reinforced by the need to avoid boredom and artificiality. English-speaking learners simply cannot feel natural without dealing with meanings like those of the modals.

7.2.3 The conflicts are even more fundamental with /do/have/be/. The deeply peculiar semantics of the English primary modifications guarantees trouble in learning any verb grammar differently organized as to signalling of time, aspect, mood, voice. The English-speaking learner will seek to distinguish where the foreign language grammar makes no distinction, or fail to distinguish where it does. The materials to channel practice away from the pitfalls must be constructed with a full understanding of what the pitfalls are.
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