CHAPTER 6

THE ENGLISH AUXILIARY SYSTEM

VI THE ENGLISH AUXILIARY SYSTEM

Overview:

In the previous chapters, we considered the central aspects of the linguistic knowledge a speaker of English has: phonological, morphological, syntactic, semantic and pragmatic knowledge. Using the basic notions and concepts introduced so far, we could now pursue our scientific investigation of language in various directions. We could address issues such as: What are the phonological differences between varieties of English such as RP and American English? How has the syntax of English changed during its history since the Old English period? How does a child acquire the morphological system of English? Alternatively, we can also investigate aspects of the adult speaker's linguistic knowledge in more detail. This is what we will do in this chapter. As for the other issues, some of them (as for example the historical development of English or varieties of English) will be explored in more advanced linguistics courses.

The area of the English language that we will discuss in this chapter is its auxiliary system. Auxiliaries form a distinct word class that can be studied from the perspective of any of the main domains in linguistics: syntax, morphology, (morpho)phonology and semantics/ pragmatics. Thus, the study of auxiliaries will provide a good illustration of how we can apply the tools acquired in the earlier chapters to a detailed investigation of a specific linguistic topic. At the same time, it will also allow us to further develop some of the analyses presented earlier (e.g. an extension of our structural analysis of sentences in chapter 5 to question formation).

Auxiliary verbs have to be distinguished from **main (or lexical) verbs**. A list of the auxiliary verbs of English is given in (1).

(1) can, may, will, shall, must, ought, need, dare, be, have, do, [%use]

The percentage sign preceding *use* means that for some speakers this word can have the status of an auxiliary whereas other speakers use it exclusively as a main verb. Four of the verbs listed in (1) (and if we include *use*, five) are dually categorized as auxiliary or main verb: *need*, *dare*, *have*, *do*. They sometimes have auxiliary properties, but sometimes they behave like main verbs.

But what are these properties that allow us to divide the class of verbs into two subgroups? Huddleston and Pullum (2002:102/3) provide the following definition of the term auxiliary verb:

> "A general definition of auxiliary verb is that it denotes a closed class of verbs that are characteristically used as markers of tense, aspect, mood, and voice. These categories are

also commonly expressed by verb inflections (as primary tense is in English, for example): auxiliaries tend to express the same kinds of meaning as inflections, but are syntactically separate words."

This general definition characterizes auxiliaries mainly in terms of their meaning. We will deal with the semantic properties of auxiliaries and in particular the notions of 'aspect', 'mood' and 'voice' in section 4 below. But in order to obtain clear-cut criteria for identifying auxiliaries, we should start by having a closer look at the syntax of verbal elements.

1. SYNTAX

1.1. Auxiliaries vs. main verbs

Auxiliaries have several syntactic properties that distinguish them from main verbs. More precisely, they can occur in positions within the sentence structure in which main verbs cannot occur.

1.1.1. *Negation*

In English, we negate sentences by using the negative word *not* (or its contracted form *n't*). The distribution of *not* distinguishes auxiliaries from main verbs. Whereas sentence negation can immediately follow auxiliaries, main verbs cannot occur in this position.

(2) a. She **has** *not* eaten it. (auxiliary)
b. * She **ate** *not* it. (main verb)

(2b) can be corrected by inserting the auxiliary *do*. At the same time, we have to change the verb to the plain (i.e. non-finite) form. This phenomenon is often referred to as "*do*-support" and it is illustrated in (3a). "*Do*-support" is impossible with auxiliaries (cf. 3b).

(3) a. She did *not* **eat** it. (main verb)
b. * She did *not* **have** eaten it. (auxiliary)

Occasionally, we can find sentences which seem to go against the generalization that sentence negation cannot follow main verbs. Two examples are given in (4).[1]

(4) a. They **went** *not* to Paris but to Berlin.
b. He **promised** *not* to help them.

In (4), *not* occurs after a main verb. However, there is an important difference between (4) and (2b). Whereas *not* is meant to negate the primary main verb and hence the entire sentence in (2b), the sentences in (4) as a whole are affirmative rather than negative. According to (4a),

[1] This and many other examples used in the discussion here are taken from Huddleston and Pullum (2002: chapter 3). Another important source of examples for our discussion is Quirk et al. (1985).

they went somewhere, and, according to (4b), he promised something. In these cases, we do not have sentence negation, but something that we call constituent negation (i.e. negation of a constituent of the sentence rather than negation of the sentence as a whole). This is illustrated in (5).

(5) a. They **went** [*not* to Paris] but to Berlin.
b. He **promised** [*not* to help them].

Thus, the ban on *not* occurring to the right of a main verb concerns its use as a sentence negation.

1.1.2. *Adverbs and quantifiers*

Apart from sentential negation, other elements also have distributional properties that allow us to distinguish auxiliaries from main verbs. For example, there are certain types of adverbs such as modal adverbs (e.g. *probably*, *certainly*) or frequency adverbs (e.g. *always*, *often*, *never*) that show the following contrasts.

(6) a. He **is** *always* miserable.
a'. He *always* **is** miserable. (less usual, but not ungrammatical)
b. He *always* **looks** miserable.
b'. * He **looks** *always* miserable.

Auxiliaries generally precede frequency adverbs (6a). Their occurrence to the right of these adverbs is not entirely ungrammatical but the word order in (6a') is much less commonly used by speakers. Main verbs, however, generally must occur to the right of frequency adverbs. The order 'verb-adverb' in (6b') is ungrammatical.

A similar contrast can be observed with quantificational elements like *all*. When the quantifier *all* is part of a DP, it precedes the determiner:

(7) a. *All* the players **had** taken a card.
b. *All* the players **took** a card.

But, as already observed in chapter 5 (p. 187), *all* can also occur after the DP it modifies. A quantifier in this position is called a "floating" quantifier. Floating quantifiers again allow us to distinguish auxiliaries from main verbs.

(8) a. The players *all* **had** taken a card.
a'. The players **had** *all* taken a card.
b. The players *all* **took** a card.
b'. * The players **took** *all* a card.

Whereas a floating quantifier can occur either before or after an auxiliary, only the preverbal position is possible with main verbs.

1.1.3. *Inversion*

In certain constructions, auxiliaries have to precede subjects. But main verbs cannot occur in the pre-subject position. Instead *do*-support is necessary if there is no auxiliary in the sentence that can precede the subject. The most common context in which subject-auxiliary inversion (SAI) can be found is in direct questions. This process is shown in (9).

(9) a. *She* **can** speak French.
b. **Can** *she* speak French?
c. *Does *she* **can** speak French?

The sentence in (9a) is a simple declarative sentence. In order to obtain a yes-no question (i.e. a question to which the expected answer is 'yes' or 'no'), the order of the subject and the auxiliary has to be inverted (SAI, 9b). (9c) shows that *do*-support is impossible when another auxiliary is present.

With main verbs the situation is different.

(10) a. *She* **speaks** French.
b. * **Speaks** she French?
c. Does *she* **speak** French?

Inversion of the subject and the verb as in (10b) is ungrammatical. Instead, *do* has to be inserted and inverted with the subject (10c).

The same observations can of course also be made for questions containing an interrogative constituent such as *which languages* in (11).

(11) a. [Which languages] **can** *she* speak?
b. [Which languages] does *she* **speak**?

SAI is not restricted to questions, however. It can also be found in other (stylistically more marked) contexts.

(i) Clauses with an initial negative constituent negating the entire clause.

(12) a. *I* **will** go there [on no account].
b. [On no account] **will** *I* go there.

(ii) Clauses with an initial constituent modified by *only*.

(13) a. *She* **had** complained [only once].
b. [Only once] **had** *she* complained.

(iii) Clauses with an initial constituent modified by *so*/*such*.

(14) a. *He* **would** make [such a fuss] that we'd all agree.
b. [Such a fuss] **would** *he* make that we'd all agree.

(iv) Conditional clauses without *if*.

(15) a. If *he* **had** seen the incident, he'd have reported it to the police.
b. **Had** *he* seen the incident, he'd have reported it to the police.

(v) Exclamatives. Note however that, while the absence of SAI in the contexts discussed above (e.g. (9b), (11a), (12b) etc.) would lead to ungrammaticality, SAI is optional in exclamatives.

(16) a. [What a fool] **have** *I* been!
b. [What a fool] *I* **have** been!

In summary, questions and the constructions (i) to (v) above all allow us to distinguish auxiliaries from main verbs. Whereas auxiliaries invert with the subject in these contexts, main verbs always stay on the right of the subject.

1.1.4. *Code*

English allows constructions in which an auxiliary occurs "stranded" in the sense that the main verb following it has been omitted (ellipsis). This phenomenon is illustrated in (17a). With main verbs, we cannot simply omit material following it, as (17b) shows. Ellipsis is only possible once we use the auxiliary *do* as in (17c).

(17) a. He **has** seen it and I **have** __ too.
b. * He **saw** it and I **saw** __ too.
c. He saw it and I <u>did</u> too.

Thus, the behaviour with respect to ellipsis is another phenomenon that allows us to distinguish auxiliaries from main verbs. The construction in (17) is sometimes referred to as the "code construction". When we use a construction like *I have, too* in (17a), we are speaking in a kind of a code, that is, we need a key to understand the full meaning. It is the preceding context that provides this key.

Note that the code construction can be combined with the other constructions discussed above.

(18) a. A: Was he ill? B: No, he was not / wasn't.
b. Emma can't help her; neither can I __.

In (18a) the "stranded" auxiliary precedes negation (cf. section 1.1.1), and in (18b) the "stranded" auxiliary undergoes SAI (cf. section 1.1.3).

1.1.5. *Dually categorized items*

The criteria discussed in the previous subsections allow us to distinguish auxiliaries from main verbs. Applying these criteria, we can observe that some words can be used both as an auxiliary or a main verb. The clearest cases illustrating this are the words *do* and *have*.

(19) a. She **did***n't* have a swim. (auxiliary)
b. She did*n't* **do** very well. (main verb)
c. **Has** *she* eaten it? (auxiliary)
d. Did *she* **have** a swim? (main verb)

In (19a), *do* precedes negation. It therefore has the property of an auxiliary. In (19b), however, the second *do* follows negation. It is therefore a main verb. Being a main verb, it requires *do*-support, i.e. the occurrence of an auxiliary *do*. Hence, (19b) contains both an auxiliary *do* and a main verb *do*. A double categorial status can also be found with *have*. While *have* in (19c) can undergo SAI and is therefore an auxiliary, *have* in (19d) remains to the right of the auxiliary and triggers *do*-support. Hence, (19d) illustrates the main verb use of *have*. Note that the conclusion that certain verbal elements can be used both as an auxiliary and as a main verb is not problematic for our classification. Many words can have a double categorial status. For example, the word *walk* can be used either verbally (*I walk a lot*) or nominally (*I went for a walk*).

Apart from *do* and *have*, three other words can be used as an auxiliary and as a main verb.

(20) a. **Need** *I* bother? (auxiliary)
b. Do *I* **need** to bother? (main verb)
c. He **dare***n't* tell her. (auxiliary)
d. He does*n't* **dare** to tell her. (main verb)
e. %You **used***n't* to worry about it. (auxiliary)
f. You did*n't* **use** to worry about it. (main verb)

The most common use of these words is the main verb use. As for the auxiliary use, it is subject to several restrictions:

- *need/dare*: The auxiliary use is generally restricted to non-affirmative contexts (i.e. negatives and questions). Furthermore, the auxiliary use may be found in British English, but is very rare in American English.
- *use*: This is the most marginal auxiliary. As the percentage sign indicates, only some speakers accept the auxiliary use. For most other speakers, especially younger ones, *use* is only a main verb.

You can now do exercises 1 to 3.

1.2. Types of auxiliaries

So far, we have seen that auxiliaries and main verbs exhibit different properties in certain syntactic contexts. This suggests that these two types of elements belong to two different syntactic categories. However, once we consider the class of auxiliaries in more detail, we can observe that, although all auxiliaries share the properties discussed in section 1.1, in other respects they do not seem to form an entirely homogeneous class. Instead, we have to subdivide the class of auxiliaries into (i) **modal auxiliaries** (or **modals**) and (ii) **other auxiliaries (*be*/*have*)**. There are two pieces of syntactic evidence for this distinction.

1.2.1. *Combinatory restrictions*

Auxiliaries can co-occur in a sequence. However there are certain restrictions:
(i) Auxiliary *do* can generally not combine with any other auxiliary.

(21) a. * He doesn't have read it.
b. * Does he have read it?

The restriction in (21a/b) has to do with the special status of auxiliary *do*. *Do*-support is sometimes called a "last resort" operation as it only applies if there is no other auxiliary available that could satisfy the requirements imposed by certain syntactic contexts such as sentential negation (21a) or question formation (21b). In (21a), there is another auxiliary that can occur to the left of negation (*He hasn't read it*), and in (21b) there is another auxiliary that can undergo SAI (*Has he read it?*). *Do*-support would be redundant and is therefore ruled out.

However, there is one exception to the observation that auxiliary *do* cannot co-occur with another auxiliary. In imperatives, *do* can precede *be*.

(22) Don't be silly!

(ii) The auxiliaries *can*, *may*, *will*, *shall*, *must*, *ought*, *need*, *dare* are mutually exclusive. If one of them occurs in a clause, the others cannot occur in the same clause (23a). However, these auxiliaries can combine with the auxiliaries *have* and *be*.

(23) a. * He **will can** swim soon.
b. He **will be** there.

The fact that the auxiliaries mentioned above are mutually exclusive suggests that they are of the same type. They are what we call **modals**. Combinatory restrictions are therefore the first piece of evidence for making a distinction between modals and other auxiliaries.

1.2.2. *Ordering restrictions*

Up to four auxiliaries can be combined within a clause. But the order in which they appear is subject to rigid restrictions.

(24) a. She **could have** won first prize. vs. * She **had could** win first prize.
b. Nietzsche **may have been** influenced by Kant.
vs. * N. **has been may** influenced by K.
c. He **must have been being** interrogated at that moment.
vs. * He **have must being been** interrogated at that moment.

Based on these and other examples, the following ordering rule can be obtained:

(25) I modal II perfect *have* III progressive *be* IV passive *be*

Modals must occur before all other auxiliaries. Perfect *have* follows modals but it precedes the *be* that selects a verb in the progressive (*-ing*) and the *be* that selects a passive verb. Finally, among the two types of *be*, it is the one co-occurring with a verb in the progressive that precedes the one co-occurring with a passive verb form. The latter is always the final element in a sequence of auxiliaries in which it occurs. These ordering constraints are illustrated in the examples in (24): I-II in (24a), I-II-IV in (24b), and I-II-III-IV in (24c).

Like the combinatory restrictions discussed in section 1.2.1 (point (ii)), the ordering restrictions shown in (24) and (25) suggest that we should distinguish modals from other auxiliaries (*have*/*be*). The modals form a separate group of elements in that they always have to occur in initial position in a sequence of auxiliaries. In section 2 below, we will see that there are also morphological properties that confirm the distinction between modals and other auxiliaries.

1.2.3. *Core vs. non-core uses*

Whereas the points made in the previous two subsections mainly concern the distinction between modals and other auxiliaries, there is another distinction that is sometimes made within the class of elements that have the properties of auxiliaries, namely the distinction between core and non-core uses of auxiliaries. The core uses are those in which the auxiliary is used in construction with a main verb. Only three auxiliaries have non-core uses: *be*, *have*, and *would*. Illustrations of non-core uses are given in (26).

(26) a. He **is***n't* honest.
b. I **have***n't* any money.
c. **Would** *you* rather I didn't tell her?

In (26a), we have what is called a **copula *be***. In the copula use, *be* does not take a verb as its complement (as in *Mary is walking*) but some other predicate (an adjective as in (26a), or a PP as in *John is at home*, or a DP as in *John is a teacher*). (26b) is an illustration of the verb

have with the meaning "possess". In this use, it is always a main verb in American English. The auxiliary use can be found in British English although it is becoming less and less common and it is considered as formal and old fashioned. The non-core auxiliary use of *have* is therefore generally replaced by *have got* or lexical *have* even in British English. Finally, in (26c) it is the modal *would* that does not co-occur with a main verb. This option is restricted to the construction involving both *would* and *rather*.

1.3. The syntactic analysis of auxiliaries

Having discussed the main syntactic properties of auxiliaries and having introduced distinctions between types of auxiliaries, we will now turn to the question of how we can analyze the differences between main verbs, modals and other auxiliaries within the structural system (X'-theory) outlined in chapter 5, section 5.

1.3.1. *Declarative clauses*

Let us start by considering simple declarative clauses and more specifically the distinction between modals and *have*/*be* in such clauses. In terms of the X-bar clause structure presented in chapter 5, this distinction can be accounted for if we make the following two assumptions:

(A) Modal auxiliaries are inserted under finite I in the syntactic structure (that is, an I that is specified for tense and agreement). This proposal immediately explains the two properties of modals discussed in section 1.2.
   (i) A clause contains only one finite verb form. In other words there is only one finite I per clause.[2] Once a modal is inserted under finite I, there are no positions available for other modals because a head position in the tree can host only one word. Thus, we can explain why modals cannot co-occur (cf. section 1.2.1, example 23a).
   (ii) Finite I is the highest head position within a clause. A modal inserted under finite I therefore precedes all other elements. Thus, we can account for the ordering rule given in (25). Note that the analysis of modals can also be adopted for auxiliary *do* as it is also always the highest head in a clause.

(B) The auxiliaries *be* and *have* are inserted under V in the syntactic structure. This hypothesis accounts for two properties of *be* and *have* observed in section 1.2.
   (i) *Be* and *have* can co-occur with modals because they are not inserted in the same position. Whereas modals are inserted in I, *be*/*have* occur in V. *Be*/*have* therefore follow modals in the sequence in (25).
   (ii) Since *be*/*have* can co-occur with other verbs (e.g. *is walking*, *has seen* etc.), they must be able to select a VP as a complement. Assuming that *be*/*have* are V heads projecting a VP themselves, we can explain the fact that different forms of *be*/*have*

[2] If there is an additional finite I in a sentence, it belongs to a lower clause (i.e. a subordinate clause). For example, in a complex clause like the one represented in chapter 5, p. 202, there are two finite Is, but one of them belongs to the main clause and the other one is part of the subordinate clause. Thus, there is only one finite I per clause.

can be combined because one instance of *be*/*have* can select a VP headed by another instance of *be*/*have* (cf. example 24).

The proposals made in (A) and (B) above raise an important question now. If modals and *be*/*have* are inserted in different positions in the syntactic structure, why do they nevertheless have the common properties discussed in section 1.1? As we have seen, these properties generally concern finite forms. For example, modals and finite *be*/*have* precede negation and certain adverbs whereas finite main verbs do not occur in this position. Some additional examples of this contrast are given in (27) and (28).

(27) a. She will not see it. (modal)
b. She has not seen it. (perfect have)
c. *She saw not it. (main verb)

(28) a. He will always see this. (modal)
b. He has always seen this. (perfect have)
c. * He sees always this. (main verb)

The contrasts between the (a) and (c) examples follow directly from what we have proposed so far. Consider first (28). Since frequency adverbs such as *always* precede the main verb, we assume that they are adjoined to the left of the VP (cf. also chapter 5, footnote 6). The distributional contrast between (28a) and (28c) can then be explained as follows. Modals like *will* are in I. They therefore precede frequency adverbs like *always* that are adjoined to the left of the VP. Main verbs like *see* in (28c), however, are in V (with the inflection attaching to V). Hence, they have to follow elements adjoined to the left of the VP. The order 'V-*always*' is ungrammatical. The same analysis can be proposed for (27a)/(27c) if we assume that the sentential negator *not* also occurs between I and V.

But what about (27b) and (28b) now? If (B) above is correct (i.e. auxiliary *be*/*have* as V), finite *be*/*have* should occur to the right of *not* and *always* just like main verbs. Instead, *be*/*have* occur to the left just like modals. Thus, it seems that the auxiliaries *be* and *have* have the status of V but occur in the position of an element that we analyze as I. To deal with this apparent contradiction, we introduce an important notion within what has been referred to as **generative grammar**.[3] What is assumed in this framework is that elements can undergo **movement** in the syntactic structure. In the case at hand, the proposal is that finite *be* and *have* start out under V but then move to I. Hence, their dual status – basically V, but I from a distributional point of view.

[3] Generative grammar is a theory of grammar based on the work of the American linguist Noam Chomsky (born 1928). The X'-schema discussed in chapter 5 is also a component of Chomskyan generative grammar. However, the basic insights concerning constituency and hierarchy expressed by the X'-schema are also found in other approaches to syntax. The concept of 'movement' discussed below is a more distinctive feature of Chomskyan generative grammar. This is the reason why this theory has also sometimes been referred to as transformational grammar (movement being a transformation).

A general introduction to generative syntax will be given in the syntax seminars in English linguistics after the 1st year. Here, we simply introduce some basic aspects that allow us to analyze the syntactic behaviour of auxiliaries.

In order to formalize the notion of movement, generative grammar distinguishes two levels of syntactic structure:

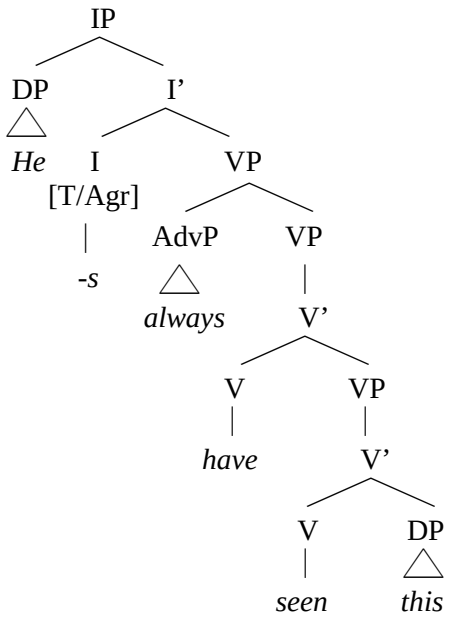
(i) An underlying structure, referred to as **D-structure** (where D stands for "deep").

(ii) The surface structure, referred to as **S-structure** (where S stands for "surface").

The basic idea is that D-structure provides a basic structure that can then be modified through movement. The structure we obtain after movement is S-structure, and it is S-structure which corresponds to the sentence as we hear or read it. In other words, the word order of a sentence reflects the S-structure. D-structure, on the other hand, encodes the basic information concerning the lexical and functional elements within a sentence, such as their categorial status and their selectional requirements (e.g. V selecting a DP-complement etc.).

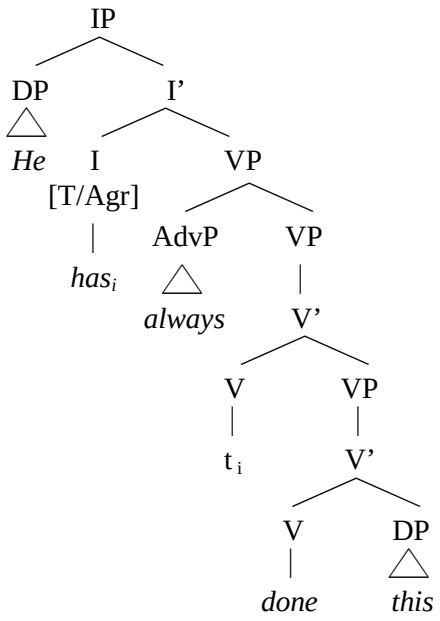
Let us consider the consequences of this proposal for the analysis of the auxiliaries *be* and *have*. As discussed above, we assume that the basic categorial status of *be*/*have* is V. *Be*/*have* are therefore analyzed as occurring under V at D-structure. Furthermore, the inflectional information such as 3rd person singular agreement is encoded on I. The D-structure for a sentence like (28b) can thus be represented as follows.

(29)



The 3rd person singular inflectional morpheme *–s* has to be attached to a verbal element. There would be two possibilities to obtain this result: V moves to I, or I moves to V. For the auxiliaries *have* and *be* the former option holds. *Have* in (29) moves from V to I. As a result we obtain the inflected form *has* and the correct word order '*has always*'. In order to show that an element has undergone movement, we mark the original position with a trace which is co-indexed with the moved element (the trace being abbreviated as 't', the index generally being a subscript 'i'). Thus, we obtain the following S-structure for the sentence in (28b).

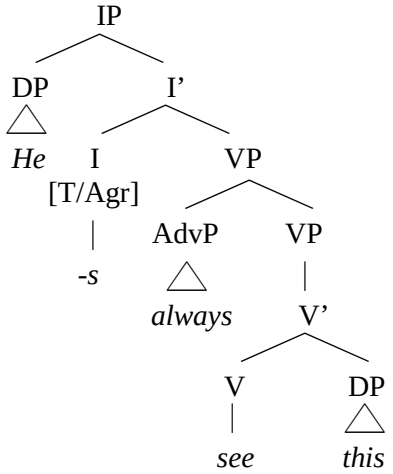
(30)



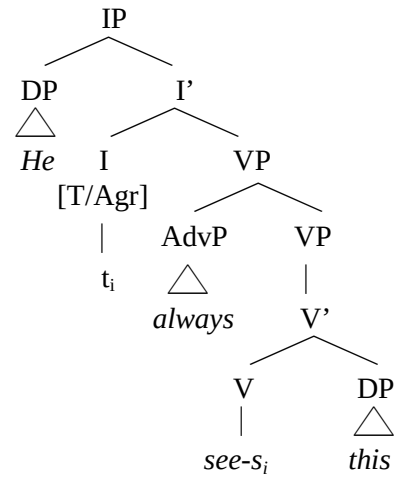
This analysis now accounts for why modals and *be*/*have* are similar in some respects but different in others. They are similar because they both occur under I at S-structure. But they are different because they get to I in different ways. Modals are directly inserted under I whereas *be*/*have* are inserted in V and then move from V to I.

In order to account for the entire set of data in (28), we have to briefly say something about (28c). (28c) shows that main verbs cannot occur before frequency adverbs like *always*. Instead, they have to follow such adverbs (*He always sees this*). This means that the verb stays in V in such cases. We therefore have to assume that for the attachment of a bound inflectional morpheme to V, the second option mentioned above applies in this case, i.e. I is moved (lowered) to V. The grammatical version of (28c) (i.e. *He always sees this*) can thus be analyzed in terms of the D-structure in (31a) and the S-structure in (31b).

(31) a.



b.



Note that the D- and S-structure representations are simply given here to clearly distinguish between the two levels of representations. However, when we discuss a particular sentence, it is generally sufficient to only provide an S-structure representation as we can deduce the original position of each element from the trace(s) in the tree structure.

In summary, we have identified the following three syntactic analyses for different finite verbal elements in simple declarative clauses:

- Modals and auxiliary *do*: In I – directly inserted there.
- *Be/have*: In I – moved from V to I.
- Main verbs: In V – inflection is lowered from I to V.

1.3.2. *Interrogative clauses*

The notion of movement introduced in the previous subsection can be extended to the analysis of another property of finite auxiliaries, namely their ability to invert with a subject in questions and some other contexts (cf. section 1.1.3). Consider the following pairs.

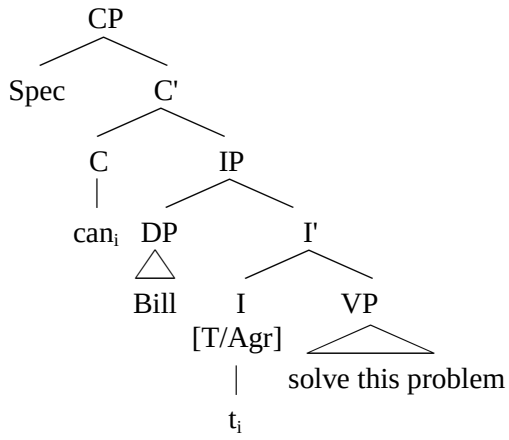
(32) a. Bill can solve this problem.
b. Can Bill solve this problem?
c. Mary will fix the car.
d. Will Mary fix the car?

A sentence like (a) and one like (b) are closely related. The former is a declarative clause, the latter is an interrogative clause (more precisely, a yes-no question) formed on the basis of the same words used in the declarative clause.

A possible analysis of this relation between the two types of sentences is to say that the sentences (b)/(d) are derived from (a)/(c) through movement of the auxiliary to the left of the subject. The question that arises then is where the auxiliaries move within the syntactic structure when they precede the subject. As our discussion in chapter 5 showed (section 5.2.3), there is a structural layer above IP, i.e. CP. In the cases we considered in chapter 5, the head position of the CP was occupied by the complementizer introducing a subordinate clause. However, we may assume that this structural position is more generally available. In particular, we can analyze subject-auxiliary inversion as movement of the auxiliary from I to

C. Thus, we obtain the following S-structure representation accounting for the word order in a yes-no question like (32b).

(33)



Direct questions in English require I-to-C movement. If there is already an auxiliary under I (a modal as in (32)/(33) or *have*/*be* after movement from V), it is this auxiliary that moves to C.[4] Otherwise (i.e. if there is only a main verb), *do* has to be inserted in I and it then moves to C (*do*-support).

2. MORPHOLOGY

Auxiliaries manifest a wide range of variation from the point of view of **inflectional morphology**. Consider first auxiliary *have*. *Have* can be used as an auxiliary and as a main verb, and it shares its inflectional properties to a large extent with main verbs. In the present tense, there are two forms: the bare form and a form ending in *–s*, the latter being restricted to 3rd person singular and the former occurring with all other persons/numbers. What distinguishes the 3rd person singular present form *has* from most 3rd person singular forms of main verbs is the fact that *–s* is not simply attached to the base form of the verb, but to what we can consider a root allomorph. Apart from the base form and the 3rd person singular present tense form, *have* can occur in three additional inflected forms: (i) the gerund/present participle form, which is entirely regular (*having*); (ii) the past tense form, formed irregularly although ending in what corresponds to one of the regular past tense allomorphs, i.e. [d] (*had*); (iii) the past participle, corresponding to the past tense. Note however that in its core use the auxiliary *have* does not occur in the past participle form (i.e. the participle of *have* cannot be followed by another verbal form – **has had done*, **was had done* etc.).

Auxiliary *do* is similar to *have* from a morphological point of view. As *do* can also have the status of a main verb, it patterns morphologically like main verbs. However, in its auxiliary use only three of the five forms occur: the 3rd person singular form ([z] attached to a root allomorph), the base form for the other persons/numbers in the present tense, and the past tense form (partial suppletion). Auxiliary *do* does not occur in non-finite forms (i.e. gerund/present participle or past participle) because *do*-support is a process that applies only in finite contexts when no other finite auxiliary is available.

[4] Note that a structure with *have*/*be* then contains two traces: one under V and one under I.

The remaining auxiliaries are the "extreme" cases from the point of view of inflectional morphology in English. First, there is auxiliary *be* which is the most richly inflected verbal element in English, and finally we have the inflectionally most impoverished verbal elements in English (the modals). For *be*, we can identify three forms in the present tense (*am*, *are*, *is*) instead of the two found with main verbs. In addition, none of the present tense forms corresponds to the base form of the verb. Concerning the past tense, we can observe that *be* is the only verbal form that makes an agreement distinction in English (*was* vs. *were*). Note that all the forms mentioned so far are cases of total suppletion as they do not seem to be phonologically related to the base form *be*. Finally, *be* resembles main verbs with respect to the gerund/present participle and the past participle. The former is entirely regular (*being*), the latter is irregular in the same way as e.g. the main verb *see* is (*been*). In total, we can thus identify eight different forms for the auxiliary *be* as compared to five with main verbs, four for the core use of auxiliary *have*, and three for auxiliary *do*.

With modals, we obtain a very different picture. In general, the only distinction we can make is one between the present tense (e.g. *can*) and the past tense (e.g. *could*). However, as we will see in our discussion of semantic issues in section 4, this distinction is not always a true tense distinction any more. Furthermore, the tense distinction cannot be found with all modals. For example, there is no past tense form for *must*, nor is there another form for *ought*.[5] Apart from the present tense form and, with some modals, the past tense form, no further inflectional forms of modals exist in English. In particular: (i) Modals do not exhibit 3rd person singular agreement (**she may-s*, **he will-s*); (ii) Modals do not have any non-finite forms (i.e. no bare form co-occurring with *to* (**to must*), no *–ing* form (**she is maying*), no past participle form (**he has can/could/canned do this*)). Thus, modals have at most two forms, sometimes even only one.

Note that this impoverished inflectional morphology now allows us to add another criterion to identify modals. In sections 1.2.1 and 1.2.2, we observed that modals can be distinguished from other auxiliaries and main verbs on the basis of their combinatory and ordering restrictions, i.e. on the basis of their syntactic properties. Now, we can add that **modals** also have **characteristic morphological properties**. In particular, a verbal element is a modal auxiliary if it does not have any non-finite forms. Note that this observation fits neatly into the syntactic analysis proposed in section 1.3.1 (point A). According to that analysis, modals are inserted under finite I in the syntactic structure, that is, under the I-head specified for tense and agreement. The fact that modals do not have non-finite forms can therefore be immediately accounted for. All other verbal elements, including auxiliary *have* and *be*, are inserted in V. Non-finite forms are therefore possible with these (cf. e.g. *to have been* for the auxiliaries *have* and *be*).

To conclude our brief discussion of morphological issues raised by auxiliaries, let us consider the morphological restrictions that auxiliaries impose on the verbal elements they combine with. This issue is a morphosyntactic one in the sense that a head (the auxiliary) selects for the morphological form of its complement. An illustration of this type of selection is shown in (34).

[5] *Ought* is historically a past tense form. Hence, what is missing in Modern English is the corresponding present tense form.

(34) a. Ann may spend/*spending/*spends/*spent her vacation in Italy.
b. It has rained/*raining/*rains/*rain every day for a week.

The main selectional rules are:
(i) Modals require the following element to be uninflected (the bare infinitive).[6]
(ii) In its core use, *have* requires the following element to be a past participle.
(iii) In its core use, *be* requires the following element to be a present participle or a past participle.
Some further morphological issues will be discussed in the following section under the heading of morphophonology.

3. PHONOLOGY AND MORPHOPHONOLOGY

3.1. Emphatic polarity

In section 1.1, we discussed a number of syntactic criteria that allow us to distinguish auxiliaries from main verbs. However, there is another property distinguishing the two types of verbal elements, and this one is more phonological in nature. Auxiliaries can carry stress to mark a finite clause for **emphatic polarity** while this option is not available with main verbs. Emphatic polarity is illustrated in (35a/b). Its function is to deny a negative proposition that has been stated previously or that has simply been implied. As (35c) shows, main verbs cannot be stressed for this purpose.

(35) a. They don't think he'**s** seen it but he **HAS** seen it.
b. She **DID** move the picture, I saw her.
c. * They don't think he **saw** it but he **SAW** it.
(vs. They don't think he saw it but he **DID** see it.)

Thus, emphatic polarity is an additional criterion we can use to classify a verbal element either as an auxiliary or as a main verb. If emphatic polarity is possible, we are dealing with an auxiliary, if emphatic polarity is ruled out, we have a main verb. Adding this phenomenon to the syntactic properties discussed earlier, we obtain a set of basic distinctive criteria that have been referred to as the **NICE properties**. The acronym NICE stands for negation (section 1.1.1), inversion (section 1.1.3), the code construction (section 1.1.4) and emphatic polarity, i.e. for the main linguistic contexts in which auxiliaries show a distinctive behavior. Hence, whether a verbal element belongs to the category of auxiliaries or whether it is a main verb can be determined on the basis of the NICE properties.

[6] Note that the modal *ought* again has a special status here as it requires the presence of *to* (**They ought leave* vs. *They ought to leave*).

3.2. Morphophonology

When considering the phonetic realization of auxilaries, we can identify a large number of cases of **allomorphy**. Allomorphy with auxiliaries involves either the weakening or the reduction of the auxiliary.

3.2.1. *Weak forms*

In connected speech, auxiliaries are generally unstressed unless they occur in clause-final position or are used emphatically. When unstressed, auxiliaries are often pronounced in a weak form. This phenomenon was discussed already in chapter 3, section 2.4.3 (p. 119). We observed there that weak forms typically contain a schwa rather than the full vowel of the strong form. Sometimes, the vowel may also be entirely deleted. Illustrations of this kind of allomorphy are provided in (36). Strong forms are shown in (36a/c/e) and the corresponding weak forms are given in (36b/d/f).

(36) a. I think we can [kæn].
b. They can [kən] wait.
c. I think we shall [ʃæl].
d. We shall [ʃəl] (or [ʃl]) need to hurry.
e. I think I am [æm].
f. I am [əm] late.

The use of the weak allomorph is frequent in connected speech, but the strong forms would be grammatical in (36b/d/f) as well. However, the weak forms would be ruled out in (36a/c/e) as weakening is impossible in clause-final position.

3.2.2. *Auxiliary reduction*

Certain finite forms of auxiliaries have, in addition to their weak forms, **reduced** (or **clitic**) allomorphs which merge phonologically with an adjacent word. The relevant adjacent word is generally the preceding one as in *I'm leaving*, where the auxiliary is reduced and merged with *I*. However, there is also one context in English where the auxiliary merges with the following word, and that is when the auxiliary *do* precedes the pronoun *you* (e.g. *D'you like it?*).

What distinguishes reduced forms of auxiliaries from weak and strong forms is that the former generally lose their status as independent syllables. Thus, while the strong form [æm] in (36e) and the weak form [əm] in (36f) form independent syllables consisting of a nucleus and a coda, the reduced version *'m* in *I'm late* simply contributes the coda to the syllable whose nucleus is the diphthong [aɪ] of the 1st person singular pronoun.

The process of auxiliary reduction may be restricted in various ways. Consider for example the reduction of the plural and 2nd person singular present tense form of the auxiliary *be* (i.e. *are*).

(37) a. You're late.
b. * These phenomena're interesting.
c. * Those who know me're surprised.
d. * Jo and you're in for a shock.
e. * We are leaving and so're they.

Whereas reduction of *are* is possible in (37a), it is ruled out in all the other contexts given in (37). The question that arises then is how we can describe the context in which reduction is possible. A plausible initial hypothesis would be that the phonetic context influences *are* reduction. Given (37a), we might conclude that *are* reduction is licensed if it follows a vowel. However, since in all the remaining examples in (37) *are* also follows a vowel and reduction is nevertheless ungrammatical, a purely phonological explanation would be insufficient. A look at the syntactic status of the preceding element seems to be more promising. *Are* is preceded by a subject pronoun in (37a) but by a full DP in (37b). Thus, a pronoun seems to provide an appropriate context for *are* reduction. However, not just any pronoun will do. For example an object pronoun contained in a relative clause modifying the subject as in (37c) does not license *are* reduction. Neither does a subject pronoun contained within a conjoined subject (i.e. a subject consisting of two DPs conjoined by *and* or *or*; cf. 37d). Finally, (37e) shows that *are* must follow but cannot precede the subject pronoun. Thus, the reduced allomorph of *are* is possible only if the preceding constituent is a subject pronoun. More specifically, in structural terms, we can say that *are* reduction is possible if *are* occupies I and if the specifier of IP is occupied by a pronoun. The same kind of restriction also holds for the auxiliaries *am*, *have* and *will*.[7]

Whereas reduction of *are*, *am*, *have* and *will* is very restricted, other auxiliaries can be reduced much more productively. For example, the 3rd person singular present tense auxiliaries *is* and *has* can be reduced to a large extent regardless of the nature of the preceding word. This is illustrated for *has* in (38).

(38) a. She's finished.
b. The car's already been sold.
c. The officer who knows me's been very nice.
d. Neither Gloria nor Godfrey's ever been to India.
e. Who's Pete seen?

Has reduction is not only possible after subject pronouns (38a), but also after any kind of full DP (38b/c), including a conjoined one (38d). Furthermore, *has* can even be reduced when it does not occur in I but in C, as in a question like (38e).[8]

[7] Note that in informal writing one can sometimes see things like *Pat'll do it* or *You could've been hurt*. From a phonetic point of view, however, these sentences involve weak forms rather than the clitic form, that is, [əl] rather than [l], and [əv] rather than [v].

[8] However, an example like the following is generally considered as ungrammatical by speakers of English:
(i) *Never's Pete seen her.
(i) shows an instance of subject-auxiliary inversion triggered by a negative constituent (cf. p. 214) and hence an instance of auxiliary movement to C. Data like those in (i) have led some linguists to propose that *has*/*is*

Our discussion of *has* and *is* reduction would not be complete if we did not point out another area of allomorphic variation that can be found with these auxiliary forms. Consider the phonetic transcriptions in the following examples.

(39) a. The cat's [kæts] done it.
b. The bee's [bi:z] done it.
c. The boss's [bɔsɪz] done it.

As we can see, the reduced version of *has* can be realized as one of three different forms: as [s], [z], or [ɪz]. This allomorphy is of course reminiscent of the allomorphy found with the regular plural morpheme in English (pp. 125/126, 139/140). The allomorphy rule is indeed identical in both cases. [ɪz] occurs after alveolar/palatoalveolar fricatives and affricates. Otherwise, we get [z] after a [+voiced] sound, or [s] after a [-voiced] sound. We thus have another case of phonologically conditioned allomorphy. The phonetic realization of reduced *is* and *has* is determined by progressive voicing assimilation.

Having considered a reduction process that is very restricted (*are* etc.) and one that is not restricted at all (*has*, *is*), we can now turn to a third group of auxiliaries that lies somewhere in-between. The relevant group contains *had* and *would*, reduced as *'d*. From a syntactic point of view, the reduced versions of these auxiliary forms can occur in almost any context. (40) shows that, just like *has*/*is* (cf. 38a-d) and unlike *are* etc. (37a-d), *had* is found after different types of subjects.

(40) a. He'd gone.
b. Mary'd gone.
c. Anyone who knows Sue'd gone.
d. Kermit and Kay'd gone by the time we arrived.

Even though *had* reduction does not seem to be syntactically constrained, it is nevertheless not as productive as *has*/*is* reduction. Consider the following examples.

(41) a. * John'd gone. * Sam'd gone. * Russ'd gone.
b. * The mob'd gone. * A bush'd been on fire.

What distinguishes (41) from (40)? Nothing from a syntactic point of view. The only difference seems to be phonological in nature. *Had* reduction is blocked if the final sound of the preceding word is not a vowel. *Mary* in (40b) ends in a vowel whereas *John*, *Sam* and *Russ* in (41a) have a consonant in final position. Hence, the correct generalization seems to be that *had* and *would* can be reduced only after a word ending in a vowel.

---

reduction is restricted to contexts where they immediately follow a DP. Such a proposal would be confirmed by examples like (iia), but examples like (iib) would be problematic (*why* being an adverbial interrogative word):
(ii) a. *She often's right about things.
b. Why's this happening?
We have to leave it open here how the few restrictions on *has*/*is* reduction are best accounted for (but cf. Kaisse 1983 for further discussion).

So far, we have seen that, among the auxiliaries that have phonologically reduced allomorphs, the reduction process is constrained in different ways. The relevant **factors constraining reduction** can be of a **syntactic** nature (type of subject with *are*/*am*/*have*/*will*) or of a **phonological** nature (final sound of the preceding word with *had*/*would*). In addition there is also one type of constraint that applies to all cases of reduction. This constraint is illustrated in (42) (cf. also chapter 1, pp. 5 and 9).

(42) a. * Tell me where the concert's this evening.
b. * Fafnir is nasty when you tickle him, and Fasolt's when you tell jokes.

Given that the reduction of *is* is generally not restricted, the ungrammaticality of the sentences in (42) is surprising. There are two ways in which this restriction can be described. First, if we consider the grammatical equivalents of (42) with the full form, we can observe that the second auxiliary receives **stress**.

(43) a. Tell me where the concert IS this evening.
b. Fafnir is nasty when you tickle him, and Fasolt IS when you tell jokes.

An alternative way of defining the context in which reduction is blocked is in terms of the syntactic structure. What we can observe is that after the reduced form of *is* in (42) or after the stressed full form in (43), there is a **gap** in the sentence in the sense that another constituent would normally occur in this position. This is illustrated in (44).

(44) a. * Tell me where the concert's ___ this evening.
a'. The concert's <u>in Royce Hall</u> this evening.
b. * Fafnir's nasty when you tickle him, and Fasolt's ___ when you tell jokes.
b'. Fafnir's nasty when you tickle him, and Fasolt's <u>nasty</u> when you tell jokes.

Whenever the gap is filled as in (44a'/b'), *is* reduction is possible. This suggests that auxiliary reduction is blocked if there is a syntactic gap immediately after the auxiliary.

Usually, the phonological generalization in terms of stress on the auxiliary and the alternative syntactic generalization in terms of a gap after the auxiliary both account for the kind of restriction on auxiliary reduction shown above. This is because the omission of some material after the auxiliary generally leads to a shift of stress onto the auxiliary. However, there are certain data that seem to favor the stress analysis and others that can be more easily explained in terms of the syntactic approach. Hence, the conclusion may be that both conditions are relevant. A more detailed discussion would go beyond the scope of this section and we will therefore not pursue this issue any further here. What is essential for our purposes is that, apart from restrictions that apply to specific subgroups of reduced auxiliaries, there is also a restriction, illustrated in (42), that holds for all reduction processes. This restriction is related to stress on the auxiliary and/or the syntactic context.

3.2.3. *Reduced negation and allomorphy*

To conclude our discussion of morphophonological phenomena, let us briefly consider negative clauses. In negative clauses, **allomorphy** can be found both with the **negative marker** *not* and with the **auxiliary**. If we start by looking at the negative marker, we can observe that it can be realized as a full form [nɒt] or as a reduced form [nt] attached to the auxiliary (e.g. *aren't, doesn't, isn't*).

Generally, reduction of *not* is a very regular and systematic process. Nevertheless, there are some restrictions on *not* contraction. A first restriction concerns the items to which *n't* can be attached. For example, the form *mayn't* is very rare in present-day English. Although it was still fairly current in the earlier part of the 20th century, many speakers of English now reject *mayn't* and consistently use *may not* instead. Similarly, *not* contraction with *am* is also very restricted. The form *amn't* is ungrammatical in most varieties of English (e.g. Standard British English or Standard American English). However, it can be found in Irish English (also called Hiberno-English) and in questions in Scottish English. In varieties that do not allow *amn't*, alternative contracted forms are sometimes used to replace *amn't*. For example, *aren't* can be found in questions in British English (e.g. *Aren't I going to be invited?*). However, this option is not available in declaratives (e.g. **I aren't leaving yet.*). In informal American English, the reduced form *ain't* can be found in the position of ungrammatical *amn't* in both declarative and interrogative contexts (e.g. *I ain't leaving yet. Ain't I lucky?*). However, the most frequently used solution to avoid *amn't* is simply to take the full form of *not* (i.e. *I am not* or *I'm not* in declaratives and *Am I not* in questions). Some linguists have tried to provide explanations as to why *amn't* is blocked in most varieties of English. However, their proposals are by no means simple. We will therefore have to leave the ban on *amn't* (and on *mayn't*) as an unresolved puzzle here.

A second restriction on *not* contraction is related to the form of the auxiliary. This is shown in (45).

(45) a. John isn't here yet. vs. * John'sn't here yet.
b. We aren't ready. vs. * We'ren't ready.

(45) suggests that *not* can only be attached to the auxiliary if the latter is in its full form. Double contractions involving both the auxiliary and *not* are therefore ruled out.

Having considered aspects of the *not-n't* allomorphy, let us now turn to another type of allomorphy that can be found with *not* contraction and that concerns the form of the auxiliary. Examples of this type of allomorphy are given in (46).

(46) a. *do* [du:] → *don't* [dəʊnt]
b. *must* [mʌst] → *mustn't* [mʌsnt]
c. *can* [kæn] → *can't* [kɑ:nt] (BrE), [kæ:nt] (AmE)

Consider for example (46a). If attachment of the contracted negation [nt] were entirely regular with all auxiliaries, the expected negative form would be [du:nt]. Yet, we get [dəʊnt].

Negative contraction with *do* therefore leads to allomorphy, with [dəʊ] as an allomorph of [du:]. Similar phenomena can also be observed in (46b) and (46c), but the actual shape of the allomorphs is generally unpredictable (loss of a consonant in (46b), change of the vowel in (46c)). Note however that, as for example the pair [ɪz] – [ɪznt] shows, not all auxiliaries exhibit this type of allomorphy.

Due partly to data like those in (46), it has been argued that *not* reduction should not be considered as the same type of phenomenon as auxiliary reduction (discussed in section 3.2.2). For auxiliary reduction we may simply assume that it is the result of a phonological merger of the auxiliary and the preceding word, the idea being that *they're* is derived from *they are* through a phonological reduction process affecting the auxiliary. This implies that the reduced version is in principle always replaceable by the full form. This is true for auxiliary reduction, but it does not hold for *not* reduction. Consider (47).

(47) a. Won't she be glad?
b. * Will not she be glad? (vs. Will she not be glad?)

The uncontracted equivalent of (47a) shown in (47b) is ungrammatical. The contrast in (47) suggests that *not* contraction is not simply the result of a phonological process that applies to the structure obtained on the basis of the full forms.

It has therefore been proposed that reduced *not* is actually a suffix attached to the auxiliary. This would explain why negation occurs with the modal in C in (47a) as it would simply undergo I-to-C movement together with the auxiliary. Furthermore, the root allomorphies in (46) could also be explained more easily. A simple phonological reduction process would not be expected to change the shape of the preceding word in an unpredictable way. To take an example from auxiliary reduction, we can observe that *they* always has the same phonetic realization regardless of whether it occurs in *they are*, *they'll*, *they're*, *they've* etc. However, as we saw in (46), the phonetic realization of an auxiliary may change in an unpredictable way if reduced *not* is attached to it. This kind of allomorphy typically occurs as the result of affixation. Illustrations would be the contrast between *say* [seɪ] and *says* [sez] due to the presence of the 3rd person singular suffix or the different cases of lexically conditioned allomorphy discussed in chapter 4 (p. 140). In summary, while auxiliary reduction is simply a phonological reduction process, *not* reduction may best be analyzed as a morphological process of **affixation** with [nt] being a negative suffix attached to the auxiliary.

4. SEMANTICS AND PRAGMATICS

So far we have focussed on syntactic, morphological and phonological properties of auxiliaries. In addition, as the citation from Huddleston and Pullum (2002:102/3) given in the introductory section of this chapter shows, auxiliaries also have certain distinctive properties related to their meaning. These properties are mainly related to the notions of **tense**, **aspect**, **mood** and **voice**, each of which will be discussed in turn in the subsections below.

Our main focus in this section will be the semantics of auxiliaries, but we will also occasionally discuss some pragmatic issues. Among the phenomena we have seen so far, we

can already mention one that crucially involves pragmatics and that is the **code** construction. Consider for example the following exchange:

(48) A: They may have mended it by now.
B: I certainly hope they have.

The exact meaning of B's utterance, which involves the code construction, can only be determined on the basis of the linguistic context. In (48), B's answer must be interpreted as "I certainly hope they have mended it by now". If A's statement had been "They may have left by now", B's answer would have to be interpreted as "I certainly hope they have left by now". Thus, the same utterance can have numerous interpretations. These interpretations are obtained inferentially on the basis of the immediate linguistic context and pragmatic principles as for example Grice's co-operative principle and maxims (cf. chapter 2, p. 53).

Before we start our discussion of specific semantic properties of auxiliaries, two general points can be made. First, we can observe that the semantics of auxiliaries is much more restricted than that of main verbs. In other words, the number of semantic features required to define the meaning of auxiliaries is much smaller compared to what is needed for the semantic description of main verbs. The semantic features determining the meaning of auxiliaries are mainly related to the semantic areas of tense, aspect, mood and voice (see below). A second point is that, contrary to main verbs, auxiliaries do not assign thematic roles (cf. pp. 39ff. and 180ff. on thematic roles). Whether an auxiliary is present or not does not affect the number and type of arguments contained within a sentence. For example, the sentence *John hit Bill* contains two arguments, an agent and a theme. We may add one auxiliary as in *John might hit Bill* or two auxiliaries as in *John might have hit Bill*, but we are still left with an agent and a theme argument. Auxiliaries thus do not play a role for the thematic relations that are established within a sentence.

4.1. Tense and time

Let us now turn to some more specific points concerning the semantics of auxiliaries. One important contribution auxiliaries make to the meaning of a sentence concerns tense/time. The basic semantic role of tense is to locate a situation at some point or period of time. In general, if a sentence contains no auxiliary, the present and past tense is expressed by inflectional morphology on the main verb in English. Negative and interrogative sentences are an exception to this. In these contexts, tense is related to the auxiliary *do*. With auxiliary *do*, this is the only semantic content. In a sentence like *John didn't buy the book*, the auxiliary itself does not contribute anything to the meaning of a sentence. The only semantic feature that can be associated to *did* is [+past]. But that feature is related to the inflectional morphology (i.e. to the head I in the syntactic structure). *Do* is therefore semantically empty and thus the most extreme illustration of the fact that the semantics of auxiliaries is more restricted than that of main verbs.

Similar observations can be made for many uses of auxiliary *be*, as shown in (49).

(49) a. John was innocent.
b. They consider [John to be innocent].
c. They consider [John innocent].

In (49a), the auxiliary *be* is in the past tense, and [+past] seems to be the only semantic contribution that *was* makes here. The conclusion would thus again be that *be* itself does not have any semantic content. That *be* does not have any intrinsic meaning is confirmed by the examples in (49b) and (49c). These sentences are semantically equivalent (i.e. paraphrases) although one of them contains the auxiliary *be* whereas the other one does not. Thus, *be* does not seem to have any independent lexical meaning. What distinguishes most uses of auxiliary *be* from auxiliary *do* is therefore not its semantics but the syntactic context in which it occurs.[9]

Before we consider other temporal properties of auxiliaries, we should briefly point out that the relation between **tense and temporal meaning** is not always a simple one. This is because a specific tense form does not always convey the same meaning. Consider for example the following sentences, all using the present tense.

(50) a. Ann doesn't live in Berlin any more.
b. Describing individuals with ordinary life and social pressures, Jane Austen uses a sharp and satiric wit to expose follies, hypocrisies and false truths.
c. We were walking quietly down the street when suddenly this guy comes up to me and starts talking about eternal salvation.
d. When do lectures end this year?

In (50a), we have the basic use of the present tense as a present time reference. In (50b), however, the verb *uses* cannot be taken literally as a present time reference given that the subject *Jane Austen* is not alive any more. But past writings are preserved and we can talk about them from the perspective of their present and potentially permanent existence. This is therefore sometimes called the "timeless" use of the present tense. The present tense in (50c) is again not meant to express present time when the sentence is uttered. Instead, the present is extended into the past to enliven a story in the past tense. Finally, in (50d), the present tense is used to express future time reference.

Given the observations made on the basis of (50), it is important to distinguish the grammatical category of 'tense' from the semantic category of 'time'. The exact temporal meaning ('time') conveyed by a given tense form or the appropriate use of a tense form depends on the context. Pragmatic factors therefore play a role when we try to determine the exact meaning of a tense form.

Let us now consider some additional aspects related to tense/time and auxiliaries. In English, future meaning can be expressed in various ways. This is illustrated in (51).

[9] The restriction "most uses" in the text is due to constructions like (i).
(i) You *are* not to tell anyone.
The construction illustrated in (i) generally expresses an obligation, necessity or duty. Here, a semantic content can be attributed to *be*, at least a compositional one in combination with the *to*-infinitive.

(51) a. School finishes on 21st March.
b. I am phoning her tonight.
c. The dog's going to take the roast. (The dog's gonna take the roast.)
d. The dog will take the roast.

In (51a), the present tense is used to express future time (cf. also (50d) above). The remaining options all involve auxiliaries: the auxiliary *be* in the present tense in combination with the progressive in (51b) (cf. also section 4.2 below on the progressive), the auxiliary *be* in the idiomatic *be going to* construction (or *gonna*) in (51c), and the modal *will* in (51d).[10]

The different forms shown in (51) have various distinctive properties. For example, *be going to* is used in relatively informal style whereas the use of *will* is neutral in this respect. Furthermore, there are pragmatic differences among these forms, having to do with the implicatures associated to them (see e.g. Huddleston and Pullum 2002:171, 211-212, Quirk et al. 1987:213-218 for detailed discussions of these issues). For example, the use of the present tense in (51a) suggests a degree of certainty about the future that is normally associated to the present or the past. Furthermore, whereas (51c) would be used in a context of immediate danger, *will* in (51d) lacks such an implicature of immediacy.

The constructions in (51) all express **future** time. Grammars do not always agree on whether English also has a grammatical future tense. The constructions in (51a) to (51c) all contain finite verb forms in the present tense. The future time meaning is simply obtained in the given context and, in (51b) and (51c), as the result of the combination of an auxiliary with another verb form. The only potential candidate as a future tense marker is therefore *will* as shown in (51d), and some grammars indeed treat *will* as a future tense auxiliary. Others stress the similarity of *will* with other modals and therefore treat *will* as a mood rather than a tense auxiliary. One reason for this is that *will* can be used to express present time.

(52) a. That is the doctor.
b. That will be the doctor.

Although (52b) could potentially refer to future time, it can also have a present time interpretation, just like (52a). In that case, (52b) differs from (52a) not with respect to time but with respect to the certainty the speaker expresses. This is typically a property related to the semantic area of mood (cf. section 4.3 below). For this reason, among others, certain grammars (e.g. Huddleston and Pullum 2002, Quirk et al. 1987) treat *will* as a mood marker (with potential future time interpretation) rather than as a future tense marker.

The final auxiliary to consider in our discussion of tense/time is the auxiliary *have*, as illustrated in (53).

[10] Sometimes, *shall* replaces *will* with first person subjects (i.e. *I*, *we*). This used to be a prescriptive rule, but nowadays it is hardly respected any more. Instead, *will* is generally used in the first person as well. *Shall* is now rather formal, and it is to a large extent restricted to varieties of British English.

(53) a. I have already met your sister.
b. He seems to have lost the key while he was running home.
c. The flight was cancelled after we had paid for the tickets.
d. By next week, they will have completed their contract.

Constructions involving the auxiliary *have* and a past participle combine meanings of time and of aspectuality (to be discussed in the next section). With respect to tense/time, the meaning expressed by '*have* + participle' can generally be described as "**anterior time**", i.e. as the "time preceding whatever time orientation is signalled by tense or by other elements of the sentence or its context" (Quirk et al. 1985:190).

In (53a), the event described by the verb is situated in the past with respect to the speech time (i.e. the time when the sentence is uttered). In other words, the **event time (ET)** is anterior to the **speech time (ST)** (cf. Reichenbach 1947 for a seminal analyis of temporal relations). In addition, (53a) expresses current relevance, an aspectual property that we will discuss in section 4.2. For the remaining examples in (53), we can focus on time, as the aspectual property of current relevance does not play a role here. In (53b), the ET of the infinitival '*have* + participle' construction is anterior to the present introduced by the speech time. In (53c), '*had* + participle' refers to a time which is anterior to the past time introduced by the tense morphology of the finite verb of the main clause. The past is the time from which the situation is perceived, and it is referred to as the **reference time (RT)**. Thus, for the temporal analysis of the '*have* + participle' construction in (53c), we can distinguish between ST (the moment the sentence is uttered), RT (the reference time introduced by the main clause) and ET (the time of the event referred to by '*have* + participle'). Finally, in (53d), the ET of the '*have* + participle' construction is anterior to the RT determined by *will* and the PP *by next week*.

4.2. Aspect

Having discussed some issues related to tense/time and auxiliaries, we can now consider another very closely related semantic area, namely aspect. The notion of aspect refers to the view taken of a situation, or the 'aspect' under which it is considered. For example one aspectual distinction is whether a situation or event is seen as **complete and whole** or as **incomplete and ongoing**. Aspect and time are closely related semantic notions but they can be clearly distinguished, as the examples in (54) show.

(54) a. She goes to school. vs. She went to school.
b. She goes to school. vs. She is going to school.

In (54a), we have a change from present tense/time to past tense/time. In (54b), tense/time remains the same (i.e. present). However, the second sentence differs from the first one with respect to the view taken of the situation. More precisely, while the second sentence refers to a situation which is ongoing, such an interpretation is not available in the first sentence.

The second sentence in (54b) illustrates one of two constructions involving auxiliaries that are relevant with respect to aspectual semantics in English. These constructions are: (i) '*be* + present participle', expressing progressive aspect; (ii) '*have* + past participle', expressing perfective aspect. The type of aspect illustrated by these two constructions has been referred to as **grammatical aspect**. Here, the aspectual semantics is due to the syntactic combination of an auxiliary with a specific inflectional form of a verb. This is to be distinguished from **lexical aspect**. Lexical aspect refers to the inherent aspectual properties a verb has. What is relevant here are semantic features like [+/–stative] and [+/–telic] (cf. chapter 2, pp. 31-32). The feature [+/–stative] determines whether a situation described by a verb or a VP is dynamic or static whereas the feature [+/–telic] is related to whether a situation has a natural end point or not. We will not pursue the topic of lexical aspect any further here, but we will see below (examples 56/57) that grammatical aspect and lexical aspect may interact in interesting ways.

The first type of grammatical aspect to be discussed here is **progressive aspect**. As its name suggests, the progressive, marked by '*be* + present participle', expresses a situation in progress. Note that the main contribution to progressive meaning seems to be made by the present participle. This is shown in (55).

(55) Liz was lying by the pool [reading a novel].

In (55), *reading a novel* is a non-finite adjunct clause. It does not contain the auxiliary *be*, but the situation must nevertheless be interpreted with progressive aspectuality ("she was reading a novel"). This confirms the observation made in the previous section that *be* is generally semantically void. However, except for the context in (55), *be* is an essential part of the construction expressing progressive aspect in English.

When using progressive aspect, we conceive of the situation as having a dynamic character, rather than as being static. Furthermore, the situation is viewed not in its temporal totality, but at some point or period within it. On the other hand, non-progressive aspect is used both for static and dynamic situations, but in the latter case the situation is presented in its totality. This difference is illustrated in (56).

(56) a. It was raining.
b. It rained.

The verb *rain* denotes a dynamic situation. When it is used in the progressive aspect as in (56a), the situation is presented as being in progress at some intermediate point. When it is used non-progressively as in (56b), the situation is presented in its totality.

A comparison of the contrast in (56) and the one given in (57) shows that grammatical aspect may interact with lexical aspect.

(57) a. Tim was opening the parcel.
b. Tim opened the parcel.

(56a) entails (56b). To say *It was raining* entails *it rained*. However, (57a) does not entail (57b). The VP *open the parcel* is telic, that is, it has a natural completion point. There is a point at which one cannot go on opening a parcel. Where the situation has such an inherent completion point, the progressive indicates that the situation is not just in progress but also incomplete. In (57a), Tim has not finished opening the parcel, and he may never have done so. (57a) therefore does not entail the non-progressive (57b), as the latter expresses completion. This problem does not arise with atelic verbs like *rain*. With atelic verbs, the progressive does not express lack of completion, as there is no natural point of completion. (56a) therefore entails (56b).

The second type of grammatical aspect in English is the **perfect aspect**, which is found with the present perfect (*have* + past participle). As observed above, the present perfect locates the situation in the past time, just like the simple past. The difference is that the simple past involves a point or period in the past that is exclusive of the present, whereas the present perfect involves a period that is inclusive of the present as well as the past. This difference can be expressed in terms of the notions of event time (ET) and reference time (RT) introduced above. For both the simple past and the present perfect, the ET is in the past. What changes is the view taken of the situation. If the simple past is used, the situation is viewed with reference to a point or a period in the past (RT = past) while, when the present perfect is used, the point of reference is the present (RT = present).

The current relevance of a situation described by the present perfect is either due to its continuation into the present (and beyond) or by its results in the present. The former type of present perfect is called **continuative**, the latter is called **resultative**. An example of each type is given in (58).

(58) a. I have lived here since childhood. (continuative)
b. Mary has broken her leg. (resultative)

Note that the use of the present perfect generally leads to pragmatic effects in the form of various implicatures. Thus, (58b) implies for example that Mary is still not in perfect shape yet.

4.3. Mood

The next category that is relevant for our discussion of the semantics of auxiliaries is the category of mood. Mood is an indication of the speaker's **attitude** towards what he or she is talking about or an indication of whether the event is considered by the speaker as a **fact** or a **non-fact**. Non-fact includes several different degrees of reality, including wishes, desires, requests, warnings, prohibitions, commands, predictions, possibilities etc. In many languages, as for example French or German, the mood distinctions are related to the inflectional distinction between **indicative** (fact) and **subjunctive/imperative** (non-fact). In modern

English, however, the indicative/subjunctive distinction has been lost to a large extent.[11] Instead, modal auxiliaries play the central role in the English mood system.

The basic meaning of modals can be analyzed in terms of two semantic features: (i) epistemic; (ii) deontic. Modal auxiliaries can generally have both epistemic and deontic uses.

- **Epistemic** uses.

(59) a. He may be ill. (vs. He is ill.)
b. He must be a friend of hers. (vs. He is a friend of hers.)

The term 'epistemic' is derived from a Greek word meaning 'knowledge'. Epistemic modality therefore expresses qualifications concerning the speaker's knowledge. An epistemic modal is used if the speaker's knowledge does not allow him/her to assert the truth of the proposition expressed by the non-modal counterpart (given in parentheses). Thus, in (59a), the use of the modal *may* expresses a possibility, whereas, in (59b), *must* indicates an inference.

- **Deontic** uses.

(60) a. You may have another apple.
b. He must be in bed before 8 o'clock.

The term 'deontic' is derived from a Greek word referring to 'something binding, a duty'. The meaning of deontic modality is related to a matter of action, and more specifically it refers to things like imposing an obligation or a prohibition, or granting permission. *May* in (60a) and *must* in (60b) are both used deontically and refer to a permission and to an obligation respectively.

A consequence of the fact that modals generally have an epistemic meaning and a deontic meaning is that we can get **lexical ambiguities** involving modals. Consider (61).

(61) He must be very tactful.

This sentence can be interpreted epistemically ('I conclude that he is very tactful') or deontically ('It is necessary that he be very tactful'). It is only the context (pragmatics) that allows us to determine which meaning is intended by the speaker.

[11] A residue of the inflectional subjunctive can be found in certain constructions, such as the mandatory construction. The subjunctive is characterized by the absence of agreement morphology on the verb in the present tense.

(i) a. I recommend/demand/suggest that he <u>leave</u>.
b. We insist that she <u>be</u> kept informed.

Note however that the subjunctive is not obligatory, and we can generally replace it by indicative forms (i.e. by forms with agreement) or by a construction involving a modal.

As all modals have both epistemic and deontic uses, the features "epistemic" and "deontic" do not allow us to distinguish one modal from the other yet. Distinctions among different modals can be obtained on the basis of **epistemic/deontic strength**. Thus, we can say that (59a) has a weak epistemic meaning (relatively low degree of certainty) whereas (59b) has a strong epistemic meaning (relatively high degree of certainty). Similarly, (60a) has a weak deontic meaning (permission) while (60b) has a strong deontic meaning (obligation).

Distinctions of strength are also relevant for determining the meaning of past tense forms of modals such as *would, could, should,* and *might*. Although these are formally past tense, their meaning often does not express past time any more. For example, a sentence like *You shouldn't do that* refers to the present or future time rather than to the past. Very often, the use of the past tense introduces a relatively vague element of tentativeness or extra politeness. For example, the question *Could you pass the salt, please* is generally considered as slightly more polite than *Can you pass the salt, please*. The meaning differences between the past tense forms and the present tense forms of modals is therefore often better characterized in terms of degree of epistemic/deontic strength rather than in terms of time.

4.4. Voice

The final semantic aspect of auxiliaries that we will discuss here is voice. Voice concerns the distinction between **active** and **passive**. It leads to a change in the distribution of the different thematic roles contained in a sentence.

(62) a. The committee wrote the report yesterday.
b. The report was written (by the committee) yesterday.

The sentence in (62a) is said to be in the active voice whereas the sentence in (62b) is said to be in the passive voice. In the active sentence, the agent thematic role precedes the verb and the theme role follows it, while the theme precedes the verb in the passive and the (optional) agent follows it in a *by*-phrase.

A passive sentence is obtained through the combination of the auxiliary *be* and the past participle.[12] Once again, however, the auxiliary *be* does not seem to have any intrinsic meaning here as we can also have passives that lack auxiliary *be*.

(63) [The guy [mauled by our neighbour's dog]] is in intensive care.

In (63), we have a participle modifying the noun that must be interpreted as a passive. A paraphrase of (63) would be [*The guy* [*who was mauled by our neighbour's dog*]] *is in intensive care*. Thus, *be* does not itself have any semantic contribution that we could clearly

[12] An alternative way to form a passive is by combining the verb *get* with the past participle (*Peter got arrested*). There are various small differences between the *be*-passive and the *get*-passive, one of which is the fact that the *get*-passive tends to be avoided in a more formal style. Cf. e.g. Huddleston and Pullum (2002:1442) for some additional differences.

isolate. It is simply an obligatory part of a construction expressing passive voice in certain contexts (e.g. 62b).

Whether we use the passive voice or the active voice often depends on the context, that is, on pragmatic factors. Consider for example the following contrast.

(64) a. The mayor's term of office expires next month. She will be succeeded by George Hendricks.
b. George Hendricks will take office next month. #The current mayor, Angela Cooke, will be succeeded by him.

As the diacritic # suggests, the use of the passive voice is infelicitous in (64b). This is related to what has been called **information structuring**. Given that one of the two referents used in the second sentence in (64b) is already introduced in the first sentence (*George Hendricks - him*), it is more natural to use that referent (i.e. the **discourse-old** information) as the subject of the second sentence if there is a choice. In (64b), there is indeed a choice and we could use the active voice instead (*He will succeed the current mayor, Angela Cooke.*). This option would be pragmatically acceptable. In (64a), however, the discourse-old referent (*The mayor – she*) occurs in the subject-position of the second sentence. The passive voice is therefore pragmatically acceptable. The contrast in (64) could then be expressed in terms of a constraint saying that the passive voice requires "that the subject not represent information that is newer in the discourse than the [D]P governed by the word *by*" (Huddleston & Pullum 2002:1444). (64b) violates this constraint whereas (64a) does not.

Some references:

Huddleston, R. and G. Pullum. 2002. *The Cambridge Grammar of the English Language.* Cambridge: Cambridge University Press.

Kaisse, E. 1983. The Syntax of Auxiliary Reduction in English. *Language* 59:93-122.

Quirk, R., S. Greenbaum, G. Leech and J. Svartvik. 1985. *A Comprehensive Grammar of the English Language*. London: Longman.

Reichenbach, H. 1947. *Elements of Symbolic Logic*. New York: Free Press.

Zwicky, A. 1970. Auxiliary Reduction in English. *Linguistic Inquiry* 1:323-336.

Zwicky, A. and G. Pullum. 1983. Cliticization vs. Inflection: English *n't*. *Language* 59:502-513.

CHAPTER 6 – TP EXERCISES

1. SYNTAX

1. Tag questions

In addition to the properties discussed in section 1.1 (negation, adverbs, quantifiers, inversion, code), tag questions can also be used to identify auxiliary verbs. Provide examples showing how tag questions can be used to distinguish auxiliaries from main verbs.

2. Auxiliary or main verb?

Devise examples of your own to determine whether each of the italicized items below (in each of its uses) has the categorial status of a main verb or an auxiliary.

(i) a. John *is* in Paris.
b. John *is* working hard.
c. John *is* arrested every now and then.
d. John *is* to leave for Paris tomorrow.

(ii) a. John *has* no money.
b. John *has* finished.
c. John *has* to go there.

(iii) a. John *needs* a haircut.
b. John *needs* to think about it.
c. I doubt if John *need* come.

(iv) a. John *got* a new car.
b. John *got* arrested.
c. John *got* to be famous.

(v) John *used* to go there quite often.

(vi) John *ought* to go back again.

3. American English *so*

In American English, the word *so* can be used as an intensifier, or emphasizer, as in the following example.

(i) a. I can lift this weight.
b. I can *so* lift this weight.

In (ib) *so* functions to indicate emphasis. The following examples show that there is a restriction on the placement of *so* in a sentence:

(ii) a. I will pass the test.
b. I will *so* pass the test.

(iii) a. I know the answer.
b. *I know *so* the answer!
c. I do *so* know the answer!

(iv) a. Mary is running in tomorrow's race.
b. Mary is *so* running in tomorrow's race!

(v) a. They took our money.
b. *They took *so* our money!
c. They did *so* take our money!

(vi) a. He is nice.
b. He is *so* nice.

What is the restriction on the placement of *so*? That is, where can *so* be inserted within a sentence, and when is it impossible to insert *so*?

4. The structure of multiple auxiliary constructions

a. Draw a tree diagram for the following sentence:

(i) He might have been writing a letter.

b. The structure in exercise (4a) suggests that each auxiliary heads an independent constituent. Show how the following data (illustrating the Code property (cf. section 1.1.4)) support this conclusion:

(ii) Speaker A: Do you think he might have been writing a letter?
Speaker B: Yes, he might have been.
Yes, he might have.
Yes, he might.

c. Given the data in (ii), we could describe the Code property as the optional deletion of an identical VP embedded under an auxiliary. Discuss the problems the following examples raise for this description, and try to reformulate the description to include the data in (iii).

(iii) a. Michael Jackson has, on some occasions in the past, not eaten when he should __. (*The Guardian*, 28 May 2003)
b. I'm in debt and Pat is __ as well.

5. I-to-C movement

a. Consider the following data.

(i) a. **Should he** have called the police?
b. She wondered if **he should** have called the police.
(ii) a. If **you should** see Mary, tell her that she should call me.
b. **Should you** see Mary, tell her that she should call me.

Show how these data can be argued to support the analysis of subject-auxiliary inversion in terms of I-to-C movement.

b. Draw the tree diagram for the following sentence.

(iii) a. Has Mary found a new flat?
b. Was John late?

6. Tree diagrams

Draw tree diagrams for the following sentences:

(i) John will certainly like this gift.
(ii) John has never read a book.
(iii) John often reads books.
(iv) Can you open the window?
(v) Have you seen Mary?
(vi) She will be gone by tomorrow.

2. MORPHOLOGY

7. Modals in French and Middle English

Morphological phenomena have confirmed our assumption that English modals form a separate subgroup among the word class of auxiliaries. Considering both the syntactic and morphological criteria used for English in sections 1 and 2, determine

(a) Whether the French equivalents (e.g. *pouvoir, devoir*) should also be treated as a separate class of auxiliaries.
(b) What the status of the "ancestors" of the modals at earlier stages in the history of English was, taking into account the following Middle English data (the equivalents of modern modals are in italics):

(i) I shall not *konne* answere (Chaucer, 1386)
I shall not be-able-to answer
(ii) They are doumbe dogges, not *mouwende* berken (Wyclif, c1380)
They are dumb dogs, not being-able-to bark
(iii) To *conne* deye is to haue in all tymes his herte redy. (Caxton, 1490)
To be-able-to die is to have at all times his heart ready
(iv) if he had *wolde* (Ld. Berners, 1525)
if he had wanted-to
(v) Why *schulde* þey do þus? (Wyclif, c1380)
Why should they do thus
(vi) Why stonde ȝe here al day? (Wyclif, c1380)
Why stand you here all day

3. PHONOLOGY AND MORPHOPHONOLOGY

8. Emphatic polarity

Consider the property E (Emphasis) among the NICE properties that characterize auxiliaries: How can we describe this property in terms of the syntactic analysis of auxiliaries?

9. Auxiliary reduction

Consider the following examples and determine whether auxiliary reduction and/or *not* reduction is possible or not. If reduction is not possible, identify the reason why reduction is ruled out.

(i) Bill and Sue had already left.
(ii) Sue and Bill had already left.
(iii) Sue and Bill have already left.
(iv) Where has Peter gone?
(v) I wonder who the teacher is here.
(vi) I wonder who the teacher is talking about now.
(vii) My parents will stay late, and Mary and I will too.
(viii) Ben would not do that.
(ix) Ben will not do that.
(x) I am not sure.

4. SEMANTICS AND PRAGMATICS

10. Semantics

Discuss the semantic properties related to the auxiliaries in the following examples.

(i) It can't be five o'clock already.
(ii) Can I be excused from the table?
(iii) Would it be safe to travel there?
(iv) Would you please be more attentive.
(v) The child has coughed all night.
(vi) Our dog has just been run over.
(vii) I will have finished this by tomorrow.
(viii) After having quit his job, he went on a trip around the world.
(ix) John was going to call, but finally he didn't.
(x) When I arrived, Peter was reading.